Seagate Technology Technical Support Desk Reference

Select a drive interface:

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Drive Anatomy

Old Drive Models prior to Seagate Mergers

Old CDC / Imprimis

Old Conner Peripherals

Seagate Technical Support Desk Reference Information

-------TO-VIEW-PROPERLY,-THIS-LINE-**SHOULD-NOT**-WRAP-AROUND-TO-A-LOWER-LINE------

The Seagate Technical Support Desk Reference uses the Letter Gothic LineDraw (LETGOTHL.TTF) TrueType font.

What's New!

Seagate's Technical Support Desk Reference

Seagate Technology, Inc.
Scotts Valley, CA

The information contained in the Seagate Technology Technical Support Desk Reference is for general reference. It is not intended to be a complete reference of computer or hard disc drive service information. We have tried to ensure that the information contained herein is as current as possible.

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The Seagate Technology Technical Support Desk Reference WILL BE updated with new drives, more troubleshooting, and appropriate miscellaneous material. The latest copy can always be obtained from the Seagate Tech Support BBS.

We can also be reached by mail:

Seagate Technology, Inc.
Attn: Technical Support - Bldg. 5
920 Disc Drive
Scotts Valley, CA 95066

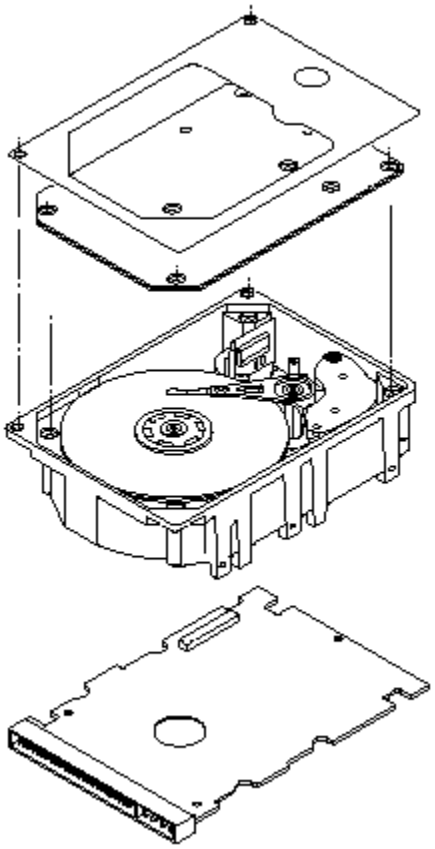
By phone: 1-408-438-8222
By FAX: 1-408-438-8137

Thank you for using the Seagate Technical Support Desk Reference!

Seagate Technical Support

DESKREF.HLP	part # 705717-605	Data file (May 1996 edition)
DESKREF.ICO	part # 705716-001	Icon file
LETGOTHL.TTF	part # xxxxxx-001	TrueType font

Drive Anatomy - Exploded View



Billy Rudock, Staff Engineer
Telephone Technical Support
Seagate Technology Desk Reference Author

ATA drive list:

1xxx = 3.5", half-height (41 mm)

ST1057A
ST1090A
ST1102A
ST1111A
ST1126A
ST1133A
ST1144A
ST1156A
ST1162A
ST1186A
ST1201A
ST1239A
ST125A
ST138A
ST1400A
ST1401A
ST1480A
ST157A

2xxx = 5.25", half-height (41 mm)

ST2274A
ST2383A
ST274A
ST280A

3xxx = 3.5", 1"/25mm height, 5.7"/146mm depth

ST3051A
ST3096A
ST31081A
ST3120A
ST31220A
ST3123A
ST31270A
ST31274A
ST31275A
ST31276A
ST3144A
ST3145A
ST31621A
ST31640A
ST3195A
ST3211A
ST32140A
ST32161A
ST3240A
ST3243A
ST3250A
ST325AX
ST3270A
ST3271A
ST3283A
ST3290A
ST3291A
ST3295A
ST32530A
ST33440A
ST3385A
ST3390A
ST3391A
ST3420A
ST3425A
ST34250A
ST3491A
ST3500A
ST351AX
ST352AX
ST3541A
ST3543A
ST3544A
ST3550A
ST3600A
ST3630A
ST3635A
ST3636A
ST3655A
ST3660A
ST3780A
ST3850A
ST3851A
ST3853A

5xxx = 3.5", 1"/25mm height, 5"/127mm depth

ST51080A
ST51270A
ST5540A
ST5660A
ST5850A
ST5851A

7xxx = 1.8"

ST72A
ST75A
ST710A
ST720A
ST740A

9xxx = 2.5", .75"/19mm or .49"/12.5mm height

ST92A
ST95A
ST910AC
ST920A
ST9051A
ST9052A
ST9077A
ST9080A
ST9096A
ST9100AG
ST91350AG
ST9140AG
ST9144A
ST9145AG
ST9150AG
ST91685AG
ST9190AG
ST92255AG
ST9235AG
ST9240AG
ST9295AG
ST9300AG
ST9342A
ST9352A
ST9385AG
ST9420AG
ST9422A
ST9550AG
ST9546A
ST9655AG
ST9816AG
ST9840AG

ESDI drive list:

1xxx = 3.5", half-height (41 mm)

ST1111E
ST1156E
ST1201E

2xxx = 5.25", half-height (41 mm)

ST2106E
ST2182E
ST2383E

4xxx = 5.25", full-height (82 mm)

ST4182E
ST4383E
ST4442E
ST4766E
ST4767ES
ST4769ES

IPI drive list:

4xxx = 5.25", full-height (82 mm)

ST41201K
ST41800K
ST43200K

6xxx = 9-inch

ST6515K

8xxx = 8-inch

ST8100K	ST82030K	ST833K
ST81154K	ST82105K	ST8335K
ST81236K	ST82368K	ST8402K
ST8134K	ST82500K	ST867K
ST8135K	ST8268K	ST868K
ST8167K	ST83050K	ST8851K
ST8201K	ST83220K	

MFM drive list:

1xxx = 3.5", half-height (41 mm)

- ST1100
- ST124
- ST125
- ST138
- ST151

2xxx = 5.25", half-height (41 mm)

- ST212
- ST213
- ST225
- ST251
- ST252
- ST253

4xxx = 5.25", full-height (82 mm)

- ST4026
- ST4038
- ST4038M
- ST4051
- ST4053
- ST406
- ST4085
- ST4086
- ST4096
- ST4097
- ST412
- ST419
- ST506

PCMCIA drive list:

7xxx = 1.8"

ST71P
ST71P5
ST72P
ST72P5
ST75P
ST75P5
ST710P
ST710P5
ST720P
ST720P5
ST7050P

RLL drive list:

1xxx = 3.5", half-height (41 mm)

ST1106R
ST1150R
ST138R
ST157R

2xxx = 5.25", half-height (41 mm)

ST225R
ST238
ST238R
ST250R
ST277R
ST278R
ST279R

4xxx = 5.25", full-height (82 mm)

ST4135R
ST4144R

SCSI drive list:

1xxx = 3.5", half-height (41 mm)

ST1090N
ST1096N
ST1111N
ST11200N
ST11201N
ST1126N
ST1133NS
ST1156N
ST1162N
ST1186NS
ST11900N
ST11900W
ST11950N
ST11950W
ST1201N
ST1239NS
ST12400N
ST12400W
ST12450W
ST125N
ST12550N
ST12550W
ST138N
ST1400N
ST1401N
ST14207N
ST14207W
ST1480N
ST1481N
ST15150N
ST15150W
ST15230N
ST15230W
ST157N
ST1581N
ST177N
ST1830N
ST18771N
ST18771W
ST19171N
ST19171W
ST1950N
ST1980N

2xxx = 5.25", half-height (41 mm)

ST2106N
ST2125N
ST2209N
ST225N
ST2383N
ST2502N
ST251N
ST277N
ST296N

3xxx = 3.5", 1"/25mm height, 5.7"/146mm depth

ST31051N
ST31051W
ST31055N
ST31055W
ST31060N
ST31060W
ST31080N
ST31200N
ST31200W
ST31230N
ST32105N
ST32105W
ST32107N
ST32107W
ST32151N
ST32151W
ST32155N
ST32155W
ST32171N
ST32171W
ST3283N
ST3285N
ST3390N
ST34371N
ST34371W
ST3500N
ST3550N
ST3600N
ST3610N
ST3620N

ST31230W
ST31231N
ST31250N
ST31250W
ST31930N
ST32430N
ST32430W
ST325N
ST32550N
ST32550W
ST3620W
ST3655N

4xxx = 5.25", full-height (82 mm)

ST410800N
ST410800W
ST41200N
ST41520N
ST41600N
ST41601N
ST41650N
ST41651N
ST4182N
ST42000N
ST42100N
ST42101N
ST423451N
ST423451W
ST42400N
ST43400N
ST43401N
ST43402ND
ST4350N
ST4376N
ST4385N
ST4702N
ST4766N
ST4767N

5xxx = 3.5", 1"/25mm height, 5"/127mm depth

ST51080N
ST5660N

9xxx = 2.5", .75"/19mm or .49"/12.5mm height

ST9235NG
ST9252N
ST9295N

SMD drive list:

4xxx = 5.25", full-height (82 mm)

ST41097J
ST41201J

6xxx = 9-inch

ST6165J
ST6315J
ST6344J
ST6515J
ST683J

8xxx = 8-inch

ST81123J
ST81236J
ST82030J
ST82038J
ST82272J
ST82500J
ST83073J
ST8368J
ST8500J
ST8741J
ST8851J

Drives by Family...

ELITE

In addition to the drive families listed above, there are also the **Sabre**, **Wren** and **Swift** families. All drive families can be searched as a group using the "Search" toolbar icon.

Elite Family

ELITE

Elite 1
- ST41600N
- ST41601N

Elite 2
- ST42000N
- ST42400N

Elite 3
- ST43400N
- ST43401N
- ST43402ND

Elite 9
- ST410800N
- ST410800W

Elite 23
- ST423451N
- ST423451W

Barracuda Family

Barracuda 1
- ST11950N
- ST11950W

Barracuda 2
- ST12450W
- ST12550N
- ST12550W

Barracuda 2LP
- ST31250N
- ST31250W
- ST32550N
- ST32550W

Barracuda 4
- ST15150N
- ST15150W

Barracuda 4LP
- ST32171N
- ST32171W
- ST34371N
- ST34371W

Barracuda 8
- ST18771N
- ST18771W

Barracuda 9
- ST19171N
- ST19171W

Decathlon Family

- Decathlon 540 (ST5540A)
- Decathlon 545 (ST5660A)
- Decathlon 545 (ST5660N)
- Decathlon 850 (ST5850A)
- Decathlon 1080 (ST51080A)

Hawk Family

Hawk 1

- ST11200N
- ST11201N
- ST1830N
- ST1950N
- ST1980N

Hawk 1LP

- ST31200N
- ST31200W
- ST3620N
- ST3620W

Hawk 2

- ST11900N
- ST11900W
- ST12400N
- ST12400W

Hawk 2LP

- ST31230N
- ST31230W
- ST31231N
- ST31930N
- ST32430N
- ST32430W

Hawk 2XL

- ST31051N
- ST31051W
- ST31055N
- ST31055W
- ST32151N
- ST32151W
- ST32155N
- ST32155W

Hawk 4

- ST15230N
- ST15230W

Marathon Family

Marathon 130sl (ST9150AG)
Marathon 170sl (ST9190AG)
Marathon 210sl (ST9240AG)
Marathon 260sl (ST9300AG)
Marathon 340 (ST9385AG)
Marathon 420sl (ST9420AG)
Marathon 455 (ST9550AG)
Marathon 520 (ST9655AG)
Marathon 541 (ST9546A)
Marathon 810 (ST9816AG)
Marathon 840sl (ST9840AG)
Marathon 1350sl (ST91350AG)
Marathon 1680 (ST91685AG)
Marathon 2250 (ST92255AG)

Medalist Family

Medalist 210xe	(ST3250A)
Medalist 270xe	(ST3291A)
Medalist 270xe	(ST3295A)
Medalist 340xe	(ST3391A)
Medalist 425xe	(ST3491A)
Medalist 455	(ST3550A)
Medalist 540	(ST3655A)
Medalist 540sl	(ST5540A)
Medalist 545xe	(ST3660A)
Medalist 630xe	(ST3630A)
Medalist 720	(ST3780A)
Medalist 850sl	(ST5851A)
Medalist 850xe	(ST3850A)
Medalist 1080	(ST31220A)
Medalist 1080sl	(ST51080A)
Medalist 1080sl	(ST51080N)
Medalist 1270	(ST31270A)
Medalist 1270sl	(ST51270A)
Medalist 1640	(ST31640A)
Medalist 2140	(ST32140A)
Medalist 2530	(ST32530A)
Medalist 3440	(ST33440A)
Medalist 4250	(ST34250A)

Cabo Family

CABO

Cabo 541 (ST3541A)
Cabo 635 (ST3635A)
Cabo 636 (ST3636A)
Cabo 851 (ST3851A)
Cabo 1081 (ST31081A)
Cabo 1275 (ST31275A)
Cabo 1276 (ST31276A)
Cabo 1621 (ST31621A)

ATA
AT Attachment (also known as IDE - Integrated Drive Electronics)

ESDI
Enhanced Small Device Interface.

IPI
Intelligent Peripheral Interface

MFM
An original ST412 Interface (which includes the RLL variety) and stands for Modified Frequency Modulation.

PCMCIA
Personal Computer Memory Card Industry Association

RLL
An original ST412 Interface (which includes the MFM variety) and stands for Run Length Limited.

SMD
Storage Module Drive

SCSI
Small Computer Systems Interface

Seagate Technology Desk Reference Revision History

This file will be maintained starting April 1992.

What's new in this edition of the Seagate Desk Reference

1995 Changes

1994 Changes

1993 Changes

1992 Changes

1996 Changes

05/20/96 Corrected Hawk 2XL single track access times. Many small misc corrections to older historical Conner Peripherals models.

05/07/96 Added BTUs and power dissipation to Barracuda specs where available.

04/10/96 Added ST32161A (CFA2161A). Misc corrections to old Conner specs.

03/22/96 Added Drive Anatomy section. Added Seagate Software Companies. Added Conner phone numbers. Updated Hawk 2XL and Barracuda 4LP models.

03/14/96 Added Sectors per Track to former Conner SCSI drives converted to Seagate model #'s. Removed 12V reference on several 2.5" drives. Added ST31276A, ST3636A, ST3850A, ST32530A, ST33440A, ST34250A, ST9840AG, ST91350AG, ST91685AG, ST92255AG, ST423451N, ST423451W.

03/11/96 Added SCSI Wide and SCSI Wide Single Connector Attachment (SCA) to Cables and Pins section. Added links to model conversion charts.

03/05/96 Added Old Conner Peripherals drive models not converted to new Seagate model numbers

02/20/96 Added former Conner Peripherals models which have been assigned an equivalent Seagate STxxxx model number designation. Corrected option jumpers on ST31640A and ST32140A. Added Conner to Seagate conversion lists. Added Conner model number interpretation.

02/07/96 Updated all Hawk 2XL family drives.

01/09/96 Corrected ST51080N default settings.

01/03/96 Added ST19171N, ST19171W, ST31231N, ST31055N, ST31055W,

ST32155N, ST32155W. Corrected Elite 2 T-Res descriptions. Added ST31220A LBA translation, Removed Barracuda 8. Corrected Barracuda 2 bytes per track. Corrected J2 connector number on Medalist SL drives. Corrected Synch Spindle ref on Barracuda 2LP.

1995 Changes

11/08/95 Modified Glossary section

11/02/95 Added WC configuration to Barracuda 4, ST15150WC Added ST31240A, ST31640A, ST51270A, ST9816A, ST32171N, ST32171W, ST34371N, ST34371W, ST18771N, ST18771W, ST31051N, ST31051W, ST32151N, ST32151W, ST3630A, ST51080N. Corrected Term Power detail for Barracuda 2LP Wide Differential models. Added Remote LED polarity info on ST5660N.

10/12/95 Corrected Elite 9 differential models to show T-Res info.

10/05/95 Updated ST5540A and ST51080A to show abnormal shock spec and cache buffer size (Medalist sl family drives formerly known as Decathlon family) Added ST31270A and ST5851A.

8/10/95 Corrected the Enable T-Res jumper on the ST31230W ST32430W.

6/24/95 Added Cable Select info to ST9140AG and ST9190AG. Corrected J2 options jumpers on ST15230W. Added Micro House phones. Added new SCSI ID order for ST3610N.

05/14/95 Added Type A and B board configurations to ST5850A, ST3780A and ST31220A. Updated to include the PDIAG Slave jumper option. Added ST5540A and ST51080A.

04/25/95 Fixed a spelling problem on Medalist family slave present jumpers.

04/05/95 Cleaned up ST5660N term power description and corrected BPI value. Corrected ST3610N ID# order.

02/01/95 Added shock specs to Hawk family drives

01/27/95 Corrected default term power reference asterisk on 1" Barracuda Differential models

01/24/95 Added ST5850A and ST9420AG. Corrected Term Power from SCSI bus setting on Hawk family drives. Fixed spelling error on Barracuda family wide models. Corrected ST12450W J4 option block to show 8 pairs.

1994 Changes

12/09/94 Updated Hawk and Barracuda families to show ASA level.

12/06/94 Updated ST3500N average sector per track value.

10/24/94 Updated ST31230W, ST32430W, ST31200W and ST410800N/W Added ST3620W.

10/20/94 Corrected ST15230N avg SPT.

10/10/94 Added Marathon name to ST9385AG, ST9550AG, ST9655AG

08/31/94 Corrected ST5660A specs. Corrected ST15150N to not show removable terminators (uses TE jumper).

08/26/94 Added ST31230N and ST32430N. Updated ST12400W and ST15150N.

08/17/94 Added ST3240A, ST3295A and ST3660A. Updated missing info on ST9385A, ST9550A, ST9655A, ST3780A and ST31220A.

08/09/94 Added Medalist, Decathlon and Marathon names to appropriate models. Added ST31220A and ST3780A models.

08/08/94 Corrected External Transfer Rate for ST410800W. Added Force 1024 Cyls jumper to ST5660A. Added External Transfer Rates to Hawk and Barracuda drives. Corrected SPT avg for Barracuda 4 drives.

08/01/94 Updated wide Barracuda models to show J4 jumper MAY have 7 pairs.

05/31/94 Added Parity Enable to ST43401N. Updated

ST5660N specs and jumpers.

05/10/94 Corrected ST740A width. Corrected Barracuda Family Depth (mm). Updated ST3390N average Sector per Track value. Clarified ST3x91A Family jumper drawing.

05/02/94 Corrected access times on ST3x91 family drives.

04/28/94 Added ST9385AG, ST9150AG, ST9240AG, ST9300AG, ST9655AG, ST15230N, ST15230W

04/14/94 Corrected Height measurement on several 9xxxA models.

03/24/94 Corrected the ST410800N and W info.

03/14/94 Corrected ST31200N family drives Parity Enable jumper reference (said Disable, sorry). Also clarified the same jumper on ST3610N family.

02/27/94 Added ST3250A, ST3291A, ST3391A and ST3491A. Updated ST7050P. Pulled ST11201N and ST42101N which were never mfg'd.

02/15/94 Corrected pwa reference on Terminator Power view for Hawk family drives.

02/11/94 Corrected specs that said "straight arm" actuator to "rotary voice coil".

01/17/94 Reordered the J2 numbering on the ST11200 family to match the Installation Guides.

1993 Changes

12/17/93 Updated Baracuda differential models to show correct buffer size.

12/15/93 Added new products which where introduce at the Fall '93 Comdex. 34 new models (whew <g>)

12/14/93 Minor change to Elite drive family concerning termination power options on Differential models.

11/12/93 Corrected Quartdeck phone numbers.

	Reworked the Old to New Imprimis/Seagate model numbers chart
11/09/93	Corrected ST7050P specs. Added mating cable connector info to ST31200N
11/08/93	Added Cable Select jumper info to ST3655A, ST3550A and ST3390A
11/04/93	Corrected number of cylinders on ST3655N to conform to mode select page 3 sector/track value.
10/12/93	Added jumper drawings to ST11950W and ST12550W. Removed T-res object from ST11900N and ST12400N jumper drawings since these models use a T-RES enable/disable jumper. Corrected avg sector per track on ST11900N. Added ST11900NC drawing to show new 80 pin I/O connector. Corrected ST11200N family access times to not include controller overhead. Added ST1950N and ST11830N (ST11200N family drives).
10/11/93	Changed model numbers:ST11951N ->ST11950W, ST12551N ->ST12550W (new SCSI-wide designations will use W instead of ..1N). Also fixed average sectors per track on Baracuda drives. Corrected Delayed Motor Start time on ST11200 family.
10/05/93	Updates specs on ST31200N. Added note to Baracuda models about differential termination.
09/15/93	Corrected avg sectors per track on ST3390N
09/12/93	Corrected T-res info on ST4182N
08/17/93	Corrected NEC Technologies phone numbers
08/17/93	Update specs and jumper setting for ST9235N.
08/12/93	Removed ST11700N, ST11701N, ST11750N, ST11751N and replaced with updated versions ST11900N, ST11901N, ST11950N and ST11951N.
08/11/93	Removed ST9295N (never produced).

07/27/93 Corrected "default" terminator power designations on ST3283N, ST3390N and ST3550N.

06/24/93 Correct SCSI pins 35,36,46 in PIN-CABL.HTX

06/23/93 Corrected Quarterdeck area codes, Storage Dimensions new phone number

06/22/93 Corrected ST9100AG power specs.
Added ST3195A, ST9140AG, ST9190AG.

05/18/93 Corrected Ultrastor tech support area code

05/14/93 Added ST3390N.

05/13/93 Corrected ST1480N family t-res power from bus jumper.

05/12/93 Corrected ST9100AG total sectors and changed default translation geometry. Corrected ST3243A mtbf and power specs.
Added ST9145AG, ST3123A, ST3145A, ST3290A, ST3390A, ST3655A.

03/10/93 Clarified front-to-back orientation of configuration jumper block on ST3600A.
Corrected ST3243A board layout.
Corrected ST41601N external transfer rate.

03/09/93 Updated DTC Tech Support BBS number.

02/09/93 Corrected ST3600A Master with Slave Present jumper

02/02/93 Added reference to old/new style SCSI ID jumper block on ST3600, ST3610 and ST11200 families.
Correct cylinder and head specs on ST43400 Elite 3 family. Pulled drawing in ST43402 and ST11201 (should show 68-pin wide scsi connector).

01/29/93 Added new PWA layout for ST3600A Family

1992 Changes

12/18/92 Added all the NEW drives announced at COMDEX '92.

12/08/92 Updated ST3283N to show notch in I/O connector

plastic shroud. Corrected MTBF and power specs.
Corrected ST1980N internal transfer rate.

12/07/92 Added shock spec to ST9144 family.
Updated left side view for ST3600N family to show early PCB layout for SCSI ID header.

12/01/92 Corrected Motor Start and Start Delay designations on ST3600N family. They were described in reverse.

11/12/92 Corrected external transfer rate on ST41601N

11/11/92 Clarified location of configuration jumpers on ST2106E.
Noted perpendicular configuration header on ST412 members of the ST157 family.

10/22/92 Added ST3600 family drives (ST3500 A & N, ST3600 A & N)

10/12/92 Corrected order of jumper numbers on ST11200 family (incl ST1980N) J2 jumper block. Descriptions were OK, number wasn't. Also corrected ST11200N family data buffer amount.

09/28/92 ST3283 power specs and max full seek updated. Added pin-28 SPSYNC- info to front view of ST3283A.

09/08/92 Corrected perspective on ST3283 family front view.

08/05/92 Added 30 new numbers to the phone list.

07/16/92 Added T-res information to ST-2125N and ST-2209N (old 94221 family Wren 5)

07/13/92 Corrected description of Motor Start and Start Delay jumpers on ST11200 family
Identified pin-1 of J5 on ST1480N family

06/11/92 Corrected 3-pin power assignments on ST3144 family.
Added ST-9052A.

06/08/92 Added "Print/Export" to the top of each deck. This allows a complete card to be saved to a plain ASCII file. If PRN or LPT1 is given as the file name, then it will print. This was active on previous releases but omitted from the menu. One note of caution... if the data is being read from a server, then the user

will need rights to create and delete in that subdirecory in order to make use of Print/Export.

06/05/92 Lots of new BBS numbers added to the phonelist section.

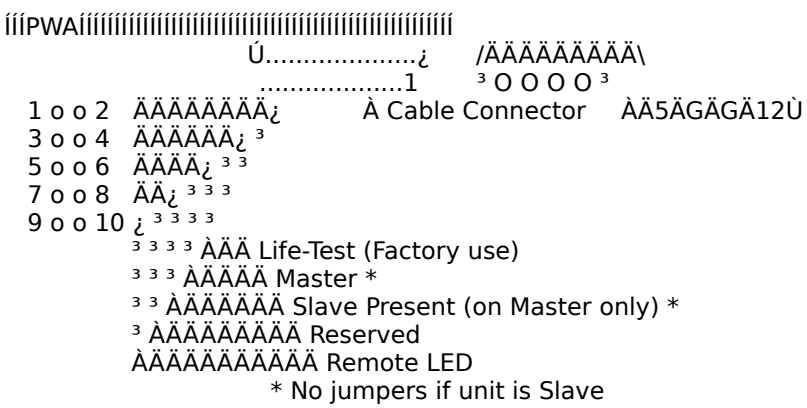
06/01/92 Added a "user link" which allows anyone who cares to attach/expand their own technical info to the Desk Reference. The user file must be called USER.HTX and must, of course, be prepared in accordance to HYPERHELPER. The USER.HTX file distributed from Seagate is merely a dummy screen.

05/18/92 Added ST-42400N.
Correct spindle speeds on ST11200 family.

04/17/92 ST325N SCSI drive added.
UltraStor BBS added and their Tech Support # corrected.
ST01/02 SCSI host adapter v3.3 board layout added.
Added reminder to all decks to be sure to register the HyperHelper program.

Beginning of the revision history.

ST-1057A



ST-1057A

UNFORMATTED CAPACITY (MB)	N/A
FORMATTED CAPACITY (xx/17 SECTORS) (MB)	53.4
ACTUATOR TYPE	VOICE COIL
TRACKS	6,144
CYLINDERS PHYSICAL/LOGICAL	NA/1,024
HEADS PHYSICAL/LOGICAL	3/6
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL ZBR
TRANSFER RATE INTERNAL (mbits/sec)	8.2/10/12
SPINDLE SPEED (RPM)	3,528
INTERFACE	AT BUS
TPI (TRACKS PER INCH)	1,300
BPI (BITS PER INCH)	21,600
AVERAGE ACCESS (ms)	18
SINGLE TRACK SEEK (ms)	6
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.63
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	8
MAXIMUM (watts)	
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Translation to use: 1024 cyl, 6 heads, 17 sectors = 53,477,376

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and

Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

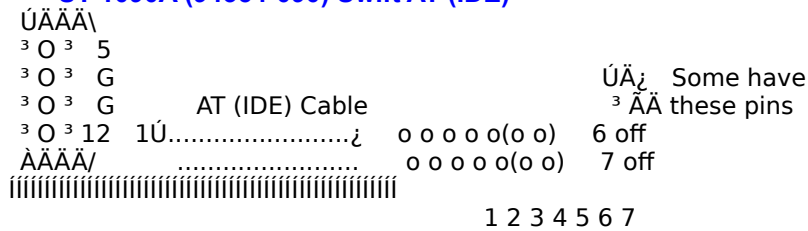
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications.

ST-1090A (94354-090) Swift AT (IDE)



	ON	OFF	1 2 3 4 5 6 7
1	Slave	Master	
2	5 Heads	7/9 Heads	
3	Slave installed	Slave not inst.	
4	7 byte ECC	4 byte ECC	
5	Factory test	Normal Oper.	

6/7 Some PWA's have these pins, factory use

ST-1090A
94354-90 Swift

UNFORMATTED CAPACITY (MB) _____90
FORMATTED CAPACITY (29 SECTORS) (MB) _____79
ACTUATOR TYPE _____VOICE COIL
TRACKS _____5,360
CYLINDERS _____1,072
HEADS _____5
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____1
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____AT BUS
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____22,638
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 536 cyl, 10 heads, 29 sectors = 79,585,280
Possible translation: 335 cyl, 16 heads, 29 sectors = 79,585,280
Possible translation: 653 cyl, 14 heads, 17 sectors = 79,571,968
Possible translation: 854 cyl, 7 heads, 26 sectors = 79,579,136

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

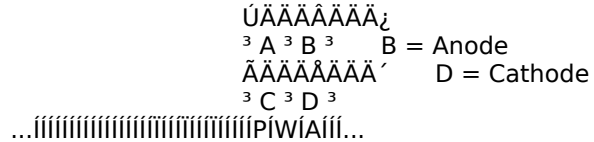
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

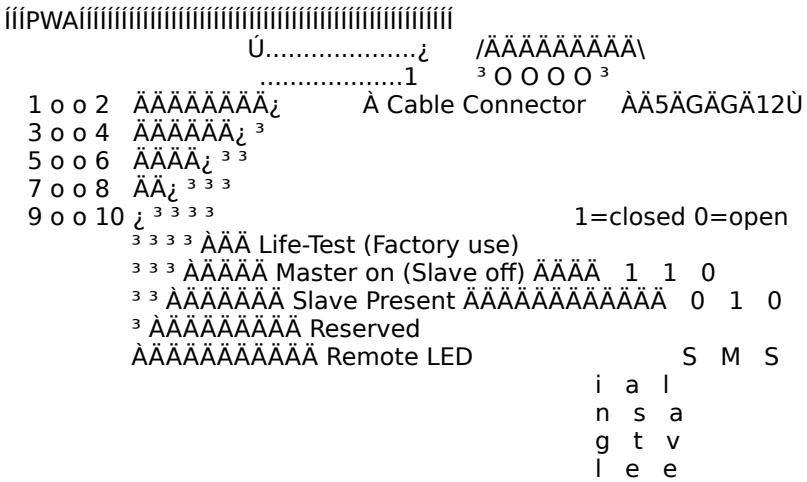
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications.

ST-1102A and ST-1102A-32



UNFORMATTED CAPACITY (MB) _____N/A
FORMATTED CAPACITY (xx/17 SECTORS) (MB) __89.1
ACTUATOR TYPE _____VOICE COIL
TRACKS _____10,240
CYLINDERS __PHYSICAL/LOGICAL_____NA/1,024
HEADS _____PHYSICAL/LOGICAL_____5/10
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec) _____8.2/10/12
SPINDLE SPEED (RPM) _____3,528
AVERAGE LATENCY (mSEC) _____8.5
BUFFER _____8 or 32 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented Buffer
INTERFACE _____AT BUS
SECTORS PER DRIVE _____174,080
TPI (TRACKS PER INCH) _____1,300
BPI (BITS PER INCH) _____21,600
AVERAGE ACCESS (ms) _____19
SINGLE TRACK SEEK (ms) _____8
MAX FULL SEEK (ms) _____40
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.63
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____8
MAXIMUM (watts) _____
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Translation to use: 1024 cyl, 10 heads, 17 sectors = 89,128,960

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

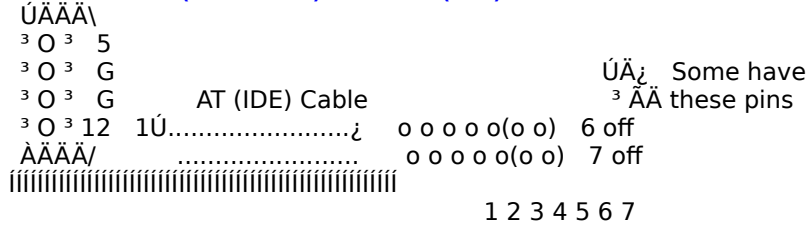
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications.

ST-1111A (94354-111) Swift AT (IDE)



	ON	OFF	1 2 3 4 5 6 7
1	Slave	Master	
2	5 Heads	7/9 Heads	
3	Slave installed	Slave not inst.	
4	7 byte ECC	4 byte ECC	
5	Factory test	Normal Oper.	
6/7	Some PWA's have these pins, factory use		

ST-1111A
94354-111 Swift

UNFORMATTED CAPACITY (MB) _____111
FORMATTED CAPACITY (36 SECTORS) (MB) _____98
ACTUATOR TYPE _____VOICE COIL
TRACKS _____5,360
CYLINDERS _____1,072
HEADS _____5
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____1.25
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____AT BUS
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____28,103
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MTBF (power-on hours) _____70,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 536 cyl, 10 heads, 36 sectors = 98,795,520
Possible translation: 402 cyl, 10 heads, 48 sectors = 98,795,520
Possible translation: 873 cyl, 13 heads, 17 sectors = 98,781,696
Possible translation: 742 cyl, 10 heads, 26 sectors = 98,775,040

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

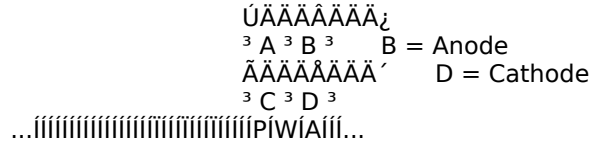
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

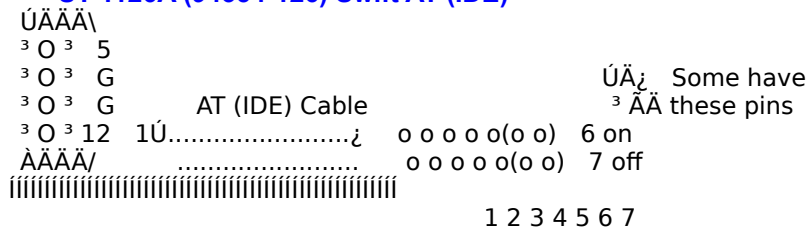
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1126A (94354-126) Swift AT (IDE)



	ON	OFF	1 2 3 4 5 6 7
1	Slave	Master	
2	5 Heads	7/9 Heads	
3	Slave installed	Slave not inst.	
4	7 byte ECC	4 byte ECC	
5	Factory test	Normal Oper.	
6/7	Some PWA's have these pins, factory use		

ST-1126A
94354-126 Swift

UNFORMATTED CAPACITY (MB) _____126
FORMATTED CAPACITY (29 SECTORS) (MB) _____111
ACTUATOR TYPE _____VOICE COIL
TRACKS _____7,504
CYLINDERS _____1,072
HEADS _____7
DISCS _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____1
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____AT BUS
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____22,638
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 536 cyl, 14 heads, 29 sectors = 111,419,392
Possible translation: 469 cyl, 16 heads, 29 sectors = 111,419,392
Possible translation: 800 cyl, 16 heads, 17 sectors = 111,411,200
Possible translation: 523 cyl, 16 heads, 26 sectors = 111,394,816

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

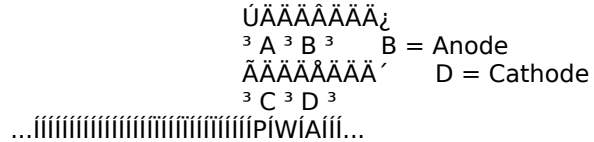
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

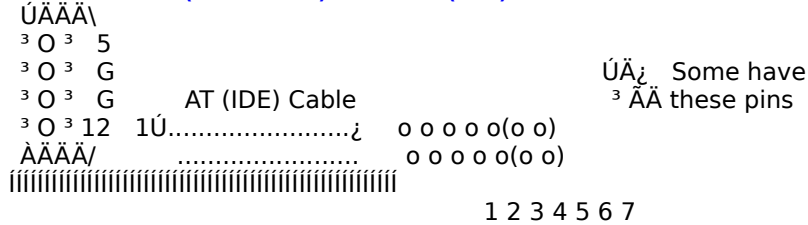
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1133A (94354-133) Swift AT (IDE)



	ON	OFF	1 2 3 4 5 6 7
1	Slave	Master	
2	5 Heads	7/9 Heads	
3	Slave installed	Slave not inst.	
4	7 byte ECC	4 byte ECC	
5	Factory test	Normal Oper.	
6/7	Some PWA's have these pins, factory use		

ST-1133A
94354-133 Swift

UNFORMATTED CAPACITY (MB)	133
FORMATTED CAPACITY (36 SECTORS) (MB)	117
ACTUATOR TYPE	VOICE COIL
TRACKS	6,360
CYLINDERS	1,272
HEADS	5
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
BUFFER	32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented	
INTERFACE	AT BUS
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	28,103
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	4
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.5
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	11
MAXIMUM (watts)	33.75
BUFFERED STEP PULSE RATE (micro sec)	6-200
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 636 cyl, 10 heads, 36 sectors = 117,227,520
Possible translation: 477 cyl, 8 heads, 60 sectors = 117,227,520
Possible translation: 962 cyl, 14 heads, 17 sectors = 117,225,472
Possible translation: 629 cyl, 14 heads, 26 sectors = 117,225,472

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

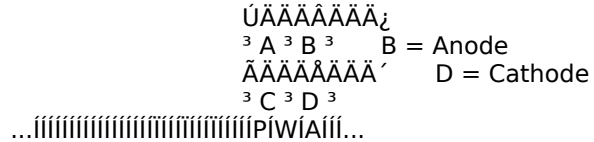
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

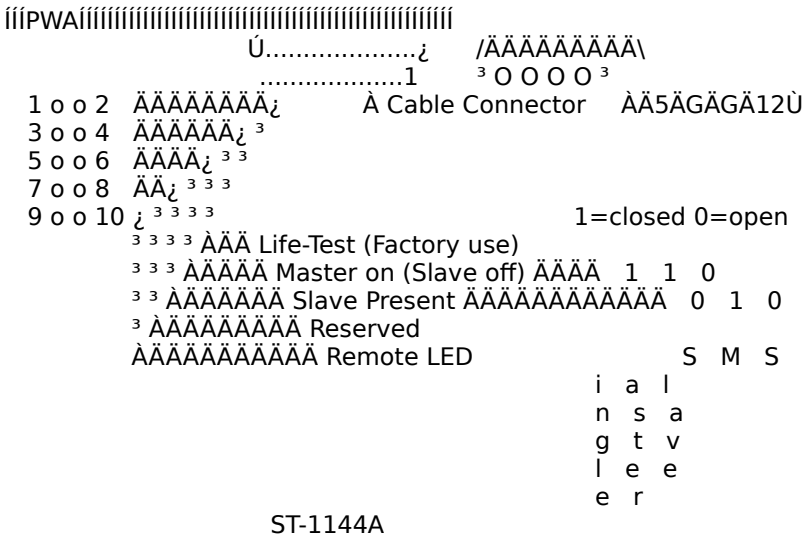
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1144A and ST-1144A-32



UNFORMATTED CAPACITY (MB)	N/A
FORMATTED CAPACITY (xx/17 SECTORS) (MB)	130.7
ACTUATOR TYPE	VOICE COIL
TRACKS	14,336
CYLINDERS PHYSICAL/LOGICAL	NA/1,001
HEADS PHYSICAL/LOGICAL	7/15
DISCS	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)	8.2/10/12
SPINDLE SPEED (RPM)	3,528
AVERAGE LATENCY (mSEC)	8.5
BUFFER	8 or 32 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
INTERFACE	AT BUS
SECTORS PER DRIVE	255,255
TPI (TRACKS PER INCH)	1,300
BPI (BITS PER INCH)	21,600
AVERAGE ACCESS (ms)	19
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	40
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.63
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	8
MAXIMUM (watts)	
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1001 cyl, 15 heads, 17 sectors = 130,690,560
Possible translation: 1024 cyl, 14 heads, 17 sectors = 124,780,544

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

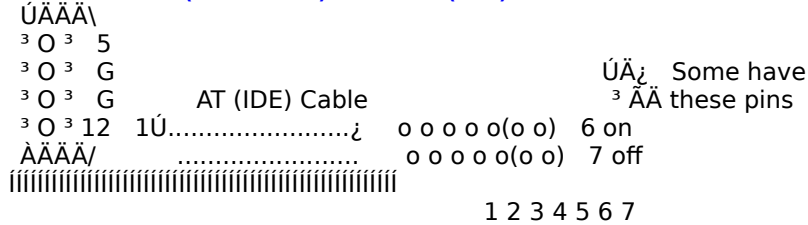
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications.

ST-1156A (94354-155) Swift AT (IDE)



	ON	OFF
1	Slave	Master
2	5 Heads	7/9 Heads
3	Slave installed	Slave not inst.
4	7 byte ECC	4 byte ECC
5	Factory test	Normal Oper.

1 2 3 4 5 6 7

6/7 Some PWA's have these pins, factory use

ST-1156A
94354-155 Swift

UNFORMATTED CAPACITY (MB) _____155
FORMATTED CAPACITY (36 SECTORS) (MB) _____138
ACTUATOR TYPE _____VOICE COIL
TRACKS _____7,504
CYLINDERS _____1,072
HEADS _____7
DISCS _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____1.25
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____AT BUS
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____28,103
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 536 cyl, 14 heads, 36 sectors = 138,313,728
Possible translation: 536 cyl, 9 heads, 56 sectors = 138,313,728
Possible translation: 993 cyl, 16 heads, 17 sectors = 138,289,152
Possible translation: 742 cyl, 14 heads, 26 sectors = 138,285,056

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

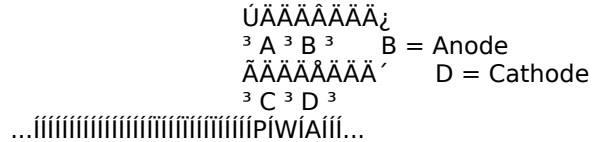
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

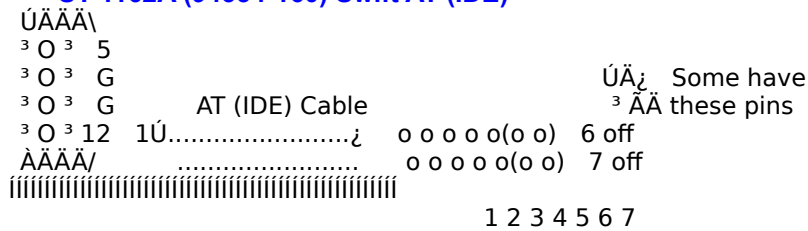
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1162A (94354-160) Swift AT (IDE)



	ON	OFF	1 2 3 4 5 6 7
1	Slave	Master	
2	5 Heads	7/9 Heads	
3	Slave installed	Slave not inst.	
4	7 byte ECC	4 byte ECC	
5	Factory test	Normal Oper.	
6/7	Some PWA's have these pins, factory use		

ST-1162A
94354-160 Swift

UNFORMATTED CAPACITY (MB) _____162
FORMATTED CAPACITY (29 SECTORS) (MB) _____143
ACTUATOR TYPE _____VOICE COIL
TRACKS _____9,648
CYLINDERS _____1,072
HEADS _____9
DISCS _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____1
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____AT BUS
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____22,638
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Possible translation: 804 cyl, 12 heads, 29 sectors = 143,253,504
Possible Translation: 603 cyl, 16 heads, 29 sectors = 143,253,504
Possible Translation: 1024 cyl, 16 heads, 17 sectors = 142,606,336
Possible Translation: 978 cyl, 11 heads, 26 sectors = 143,210,496

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

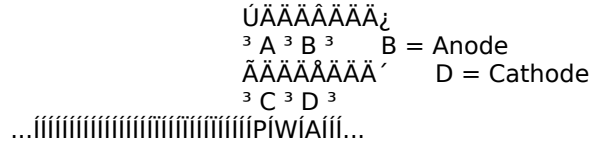
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

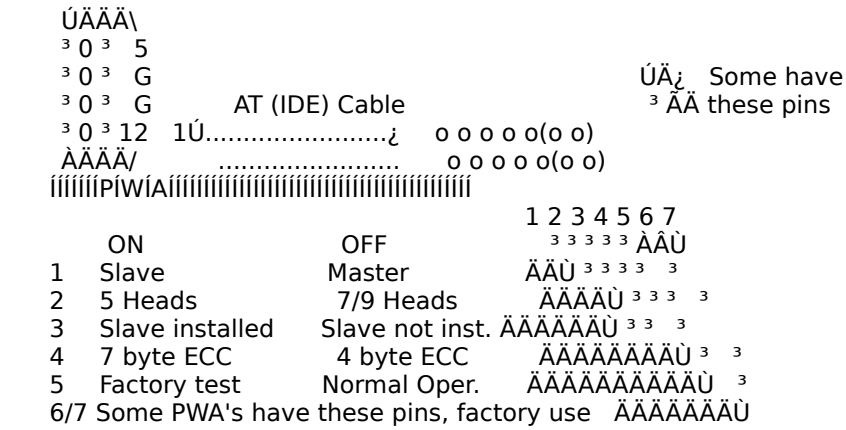
Front View of Drive Without the Plastic Bezel



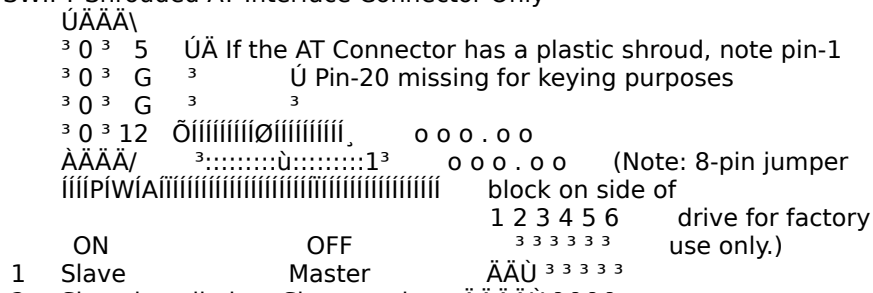
- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1186A (94354-186) Swift AT (IDE)



SWIFT Shrouded AT Interface Connector Only



ST-1186A
94354-186 Swift

UNFORMATTED CAPACITY (MB)	186
FORMATTED CAPACITY (36 SECTORS) (MB)	164
ACTUATOR TYPE	VOICE COIL
TRACKS	8,904
CYLINDERS	1,272
HEADS	7
DISCS	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 or 64 Kbyte Read Look-Ahead, Non-Adaptive, Single-Segmented
INTERFACE	AT BUS
SECTORS PER DRIVE	320,040
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	28,103
AVERAGE ACCESS (ms)	15

SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 636 cyl, 14 heads, 36 sectors = 164,118,528
Possible translation: 742 cyl, 12 heads, 36 sectors = 164,118,528
Possible translation: 636 cyl, 9 heads, 56 sectors = 164,118,528
Possible translation: 880 cyl, 14 heads, 26 sectors = 164,003,840

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

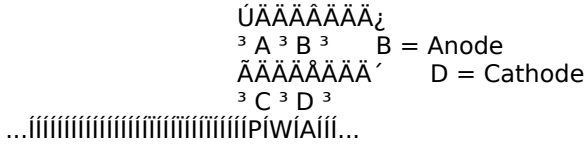
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

Front View of Drive Without the Plastic Bezel

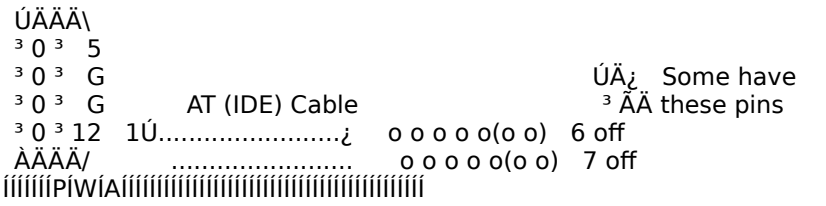


- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

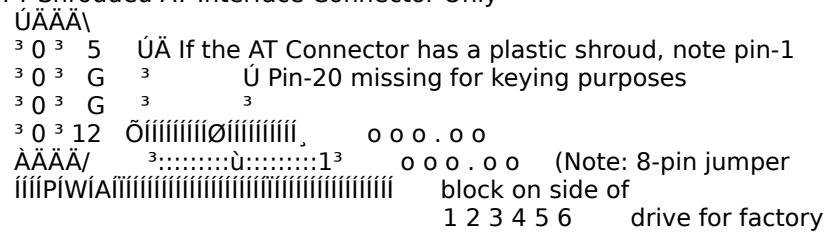
Seagate reserves the right to change, without notice, product

offerings or specifications. (6/26/90)

ST-1201A (94354-200) Swift AT (IDE)



SWIFT Shrouded AT Interface Connector Only



ST-1201A
94354-200 Swift

UNFORMATTED CAPACITY (MB)	201
FORMATTED CAPACITY (36 SECTORS) (MB)	177
ACTUATOR TYPE	VOICE COIL
TRACKS	9,648
CYLINDERS	1,072
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented	
INTERFACE	AT BUS
SECTORS PER DRIVE	347,328
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	28,103

AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A (1073)
REDUCED WRITE CURRENT (cyl) _____N/A (1073)
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 804 cyl, 12 heads, 36 sectors = 177,831,936
Possible translation: 804 cyl, 9 heads, 48 sectors = 177,831,936
Possible translation: 954 cyl, 14 heads, 26 sectors = 177,795,072

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

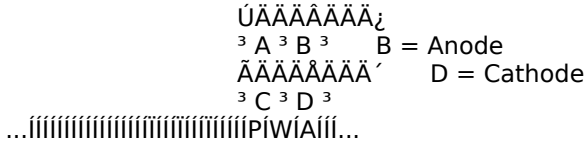
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

Front View of Drive Without the Plastic Bezel

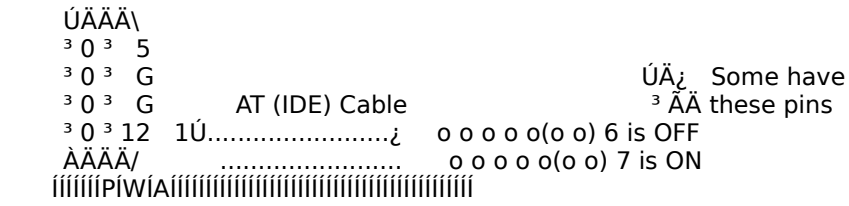


- Default jumper at C-D for LED mounted on drive PWA
- To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- Swift LED kit 75912397 allows connection to a remote LED
- Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product

offerings or specifications. (6/26/90)

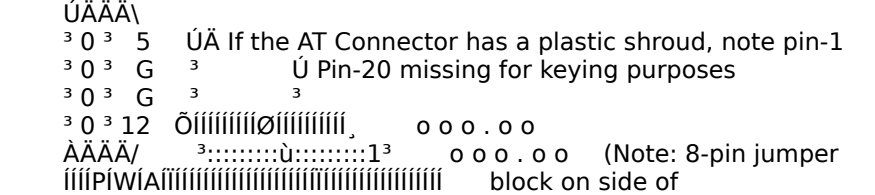
ST-1239A (94354-239 or 230) Swift AT (IDE)



	ON	OFF
1	Slave	Master
2	5 Heads	7/9 Heads
3	Slave installed	Slave not inst.
4	7 byte ECC	4 byte ECC
5	Factory test	Normal Oper.

6/7 Some PWA's have these pins, factory use

SWIFT Shrouded AT Interface Connector Only



	ON	OFF
1	Slave	Master
2	Slave installed	Slave not inst.
3	SPSYNC (spindle sync) on Pin-28	
4	(pins removed)	
5	Spare	
6	SPSYNC External Connection	

ST-1239A
94354-239 or 230 Swift

UNFORMATTED CAPACITY (MB)	239
FORMATTED CAPACITY (36 SECTORS) (MB)	211
ACTUATOR TYPE	VOICE COIL
TRACKS	11,448
CYLINDERS	1,272
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented	
INTERFACE	AT BUS
SECTORS PER DRIVE	412,128
TPI (TRACKS PER INCH)	1,543
BPI (BITS PER INCH)	28,103

AVERAGE ACCESS (ms) ______________________15
SINGLE TRACK SEEK (ms) ___________________4
MAX FULL SEEK (ms) _______________________35
MTBF (power-on hours) ____________________150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) ______11
MAXIMUM (watts) ______33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) ______________________N/A
REDUCED WRITE CURRENT (cyl) ______________N/A
LANDING ZONE (cyl) _______________________AUTO PARK
IBM AT DRIVE TYPE ________________________*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Possible Translation: 954 cyl, 12 heads, 36 sectors = 211,009,536
Possible Translation: 817 cyl, 14 heads, 36 sectors = 210,825,216
Possible Translation: 990 cyl, 16 heads, 26 sectors = 210,862,080

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Swift Remote LED Option

Front View of Drive Without the Plastic Bezel

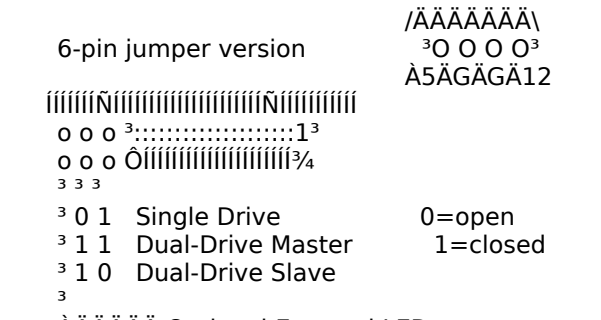
```
                  ÚÄÄÄÂÄÄÄ¿
                  ³ A ³ B ³      B = Anode
                  ÃÄÄÄÅÄÄÄ´      D = Cathode
                  ³ C ³ D ³
...ÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍPÍWÍAÍÍÍ...
```

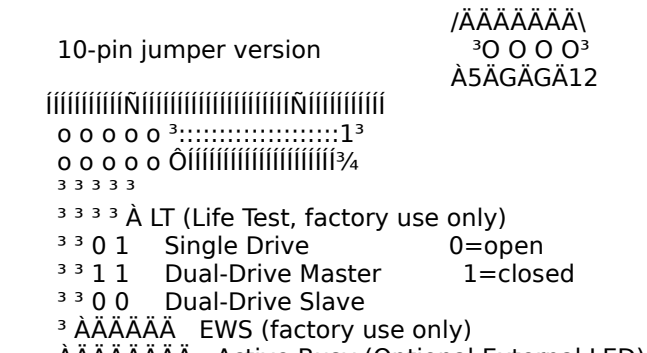
ø Default jumper at C-D for LED mounted on drive PWA
ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
ø Swift LED kit 75912397 allows connection to a remote LED
ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product

offerings or specifications. (6/26/90)

ST-125A





ST - 125A

UNFORMATTED CAPACITY (MB)	25
FORMATTED CAPACITY (26 SECTORS) (MB)	21.5
ACTUATOR TYPE	STEPPER
TRACKS	1,616
CYLINDERS	404
HEADS	4
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	AT BUS
TPI (TRACKS PER INCH)	824
BPI (BITS PER INCH)	16,546
AVERAGE ACCESS (ms)	40/28*
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.35
+5V TYPICAL (amps)	0.9
TYPICAL (watts)	9
MAXIMUM (watts)	29
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	6

*ST125A-0/ST125A-1

Possible translation: 615 cyl, 4 heads, 17 sectors = 21,411,840

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

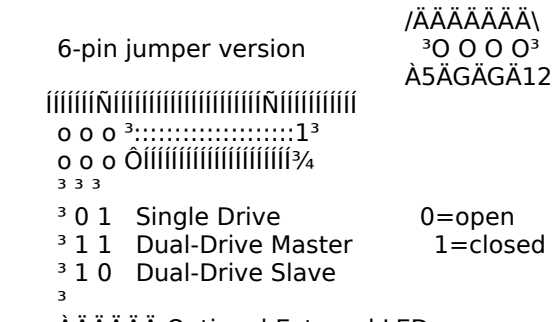
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

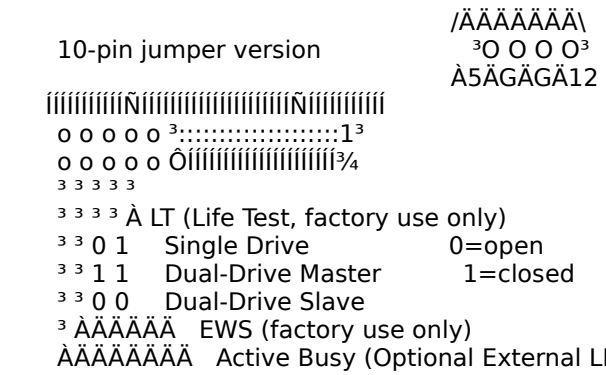
WARNING - Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-138A





ST - 138A

UNFORMATTED CAPACITY (MB) _____38
FORMATTED CAPACITY (26 SECTORS) (MB) _____32.1
ACTUATOR TYPE _____STEPPER
TRACKS _____2,416
CYLINDERS _____604
HEADS _____4
DISCS _____2
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbits/sec) _____7.5
SPINDLE SPEED (RPM) _____3,600
INTERFACE _____AT BUS
TPI (TRACKS PER INCH) _____824
BPI (BITS PER INCH) _____22,430
AVERAGE ACCESS (ms) _____40/28*
SINGLE TRACK SEEK (ms) _____8
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.35
+5V TYPICAL (amps) ___0.9
TYPICAL (watts) _____9
MAXIMUM (watts) _____29
BUFFERED STEP PULSE RATE (micro sec) _____3-200
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____3

*ST138A-0/ST138A-1

Possible translation: 615 cyl, 6 heads, 17 sectors = 32,117,760

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

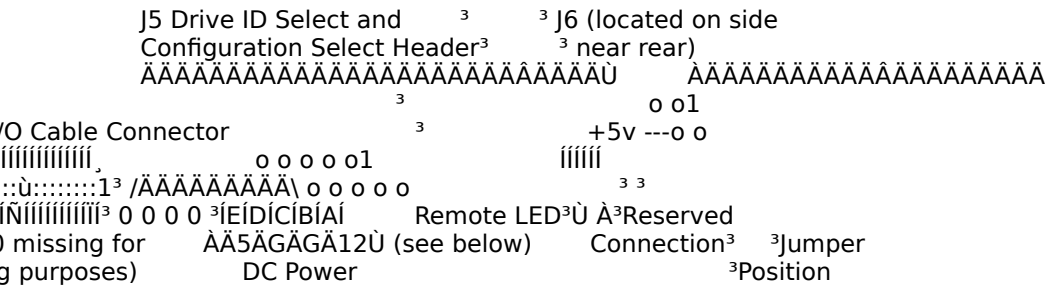
WARNING - Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1400A AT Interface

NOTE: This figure and the following description of each jumper position
is only valid on drives that have J6 with 4 pins (2x2).-->¿
³



J5
JUMPER | FUNCTION:
A REFSIG: This location provides a port for external connection of the synchronized spindle reference signal (pin-1) and ground (pin-2). The reference signal is bi-directional, single-ended, and terminated without an external resistor. It is also available on J4 pin-28 if the factory jumper is installed. The drive will self-determine if it is a master of slave for spindle synchronization.

B HOST SLV/ACT: When this shunt is installed, -SLAVE PRESENT (provided by the output of a 74HCT14) is applied to J4 pin-39 for systems that require this signal from the Master drive. If jumper "B" is installed, then jumper "E" must not be installed.

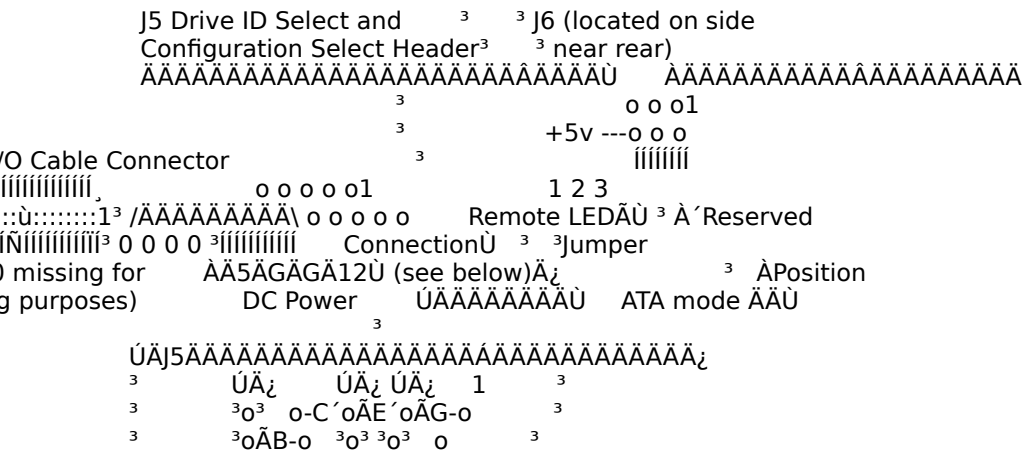
C MASTER: When this shunt is installed, the drive is configured as the Master. When not installed, the drive is a Slave.

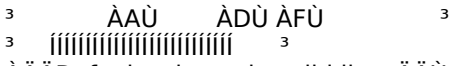
D SLAVE PRESENT: When installed, this shunt indicates to the Master drive that a Slave is present. This shunt must be installed on the Master drive in a two-drive system.

E ACTIVE: When this shunt is installed, DASP- is made present on J4 pin-39. If "E" is installed, then "B" must not be installed.

==========

NOTE: This figure and the following description of each jumper position
is only valid on drives that have J6 with 6 pins (2x3).-->¿
³





J5 Jumper Function Description

A	B	(A=vertical, pins 9 & 10; B=horizontal, pins 8 & 10)
OFF	OFF	Drive is the slave (Drive 1).
OFF	ON	Drive is the master (Drive 0) with slave (Drive 1) present.
ON*	OFF	Drive s the master (Drive 0).

C (C=horizontal, pins 5 & 7)

ON Slave (Drive 1) Present is connected to J4 pin 39. Jumpers "D" or "E" cannot be installed if jumper "C" is installed.

D (D=vertical, pins 5 & 6)

ON* DASP- is connected to J4 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.

OFF REFSIG is not connected to J4 pin 39.

E (E=horizontal, pins 3 & 5)

ON REFSIG is connected to J4 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.

OFF REFSIG is not connected to J4 pin 39.

F (F=vertical, pins 3 & 4)

ON* No external reference for REFSIG. Jumpers "E", "G", or "H" cannot be installed if jumper "F" is installed.

OFF This location provides a port for external connection of the synchronized spindle reference signal (pin 3) and ground (pin 4).

G (G=horizontal, pins 1 & 3)

ON REFSIG is connected to J4 pin 28. Jumpers "E" or "F" cannot be installed if jumper "G" is installed.

OFF REFSIG is not connected to J4 pin 28.

J6 Jumper Funtion Description (2x3 jumper block)

1	Remote LED connection. Pin 6 is connected to +5v through a 147 ohm resistor. Pin 5 is the LED driver.
2	ATA mode. When the jumper is ON, IORDY is not connected to J4, DMACK- is connected to J4 pin 27, and DMARQ is connected to J4 pin 29. When the jumper is OFF, IORDY is connected to J4 pin 27, DMACK- is connected to J4 pin 29, and DMARQ is connected to J4 pin 21.
3	Reserved jumper position.

UNFORMATTED CAPACITY (MB) _____381.8
FORMATTED CAPACITY (xx SECTORS) (MB) _____331.7*

AVERAGE SECTORS PER TRACK _____62 (rounded down)
ACTUATOR TYPE _____VOICE COIL
TRACKS _____10,325
CYLINDERS _____1,475
HEADS _____7
DISCS _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____17 to 25
SPINDLE SPEED (RPM) _____4,412
AVERAGE LATENCY (mSEC) _____6.8
BUFFER _____64 Kbyte
Read Look-Ahead, Non-Adaptive,
Multi-Segmented Cache
INTERFACE _____AT
BYTES PER TRACK _____36,819 avg.
TPI (TRACKS PER INCH) _____1,760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.54
+5V TYPICAL (amps) ___0.30
TYPICAL (watts) _____8
MAXIMUM (watts) _____15
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____**

Possible translation: 1,018 cyl, 12 heads, 53 sectors = 331,493,376

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

* Two spare sectors per cylinder, two spare cylinders per drive.

** MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

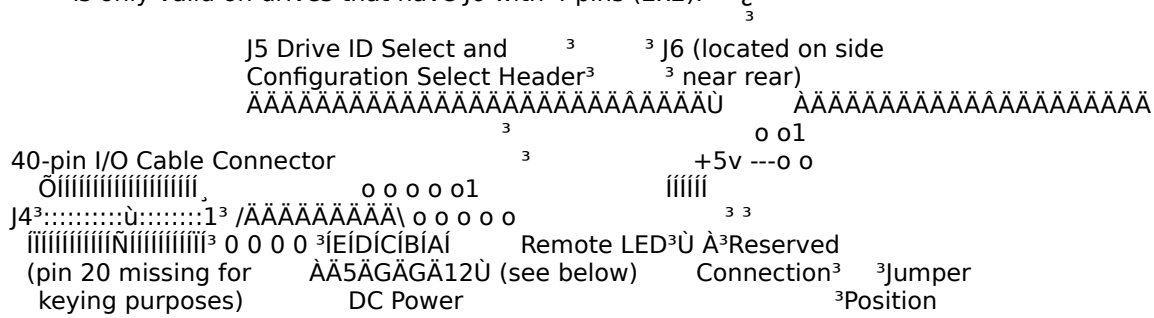
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (11/27/91)

ST-1401A AT Interface

NOTE: This figure and the following description of each jumper position
is only valid on drives that have J6 with 4 pins (2x2).-->¿



J5
JUMPER | FUNCTION:
A REFSIG: This location provides a port for external connection of the synchronized spindle reference signal (pin-1) and ground (pin-2). The reference signal is bi-directional, single-ended, and terminated without an external resistor. It is also available on J4 pin-28 if the factory jumper is installed. The drive will self-determine if it is a master of slave for spindle synchronization.

B HOST SLV/ACT: When this shunt is installed, -SLAVE PRESENT (provided by the output of a 74HCT14) is applied to J4 pin-39 for systems that require this signal from the Master drive. If jumper "B" is installed, then jumper "E" must not be installed.

C MASTER: When this shunt is installed, the drive is configured as the Master. When not installed, the drive is a Slave.

D SLAVE PRESENT: When installed, this shunt indicates to the Master drive that a Slave is present. This shunt must be installed on the Master drive in a two-drive system.

E ACTIVE: When this shunt is installed, DASP- is made present on J4 pin-39. If "E" is installed, then "B" must not be installed.

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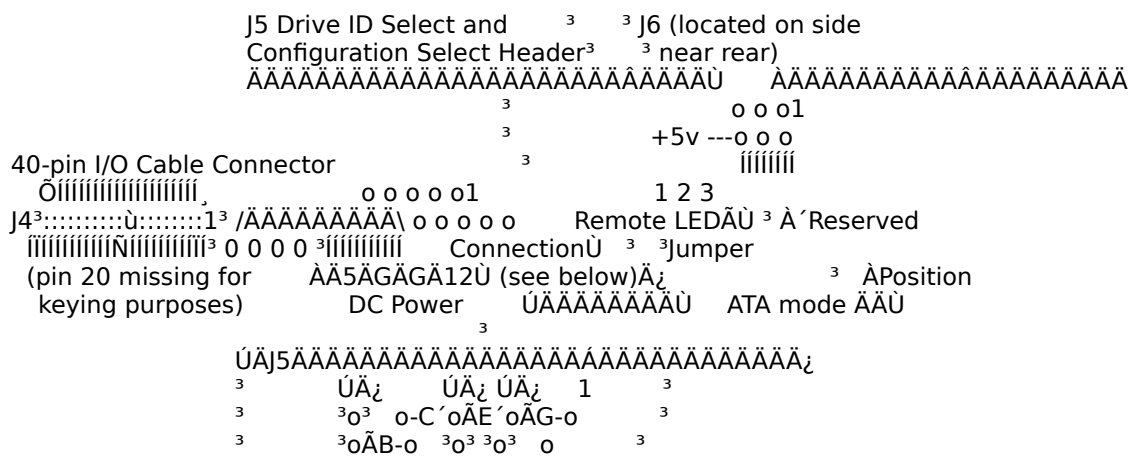
NOTE: This figure and the following description of each jumper position
is only valid on drives that have J6 with 6 pins (2x3).-->¿



³ ÀAÙ ÀDÙ ÀFÙ ³
³ ÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ ³
ÀÄÄDefaults shown in solid linesÄÄÙ

J5 Jumper Function Description

A B (A=vertical, pins 9 & 10; B=horizontal, pins 8 & 10)
OFF OFF Drive is the slave (Drive 1).
OFF ON Drive is the master (Drive 0) with slave (Drive 1) present.
ON* OFF Drive s the master (Drive 0).

C (C=horizontal, pins 5 & 7)
ON Slave (Drive 1) Present is connected to J4 pin 39. Jumpers "D" or "E" cannot be installed if jumper "C" is installed.

D (D=vertical, pins 5 & 6)
ON* DASP- is connected to J4 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.

OFF REFSIG is not connected to J4 pin 39.

E (E=horizontal, pins 3 & 5)
ON REFSIG is connected to J4 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.

OFF REFSIG is not connected to J4 pin 39.

F (F=vertical, pins 3 & 4)
ON* No external reference for REFSIG. Jumpers "E", "G", or "H" cannot be installed if jumper "F" is installed.

OFF This location provides a port for external connection of the synchronized spindle reference signal (pin 3) and ground (pin 4).

G (G=horizontal, pins 1 & 3)
ON REFSIG is connected to J4 pin 28. Jumpers "E" or "F" cannot be installed if jumper "G" is installed.

OFF REFSIG is not connected to J4 pin 28.

J6 Jumper Funtion Description (2x3 jumper block)
---

1 Remote LED connection. Pin 6 is connected to +5v through a 147 ohm resistor. Pin 5 is the LED driver.

2 ATA mode. When the jumper is ON, IORDY is not connected to J4, DMACK- is connected to J4 pin 27, and DMARQ is connected to J4 pin 29. When the jumper is OFF, IORDY is connected to J4 pin 27, DMACK- is connected to J4 pin 29, and DMARQ is connected to J4 pin 21.

3 Reserved jumper position.

UNFORMATTED CAPACITY (MB) _____395.7
FORMATTED CAPACITY (xx SECTORS) (MB) _____343.7*
AVERAGE SECTORS PER TRACK _____65 (rounded down)

ACTUATOR TYPE _____VOICE COIL
TRACKS _____10,188
CYLINDERS _____1,132
HEADS _____9
DISCS _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____20 to 25
SPINDLE SPEED (RPM) _____4,412
AVERAGE LATENCY (mSEC) _____6.8
BUFFER _____64 Kbyte
Read Look-Ahead, Non-Adaptive,
Multi-Segmented Cache
INTERFACE _____AT
BYTES PER TRACK _____38,803 avg.
TPI (TRACKS PER INCH) _____1,760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____24
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.54
+5V TYPICAL (amps) ___0.53
TYPICAL (watts) _____8
MAXIMUM (watts) _____15
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____**

Possible translation: 726 cyl, 15 heads, 61 sectors = 340,116,480

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

* Two spare sector per cyliner, two spare cylinders per drive.

** MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

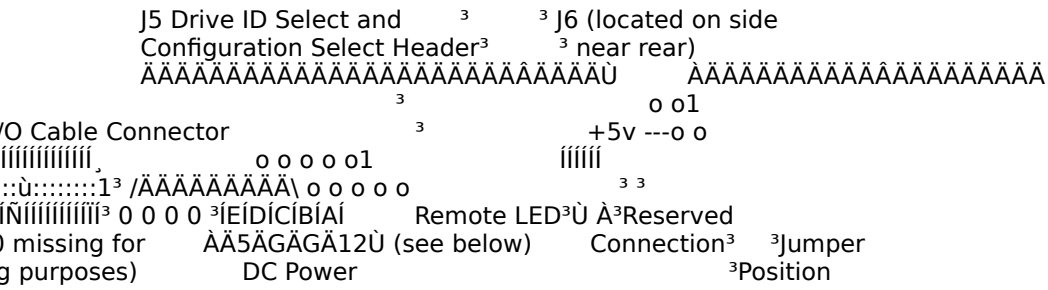
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (4/12/91)

ST-1480A AT Interface

NOTE: This figure and the following description of each jumper position
is only valid on drives that have J6 with 4 pins (2x2).-->¿
³



J5
JUMPER | FUNCTION:
A REFSIG: This location provides a port for external connection of the synchronized spindle reference signal (pin-1) and ground (pin-2). The reference signal is bi-directional, single-ended, and terminated without an external resistor. It is also available on J4 pin-28 if the factory jumper is installed. The drive will self-determine if it is a master of slave for spindle synchronization.

B HOST SLV/ACT: When this shunt is installed, -SLAVE PRESENT (provided by the output of a 74HCT14) is applied to J4 pin-39 for systems that require this signal from the Master drive. If jumper "B" is installed, then jumper "E" must not be installed.

C MASTER: When this shunt is installed, the drive is configured as the Master. When not installed, the drive is a Slave.

D SLAVE PRESENT: When installed, this shunt indicates to the Master drive that a Slave is present. This shunt must be installed on the Master drive in a two-drive system.

E ACTIVE: When this shunt is installed, DASP- is made present on J4 pin-39. If "E" is installed, then "B" must not be installed.

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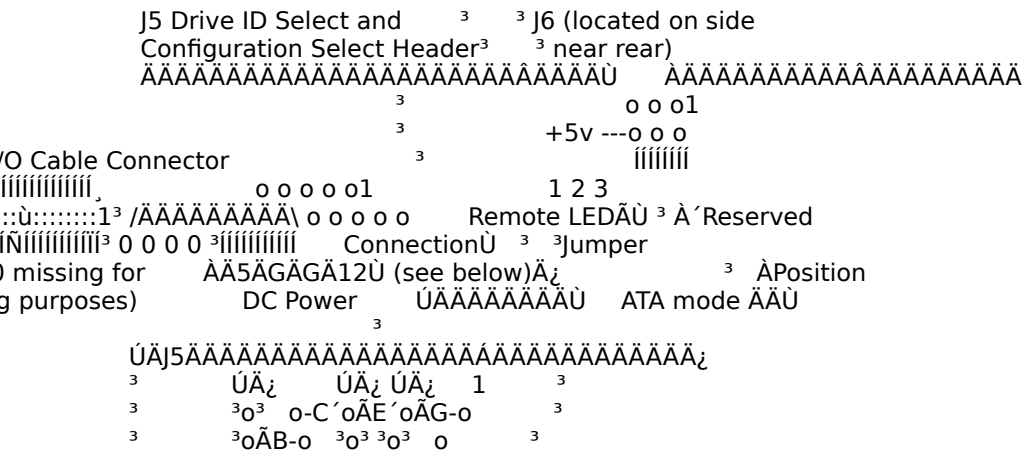
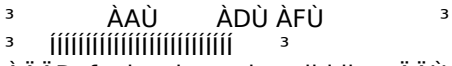
NOTE: This figure and the following description of each jumper position
is only valid on drives that have J6 with 6 pins (2x3).-->¿
³





J5 Jumper		Function Description
A	B	(A=vertical, pins 9 & 10; B=horizontal, pins 8 & 10)
OFF	OFF	Drive is the slave (Drive 1).
OFF	ON	Drive is the master (Drive 0) with slave (Drive 1) present.
ON*	OFF	Drive s the master (Drive 0).

C	(C=horizontal, pins 5 & 7)
ON	Slave (Drive 1) Present is connected to J4 pin 39. Jumpers "D" or "E" cannot be installed if jumper "C" is installed.
D	(D=vertical, pins 5 & 6)
ON*	DASP- is connected to J4 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.
OFF	REFSIG is not connected to J4 pin 39.
E	(E=horizontal, pins 3 & 5)
ON	REFSIG is connected to J4 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.
OFF	REFSIG is not connected to J4 pin 39.
F	(F=vertical, pins 3 & 4)
ON*	No external reference for REFSIG. Jumpers "E", "G", or "H" cannot be installed if jumper "F" is installed.
OFF	This location provides a port for external connection of the synchronized spindle reference signal (pin 3) and ground (pin 4).
G	(G=horizontal, pins 1 & 3)
ON	REFSIG is connected to J4 pin 28. Jumpers "E" or "F" cannot be installed if jumper "G" is installed.
OFF	REFSIG is not connected to J4 pin 28.

J6 Jumper	Funtion Description (2x3 jumper block)
1	Remote LED connection. Pin 6 is connected to +5v through a 147 ohm resistor. Pin 5 is the LED driver.
2	ATA mode. When the jumper is ON, IORDY is not connected to J4, DMACK- is connected to J4 pin 27, and DMARQ is connected to J4 pin 29. When the jumper is OFF, IORDY is connected to J4 pin 27, DMACK- is connected to J4 pin 29, and DMARQ is connected to J4 pin 21.
3	Reserved jumper position.

UNFORMATTED CAPACITY (MB)	490.9
FORMATTED CAPACITY (xx SECTORS) (MB)	426.1*
AVERAGE SECTORS PER TRACK	62 (rounded down)

ACTUATOR TYPE _____VOICE COIL
TRACKS _____13,302
CYLINDERS _____1,475 (user)
HEADS _____9
DISCS _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____17 to 25
SPINDLE SPEED (RPM) _____4,412
AVERAGE LATENCY (mSEC) _____6.8
BUFFER _____64 Kbyte
Read Look-Ahead, Non-Adaptive,
Multi-Segmented Cache
INTERFACE _____AT
BYTES PER TRACK _____36,819 avg.
TPI (TRACKS PER INCH) _____1,760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.54
+5V TYPICAL (amps) ___0.3
TYPICAL (watts) _____8
MAXIMUM (watts) _____15
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____**

Possible translation: 895 cyl, 15 heads, 62 sectors = 426,163,200

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

* Two spare sectors per cylinder, 2 spare cylinders per unit.

** MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

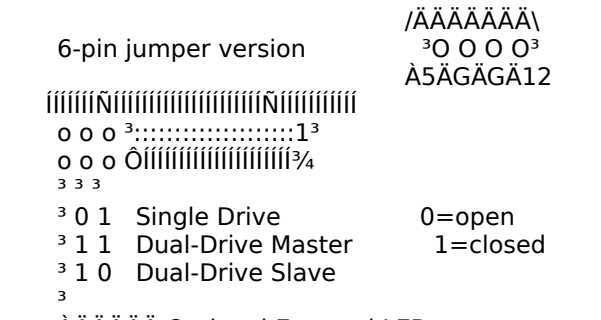
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

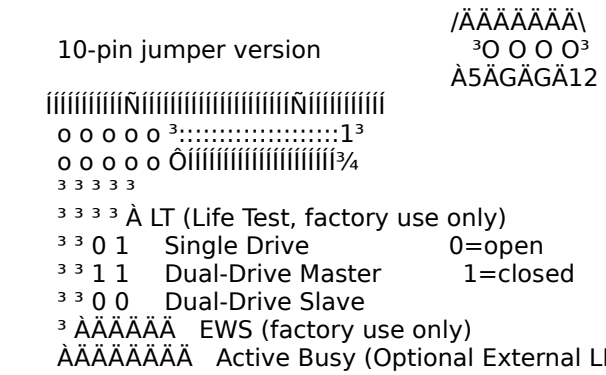
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (8/30/91)

ST-157A





ST - 157A

UNFORMATTED CAPACITY (MB) _____57
FORMATTED CAPACITY (26 SECTORS) (MB) _____44.7
ACTUATOR TYPE _____STEPPER
TRACKS _____3,360
CYLINDERS _____560
HEADS _____6
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbits/sec) _____7.5
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.3
BUFFER _____2 Kbyte
INTERFACE _____AT BUS
SECTORS PER DRIVE _____87,360
TPI (TRACKS PER INCH) _____824
BPI (BITS PER INCH) _____20,280
AVERAGE ACCESS (ms) _____40/28*
SINGLE TRACK SEEK (ms) _____8
MAX FULL SEEK (ms) _____ /70
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.35
+5V TYPICAL (amps) ___0.9
TYPICAL (watts) _____9
MAXIMUM (watts) _____29
BUFFERED STEP PULSE RATE (micro sec) _____3-200

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____36 (or 14, 17, 21)**

*ST157A-0/ST157A-1

Possible translation: 733 cyl, 7 heads, 17 sectors = 44,660,224
Possible translation: 1024 cyl, 5 heads, 17 sectors = 44,564,480

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

** MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

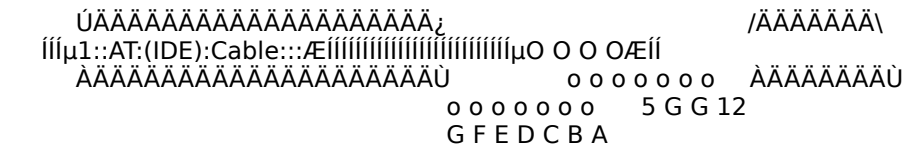
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

WARNING - Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-2274A (94244-274) Wren 6 HH AT (IDE)



A	B	
0	0	Factory use only
0	1	Drive is Slave, motor start delay 20 sec from master start-up
1	0	Drive is Slave, no motor start delay
1	1	Drive is Master, motor starts at application of DC power

C	D	
0	0	Physical mode
0	1	Translate (logical) mode, sparing scheme is one sector
1	0	Translate (logical) mode, no sparing space allocated
1	1	Factory use only

E	
0	Slave present, only meaningful on master
1	No Slave present

F	G	
x	x	Factory test, position G may or may not be present by PWA

ST-2274A
94244-274 WREN 6 HH

UNFORMATTED CAPACITY (MB) _____274
FORMATTED CAPACITY (54 SECTORS) (MB) _____241
ACTUATOR TYPE _____VOICE COIL
TRACKS _____8735
CYLINDERS _____1747
HEADS _____5
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.875
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____32 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented Buffer
INTERFACE _____AT
TPI (TRACKS PER INCH) _____1459
BPI (BITS PER INCH) _____31699
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____33
MTBF (power-on hours) _____100,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __0.95
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.75
TYPICAL (watts) _____15
MAXIMUM (watts) _____59
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Possible Translation: 873 cyls, 10 heads, 54 sectors = 241,367,040
Possible Translation: 536 cyls, 16 heads, 55 sectors = 241,500,160
Possible translation: 873 cyl, 15 heads, 36 sectors = 241,367,040

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

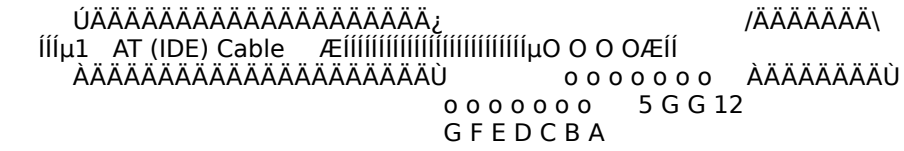
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

WARNING - Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-2383A (94244-383) Wren 6 HH AT (IDE)



A	B	
0	0	Factory use only
0	1	Drive is Slave, motor start delay 20 sec from master start-up
1	0	Drive is Slave, no motor start delay
1	1	Drive is Master, motor starts at application of DC power

C	D	
0	0	Physical mode
0	1	Translate (logical) mode, sparing scheme is one sector
1	0	Translate (logical) mode, no sparing space allocated
1	1	Factory use only

E	
0	Slave present, only meaningful on master
1	No Slave present

F	G	
x	x	Factory test, position G may or may not be present by PWA

ST-2383A
94244-383 WREN 6 HH

UNFORMATTED CAPACITY (MB) _____383
FORMATTED CAPACITY (54 SECTORS) (MB) _____338
ACTUATOR TYPE _____VOICE COIL
TRACKS _____12,229
CYLINDERS _____1,747
HEADS _____7
DISCS _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.875
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____32 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented Buffer
INTERFACE _____AT
TPI (TRACKS PER INCH) _____1,459
BPI (BITS PER INCH) _____31,699
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____33
MTBF (power-on hours) _____100,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __0.95
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.75
TYPICAL (watts) _____15
MAXIMUM (watts) _____59
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Possible Translation: 873 cyls, 14 heads, 54 sectors = 337,913,856
Possible Translation: 737 cyls, 16 heads, 56 sectors = 338,100,224

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

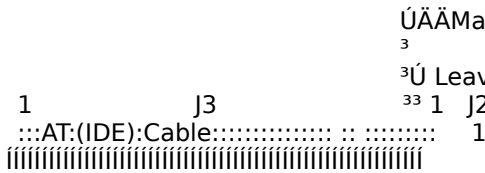
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

WARNING - Already low-level formatted at the factory

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-274A (94204-74 or 94204-65) Wren 2 HH AT (IDE)



ST-274A
94204-74 WREN 2 HH

UNFORMATTED CAPACITY (MB) _____74
FORMATTED CAPACITY (26 SECTORS) (MB) _____65.5
ACTUATOR TYPE _____VOICE COIL
TRACKS _____4740
CYLINDERS _____948
HEADS _____5
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____0.937
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented Buffer
INTERFACE _____AT
TPI (TRACKS PER INCH) _____960
BPI (BITS PER INCH) _____13489
AVERAGE ACCESS (ms) _____29
SINGLE TRACK SEEK (ms) _____5
MTBF (power-on hours) _____40,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.5
+5V START-UP (amps) __0.6
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____20
MAXIMUM (watts) _____58
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____4, *

Possible translation: 940 cyl, 8 heads, 17 sectors = 65,454,080

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

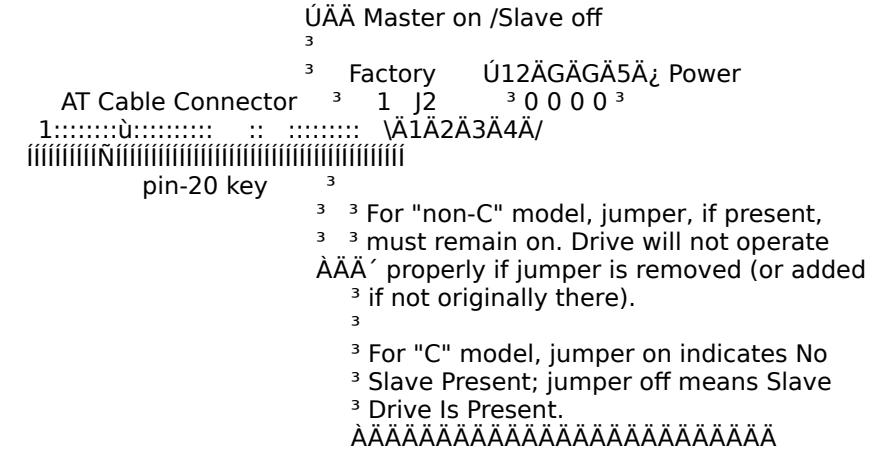
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

WARNING - Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-280A (94204-81 or 94204-71) Wren 2 HH AT (IDE)



Note: There are two different revisions of the ST280A

1. If you have a 94204-xxC, then you can connect two different model drives on the same host adapter. (i.e. a 94204-xxC and a 94354-xxx drive)

2. If you do not have a "C" after the model number, then you can only connect two similar Wren 2 94204-xx model drives.

ST-280A
94204-71 WREN 2 HH

UNFORMATTED CAPACITY (MB) _____80.6
FORMATTED CAPACITY (27 SECTORS) (MB) _____71.3
ACTUATOR TYPE _____VOICE COIL
TRACKS _____5160
CYLINDERS _____1032
HEADS _____5
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____0.937
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented Buffer
INTERFACE _____AT
TPI (TRACKS PER INCH) _____960
BPI (BITS PER INCH) _____14357
AVERAGE ACCESS (ms) _____29
SINGLE TRACK SEEK (ms) _____5
MTBF (power-on hours) _____40,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.5
+5V START-UP (amps) __0.6
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____20
MAXIMUM (watts) _____58
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A

LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____45, *

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Possible Translation: 1024 cyl, 8 heads, 17 sectors = 71,303,168
Possible Translation: 516 cyl, 10 heads, 27 sectors = 71,331,840
Possible Translation: 745 cyl, 11 heads, 17 sectors = 71,329,280

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

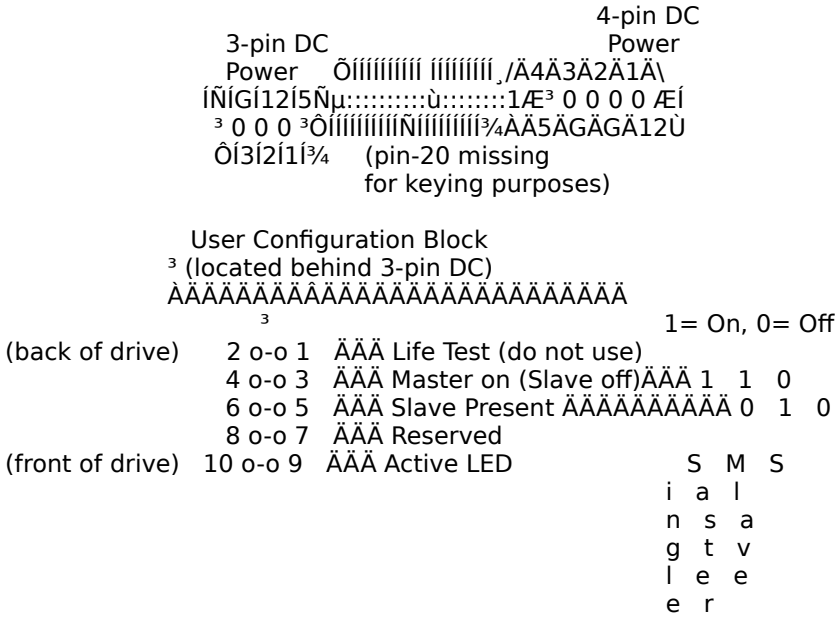
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

WARNING - Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-3051A



ST-3051A

UNFORMATTED CAPACITY (MB)	N/A
FORMATTED CAPACITY (xx/17 SECTORS) (MB)	43.1
ACTUATOR TYPE	VOICE COIL
TRACKS	
CYLINDERS PHYSICAL/LOGICAL	xx/820
HEADS PHYSICAL/LOGICAL	/6
DISCS (3.5 in)	
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)	up to 15
SPINDLE SPEED (RPM)	3,211
AVERAGE LATENCY (mSEC)	9.34
BUFFER	32 KByte SeaCache
INTERFACE	AT BUS
SECTORS PER DRIVE	84,270
TPI (TRACKS PER INCH)	1,792
BPI (BITS PER INCH)	31,005
AVERAGE ACCESS (ms)	16
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	28
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	0.9
POWER MANAGEMENT (Watts):	
ACTIVE	5.3
IDLE	2.1
STANDBY	0.7
SLEEP	0.7
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	40, 44*

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO

SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 820 cyl, 6 heads, 17 sectors = 42,823,680

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

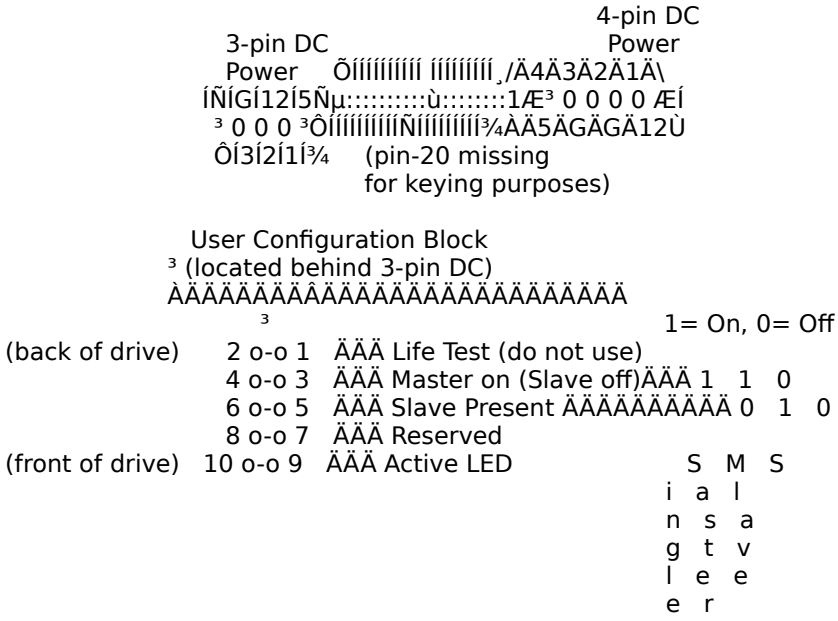
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (5/13/91)

ST-3096A



ST-3096A

UNFORMATTED CAPACITY (MB)	N/A
FORMATTED CAPACITY (xx/17 SECTORS) (MB)	89.2
ACTUATOR TYPE	STRAIGHT ARM
TRACKS	
CYLINDERS PHYSICAL/LOGICAL	xx/1024
HEADS PHYSICAL/LOGICAL	3/10
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)	up to 15
SPINDLE SPEED (RPM)	3,211
AVERAGE LATENCY (mSEC)	9.34
BUFFER	32 KByte SeaCache
INTERFACE	AT BUS
SECTORS PER DRIVE	174,080
TPI (TRACKS PER INCH)	1,792
BPI (BITS PER INCH)	31,005
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	22
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	0.9
POWER MANAGEMENT (Watts):	
ACTIVE	5.3
IDLE	2.1
STANDBY	0.7
SLEEP	0.7
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

Physical:

Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1024 cyl, 10 heads, 17 sectors = 89,128,960
Possible translation: 836 cyl, 8 heads, 26 sectors = 89,030,656

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

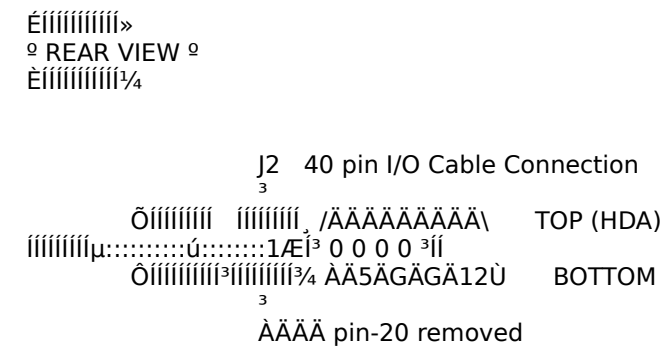
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

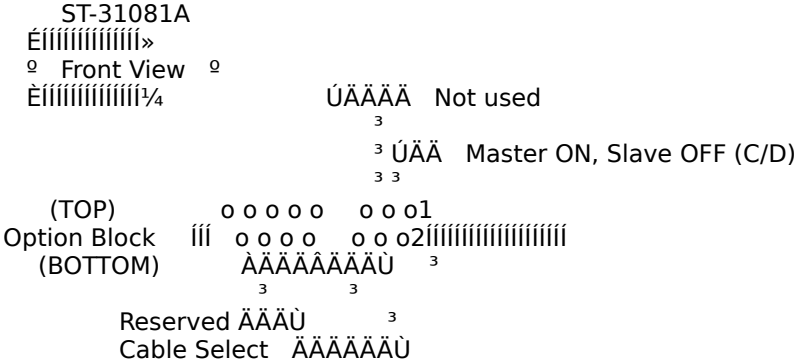
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (5/13/91)

ST-31081A, Cabo 1081 AT (Cabo Stingray CFS1081A)





ST-31081A
Cabo 1081 AT (Cabo Stingray CFS1081A)

FORMATTED CAPACITY	1081
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	3924
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	34.5 to 65.2
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	4100
BPI (KBITS PER INCH)	93K
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	26
MTBF (power-on hours) Office	300,000
SHOCK (G's):	

operating (Read/Write) _____5
abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _
POWER MANAGEMENT (Watts):
ACTIVE _____5.6
IDLE _____3.9
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
2097 cyl, 16 heads, 63 sectors = 1,082,253,312

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
524 cyl, 64 heads, 63 sectors = 1,081,737,216

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

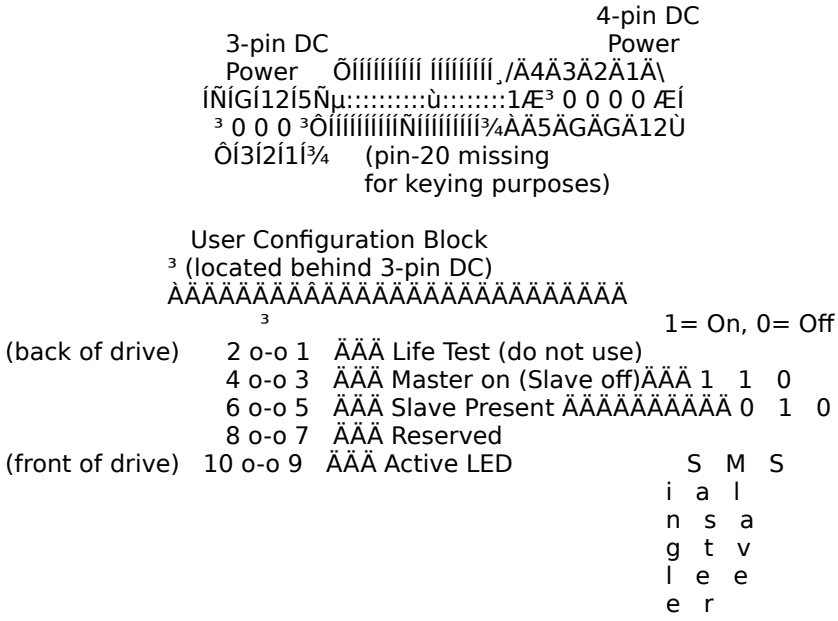
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/19/96)

ST-3120A



ST-3120A

UNFORMATTED CAPACITY (MB)	N/A
FORMATTED CAPACITY (xx/17 SECTORS) (MB)	106.9
ACTUATOR TYPE	VOICE COIL
TRACKS	
CYLINDERS PHYSICAL/LOGICAL	xx/1024
HEADS PHYSICAL/LOGICAL	3/12
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7) ZBR
TRANSFER RATE INTERNAL (mbits/sec)	up to 15
SPINDLE SPEED (RPM)	3,211
AVERAGE LATENCY (mSEC)	9.34
BUFFER	32 KByte SeaCache
INTERFACE	AT BUS
SECTORS PER DRIVE	208,896
TPI (TRACKS PER INCH)	1,792
BPI (BITS PER INCH)	31,005
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	25
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	0.9
POWER MANAGEMENT (Watts):	
ACTIVE	5.3
IDLE	2.1
STANDBY	0.7
SLEEP	0.7
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

Physical:

Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1024 cyl, 12 heads, 17 sectors = 106,954,752

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

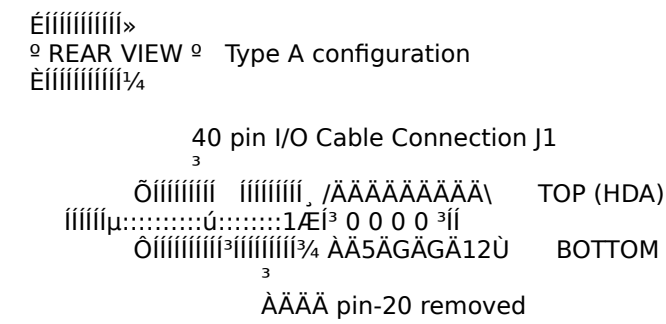
Already low-level formatted at the factory.

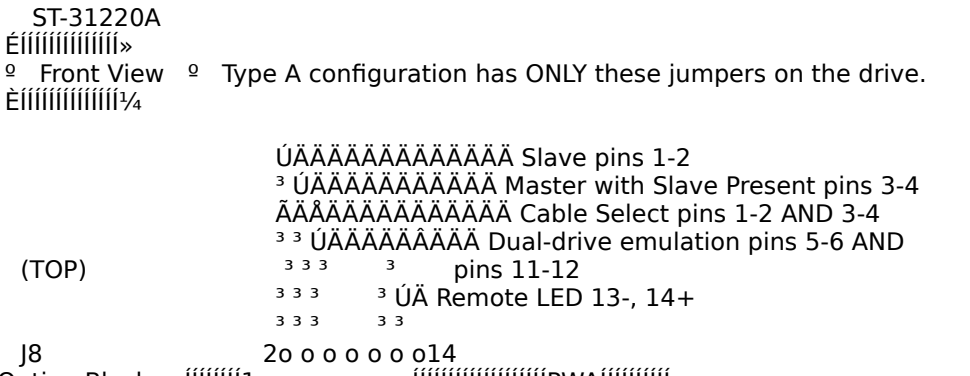
Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (5/13/91)

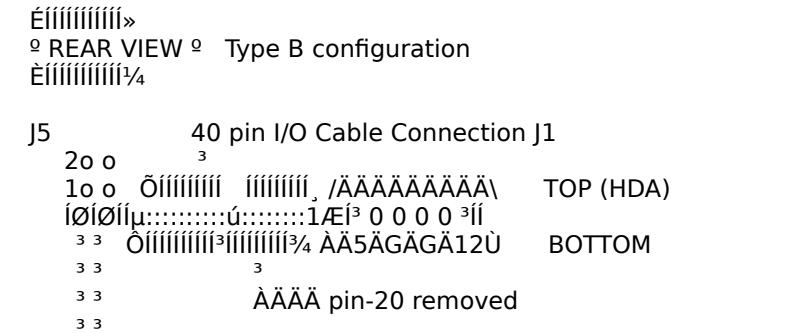
ST-31220A (Medalist 1080)

ST-31220A (Medalist 1080)

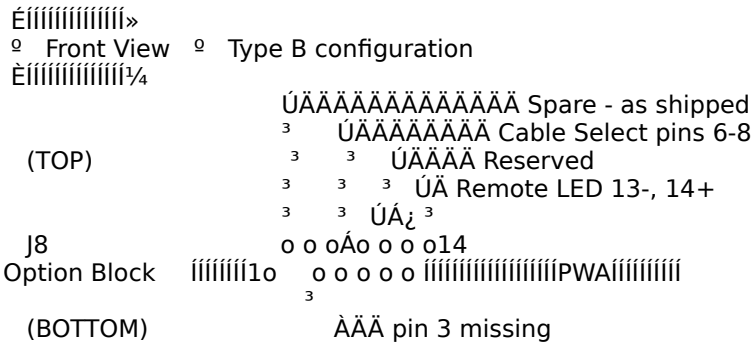




Spare jumpers stored on pins 1-3 and 5-7, as shipped.

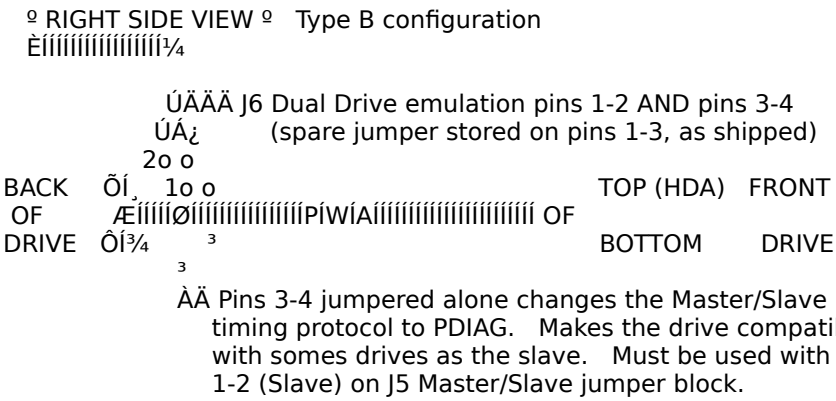


ST-31220A



Cable Select also requires Slave and Slave Present jumpers ON.

ST-31220A



Note: If the Dual Drive Emulation jumper is used, then TWO CMOS drive types will be required and only ONE drive per cable is allowed.

ST-31220A
Medalist 1080

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	1083
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	3,876
HEADS PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	27.9 to 47.24
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	AT

SECTORS PER DRIVE _____2,116,296
TPI (TRACKS PER INCH) _____4,250
BPI (BITS PER INCH) _____70,101
AVERAGE ACCESS (ms) (read/write) _____12/14
SINGLE TRACK SEEK (ms) _____3.5
MAX FULL SEEK (ms) _____25
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____75
ACOUSTICS (typ/max dBA) _____30/36
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____6.6
IDLE _____2.75
STANDBY _____1
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

2099 cyl, 16 heads, 63 sectors = 1,083,285,504

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:

524 cyl, 64 heads, 63 sectors = 1,081,737,216

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304 (Master)
1024 cyl, 16 heads, 63 sectors = 528,482,304 (Slave see Dual Drive emulation jumper)

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

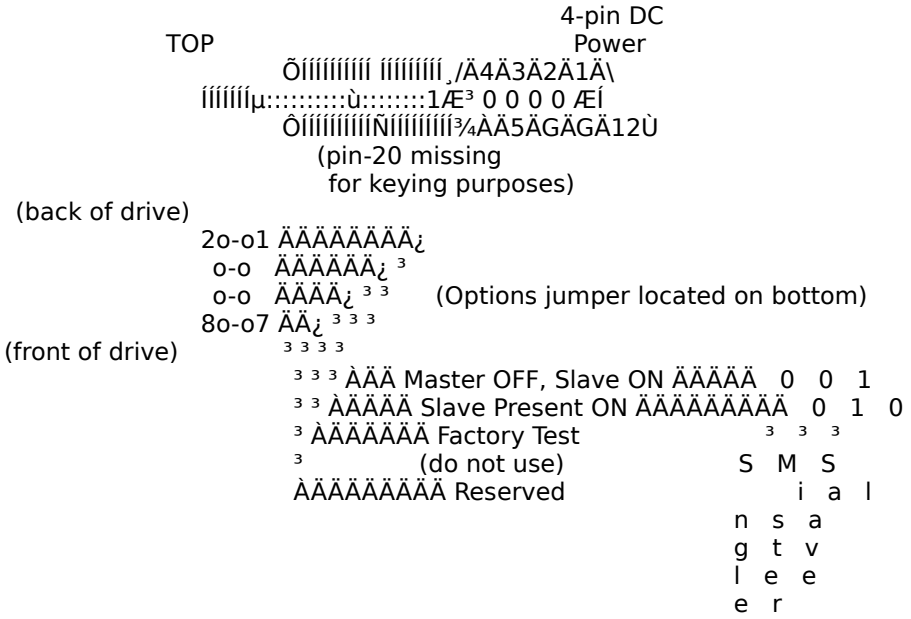
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-3123A



UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____106.6
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____2
DISCS (3.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____ to 21.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____32 Kbyte
Multisegmented
INTERFACE _____AT
BYTES PER TRACK _____
SECTORS PER DRIVE _____208,896
TPI (TRACKS PER INCH) _____2,400
BPI (BITS PER INCH) _____42,700
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____4.6
IDLE _____3.9
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1024 cyl, 12 heads, 17 sectors = 106,954,752

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

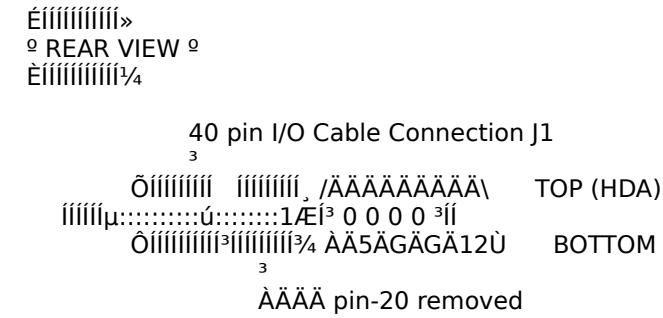
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

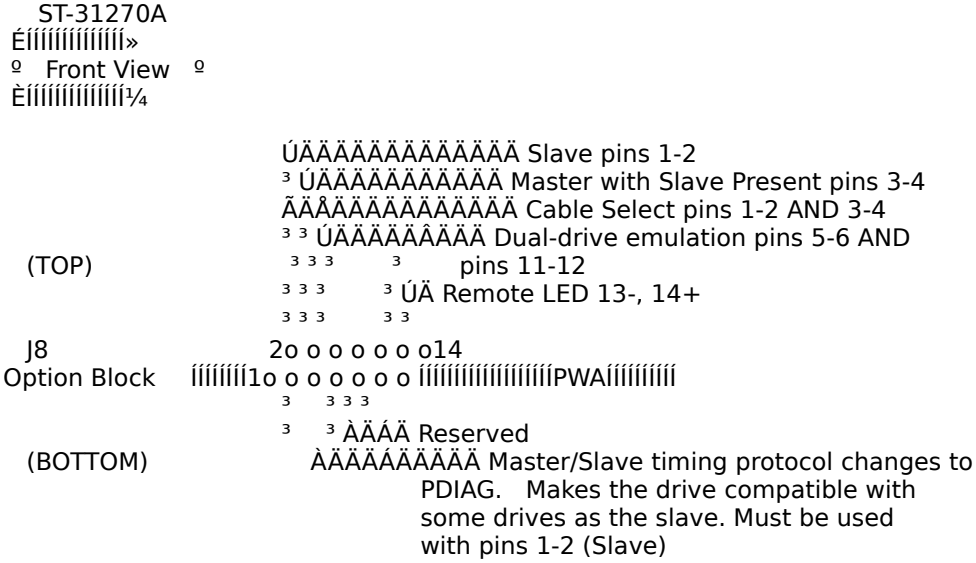
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (05/12/93)

ST-31270A (Medalist 1270)





Spare jumpers stored on pins 1-3 and 5-7, as shipped.

Note: If the Dual Drive Emulation jumper is used, then TWO CMOS drive types will be required, only ONE drive per cable is allowed, Cable Select is not supported and the drive responds as a single drive to power management commands.

ST-31270A
Medalist 1270

FORMATTED CAPACITY (xx SECTORS)	1282.8
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	3,876
HEADS PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	29.6 to 57.2
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B

SPINDLE SPEED (RPM) _____4,500
AVERAGE LATENCY (mSEC) _____6.67
BUFFER _____256 Kbyte SeaCache
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____2,505,528
TPI (TRACKS PER INCH) _____4,250
BPI (BITS PER INCH) _____73,530
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____3.5
MAX FULL SEEK (ms) _____25
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____2
abnormal _____10
nonoperating _____75
ACOUSTICS (dBa) (typ/max) _____30/39
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____6.60
IDLE _____2.75
STANDBY _____1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:
This translation is generally acceptable, as is, for non-DOS operating systems:
2485 cyl, 16 heads, 63 sectors = 1,282,498,560

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
621 cyl, 64 heads, 63 sectors = 1,281,982,464

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304 (Master)
1024 cyl, 16 heads, 63 sectors = 528,482,304 (Slave see Dual Drive emulation jumper)

Note: A "custom" or "user-definded" CMOS drivetype may ask for a

numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

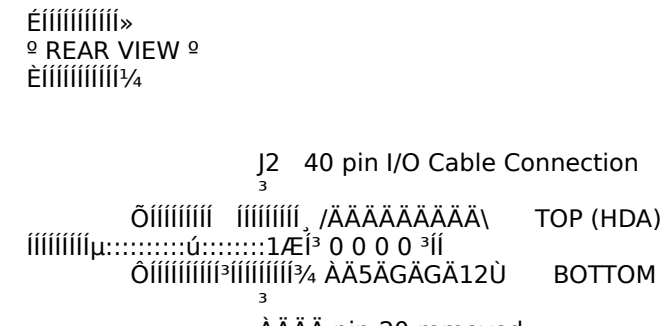
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

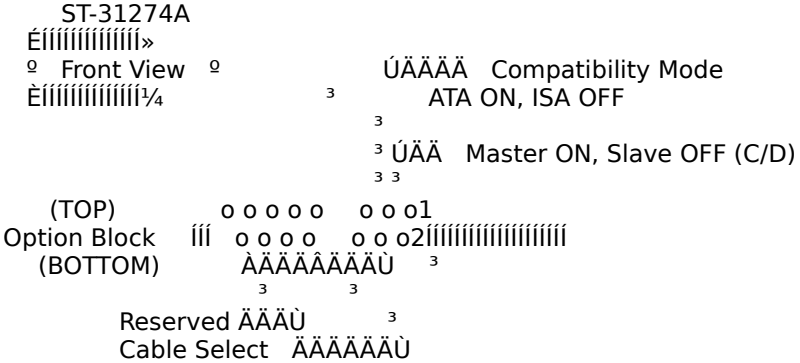
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/04/95)

ST-31274A, Filepro 1275 AT (Steamboat CFA1275A)





ST-31274A
Filepro 1275 AT (Steamboat CFA1275A)

FORMATTED CAPACITY	1279
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	3659
HEADS _____PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	31.3 to 55.3
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 10
PIO MODE	2
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4500
AVERAGE LATENCY (mSEC)	6.7
BUFFER	64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	3833
BPI (KBITS PER INCH)	77.3K
AVERAGE ACCESS (ms)	<12
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	26
MTBF (power-on hours) Office	300,000
SHOCK (G's):	
operating (Read/Write)	5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____43/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____5.6
IDLE _____3.9
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

2479 cyl, 16 heads, 63 sectors = 1,279,401,984

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:

619 cyl, 64 heads, 63 sectors = 1,277,853,696

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

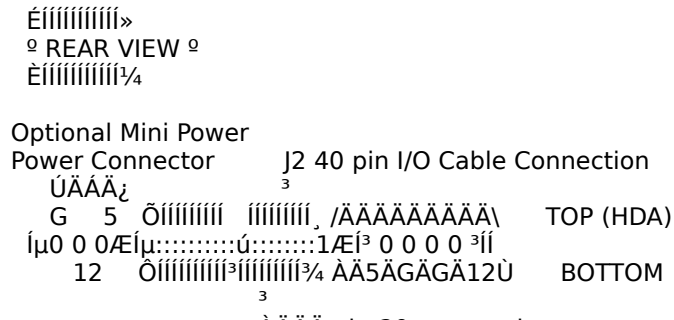
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

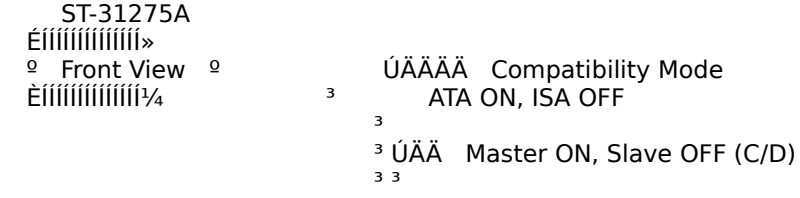
Already low-level formatted at the factory.

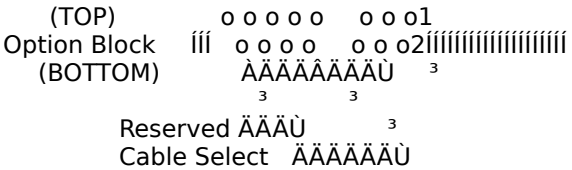
Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-31275A, Cabo 1275 AT (Cabo CFS1275A)







ST-31275A
Cabo 1275 AT (Cabo CFS1275A)

FORMATTED CAPACITY	1275
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	3640
HEADS PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	29.5 to 54.9
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	3849
BPI (KBITS PER INCH)	77K
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	26
MTBF (power-on hours) Office	300,000
SHOCK (G's):	
operating (Read/Write)	5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _
POWER MANAGEMENT (Watts):
ACTIVE _____3.5
IDLE _____3.5
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
2477 cyl, 16 heads, 63 sectors = 1,278,369,792

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
619 cyl, 64 heads, 63 sectors = 1,277,853,696

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

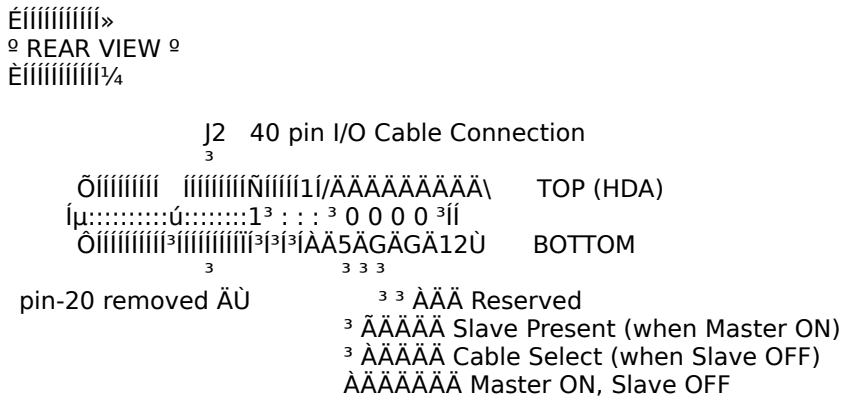
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-31276A, Cabo 1276 AT (Lapaz CFS1276A)



ST-31276A
Cabo 1276 AT (Lapaz CFS1276A)

FORMATTED CAPACITY _____1280.95
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____4893
HEADS _____PHYSICAL_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____33.6 to 67.2
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 16.6
PIO MODE _____4
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____4500
AVERAGE LATENCY (mSEC) _____6.67
BUFFER _____64K
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____2,501,856
TPI (TRACKS PER INCH) _____4973
BPI (KBITS PER INCH) _____88.4
AVERAGE ACCESS (ms) _____12.5
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____24
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____5
abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____4.6
IDLE _____3.5
STANDBY _____1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO

IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

2482 cyl, 16 heads, 63 sectors = 1,280,950,272

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:

620 cyl, 64 heads, 63 sectors = 1,279,918,080

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

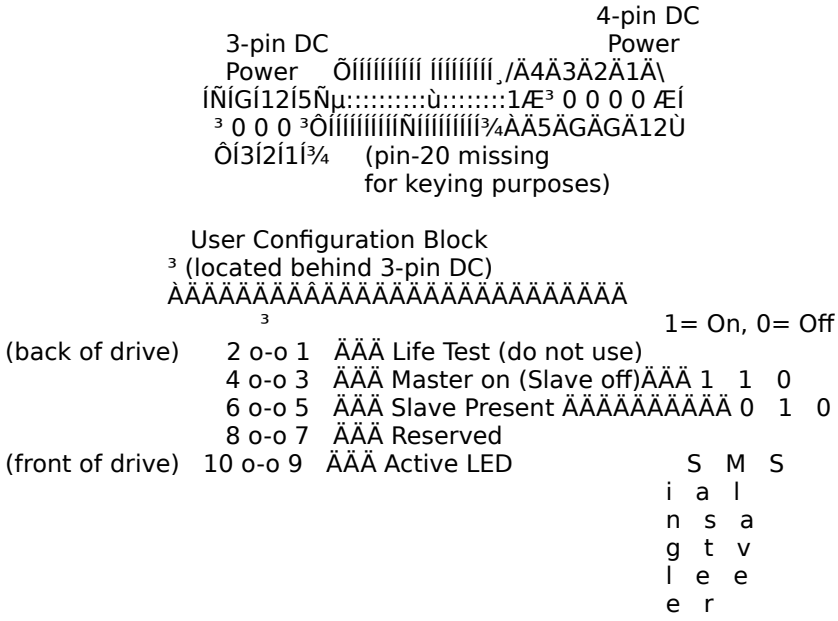
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-3144A



ST-3144A

UNFORMATTED CAPACITY (MB)	N/A
FORMATTED CAPACITY (xx/17 SECTORS) (MB)	130.6
ACTUATOR TYPE	VOICE COIL
TRACKS	
CYLINDERS PHYSICAL/LOGICAL	xx/1,001
HEADS PHYSICAL/LOGICAL	3/15
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7) ZBR
TRANSFER RATE INTERNAL (mbits/sec)	10/12/15
SPINDLE SPEED (RPM)	3,211
AVERAGE LATENCY (mSEC)	9.34
BUFFER	32 KByte SeaCache
INTERFACE	AT BUS
SECTORS PER DRIVE	255,255
TPI (TRACKS PER INCH)	1,791
BPI (BITS PER INCH)	34,600
AVERAGE ACCESS (ms)	16
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	28
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	0.9
POWER MANAGEMENT (Watts):	
ACTIVE	5.3
IDLE	2.1
STANDBY	0.7
SLEEP	0.7
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

Physical:

Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1001 cyl, 15 heads, 17 sectors = 130,690,560

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

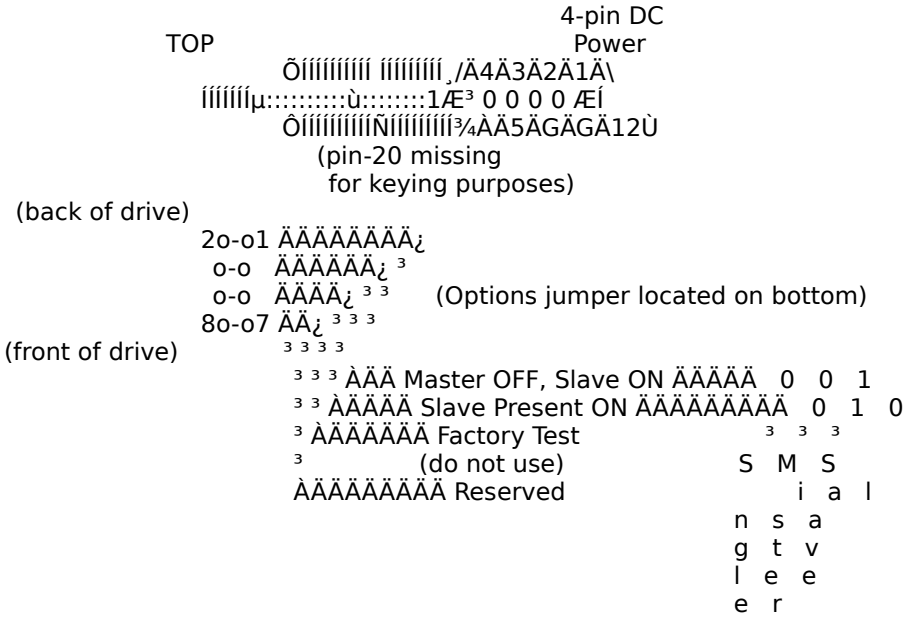
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/09/91)

ST-3145A



UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____130.2
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____2
DISCS (3.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____ to 21.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____32 Kbyte
Multisegmented
INTERFACE _____AT
BYTES PER TRACK _____
SECTORS PER DRIVE _____255,255
TPI (TRACKS PER INCH) _____2,400
BPI (BITS PER INCH) _____42,700
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____4.6
IDLE _____3.9
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1001 cyl, 15 heads, 17 sectors = 130,690,560

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

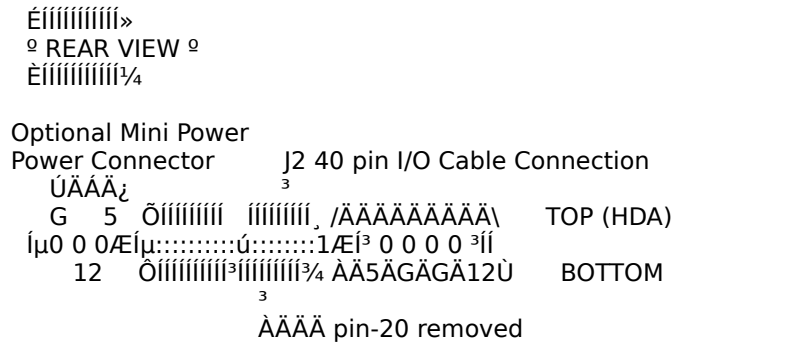
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

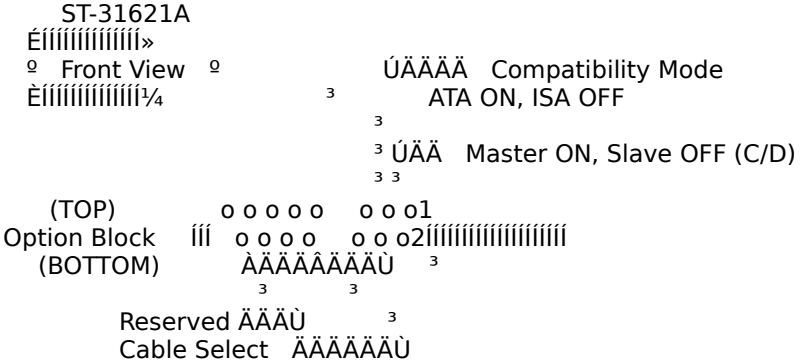
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (05/12/93)

ST-31621A, Cabo 1621 AT (Cabo Stingray CFS1621A)





ST-31621A
Cabo 1621 AT (Cabo Stingray CFS1621A)

FORMATTED CAPACITY	1621
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	3924
HEADS _____PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	34.5 to 65.2
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	4100
BPI (KBITS PER INCH)	93K
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	26
MTBF (power-on hours) Office	300,000

SHOCK (G's):
operating (Read/Write) _____5
abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _
POWER MANAGEMENT (Watts):
ACTIVE _____5.6
IDLE _____3.9
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
3146 cyl, 16 heads, 63 sectors = 1,623,638,016

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
786 cyl, 64 heads, 63 sectors = 1,622,605,824

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

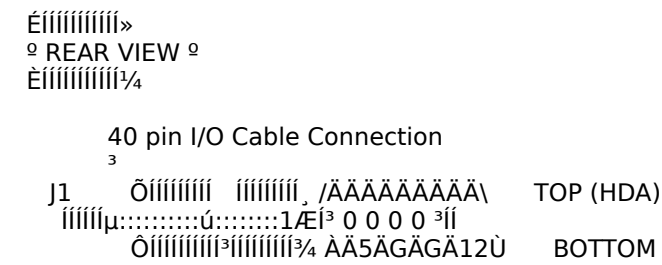
Already low-level formatted at the factory.

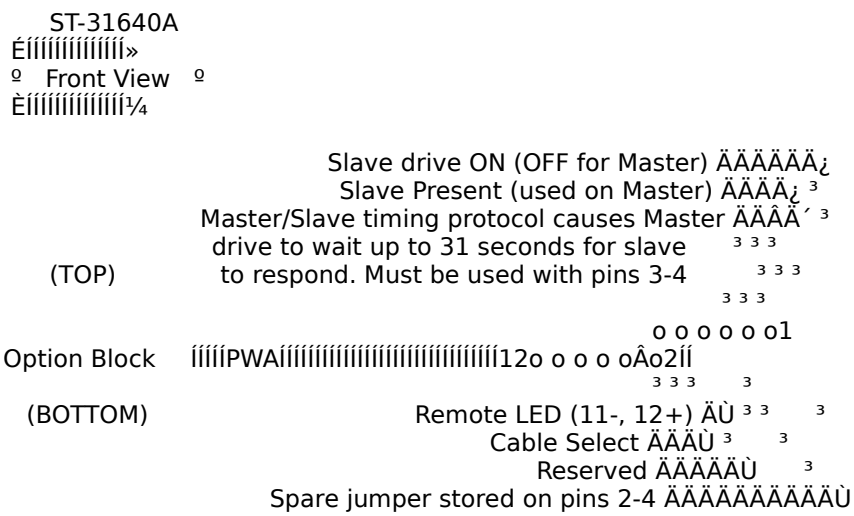
Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product

offerings or specifications. (02/20/96)

ST-31640A (Medalist 1640 AT)





ST-31640A
Medalist 1640

FORMATTED CAPACITY	1625.7
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	4,834
HEADS PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	34.5 to 67.7
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.58
BUFFER	128/256 Kbyte SeaCache Read/Write Multiple, Read Look-Ahead, Multi-Segmented
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	3,175,200
TPI (TRACKS PER INCH)	4,800
BPI (KBITS PER INCH)	76.2
AVERAGE ACCESS (ms)	10
SINGLE TRACK SEEK (ms)	2.0

MAX FULL SEEK (ms) _____20
MTBF (power-on hours) Office _____500,000
SHOCK (G's):
operating (Read/Write) _____2
abnormal _____5
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____4.1/4.9
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.6
POWER MANAGEMENT (Watts):
ACTIVE _____8.41
IDLE _____4.60
STANDBY _____0.755
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.02/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.78/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

3150 cyl, 16 heads, 63 sectors = 1,625,702,400

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:

787 cyl, 64 heads, 63 sectors = 1,624,670,208

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

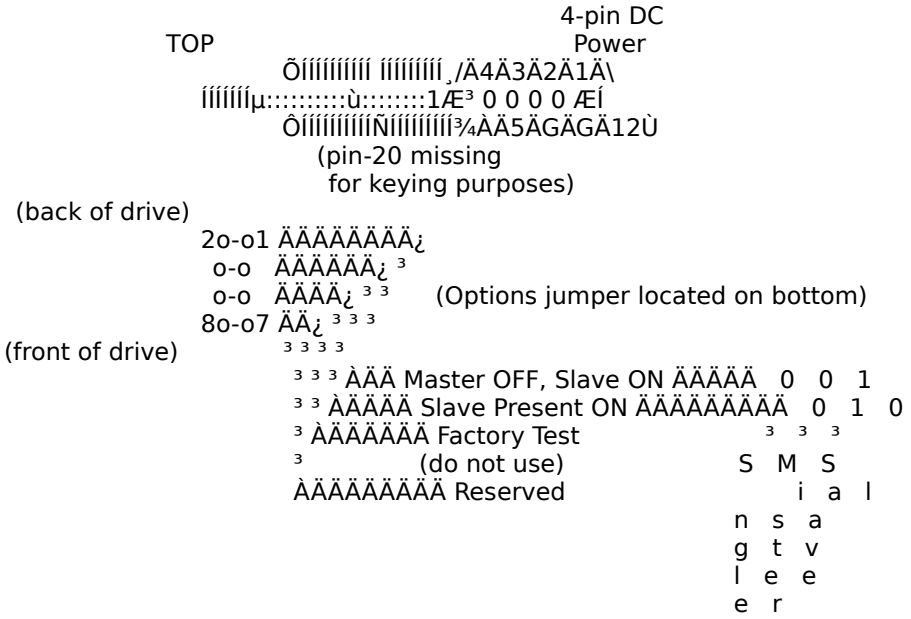
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/19/96)

ST-3195A



UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____170.7
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____ to 21.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____64 Kbyte
Multisegmented
INTERFACE _____AT
SECTORS PER DRIVE _____333,540
TPI (TRACKS PER INCH) _____2,178
BPI (BITS PER INCH) _____38,400
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____4.6
IDLE _____3.9
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 981 cyl, 10 heads, 34 sectors = 170,772,480

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

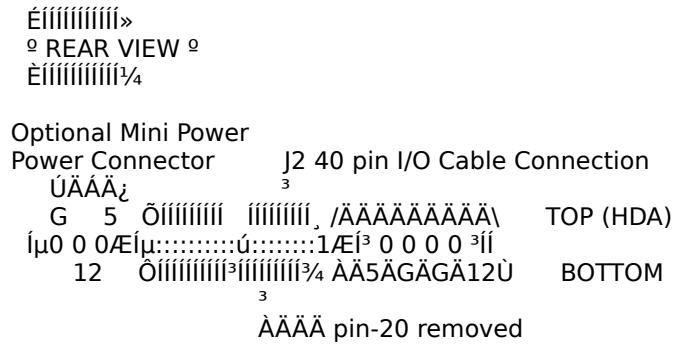
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

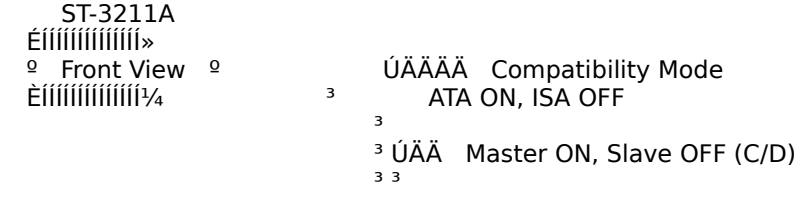
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (06/22/93)

ST-3211A, Filepro 210 AT (Bobcat CFS210A)





ST-3211A
Filepro 210 AT (Bobcat CFS210A)

FORMATTED CAPACITY _____213.4
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____2388
HEADS _____PHYSICAL_____2
DISCS (3.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____20 to 32
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 7.5
PIO MODE _____
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____3600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____32K
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____
TPI (TRACKS PER INCH) _____2774
BPI (KBITS PER INCH) _____58,566
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____25
MTBF (power-on hours) Office _____250,000
SHOCK (G's):
operating (Read/Write) _____5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____43/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____5.7
IDLE _____3.8
STANDBY _____1.9
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.0/0.45

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations: 685 cyl, 16 heads, 38 sectors = 213,237,760

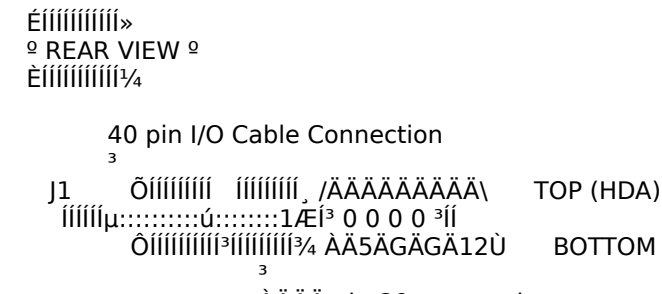
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

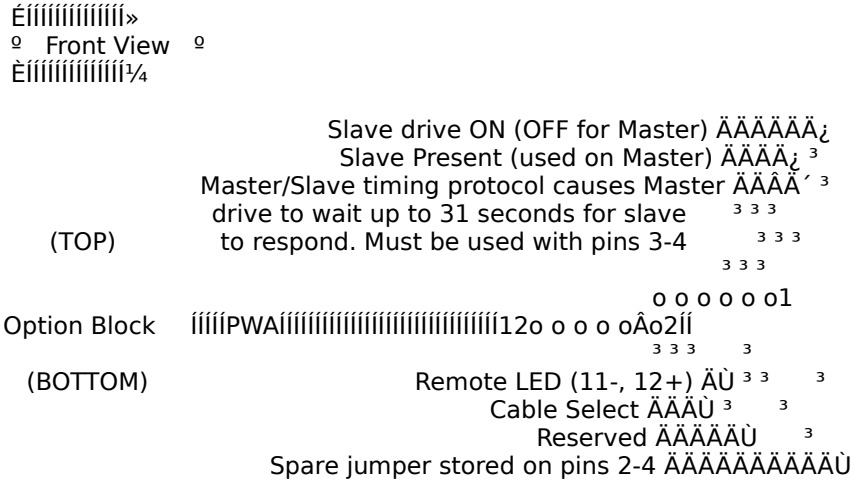
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-32140A (Medalist 2140 AT)





ST-32140A
Medalist 2140

FORMATTED CAPACITY	2113.4
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	4,726
HEADS _____PHYSICAL	8
DISCS (3.5 in)	4
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	34.5 to 67.7
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.58
BUFFER	128/256 Kbyte SeaCache
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	4,127,760
TPI (TRACKS PER INCH)	4,800
BPI (KBITS PER INCH)	76.2
AVERAGE ACCESS (ms)	10

SINGLE TRACK SEEK (ms) _____2.0
MAX FULL SEEK (ms) _____20
MTBF (power-on hours) Office _____500,000
SHOCK (G's):
operating (Read/Write) _____2
abnormal _____5
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____4.1/4.9
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.6
POWER MANAGEMENT (Watts):
ACTIVE _____8.41
IDLE _____4.60
STANDBY _____0.755
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.02/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.78/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

4095 cyl, 16 heads, 63 sectors = 2,113,413,120

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:

1023 cyl, 64 heads, 63 sectors = 2,111,864,832

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

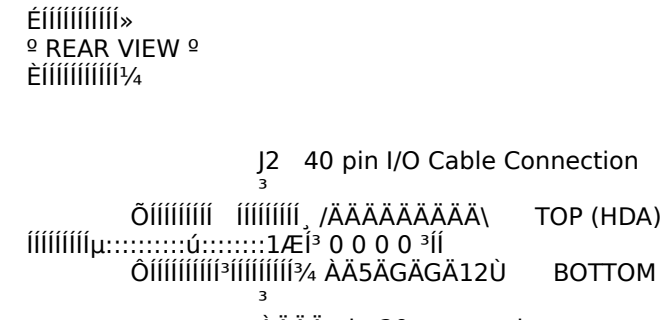
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

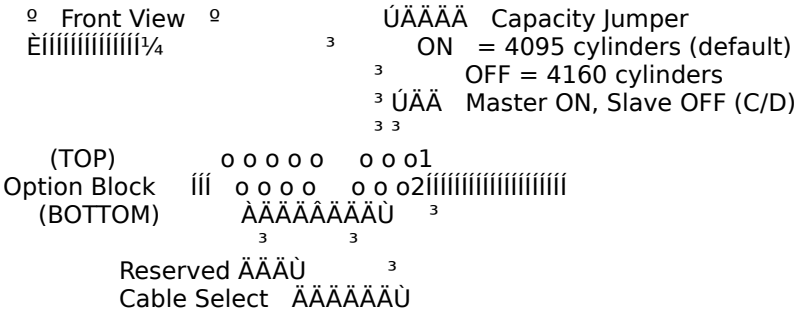
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/19/96)

ST-32161A, Ajax 2161 AT (Ajax CFA2161A)





ST-32161A
Ajax 2161 AT (Ajax CFA2161A)

FORMATTED CAPACITY _____2146.9
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____
HEADS _____PHYSICAL_____8
DISCS (3.5 in) _____4
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 16.6
PIO MODE _____4
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____5400
AVERAGE LATENCY (mSEC) _____5.55
BUFFER _____? K
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____
TPI (TRACKS PER INCH) _____
BPI (KBITS PER INCH) _____K
AVERAGE ACCESS (ms) _____
SINGLE TRACK SEEK (ms) _____
MAX FULL SEEK (ms) _____
MTBF (power-on hours) Office _____
SHOCK (G's):
operating (Read/Write) _____

abnormal _____
nonoperating _____
ACOUSTICS (bels) (typ/max) _____/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _
POWER MANAGEMENT (Watts):
ACTIVE _____
IDLE _____
STANDBY _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Some systems BIOS have a 2.113GB or 4095 cylinder limitation and, if exceeded, may cause the system to fail or lock up during POST.

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

4095 cyl, 16 heads, 63 sectors = 2,113,413,120 with Cap jumper ON
4160 cyl, 16 heads, 63 sectors = 2,146,959,360 with Cap jumper OFF

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:

1023 cyl, 64 heads, 63 sectors = 2,111,864,832 with Cap jumper ON
520 cyl, 128 heads, 63 sectors = 2,146,959,360 with Cap jumper OFF

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

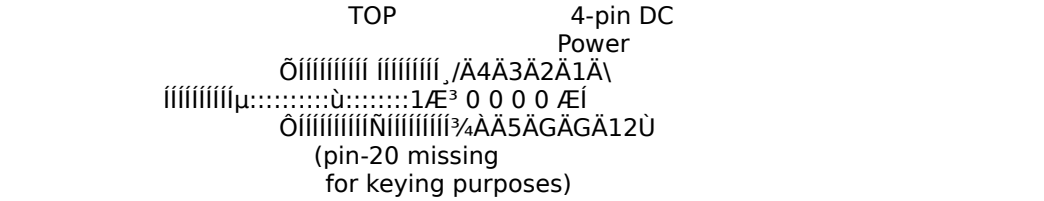
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your

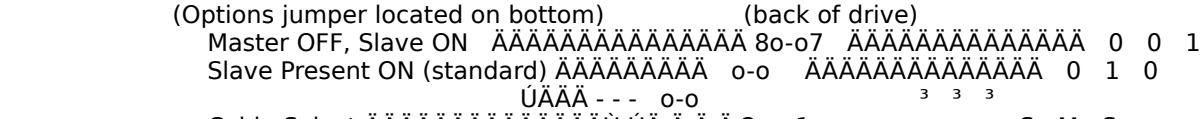
permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/28/96)

ST-3240A



(Options jumper located on bottom) (back of drive)



ST-3240A

FORMATTED CAPACITY (xx SECTORS) _____210.9
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____2
DISCS (3.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____18.7 to 32
EXTERNAL TRANSFER RATE (mbytes/sec) _____11.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____120 Kbyte
Multisegmented, SeaCache
INTERFACE _____AT
SECTORS PER DRIVE _____412,080
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
FCI (FLUX CHANGES PER INCH) _____
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____300,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
+5V START-UP (amps) _0.30
START-UP (watts)_7.50
POWER MANAGEMENT (Watts):
ACTIVE _____4.4
IDLE _____1.8
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4

Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1010 cyl, 12 heads, 34 sectors = 210,984,960

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

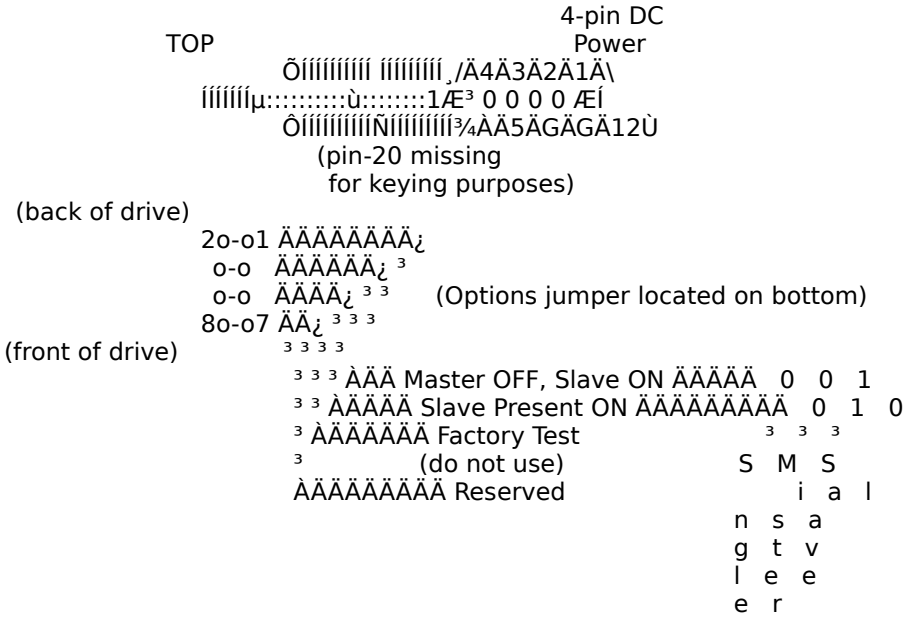
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/17/94)

ST-3243A



ST-3243A

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____213.9
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____ to 21.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____32 Kbyte
Multisegmented (optional 64K)
INTERFACE _____AT
SECTORS PER DRIVE _____417,792
TPI (TRACKS PER INCH) _____2,178
BPI (BITS PER INCH) _____38,400
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____4.6
IDLE _____3.9
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1024 cyl, 12 heads, 34 sectors = 213,909,504

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (05/12/93)

ST-325A/X

Select a configuration block version for jumpers

Jumpers for 12 pin version Jumpers for 18 pin version

ST - 325A/X

UNFORMATTED CAPACITY (MB) _____25
FORMATTED CAPACITY (17 SECTORS) (MB) _____21.4
AVERAGE SECTORS PER TRACK _____
ACTUATOR TYPE _____STEPPER
TRACKS _____
CYLINDERS _(Physical/Logical)_____xx/615
HEADS _____2/4
DISCS _____1
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL 2,7 (ZBR)
INTERNAL TRANSFER RATE (mbits/sec) _____12/14
SPINDLE SPEED (RPM) _____3,048
INTERFACE _____AT/XT
TPI (TRACKS PER INCH) _____1290
BPI (BITS PER INCH) _____28155/28922
AVERAGE ACCESS (ms) _____28
SINGLE TRACK SEEK (ms) _____7
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _0.8
+12V TYPICAL (amps) __0.10
+5V TYPICAL (amps) ___0.11
TYPICAL (watts) _____2.0
MAXIMUM (watts) _____
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____6

Possible translation: 615 cyl, 4 heads, 17 sectors = 21,411,840

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

* CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

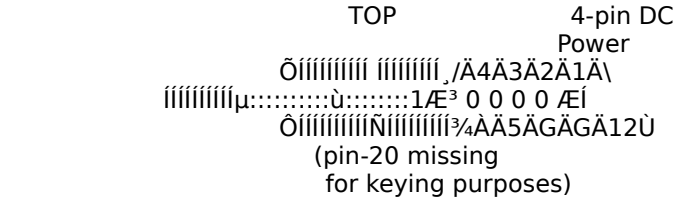
Already low-level formatted at the factory for AT installations.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product

offerings or specifications. (5/6/91)

ST-3250A (Medalist 210xe)



(Options jumper located on bottom) (back of drive)

Master OFF, Slave ON
Slave Present ON (standard)
Cable Select
Slave Present ON for drives that don't have the -DASP signal (use only ONE of the Slave Present choices)

(front of drive)

S M S
i a l
n s a
g t v
l e e
e r

ST-3250A
Medalist 210xe

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____213.9
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____2
DISCS (3.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____18.7 to 32
EXTERNAL TRANSFER RATE (mbytes/sec) _____11.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____120 Kbyte
Multisegmented, SeaCache
INTERFACE _____AT
SECTORS PER DRIVE _____417,792
TPI (TRACKS PER INCH) _____3,081
BPI (BITS PER INCH) _____55,200
FCI (FLUX CHANGES PER INCH) _____41,400
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____300,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
+5V START-UP (amps) _0.30
START-UP (watts)_7.50
POWER MANAGEMENT (Watts):
ACTIVE _____4.4
IDLE _____1.8
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1024 cyl, 12 heads, 34 sectors = 213,909,504

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

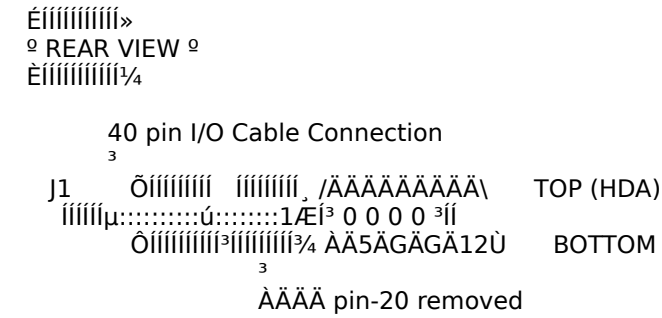
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

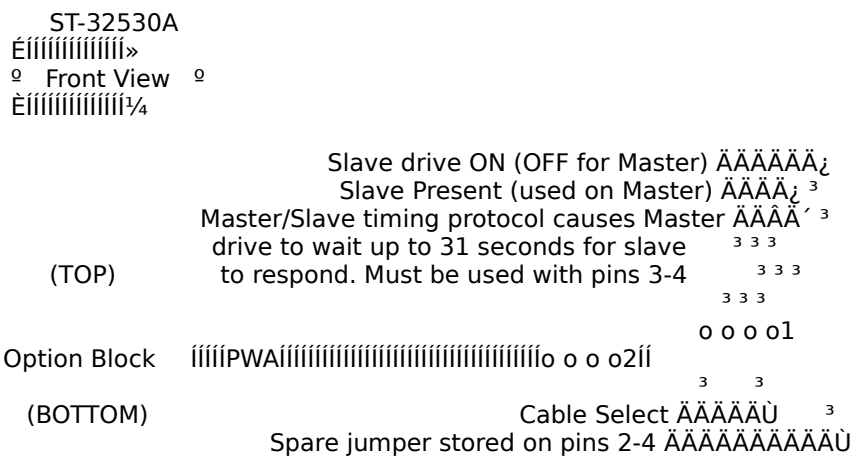
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/24/94)

ST-32530A (Medalist 2530 AT)





ST-32530A
Medalist 2530

FORMATTED CAPACITY	2558.80
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	
HEADS _____PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	MR
RECORDING METHOD	ZBR PRML (8/9), PR4
INTERNAL TRANSFER RATE (Mbits/sec)	52.9 to 87.6
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.58
BUFFER	128 Kbyte SeaCache
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	5,007,780
TPI (TRACKS PER INCH)	5,555
BPI (KBITS PER INCH)	112.4
AVERAGE ACCESS (ms)	10.5
SINGLE TRACK SEEK (ms)	2.0
MAX FULL SEEK (ms)	20
MTBF (power-on hours) Office	500,000

SHOCK (G's):
operating (Read/Write) _____2
abnormal _____5
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____4.1/4.9
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.8
POWER MANAGEMENT (Watts):
ACTIVE _____9.2
IDLE _____7.2
STANDBY _____1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.02/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.78/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS AN "AUTO", "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
4958 cyl, 16 heads, 63 sectors = 2,558,803,968

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:
619 cyl, 128 heads, 63 sectors = 2,555,707,392

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

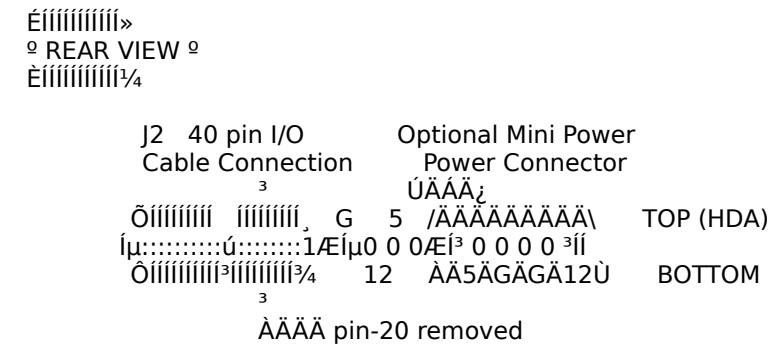
Already low-level formatted at the factory.

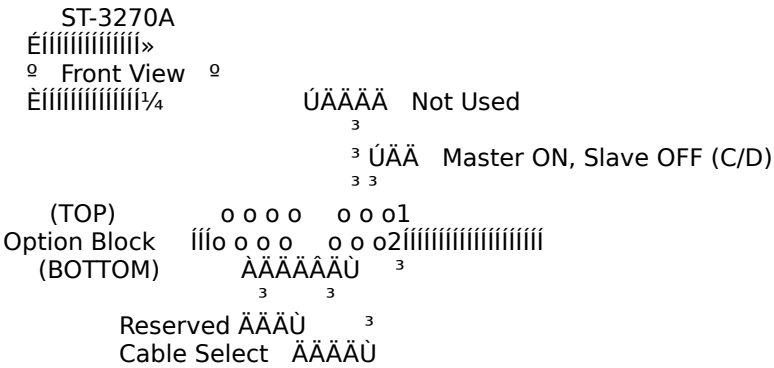
Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your

permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-3270A, Filepro 270 AT (Cabo CFS270A)





ST-3270A
Filepro 270 AT (Cabo CFS270A)

FORMATTED CAPACITY	270.95
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	2595
HEADS PHYSICAL	2
DISCS (3.5 in)	1
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	20 to 32.5
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 13
PIO MODE	3
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3400
AVERAGE LATENCY (mSEC)	8.8
BUFFER	32K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	2988
BPI (KBITS PER INCH)	68K
AVERAGE ACCESS (ms)	<15
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	24
MTBF (power-on hours) Office	250,000
SHOCK (G's):	

operating (Read/Write) _____5
abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____34/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____5.7
IDLE _____3.8
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.1/0.50

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations: 600 cyl, 14 heads, 63 sectors = 270,950,400

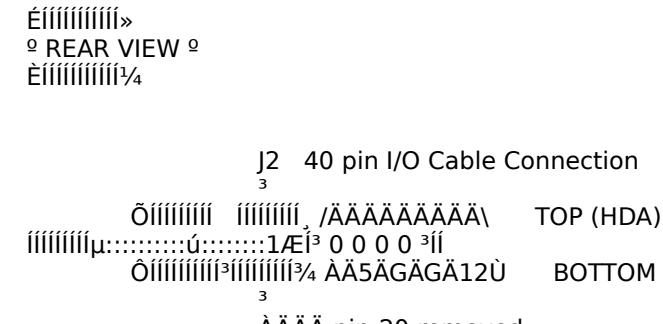
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

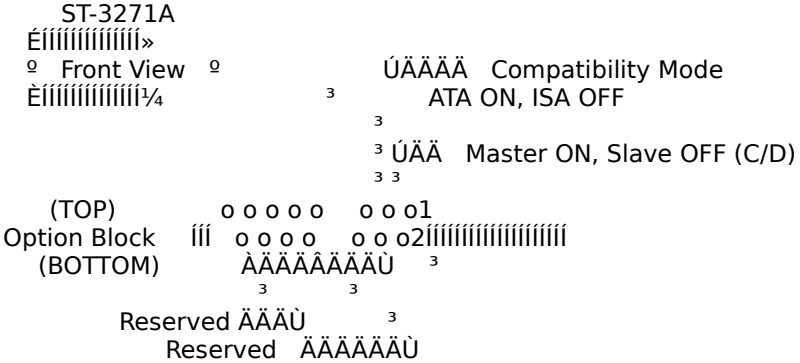
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-3271A, Filepro 270 AT (Filepro 270, CFA270A)





ST-3271A
Filepro 270 AT (Filepro 270, CFA270A)

FORMATTED CAPACITY	265.11
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	2805
HEADS PHYSICAL	2
DISCS (3.5 in)	1
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	27 to 46
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 11.1
PIO MODE	2
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4500
AVERAGE LATENCY (mSEC)	6.7
BUFFER	256K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	3258
BPI (KBITS PER INCH)	63K
AVERAGE ACCESS (ms)	10.5
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	26
MTBF (power-on hours) Office	300,000
SHOCK (G's):	
operating (Read/Write)	5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____43/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____8.0
IDLE _____3.9
STANDBY _____1.8
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.2/0.54

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations: 977 cyl, 10 heads, 53 sectors = 265,118,720

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

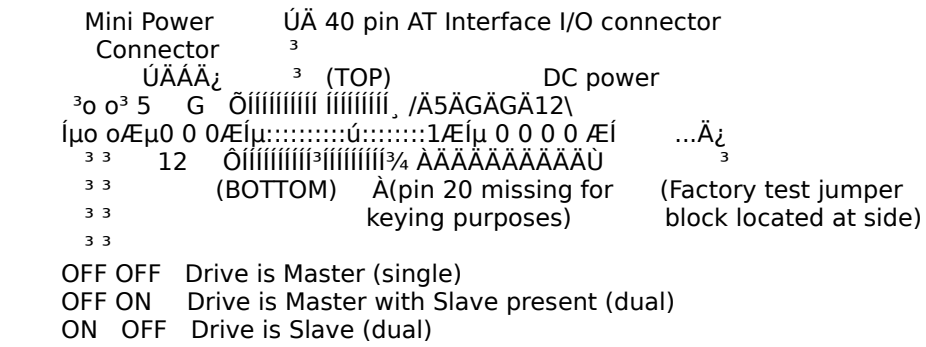
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

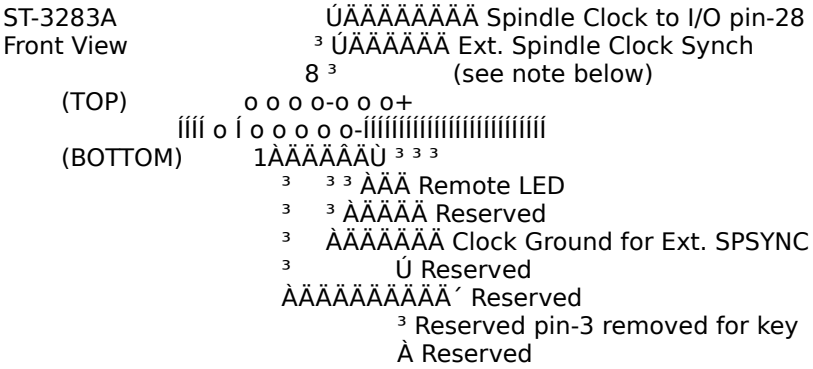
Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-3283A

Rear View



ST-3283A
Front View



Spindle Sync note: Enable pin-28 (SPSYNC-) of the AT interface connector by installing a jumper on pins 8 and 10 of the options jumper block.
Connect a twisted pair to pins 9 and 10 of the options jumper block to transmit and receive SPSYNC-.

ST-3283A

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	245.36
ACTUATOR TYPE	VOICE COIL
CYLINDERS	PHYSICAL/LOGICAL
HEADS	PHYSICAL/LOGICAL 5
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	15.01 to 24.50
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	128 Kbyte SeaCache
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	AT
SECTORS PER DRIVE	479,220

BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____1,960
BPI (BITS PER INCH) _____38,000
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____<4
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____200,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____5.5
IDLE _____2.75
STANDBY _____0.66
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 978 cyl, 14 heads, 35 sectors = 245,360,640

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

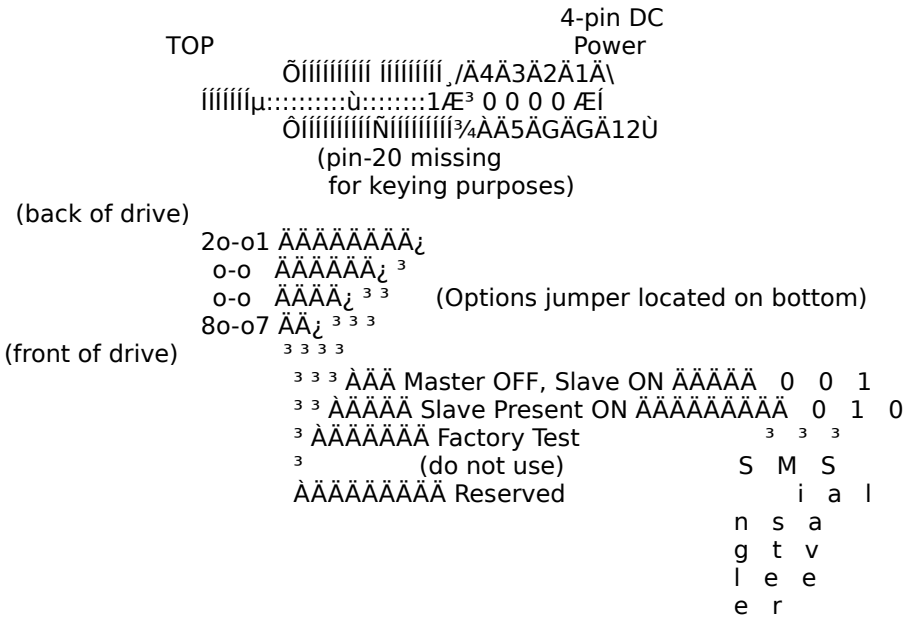
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/30/93)

ST-3290A



ST-3290A

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____260.8
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____ to 21.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____64 Kbyte
Multisegmented
INTERFACE _____AT
SECTORS PER DRIVE _____510,510
TPI (TRACKS PER INCH) _____2,178
BPI (BITS PER INCH) _____38,400
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____4.6
IDLE _____3.9
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1001 cyl, 15 heads, 34 sectors = 261,381,120

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

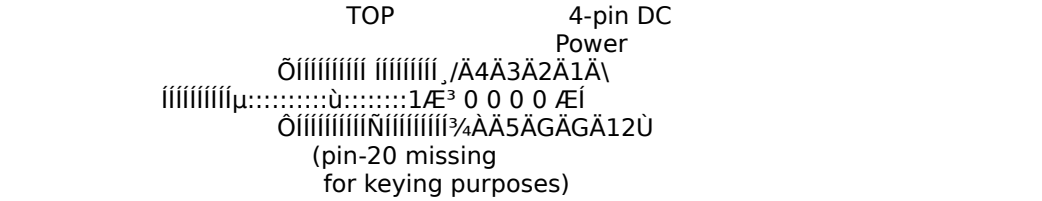
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (05/12/93)

ST-3291A (Medalist 270xe)



(Options jumper located on bottom) (back of drive)

Master OFF, Slave ON 8o-o7 0 0 1
Slave Present ON (standard) o-o 0 1 0
o-o
Cable Select 2o-o1 S M S
Slave Present ON for (front of drive) i a l
drives that don't have n s a
the -DASP signal (use g t v
only ONE of the Slave l e e
Present choices) e r

ST-3291A
Medalist 270xe

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	272.7
ACTUATOR TYPE	VOICE COIL
TRACKS	
CYLINDERS	(user)
HEADS _(PHYSICAL)	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	18.7 to 32
EXTERNAL TRANSFER RATE (mbytes/sec)	11.1
SPINDLE SPEED (RPM)	3,811
AVERAGE LATENCY (mSEC)	7.87
BUFFER	120 Kbyte
Multisegmented, SeaCache	
INTERFACE	AT
SECTORS PER DRIVE	532,700
TPI (TRACKS PER INCH)	3,081
BPI (BITS PER INCH)	55,200
FCI (FLUX CHANGES PER INCH)	41,400
AVERAGE ACCESS (ms)	13
SINGLE TRACK SEEK (ms)	5
MAX FULL SEEK (ms)	32
MTBF (power-on hours) Office	300,000
POWER REQUIREMENTS: +12V START-UP (amps)	1.0
+5V START-UP (amps)	0.30
START-UP (watts)	7.50
POWER MANAGEMENT (Watts):	
ACTIVE	4.4
IDLE	1.8
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO
IBM AT DRIVE TYPE	*

Physical:

Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 761 cyl, 14 heads, 50 sectors = 272,742,400

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

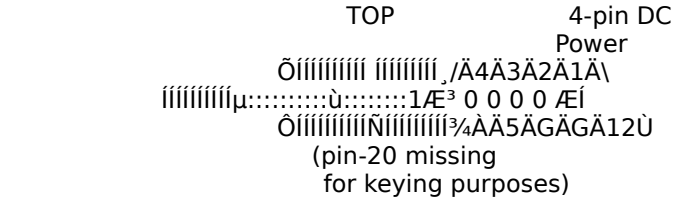
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

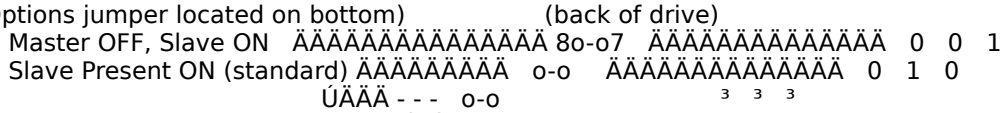
Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (05/02/94)

ST-3295A (Medalist 270xe)



(Options jumper located on bottom) (back of drive)



Spare jumper stored on pins 1-3

ST-3295A
Medalist 270xe

FORMATTED CAPACITY (xx SECTORS) _____272.7
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____2
DISCS (3.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____19.5 to 35.8
EXTERNAL TRANSFER RATE (mbytes/sec) _____11.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____120 Kbyte
Multisegmented, SeaCache
INTERFACE _____AT
SECTORS PER DRIVE _____532,700
TPI (TRACKS PER INCH) _____3,285
BPI (BITS PER INCH) _____61,700
FCI (FLUX CHANGES PER INCH) _____46,390
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____34
MTBF (power-on hours) Office _____300,000
ACOUSTICS (typ/max dBA) _____29/33
SHOCK (Normal/Abnormal/Nonoper.) _____2/10/75
POWER REQUIREMENTS: +12V START-UP (amps) _1.1
+5V START-UP (amps) _0.35
START-UP (watts)_8.5
POWER MANAGEMENT (Watts):
ACTIVE _____5.23
IDLE _____1.865
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO

IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 761 cyl, 14 heads, 50 sectors = 272,742,400

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

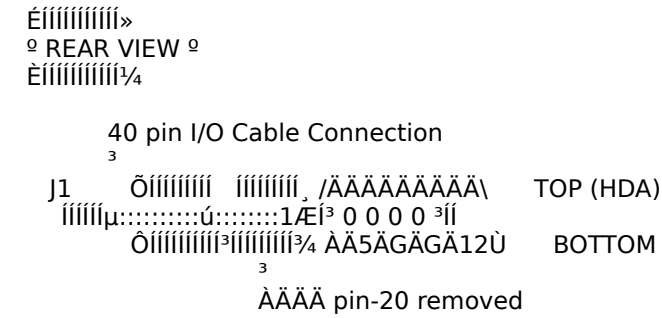
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

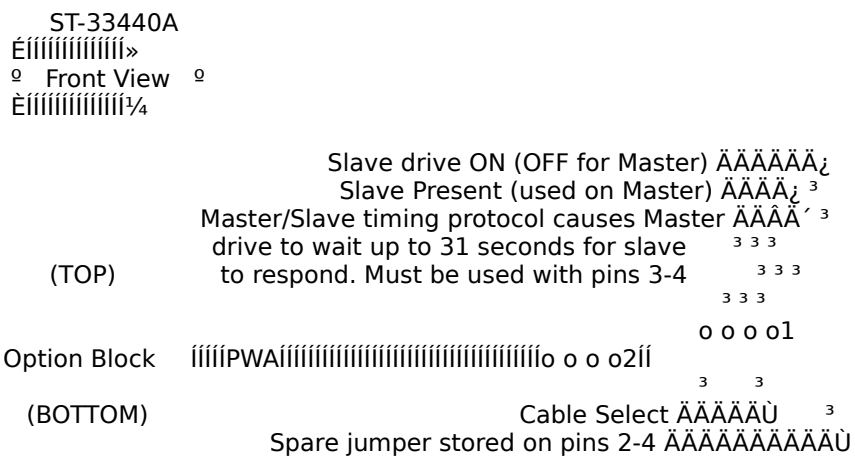
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/17/94)

ST-33440A (Medalist 3440 AT)





ST-33440A
Medalist 3440

FORMATTED CAPACITY	3411.39
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	
HEADS _____PHYSICAL	8
DISCS (3.5 in)	4
MEDIA TYPE	THIN FILM
HEAD TYPE	MR
RECORDING METHOD	ZBR PRML (8/9), PR4
INTERNAL TRANSFER RATE (Mbits/sec)	52.9 to 87.6
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.58
BUFFER	128 Kbyte SeaCache
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	6,677,040
TPI (TRACKS PER INCH)	5,555
BPI (KBITS PER INCH)	112.4
AVERAGE ACCESS (ms)	10.5
SINGLE TRACK SEEK (ms)	2.0
MAX FULL SEEK (ms)	20
MTBF (power-on hours) Office	500,000

SHOCK (G's):
operating (Read/Write) _____2
abnormal _____5
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____4.1/4.9
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.8
POWER MANAGEMENT (Watts):
ACTIVE _____9.2
IDLE _____7.2
STANDBY _____1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.02/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.78/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS AN "AUTO", "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:
This translation is generally acceptable, as is, for non-DOS operating systems:
6610 cyl, 16 heads, 63 sectors = 3,411,394,560

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:
826 cyl, 128 heads, 63 sectors = 3,410,362,368

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

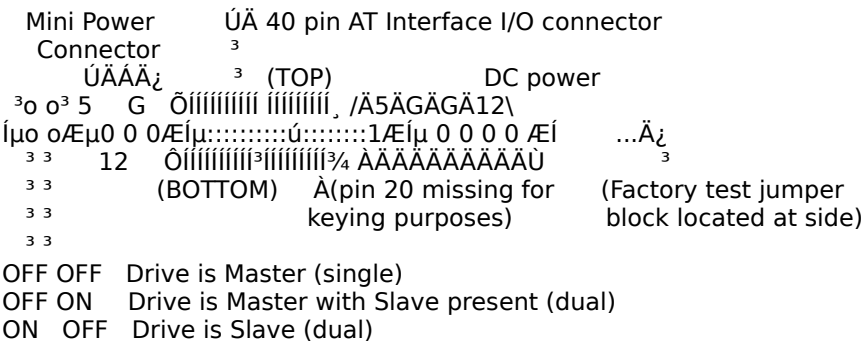
Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your

permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

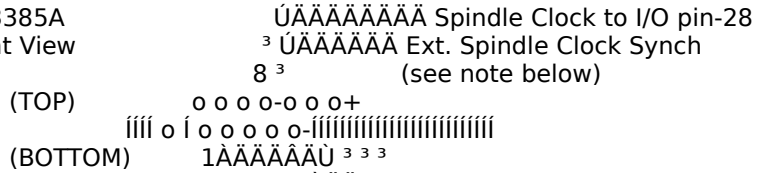
ST-3385A

Rear View



OFF OFF Drive is Master (single)
OFF ON Drive is Master with Slave present (dual)
ON OFF Drive is Slave (dual)

ST-3385A
Front View



Spindle Sync note: Enable pin-28 (SPSYNC-) of the AT interface connector by installing a jumper on pins 8 and 10 of the options jumper block.
Connect a twisted pair to pins 9 and 10 of the options jumper block to transmit and receive SPSYNC-.

ST-3385A

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	340
ACTUATOR TYPE	VOICE COIL
CYLINDERS	PHYSICAL
HEADS	PHYSICAL 5
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	21.6 to 36.3
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache
Read/Write Multiple Read Look-Ahead, Multi-Segmented	
INTERFACE	AT
SECTORS PER DRIVE	665,756

BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____2,400
BPI (BITS PER INCH) _____52,602
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____<4
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER REQUIREMENTS: +5V _____(amps) _0.55
POWER MANAGEMENT (Watts):
ACTIVE _____5.75
IDLE _____3.0
STANDBY _____1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 767 cyl, 14 heads, 62 sectors = 340,867,072

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

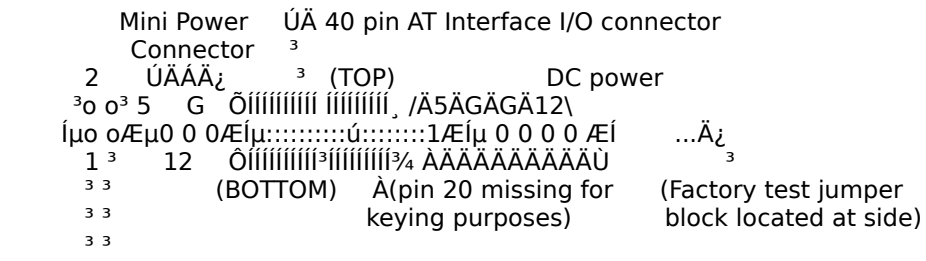
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/30/93)

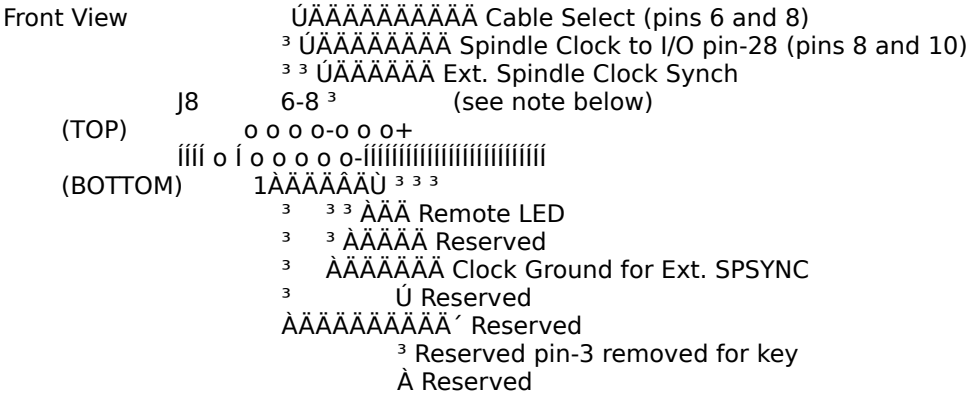
ST-3390A

Rear View



OFF OFF Drive is Master (single)
OFF ON Drive is Master with Slave present (dual)
ON OFF Drive is Slave (dual)
ON ON Cable Select (requires jumper also on pins 6 and 8 of J8)
Spare jumper may be stored on pins 1 and 3.

ST-3390A
Front View



Spindle Sync note: Enable pin-28 (SPSYNC-) of the AT interface connector by installing a jumper on pins 8 and 10 of the options jumper block.
Connect a twisted pair to pins 9 and 10 of the options jumper block to transmit and receive SPSYNC-.

ST-3390A

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	341.3
ACTUATOR TYPE	VOICE COIL
CYLINDERS	PHYSICAL/LOGICAL
HEADS	PHYSICAL/LOGICAL 3
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	21.79 to 36.56
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache

Read/Write Multiple, Read Look-Ahead,

Multi-Segmented
INTERFACE _____AT
SECTORS PER DRIVE _____666,624
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____3,000
BPI (BITS PER INCH) _____53,192
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____<4
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____4.9
IDLE _____2.5
STANDBY _____0.3
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 768 cyl, 14 heads, 62 sectors = 341,311,488

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

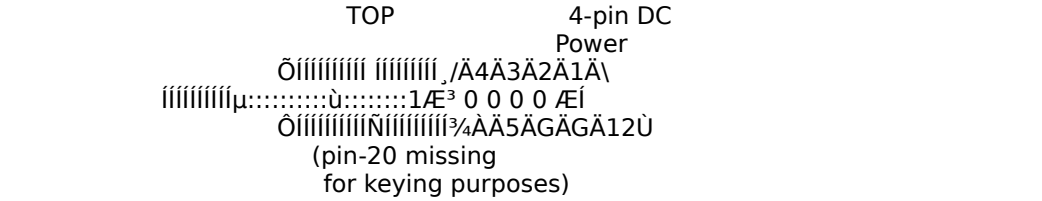
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-3391A (Medalist 340xe)



(Options jumper located on bottom) (back of drive)

Master OFF, Slave ON
Slave Present ON (standard)
Cable Select
Slave Present ON for drives that don't have the -DASP signal (use only ONE of the Slave Present choices)

(front of drive)

0	0	1
0	1	0
S	M	S
i	a	l
n	s	a
g	t	v
l	e	e
e	r	

ST-3391A
Medalist 340xe

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____341.3
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _(PHYSICAL)_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____18.7 to 32
EXTERNAL TRANSFER RATE (mbytes/sec) _____11.1
SPINDLE SPEED (RPM) _____3,811
AVERAGE LATENCY (mSEC) _____7.87
BUFFER _____120 Kbyte
Multisegmented, SeaCache
INTERFACE _____AT
SECTORS PER DRIVE _____666,624
TPI (TRACKS PER INCH) _____3,081
BPI (BITS PER INCH) _____55,200
FCI (FLUX CHANGES PER INCH) _____41,400
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____33
MTBF (power-on hours) Office _____300,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
+5V START-UP (amps) _0.30
START-UP (watts)_7.50
POWER MANAGEMENT (Watts):
ACTIVE _____4.4
IDLE _____1.8
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 768 cyl, 14 heads, 62 sectors = 341,311,488

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

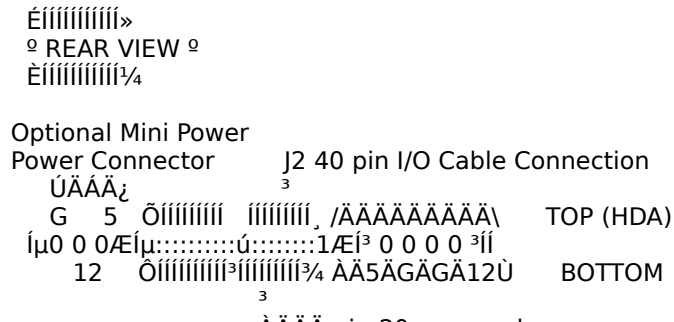
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

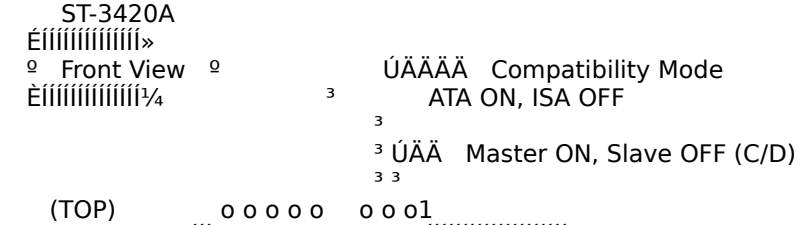
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-3420A, Filepro 420 AT (Bobcat CFS420A)





ST-3420A
Filepro 420 AT (Bobcat CFS420A)

FORMATTED CAPACITY	426.8
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	2388
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	20 to 32
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 7.5
PIO MODE	
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	2774
BPI (KBITS PER INCH)	58,566
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	25
MTBF (power-on hours) Office	250,000
SHOCK (G's):	
operating (Read/Write)	5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____43/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____5.7
IDLE _____3.8
STANDBY _____1.4
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.0/0.45

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations: 826 cyl, 16 heads, 63 sectors = 426,295,296

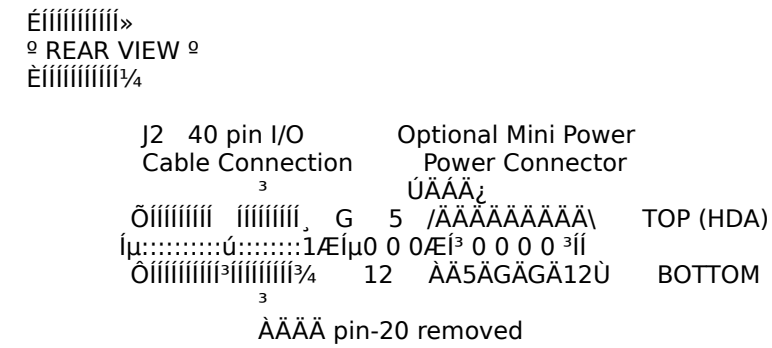
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

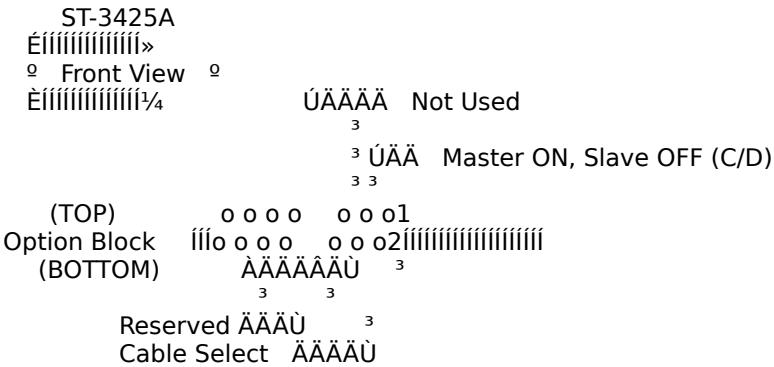
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-3425A, Filepro 425 AT (Cabo CFS425A)





ST-3425A
Filepro 425 AT (Cabo CFS425A)

FORMATTED CAPACITY	425
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	3687
HEADS _____PHYSICAL	2
DISCS (3.5 in)	1
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	29.9 to 55.2
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	3845
BPI (KBITS PER INCH)	77K
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	26
MTBF (power-on hours) Office	300,000
SHOCK (G's):	

operating (Read/Write) _____5
abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _
POWER MANAGEMENT (Watts):
ACTIVE _____4.5
IDLE _____3.0
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations: 839 cyl, 16 heads, 62 sectors = 426,131,456

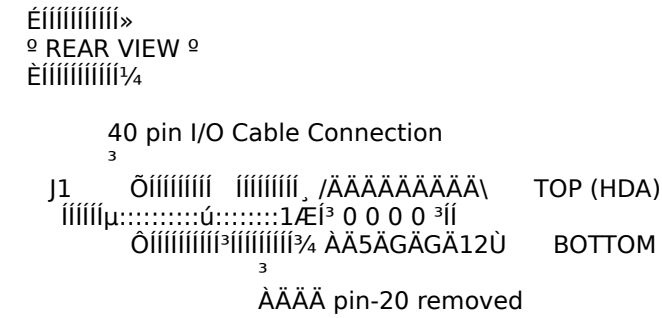
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

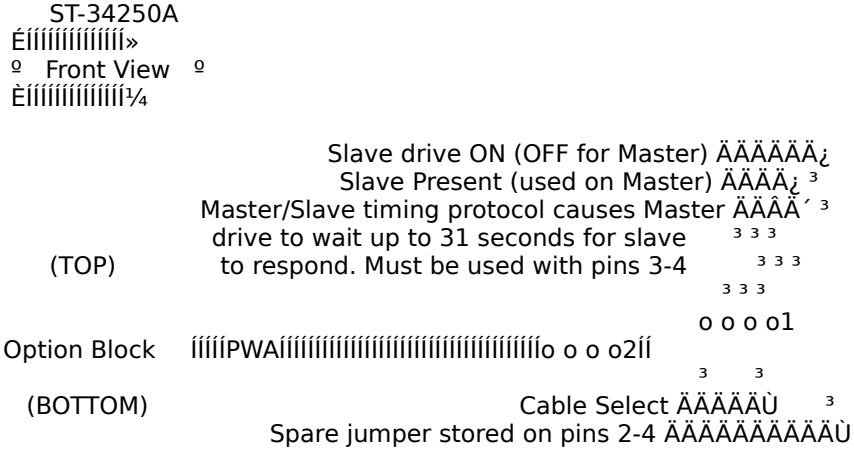
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/19/96)

ST-34250A (Medalist 4250 AT)





ST-34250A
Medalist 3440

FORMATTED CAPACITY	4265.01
ACTUATOR TYPE	VOICE COIL
CYLINDERS	PHYSICAL
HEADS	PHYSICAL 10
DISCS (3.5 in)	5
MEDIA TYPE	THIN FILM
HEAD TYPE	MR
RECORDING METHOD	ZBR PRML (8/9), PR4
INTERNAL TRANSFER RATE (Mbits/sec)	52.9 to 87.6
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.58
BUFFER	128 Kbyte SeaCache
	Read/Write Multiple, Read Look-Ahead, Multi-Segmented
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	8,346,300
TPI (TRACKS PER INCH)	5,555
BPI (KBITS PER INCH)	112.4
AVERAGE ACCESS (ms)	10.5
SINGLE TRACK SEEK (ms)	2.0
MAX FULL SEEK (ms)	20
MTBF (power-on hours) Office	500,000

SHOCK (G's):
operating (Read/Write) _____2
abnormal _____5
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____4.1/4.9
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.8
POWER MANAGEMENT (Watts):
ACTIVE _____9.2
IDLE _____7.2
STANDBY _____1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.02/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.78/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS AN "AUTO", "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
8264 cyl, 16 heads, 63 sectors = 4,265,017,344

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:
516 cyl, 256 heads, 63 sectors = 4,260,888,576

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

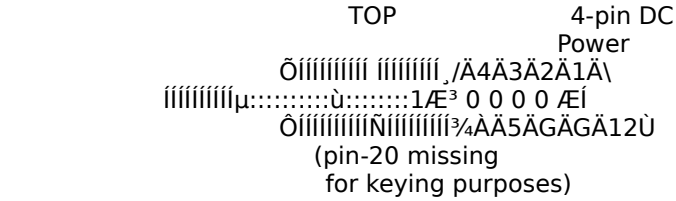
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your

permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-3491A (Medalist 425xe)



(Options jumper located on bottom) (back of drive)

Master OFF, Slave ON
Slave Present ON (standard)
Cable Select
Slave Present ON for drives that don't have the -DASP signal (use only ONE of the Slave Present choices)

(front of drive)

S M S
i a l
n s a
g t v
l e e
e r

ST-3491A
Medalist 425xe

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	428.1
ACTUATOR TYPE	VOICE COIL
TRACKS	
CYLINDERS	(user)
HEADS _(PHYSICAL)	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	18.7 to 32
EXTERNAL TRANSFER RATE (mbytes/sec)	11.1
SPINDLE SPEED (RPM)	3,811
AVERAGE LATENCY (mSEC)	7.87
BUFFER	120 Kbyte
Multisegmented, SeaCache	
INTERFACE	AT
SECTORS PER DRIVE	836,070
TPI (TRACKS PER INCH)	3,081
BPI (BITS PER INCH)	55,200
FCI (FLUX CHANGES PER INCH)	41,400
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	5
MAX FULL SEEK (ms)	34
MTBF (power-on hours) Office	300,000
POWER REQUIREMENTS: +12V START-UP (amps)	1.0
+5V START-UP (amps)	0.30
START-UP (watts)	7.50
POWER MANAGEMENT (Watts):	
ACTIVE	4.4
IDLE	1.8
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO
IBM AT DRIVE TYPE	*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 899 cyl, 15 heads, 62 sectors = 428,067,840

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

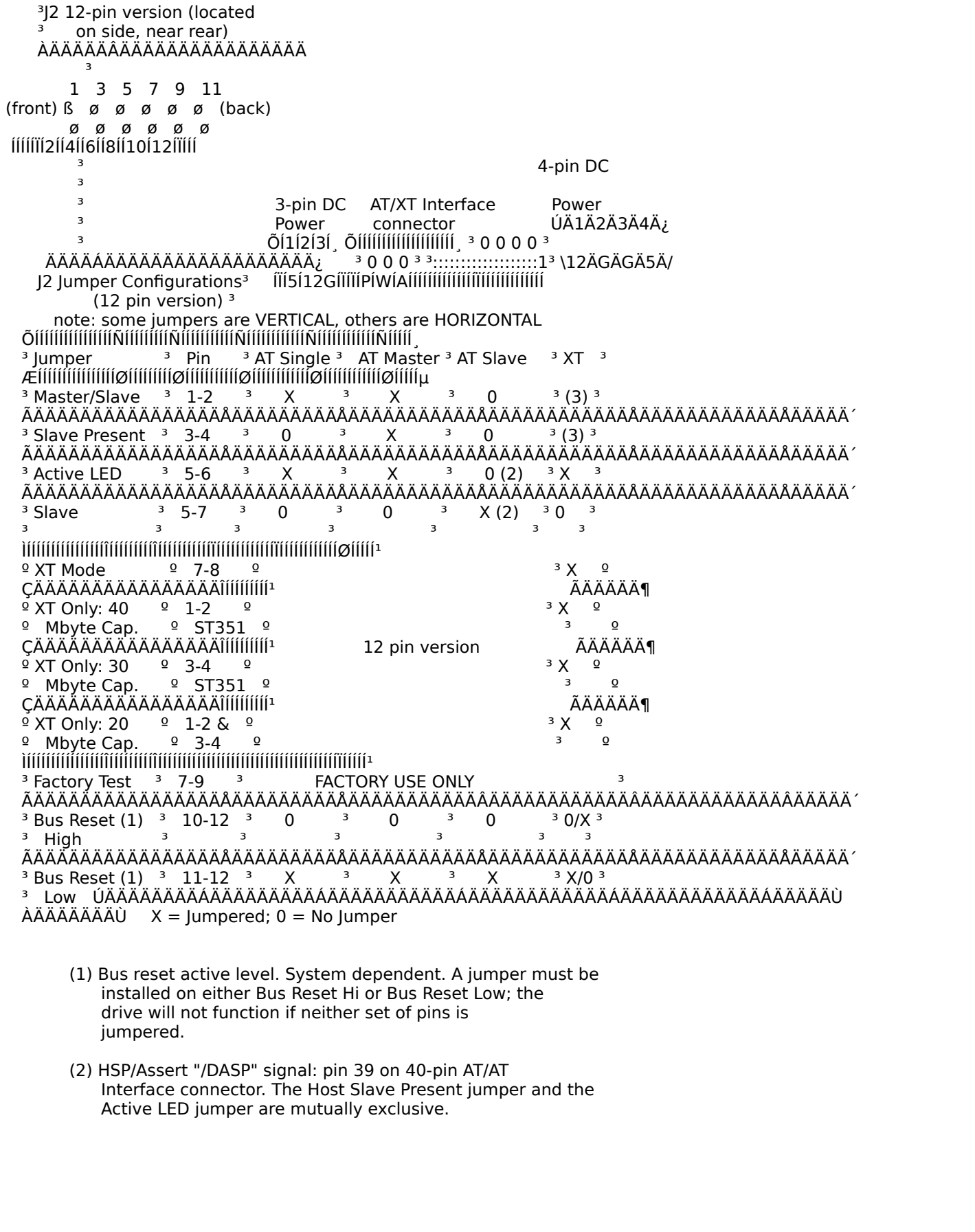
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST325AX, ST351AX and ST352AX

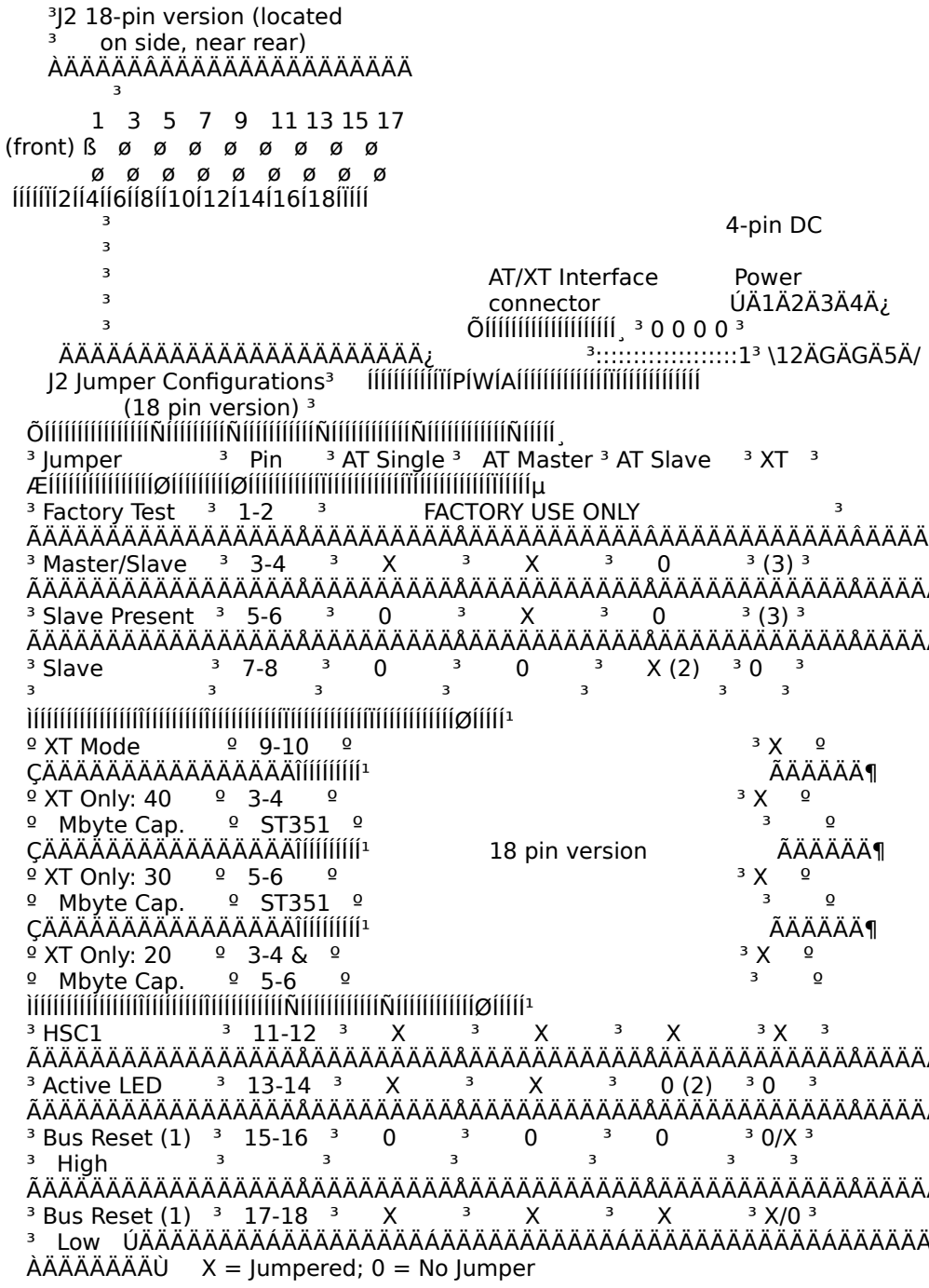


(1) Bus reset active level. System dependent. A jumper must be installed on either Bus Reset Hi or Bus Reset Low; the drive will not function if neither set of pins is jumpered.

(2) HSP/Assert "/DASP" signal: pin 39 on 40-pin AT/AT Interface connector. The Host Slave Present jumper and the Active LED jumper are mutually exclusive.

(3) XT only. These jumpers are used to set the drive type information to be returned by the drive via the Drive Configuration register (I/O port 2) or the XT Interface.

ST325AX and ST351AX



X = Jumpered; 0 = No Jumper

(1) Bus reset active level. System dependent. A jumper must be installed on either Bus Reset Hi or Bus Reset Low; the drive will not function if neither set of pins is jumpered.

(2) HSP/Assert "/DASP" signal: pin 39 on 40-pin AT/AT Interface connector. The Host Slave Present jumper and the Active LED jumper are mutually exclusive.

(3) XT only. These jumpers are used to set the drive type information to be returned by the drive via the Drive Configuration register (I/O port 2) or the XT Interface.

ST-351A/X

Select a configuration block version for jumpers

Jumpers for 12 pin version Jumpers for 18 pin version

ST - 351A/X

UNFORMATTED CAPACITY (MB) _____51
FORMATTED CAPACITY (17 SECTORS) (MB) _____42.82
AVERAGE SECTORS PER TRACK _____
ACTUATOR TYPE _____STEPPER
TRACKS _____
CYLINDERS _(Physical/Logical)_____xx/820
HEADS _____2/6
DISCS _____1
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL 2,7 (ZBR)
INTERNAL TRANSFER RATE (mbits/sec) _____10/12/14
SPINDLE SPEED (RPM) _____3,048
AVERAGE LATENCY (mSEC) _____9.84
INTERFACE _____AT/XT
SECTORS PER DRIVE _____83,640
TPI (TRACKS PER INCH) _____1290
BPI (BITS PER INCH) _____27152/28155/28922
AVERAGE ACCESS (ms) _____28
SINGLE TRACK SEEK (ms) _____7
MAX FULL SEEK (ms) _____65
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _0.8
+12V TYPICAL (amps) __0.10
+5V TYPICAL (amps) ___0.11
TYPICAL (watts) _____2.0
MAXIMUM (watts) _____
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____40, 44*

Possible translation: 820 cyl, 6 heads, 17 sectors = 42,823,680
980 cyl, 5 heads, 17 sectors = 42,649,600
977 cyl, 5 heads, 17 sectors = 42,519,040

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

* CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory for AT installations.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (5/6/91)

ST-352A/X

Jumpers for 12 pin version

ST - 352A/X

UNFORMATTED CAPACITY (MB) _____51
FORMATTED CAPACITY (17 SECTORS) (MB) _____42.82
AVERAGE SECTORS PER TRACK _____
ACTUATOR TYPE _____STEPPER
TRACKS _____
CYLINDERS _(Physical/Logical)_____xx/980
HEADS _____2/5
DISCS _____1
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL 2,7 (ZBR)
INTERNAL TRANSFER RATE (mbits/sec) _____10/12/14
SPINDLE SPEED (RPM) _____3,048
AVERAGE LATENCY (mSEC) _____9.84
INTERFACE _____AT/XT
SECTORS PER DRIVE _____83,640
TPI (TRACKS PER INCH) _____1290
BPI (BITS PER INCH) _____27152/28155/28922
AVERAGE ACCESS (ms) _____28
SINGLE TRACK SEEK (ms) _____7
MAX FULL SEEK (ms) _____65
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _0.8
+12V TYPICAL (amps) __0.10
+5V TYPICAL (amps) ___0.11
TYPICAL (watts) _____2.0
MAXIMUM (watts) _____
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____40, 44*

Possible translation: 980 cyl, 5 heads, 17 sectors = 42,649,600
977 cyl, 5 heads, 17 sectors = 42,519,040

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

* CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

ZBR = Zone Bit Recording = Variable sectors per track

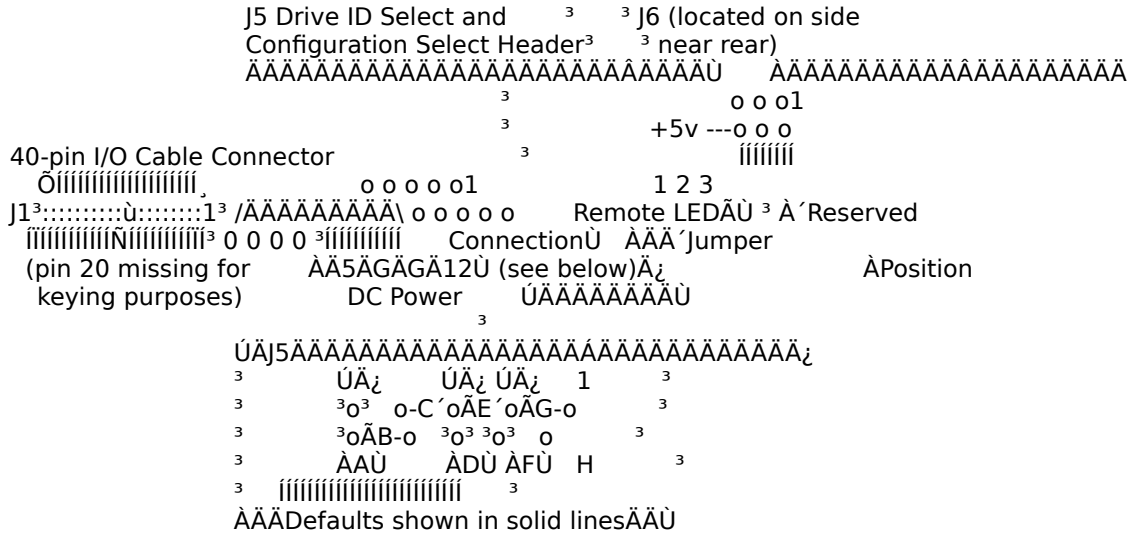
Already low-level formatted at the factory for AT installations.

Since a User-definable or Custom translation geometry may be used, it

is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/7/93)

ST-3500A AT Interface



J5 Jumper	Funtion Description (* indicates default)
A B	(A=vertical, pins 9 & 10; B=horizontal, pins 8 & 10)
OFF OFF	Drive is the slave (Drive 1).
OFF ON	Drive is the master (Drive 0) with slave (Drive 1) present.
ON* OFF	Drive s the master (Drive 0).
C	(C=horizontal, pins 5 & 7)
ON	Slave (Drive 1) Present is connected to J1 pin 39. Jumpers "D" or "E" cannot be installed if jumper "C" is installed.
D	(D=vertical, pins 5 & 6)
ON*	DASP- is connected to J1 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.
OFF	REFSIG is not connected to J1 pin 39.
E	(E=horizontal, pins 3 & 5)
ON	REFSIG is connected to J1 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.
OFF	REFSIG is not connected to J1 pin 39.
F	(F=vertical, pins 3 & 4)
ON*	No external reference for REFSIG. Jumpers "E", "G", or "H" cannot be installed if jumper "F" is installed.
OFF	This location provides a port for external connection of the synchronized spindle reference signal (pin 3) and ground (pin 4).
G	(G=horizontal, pins 1 & 3)
ON	REFSIG is connected to J1 pin 28. Jumpers "E" or "F" cannot be installed if jumper "G" is installed.
OFF	REFSIG is not connected to J1 pin 28.
H	(H=vertical, pins 1 & 2)

ON Drive implements "CSEL" (Cable Select line in I/O connector) feature. Implementation not defined yet. Jumpers A and B not used if jumper H is on. (This jumper is mutually exclusive with jumper "G").

OFF* Drive select is based on use of jumper A or B.

J6 Jumper Funtion Description (2x3 jumper block)

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1 Remote LED connection. Pin 6 is connected to +5v through a 147 ohm resistor. Pin 5 is the LED driver.

2 Reserved jumper position.

3 Reserved jumper position.

ST-3500A

UNFORMATTED CAPACITY (MB) _____502
FORMATTED CAPACITY (xx SECTORS) (MB) _____426
ACTUATOR TYPE _____VOICE COIL
TRACKS _____10,829
CYLINDERS __PHYSICAL_____1,547 (user)
HEADS _____PHYSICAL_____7
DISCS (3.5 in) _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
TRANSFER RATE INTERNAL (mbits/sec)_____21.6 to 36
SPINDLE SPEED (RPM) _____4,535
AVERAGE LATENCY (mSEC) _____6.61
BUFFER _____256 KByte SeaCache
Prefetch, Multi-Segmented
INTERFACE _____AT BUS
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____2150
AVERAGE ACCESS (ms) (read/write)_____9.9/10.6
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____21.5
MTBF (power-on hours) _____200,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
+12V TYPICAL (amps) __0.4
+5V TYPICAL (amps) ___0.2
TYPICAL (watts) _____5
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.8/0.80

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 895 cyl, 15 heads, 62 sectors = 426,163,200

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

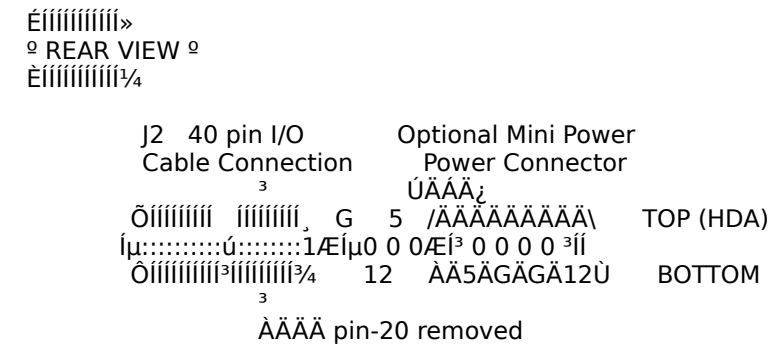
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

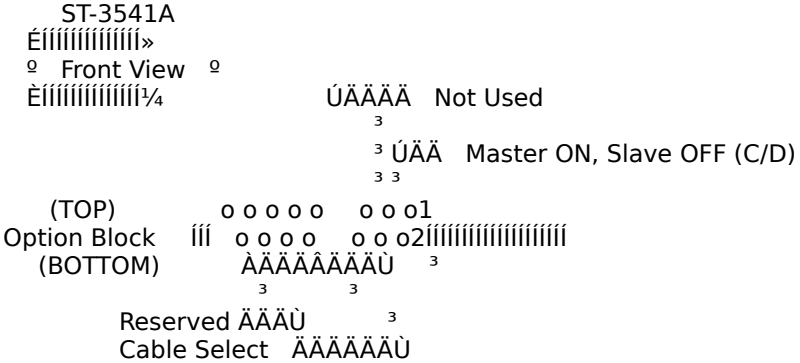
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/12/92)

ST-3541A, Cabo 541 AT (Stingray CFS541A)





ST-3541A
Cabo 541 AT (Stingray CFS541A)

FORMATTED CAPACITY _____541
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____3924
HEADS _____PHYSICAL_____2
DISCS (3.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____34.5 to 65.2
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 16.6
PIO MODE _____4
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____3600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____
TPI (TRACKS PER INCH) _____4100
BPI (KBITS PER INCH) _____93K
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Office _____300,000
SHOCK (G's):

operating (Read/Write) _____5
abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _
POWER MANAGEMENT (Watts):
ACTIVE _____3.9
IDLE _____2.5
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1048 cyl, 16 heads, 63 sectors = 540,868,608

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
524 cyl, 32 heads, 63 sectors = 540,868,608

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

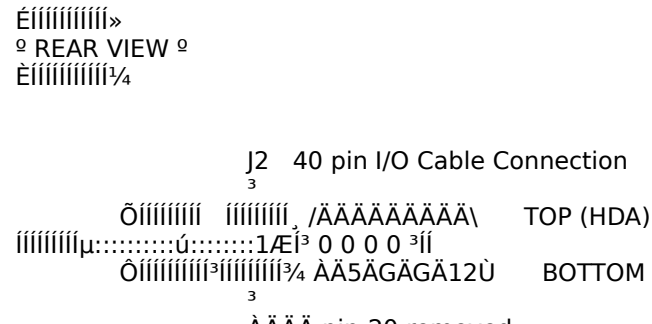
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

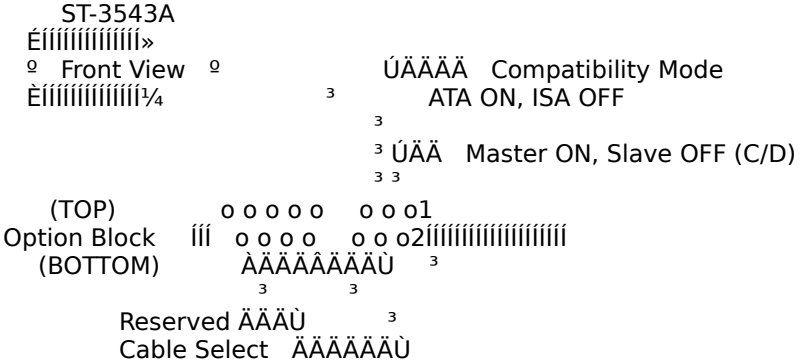
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/19/96)

ST-3543A, Filepro 540 AT (Cabo CFS540A)





ST-3543A
Filepro 540 AT (Cabo CFS540A)

FORMATTED CAPACITY	541.9
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	2574
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	23.5 to 35.3
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 13
PIO MODE	3
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	2990
BPI (KBITS PER INCH)	70K
AVERAGE ACCESS (ms)	<15
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	24
MTBF (power-on hours) Office	250,000
SHOCK (G's):	
operating (Read/Write)	5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____42/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____5.6
IDLE _____3.9
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.25/0.57

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1050 cyl, 16 heads, 63 sectors = 541,900,800

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
525 cyl, 32 heads, 63 sectors = 541,900,800

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

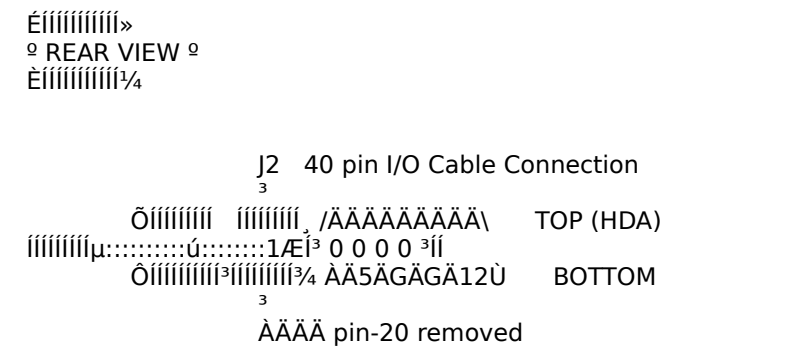
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

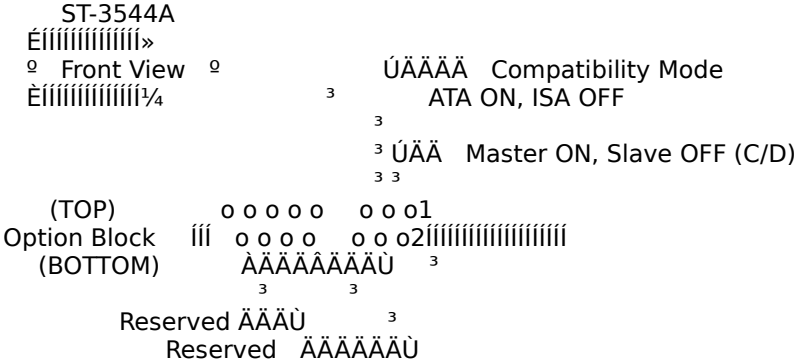
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-3544A, Filepro 540 AT (Filepro Advantage 540, Cabo 540, CFA540A)





ST-3544A
Filepro 540 AT (Filepro Advantage 540, Cabo 540, CFA540A)

FORMATTED CAPACITY _____540.86
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____2805
HEADS _____PHYSICAL_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____27 to 46
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 11.1
PIO MODE _____2
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____4500
AVERAGE LATENCY (mSEC) _____6.7
BUFFER _____256K
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____
TPI (TRACKS PER INCH) _____3253
BPI (KBITS PER INCH) _____62,500
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____43/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____6.8
IDLE _____4.0
STANDBY _____1.75
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.2/0.54

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1048 cyl, 16 heads, 63 sectors = 540,868,608

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
524 cyl, 32 heads, 63 sectors = 540,868,608

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

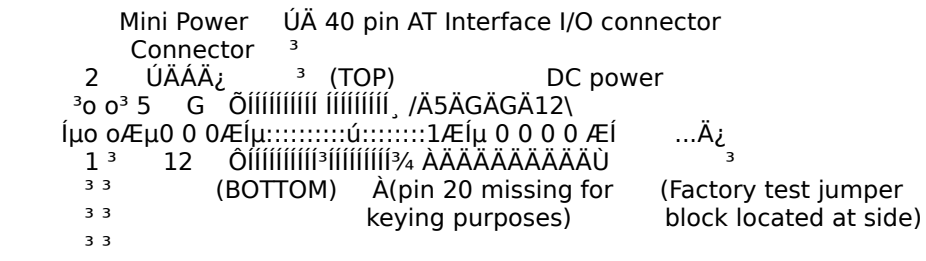
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

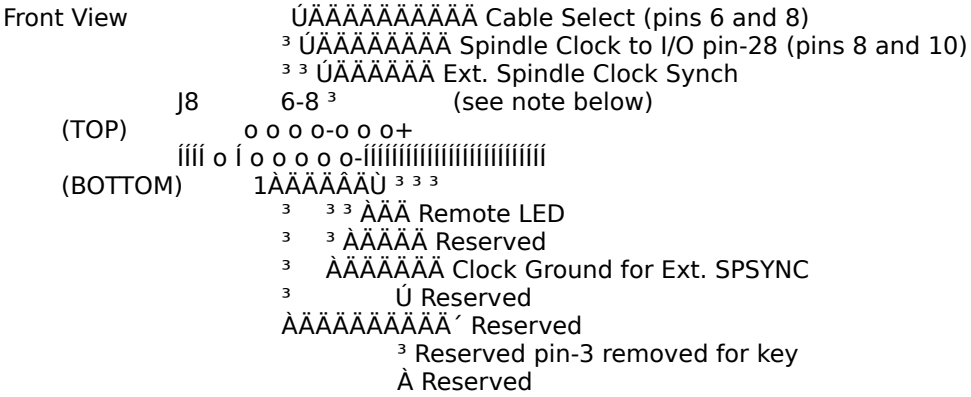
ST-3550A (Medalist 455)

Rear View



OFF OFF Drive is Master (single)
OFF ON Drive is Master with Slave present (dual)
ON OFF Drive is Slave (dual)
ON ON Cable Select (requires jumper also on pins 6 and 8 of J8)
Spare jumper may be stored on pins 1 and 3.

ST-3550A
Front View



Spindle Sync note: Enable pin-28 (SPSYNC-) of the AT interface connector by installing a jumper on pins 8 and 10 of the options jumper block.
Connect a twisted pair to pins 9 and 10 of the options jumper block to transmit and receive SPSYNC-.

ST-3550A
Medalist 455

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	452.41
ACTUATOR TYPE	VOICE COIL
CYLINDERS	PHYSICAL/LOGICAL
HEADS	PHYSICAL/LOGICAL 5
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	21.6 to 36.3
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache

Read/Write Multiple, Read Look-Ahead,

Multi-Segmented
INTERFACE _____AT
SECTORS PER DRIVE _____883,624
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____2,400
BPI (BITS PER INCH) _____52,602
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____<4
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____5.4
IDLE _____3.15
STANDBY _____0.9
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1018 cyl, 14 heads, 62 sectors = 452,415,488

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

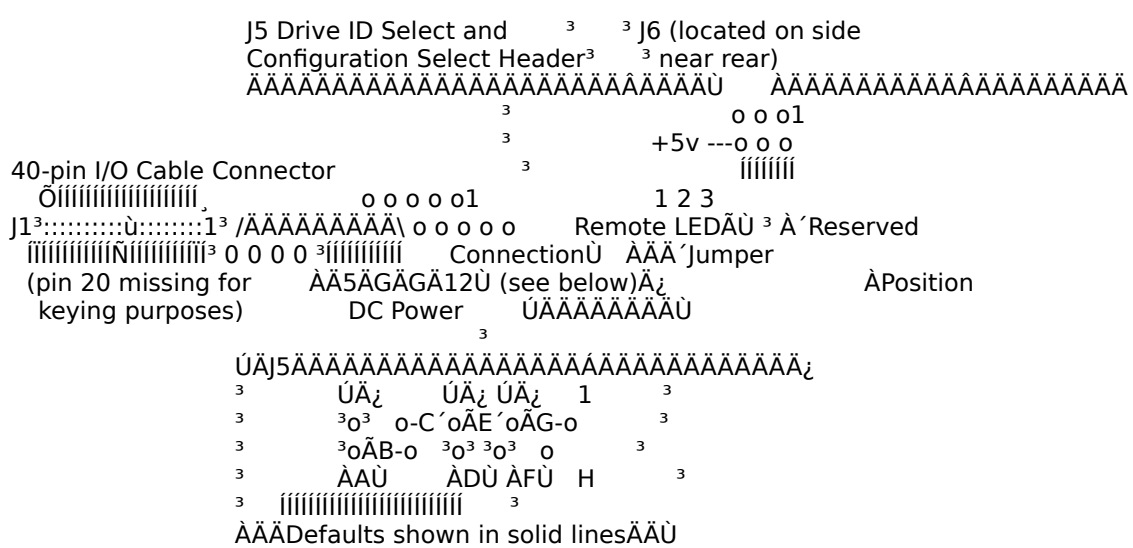
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-3600A

Rear View
PCB with 2x3 style jumper block J6 on right side near rear.



J5 Jumper	Function Description (* indicates default)
A B	(A=vertical, pins 9 & 10; B=horizontal, pins 8 & 10)
OFF OFF	Drive is the slave (Drive 1).
OFF ON	Drive is the master (Drive 0) with slave (Drive 1) present.
ON* OFF	Drive is the master (Drive 0).
C	(C=horizontal, pins 5 & 7)
ON	Slave (Drive 1) Present is connected to J1 pin 39. Jumpers "D" or "E" cannot be installed if jumper "C" is installed.
OFF	Slave Present is not connected to J1 pin 39.
D	(D=vertical, pins 5 & 6)
ON*	DASP- is connected to J1 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.
OFF	REFSIG is not connected to J1 pin 39.
E	(E=horizontal, pins 3 & 5)
ON	REFSIG is connected to J1 pin 39. Jumpers "C", "D", "F", or "G" cannot be installed if jumper "E" is installed.
OFF	REFSIG is not connected to J1 pin 39.
F	(F=vertical, pins 3 & 4)
ON*	No external reference for REFSIG. Jumpers "E", "G", or "H" cannot be installed if jumper "F" is installed.
OFF	This location provides a port for external connection of the synchronized spindle reference signal (pin 3) and ground (pin 4).
G	(G=horizontal, pins 1 & 3)
ON	REFSIG is connected to J1 pin 28. Jumpers "E" or "F" cannot be installed if jumper "G" is installed.

OFF REFSIG is not connected to J1 pin 28.

H (H=vertical, pins 1 & 2)
ON Drive implements "CSEL" (Cable Select line in I/O connector) feature. Implementation not defined yet. Jumpers A and B not used if jumper H is on. (This jumper is mutually exclusive with jumper "G").

OFF* Drive select is based on use of jumper A or B.

J6 Jumper Function Description (2x3 jumper block)

1	Remote LED cable connection. Pin 6 is connected to +5v through a 147 ohm resistor. Pin 5 is the LED driver.
2	Reserved jumper position.
3	Reserved jumper position.

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ST-3600A

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Rear View
PCB with 2x2 style jumper block J6 on right side near rear.
              ^^^
                         ÚÄ 40 pin AT Interface I/O connector
 Mini Power               ³
   Connector              ³                                      side
         ÚÄÁÄ¿            ³   (TOP)              DC power        J6    1
         G    5   ÕÍÍÍÍÍÍÍÍÍÍ ÍÍÍÍÍÍÍÍ¸ /Ä5ÄGÄGÄ12\          o o       (front)
    ÍÍµ0 0 0ÆÍµ:::::::::ú:::::::1ÆÍµ 0 0 0 0 ÆÍ       ÍÍ o o ÍÍÍ........
            12    ÔÍÍÍÍÍÍÍÍÍÍ³ÍÍÍÍÍÍÍÍ¾ ÀÄÄÄÄÄÄÄÄÄÄÙ             ³ ÀRÄ Spindle sync
                    (BOTTOM)    À(pin 20 missing for               ³      disable
                                  keying purposes)                ÀÄÄLÄ Remote LED cable
                                                                        connection
                           J5
  (back of drive)
                     (A) 1 o-o   ÄÄÄ Single= (A) ON & (B) OFF, Slave= (A) OFF & (B) OFF
                     (B) 3 o-o   ÄÄÄ Master with Slave = (A) OFF & (B) ON
                    Ú(C)    o-o   ÄÄÄÄÄÄ DASP- in on pin 39
               ÚÄÄÄÅ(D)    o-o   ÄÄÄ J5 pins 7 & 8   ÄÄ No spindle synch reference
      detail³   À(E)    o-o   ÄÄÄÄÄÄ Cable select on pin 28
      below ³     (F)    o-o   ÄÄÄÄÄÄ Cable select option enabled
               ³     (G)    o-o   ÄÄÄÄÄÄ Option #1 enabled
               ³
               ³
               ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
               ³ (C)    o-o¿ ÄÄÄÄÄÄ DASP- in on pin 39                              ³
               ³ (H)        H ÄÄÄ J5 pins 6 & 8   ÄÄ SPSYNC on I/O J1 pin 39        ³
               ³ (D)    o-oØ ÄÄÄ J5 pins 7 & 8   ÄÄ No spindle synch reference      ³
               ³ (J)        J ÄÄÄ J5 pins 8 & 10 ÄÄ SPSYNC on I/O J1 pin 28         ³
               ³ (E)    o-oÙ ÄÄÄÄÄÄ Cable select on pin 28                          ³
               ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ


J5 Jumper   Funtion Description (* indicates default)
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
A      B
OFF   OFF    Drive is the slave (Drive 1).
OFF   ON     Drive is the master (Drive 0) with slave (Drive 1) present.
ON*   OFF    Drive is the master (Drive 0).

C
ON*          DASP- is brought into drive through I/O pin 39

OFF          DASP- is not used and is not connected to drive.   I/O cable
             pin 39 may be used for spindle synch if jumper H is
             installed.

D
ON*          No spindle synch reference is used.   See also J6 position
             R, which duplicates the function of this jumper.   Either J5
             D or J6 R may be jumpered to signify no synch spindle
             reference is used.

OFF          Spindle synch reference signal cable may be plugged onto
             this jumper, J6 R or spinle synch ref may be taken from I/O
             cable pin 28 (if jumper J installed) or pin 39 (if jumper H
             installed).

E
```

ON I/O connector J1 pin 28 is used for Cable Select function. Jumper F must also be installed to implement cable select.

OFF J1 pin 28 not used for Cable Select function.

F
ON Cable select option enabled. Jumper E must also be installed to enable cable select.

OFF Cable select option not enabled.

G
ON Optional feature #1 enabled
OFF Optional feature #1 not enabled

H
ON Spindle synch reference signal is on I/O connector J1 pin 39.
OFF Spindle synch reference signal is not on J1 pin 39.

J
ON Spindle synch reference signal is on I/O connector J1 pin 28.
OFF Spindle synch reference signal is not on J1 pin 28.

J6 Jumper Funtion Description (2x2 jumper block)

L Remote LED cable connection (Not a jumper position). Do not install a jumper if remote LED cable is not plugged here.

R
ON No spindle synch reference is used. See also J5 posistion D, which duplicates the function of this jumper position. Either J5D or J6 R may be used to signify no spindle synch reference is used.

OFF Spindle sync reference signal cable may be plugged into this jumper position, J5 D or the spindle synch reference may be taken from I/O cable pin 28 (if jumper J installed) or pin 39 (if jumper H installed).

ST-3600A

ST-3600A

ST-3600A Jumpers w/2x3 right side jumpers
ST-3600A Jumpers w/2x2 right side jumpers

UNFORMATTED CAPACITY (MB) _____617
FORMATTED CAPACITY (xx SECTORS) (MB) _____528
ACTUATOR TYPE _____VOICE COIL
TRACKS _____13,104
CYLINDERS __PHYSICAL_____1,872 (user)
HEADS _____PHYSICAL_____7
DISCS (3.5 in) _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
TRANSFER RATE INTERNAL (mbits/sec)_____19.6 to 36.0
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____4,535
AVERAGE LATENCY (mSEC) _____6.61
BUFFER _____256 KByte SeaCache
Adaptive cache
INTERFACE _____AT BUS
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____2150
AVERAGE ACCESS (ms) (read/write)_____10.5/11.2
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____23
MTBF (power-on hours) _____200,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
+12V TYPICAL (amps) __0.4
+5V TYPICAL (amps) ___0.2
TYPICAL (watts) _____5
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.8/0.80

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

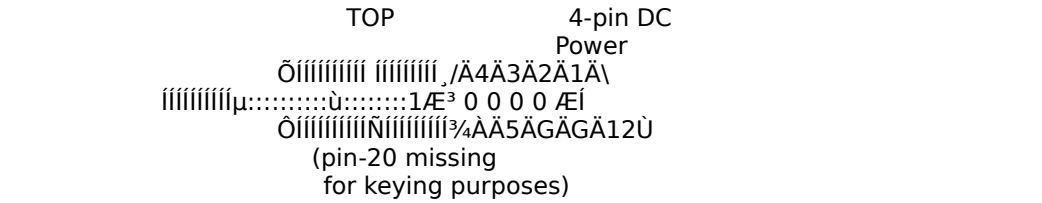
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/21/93)

ST-3630A (Medalist 630xe AT)



(Options jumper located on bottom) (back of drive)

Master OFF, Slave ON 8o-o7 0 0 1
Slave Present ON (standard) o-o 0 1 0
o-o
Cable Select 2o-o1 S M S
Slave Present ON for (front of drive) i a l
drives that don't have n s a
the -DASP signal (use g t v
only ONE of the Slave l e e
Present choices) e r
Spare jumper stored on pins 1-3

ST-3630A
Medalist 630xe

FORMATTED CAPACITY	631.1
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	
HEADS _____PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	22.9 to 39.6
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 11.1
PIO MODE	3
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3,811
AVERAGE LATENCY (mSEC)	7.87
BUFFER	120 Kbyte
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	1,232,784
TPI (TRACKS PER INCH)	3,384
BPI (KBITS PER INCH)	68
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	5
MAX FULL SEEK (ms)	34
MTBF (power-on hours) Office	300,000
SHOCK (G's):	
operating (Read/Write)	2
abnormal	10
nonoperating	75
ACOUSTICS (dBA) (typ/max)	29/33
POWER DISSIPATION (watts)	
POWER REQUIREMENTS: +12V START-UP (amps)	1.2
POWER MANAGEMENT (Watts):	
ACTIVE	5.23
IDLE	1.86

STANDBY _____0.725
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.02/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.78/146.6
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1223 cyl, 16 heads, 63 sectors = 631,185,408

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
611 cyl, 32 heads, 63 sectors = 630,669,312

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

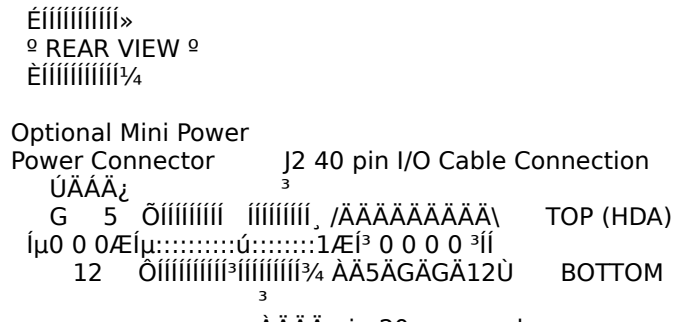
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

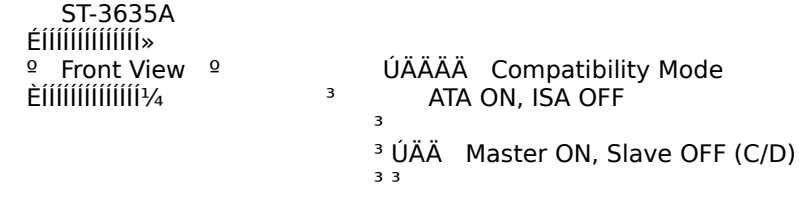
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-3635A, Cabo 635 AT (Cabo CFS635A)





ST-3635A
Cabo 635 AT (Cabo CFS635A)

FORMATTED CAPACITY _____635
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____3640
HEADS _____PHYSICAL_____3
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____29.9 to 55.2
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 16.6
PIO MODE _____4
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____3600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____64K
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____
TPI (TRACKS PER INCH) _____3849
BPI (KBITS PER INCH) _____77K
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _
POWER MANAGEMENT (Watts):
ACTIVE _____3.5
IDLE _____3.5
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1238 cyl, 16 heads, 63 sectors = 638,926,848

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
619 cyl, 32 heads, 63 sectors = 638,926,848

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

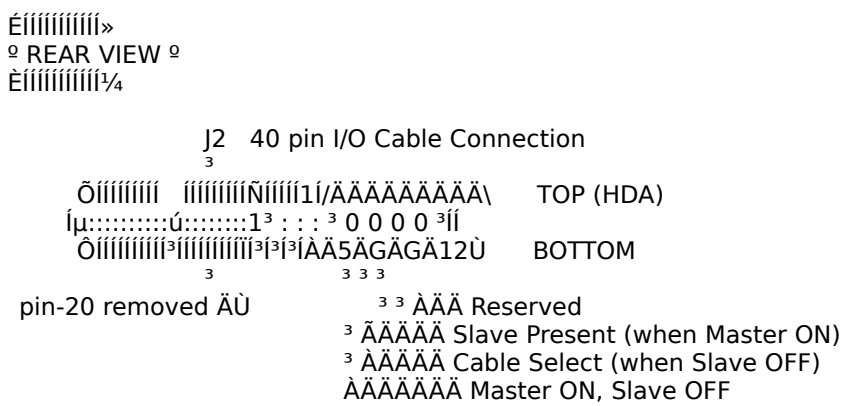
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/19/96)

ST-3636A, Cabo 636 AT (Lapaz CFS636A)



ST-3636A
Cabo 636 AT (Lapaz CFS636A)

FORMATTED CAPACITY _____640.47
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____4893
HEADS _____PHYSICAL_____2
DISCS (3.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____33.6 to 67.2
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 16.6
PIO MODE _____4
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____4500
AVERAGE LATENCY (mSEC) _____6.67
BUFFER _____64K
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____1,250,928
TPI (TRACKS PER INCH) _____4973
BPI (KBITS PER INCH) _____88.4
AVERAGE ACCESS (ms) _____12.5
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____24
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____5
abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____4.6
IDLE _____3.5
STANDBY _____1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO

IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

1241 cyl, 16 heads, 63 sectors = 640,475,136

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:

620 cyl, 32 heads, 63 sectors = 639,959,040

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

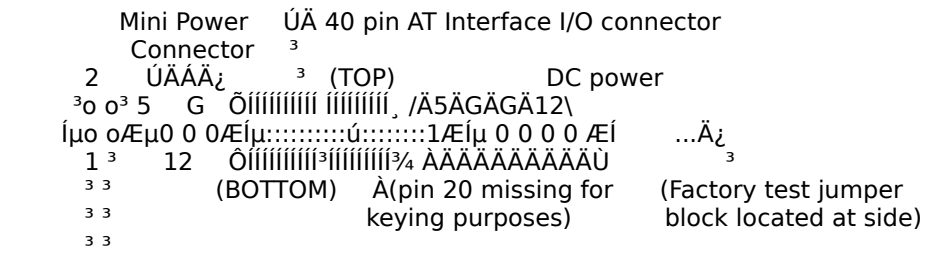
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

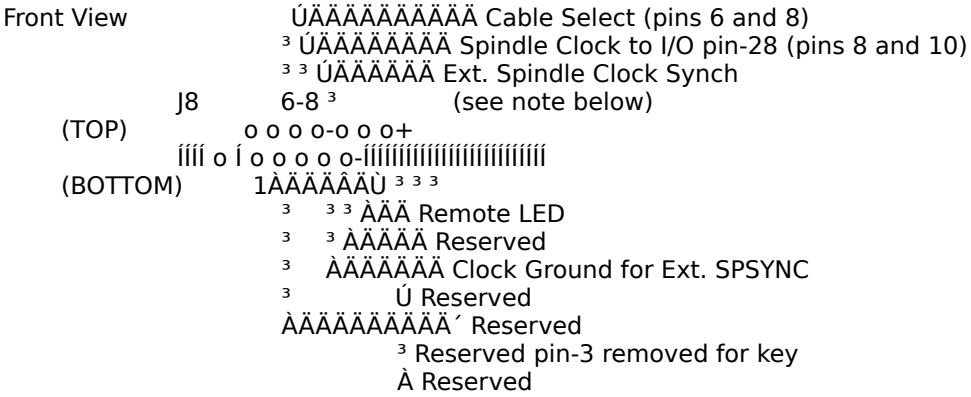
ST-3655A (Medalist 540)

Rear View



OFF OFF Drive is Master (single)
OFF ON Drive is Master with Slave present (dual)
ON OFF Drive is Slave (dual)
ON ON Cable Select (requires jumper also on pins 6 and 8 of J8)
Spare jumper may be stored on pins 1 and 3.

ST-3655A
Front View



Spindle Sync note: Enable pin-28 (SPSYNC-) of the AT interface connector by installing a jumper on pins 8 and 10 of the options jumper block.
Connect a twisted pair to pins 9 and 10 of the options jumper block to transmit and receive SPSYNC-.

ST-3655A
Medalist 540

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	528.4
ACTUATOR TYPE	VOICE COIL
CYLINDERS	PHYSICAL/LOGICAL
HEADS	PHYSICAL/LOGICAL 5
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	21.79 to 36.56
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache

Read/Write Multiple, Read Look-Ahead,
Multi-Segmented

INTERFACE _____AT
SECTORS PER DRIVE _____1,032,192
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____3,000
BPI (BITS PER INCH) _____53,192
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____<4
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____4.9
IDLE _____2.5
STANDBY _____0.3
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1024 cyl, 16 heads, 63 sectors = 528,428,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

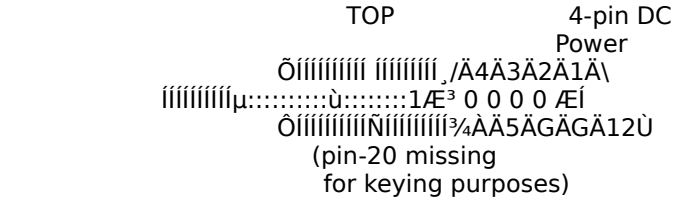
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-3660A (Medalist 545xe)



(Options jumper located on bottom) (back of drive)

Master OFF, Slave ON 8o-o7 0 0 1
Slave Present ON (standard) o-o 0 1 0
o-o
Cable Select 2o-o1 S M S
Slave Present ON for (front of drive) i a l
drives that don't have n s a
the -DASP signal (use g t v
only ONE of the Slave l e e
Present choices) e r
Spare jumper stored on pins 1-3

ST-3660A
Medalist 545xe

FORMATTED CAPACITY (xx SECTORS)	545.5
ACTUATOR TYPE	VOICE COIL
TRACKS	
CYLINDERS	(user)
HEADS _(PHYSICAL)	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	19.5 to 35.8
EXTERNAL TRANSFER RATE (mbytes/sec)	11.1
SPINDLE SPEED (RPM)	3,811
AVERAGE LATENCY (mSEC)	7.87
BUFFER	120 Kbyte
Multisegmented, SeaCache	
INTERFACE	AT
SECTORS PER DRIVE	1,065,456
TPI (TRACKS PER INCH)	3,285
BPI (BITS PER INCH)	61,700
FCI (FLUX CHANGES PER INCH)	46,390
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	5
MAX FULL SEEK (ms)	34
MTBF (power-on hours) Office	300,000
ACOUSTICS (typ/max dBA)	29/33
SHOCK (Normal/Abnormal/Nonoper.)	2/10/75
POWER REQUIREMENTS: +12V START-UP (amps)	1.1
+5V START-UP (amps)	0.35
START-UP (watts)	8.5
POWER MANAGEMENT (Watts):	
ACTIVE	5.23
IDLE	1.865
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO

IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

1057 cyl, 16 heads, 63 sectors = 545,513,472

DOS operating systems may require a system bios that accepts or translates larger values for the CMOS head parameter which lowers cylinders below 1024:

528 cyl, 32 heads, 63 sectors = 544,997,376

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

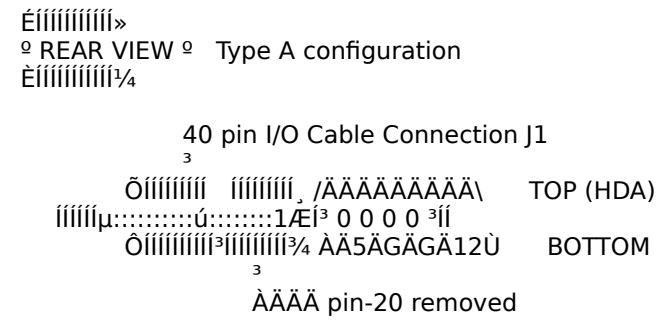
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

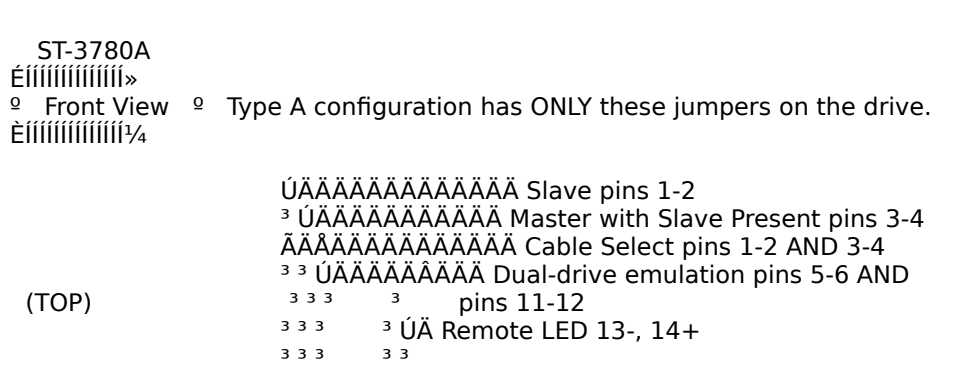
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

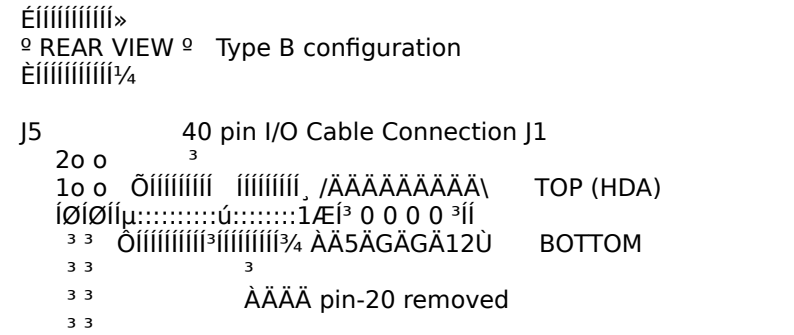
Seagate reserves the right to change, without notice, product offerings or specifications. (08/17/94)

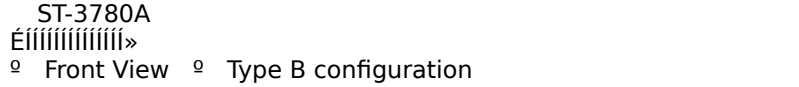
ST-3780A (Medalist 720)

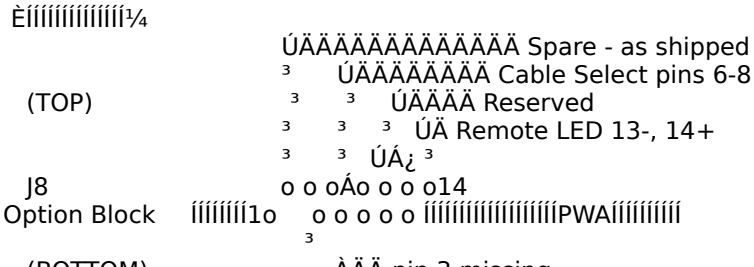




Spare jumpers stored on pins 1-3 and 5-7, as shipped.

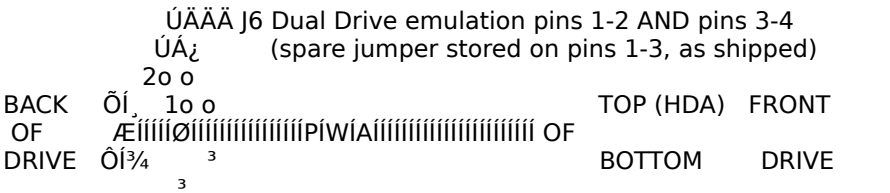






Cable Select also requires Slave and Slave Present jumpers ON.

ST-3780A



ÀÄ Pins 3-4 jumpered alone changes the Master/Slave timing protocol to PDIAG. Makes the drive compatible with somes drives as the slave. Must be used with pins 1-2 (Slave) on J5 Master/Slave jumper block.

Note: If the Dual Drive Emulation jumper is used, then TWO CMOS drive types will be required and only ONE drive per cable is allowed.

ST-3780A
Medalist 720

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	722
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	3,876
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	27.9 to 47.24
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache Read/Write Multiple, Read Look-Ahead, Multi-Segmented
INTERFACE	AT
SECTORS PER DRIVE	1,410,864

TPI (TRACKS PER INCH) _____4,250
BPI (BITS PER INCH) _____70,101
AVERAGE ACCESS (ms) (read/write) _____12/14
SINGLE TRACK SEEK (ms) _____3.5
MAX FULL SEEK (ms) _____25
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____75
ACOUSTICS (typ/max dBA) _____30/36
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____6.6
IDLE _____2.75
STANDBY _____1
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.77/146.6
Weight (lbs/kg): 1.5/0.68

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

1399 cyl, 16 heads, 63 sectors = 722,018,304

DOS operating systems may require a system bios that accepts or translates larger values for the CMOS head parameter which lowers cylinders below 1024:

699 cyl, 32 heads, 63 sectors = 721,502,208

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

699 cyl, 16 heads, 63 sectors = 360,751,104 (Master)
699 cyl, 16 heads, 63 sectors = 360,751,104 (Slave see Dual Drive emulation jumper)

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

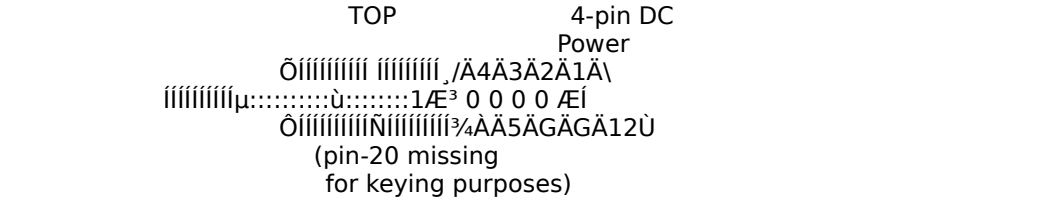
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (05/14/95)

ST-3850A (Medalist 850xe AT)



(Options jumper located on bottom) (back of drive)

Master OFF, Slave ON 8o-o7 0 0 1

Slave Present ON (standard) o-o 0 1 0

o-o

Cable Select 2o-o1 S M S

Reserved (front of drive) i a l

n s a

g t v

l e e

e r

Spare jumper stored on pins 1-3

ST-3850A
Medalist 850xe

FORMATTED CAPACITY	850.5
ACTUATOR TYPE	VOICE COIL
CYLINDERS	
PHYSICAL	
HEADS	
PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	23.1 to 42.3
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 11.1
PIO MODE	3
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3,811
AVERAGE LATENCY (mSEC)	7.87
BUFFER	120 Kbyte
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	1,661,184
TPI (TRACKS PER INCH)	4,300
BPI (KBITS PER INCH)	70
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	5
MAX FULL SEEK (ms)	34
MTBF (power-on hours) Office	300,000
SHOCK (G's):	
operating (Read/Write)	2
abnormal	10
nonoperating	75
ACOUSTICS (dBA) (typ/max)	29/33
POWER DISSIPATION (watts)	
POWER REQUIREMENTS: +12V START-UP (amps)	1.2
POWER MANAGEMENT (Watts):	
ACTIVE	5.23
IDLE	1.86
STANDBY	0.725
WRITE PRECOMP (cyl)	N/A

REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 1.02/25.4
Width (inches/mm): 4.02/102.1
Depth (inches/mm): 5.78/146.6
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

1648 cyl, 16 heads, 63 sectors = 850,526,208

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:

824 cyl, 32 heads, 63 sectors = 850,526,208

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

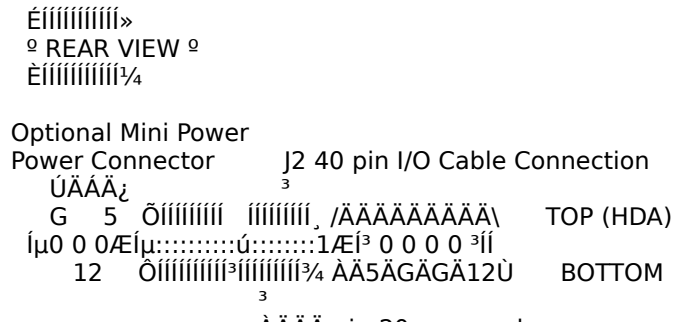
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

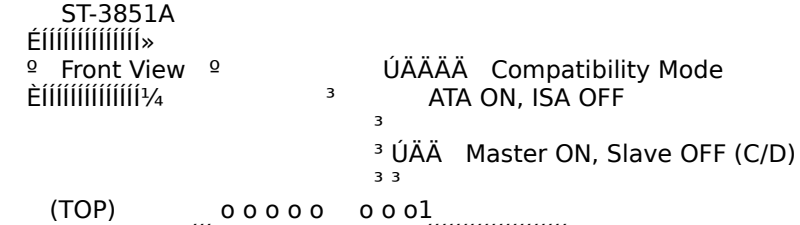
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-3851A, Cabo 851 AT (Cabo CFS850A)





ST-3851A
Cabo 851 AT (Cabo CFS850A)

FORMATTED CAPACITY	850
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	3640
HEADS _____PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	29.5 to 54.9
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	3600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	3849
BPI (KBITS PER INCH)	77K
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	26
MTBF (power-on hours) Office	300,000
SHOCK (G's):	
operating (Read/Write)	5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____38/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _
POWER MANAGEMENT (Watts):
ACTIVE _____3.5
IDLE _____3.5
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.3/0.59

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1651 cyl, 16 heads, 63 sectors = 852,074,496

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
825 cyl, 32 heads, 63 sectors = 851,558,400

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

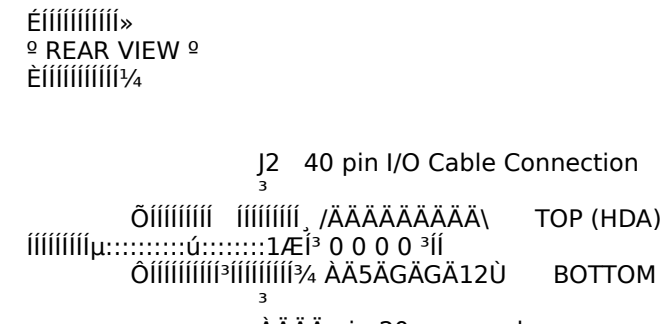
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

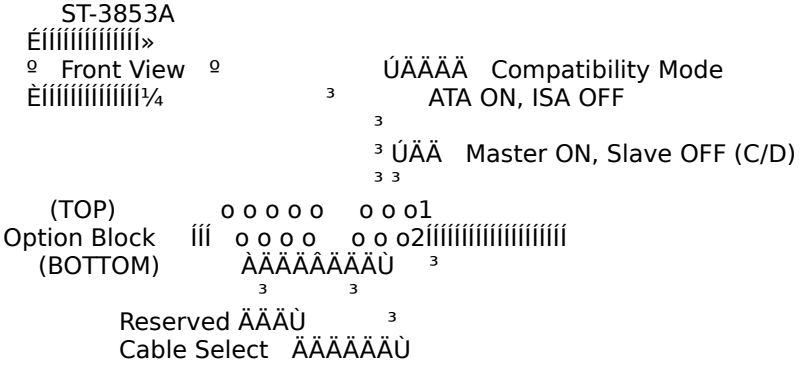
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/19/96)

ST-3853A, Filepro 850 AT (Steamboat CFA850A)





ST-3853A
Filepro 850 AT (Steamboat CFA850A)

FORMATTED CAPACITY	852.5
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	3659
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	31.3 to 55.3
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 10
PIO MODE	2
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4500
AVERAGE LATENCY (mSEC)	6.7
BUFFER	64K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	
TPI (TRACKS PER INCH)	3833
BPI (KBITS PER INCH)	77.3K
AVERAGE ACCESS (ms)	<12
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	26
MTBF (power-on hours) Office	300,000
SHOCK (G's):	
operating (Read/Write)	5

abnormal _____
nonoperating _____75
ACOUSTICS (bels) (typ/max) _____43/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____5.6
IDLE _____3.9
STANDBY _____<1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5.75/146.1
Weight (lbs/kg): 1.25/0.57

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1652 cyl, 16 heads, 63 sectors = 852,590,592

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
826 cyl, 32 heads, 63 sectors = 852,590,592

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

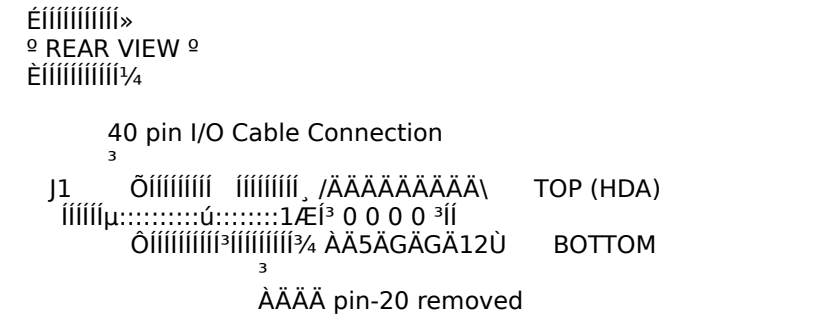
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

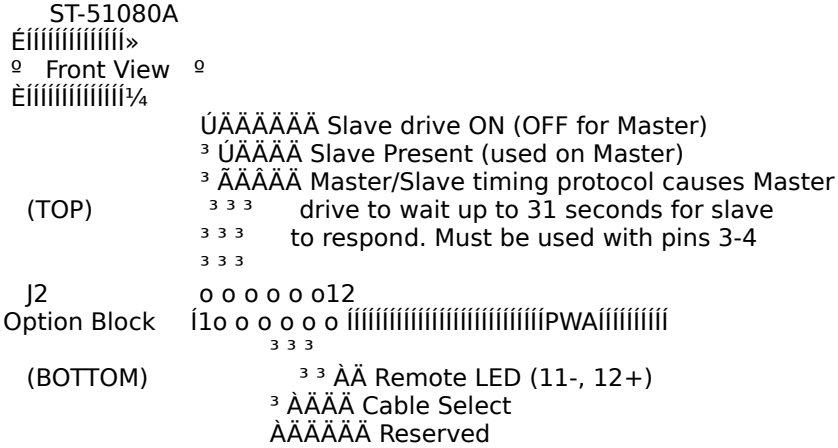
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-51080A (Medalist 1080sl, formerly Decathlon 1080 AT)





ST-51080A
Medalist 1080sl

FORMATTED CAPACITY	1083.8
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	4,834
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	34.5 to 67.7
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.56
BUFFER	128 or 256 Kbyte Read/Write Multiple, Read Look-Ahead, Multi-Segmented
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	2,116,800
TPI (TRACKS PER INCH)	4,800
BPI (BITS PER INCH)	76,200
AVERAGE ACCESS (ms)	10.5
SINGLE TRACK SEEK (ms)	2.0
MAX FULL SEEK (ms)	20
MTBF (power-on hours) Office	300,000

SHOCK (G's):
operating (Read/Write) _____2
abnormal _____10
nonoperating _____75
ACOUSTICS (dBa) (typ/max) _____30/38
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____6.5
IDLE _____3.0
STANDBY _____.5
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.748/19
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5/127
Weight (lbs/kg): .75/0.34

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:
This translation is generally acceptable, as is, for non-DOS operating systems:
2100 cyl, 16 heads, 63 sectors = 1,083,801,600

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
525 cyl, 64 heads, 63 sectors = 1,083,801,600

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

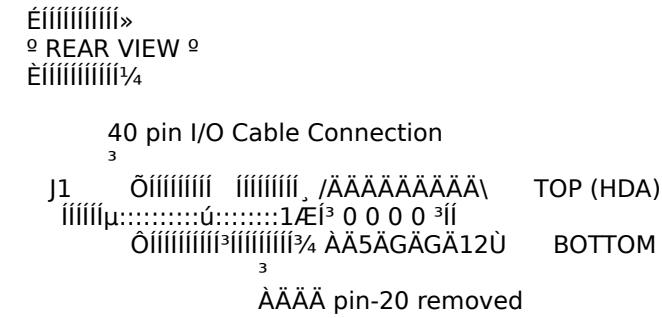
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

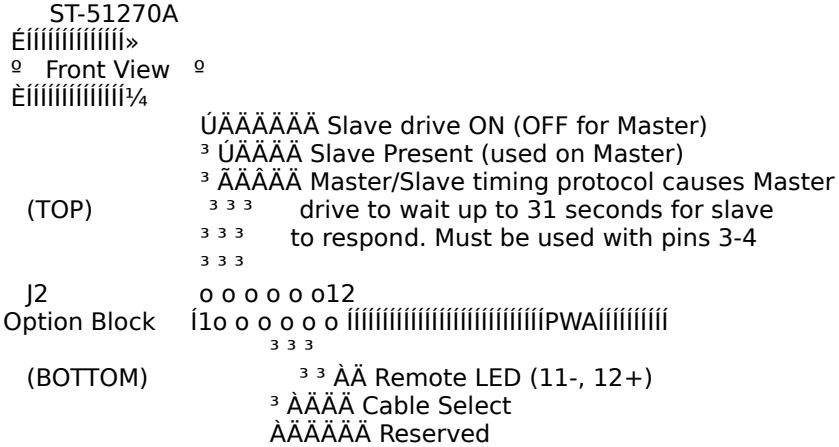
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-51270A (Medalist 1270sl)





ST-51270A
Medalist 1270sl

FORMATTED CAPACITY (xx SECTORS)	1282.49
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	5,414
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	36.1 to 71.4
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.56
BUFFER	128 Kbyte
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	2,504,880
TPI (TRACKS PER INCH)	5,376
BPI (KBITS PER INCH)	79.2
AVERAGE ACCESS (ms)	10.5
SINGLE TRACK SEEK (ms)	2.0
MAX FULL SEEK (ms)	20
MTBF (power-on hours) Office	300,000

SHOCK (G's):
operating (Read/Write) _____2
abnormal _____10
nonoperating _____75
ACOUSTICS (dBa) (typ/max) _____30/38
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.1
POWER MANAGEMENT (Watts):
ACTIVE _____6.4
IDLE _____3.5
STANDBY _____.5
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.748/19
Width (inches/mm): 4.00/102.1
Depth (inches/mm): 5/127.5
Weight (lbs/kg): .75/0.34

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

2485 cyl, 16 heads, 63 sectors = 1,282,498,560

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:

621 cyl, 64 heads, 63 sectors = 1,281,982,464

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

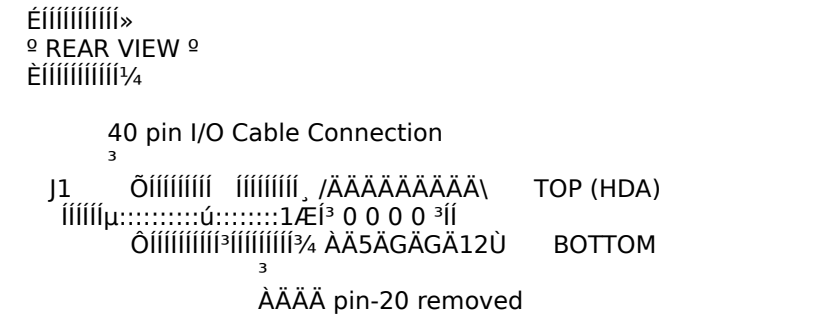
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

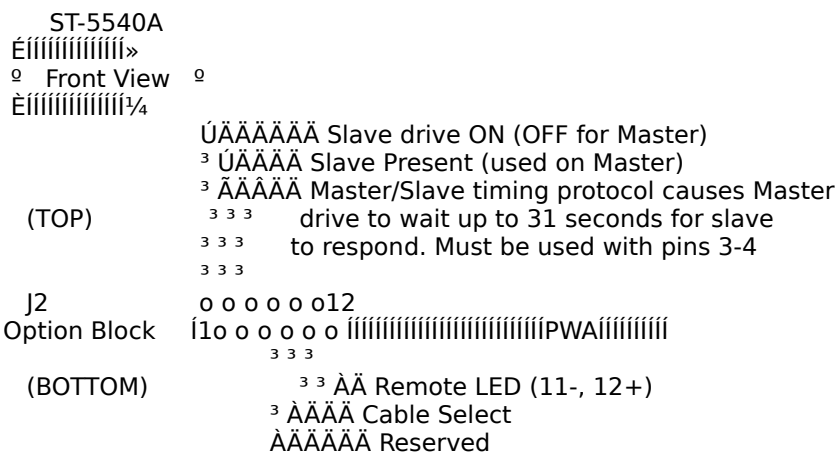
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-5540A (Medalist 540sl AT, formerly Decathlon 540 AT)





ST-5540A
Medalist 540sl

FORMATTED CAPACITY (xx SECTORS)	541.9
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	4,834
HEADS _____PHYSICAL	2
DISCS (3.5 in)	1
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	34.5 to 67.7
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.56
BUFFER	128 or 256 Kbyte
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	1,058,400
TPI (TRACKS PER INCH)	4,800
BPI (BITS PER INCH)	76,200
AVERAGE ACCESS (ms)	10.5
SINGLE TRACK SEEK (ms)	2.0
MAX FULL SEEK (ms)	20
MTBF (power-on hours) Office	300,000
SHOCK (G's):	

operating (Read/Write) _____2
abnormal _____10
nonoperating _____75
ACOUSTICS (dBa) (typ/max) _____30/38
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____6.5
IDLE _____3.0
STANDBY _____.5
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.748/19
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5/127
Weight (lbs/kg): .75/0.34

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1050 cyl, 16 heads, 63 sectors = 541,900,800

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
525 cyl, 32 heads, 63 sectors = 541,900,800

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

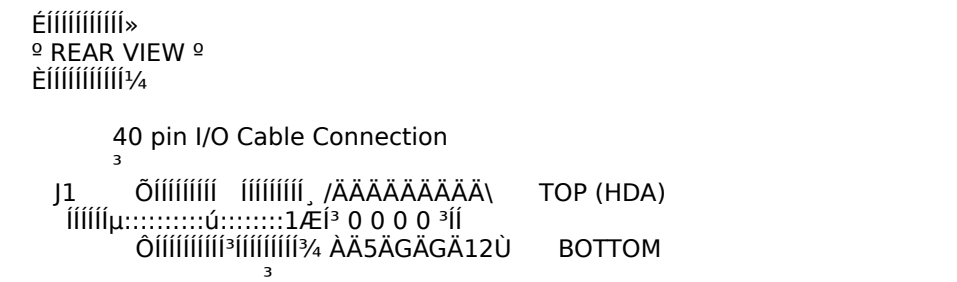
Already low-level formatted at the factory.

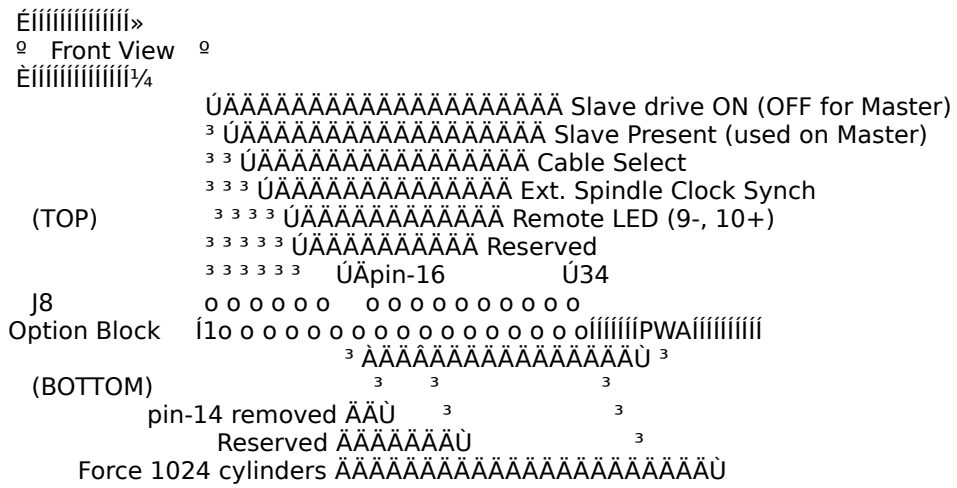
Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product

offerings or specifications. (01/04/96)

ST-5660A (Decathlon 545 AT)





Jumpers on 15-16, 21-22, 23-24 are spares.
Cable Select also requires Slave and Slave Present jumpers ON.

ST-5660A
Decathlon 545 ATA

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	545.5
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	3420
HEADS _____PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	27 to 48
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 11.1
PIO MODE	3
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	AT
SECTORS PER DRIVE (LBA mode)	1,066,184
TPI (TRACKS PER INCH)	3,309
BPI (BITS PER INCH)	68,000

AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____3.5
MAX FULL SEEK (ms) _____25
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____75
ACOUSTICS (dBa) (typ/max) _____26/29
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.2
POWER MANAGEMENT (Watts):
ACTIVE _____6.0
IDLE _____<2.5
STANDBY _____1.25
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.748/19
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5/127
Weight (lbs/kg): 1.0/0.45

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

1057 cyl, 16 heads, 63 sectors = 545,513,472

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:

528 cyl, 32 heads, 63 sectors = 544,997,376

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

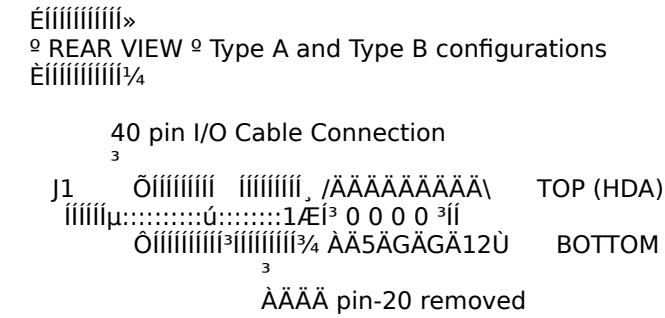
Already low-level formatted at the factory.

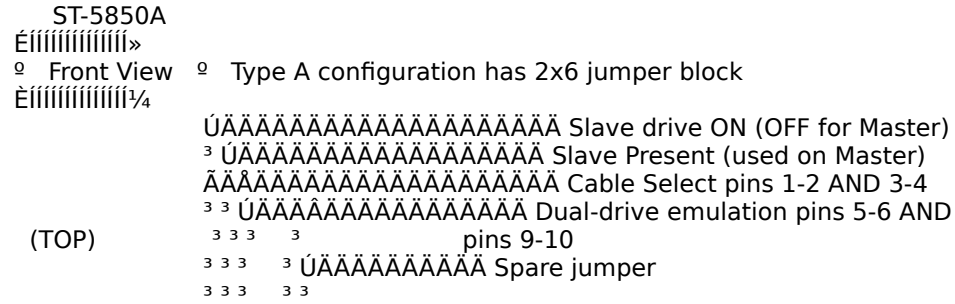
Since a User-definable or Custom translation geometry may be used, it

is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

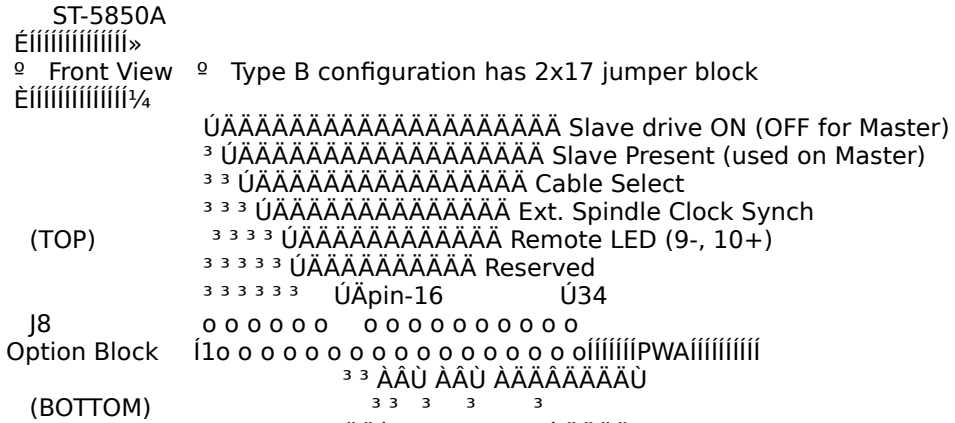
Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-5850A (Decathlon 850 AT)





Jumpers on 2-4 and 11-12 are spares, as shipped.



Jumpers on 15-16, 21-22, 23-24 are spares.
Dual-Drive Emulation requires jumpers on both 17-18 and 19-20.
Cable Select also requires Slave and Slave Present jumpers ON.

ST-5850A
Decathlon 850

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____854.7
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____4,085
HEADS _____PHYSICAL_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____32.45 to 61.65
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 16.6
PIO MODE _____4
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____5,376
AVERAGE LATENCY (mSEC) _____5.56
BUFFER _____256 Kbyte SeaCache
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____AT
SECTORS PER DRIVE (LBA mode) _____1,669,260
TPI (TRACKS PER INCH) _____4,250
BPI (BITS PER INCH) _____69,355
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____3.5
MAX FULL SEEK (ms) _____25
MTBF (power-on hours) Office _____500,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____75
ACOUSTICS (dBa) (typ/max) _____30/38
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____7.0
IDLE _____3.10
STANDBY _____1.00
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	0.748/19
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5/127
Weight (lbs/kg):	1.0/0.45

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:
This translation is generally acceptable, as
is, for non-DOS operating systems:
1656 cyl, 16 heads, 63 sectors = 854,654,976

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
828 cyl, 32 heads, 63 sectors = 854,654,976

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software or bios driven host adapters. Otherwise, capacity may be limited to:
827 cyl, 16 heads, 63 sectors = 426,811,392 (Master)
827 cyl, 16 heads, 63 sectors = 426,811,392 (Slave see Dual Drive emulation jumper)

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

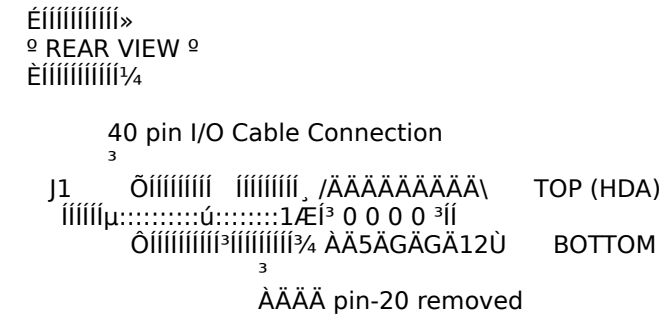
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

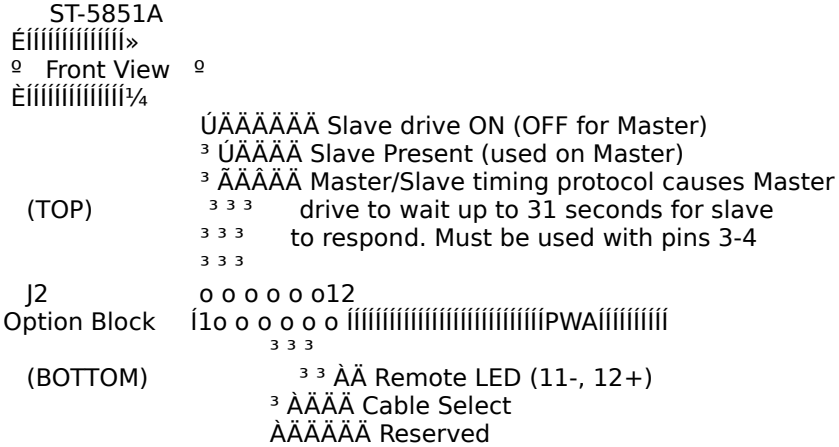
Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (5/14/95)

ST-5851A (Medalist 850sl AT)





ST-5851A
Medalist 850sl

FORMATTED CAPACITY (xx SECTORS)	854.7
ACTUATOR TYPE	VOICE COIL
CYLINDERS PHYSICAL	4,834
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	34.5 to 67.7
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 16.6
PIO MODE	4
DMA SUPPORT	EISA Type B
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.56
BUFFER	128 or 256 Kbyte
Read/Write Multiple, Read Look-Ahead, Multi-Segmented	
INTERFACE	ATA
SECTORS PER DRIVE (LBA mode)	1,669,248
TPI (TRACKS PER INCH)	4,800
BPI (BITS PER INCH)	76,200
AVERAGE ACCESS (ms)	10.5
SINGLE TRACK SEEK (ms)	2.0
MAX FULL SEEK (ms)	20
MTBF (power-on hours) Office	300,000

SHOCK (G's):
operating (Read/Write) _____2
abnormal _____10
nonoperating _____75
ACOUSTICS (dBa) (typ/max) _____30/38
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____6.5
IDLE _____3.0
STANDBY _____.5
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.748/19
Width (inches/mm): 4.00/101.6
Depth (inches/mm): 5/127
Weight (lbs/kg): .75/0.34

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1656 cyl, 16 heads, 63 sectors = 854,654,976

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
828 cyl, 32 heads, 63 sectors = 854,654,976

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/04/96)

ST-72A

ST-72A
Solid State FlashDrive

FORMATTED CAPACITY _____2.6
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____<20
 Sleep to Read (msec) _____<3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____500
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____100
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____5
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.28/7.1
Width	(inches/mm):	2/50.8
Depth	(inches/mm):	3.026/76.85
Weight	(oz/g):	1.23/35

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-75A

ST-75A
Solid State FlashDrive

FORMATTED CAPACITY _____5.2
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____<20
 Sleep to Read (msec) _____<3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____500
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____100
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____5
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.28/7.1
Width	(inches/mm):	2/50.8
Depth	(inches/mm):	3.026/76.85
Weight	(oz/g):	1.23/35

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-710A

ST-710A
Solid State FlashDrive

FORMATTED CAPACITY _____10.4
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____<20
 Sleep to Read (msec) _____<3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____500
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____100
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____5
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.28/7.1
Width	(inches/mm):	2/50.8
Depth	(inches/mm):	3.026/76.85
Weight	(oz/g):	1.23/35

ST-720A

ST-720A
Solid State FlashDrive

FORMATTED CAPACITY _____20.9
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____<20
 Sleep to Read (msec) _____<3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____500
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____100
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____5
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.28/7.1
Width	(inches/mm):	2/50.8
Depth	(inches/mm):	3.026/76.85
Weight	(oz/g):	1.23/35

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-740A

ST-740A
Solid State FlashDrive

FORMATTED CAPACITY _____41.9
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____<20
 Sleep to Read (msec) _____<3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____500
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____100
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____5
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.28/7.1
Width	(inches/mm):	2/50.8
Depth	(inches/mm):	3.026/76.85
Weight	(oz/g):	1.23/35

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-92AC

ST-92AC
Solid State FlashDrive

FORMATTED CAPACITY _____2.6
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____20
 Sleep to Read (msec) _____3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____150
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____3
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.13/3.3
Width	(inches/mm):	2.126/54
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.2/34

Seagate reserves the right to change, without notice, product offerings or specifications. (11/09/93)

ST-95AC

ST-95AC
Solid State FlashDrive

FORMATTED CAPACITY _____5.2
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____20
 Sleep to Read (msec) _____3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____150
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____3
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.13/3.3
Width	(inches/mm):	2.126/54
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.2/34

ST-910AC

ST-910AC
Solid State FlashDrive

FORMATTED CAPACITY _____10.4
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____20
 Sleep to Read (msec) _____3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____150
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____3
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.13/3.3
Width	(inches/mm):	2.126/54
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.2/34

Seagate reserves the right to change, without notice, product offerings or specifications. (11/09/93)

ST-920AC

ST-920AC
Solid State FlashDrive

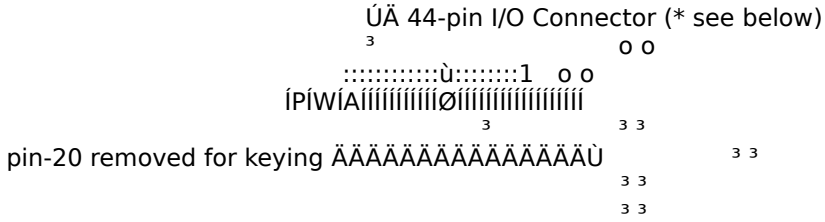
FORMATTED CAPACITY _____20.9
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 3.75
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
 Sleep to Write (msec) _____20
 Sleep to Read (msec) _____3
INTERFACE _____AT
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____200,000
SHOCK (G's):
 operating (Read/Write) _____500
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v_____150
 Writing 5v_____200
 Erasing 5v_____200
 Sleep _____3
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.13/3.3
Width	(inches/mm):	2.126/54
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.2/34

Seagate reserves the right to change, without notice, product offerings or specifications. (11/09/93)

ST-9051A



* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9051A

UNFORMATTED CAPACITY (MB) _____N/A
FORMATTED CAPACITY (32 SECTORS) (MB) _____42.8
ACTUATOR TYPE _____VOICE COIL
TRACKS _____2,616
CYLINDERS __PHYSICAL_____654
HEADS _____PHYSICAL_____4
DISCS (2.5 in) _____2
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE INTERNAL (mbytes/sec)_____1.25
SPINDLE SPEED (RPM) _____3,631
AVERAGE LATENCY (mSEC) _____8.26
BUFFER _____32 KByte SeaCache
INTERFACE _____AT BUS
SECTORS PER DRIVE _____83,712
TPI (TRACKS PER INCH) _____1,750
BPI (BITS PER INCH) _____34,007
AVERAGE ACCESS (ms) _____<19
SINGLE TRACK SEEK (ms) _____6
MAX FULL SEEK (ms) _____36
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +5V START-UP (amps) __1.0
POWER MANAGEMENT (Watts):
ACTIVE _____1.7
IDLE _____0.8
STANDBY _____0.3
SLEEP _____0.3
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.75/19.05
Width (inches/mm): 2.76/70.10

Depth (inches/mm): 4.01/101.85
Weight (oz/kg): 6.5/0.18

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 820 cyl, 6 heads, 17 sectors = 42,823,680
Possible translation: 654 cyl, 4 heads, 32 sectors = 42,860,544

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

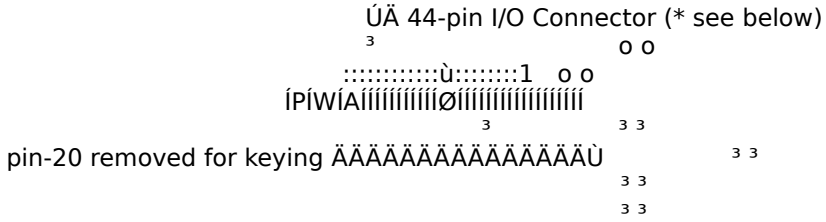
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (9/25/91)

ST-9052A



* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9052A

UNFORMATTED CAPACITY (MB) _____N/A
FORMATTED CAPACITY (xx SECTORS) (MB) _____42.6
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS __PHYSICAL/LOGICAL_____NA/980
HEADS _____PHYSICAL/LOGICAL_____ /5
DISCS (2.5 in)_____1
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)_____up to 14.5
SPINDLE SPEED (RPM) _____3,450
AVERAGE LATENCY (mSEC) _____8.70
BUFFER _____32/64 KByte SeaCache
Multisegmented cache
INTERFACE _____AT BUS
SECTORS PER DRIVE _____83,300
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) _____150,000
SHOCK (G's) operating/nonoperating _____10/150
POWER REQUIREMENTS: +5V START-UP (amps) __0.9
POWER MANAGEMENT (Watts):
ACTIVE _____1.9
IDLE _____0.8
STANDBY _____0.25
SLEEP _____0.25
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 0.49/12.5
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.9
Weight (oz/kg): 6.0/0.17

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 980 cyl, 5 heads, 17 sectors = 42,649,600

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

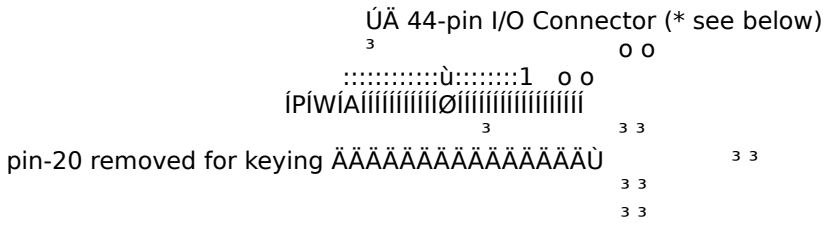
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/21/91)

ST-9077A



* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9077A

UNFORMATTED CAPACITY (MB) _____N/A
FORMATTED CAPACITY (39 SECTORS) (MB) _____64.0
ACTUATOR TYPE _____VOICE COIL
TRACKS _____3,208
CYLINDERS __PHYSICAL_____802
HEADS _____PHYSICAL_____4
DISCS (2.5 in) _____2
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)_____12
SPINDLE SPEED (RPM) _____3,546
BUFFER _____32 KByte SeaCache
INTERFACE _____AT BUS
SECTORS PER DRIVE _____125,112
TPI (TRACKS PER INCH) _____1,750
BPI (BITS PER INCH) _____45,007
AVERAGE ACCESS (ms) _____<19
SINGLE TRACK SEEK (ms) _____6
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +5V START-UP (amps) __1.0
POWER MANAGEMENT (Watts):
ACTIVE _____3.0
IDLE _____1.6
STANDBY _____0.5
SLEEP _____0.2
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.75/19.05
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (oz/kg): 6.5/0.18

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 669 cyl, 11 heads, 17 sectors = 64,052,736

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

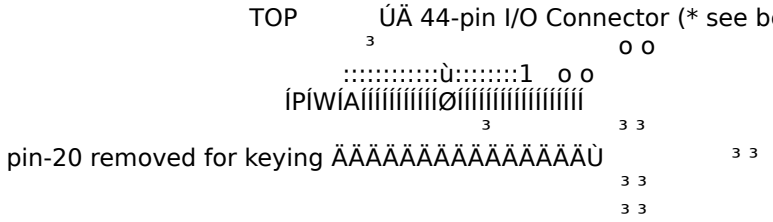
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (9/25/91)

ST-9080A



Drive is Master, no Slave drive present 0 0
Drive is Master, Seagate Slave drive present 1 0
Drive is Slave to another Seagate 2.5" Master 0 1
Reserved Position (Do Not Use) 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9080A

UNFORMATTED CAPACITY (MB) _____N/A
FORMATTED CAPACITY (xx SECTORS) (MB) _____64.0
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS __PHYSICAL/LOGICAL_____NA/823
HEADS _____PHYSICAL/LOGICAL_____2/4
DISCS (2.5 in)_____1
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)_____up to 16
SPINDLE SPEED (RPM) _____3,449
AVERAGE LATENCY (mSEC) _____8.69
BUFFER _____32/64 KByte SeaCache
Multisegmented cache
INTERFACE _____AT BUS
SECTORS PER DRIVE _____125,096
TPI (TRACKS PER INCH) _____2,650
BPI (BITS PER INCH) _____45,500
FCI (FLUX DENSITY) _____30,300
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) _____150,000
SHOCK (G's) operating/nonoperating _____10/150
ACOUSTICS (dBA) (typ/max) _____30/33
POWER REQUIREMENTS: +5V START-UP (amps) __1.0
POWER MANAGEMENT (Watts):
ACTIVE _____1.7
IDLE _____0.7
STANDBY _____0.16
SLEEP _____0.16
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK

IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	0.49/12.5
Width (inches/mm):	2.76/70.10
Depth (inches/mm):	4.01/101.9
Weight (oz/kg):	4.8/0.136

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 823 cyl, 4 heads, 38 sectors = 64,049,152

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

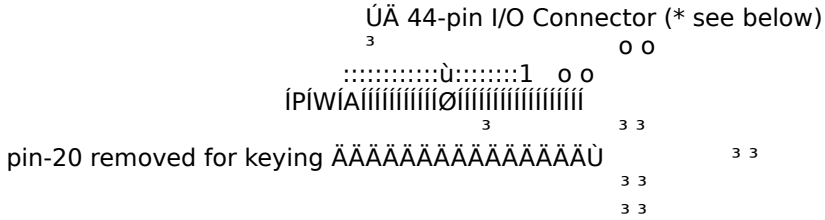
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

ST-9096A



Drive is Master, no Slave drive present 0 0
Drive is Master, Seagate Slave drive present 1 0
Drive is Slave to another ST9xxxA/ST9xxxA Master 0 1
Reserved Position (Do Not Use) 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9096A

UNFORMATTED CAPACITY (MB) _____N/A
FORMATTED CAPACITY (xx SECTORS) (MB) _____85.3
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL/LOGICAL_____NA/980
HEADS _____PHYSICAL/LOGICAL_____4/10
DISCS (2.5 in)_____2
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)_____to 14.5
SPINDLE SPEED (RPM) _____3,450
AVERAGE LATENCY (mSEC) _____8.70
BUFFER _____64 KByte SeaCache
Multisegmented cache
INTERFACE _____AT BUS
SECTORS PER DRIVE _____166,664
TPI (TRACKS PER INCH) _____2,165
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) _____150,000
SHOCK (G's) operating/nonoperating _____10/150
POWER REQUIREMENTS: +5V START-UP (amps) __1.0
POWER MANAGEMENT (Watts):
ACTIVE _____2.0
IDLE _____1.0
STANDBY _____0.3
SLEEP _____0.3
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 0.75/19.05
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (oz/kg): 6.5/0.18

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 980 cyl, 10 heads, 17 sectors = 85,299,200

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

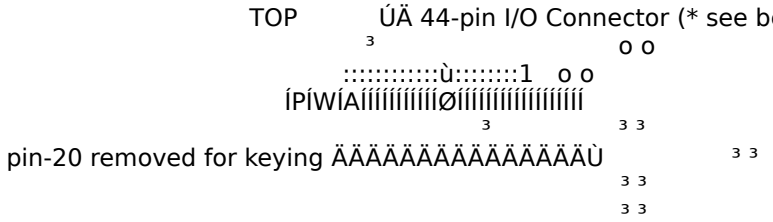
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/21/91)

ST-9100AG



Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another Seagate 2.5" Master ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 1
Reserved Position (Do Not Use) ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9100AG

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____85.7
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____
HEADS _____2
DISCS (2.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____up to 22.4
SPINDLE SPEED (RPM) _____3,545
AVERAGE LATENCY (mSEC) _____8.46
BUFFER _____120 Kbyte
Adaptive cache, write cache optional
INTERFACE _____AT
SECTORS PER DRIVE _____167,552
TPI (TRACKS PER INCH) _____2,650
BPI (BITS PER INCH) _____58,200
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) Office _____300,000
SHOCK (G's) operating/nonoperating _____100/150
SafeRite shock sensor
POWER REQUIREMENTS: +5V START-UP (amps)___0.92
POWER MANAGEMENT (Watts):
ACTIVE _____1.6
IDLE _____0.6
STANDBY _____0.12
SLEEP _____0.09
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO

IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	.049/12.5
Width	(inches/mm):	2.76/70.10
Depth	(inches/mm):	4.01/101.85
Weight	(oz/kg):	4.8/0.136

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 748 cyl, 14 heads, 16 sectors = 85,786,624

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

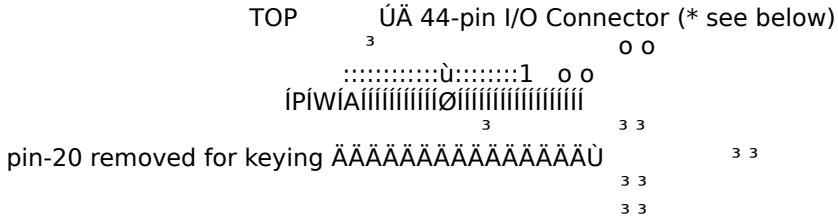
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (06/22/93)

ST-91350AG (Marathon 1350sl)



Drive is Master, no Slave drive present
Drive is Master, Seagate Slave drive present
Drive is Slave to another Seagate 2.5" Master
Cable Select

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-91350AG
Marathon 1350sl

FORMATTED CAPACITY _____1350.10
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____
HEADS _____PHYSICAL_____6
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM on GLASS
HEAD TYPE _____MR
RECORDING METHOD _____ZBR PRML (8/9)
INTERNAL TRANSFER RATE (Mbits/sec) _____up to 60.8
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 16.6
PIO MODE _____4
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____4,500
AVERAGE LATENCY (mSEC) _____6.67
BUFFER _____107 Kbyte
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____2,636,928
TPI (TRACKS PER INCH) _____5,555
BPI (KBITS PER INCH) _____120
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____125
abnormal _____
nonoperating _____350
ACOUSTICS (dBA) (typ/max) _____35/41
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +5V START-UP (amps) __.90
POWER MANAGEMENT (Watts):

ACTIVE _____2.5
IDLE _____0.82
STANDBY _____0.32
SLEEP _____0.10

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): .504/12.80
Width (inches/mm): 2.76/70.10
Depth (inches/mm): /100.45
Weight (oz/kg): /0.158

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

2616 cyl, 16 heads, 63 sectors = 1,350,107,136

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:

654 cyl, 64 heads, 63 sectors = 1,350,107,136

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

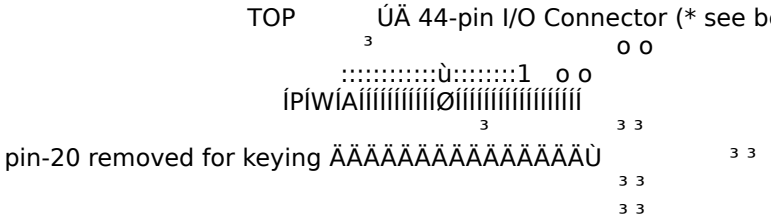
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

ST-9140AG



Drive is Master, no Slave drive present
Drive is Master, Seagate Slave drive present
Drive is Slave to another Seagate 2.5" Master
Cable Select

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9140AG

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____127.9
ACTUATOR TYPE _____VOICE COIL
TRACKS _____
CYLINDERS _____
HEADS _____4
DISCS (2.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____up to 22.4
SPINDLE SPEED (RPM) _____3,545
AVERAGE LATENCY (mSEC) _____8.46
BUFFER _____120 Kbyte
Adaptive cache, write cache optional
INTERFACE _____AT
SECTORS PER DRIVE _____249,900
TPI (TRACKS PER INCH) _____2,760
BPI (BITS PER INCH) _____57,120
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) Office _____300,000
SHOCK (G's) operating/nonoperating _____100/150
SafeRite shock sensor
POWER REQUIREMENTS: +5V START-UP (amps)___0.92
POWER MANAGEMENT (Watts):
ACTIVE _____1.7
IDLE _____0.6
STANDBY _____0.12
SLEEP _____0.09
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO

IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	.49/12.5
Width	(inches/mm):	2.76/70.10
Depth	(inches/mm):	4.01/101.85
Weight	(oz/kg):	5.7/0.162

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 980 cyl, 15 heads, 17 sectors = 127,948,800

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

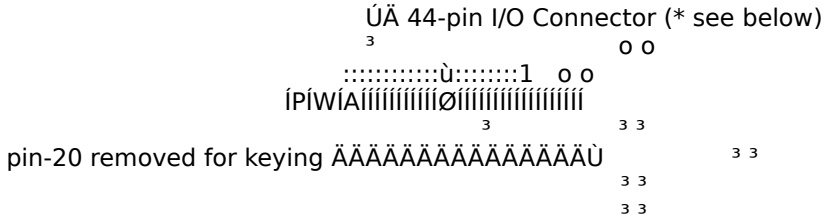
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (06/24/95)

ST-9144A



Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another ST9xxxA/ST9xxxA Master ÄÄÄÄÄÄÄÄÄÄ 0 1
Reserved Position (Do Not Use) ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9144A

UNFORMATTED CAPACITY (MB) _____N/A
FORMATTED CAPACITY (xx SECTORS) (MB) _____127.9
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL/LOGICAL_____NA/980
HEADS _____PHYSICAL/LOGICAL_____6/15
DISCS (2.5 in)_____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)_____to 14.5
SPINDLE SPEED (RPM) _____3,450
AVERAGE LATENCY (mSEC) _____8.70
BUFFER _____64 KByte SeaCache
Multisegmented cache
INTERFACE _____AT BUS
SECTORS PER DRIVE _____249,900
TPI (TRACKS PER INCH) _____2,165
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) _____150,000
SHOCK (G's) operating/nonoperating _____10/150
POWER REQUIREMENTS: +5V START-UP (amps) __1.0
POWER MANAGEMENT (Watts):
ACTIVE _____2.0
IDLE _____1.0
STANDBY _____0.3
SLEEP _____0.3
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.75/19.05

Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (oz/kg): 7.0/0.20

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 980 cyl, 15 heads, 17 sectors = 127,948,800

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

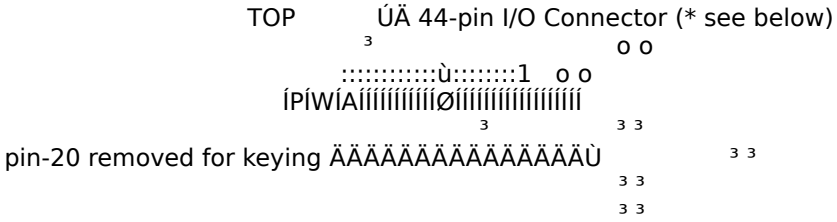
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/21/91)

ST-9145AG and ST-9145A



Drive is Master, no Slave drive present
Drive is Master, Seagate Slave drive present
Drive is Slave to another Seagate 2.5" Master
Reserved Position (Do Not Use)

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9145AG

UNFORMATTED CAPACITY (MB)	145
FORMATTED CAPACITY (xx SECTORS) (MB)	127.9
ACTUATOR TYPE	VOICE COIL
TRACKS (USER) _PHYSICAL/LOGICAL	5852/14700
CYLINDERS __PHYSICAL/LOGICAL	1463/980
HEADS _____PHYSICAL/LOGICAL	4/15
DISCS (2.5 in)	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE INTERNAL (mbits/sec)	up to 16
SPINDLE SPEED (RPM)	3,449
AVERAGE LATENCY (mSEC)	8.69
BUFFER	32/64 KByte SeaCache Multisegmented cache
INTERFACE	AT BUS
SECTORS PER DRIVE	249,900
TPI (TRACKS PER INCH)	2,650
BPI (BITS PER INCH)	45,500
FCI (FLUX DENSITY)	30,300
AVERAGE ACCESS (ms)	16
SINGLE TRACK SEEK (ms)	5
MAX FULL SEEK (ms)	27
MTBF (power-on hours)	150,000
SHOCK (G's):	
ST9145A operating/nonoperating	10/150
ST9145AG operating/nonoperating	100/150 SafeRite shock sensor
ACOUSTICS (dBA) (typ/max)	30/33
POWER REQUIREMENTS: +5V START-UP (amps)	1.2
POWER MANAGEMENT (Watts):	
ACTIVE	1.8
IDLE	0.7
STANDBY	0.17
SLEEP	0.17

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	0.75/19.0
Width (inches/mm):	2.76/70.10
Depth (inches/mm):	4.01/101.9
Weight (oz/kg):	4.8/0.136

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 980 cyl, 15 heads, 17 sectors = 127,948,800

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

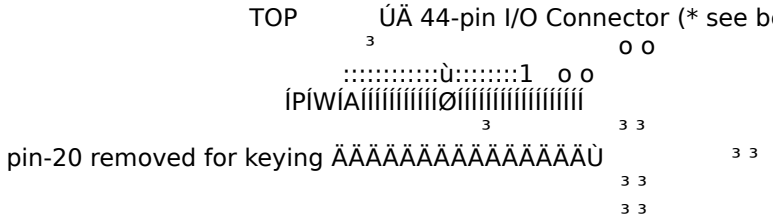
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/04/96)

ST-9150AG (Marathon 130sl)



Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another Seagate 2.5" Master ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 1
Reserved Position (Do Not Use) ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9150AG
Marathon 130sl

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____131.0
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____
CYLINDERS _____
HEADS _____2
DISCS (2.5 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____up to 29.5
EXTERNAL TRANSFER RATE (Mbytes) _____up to 13.3
SPINDLE SPEED (RPM) _____3,980
AVERAGE LATENCY (mSEC) _____7.54
BUFFER _____120 Kbyte
Adaptive cache, write cache optional
INTERFACE _____AT
SECTORS PER DRIVE _____256,009
TPI (TRACKS PER INCH) _____3,282
BPI (BITS PER INCH) _____59,124
FCI (FLUX CHANGES PER INCH) _____44,360
AVERAGE ACCESS (ms) __(read/write)_____16/20
SINGLE TRACK SEEK (ms) __(read/write)____6/7
MAX FULL SEEK (ms) __(read/write)_____26/28
MTBF (power-on hours) Office _____300,000
SHOCK (G's) operating/nonoperating _____100/150
SafeRite shock sensor
ACOUSTICS __(dBA Max)__(idle/seek)_____28/30
POWER REQUIREMENTS: +5V START-UP (amps)___0.60
POWER MANAGEMENT (Watts):
ACTIVE _____1.7
IDLE _____0.73
STANDBY _____0.16
SLEEP _____0.10

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	.504/12.80
Width (inches/mm):	2.76/70.10
Depth (inches/mm):	4.01/101.85
Weight (oz/kg):	5.4/0.154

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 419 cyl, 13 heads, 47 sectors = 131,076,608

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-91685AG (Marathon 1680)

```
                    TOP          ÚÄ 44-pin I/O Connector (* see below)
                                   ³                              o o
                                :::::::::::ù::::::::1   o o
                              ÍPÍWÍAÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ
                                              ³                 ³ ³
        pin-20 removed for keying ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ                        ³ ³
                                                                ³ ³
                                                                ³ ³
Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another Seagate 2.5" Master ÄÄÄÄÄÄÄÄÄÄÄÄ 0 1
Cable Select ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 1
```

* Drive uses +5vdc power supplied to the drive
  via the interface connector. The drive does
  NOT make use of a +12vdc power line.
  pin-41   +5vdc (Logic)
  pin-42   +5vdc (Motor)
  pin-43   Ground
  pin-44   Reserved

ST-91685AG
Marathon 1680

FORMATTED CAPACITY ______________________1680.40
ACTUATOR TYPE ___________________________VOICE COIL
CYLINDERS __PHYSICAL_____________________
HEADS ______PHYSICAL_____________________8
DISCS (3.5 in) __________________________4
MEDIA TYPE ______________________________THIN FILM on GLASS
HEAD TYPE _______________________________MR
RECORDING METHOD ________________________ZBR PRML (8/9)
INTERNAL TRANSFER RATE (Mbits/sec) _______up to 60.8
EXTERNAL TRANSFER RATE (Mbytes/sec) ______up to 16.6
PIO MODE ________________________________4
DMA SUPPORT _____________________________EISA Type B
SPINDLE SPEED (RPM) _____________________4,500
AVERAGE LATENCY (mSEC) __________________6.67
BUFFER __________________________________107 Kbyte
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _______________________________ATA
SECTORS PER DRIVE (LBA mode) ____________3,282,048
TPI (TRACKS PER INCH) ___________________5,555
BPI (KBITS PER INCH) ____________________120
AVERAGE ACCESS (ms) _____________________14
SINGLE TRACK SEEK (ms) __________________4
MAX FULL SEEK (ms) ______________________26
MTBF (power-on hours) Office ____________300,000
SHOCK (G's):
operating (Read/Write) __________125
abnormal _______________________
nonoperating ___________________350
ACOUSTICS (dBA) (typ/max) _______________35/41
POWER DISSIPATION (watts) _______________
POWER REQUIREMENTS: +5V START-UP (amps) __1.0
POWER MANAGEMENT (Watts):

ACTIVE _____2.7
IDLE _____1.0
STANDBY _____0.32
SLEEP _____0.10

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): /17.20
Width (inches/mm): 2.76/70.10
Depth (inches/mm): /100.45
Weight (oz/kg): /0.190

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

3256 cyl, 16 heads, 63 sectors = 1,680,408,576

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:

814 cyl, 64 heads, 63 sectors = 1,680,408,576

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

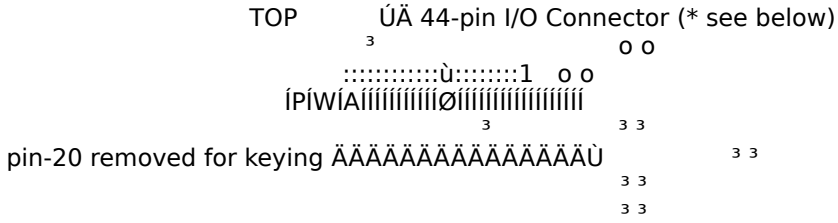
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

ST-9190AG (Marathon 170sl)



Drive is Master, no Slave drive present 0 0
Drive is Master, Seagate Slave drive present 1 0
Drive is Slave to another Seagate 2.5" Master 0 1
Cable Select 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9190AG
Marathon 170sl

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	171.6
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	
CYLINDERS	
HEADS	4
DISCS (2.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	up to 22.4
SPINDLE SPEED (RPM)	3,545
AVERAGE LATENCY (mSEC)	8.46
BUFFER	120 Kbyte
Adaptive cache, write cache optional	
INTERFACE	AT
SECTORS PER DRIVE	335,232
TPI (TRACKS PER INCH)	2,760
BPI (BITS PER INCH)	57,120
AVERAGE ACCESS (ms)	16
SINGLE TRACK SEEK (ms)	5
MAX FULL SEEK (ms)	27
MTBF (power-on hours) Office	300,000
SHOCK (G's) operating/nonoperating	100/150
SafeRite shock sensor	
POWER REQUIREMENTS: +5V START-UP (amps)	0.92
POWER MANAGEMENT (Watts):	
ACTIVE	1.7
IDLE	0.6
STANDBY	0.12
SLEEP	0.09
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A

LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	.49/12.5
Width (inches/mm):	2.76/70.10
Depth (inches/mm):	4.01/101.85
Weight (oz/kg):	5.7/0.162

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 873 cyl, 16 heads, 24 sectors = 171,638,784

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (06/24/95)

ST-92255AG (Marathon 2250)

```
                          TOP          ÚÄ 44-pin I/O Connector (* see below)
                                       ³                              o o
                                ::::::::::::ù::::::::1   o o
                             ÍPÍWÍAÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ
                                                ³                  ³ ³
pin-20 removed for keying ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ                  ³ ³
                                                                   ³ ³
                                                                   ³ ³
Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another Seagate 2.5" Master ÄÄÄÄÄÄÄÄÄÄÄ 0 1
Cable Select ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 1
```

* Drive uses +5vdc power supplied to the drive
  via the interface connector. The drive does
  NOT make use of a +12vdc power line.
  pin-41   +5vdc (Logic)
  pin-42   +5vdc (Motor)
  pin-43   Ground
  pin-44   Reserved

ST-92255AG
Marathon 2250

FORMATTED CAPACITY ______________________2250.17
ACTUATOR TYPE ___________________________VOICE COIL
CYLINDERS __PHYSICAL_____________________
HEADS ______PHYSICAL_____________________10
DISCS (3.5 in) __________________________5
MEDIA TYPE ______________________________THIN FILM on GLASS
HEAD TYPE _______________________________MR
RECORDING METHOD ________________________ZBR PRML (8/9)
INTERNAL TRANSFER RATE (Mbits/sec) _______up to 60.8
EXTERNAL TRANSFER RATE (Mbytes/sec) ______up to 16.6
PIO MODE ________________________________4
DMA SUPPORT _____________________________EISA Type B
SPINDLE SPEED (RPM) _____________________4,500
AVERAGE LATENCY (mSEC) __________________6.67
BUFFER __________________________________107 Kbyte
 Read/Write Multiple, Read Look-Ahead,
 Multi-Segmented
INTERFACE _______________________________ATA
SECTORS PER DRIVE (LBA mode) ____________4,394,880
TPI (TRACKS PER INCH) ___________________5,555
BPI (KBITS PER INCH) ____________________120
AVERAGE ACCESS (ms) _____________________14
SINGLE TRACK SEEK (ms) __________________4
MAX FULL SEEK (ms) ______________________26
MTBF (power-on hours) Office ____________300,000
SHOCK (G's):
 operating (Read/Write) __________125
 abnormal ________________________
 nonoperating ____________________350
ACOUSTICS (dBA) (typ/max) _______________35/41
POWER DISSIPATION (watts) _______________
POWER REQUIREMENTS: +5V START-UP (amps) __1.0
POWER MANAGEMENT (Watts):

ACTIVE _____2.7
IDLE _____1.0
STANDBY _____0.32
SLEEP _____0.10

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): /17.20
Width (inches/mm): 2.76/70.10
Depth (inches/mm): /100.45
Weight (oz/kg): /0.195

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

4360 cyl, 16 heads, 63 sectors = 2,250,178,560

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:

545 cyl, 128 heads, 63 sectors = 2,250,178,560

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

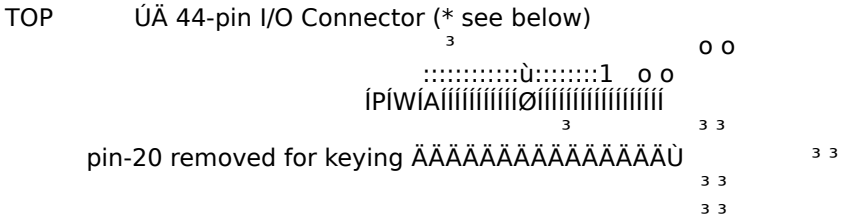
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

ST-9235AG and ST-9235A



Drive is Master, no Slave drive present 0 0
Drive is Master, Seagate Slave drive present 1 0
Drive is Slave to another Seagate 2.5" Master 0 1
Reserved Position (Do Not Use) 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9235AG

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____209.7
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____
CYLINDERS _____
HEADS _____6
DISCS (2.5 in) _____3
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____up to 16
SPINDLE SPEED (RPM) _____3,449
AVERAGE LATENCY (mSEC) _____8.69
BUFFER _____64 Kbyte
Multisegmented cache
INTERFACE _____AT
SECTORS PER DRIVE _____409,760
TPI (TRACKS PER INCH) _____2,750
BPI (BITS PER INCH) _____45,500
FCI (FLUX DENSITY) _____30,300
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) Office _____150,000
SHOCK (G's):
ST9235A operating/nonoperating _____10/150
ST9235AG operating/nonoperating _____100/150
SafeRite shock sensor
ACOUSTICS (dBA) (typ/max) _____30/33
POWER REQUIREMENTS: +5V START-UP (amps) __1.2
POWER MANAGEMENT (Watts):
ACTIVE _____1.8
IDLE _____0.7
STANDBY _____0.17

SLEEP _____0.17
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	0.75/19.05
Width	(inches/mm):	2.76/70.10
Depth	(inches/mm):	4.01/101.85
Weight	(ozs/kg):	7.25/0.21

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 985 cyl, 13 heads, 32 sectors = 209,797,120

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

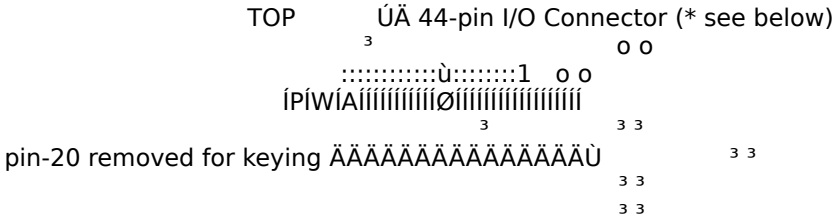
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/04/96)

ST-9240AG (Marathon 210sl)



Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another Seagate 2.5" Master ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 1
Reserved Position (Do Not Use) ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9240AG
Marathon 210sl

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____210.4
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____
CYLINDERS _____
HEADS _____4
DISCS (2.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____up to 29.5
EXTERNAL TRANSFER RATE (Mbytes) _____up to 13.3
SPINDLE SPEED (RPM) _____3,980
AVERAGE LATENCY (mSEC) _____7.54
BUFFER _____120 Kbyte
Adaptive cache, write cache optional
INTERFACE _____AT
SECTORS PER DRIVE _____411,008
TPI (TRACKS PER INCH) _____3,282
BPI (BITS PER INCH) _____59,124
FCI (FLUX CHANGES PER INCH) _____44,360
AVERAGE ACCESS (ms) __(read/write)_____16/20
SINGLE TRACK SEEK (ms) __(read/write)____6/7
MAX FULL SEEK (ms) __(read/write)_____26/28
MTBF (power-on hours) Office _____300,000
SHOCK (G's) operating/nonoperating _____100/150
SafeRite shock sensor
ACOUSTICS __(dBA Max)__(idle/seek)_____28/30
POWER REQUIREMENTS: +5V START-UP (amps)___0.60
POWER MANAGEMENT (Watts):
ACTIVE _____1.7
IDLE _____0.73
STANDBY _____0.16
SLEEP _____0.10

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	.504/12.80
Width (inches/mm):	2.76/70.10
Depth (inches/mm):	4.01/101.85
Weight (oz/kg):	5.4/0.154

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 988 cyl, 8 heads, 52 sectors = 210,436,096

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

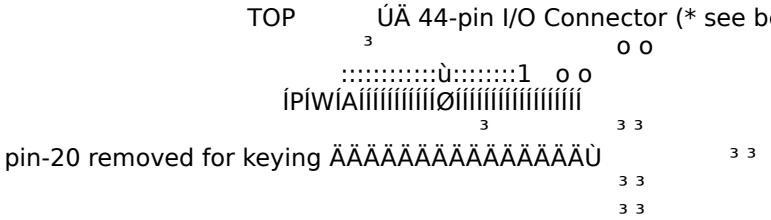
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-9295AG



Drive is Master, no Slave drive present 0 0
Drive is Master, Seagate Slave drive present 1 0
Drive is Slave to another Seagate 2.5" Master 0 1
Reserved Position (Do Not Use) 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9295AG

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____261
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____(user)
HEADS _____
DISCS (2.5 in) _____
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____up to 22.4
SPINDLE SPEED (RPM) _____3,450
AVERAGE LATENCY (mSEC) _____8.69
BUFFER _____120 Kbyte
Adaptive cache
INTERFACE _____AT
BYTES PER TRACK _____
SECTORS PER DRIVE _____509,765
TPI (TRACKS PER INCH) _____x,xxx
BPI (BITS PER INCH) _____xx,xxx
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) Office _____300,000
SHOCK (G's) operating/nonoperating _____100/150
SafeRite shock sensor
POWER REQUIREMENTS: +5V START-UP (amps) __1.2
POWER MANAGEMENT (Watts):
ACTIVE _____1.8
IDLE _____0.7
STANDBY _____0.17
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A

LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height	(inches/mm):	0.75/19.05
Width	(inches/mm):	2.76/70.10
Depth	(inches/mm):	4.01/101.85
Weight	(ozs/kg):	7.25/0.21

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: cyl, heads, sectors =

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

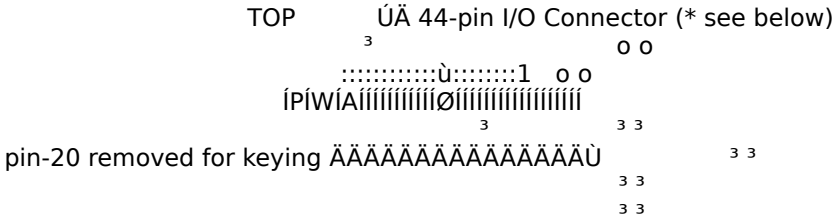
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (12/07/92)

ST-9300AG (Marathon 260sl)



Drive is Master, no Slave drive present
Drive is Master, Seagate Slave drive present
Drive is Slave to another Seagate 2.5" Master
Reserved Position (Do Not Use)

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9300AG
Marathon 260sl

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	262.1
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	
CYLINDERS	
HEADS	4
DISCS (2.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	up to 29.5
EXTERNAL TRANSFER RATE (Mbytes)	up to 13.3
SPINDLE SPEED (RPM)	3,980
AVERAGE LATENCY (mSEC)	7.54
BUFFER	120 Kbyte
Adaptive cache, write cache optional	
INTERFACE	AT
SECTORS PER DRIVE	512,100
TPI (TRACKS PER INCH)	3,282
BPI (BITS PER INCH)	59,124
FCI (FLUX CHANGES PER INCH)	44,360
AVERAGE ACCESS (ms) __(read/write)	16/20
SINGLE TRACK SEEK (ms) __(read/write)	6/7
MAX FULL SEEK (ms) __(read/write)	26/28
MTBF (power-on hours) Office	300,000
SHOCK (G's) operating/nonoperating	100/150
SafeRite shock sensor	
ACOUSTICS __(dBA Max)__(idle/seek)	28/30
POWER REQUIREMENTS: +5V START-UP (amps)	0.60
POWER MANAGEMENT (Watts):	
ACTIVE	1.7
IDLE	0.73
STANDBY	0.16
SLEEP	0.10

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	.504/12.80
Width (inches/mm):	2.76/70.10
Depth (inches/mm):	4.01/101.85
Weight (oz/kg):	5.4/0.154

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 569 cyl, 15 heads, 60 sectors = 262,195,200

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

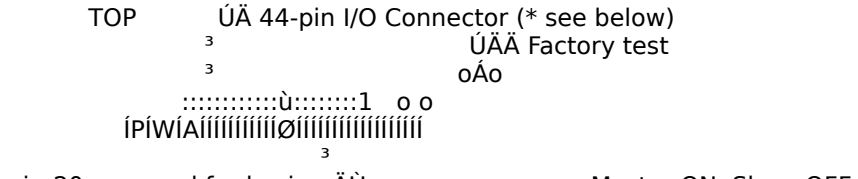
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-9342A, Filepro 340 AT (Trigger CFN340A)



* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9342A
Filepro 340 AT (Trigger CFN340A)

FORMATTED CAPACITY _____345
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____1598
HEADS _____PHYSICAL_____6
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____19 to 32
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 8
PIO MODE _____1
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____4000
AVERAGE LATENCY (mSEC) _____7.5
BUFFER _____32K
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____672,924
TPI (TRACKS PER INCH) _____3004
BPI (KBITS PER INCH) _____65,564
AVERAGE ACCESS (ms) _____13
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____24
MTBF (power-on hours) Office _____150,000
SHOCK (G's):
operating (Read/Write) _____10
abnormal _____
nonoperating _____200
ACOUSTICS (bels) (typ/max) _____34/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +5V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____1.1
IDLE _____1.0

STANDBY _____.20
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	.77/19.5
Width (inches/mm):	2.75/69.8
Depth (inches/mm):	4.00/101.6
Weight (oz/kg):	7.0/0.20

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations: 667 cyl, 16 heads, 63 sectors = 344,236,032

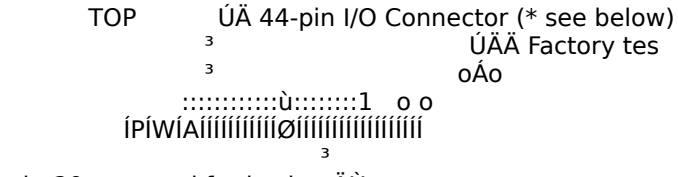
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-9352A, Filepro 350 AT (Kiwi CFL350A)



o-o Cable Select
o-o CAM off, ISA on
o-o Master ON, Slave OFF

* Drive uses +5vdc power supplied to the drive via the interface connector. The drive does NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9352A
Filepro 350 AT (Kiwi CFL350A)

FORMATTED CAPACITY _____350
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____2225
HEADS _____PHYSICAL_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____19 to 32
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 11.2
PIO MODE _____2
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____3750
AVERAGE LATENCY (mSEC) _____8.0
BUFFER _____32K
Read/Write Multiple, Read Look-Ahead, Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____
TPI (TRACKS PER INCH) _____4110
BPI (KBITS PER INCH) _____70.6K
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____20
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____20
abnormal _____
nonoperating _____300

ACOUSTICS (bels) (typ/max) _____42/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +5V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____1.0
IDLE _____.85
STANDBY _____.15
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	.50/12.7
Width (inches/mm):	2.75/69.8
Depth (inches/mm):	4.00/101.6
Weight (oz/kg):	5.0/0.142

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations: 905 cyl, 12 heads, 63 sectors = 350,300,160

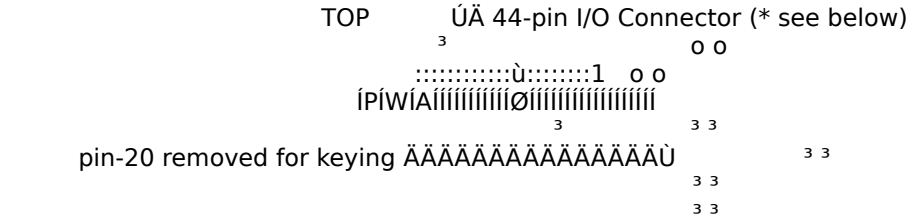
Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-9385AG (Marathon 340)



Drive is Master, no Slave drive present
Drive is Master, Seagate Slave drive present
Drive is Slave to another Seagate 2.5" Master
Reserved Position (Do Not Use)

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9385AG
Marathon 340

FORMATTED CAPACITY (xx SECTORS) _____340
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____(user)
HEADS _____6
DISCS (2.5 in) _____3
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____16.2 to 27.7
EXTERNAL TRANSFER RATE (Mbytes) _____up to 13.3
SPINDLE SPEED (RPM) _____3,980
AVERAGE LATENCY (mSEC) _____7.54
BUFFER _____120 Kbyte
Multisegmented cache
INTERFACE _____AT
SECTORS PER DRIVE _____666,876
TPI (TRACKS PER INCH) _____3,282
BPI (BITS PER INCH) _____59,124
FCI (FLUX DENSITY) _____44,360
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) Office _____300,000
ACOUSTICS (typ/max dBA) _____30/33
SHOCK (G's):
operating/nonoperating _____100/200
SafeRite shock sensor
POWER REQUIREMENTS: +5V START-UP (amps) __1.2
POWER MANAGEMENT (Watts):
ACTIVE _____1.85
IDLE _____0.9

STANDBY _____0.3
SLEEP _____0.25
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 0.75/19.05
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (ozs/kg): 7.4/0.21

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 934 cyl, 14 heads, 51 sectors = 341,440,512

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/17/94)

ST-9420AG (Marathon 420sl)

```
                              TOP          ÚÄ 44-pin I/O Connector (* see below)
                                           ³                              o o
                                    :::::::::::ù:::::::1   o o
                                ÍPÍWÍAÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ
                                                   ³               ³ ³
     pin-20 removed for keying ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ               ³ ³
                                                                   ³ ³
                                                                   ³ ³
Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another Seagate 2.5" Master ÄÄÄÄÄÄÄÄÄÄÄ 0 1
Cable Select ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 1
```

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41   +5vdc (Logic)
pin-42   +5vdc (Motor)
pin-43   Ground
pin-44   Reserved

ST-9420AG
Marathon 420sl

UNFORMATTED CAPACITY ____________________
FORMATTED CAPACITY (xx SECTORS) __________420.8
ACTUATOR TYPE ___________________________ROTARY VOICE COIL
TRACKS __________________________________
CYLINDERS _______________________________
HEADS ___________________________________4
DISCS (2.5 in) __________________________2
MEDIA TYPE ______________________________THIN FILM
HEAD TYPE _______________________________THIN FILM
RECORDING METHOD ________________________ZBR PRML
INTERNAL TRANSFER RATE (mbits/sec) _______up to 44
EXTERNAL TRANSFER RATE (Mbytes) __________up to 16.6
PIO MODE (highest) ______________________4
DMA MODE (highest) ______________________2
SPINDLE SPEED (RPM) _____________________4,500
AVERAGE LATENCY (mSEC) __________________6.67
BUFFER __________________________________120 Kbyte
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented, Adaptive
INTERFACE _______________________________ATA
SECTORS PER DRIVE (LBA mode) _____________822,016
TPI (TRACKS PER INCH) ___________________3,807
BPI (BITS PER INCH) _____________________90,000
FCI (FLUX CHANGES PER INCH) ______________67,500
AVERAGE ACCESS (ms) __(read/write)________16/20
SINGLE TRACK SEEK (ms) __(read/write)_____6/7
MAX FULL SEEK (ms) __(read/write)_________26/28
MTBF (power-on hours) Office _____________300,000
CONTACT START-STOP CYCLES ________________50,000
SHOCK (G's) operating/nonoperating _______100/150
SafeRite shock sensor
ACOUSTICS __(dBA Max)__(idle/seek)________28/30
POWER REQUIREMENTS: +5V START-UP (amps)___0.660
POWER MANAGEMENT (Watts):

ACTIVE _____1.95
IDLE _____0.90
STANDBY _____0.25
SLEEP _____0.15

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): .504/12.80
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (oz/kg): 5.7/0.162

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 988 cyl, 16 heads, 52 sectors = 420,872,192

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

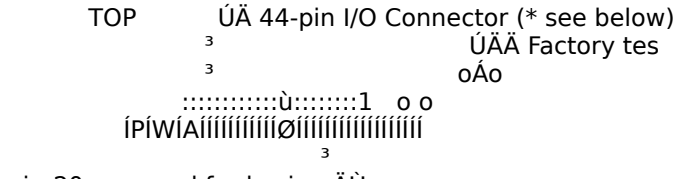
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/24/95)

ST-9422A, Filepro 420 AT (Kiwi CFL420A)



pin-20 removed for keying ÄÙ

o-o Cable Select
o-o CAM off, ISA on
o-o Master ON, Slave OFF

* Drive uses +5vdc power supplied to the drive via the interface connector. The drive does NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9422A
Filepro 420 AT (Kiwi CFL420A)

FORMATTED CAPACITY _____422
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____2393
HEADS _____PHYSICAL_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _____19 to 33
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 11.1
PIO MODE _____2
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____3600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____64K
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____
TPI (TRACKS PER INCH) _____4200
BPI (KBITS PER INCH) _____80K
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____20
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____20
abnormal _____
nonoperating _____300

ACOUSTICS (bels) (typ/max) _____42/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +5V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____1.0
IDLE _____.85
STANDBY _____.15
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm):	.50/12.7
Width (inches/mm):	2.75/69.8
Depth (inches/mm):	4.00/101.6
Weight (oz/kg):	5.0/0.142

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations: 818 cyl, 16 heads, 63 sectors = 422,166,528

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/21/96)

ST-9546A (Marathon 541)

TOP ÚÄ 44-pin I/O Connector (* see below)
³ o o
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ÍPÍWÍAÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ
³ ³ ³
pin-20 removed for keying ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ ³ ³
³ ³
³ ³

Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another Seagate 2.5" Master ÄÄÄÄÄÄÄÄÄÄÄÄ 0 1
Cable Select ÄÄÄ 1 1

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9546A
Marathon 541

FORMATTED CAPACITY ______________________540.3
ACTUATOR TYPE ___________________________VOICE COIL
CYLINDERS __PHYSICAL_____________________
HEADS ______PHYSICAL_____________________6
DISCS (3.5 in) __________________________3
MEDIA TYPE ______________________________THIN FILM
HEAD TYPE _______________________________THIN FILM
RECORDING METHOD ________________________ZBR PRML
INTERNAL TRANSFER RATE (Mbits/sec) _______up to 44
EXTERNAL TRANSFER RATE (Mbytes/sec) ______up to 16.6
PIO MODE ________________________________4
DMA SUPPORT _____________________________EISA Type B
SPINDLE SPEED (RPM) _____________________4,500
AVERAGE LATENCY (mSEC) __________________6.67
BUFFER __________________________________120 Kbyte
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _______________________________ATA
SECTORS PER DRIVE (LBA mode) ____________1,055,376
TPI (TRACKS PER INCH) ___________________3,807
BPI (KBITS PER INCH) ____________________90,000
AVERAGE ACCESS (ms) _____________________16
SINGLE TRACK SEEK (ms) __________________6
MAX FULL SEEK (ms) ______________________26
MTBF (power-on hours) Office ____________300,000
SHOCK (G's):
operating (Read/Write) __________10
abnormal _______________________
nonoperating ___________________250
ACOUSTICS (dBA) (typ/max) _______________26/33
POWER DISSIPATION (watts) _______________
POWER REQUIREMENTS: +5V START-UP (amps) __
POWER MANAGEMENT (Watts):

ACTIVE _____2.1
IDLE _____1.3
STANDBY _____0.4
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 0.75/19.05
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (ozs/kg): 7.4/0.21

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

1047 cyl, 16 heads, 63 sectors = 540,352,512

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:

523 cyl, 32 heads, 63 sectors = 539,836,416

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

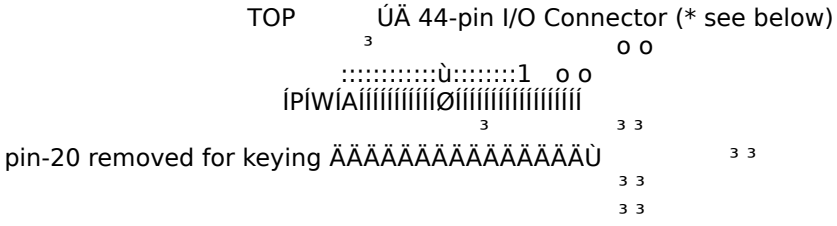
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

ST-9550AG (Marathon 455)



Drive is Master, no Slave drive present
Drive is Master, Seagate Slave drive present
Drive is Slave to another Seagate 2.5" Master
Reserved Position (Do Not Use)

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9550AG
Marathon 455

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____455
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _____8
DISCS (2.5 in) _____4
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____16.2 to 27.7
EXTERNAL TRANSFER RATE (Mbytes) _____up to 13.3
SPINDLE SPEED (RPM) _____3,980
AVERAGE LATENCY (mSEC) _____7.54
BUFFER _____120 Kbyte
Multisegmented cache
INTERFACE _____AT
SECTORS PER DRIVE _____889,248
TPI (TRACKS PER INCH) _____3,282
BPI (BITS PER INCH) _____59,124
FCI (FLUX DENSITY) _____44,360
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) Office _____300,000
ACOUSTICS (typ/max dBA) _____30/33
SHOCK (G's):
operating/nonoperating _____100/200
SafeRite shock sensor
POWER REQUIREMENTS: +5V START-UP (amps) __1.2
POWER MANAGEMENT (Watts):
ACTIVE _____1.85

IDLE _____0.9
STANDBY _____0.3
SLEEP _____0.25
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 0.75/19.05
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (ozs/kg): 7.4/0.21

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 942 cyl, 16 heads, 59 sectors = 455,294,976

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

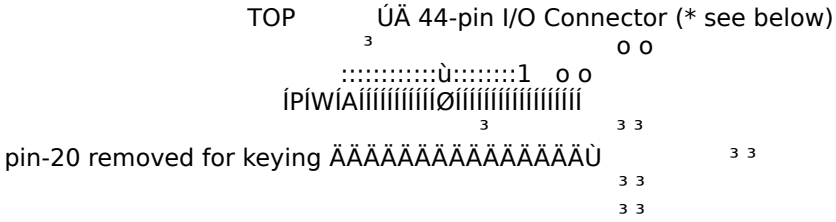
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/17/94)

ST-9655AG (Marathon 520)



Drive is Master, no Slave drive present
Drive is Master, Seagate Slave drive present
Drive is Slave to another Seagate 2.5" Master
Reserved Position (Do Not Use)

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9655AG
Marathon 520

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____524
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____
CYLINDERS _____(user)
HEADS _____8
DISCS (2.5 in) _____4
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____16.1 to 28.2
EXTERNAL TRANSFER RATE (Mbytes) _____up to 13.3
SPINDLE SPEED (RPM) _____3,980
AVERAGE LATENCY (mSEC) _____7.54
BUFFER _____120 Kbyte
Multisegmented cache
INTERFACE _____AT
SECTORS PER DRIVE _____1,024,128
TPI (TRACKS PER INCH) _____3,227
BPI (BITS PER INCH) _____72,100
FCI (FLUX DENSITY) _____44,360
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____6
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Office _____300,000
ACOUSTICS (typ/max dBA) _____30/33
SHOCK (G's):
operating/nonoperating _____100/100
SafeRite shock sensor
POWER REQUIREMENTS: +5V START-UP (amps) __1.2
POWER MANAGEMENT (Watts):
ACTIVE _____1.85

IDLE _____0.9
STANDBY _____0.3
SLEEP _____0.25
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): 0.75/19.05
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (ozs/kg): 7.4/0.21

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 1016 cyl, 16 heads, 63 sectors = 524,353,536

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/17/94)

ST-9816AG (Marathon 810)

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                         TOP          ÚÄ 44-pin I/O Connector (* see below)
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                                 ::::::::::::ù::::::::1   o o
                             ÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ
                                                 ³                ³ ³
      pin-20 removed for keying ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ                 ³ ³
                                                                  ³ ³
                                                                  ³ ³
Drive is Master, no Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 0
Drive is Master, Seagate Slave drive present ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 0
Drive is Slave to another Seagate 2.5" Master ÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 0 1
Cable Select ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ 1 1
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* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.

pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9816AG
Marathon 810

FORMATTED CAPACITY ______________________810
ACTUATOR TYPE ___________________________VOICE COIL
CYLINDERS __PHYSICAL_____________________
HEADS ______PHYSICAL_____________________8
DISCS (3.5 in) __________________________4
MEDIA TYPE ______________________________THIN FILM
HEAD TYPE _______________________________THIN FILM
RECORDING METHOD ________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec) _______up to 44
EXTERNAL TRANSFER RATE (Mbytes/sec) ______up to 16.6
PIO MODE ________________________________4
DMA SUPPORT _____________________________EISA Type B
SPINDLE SPEED (RPM) _____________________4,500
AVERAGE LATENCY (mSEC) __________________6.67
BUFFER __________________________________120 Kbyte
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _______________________________ATA
SECTORS PER DRIVE (LBA mode) ____________1,583,568
TPI (TRACKS PER INCH) ___________________3,807
BPI (KBITS PER INCH) ____________________90.0
AVERAGE ACCESS (ms) _____________________16
SINGLE TRACK SEEK (ms) __________________6
MAX FULL SEEK (ms) ______________________26
MTBF (power-on hours) Office ____________300,000
SHOCK (G's):
operating (Read/Write) __________100
abnormal ________________________
nonoperating ____________________250
ACOUSTICS (dBA) (typ/max) _______________26/33
POWER DISSIPATION (watts) _______________
POWER REQUIREMENTS: +5V START-UP (amps) __.70
POWER MANAGEMENT (Watts):

ACTIVE _____2.1
IDLE _____1.3
STANDBY _____0.4
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:
Height (inches/mm): 0.75/19.05
Width (inches/mm): 2.76/70.10
Depth (inches/mm): 4.01/101.85
Weight (ozs/kg): 7.4/0.21

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:
1571 cyl, 16 heads, 63 sectors = 810,786,816

DOS operating systems may require a system bios that accepts larger values for the CMOS head parameter which lowers cylinders below 1024:
785 cyl, 32 heads, 63 sectors = 810,270,720

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:
1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

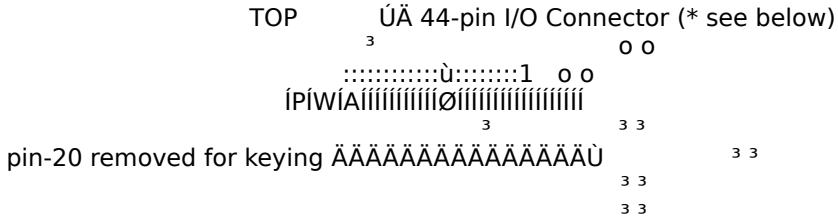
PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

ST-9840AG (Marathon 840sl)



Drive is Master, no Slave drive present
Drive is Master, Seagate Slave drive present
Drive is Slave to another Seagate 2.5" Master
Cable Select

* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

ST-9840AG
Marathon 840sl

FORMATTED CAPACITY _____840.20
ACTUATOR TYPE _____VOICE COIL
CYLINDERS __PHYSICAL_____
HEADS _____PHYSICAL_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM on GLASS
HEAD TYPE _____MR
RECORDING METHOD _____ZBR PRML (8/9)
INTERNAL TRANSFER RATE (Mbits/sec) _____up to 60.8
EXTERNAL TRANSFER RATE (Mbytes/sec) _____up to 16.6
PIO MODE _____4
DMA SUPPORT _____EISA Type B
SPINDLE SPEED (RPM) _____4,500
AVERAGE LATENCY (mSEC) _____6.67
BUFFER _____107 Kbyte
Read/Write Multiple, Read Look-Ahead,
Multi-Segmented
INTERFACE _____ATA
SECTORS PER DRIVE (LBA mode) _____1,641,024
TPI (TRACKS PER INCH) _____5,555
BPI (KBITS PER INCH) _____120
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____125
abnormal _____
nonoperating _____350
ACOUSTICS (dBA) (typ/max) _____35/41
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +5V START-UP (amps) __.90
POWER MANAGEMENT (Watts):

ACTIVE _____2.5
IDLE _____0.82
STANDBY _____0.32
SLEEP _____0.10

WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____*

Physical:

Height (inches/mm): .504/12.80
Width (inches/mm): 2.76/70.10
Depth (inches/mm): /100.45
Weight (oz/kg): /0.153

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translations:

This translation is generally acceptable, as is, for non-DOS operating systems:

1628 cyl, 16 heads, 63 sectors = 840,204,288

DOS operating systems may require a translation that uses larger values for the CMOS head parameter which lowers cylinders below 1024:

814 cyl, 32 heads, 63 sectors = 840,204,288

Other FULL-CAPACITY solutions for DOS operating systems include third-party drive preparation software, system BIOS which supports LBA mode or bios driven host adapters. Otherwise, capacity may be limited to:

1024 cyl, 16 heads, 63 sectors = 528,482,304

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

Disc Drive Cables and their Pin Assignments by Interface

Select an Interface:

ATA (IDE)

ESDI

MFM

RLL

SCSI - Narrow Single Ended

SCSI - Narrow Differential

SCSI - Wide Single Ended

SCSI - Wide Single Ended (SCA)

XT

ST412 Interface (MFM and RLL)

==========

ST412 Interface (MFM and RLL) ST-506 was predecessor without buffered seek
2 Cables: 1 each 34-pin Command Cable and 1 each 20-pin Data Cable

---

Command Cable Description

J1 (34-pin Command) Host/Drive Pin Assignments

GROUND RTN PIN	SIGNAL PIN	SIGNAL
1	2	-HEAD SELECT 2^3
3	4	-HEAD SELECT 2^2
5	6	-WRITE GATE
7	8*	-SEEK COMPLETE
9	10*	-TRACK 0
11	12*	-WRITE FAULT
13	14	-HEAD SELECT 2^0
15	16	-RESERVED
17	18	-HEAD SELECT 2^1
19	20*	-INDEX
21	22*	-READY
23	24	-STEP
25 (29)**	26 (28)	-DRIVE SELECT 1 (2)
27 (27)	28 (26)	-DRIVE SELECT 2 (1)
29 (25)	30	-DRIVE SELECT 3
31	32	-DRIVE SELECT 4
33	34	-DIRECTION IN

* STATUS ENABLED WITH DRIVE SELECT

** TWISTED CABLE IN PARENTHESES

J2 (20-pin Data) HOST/DRIVE PIN ASSIGNMENTS

GROUND RTN PIN	SIGNAL PIN	SIGNAL NAME
2	1	-DRIVE SELECTED
4	3	RESERVED
6	5	RESERVED
8	7	RESERVED
10	9	RESERVED
12	11	GROUND
	13	+MFM (RLL) WRITE DATA
	14	-MFM (RLL) WRITE DATA
16	15	GROUND
	17	+MFM (RLL) READ DATA
	18	-MFM (RLL) READ DATA
20	19	GROUND

ESDI (Enhanced Small Device Interface)

==========
ESDI (Enhanced Small Device Interface)
2 Cables: 1 each 34-pin Command Cable and 1 each 20-pin Data Cable
---

ESDI INTERFACE SPECIFICATIONS

CONTROL CABLE (J1/P1 PIN ASSIGNMENTS
(Disk Implementation - Serial Mode)

Command Cable Description

SIGNAL NAME	SIGNAL PIN	GROUND PIN
-HEAD SELECT 2(3)	2	1
-HEAD SELECT 2(2)	4	3
-WRITE GATE	6	5
-CONFIGURATION/STATUS DATA	8	7
-TRANSFER ACK	10	9
-ATTENTION	12	11
-HEAD SELECT 2(0)	14	13
-SECTOR/BYTE CLOCK/ ADDRESS MARK FOUND	16	15
-HEAD SELECT 2(1)	18	17
-INDEX	20	19
-READY	22	21
-TRANSFER REQ	24	23
-DRIVE SELECT 2(0)	26	25
-DRIVE SELECT 2(1)	28	27
-DRIVE SELECT 2(2)	30	29
-READ GATE	32	31

-COMMAND DATA	34	33

DATA CABLE (J2/P2) PIN ASSIGNMENTS
(Disk Implementation - Serial Mode)

SIGNAL NAME	SIGNAL PIN	GROUND PIN
-DRIVE SELECTED	1	
-SECTOR/BYTE CLOCK/ ADDRESS MARK FOUND	2	
-COMMAND COMPLETE	3	
-ADDRESS MARK ENABLE	4	
GROUND		5
+/-WRITE CLOCK	7/8	6
+/-READ REF CLOCK	10/11	9/12
+/-NRZ WRITE DATA	13/14	15/16
+/-NRZ READ DATA	17/18	19
-INDEX	20	

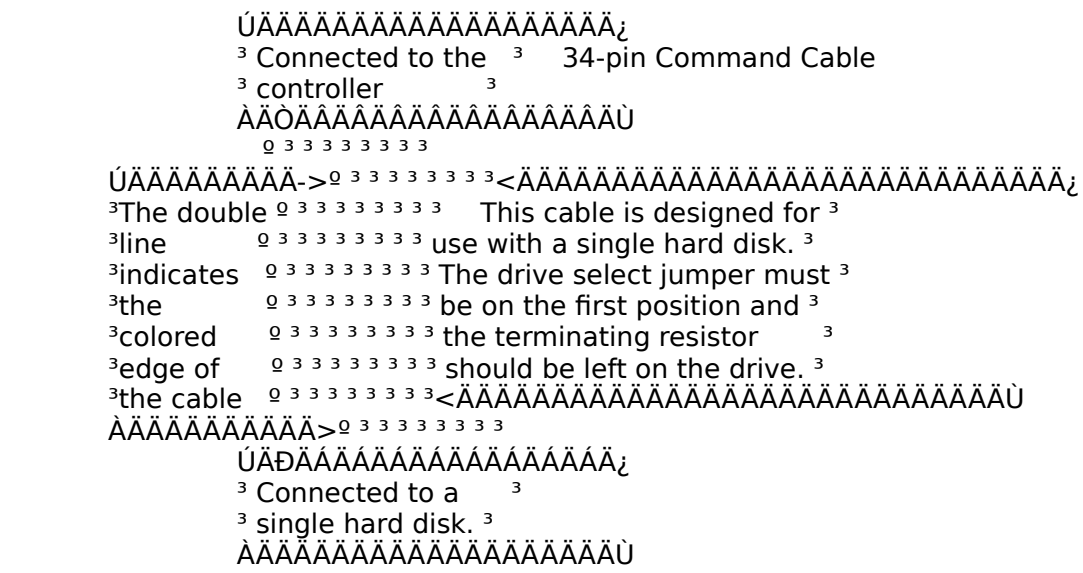
34-Pin Command Cable

There are several types of command cables used to connect the hard disk to the controller. You will need to determine which of the cables listed below matches the cable you are using. The type of cable you are using will determine where the drive select jumper should be on your hard disk.

The pin nearest to the notch on the edge connector is pin 1. Pin 1 on the command cable may be identified by any of the following:

1. A triangle stamped on the connector, OR
2. A colored stripe on the end conductor of the cable, OR
3. A keying tab inside the connector (to prevent reverse insertion.)

This cable is used in a system that has only one hard disk.

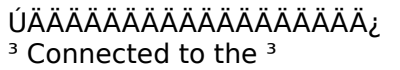


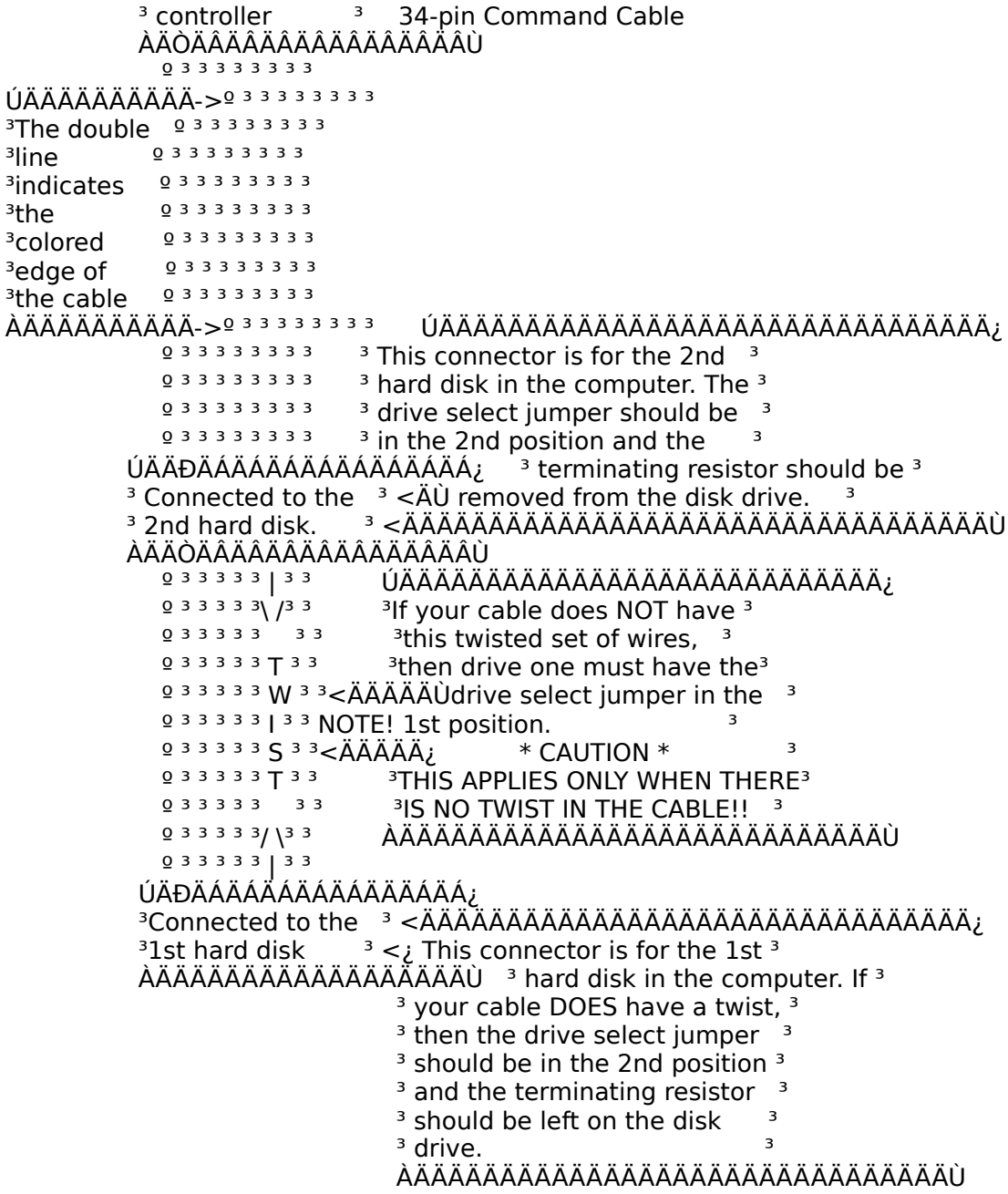
The cable shown below is designed for use in systems that have two hard disks, although it can also be used in single hard disk systems. When attaching the cables to your hard disk and floppy disk drives, please make note of the following:

1. The cable used on the floppy drive has the reversed (twisted) wires nearest the edge with the colored wire (pin 1), AND

2. The wide (command) cable attached to the hard disk has the twisted (*) wires furthest from the edge with the colored wire (pin 1).

* Your hard disk command cable may not have any twisted wires. If this is the case, please see the note below.

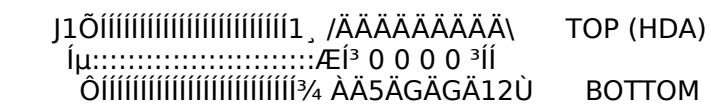



³ controller ³ 34-pin Command Cable
The double
line
indicates
the
colored
edge of
the cable
This connector is for the 2nd
hard disk in the computer. The
drive select jumper should be
in the 2nd position and the
terminating resistor should be
Connected to the
removed from the disk drive.
2nd hard disk.
If your cable does NOT have
this twisted set of wires,
then drive one must have the
drive select jumper in the
NOTE! 1st position.
* CAUTION *
THIS APPLIES ONLY WHEN THERE
IS NO TWIST IN THE CABLE!!
Connected to the
1st hard disk
This connector is for the 1st
hard disk in the computer. If
your cable DOES have a twist,
then the drive select jumper
should be in the 2nd position
and the terminating resistor
should be left on the disk
drive.

SCSI (SMALL COMPUTER SYSTEM INTERFACE)

==========
SCSI (SMALL COMPUTER SYSTEM INTERFACE) CONNECTOR PIN ASSIGNMENTS
50-pin Cable

Typical 50 pin I/O Cable Connection



SCSI - Standard (Narrow)

SCSI (Small Computer System Interface) is an intelligent device interface that allows up to 8 devices (usually 7 plus the host system) to be connected together using up to a 6 meter cable. Unlike other older interfaces, requests on a SCSI bus are just that, requests. For example, rather than the low-level device commands like the familiar STEP+ and STEP- of ST412, SCSI accesses data using the higher level SEEK to a location (LBA or logical block address on drives).

Input voltages may vary from a low of 0VDC to a high of +5.25VDC. These devices ARE NOT BUS COMPATIBLE with differential SCSI devices. They are hovever command compatible. Attempting to share the SCSI bus with a differential device will quite possibly damage the single-ended SCSI device. Pin designations are as follows, and all signals are active low (true is a voltage level between 0 and +0.8 VDC, and false is defined as a voltage between +2 and +5.25 VDC).

PIN NUMBER	SIGNAL	DESCRIPTION	PIN NUMBER	SIGNAL	DESCRIPTION
1	GND	GROUND	26	TERMPWR	TERMINATION PWR
2	DB0	DATA BIT 0	27	GND	GROUND
3	GND	GROUND	28	GND	GROUND
4	DB1	DATA BIT 1	29	GND	GROUND
5	GND	GROUND	30	GND	GROUND

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ÄÄ´
³    6     ³ DB2   ³DATA BIT 2 ³    31    ³  GND   ³ GROUND        ³
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³    7     ³ GND   ³GROUND      ³    32    ³  ATN   ³ ATTENTION     ³
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³    8     ³ DB3   ³DATA BIT 3 ³    33    ³  GND   ³ GROUND        ³
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³    9     ³ GND   ³GROUND      ³    34    ³  GND   ³ GROUND        ³
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³   10     ³ DB4   ³DATA BIT 4 ³    35    ³  GND   ³ GROUND        ³
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ÄÄ´
³   11     ³ GND   ³GROUND      ³    36    ³  BSY   ³ BUSY          ³
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³   12     ³ DB5   ³DATA BIT 5 ³    37    ³  GND   ³ GROUND        ³
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ÄÄ´
³   13     ³ GND   ³GROUND      ³    38    ³  ACK   ³ ACKNOWLEDGE   ³
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³   14     ³ DB6   ³DATA BIT 6 ³    39    ³  GND   ³ GROUND        ³
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³   15     ³ GND   ³GROUND      ³    40    ³  RST   ³ RESET         ³
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³   16     ³ DB7   ³DATA BIT 7 ³    41    ³  GND   ³ GROUND        ³
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³   17     ³ GND   ³GROUND      ³    42    ³  MSG   ³ MEGSSAGE      ³
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³   18     ³ DBP   ³DATA PARITY³    43    ³  GND   ³ GROUND        ³
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³   19     ³ GND   ³GROUND      ³    44    ³  SEL   ³ SELECT        ³
ÃÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄ
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³   20     ³ GND   ³GROUND      ³    45    ³  GND   ³ GROUND        ³
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³   21     ³ GND   ³GROUND      ³    46    ³  C/D   ³ CONTROL/DATA  ³
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³   22     ³ GND   ³GROUND      ³    47    ³  GND   ³ GROUND        ³
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³   23     ³ GND   ³GROUND      ³    48    ³  REQ   ³ REQUEST       ³
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³ 24 ³ GND ³GROUND ³ 49 ³ GND ³ GROUND ³
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³ 25 ³ GND ³GROUND ³ 50 ³ I/O ³ INPUT/OUTPUT ³
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ACK (Acknowledge): A signal driven by an Initiator to indicate an acknowledgement for a REQ/ACK data transfer handshake.

ATN (Attention): A signal driven by an Initiator to indicate the attention condition.

BSY (Busy): An "or-tied" signal which indicates that the bus is in use.

C/D (Control/Data): A signal driven by a Target. It indicates whether control or data information is on the data bus. True indicates Control.

DB(7-0) (Data Bus): Contains the data that is sent from one device to the other. Driven by either device, as determined by the state of the I/O signal.

DB(P) (Data Bus Parity): Contains the parity bit for the data that is sent on DB(7-0) from one device to the other during an information transfer.

I/O (Input/Output): A signal driven by a Target which controls the direction of data flow in the data bus, with respect to an Initiator. True indicates input to the Initiator.

MSG (Message): A signal driven by a Target during the message phase.

REQ (Request): A signal driven by a Target to indicate a request for a REQ/ACK data transfer handshake.

RST (Reset): An "or-tied" signal which indicates the reset condition.

SEL (Select): A signal used by an Initiator to select a Target or by a Target to reselect an Intiator.

SCSI - Differential

==
SCSI - Differential

SCSI (Small Computer System Interface) is an intelligent device interface that allows up to 8 devices (usually 7 plus the host system) to be connected together. Unlike other older interfaces, requests on a SCSI bus are just that, requests. For example, rather than the low-level device commands like the familiar STEP+ and STEP- of ST412, SCSI accesses data using the higher level SEEK to a location (LBA or logical block address on drives).

Differential SCSI (Small Computer System Interface) varies from standard SCSI at the bus level in that it is capable of operating up to a 25 meter cable, and the electrical specifications are quite different. Input voltages vary from a low of -7VDC to a high of +12VDC. These high voltage changes are measured from the positive (+ or POS) portion of a signal, in relation to the negative (- or NEG) signal of the same name.

These devices ARE NOT BUS COMPATIBLE with SCSI standard devices. they are hovever command compatible. Attempting to share the SCSI bus with a non-differential device will quite possibly damage the single-ended SCSI device. The electrical specification follows the EIA RS-485-1983 standard. Pin designations are as follows :

PIN NUMBER	SIGNAL	DESCRIPTION	PIN NUMBER	SIGNAL	DESCRIPTION
1	GND	SHIELD GROUND	26	TERMPWR	TERMINATION PWR
2	GND	GROUND	27	GND	GROUND
3	+DB0	POS DATA BIT 0	28	GND	GROUND
4	-DB0	NEG DATA BIT 0	29	+ATN	POS ATTENTION
5	+DB1	POS DATA BIT 1	30	-ATN	NEG ATTENTION
6	-DB1	NEG DATA BIT 1	31	GND	GROUND
7	+DB2	POS DATA BIT 2	32	GND	GROUND

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³ 8 ³-DB2 ³NEG DATA BIT 2 ³ 33 ³ +BSY ³ POS BUSY ³
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ÄÄÄÄÄÄ´
³ 9 ³+DB3 ³POS DATA BIT 3 ³ 34 ³ -BSY ³ NEG BUSY ³
ÃÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄ
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³ 10 ³-DB3 ³NEG DATA BIT 3 ³ 35 ³ +ACK ³POS ACKNOWLEDGE ³
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³ 11 ³+DB4 ³POS DATA BIT 4 ³ 36 ³ -ACK ³NEG ACKNOWLEDGE ³
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³ 12 ³-DB4 ³NEG DATA BIT 4 ³ 37 ³ +RST ³ POS RESET ³
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³ 13 ³+DB5 ³POS DATA BIT 5 ³ 38 ³ -RST ³ NEG RESET ³
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³ 14 ³-DB5 ³NEG DATA BIT 5 ³ 39 ³ +MSG ³ POS MESSAGE ³
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³ 15 ³+DB6 ³POS DATA BIT 6 ³ 40 ³ -MSG ³ NEG MESSAGE ³
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³ 16 ³-DB6 ³NEG DATA BIT 6 ³ 41 ³ +SEL ³ POS SELECT ³
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³ 17 ³+DB7 ³POS DATA BIT 7 ³ 42 ³ -SEL ³ NEG SELECT ³
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³ 18 ³-DB7 ³NEG DATA BIT 7 ³ 43 ³ +C/D ³POS COMMAND/DATA³
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³ 19 ³+DBP ³POS PARITY BIT ³ 44 ³ -C/D ³NEG COMMAND/DATA³
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³ 20 ³-DBP ³NEG PARITY BIT ³ 45 ³ +REQ ³ POS REQUEST ³
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³ 21 ³DIFFSEN³NOT USED ³ 46 ³ -REQ ³ NEG REQUEST ³
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³ 22 ³ GND ³GROUND ³ 47 ³ +I/O ³POS INPUT/OUTPUT³
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³ 23 ³ GND ³GROUND ³ 48 ³ -I/O ³NEG INPUT/OUTPUT³
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³ 24 ³ GND ³GROUND ³ 49 ³ GND ³ GROUND ³
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³ 25 ³TERMPWR³GROUND ³ 50 ³ GND ³ GROUND ³
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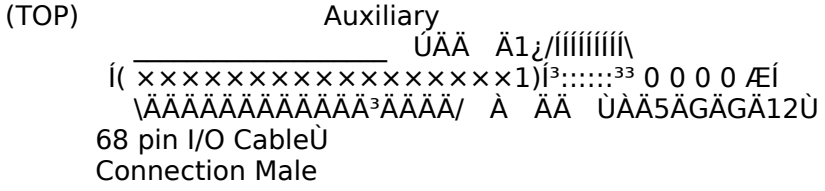
SCSI - Wide

Typical 68-pin I/O cable connector



68-pin SCSI Wide, Single Ended

Signal Name	Connector CONTACT Number	Cable CONDUCTOR Number	Connector CONTACT Number	Signal Name
Ground	1	1 ³ 2	35	-DB12
Ground	2	3 ³ 4	36	-DB13
Ground	3	5 ³ 6	37	-DB14
Ground	4	7 ³ 8	38	-DB15
Ground	5	9 ³ 10	39	-DBP1
Ground	6	11³ 12	40	-DB0
Ground	7	13³ 14	41	-DB1
Ground	8	15³ 16	42	-DB2
Ground	9	17³ 18	43	-DB3
Ground	10	19³ 20	44	-DB4
Ground	11	21³ 22	45	-DB5
Ground	12	23³ 24	46	-DB6
Ground	13	25³ 26	47	-DB7
Ground	14	27³ 28	48	-DBP
Ground	15	29³ 30	49	Ground
Ground	16	31³ 32	50	Ground
TermPwr	17	33³ 34	51	TermPwr
TermPwr	18	35³ 36	52	TermPwr
Reserved	19	37³ 38	53	Reserved
Ground	20	39³ 40	54	Ground
Ground	21	41³ 42	55	-ATN
Ground	22	43³ 44	56	Ground
Ground	23	45³ 46	57	-BSY
Ground	24	47³ 48	58	-ACK
Ground	25	49³ 50	59	-RST
Ground	26	51³ 52	60	-MSG
Ground	27	53³ 54	61	-SEL
Ground	28	55³ 56	62	-C/D
Ground	29	57³ 58	63	-REQ
Ground	30	59³ 60	64	-I/O
Ground	31	61³ 62	65	-DB8
Ground	32	63³ 64	66	-DB9
Ground	33	65³ 66	67	-DB10
Ground	34	67³ 68	68	-DB11

ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ

ACK (Acknowledge): A signal driven by an Initiator to indicate an acknowledgement for a REQ/ACK data transfer handshake.

ATN (Attention): A signal driven by an Initiator to indicate the attention condition.

BSY (Busy): An "or-tied" signal which indicates that the bus is in use.

C/D (Control/Data): A signal driven by a Target. It indicates whether control or data information is on the data bus. True indicates Control.

DB(7-0) (Data Bus): Contains the data that is sent from one device to the other. Driven by either device, as determined by the state of the I/O signal.

DB(P) (Data Bus Parity): Contains the parity bit for the data that is sent on DB(7-0) from one device to the other during an information transfer.

I/O (Input/Output): A signal driven by a Target which controls the direction of data flow in the data bus, with respect to an Initiator. True indicates input to the Initiator.

MSG (Message): A signal driven by a Target during the message phase.

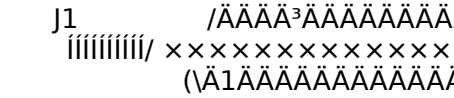
REQ (Request): A signal driven by a Target to indicate a request for a REQ/ACK data transfer handshake.

RST (Reset): An "or-tied" signal which indicates the reset condition.

SEL (Select): A signal used by an Initiator to select a Target or by a Target to reselect an Intiator.

SCSI - Wide Single Connector Attachment

Typical 80 pin I/O and DC Power Wall/bracket Connection



80-pin SCSI Wide, Single Ended, Single Connector Attachment SCA

Signal Name	Connector CONTACT Number	Cable CONDUCTOR Number	Connector CONTACT Number	Signal Name
+12V	1	1 ³ 2	41	12V GND
+12V	2	3 ³ 4	42	12V GND
+12V	3	5 ³ 6	43	12V GND
+12V	4	7 ³ 8	44	12V GND
NC	5	9 ³ 10	45	NC
NC	6	11³ 12	46	GND
-D11	7	13³ 14	47	GND
-D10	8	15³ 16	48	GND
-D9	9	17³ 18	49	GND
-D8	10	19³ 20	50	GND
-I/O	11	21³ 22	51	GND
-REQ	12	23³ 24	52	GND
-C/D	13	25³ 26	53	GND
-SEL	14	27³ 28	54	GND
-MSG	15	29³ 30	55	GND
-RST	16	31³ 32	56	GND
-ACK	17	33³ 34	57	GND
-BSY	18	35³ 36	58	GND
-ATN	19	37³ 38	59	GND
-DBP	20	39³ 40	60	GND
-DB7	21	41³ 42	61	GND
-DB6	22	43³ 44	62	GND
-DB5	23	45³ 46	63	GND
-DB4	24	47³ 48	64	GND
-DB3	25	49³ 50	65	GND
-DB2	26	51³ 52	66	GND
-DB1	27	53³ 54	67	GND
-DB0	28	55³ 56	68	GND
-DP1	29	57³ 58	69	GND
-D15	30	59³ 60	70	GND
-D14	31	61³ 62	71	GND
-D13	32	63³ 64	72	GND
-D12	33	65³ 66	73	GND
+5V	34	67³ 68	74	5V GND
+5V	35	69³ 70	75	5V GND
+5V	36	71³ 72	76	5V GND
NC	37	73³ 74	77	LEDC
MTRON	38	75³ 76	78	DLYDST

```
³ SCSIA0     39          77³ 78          79       SCSIA1   ³
³ SCSIA2     40          79³ 80          80       SCSIA3   ³
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
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ATA (IDE) Interface

==========
ATA (IDE) Interface
40-pin Cable

ATA INTERFACE SIGNAL PIN ASSIGNMENTS

PIN	NAME	I/O	DESCRIPTION
01	/Host Reset	O	(From Host, Active Low) Reset signal from the host.
02	Ground		- - - -
03-18	- - -	I/O	Host data 0-15 to/from host. 16-bit tri-state, bidirectional data bus between host and drive. The lower 8-bits of host data (0-7) are used for register and ECC access. All 16-bits are used for data transfers.
03	Host Data 7	I/O	
04	Host Data 8	"	
05	Host Data 6	"	
06	Host Data 9	"	
07	Host Data 5	"	
08	Host Data 10	"	
09	Host Data 4	"	
10	Host Data 11	"	
11	Host Data 3	"	
12	Host Data 12	"	
13	Host Data 2	"	
14	Host Data 13	"	
15	Host Data 1	"	
16	Host Data 14	"	
17	Host Data 0	"	
18	Host Data 15	"	
19	Ground		- - - -
20	Key		An unused pin, which is clipped off at the drive to prevent incorrect cable attachment.
21	DMARQ		DMA Request (optional)
22	Ground		- - - -
23	/HIOW	O	(From Host, Active Low) Host I/O write

			strobe. Edge clocks data from the host data bus to I/O register.
24	Ground		- - - -
25	/HIOR	O	(From Host, Active Low) Host I/O read strobe. Trailing edge clocks data from host data bus to I/O register.
26	Ground		- - - -
27	IORDY		I/O Channel Ready (optional); a tristate signal
28	SPSYNC:CSEL		Spindle Synch or Cable Select (optional); Spindle synch is an interdrive clock signal sent from the master drive to the slave drive to allow the slave to synchronize its spindle motor to the master drive's spindle motor. Cable Select is used to differentiate master from slave in a two-drive system.
28	Host ALE		(From Host,Active High) Host address latch enable. Used to qualify host address lines. Host addresses are latched on the trailing edge of Host ALE. The drive does not use this signal.
29	DMACK		DMA Acknowledge
30	Ground		- - - -
31	IRQ14	I	(To Host, Tristate, Active High) Interrupt request from drive to host. The host may enable/disable the interrupt by clearing/ setting the /IEN bit of the Digital Output register of the task file. The signal is in a high impedance state when the drive is not selected or when the /IEN bit of the Digital Output register is set. The signal is cleared when host performs a status read from drive.
32	/HOST I/O16(AT)	I	(To Host, Tristate, Active Low) When active it indicates to host that the 16-bit Data register is addressed and the drive is ready to send/receive a 16-bit word.
33	Host ADDR1	I	(From Host, Active High) Host I/O address line 1.
34	/PDIAG(16)		(Active Low) Passed diagnostics. Used by Slave to signal to Master drive that Slave has passed its internal diagnostics. See note 3.

35	Host ADDR0	O	(From Host, Active Low) Host I/O address line 0.
36	Host ADDR2	O	(From Host, Active High) Host I/O address line 2.
37	/HOST CS0	O	(From Host, Active Low) Host I/O chip select decoded from host address lines. When active, one of the registers in the range 01F0HEX through 01F7HEX is selected.
38	/HOST CS1	O	(From Host, Active Low) Host I/O chip select decoded from host address lines. When active, one of the registers in the range 03F0HEX through 0347HEX is selected.
39	/DASP SLV/ACT		(To Host, Active Low) Dual purpose pin. When drive is Slave (SLV), this pin is used during a Diagnostic command to signal to the Master that a Slave is present. Drive Activity to host: It is active when the drive is executing a command. May be used by host drive an activity LED.
40	Ground		- - - -

Small 2.25" form factor drives do not use the typical four wire power supply connector. These drives get power via the ribbon cable which has four additional lines.

41	Power	+5v (logic)
42	Power	+5v (motor)
43	Ground	Ground for power pins
44	Reserved	- - - -

Notes:

1. Signal beginning with (/) is active low.

2. I indicates to the host, O indicates from the host.
   Reserved and Ground pins do not have directions.

3. /PDIAG and /DASP are used for communication between
   Master and Slave.

XT Interface

==============================
XT Interface
(40-pin cable)

1.0 XT HOST/DRIVE INTERFACE PIN ASSIGNMENTS

PIN	SIGNAL	DESCRIPTION
1	RES	(From Host,Active High) Bus Reset signal
3,5,7,9 11,13 15,17	DATA BUS	Host data to/from host.8-bit tristate,bi-directional data bus between host and drive. Used for transferring Status, Data and Control information.
19	GND	Ground
20	Key	An unused pin, which is clipped off at the drive to prevent incorrect cable attachment.
21	AEN	(From Host, Active High) Host address enable, which is asserted during a DMA cycle to disable the decoding of I/O port addresses.
23	/IOW	(From Host, Active Low) Host I/O write signal for writing data to an I/O port address.
25	/IOR	(From Host, Active Low) Host I/O read signal for reading data from an I/O port address.
27	/DACK	(From Host, Active Low) DMA acknowledge signal asserted in response to the DMA Request signal. This signal enables DMA data transfer when either /IOR or /IOW signals are active.
29	DRQ	(To Host, Active High) DMA Request as-serted by the drive to initiate a DMA transfer.
31	IRQ	(To Host, Active High) Interupt Request asserted by the drive to cause an interrupt to the host.

33,35	SA1,SA0	(From Host, Active High) Host I/O address lines 0 and 1 for selecting the drive's I/O ports.
37	/CS	(From Host, Active Low) Card Select signal asserted by the host to address the drive's I/O ports.
39	/ACTIVE	(To Host, Active Low) Drive Activity signal asserted by the drive when it is processing a command. Can be used to drive an external LED indicator.

NOTE: All other even-numbered pins are ground.

Controllers and Host Adapter Installation Guides

Seagate Controller Installation Guides

ST01 8-bit SCSI Host Adapter (8K ROM) ---> Cover
ST01 8-bit SCSI Host Adapter (16K ROM)
ST02 8-bit SCSI Host Adapter (16K ROM) w/floppy
ST01/02 SCSI Host Adapter with v3.3 BIOS

ST05X 8-bit XT Bus Host Adaptor ---> Cover

ST07A 16-bit AT Bus Host Adapter ---> Cover
ST08A 16-bit AT Bus Host Adapter w/floppy

ST11M (MFM)/ ST11R (RLL) 8-bit Controller ---> Cover

ST21M (MFM)/ ST21R (RLL) 16-bit Controller ---> Cover
ST22M (MFM)/ ST22R (RLL) 16-bit Controller w/floppy

st01cover

ST01, ST02
SCSI Host Adapter
Installation Guide

Seagate

st01copyright

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Telephone: 408/438-6550
Publication Number: 36069-001, Rev. E

Introduction:

This handbook may be used for ST01/02 Host Adapter installation or with Seagate's SCSI Paired Program. Paired Program means that the drive and Host Adapter/Controller are matched to optimize system throughput. And, installation software is already loaded on the drive.

Seagate SCSI drives are recognized by an "N" after the drive model number, e.g., ST1096N.

The ST01 and ST02 Host Adapters provide an 8-bit SCSI interface for the IBM PC XT AT (and all 100% compatible systems) and up to seven SCSI devices. Installation of more than two hard disc drives requires device driver software, which is not provided by Seagate.

The ST02 additionally supports up to two 3.5-inch or 5.25-inch floppy diskette drives.

Seagate SCSI Host Adapters require only a single bus connector and may be installed in a standard IBM PC short or long slot.

Before You Begin...

This guide may be used for ST01/02 SCSI Host Adapter installation; both Paired and non-Paired applications. In either application, ST01/ST02 setup is identical.

All Paired Program drives are shipped already formatted with a small DOS partition. A program to install the drive, called INSTALLR is contained in that partition. You must supply the DOS system. Seagate Paired Program drives are easily recognized by a "PR" label on the top cover.

Paired Program drives with formatted capacities greater than 32 megabytes are shipped with partitioning software, referred to as Disk Manager.

Before Beginning The Installation: Inspect the drive, Host Adapter, cables, mounting hardware and accessories, documentation and packaging. If any item is incorrect, missing or appears damaged, contract your Distributor/Dealer.

Shipping: Improper handling during transit/shipping accounts for many "installation" problems. When transporting or shipping a drive, controller or system, please ensure that they are correctly packed in the original container and shipped via an approved carrier.

Repair centers may refuse receipt of components improperly packaged or obviously damaged in transit. Consult your Distributor/Dealer for approved packing materials and carriers.

Care and Handling: Do not handle a drive/Host Adapter without observing static-discharge precautions. A grounded wrist-strap is preferred; if unavailable, ground yourself frequently by touching the metal chassis of the system before handling any components. Do not unpack the drive/Host Adapter until you are ready to complete the installation.

Seagate disc drives do not require any preventive maintenance. The head/disc assembly is sealed and does not contain any user serviceable components. Do not tamper with the sealed top cover; doing so will void your warranty.

I. SCSI Drive and Host Adapter Compatibility

The ST01/ST02 Host Adapters support Seagate SCSI interface hard drives. Early versions of the ST01 have an 8K ROM and no auxiliary drive power connector. The 16K version of the ST01 has an auxiliary drive power connector and is designated as ROM Version 2.0 or higher.

The ST02 supports up to two 3.5-inch or 5.25-inch floppy diskette drives.

Table 1: ST02 Diskette Support

Diskette	Capacity	Transfer Rate
5.25-inch	360 KBytes	250 Kbits/sec
5.25-inch	1.2 MBytes	300/500 Kbits/sec
3.5-inch	720 KBytes	250 Kbits/sec
3.5-inch	1.44 MBytes	300/500 Kbits/sec

Diskette support in IBM PC-compatible systems depends upon the operating system used and the BIOS installed on the system board. The user may have to upgrade either the BIOS or operating system in order to obtain the desired diskette support.

Table 2 outlines the operating system requirements for the various diskette drive types.

Table 2: PC/MS-DOS Support for Diskette Drives

DOS Version	360 KByte	1.2 MByte	720 KByte	1.44 MByte
PC/MS-DOS 2.1	X			
PC/MS-DOS 3.0	X	X		
PC/MS-DOS 3.1	X	X		
PC/MS-DOS 3.2	X	X	X	
PC/MS-DOS 3.3	X	X	X	X

IBM offers drive support starting at PC-DOS 3.2 for the 720 KByte diskette and at version 3.3 for the 1.44 MByte drive. The DRIVER.BIN module is installed via the CONFIG.SYS module at boot time.

Microsoft offers driver support starting at MS-DOS 3.2 for the 720 KByte drive through use of the DRIVPARM and DRIVER.SYS programs.

MS-DOS 3.3 supports both the 720 KByte and 1.44 MByte drives using the DRIVER.SYS program.

The MS-DOS DRIVER.SYS and DRIVPARM modules are installed via the CONFIG.SYS file at boot time.

In addition to the requirement that the operating system support a particular diskette drive, the ROM BIOS installed on the system board must also provide compatibility.

Table 3 indicates the diskette drives supported by the ROM BIOS installed in the most common IBM systems.

PC compatibles that do not use an original IBM BIOS should consult the Operations Manual supplied with their system to determine the diskette drive support offered.

Table 3: IBM ROM BIOS Support for Diskette Drives

IBM System	360 KByte	1.2 MByte	720 KByte	1.44 MByte
PC, PC XT	X			
PC XT 286	X	X	X	
PC AT (6 MHz)	X	X		
PC AT (8 MHz)	X	X	X	
PS/2 Model 30	X	X	X	
PS/2 Model 50/60/80	X	X	X	X

Note: The ST02 Host Adapter does not contain any ROM BIOS extensions for diskette drive support.

II. ST01/ST02 and SCSI Drive Configuration

Before attempting any installation read through these instructions. Verify that the system is powered-down.

1. Remove the top cover from the system. Retain the screws.

2. SCSI Address/Parity Jumpers and Resistor Packs:

Set the SCSI ID jumper on the hard disc drive. The Host Adapter recognizes devices by their SCSI ID number. If the drive has parity jumpers, they must remain shorted.

* If you are installing one drive, the ID number is 0 (no jumper).

* A second physical drive must be set as ID number 1.

* Drive Resistor Termination Packs:

If you are installing two drives, remove the resistor termination packs from the first drive (the drive nearest the Host Adapter on the cable).

3. Remove the Host Adapter from the protective covering. Observe static-discharge precautions and do not touch the board components or connectors.

4. Host Adapter Configuration Jumpers:

* Starting BIOS Address, ST01 and ST02:

C800H is the 16K BIOS address (default). For the 8K BIOS, the default address is CA00H. If there is a board already installed at the default address in the system, use the jumpers to change to another address. Refer to Figures 1-3 and Tables 4-5.

* Zero-Wait-State (0WS), ST01 and ST02:

A 2-pin jumper is provided to enable the 0WS logic for PC ATs and compatibles that implement the 0WS control line on the PC bus. The default configuration disables the use of this line.

Optimum performance will be achieved, on PC AT compatibles that correctly implement this signal, by enabling this line. Refer to Figures 1-3 and Table 6. Please consult your system manual or contact your dealer for more information.

* Interrupt Selection, ST01 and ST02:

A 3-pin jumper is provided in order to select interrupts. Interrupts should be disabled (by removing the jumper) for PC/MS-DOS operating in PC XT AT environments. This is the default configuration. Refer to Figures 1-3 and Table 7.

* Diskette Drive Selection, ST02 Only:

The ST02 supports all four of the standard PC diskette drive types. A jumper is provided (JP5) to restrict diskette support PC XT functionality; that is, only 360 KByte and 720 KByte. The default setting (jumper on) will support all types. Refer to Figure 3 and Table 8.

* Register Emulation, ST02 Only:

Many personal computers that are compatible with the IBM PC AT check at boot time to verify that an AT-compatible diskette/hard drive controller is present. If not, then an XT-compatible diskette controller is assumed and only 360 KByte diskette drives are supported.

A jumper is provided to enable emulation of this register (01F4H). Refer to Figure 3 and Table 9.

The default is to enable emulation. In PC and PC XT environments, it is not used and may be safely left installed. It should be used in PC AT compatible systems; removing the jumper may prevent use of 1.2 MByte and other (non-360 KByte) format diskette drives.

Emulation should be disabled if the system already has a hard disc controller installed.

5. Connect the hard drive (and diskette drive to the ST02) cables to the Host Adapter. You may find it easier to attach the cables before you install the Host Adapter in the system. Pin-1 on the Host Adapter always corresponds to pin-1 at the drive connector. Note that some cables have a colored stripe to indicate pin-1.

6. Install the drive in the left drive-bay, if possible, as the power supply may obstruct the cable.

7. For ease of installation attach the cable to the drive before you slide it completely back into position.

8. Connect the drive DC power line.

9. Verify that all connections are correct and replace the system cover. Go on to Parts IV and V/VI for the required formatting.

st01pg8_5

Figure 1: ST01 Host Adapter, 8K ROM Version

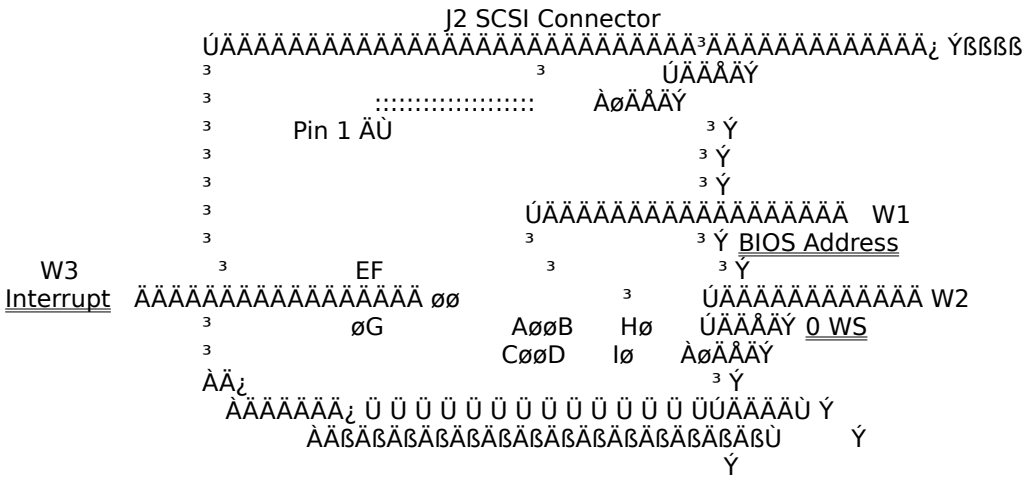
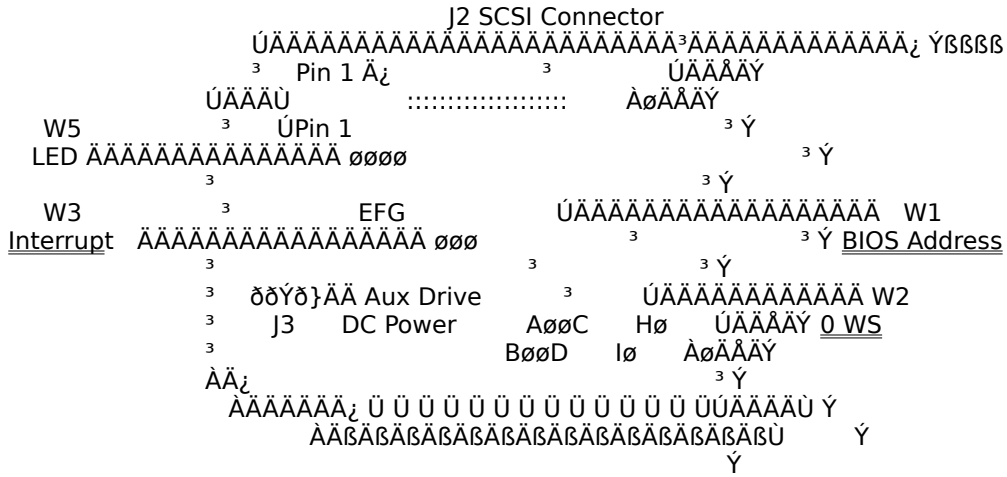


Figure 2: ST01 Host Adapter, 16K ROM Version



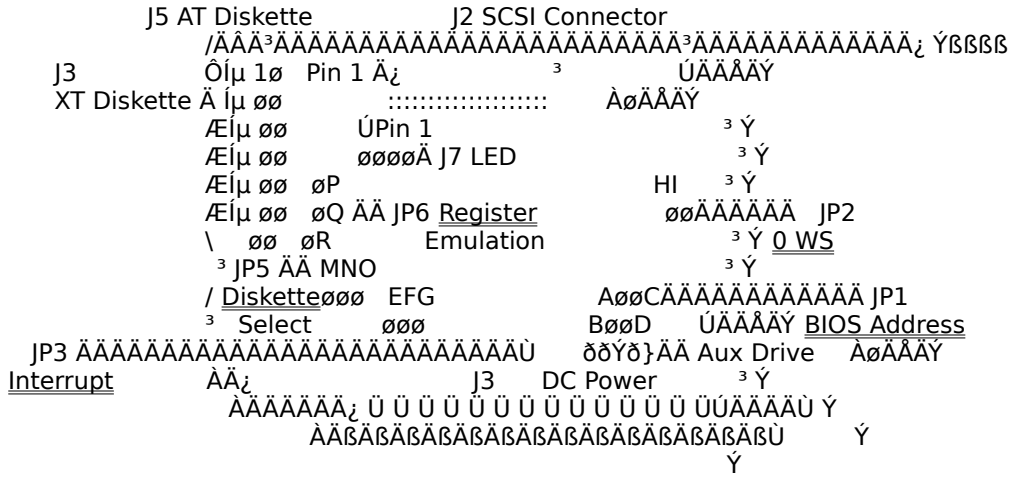
* Auxiliary Drive Power Connector:

  A 5-pin DC power connector is provided for systems that lack DC power cables. It may also be used for Drive-on-a-Card installations. Contact your dealer for more information.

* LED Connector:

  A 4-pin header is provided for the drive front bezel LED connector used in IBM PC AT and compatible systems. Pins 1 and 4 are logic ground. Pins 2 and 3 provide +5 VDC when the SCSI channel is active.

Figure 3: ST02 Host Adapter



* Auxiliary Drive Power Connector:

  A 5-pin DC power connector is provided for systems that lack DC power cables. It may also be used for Drive-on-a-Card installations. Contact your dealer for more information.

* LED Connector:

  A 4-pin header is provided for the drive front bezel LED connector used in IBM PC AT and compatible systems. Pins 1 and 4 are logic ground. Pins 2 and 3 provide +5 VDC when the SCSI channel is active.

Table 4: ST01 8K BIOS Memory Address (W1)

Configuration	Address
No jumpers installed	CA00H (Default)
Pins A-B Shorted	C800H
Pins C-D Shorted	CE00H
Pins A-B and C-D Shorted	DE00H

Note: The 8K BIOS version of the ST01 is easily recognized. It doesn't have a notch in the upper left corner of the card.

st01pg16_5

Table 5: ST01/ST02, 16K BIOS Memory Address (JP1)

Configuration	Address
No jumpers installed	C800H (Default)
Pins A-B Shorted	Invalid
Pins C-D Shorted	CC00H
Pins A-B and C-D Shorted	DC00H

Table 6: Zero-Wait-State Enable, ST01 and ST02 (W2 or JP2)

Configuration	0WS State
No jumpers installed	0WSDisable(Default)
Pins H-I Shorted	0WS Enable

st01pg17_1

Table 7: Interrupt Enable, ST01 (W3) and ST02 (JP3)

Configuration	IRQ State
No jumpers installed	Interrupts Disabled (Default)
Pins E-F Shorted	IRQ3 Enable
Pins F-G Shorted	IRQ5 Enable

st01pg17_2

Table 8: Diskette Drive Type Selection, ST02 Only (JP5)

Configuration	Diskette Type Selected
Pins M-N Shorted	360/720 KByte Only
Pins N-O Shorted	360/720 KByte & 1.2/1.44 MByte (Default)

Table 9: Register 01F4h Emulation, ST02 Only (JP6)

Configuration	Diskette Type Selected
Pins Q-R Shorted	Enabled for PC XT 286 and PC AT (Default)
Pins P-Q Shorted	Disabled for PC XT

Refer to page 7 for additional information on Regsister 01F4h emulation.

III. ST02 Diskette Drive Configuration

The ST02 has two 34-pin connectors for diskette drive support. J3 is provided as an edge-connector for use with PC and PC XT compatible diskette drive cables. J5 is a 34-pin header for use with PC AT compatible diskette drive cables. Contact your dealer for cables.

1. PC Setup Jumpers: There are several jumpers located on the diskette drive that must be correctly set to perform in the PC environment. Each manufacturer may label these jumpers differently. Refer to the diskette drive manual supplied with your system to determine correct jumper position.

2. Diskette Drive Select Jumpers: This header has four positions. They are labeled DS0-3 or DS1-4 depending on the drive vintage. For PC applications only, DS1 (older drives) or DS2 (newer drives) are used because the drive interconnecting cable has lines switched to accommodate a common jumper setting.

3. Diskette Terminator Jumper: This jumper is used to activate terminating resistors for 7 of the 11 drive interface input lines. The lines are defined by drive type and manufacturer. In PC applications Drive A has the terminating resistor jumper active. Drive B has no terminating jumper.

IV. Notes Before Formatting the Drive

The installation process will "low-level" format new physical blocks, create DOS-compatible partitions, root directories and file allocation tables for the entire drive. The procedure is identical for IBM XT and AT systems, except where indicated.

All Seagate Paired Program drives are shipped with a small DOS partition containing INSTALLR.EXE, PARK.COM, and README.1ST (a printable supplement to this installation guide). README.1ST contains the latest information for the drive being installed. It can be accessed by the DOS commands: TYPE, COPY, and PRINT.

* If your drive has less than 32 formatted MBytes, you will need one DOS-bootable diskette that has the boot files from the version of DOS that you plan to use on your Seagate drive. This diskette should also contain the FORMAT program provided with DOS, and sufficient space (approximately 5 KBytes) to save the installation programs from the hard drive. The diskette must not be write-protected.

* If your drive has more than 32 formatted MBytes, you will need two diskettes; one DOS-bootable with the version of DOS you plan to use. The second diskette must have at least 320 KBytes available to save the installation and Disk Manager programs. The diskettes must not be write-protected.

* Important Note for PC AT Installations:

  If you are installing your drive in a PC AT or 100% compatible, and a hard drive is not presently attached or operational, the hard drive count in CMOS will already be set to zero, or no hard drives installed.

  If a standard hard drive is already attached and operating, it will be the first drive and the Seagate Paired Program Drive will be Drive 2. It is not necessary to change the CMOS hard drive count when installing Seagate Paired Program drives.

Note to Installers and/or second drive installations: DOS assigns a logical identifier (C, D, E...) to each partition that it recognizes during the boot load. It assigns these letters to the first partition on each physical drive in sequential order. Therefore, if you have a single drive with three partitions, they will be assigned C, D, and E.

V. Installation: Drives Less Than 32 MBytes

IMPORTANT. This Section is for Paired Program installations only. Read Section IV before formatting. The entire software installation routine is menu-driven and takes from ten to thirty minutes, depending on drive size. For specific DOS questions, refer to the DOS manual supplied with your system.

After the format is completed, the read/write heads will be parked. At the next power-up, the system will boot from the hard disc.

Read/Write Head Park Program: A PARK program is pre-loaded on all Paired Program drives. The ST225N requires use of this program to park the heads before your drive/system is transported. All other Seagate SCSI drives automatically park the heads at power-down.

For optimum performance, format the drive installed in your system in the same orientation in which it will be used.

1. Software Installation: START HERE

   Place a DOS-bootable diskette (to boot simply means to start the system) in Drive A and switch the power on.

2. After the boot process is complete, begin the installation by typing:

   C:INSTALLR C

   Press: Enter (Return)

If the drive and Host Adapter are correctly installed you will see the following display:

Seagate Disc Formatting Utility, VX.X

If you are installing a second drive, type:

D:INSTALLR D ENTER

3. Your screen should look like this:

A>C:INSTALLR C

or, A>D:INSTALLR D

After pressing ENTER (Return), you will see a screen and follow the screen prompts.

VI. Installation: Drives Greater Than 32 MBytes

IMPORTANT. This Section is for Paired Program installations only. Read Section IV before formatting. The entire software installation routine is menu-driven and takes from ten to thirty minutes, depending on drive size. Help is available by pressing the F1 key. For specific DOS questions, refer to the DOS manual supplied with your system.

At the beginning of the installation, you will be instructed (after the boot) to remove the DOS diskette and insert a blank formatted diskette to make a backup copy of the Disk Manager software.

After the format is completed, the read/write heads will be parked. At the next power-up, the system will boot from the hard disc.

For optimum performance, format the drive installed in your system in the same orientation in which it will be used.

1. Software Installation: START HERE

   Place a DOS-bootable diskette (to boot simply means to start the system) in Drive A and switch the power on.

2. After the boot process is complete, begin the installation by typing:

   A>C:INSTALLR C ENTER

   If the drive and Host Adapter are correctly installed you will see the following display:

   Seagate Disc Formatting Utility, VX.X

   If you are installing a second drive, type:

   A>D:INSTALLR D ENTER

3. Follow the screen prompts.

If you are installing a drive with Disk Manager software, and you already have a hard disc in your system, you must copy the DMDRVR.SYS and CONFIG.SYS files from the Disk Manager diskette to the existing (first, or boot) drive.

If you already have a CONFIG.SYS file on the boot drive, update the file to include the following line:

DEVICE=DMDRVR.BIN

Refer to your DOS manual for instructions on editing the CONFIG.SYS file.

VII. Troubleshooting Your Installation

If you have a problem getting the initial screen, or later getting the system to boot:

* Check the cabling between the Host Adapter and drive. Pin-1 on the Adapter always corresponds to Pin-1 at the drive connector. Most cables have a contrasting color on the cable to indicate Pin-1.

* Check the power cable to the drive. Can you hear it spinning up?

* Verify correct hard drive SCSI ID selection.

* Verify correct BIOS address for the Host Adapter. See Tables 4-5. If you have more than one board that uses BIOS ROM space, each must be configured to a different memory address. Addressing multiple boards at the same memory location can cause problems of a seemingly indeterminate nature.

* If you experience problems accessing your DOS partition after installation, refer to the .REF files provided with the Disk Manager software (drives over 32 formatted MBytes).

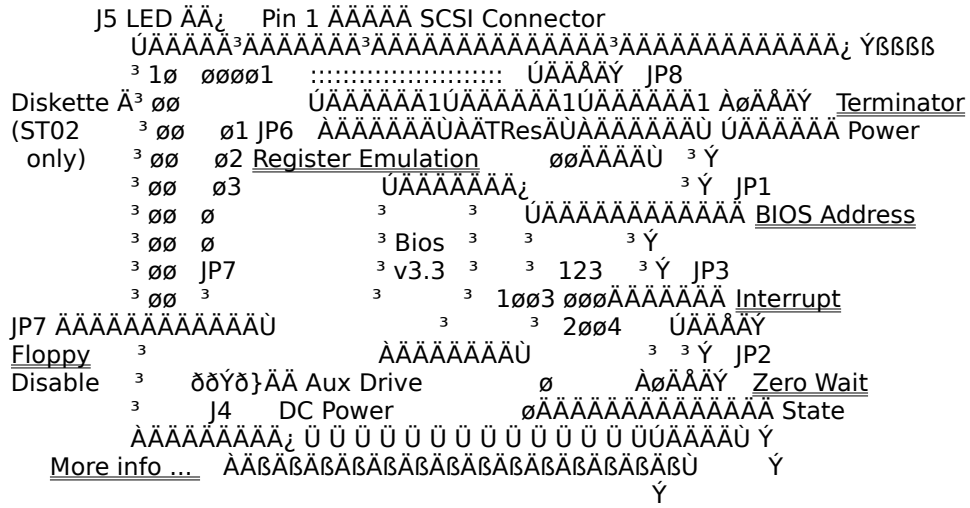
For system or DOS help, contact your computer system manufacturer.

For additional installation help, contact your authorized Seagate Distributor/Dealer.

st02v33

ST01/ST02 SCSI Host Adapter, 16K ROM Version 3.3

(Some configurations have a DB25 external SCSI connector on the clamp.)



st02v33JP1

Jumper Definitions:

JP1 - Bios Address Selection

Pins		BIOS
1-2	3-4	Address
Open	Open	C8000h
Short	Open	CA000h (invalid)
Open	Short	CC000h
Short	Short	CD000h

st02v33JP2

JP2 - Zero Wait State

Open = Disable
Short = Enable

st02v33JP3

JP3 - Interrupt

No Jumper	=	Int. Disable
1-2 Shorted	=	IRQ 3
2-3 Shorted	=	IRQ 5

st02v33JP6

JP6 - H. D. Emulation Register

2-3 Shorted	=	Disable
1-2 Shorted	=	Enable

(1F2, 1F4 AT System only)

st02v33JP7

JP7 - Floppy Enable/Disable

Open	=	Enable
Shorted	=	Disable

(ST-02 only)

st02v33JP8

JP8 - Terminator Power

Open	=	Disable
Shorted	=	Enable

(If enabled, the ST01/02 will supply terminator power to remote device)

st02v33info

Addendum from the Seagate Tech Support BBS: The ST01/02 has a newer board layout that can be identified by the ROM BIOS chip with a version number 3.3 sticker.

Unlike previous versions of the ST01/02, this release will support drives with more than 1024 cylinders and the ability to disable the floppy controller portion on the ST02. This provides compatibility with the Swift and Wren families of Seagate disc drives. Please note that there is no possibility of ROM upgrades to older versions of the ST01/02 SCSI host adapter.

st05cover

ST05X XT Interface

Host Adapter

Installation Guide

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_____Seagate

st05copyright

Copyright Notice:

920 Disc Drive, Scotts Valley, California 95066-4544, USA
Telephone: 408/438-6550
Publication Number: 36121-001, Rev. A

Introduction:

The ST05X Host Adapter is used in conjunction with the Seagate XT interface drives and an IBM PC/XT (or compatible) computer.

The ST05X is a half-slot board. It provides a 40-pin XT interface connector for systems lacking an XT interface drive connector on the motherboard. The ST05X supports two drives only.

The ST05X provides address decoding for hard drive I/O and buffering of signals between the host and the hard drive. The BIOS address is jumper-selectable. Additionally, the ST05X offers the following features for IBM PS/2 Model 25/30 or Drive-on-a-card applications:

* Drive Activity LED connector
* Auxiliary DC Power Connector
* Standard Mounting Points

1.0 ST05X Configuration

The ST05X requires no special installation software. The XT interface drive can be low-level formatted using the ST05X BIOS (DOS Debug command G=C800:5) or the system BIOS. For additional information, refer to the drive's Product Manual.

1.1 XT Interface Drive Connectors: J1/J2

J1 and J2 are 40-pin XT interface drive connectors. Refer to Figure 1.

J1 Connects to Drive 1	320H-323H
J2 Connects to Drive 2	324H-327H

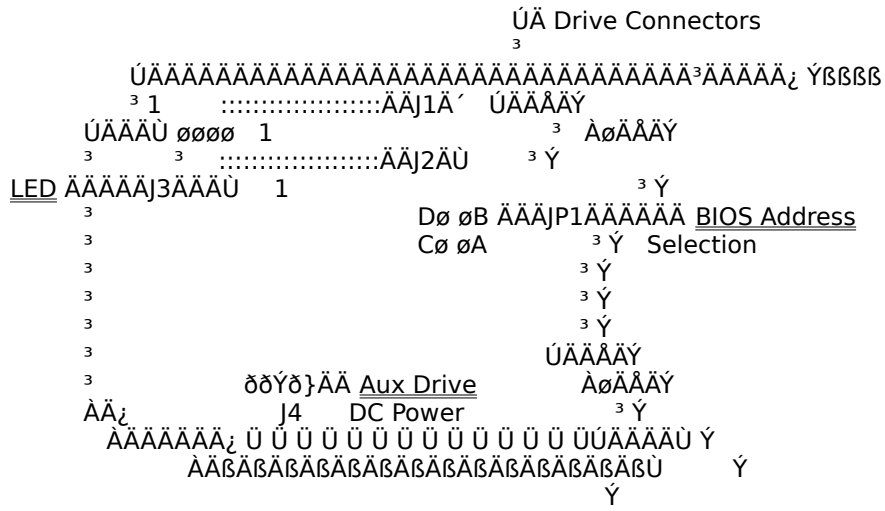
The ST05X supports two XT interface drives. For additional information on the XT interface, refer to the Seagate XT interface manual/

st05pg2_5

1.2 BIOS Address Selection: JP1

Pins A-B	Pins C-D	BIOS EPROM/ROM	BIOS RAM
Open	Open	C8000-CBF7F	CBF80-CBFFF
Open	Shorted	D8000-DBF7F	DBF80-DBFFF
Shorted	Open	D0000-D3F7F	D3F80-D3FFF
Shorted	Shorted	E0000-E3F7F	E3F80-E3FFF

Figure 1: ST05X XT Interface Host Adapter



1.3 Auxiliary Drive DC Power Connector: J4

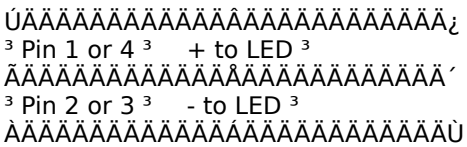
J4 is a 6-pin, right-angle header. J4 may be used to supply DC power to a hard drive. This is provided for systems which lack an available power harness or Drive-on-a-card applications. Refer to Figure 1.

Pin	Signal	Description
1	+12VDC	+12 VDC Power
2	+12VDC	+12 VDC Power
3	+5VDC	+5 VDC Power
4	Key	Pin Removed
5	GND	Ground
6	GND	Ground

st05pg4_5

1.4 LED Connector: J3

J3 is a 4-pin header. It provides connection to a drive activity LED. Refer to Figure 1.



st07cover

ST07A, ST08A

AT INTERFACE HOST ADAPTER

INSTALLATION GUIDE

Seagate

st07copyright

920 Disc Drive
Scotts Valley, CA 95066-4544, USA
408/438-6550

Publication Number: 36118-001, Rev. B

Introduction:

The ST07A and ST08A Host Adapters are used in conjunction with a Seagate AT interface drive and an IBM PC AT (or compatible) computer. They are both half-slot boards, which provide a 40-pin AT interface connector for systems lacking an AT interface drive connector on the system motherboard.

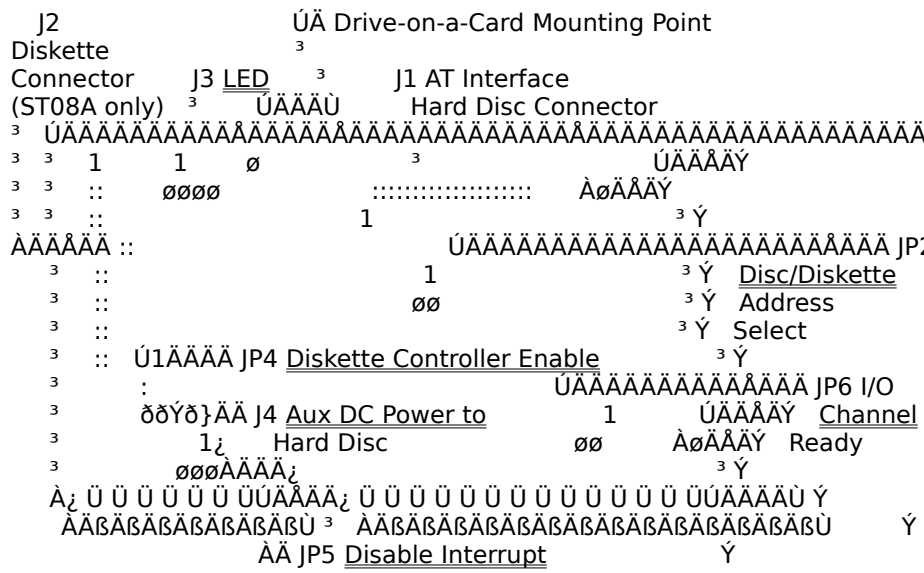
The ST07A/ST08A support two AT interface drives. They provide address decoding for hard drive I/O and buffering of signals between the host and the hard drive.

The ST08A supports up to two floppy diskette drives:

* 5.25-inch, 260 KByte/1.2 MByte
* 3.5-inch, 720 KByte/1.44 MByte

An auxiliary DC power connector and mounting points are provided on both boards for "Drive-on-a-Card" applications.

Figure 1: ST07A/ST08A AT Interface Host Adapter



1.0 ST07A/ST08A Interface Connector/User Options

1.1 AT Interface Drive Connector: J1

J1 is a 40-pin header. J1 provides the AT interface connection to the hard drive. Maximum cable length: 18 inches (.45 meter).

1.2 Floppy Diskette Connector: J2 (ST08A Only)

J2 is a 34-pin header. J2 provides connection to floppy diskette drives. Refer to Section 1.6 for supported formats.

st07pg3_5

1.3 LED Connector: J3

J3 is a 4-pin header. J3 provides connection to a drive activity indicator.

Pin 1 or 4	+ to LED
Pin 2 or 3	- to LED

1.4 Auxiliary Drive DC Power Connector: J4

J4 is a 6-pin, right-angle header. J4 may be used to supply DC power to a hard drive. This is provided for systems which lack an available power harness or for "Drive-on-a-card" applications.

Pin	Signal	Description
1	+ 12 VDC	+ 12 VDC Power
2	+ 12 VDC	+ 12 VDC Power
3	+ 5 VDC	+ 5 VDC Power
4	Key	Pin Removed
5	GND	Ground
6	GND	Ground

1.5 Hard Drive I/O Address Selection: JP2

st07pg4_1

JP2 provides address decoding for hard drive I/Os.

Pin	Address Selection	Drive Address
1-2 Open	Primary Address Standard Configuration	1F0-1F7, 3F6-3F7
1-2 Shorted	Secondary Address	170-177, 376-377

1.5.1 Floppy Diskette Drive I/O Address Selection: JP2

JP2 provides address decoding for the floppy diskette drive I/Os
(ST08A only)

Pin	Address Selection	Diskette Drive Address
1-2 Open	Primary Standard Configuration	3F0-3F5, 3F7
1-2 Shorted	Secondary	370-375, 377

st07pg5_1

1.6 ST08A Controller Enable: JP4

The ST08A supports up to two floppy diskette drives of the following formats:

* 5.25-inch, 360 KByte/1.2 MByte
* 3.5-inch, 720 KByte/1.44 MByte

Pin	Diskette Controller Status
Pins 1-2 Shorted	Controller Enabled Standard Configuration
Pins 1-2 Open	Controller Disabled

1.7 Disable Interrupt While Busy: JP5

Pin	Interrupt Status
Pins 2-3 Shorted	The hard drive interrupt is directly connected to the IRQ 14 line of the AT bus. Standard For All Seagate AT Interface Drives
Pins 1-2 Shorted	IRQ14 to the host is cleared when the the hard drive goes BUSY. This jumper configuration is specially provided for those systems which do not read status following an interrupt.

st07pg6_1

1.8 I/O Channel Ready: JP6

Pin	I/O Channel Status
Pins 1-2 Open	I/O channel READY from hard drive is not connected to the host. Standard Configuration
Pins 1-2 Shorted	I/O channel READY from the hard drive is connected to the host.

st11cover

ST11M, ST11R

ST412 Interface Controller

Installation Guide

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Seagate

st11copyright

920 Disc Drive, Scotts Valley, California 95066-4544, USA
Telephone: 408/438-6550
Publication Number: 36095-001, Rev. E

Introduction:

This installation guide supports the Seagate ST11M MFM and ST11R RLL Controllers, ROM Version 2.0 or higher.

The ST11M and ST11R are 8-bit ST412 interface controllers designed for use in PC XT AT systems with DOS-based applications. Use with other than DOS-based systems is beyond the scope of this guide. Contact your Distributor/Dealer.

* The ST11M is designed for use with drives employing MFM data encoding.

* The ST11R is designed for drives using RLL (2,7) data encoding. Seagate RLL drives are easily recognized by an "R" after the model number, e.g., ST157R. Seagate Technology, Inc. assumes no liability for installation of an RLL controller with an MFM-certified drive.

* The ST11M/ST11R have a unique recording format and therefore require all attached drives to be installed by one of the processes described in this guide before operation.

This publication may be used with Seagate Paired Program drives or as a controller-only installation guide.

Paired Program drives are shipped with a Seagate controller. They are recognized by a "PR" label on the drive top cover. Paired drives are shipped formatted with a small DOS partition containing the installation program, INSTALLR, which will low-level format and partition your drive. You must supply the DOS program. The ST11M/ST11R can recognize whether a drive has the Paired Program software loaded, or has been previously installed.

Paired Program drives with formatted capacities greater than 32 MBytes have Disk Manager partitioning software loaded. This utility has been customized by Ontrack for Seagate. Refer to Section 2.1 for special instructions on formatting Paired Program drives.

Before You Begin...

Inspect the controller, drive, cables, mounting hardware/accessories, documentation and packaging. If any item is incorrect, missing or appears damaged, contact your Distributor or Dealer immediately.

Handling: Improper handling during transit/shipping accounts for many "installation" problems. Prior to installation, handle your drive/controller carefully.

Observe Static-Discharge Precautions: Keep the drive/controller in their static-shielded bags until you are ready to complete the installation. Use a grounded wrist-strap at your workstation; if unavailable, ground yourself frequently by touching the metal chassis of the system before handling any components. Avoid static-inducing carpeted areas.

Shipping: When transporting or shipping a drive or controller, a Seagate-approved container must be used. Keep your original box. They are easily identified by a red label identifying them as a "Seagate Approved Package."

Shipping a drive in a non-approved container will void the drive warranty.

Repair centers may refuse receipt of components improperly packaged or obviously damaged in transit. Contact your Distributor to purchase additional boxes. Seagate recommends shipping by an air-ride carrier experienced in handling computer equipment.

Maintenance: Seagate disc drives do not require any preventative maintenance. The head/disk assembly is sealed and does not contain any user-serviceable components. Tampering with the factory-seal will void the warranty.

1.0 ST11M/ST11R Controller Installation

Caution: Do not handle a drive or controller without observing static-discharge precautions. A grounded wrist-strap is preferred; if unavailable, ground yourself frequently by touching the metal chassis of the system before handling any components. Do not unpack the drive/controller until you are ready to complete the installation.

BEFORE ATTEMPTING ANY INSTALLATION, READ THROUGH ALL STEPS AND VERIFY THAT THE SYSTEM IS POWERED-DOWN.

During the formatting process, you will be asked to enter some simple drive specifications. Please refer to Figures 1-2 for formatted capacity and basic specifications. For non-Seagate drives, refer to the manufacturer's instructions.

Figure 1: Seagate MFM Drive Setup - ST11M

Model	Formatted MBytes	R/W Heads	Data Cylinders	Sectors per Track	Auto-Park
ST124	21.4	4	615	17	No
ST125	21.4	4	615	17	Yes
ST138	32.1	6	615	17	Yes
ST151	42.5	5	977	17	Yes
ST225	21.4	4	615	17	No
ST251	42.8	6	820	17	Yes
ST252	42.8	6	820	17	Yes
ST4053	44.5	5	1024	17	Yes
ST4096	80.2	9	1024	17	Yes

Figure 2: Seagate RLL Drive Setup - ST11R

Model	Formatted MBytes	R/W Heads	Data Cylinders	Sectors per Track	Auto-Park
ST137R	32.7	4	615	26	No
ST138R	32.7	4	615	26	Yes
ST157R	49.1	6	615	26	Yes
ST225R	21.2	2	667	31	No
ST238R	32.7	4	615	26	No
ST250R	42.9	4	667	31	No
ST277R	65.5	6	820	26	Yes
ST278R	65.5	6	820	26	Yes
ST4144R	122.7	9	1024	26	Yes

Data Cylinders: User cylinders are calculated from logical zero, i.e., 0 to 614 equals 615 cylinders.

Write Precompensation (ST225 Only): For optimum performance, precompensation is recommended starting on cylinder 300. Enter the information, when prompted.

Interleave: Use optimum interleave as indicated in installation routine.

Read/Write Head Parking: A PARK program is preloaded on all Paired Program drives, PARK.EXE or PARK.COM, which the INSTALLR software will copy to a diskette during installation. The following drives require parking before the drive/system is transported: ST124, ST137R, ST225, ST225R, ST238R, ST250R. All other Seagate drives feature automatic R/W head parking at power-down.

1.1 Set the Controller BIOS Address

Controllers and add-in boards are installed in the bus slots on the computer's motherboard. These slots are recognized by the computer BIOS address number. Each board installed must be jumpered for a specific address.

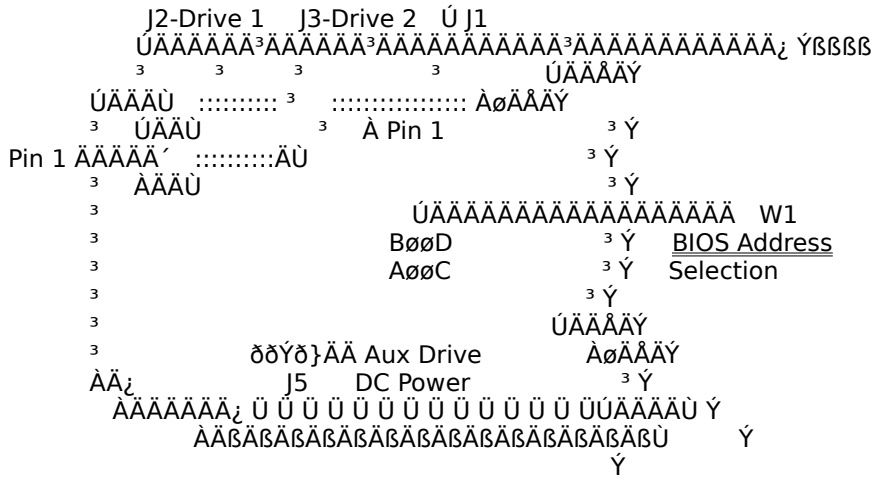
C8000H is the default BIOS address for the ST11M/ST11R. If this address is already occupied by another board, use the jumpers provided to change the Seagate controller to another address. Refer to Figure 3.

When installing an ST11M/ST11R controller with a Seagate ST01/ST02 SCSI Host Adapter, the controller must be at the lowest address (C8000H).

When installing the ST11M/ST11R in a system already containing a hard disc controller, the Seagate controller must be jumpered at a higher BIOS address than the resident controller. If you are not sure of the other controller's address, try one of the higher addresses for the Seagate controller.

Controller physical installation will only involve setting the BIOS address (Figure 3), attaching the cables and inserting the controller in a system bus slot. It is often easier to attach the cables before you install the controller.

Figure 3: ST11M/ST11R ST412 Interface Controller



st11pg6_1

Jumper Setting at W1	BIOS Address	Port Address
No Jumpers Installed	C8000H (Default)	320H - 323H
Pins A-B Shorted	D0000H	324H - 327H
Pins C-D Shorted	D8000H	328H - 32BH
Pins A-B and C-D Shorted	E0000H (Do not use on an AT-class system)	32CH - 32FH

1.2 Controller Physical Installation

CAUTION: VERIFY THAT THE POWER IS OFF.

1. Remove the System Cover (Refer to your system manual).

   Access to the screws is usually at the back of the system. Save the screws. Systems vary, but most require you to slide the cover forward for removal.

2. Install the Controller into a System Bus Slot.

   Verify that all connections are correct and replace the system cover.

3. Optional Drive Power Connector on the ST11M/ST11R.

   Normally, drive power is supplied via a power harness from the system power supply directly to the drive's J3 DC power connector. The J5 connector on the ST11M/ST11R can be used to provide disc drive power in system lacking an extra power harness or for "Drive-on-a-Card" applications. See connector J5, Figure 3.

   A cable splitter, often called a Y-cable may be used to tap off the diskette drive power cable. They are available from most Distributors/Dealers.

2.0 Preparing to Format Your Drive

Please read this section before proceeding to the formatting instructions. Be sure to back up any drive containing data. Formatting at any level may result in partial or complete loss of data. Seagate Technology, Inc. assumes no liability for lost data.

* Always use the same version of DOS throughout the entire process. On two-drive systems: Always use the same version of DOS on both drives. When adding a second drive, it is sometimes necessary to reformat the first drive.

* DOS assigns a logical identifier (C, D, E...) to each partition that it recognizes during the boot load. It assigns these letters to the first partition on each physical drive in sequential order (e.g., C to Drive 1, D to Drive 2). Subsequent letters are assigned to the remaining partitions on Drive 1, followed by Drive 2. See table below for typical examples:

Partition	Drive 1	Drive 2
1	C	D
2	E	H
3	F	I
4	G	J

* For optimum performance, format the drive installed in your system in the same orientation in which it will be used.

2.1 Paired Program Drive Formatting

Paired Program drives are shipped with a small DOS partition containing Installation software and a README file which has the latest information for the drive being installed. See Section 3.0.

2.2 Non-Paired Drive Formatting

Seagate non-paired drive do not have installation software or recognizable format. These drives may be installed by following the procedures in Section 4.0.

2.3 Paired Drives with Less than 32 Formatted MBytes

You will need one DOS-bootable diskette that has the boot files from the version of DOS that you plan to sue on your Seagate drive. This diskette should also contain the FORMAT program provided with DOS, and sufficient space (approximately 50 KBytes) to save the installation programs from eh hard drive. The diskette must not be write-protected.

2.4 Paired Drive with Greater than 32 Formatted MBytes

You will need two diskettes; one DOS-bootable with the version of DOS you plan to use. The second diskette must have at least 360 KBytes available to save the installation and Disk Manager programs. The diskettes must not be write-protected.

2.5 CMOS Configuration

If you are installing your drive in a PC AT and a hard drive is not presently attached or operational, the hard drive count in CMOS will already be set to zero.

If a standard hard drive is already attached and operating, it will be the first drive and the Seagate Paired Program drive will be Drive 2. It is not necessary to change the CMOS hard drive count when installing with ST11M/ST11R controllers.

2.6 Read/Write Head Parking

A PARK program is preloaded on all Paired Program drives. The following drives require this program before the drive/system is transported: ST124, ST137R, ST225, ST225R, ST238R, ST250R. All other Seagate drives feature automatic head parking at power-down.

3.0 Paired Program Installations

Read Sections 1-2 before beginning any formatting. The entire software installation routine is menu-driven and takes from ten to thirty minutes, depending on drive size. For specific DOS questions, refer to the DOS manual supplied with your system. After the format is completed, the read/write heads will be parked. At the next power-up, the system will boot from the hard disc.

3.1 Paired Program Formatting

Place a DOS-bootable diskette (to boot simply means to start the system) in Drive A and switch the power on a follow the instructions displayed on the screen. If you are installing a second drive, type:

```
D:INSTALLR D
```

If you are installing a drive with Disk Manager software and you already have a hard disc in your system, you must copy the DMDRVR.BIN and CONFIG.SYS files from the Disk Manager diskette to the existing (first, or boot) drive.

If you already have a CONFIG.SYS file on the boot drive, update the file to include the following line: DEVICE=DMDRVR.BIN

Refer to your DOS manual for instructions on editing the CONFIG.SYS file. Disk Manager also provides help files which you may print using the standard DOS print commands.

4.0 Non-Paired Drive Formatting

Use this procedure for non-paired drives or when reformatting a paired drive whose installation software files were lost or not copied before formatting.

Be sure to back up any drive containing data. Formatting at any level may result in partial or complete loss of data. Seagate Technology, Inc. assumes no liability for lost data.

If you use the DOS DEBUG utility to low-level/primary format the drive, you must answer "YES" to the question, "Do you want to enter the defect map which is supplied on your hard disc drive cover?". Proceed with entering all defects from the defect map.

Important Note: If you use the ST11M/ST11R controller, BIOS Version 2.0, with a Seagate Paired Program drive, but do not use the Seagate installation software (INSTALLR), you must manually enter the Manufacturer's Defect Map (attached to the drive top cover) during the low-level/primary formatting operation.

Always use the same version of DOS throughout the entire process. On two-drive systems: Always use the same version of DOS on both drives. When adding a second drive, it is sometimes necessary to reformat the first drive.

4.1 Low-level Physical Format Using BIOS Facility

When using DEBUG to format in an AT system, the CMOS or system setup should be set to 0 (i.e., no hard drive installed).

1. Boot the system from the DOS system diskette.

2. At the A> prompt, insert the DEBUG diskette and type:

DEBUG <enter>

3. To access the controller's format routine, at the "-" prompt type:

   G=XXXX:5 <enter> (Where XXXX is the correct address; refer to Figure 3.)

   Note: Seagate controllers will step you through the process. Refer to the drive charts Figures 1-2 for correct drive parameters.

   On drives over 32 formatted MBytes, Disk Manager will automatically partition and high-level format the drive.

   Use FDISK and FORMAT on your DOS diskette for drives less than 32 formatted MBytes.

5.0 Troubleshooting Your Installation

If you have a problem getting the initial screen, or later getting the system to boot:

* Check the cabling between the controller and drive. Pin-1 on the controller always corresponds to Pin-1 at the drive connector. Most cables have a contrasting color on the cable to indicate Pin-1.

* Check the power cable to the drive. Can you heard the drive spinning up?

* Verify correct Drive Select jumper.

* Verify correct BIOS address for the controller. If you have more than one board that uses BIOS ROM space, each must be configured to a different memory address. Addressing multiple boards at the same memory location can cause problems of a seemingly indeterminate nature.

* Low-level formatting takes too long or never completes

  Format again. Make sure correct drive parameters were entered and cable connections are correct.

* FDISK or Partitioning Error Messages: "Error reading fixed disc," or "No fixed disc present"

Check correct drive parameters entered. Turn the system off and power-up again. Rerun FDISK.

* High-level Format Error Message: "Invalid drive specification"

  Run FDISK again to make sure the DOS partition is active. Check drive parameters and low-level format again.

  In AT systems, check that no drive type is entered in the system CMOS setup for the drive attached to the ST11M/ST11R.

* Drive fails recal or test drive ready

  Check installation, cables, and drive select jumper.

* I/O Errors when using Disk Manager:

  "Uncorrectable ECC - I/O Error"

  "Unrecoverable I/O Error"

  If you are formatting a drive in an XT or using the ST11M/ST11R controller in an AT, low-level format the drive through DEBUG using the controller's BIOS routine.

* After formatting with Disk Manager, your system does not recognize the D, E, F... partitions:

  First, make sure that you boot from the hard drive. If you still cannot access these partitions, check that the Disk Manager device driver, DMDRVR.BIN is in the root director of the C: (boot) drive. Verify that the CONFIG.SYS file contains the following line:

  DEVICE=DMDRVR.BIN

If you experience problems accessing your DOS partition after installation, refer to the help files provided with Disk Manager.

For system or DOS help, contact your computer system manufacturer. For additional installation help, contact your authorized Seagate Distributor/Dealer.

st22cover

ST21M, ST21R

ST22M, ST22R

ST412 Interface Controller

Installation Guide
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_____ Seagate

st22copyright

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920 Disc Drive, Scotts Valley, California 95066-4544, USA
Telephone: 408/438-6550
Publication Number: 36127-001, Rev. A

Introduction

The ST21 and ST22 are 16-bit ST412 interface controllers designed for use in AT-type systems.

* The ST21M and ST22M are designed for use with drives employing MFM data encoding and a 5.0 Mbit/sec. I/O data transfer rate. Seagate Technology, Inc. assumes no liability for installation of an MFM controller with an RLL-certified drive.

* The ST21R and ST22R are designed for drives using RLL (2,7) data encoding and a 7.5 Mbit/sec. I/O data transfer rate. Seagate RLL drives are easily recognized by an R after the model number, e.g., ST157R. Seagate Technology, Inc. assumes no liability for installation of an RLL controller with an MFM-certified drive.

* The ST22M and ST22R have an onboard floppy diskette controller which supports two diskette drives in the following formats:
  - 3.5-inch, 720K Byte/1.44M Byte
  - 5.25-inch, 360K Byte/1.2 M Byte

* The ST21 and ST22 have a unique recording format and therefore require all attached drives to be installed by one of the processes described in this guide before operation.

This publication may be used with SEAGATE Paired Program drives or as a controller-only installation guide.

Paired program drives are shipped with a Seagate controller. They are recognized by a PR label on the drive top cover. Paired drives are shipped formatted with a small DOS partition containing the installation program, INSTALLR, which will low-level format and partition your drive. You must supply the DOS program. The ST21/ST22 can recognize whether a drive has a Paired Program software loaded, or has been previously installed.

Paired Program drives with formatted capacities greater than 32 MBytes have DISK MANAGER (customized by ONTRACK for Seagate) partitioning software loaded. Instructions on installing Paired Program drives begin in Section 3.0.

Before You Begin...

Inspect the controller, drive, cables, mounting hardware/accessories, documentation and packaging. If any item is incorrect, missing or appears damaged, contact your Distributor or Dealer immediately.

Handling: Improper handling during transit/shipping accounts for many "installation" problems. Prior to installation, handle your drive/controller carefully.

Observe Static-Discharge Precautions: Keep the drive/controller in their static-shielded bags until you are ready to complete the installation. Use a grounded wrist-strap at your workstation; if unavailable, ground yourself frequently by touching the metal chasis of the system before handling any components. Avoid static-inducing carpeted areas.

Shipping: When transporting or shipping a drive or controller, a Seagate-approved container must be used. Keep your original box. They are easily identified by a red label identifying them as a Seagate Approved Package.

Shipping the drive in a non-approved container will void the drive warranty.

Repair centers may refuse receipt of components improperly packaged or obviously damaged in transit. Contact your Distributor to purchase additional boxes. Seagate recommends shipping by an air-ride carrier experienced in handling computer equipment.

Maintenance: Seagate disc drives do not require any preventative maintenance. The head/disc assembly is sealed and does not contain any user-servicable components. Tampering with the factory-seal will void the warranty.

1.0 ST21, ST22 Setup and Installation

Caution: Do not handle a drive/controller without observing static-discharge precautions. A grounded wrist-strap is preferred; if unavailable, ground yourself frequently by touching the metal chasis of the system before handling any components. Do not unpack the drive/controller until you are ready to complete the installation.

During the formatting process, you will be asked to enter some simple drive specifications. Refer to Figures 1-2 for basic specifications. For non-Seagate drives, refer to the manufacturer's instructions.

Important Note: A Drive Type must be set in the AT system CMOS if the controller BIOS is disabled. See Section 2.6.

Figure 1: Seagate MFM Drive Setup - ST21M/ST22M

Model	Formatted MBytes	R/W Heads	Data Cyls.	Sectors / Track	R/W Head Auto-Park	Write Precomp
ST124	21.4	4	615	17	No	None
ST125	21.4	4	615	17	Yes	None
ST138	32.1	6	615	17	Yes	None
ST151	42.5	5	977	17	Yes	None
ST225	21.4	4	615	17	No	Cylinder 300
ST252	42.8	6	820	17	Yes	None
ST251	42.8	6	820	17	Yes	None
ST4053	44.5	5	1024	17	Yes	None
ST4096	80.2	9	1024	17	Yes	None
ST1100	83.9	9	*1072	17	Yes	None

Figure 2: Seagate RLL Drive Setup - ST21R/ST22R

Model	Formatted MBytes	R/W Heads	Data Cyls.	Sectors / Track	R/W Head Auto-Park	Write Precomp
ST138R	32.7	4	615	26	Yes	None
ST157R	49.1	6	615	26	Yes	None
ST225R	21.17	2	667	31	No	None
ST238R	32.7	4	615	26	No	None
ST250R	42.9	4	667	31	No	None
ST278R	65.5	6	820	26	Yes	None
ST277R	65.5	6	820	26	Yes	None
ST4144R	122.7	9	1024	26	Yes	None
ST1150R	128.4	9	*1072	26	Yes	None

Data Cylinders: User cylinders are calculated from logical zero, i.e., 0 to 614 equal 615 cylinders.

* Note: The ST21/ST22 can address a maximum of 16 R/W heads and 1,024 cylinders.

Interleave: Use 1:1 interleave as indicated in installation routine.

Read/Write Head Parking: A PARK program is preloaded on all Paired Program drives, PARK.EXE or PARK.COM, which the INSTALLR software will copy to a diskette during installation. The following drives require parking before the drive/system is transported: ST124, ST225, ST225R, ST238R, ST250R. Refer to Section 2.7.

If your drive is not Paired, see your Distributor/Dealer for a read/write head parking program.

1.1 Controller Setup

1.1.1 Set Controller BIOS and Drive Address: JP1-JP2

Controllers and add-in boards are installed in the bus slots on the computer's motherboard. These slots are recognized by the computer BIOS address number. Each board installed must be jumpered for a specific address.

C8000h-CBFFFh is the default BIOS address for the ST21/ST22. If this address is already occupied by another board, use the jumpers provided to change the Seagate controller to another address. Refer to Figures 4-5.

When installing the ST21/ST22 in a system already containing a hard disc controller, The Seagate controller must be jumpered at a higher BIOS address than the resident controller. See Figures 4-5.

st22pg6_1

Figure 3: Controller BIOS and Port Addresses

ÚÄÄÄÄÄÄÄÄÄÄÄÄÂÄÄÄÄÄÄÄÄÄÄÄÄÂÄÄÄÄÄÄÄÄÄÄÄÄÂÄÄÄÄÄÄÄÄÄÄÄÄÂÄÄÄÄÄÄÄÄÄÄÄÄÂÄÄÄÄÄÄÄÄÄÄÄÄÂÄÄÄÄÄÄÄÄÄÄÄÄÄ
Ä¿
³ I/O Port ³ ³ ³ BIOS Ad- ³ Hard ³ Diskette ³
³ Address ³ JP1 ³ JP2 ³ dress ³ Drive I/O ³ Drive I/O ³
³ ³ ³ ³ ³ Ports ³ Ports ³
ÆÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍØÍÍÍÍÍÍÍÍÍÍµ
³ Primary ³ Open ³ Open ³ C8000h to ³ 1F0-1F7 ³ 3F0-3F5 ³
³ ³ ³ ³ CBFFFh ³ 3F6-3F7 ³ 3F7 ³
³ ÃÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄ´
³ ³ Open ³ Shorted ³ CC000h to ³ 1F0-1F7 ³ 3F0-3F5 ³
³ ³ ³ ³ CFFFFh ³ 3F6-3F7 ³ 3F7 ³

ÃÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄ
Ä´
³ Secondary ³ Shorted ³ Open ³ D8000h to ³ 170-177 ³ 370-375 ³
³ ³ ³ ³ DBFFFh ³ 376-377 ³ 377 ³
³ ÃÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄ´
³ ³ Shorted ³ Shorted ³ DC000h to ³ 170-177 ³ 370-375 ³
³ ³ ³ ³ DFFFFh ³ 376-377 ³ 377 ³

ÀÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄ
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1.1.2 Floppy Diskette Enable/Disable: JP4 (ST22 Only)

The ST22 features an onboard floppy diskette controller. It is shipped with the controller enabled, to disable remove the jumper at JP4.

Note: Most systems will not support the secondary floppy diskette I/O addresses.

1.1.3 BIOS Enable/Disable Jumper: JP3

The ST21 and ST22 are shipped with the BIOS enabled, JP3 open. To disable the BIOS, attach jumper at JP3. Refer to Figures 4-5.

1.1.4 Remote LED Connector: J6

The ST21 and ST22 provide for connection to the drive activity LED found on most AT-type systems. Connect the remote LED cable to J6.

Figure 4: ST21M/ST21R - No Floppy Diskette Controller

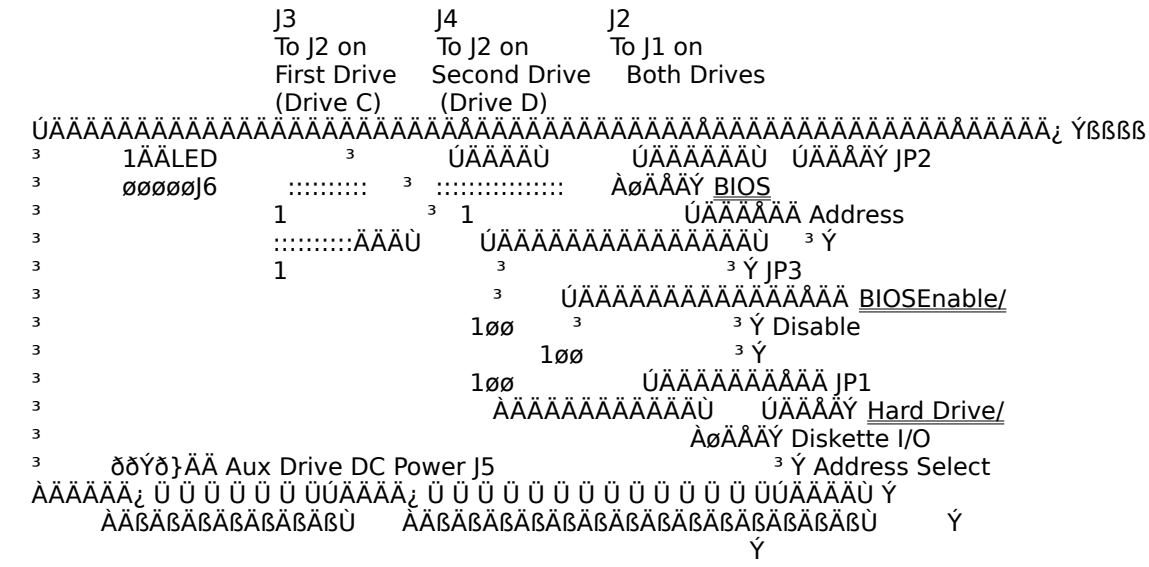
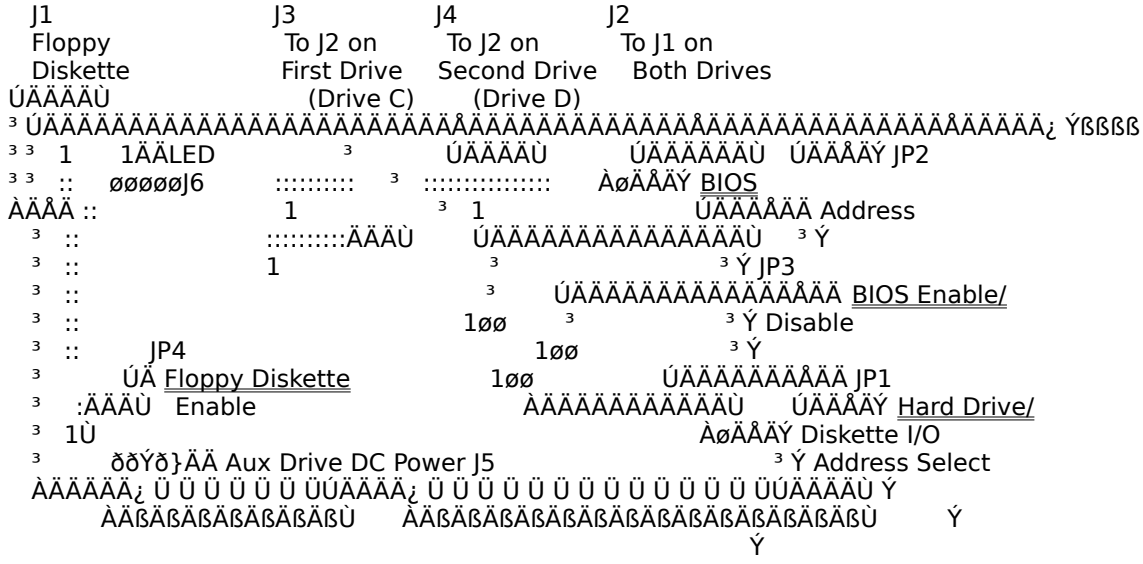


Figure 5: ST22M/ST22R - With Diskette Controller



1.3 Controller Installation

CAUTION: VERIFY THAT THE POWER IS OFF.

1. Remove the System Cover (Refer to your computer system manual).

Access to the screws is usually at the back of the system. Save the screws. Systems vary, but most require you to slide the cover forward for removal.

2. Verify Correct Controller Jumper Options Selections

Refer to Section 1.1

Note: Normally, drive power is supplied via a power harness from the system power supply directly to the drive's J3 DC power connector. The J5 connector on the ST21/ST22 can be used to provide disc drive power in systems lacking an extra power harness or for Drive-on-a-Card applications. Refer to figures 4-6.

A cable splitter, often called a Y-cable, may be used to tap off the diskette drive power cable. They are available from most Distributors/Dealers.

3. Install the Controller as Illustrated in Figure 6 of the Seagate Installation Guide (publication # 36127-xxx)

4. Verify correct cable attachment and replace the system cover.

2.0 Preparing to Format Your Drive

Please read this section before proceeding to the formatting instructions. BE SURE TO BACK UP ANY DRIVE CONTAINING DATA. FORMATTING AT ANY LEVEL MAY RESULT IN PARTIAL OR COMPLETE LOSS OF DATA. SEAGATE TECHNOLOGY, INC. ASSUMES NO LIABILITY FOR LOST DATA.

* Always use the same version of DOS throughout the entire process. On two-drive system, always use the same version of DOS on BOTH drives.

* For optimum performance, format the drive installed in your system in the same orientation in which it will be used.

* The ST21 and ST22 have the ability to flash controller error conditions via the drive front-panel LED. Refer to Section 5.0

2.1 Paired Program Drive Formatting

Paired Program drives are shipped with a small DOS partition containing Installation software and a README file which has the latest information for the drive being installed. See Section 3.0

2.2 Non-Paired Drive Formatting

Seagate non-paired drives do not have installation software or recognizable format. These drives may be installed by following the procedures in Section 4.0.

2.3 Paired Drives: Less than 32 Formatted MBytes

You will need ONE DOS-bootable diskette that has the boot files from the version of DOS that you plan to use on your Seagate drive. This diskette should also contain the FORMAT program provided with DOS, and sufficient space (approximately 50K Bytes) to save the installation programs from the hard drive. The diskette must NOT be write-protected.

2.4 Paired Drives: Greater than 32 Formatted MBytes

You will need TWO Diskettes: One DOS-bootable with the version of DOS you plan to use; the second diskette with at least 360K Bytes available to save the installation and DISK MANAGER programs. The diskette must not be write-protected.

2.5 CMOS Configuration

If you are installing your drive in a PC AT and a hard drive is not presently attached or operational, the hard drive count in CMOS will already set to zero.

If a standard hard drive is already attached and operating, it will be the first drive and the Seagate Paired Program drive will be Drive 2. It is not necessary to change the CMOS hard drive count when installing with ST21/22 controllers.

2.6 BIOS Enable/Disable

The ST21 and ST22 are shipped with the BIOS enabled, JP3 open. To disable the BIOS, attach jumper at JP3. Refer to Figures 4-5.

2.6.1 BIOS Enabled

Drive	Controller BIOS Address	CMOS Setting
C	C8000 or CC000 (Primary I/O)	Set to 0 or a type which matches the R/W head and cylinder specifications.
D	C8000 or CC000 (Primary I/O)	Do not set drive in CMOS
C or D	D8000 or DC000 (Secondary I/O)	Do not set drive in CMOS

2.6.2 BIOS Disabled

Set all hard drives attached to the ST21/ST22 in the system CMOS to a type that matches the Read/Write head and cylinder specifications.

Remove jumpers JP1 and JP2, and attach jumper to JP3.

Important Note: The ST21/ST22 must be the primary controller (i.e., DRIVE C:) when running with the BIOS disabled.

2.7 Read/Write Head Parking

A read/write head parking program, PARK.EXE or PARK.COM, is preloaded on all Paired Program drives.

The following drives require running this PARK.EXE or PARK.COM program before the drive/system is transported: ST124, ST225, ST225R, ST238R, ST250R

If your drive is not Paired, see your Distributor/Dealer for a read/write head parking program.

2.8 AT Systems with 40-Pin Hard Drive Interface (IDE)

Some newer AT systems have a 40-pin hard drive AT interface connector on the motherboard. On most systems, the AT interface connector must be disabled before the ST21/ST22 can be installed. Refer to the hardware installation manual supplied with your system to determine the interface enable/disable requirements.

The ST21/ST22 can operate concurrently with an installed 40-pin drive, however the ST21/ST22 BIOS must be enabled and the JP1-JP2 jumpered to operate at the secondary address. Refer to Section 2.6.

3.0 Paired Program Installations

Read Sections 1-2 before beginning any formatting. The entire software installation routine is menu-driven and takes from 10 to thirty minutes, depending on drive size. For specific DOS questions, refer to the DOS manual supplied with your system. After the format is completed, the read/write heads will be parked. At the next power-up, the system will boot from the hard disc.

3.1 Paired Program Formatting

Place a DOS-bootable diskette (to boot simply means to start the system) in Drive A and switch the power on and follow the instructions displayed on the screen. Type:

C:INSTALLR C

If your are installing a second drive, type:

D:INSTALLR D

If you are installing a drive with DISK MANAGER software, and you already have a hard disc in your system, you must copy the DMDRVR.BIN and CONFIG.SYS files from the DISK MANAGER diskette to the root directory of the existing (first, or boot) drive.

If you already have a CONFIG.SYS file on the boot drive, update the file to include the following line: DEVICE=DMDRVR.BIN

Refer to your DOS manual for instructions on editing the CONFIG.SYS file. DISK MANAGER also provides help files which you may print using the standard DOS print commands.

4.0 Non-Paired Drive Formatting

Use this procedure for non-Paired drives or when using a Paired drive whose installation software files were lost or not copied before formatting.

BE SURE TO BACK-UP ANY DRIVE CONTAINING DATA. FORMATTING AT ANY LEVEL MAY RESULT IN PARTIAL OR COMPLETE LOSS OF DATA. SEAGATE TECHNOLOGY, INC. ASSUMES NO LIABILITY FOR LOST DATA.

Always use the same version of DOS throughout the entire process. On two-drive systems: Always use the same version of DOS on both drives. When adding a second drive, it is sometimes necessary to reformat the first drive.

4.1 Low-Level Physical Format Using BIOS Facility

When using the system DEBUG to format in an AT system, the CMOS or system setup should be set to 0 (i.e., no hard drive installed).

1. Boot the system from the DOS system diskette

2. At the A: prompt, insert the system DEBUG diskette and type:

   DEBUG

   <ENTER>

3. To access the controller's format routine; at the"-" prompt, type:

   G=XXXX:5 (Where XXXX is the BIOS base address). The most common BIOS address is C8000 (e.g., G=C800:5)

   Note: Seagate controllers will step you through the process. Refer to the drive charts, Figures 1-2, for correct drive parameters.

   DISK MANAGER is supplied with Seagate MFM and RLL drives having greater than 32 formatted megabytes. It can be used as an alternative to FDISK and FORMAT to partition and high-level format drives.

Use FDISK and FORMAT on your DOS diskette with drives having less than 32 formatted megabytes, or if you do not want to use DISK MANAGER.

Note: Some versions of DOS have other names for FDISK and FORMAT (e.g., HDFORMAT). Refer to HARD DISC INSTALLATION in your DOS manual.

4.2 Low-Level Format With Controller BIOS Disabled

If you are running the ST21/ST22 with its BIOS disabled, use the low-level format utility supplied with your system. A drive interleave of 1:1 should be selected.

5.0 Troubleshooting Your Installation

5.1 Controller Error Codes

The ST21 and ST22 will flash controller error conditions via the drive activity LED. The code will repeat at about 1 second intervals.

Error information is flashed only at power-up or soft boot. The LED will repeat the error flashes until the condition is corrected or the system is powered down.

Error code numbers 2 through 6 are fatal error. If you receive any of these messages, contact your Distributor/Dealer.

Controller Error Codes (LED Flashes)	Controller Error Condition
1	Normal completion of controller diagnostics
2	Failure of hard disc drive interface
3	Sector Buffer error
4	Controller task file interface failure
5	Microcode ROM checksum error
6	Controller ECC circuits failure

5.2 Common System/Controller Problems

If you have a problem getting the initial screen, or later getting the system to boot:

* Check the cabling between the controller and drive. Pin-1 on the controller always corresponds to Pin-1 at the drive connector. Most cables have a contrasting color on the cable to indicate Pin-1.

* Check the power cable to the drive. Can you hear the drive spin-up?

* Verify CMOS settings

* Verify correct controller BIOS Address. If you have more than one board that uses BIOS ROM space, each must be set to a different memory address. Addressing multiple boards at the same address can cause problems of a indeterminate nature.

* Low-level formatting takes too long or never completes: Format again. Make sure correct drive parameters were entered and cable connections are correct.

* FDISK or Partitioning Error Messages: "Error reading fixed disc," "No fixed disc present": Check correct drive parameters entered. Refer to pages 3-4 (Section 1.0) Turn the system off and power-up again.

* High-Level Format Error Message: "Invalid drive specification": Check drive parameters and controller jumpers. Run FDISK and high-level format again.

* Drive fails to recalibrate or test Ready: Verify correct installation, cables and drive select jumper.

* After formatting with DISK MANAGER, your system does not recognize the D, E, F ... partitions: First, make sure that you boot from the hard drive. If you still cannot access these partitions, check that the DISK MANAGER device driver, DMDRVR.BIN is in the root directory of the C: (boot) drive. Verify that the CONFIG.SYS file contains the following line: DEVICE=DMDRVR.BIN

If you experience problems accessing your DOS partitions after installation, refer to the help files provided with DISK MANAGER.

For system or operating system help, contact your computer manufacturer. For additional installation support, contact your authorized Seagate Distributor/Dealer.

Model Number Conversion and Interpretation

Old **CDC / Imprimis** model #'s to new **Seagate** #'s

New **Seagate** model #s to old **CDC / Imprimis** #s

Old **Conner Peripherals** model #'s to new **Seagate** #'s

New **Seagate** model #s to old **Conner Peripherals** #s

Seagate Model # interpretation

Old **CDC / Imprimis** Model # Interpretation

Old **Conner Peripherals** Model # Interpretation

Old CDC / Imprimis model # to new Seagate model

Conversion Chart:

CDC / Imprimis		Seagate
94155-135	---	ST4135R
94155-85	---	ST4085
94155-86	---	ST4086
94155-96	---	ST4097
94161-182	---	ST4182N
94166-182	---	ST4182E
94171-350	---	ST4350N
94171-376	---	ST4376N
94181-385H	---	ST4385N
94181-702	---	ST4702N
94186-383	---	ST4383E
94186-383H	---	ST4384E
94186-442	---	ST4442E
94191-766	---	ST4766N
94196-766	---	ST4766E
94204-65	---	ST274A
94204-71	---	ST280A
94204-74	---	ST274A
94204-81	---	ST280A
94205-51	---	ST253
94205-77	---	ST279R
94211-106	---	ST2106N
94216-106	---	ST2106E
94221-125	---	ST2125N
94241-383	---	ST2383N
94241-502	---	ST2502N
94244-274	---	ST2274A
94244-383	---	ST2383A
94246-182	---	ST2182E
94246-383	---	ST2383E
94351-090	---	ST1090N
94351-111	---	ST1111N
94351-126	---	ST1126N
94351-133S	---	ST1133NS
94351-155	---	ST1156N
94351-155S	---	ST1156NS
94351-160	---	ST1162N
94351-186S	---	ST1186NS

94351-200	---	ST1201N
94351-200S	---	ST1201NS
94351-230S	---	ST1239NS
94354-090	---	ST1090A
94354-111	---	ST1111A
94354-126	---	ST1126A
94354-133	---	ST1133A
94354-155	---	ST1156A
94354-160	---	ST1162A
94354-186	---	ST1186A
94354-200	---	ST1201A
94354-239	---	ST1239A
94355-100	---	ST1100
94355-150	---	ST1150R
94356-111	---	ST1111E
94356-155	---	ST1156E
94356-200	---	ST1201E
94601M	---	ST41200N
94601-767H	---	ST4767N
97100-80	---	ST683J
97150-160	---	ST6165J
97150-300	---	ST6315J
97150-340	---	ST6344J
97150-500	---	ST6515J
97200-1130	---	ST81123J
97200-12G	---	ST81236J
97200-23G	---	ST82272J
97200-25G	---	ST82500J
97200-368	---	ST8368J
97200-500	---	ST8500J
97200-736	---	ST8741J
97200-850	---	ST8851J
97201-12G	---	ST81236N
97201-25G	---	ST82500N
97201-368	---	ST8368N
97201-500	---	ST8500N
97201-736	---	ST8741N
97201-850	---	ST8851N
97209-12G	---	ST81236K
97209-25G	---	ST82500K
97229-1150	---	ST81154K
97289-21G	---	ST82105K
97299-23G	---	ST82368K
97500-12G	---	ST41201J
97501-12G	---	ST41520N
97509-12G	---	ST41201K

Note: Some Imprimis models have no Seagate model equivalent,

if so, see  Old Wren Models prior to Seagate

New Seagate model # to old CDC / Imprimis model #

New Seagate model # to old CDC / Imprimis model

Conversion Chart:

Seagate		CDC / Imprimis
ST1090A	---	94354-090
ST1090N	---	94351-090
ST1100	---	94355-100
ST1111A	---	94354-111
ST1111E	---	94356-111
ST1111N	---	94351-111
ST1126A	---	94354-126
ST1126N	---	94351-126
ST1133A	---	94354-133
ST1133NS	---	94351-133S
ST1150R	---	94355-150
ST1156A	---	94354-155
ST1156E	---	94356-155
ST1156N	---	94351-155
ST1156NS	---	94351-155S
ST1162A	---	94354-160
ST1162N	---	94351-160
ST1186A	---	94354-186
ST1186NS	---	94351-186S
ST1201A	---	94354-200
ST1201E	---	94356-200
ST1201N	---	94351-200
ST1201NS	---	94351-200S
ST1239A	---	94354-239
ST1239NS	---	94351-230S
ST2106E	---	94216-106
ST2106N	---	94211-106
ST2125N	---	94221-125
ST2182E	---	94246-182
ST2274A	---	94244-274
ST2383A	---	94244-383
ST2383E	---	94246-383
ST3283N	---	94241-383
ST2502N	---	94241-502
ST253	---	94205-51
ST274A	---	94204-74
ST274A	---	94204-65
ST279R	---	94205-77

ST280A	---	94204-81
ST280A	---	94204-71
ST4085	---	94155-85
ST4086	---	94155-86
ST4097	---	94155-96
ST41200N	---	94601-12G/M
ST41201J	---	97500-12G
ST41201K	---	97509-12G
ST4135R	---	94155-135
ST41520N	---	97501-12G
ST4182E	---	94166-182
ST4182N	---	94161-182
ST4350N	---	94171-350
ST4376N	---	94171-376
ST4383E	---	94186-383
ST4384E	---	94186-383H
ST4385N	---	94181-385H
ST4442E	---	94186-442
ST4702N	---	94181-702
ST4766E	---	94196-766
ST4766N	---	94191-766
ST4767N	---	94601-767H
ST6165J	---	97150-160
ST6315J	---	97150-300
ST6344J	---	97150-340
ST6515J	---	97150-500
ST683J	---	97100-80
ST81123J	---	97200-1130
ST81154K	---	97229-1150
ST81236J	---	97200-12G
ST81236K	---	97209-12G
ST81236N	---	97201-12G
ST82105K	---	97289-21G
ST82272J	---	97200-23G
ST82368K	---	97299-23G
ST82500J	---	97200-25G
ST82500K	---	97209-25G
ST82500N	---	97201-25G
ST8368J	---	97200-368
ST8368N	---	97201-368
ST8500J	---	97200-500
ST8500N	---	97201-500
ST8741J	---	97200-736
ST8741N	---	97201-736
ST8851J	---	97200-850
ST8851N	---	97201-850

Old CDC / Imprimis model # to new Seagate model #

Old Conner Peripherals model # to new Seagate model

Conversion Chart

Conner		Seagate
CFA1275A	---	ST31274A
CFA1700A	---	ST31700A
CFA2161A	---	ST32161A
CFA270A	---	ST3271A
CFA425A	---	ST3423A
CFA540A	---	ST3544A
CFA850A	---	ST3853A
CFA851A	---	ST3852A
CFL350A	---	ST9352A
CFL420A	---	ST9422A
CFN250S	---	ST9252N
CFN340A	---	ST9342A
CFP1060S	---	ST31060N
CFP1060W	---	ST31060W
CFP1080E	---	ST31080WC
CFP1080S	---	ST31080N
CFP2105E	---	ST32105WC
CFP2105S	---	ST32105N
CFP2105W	---	ST32105W
CFP2107E	---	ST32107WC
CFP2107S	---	ST32107N
CFP2107SV	---	ST32107NV
CFP2107W	---	ST32107W
CFP2107WD	---	ST32107WD
CFP2107WV	---	ST32107WV
CFP2117E	---	ST32117WC
CFP2117S	---	ST32117N
CFP2117W	---	ST32117W
CFP2117WD	---	ST32117WD
CFP4207E	---	ST14207WC
CFP4207S	---	ST14207N
CFP4207SV	---	ST14207NV
CFP4207W	---	ST14207W
CFP4207WD	---	ST14207WD
CFP4207WV	---	ST14207WV
CFP4217E	---	ST34217WC
CFP4217S	---	ST34217N
CFP4217W	---	ST34217W
CFP4217WD	---	ST34217WD

CFS1060A	---	ST31060A
CFS1081A	---	ST31081A
CFS1275A	---	ST31275A
CFS1276A	---	ST31276A
CFS1621A	---	ST31621A
CFS210A	---	ST3211A
CFS270A	---	ST3270A
CFS420A	---	ST3420A
CFS425A	---	ST3425A
CFS540A	---	ST3543A
CFS541A	---	ST3541A
CFS635A	---	ST3635A
CFS636A	---	ST3636A
CFS850A	---	ST3851A

Note: Some Conner Peripherals models have no Seagate model equivalent, if so, see  Old Conner Models prior to Seagate

New Seagate model # to old Conner Peripherals model #

New Seagate model # to old Conner Peripherals model

Conversion Chart

Seagate		Conner
ST14207N	---	CFP4207S
ST14207NV	---	CFP4207SV
ST14207W	---	CFP4207W
ST14207WC	---	CFP4207E
ST14207WD	---	CFP4207WD
ST14207WV	---	CFP4207WV
ST31060A	---	CFS1060A
ST31060N	---	CFP1060S
ST31060W	---	CFP1060W
ST31080N	---	CFP1080S
ST31080WC	---	CFP1080E
ST31081A	---	CFS1081A
ST31274A	---	CFA1275A
ST31275A	---	CFS1275A
ST31276A	---	CFS1276A
ST31621A	---	CFS1621A
ST31700A	---	CFA1700A
ST32105N	---	CFP2105S
ST32105W	---	CFP2105W
ST32105WC	---	CFP2105E
ST32107N	---	CFP2107S
ST32107NV	---	CFP2107SV
ST32107W	---	CFP2107W
ST32107WC	---	CFP2107E
ST32107WD	---	CFP2107WD
ST32107WV	---	CFP2107WV
ST32117N	---	CFP2117S
ST32117W	---	CFP2117W
ST32117WC	---	CFP2117E
ST32117WD	---	CFP2117WD
ST3211A	---	CFS210A
ST32161A	---	CFA2161A
ST3270A	---	CFS270A
ST3271A	---	CFA270A
ST3420A	---	CFS420A
ST34217N	---	CFP4217S
ST34217W	---	CFP4217W
ST34217WC	---	CFP4217E

ST34217WD	---	CFP4217WD
ST3423A	---	CFA425A
ST3425A	---	CFS425A
ST3541A	---	CFS541A
ST3543A	---	CFS540A
ST3544A	---	CFA540A
ST3635A	---	CFS635A
ST3636A	---	CFS636A
ST3851A	---	CFS850A
ST3852A	---	CFA851A
ST3853A	---	CFA850A
ST9252N	---	CFN250S
ST9342A	---	CFN340A
ST9352A	---	CFL350A
ST9422A	---	CFL420A

Old Conner Peripherals model # to new Seagate model #

Seagate Model Number Interpretation

ÚÄÄÄÄÄ Seagate
³ ÚÄ Technology
ÚÄÅÄÄÄÅÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ*ÄÄÄÄÄÄÄÄÄÄÄÄÄÅÄÄÄÄÄÄÄÄÄÄ¿
³ S ³ T ³ 1 ³ 4 ³ 8 ³ 0 ³ A ³ PR ³ - ³ X ³
ÀÄÄÄÁÄÄÄÄÄÁÄÄÄÅÄÄÄÁÄÄÄÄÄÄÄÁÄÄÄÅÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÅÄÄÙ
³ ÀÄÄÄÂÄÄÄÙ ÀÄÄÄÄÄÄÄÄ¿ ÀÄÄ

ÚÄÄÄÄÄÄÄÄÙ ÀÄÄÄÄÄÄÄÄÄÄÄ¿ ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿

PR = Paired Solution. Drive shipped with menu driven installation software. Seagate controller or host adapter included with disc drive.

Access Time 0 = Standard/1 = Faster

FORM FACTOR

³1xxx = 3.5" half-height (41 mm)
³2xxx = 5.25" half-height (41 mm)
³3xxx = 3.5" 1"/25mm height 5.7"/146mm depth
³4xxx = 5.25" full-height (82 mm)
³5xxx = 3.5" 1"/25mm height 5"/127mm depth
³6xxx = 9-inch
³8xxx = 8-inch
³7xxx = 1.8"
³9xxx = 2.5" .75"/19mm or .49"/12.5mm height

MBytes

³Unformatted (approx.)
³e.g. ST225 is 25
³unformatted MBytes
³(Beginning late 1994
³ATA and SCSI drives
³may show formatted
³MBytes)

INTERFACE

³Unspecified = ST412/MFM
³A = ATA (IDE)
³AG = ATA w/SafeWrite Shock
³C = SCSI Wide uses Single Connector Attachment
³D = Differential SCSI
³E = ESDI
³J = SMD/SME-E
ÆÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµK = IPI-2
³N = Narrow SCSI
³NM = SCSI Mac Compat.
³NV = SCSI NetWare Ready
³P = PCMCIA (or early MFM Write Pre-Comp)
³R = ST412/RLL
³S = Synchronized Spindle or Synchronous SCSI
³W = Wide SCSI
³FC = Fibre Channel SCSI
³X = XT Bus (IDE)

* Note: High capacity drives also use this digit to define spindle speed.
(5 = 5400, 7 = 7200)

CDC / Imprimis Model Number Interpretation

Old CDC / Imprimis
WREN and SWIFT MODEL NUMBERING SYSTEM
(using 94155-85P as example)

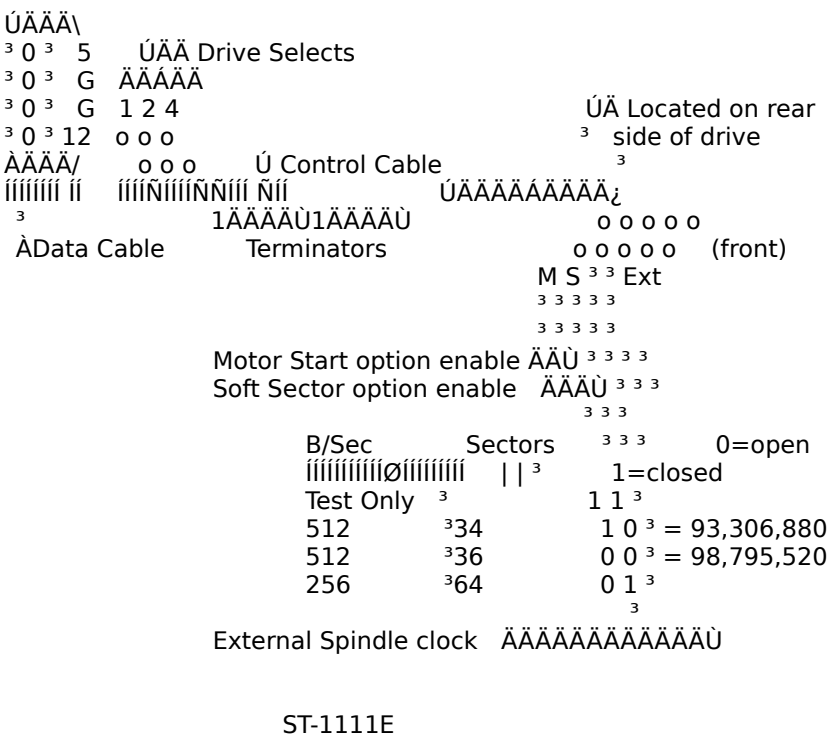
```
Model # digit            Description
-------------            ----------------------------
||                  >>----> Facility Location
94 155-85P                    94 = OK City
                              97 = Twin Cities

   ||               >>----> Series and Form Factor
94 15 5-85P                   10 = RSD                    20 = Sabre
                              15 = FSD                    20 = Wren II   HH
                              15 = Wren I     FH          21 = Wren III HH
                              15 = Wren II    FH          22 = Sabre-2HP
                              16 = Wren III FH            22 = Wren V     HH
                              17 = Wren IV    FH          24 = Wren VI    HH
                              18 = Wren V     FH          35 = Swift      HH
                              19 = Wren VI    FH          50 = Elite      FH
                                                          60 = Wren VII FH
     |            >>----> Interface
9415 5 -85P                   0 = SMD                     5 = ST506/412
                              1 = SCSI/SASI               6 = ESDI
                              2 = LDI                     7 = ISI (Outside)
                              3 = FDI                     8 = 80286
                              3 = IPI-3                   8 = SID
                              4 = AT                      9 = IPI-2
                              4 = ISI (Inside)

       ||           >>----> Capacity
94155- 85 P                   Unformatted capacity in Megabytes (a few
                              models had formatted capacity, here)

         |          >>----> Special Designation
94155-85 P                    P = Precompensation
                              M = MacWren
                              H = High Performamce
                              D = Differential
                              S = Synchronous Spindle Capability - Wren
                              S = Synchronous SCSI - Swift
                              G = Gigabyte
```

Conner Peripherals Model Number Interpretation

ÚÄÄÄÂÄ C or CP = Conner Peripherals
³ ÚÄÁÄ if CP then this digit shows
³ ³ form factor (2=half, 3=third,
³ ³ 4=full)
³ ³ ÚÄ Capacity (3 or 4 digits)
Ã¿³ÚÁ¿
CFS850A
³³ ³

F = Filepro ÄÄÄÙ³ ³
³ ³ Interface
Filepro Series = S A = PC/AT/IDE
Advantage = A S = SCSI Narrow
Performance = P W = SCSI Wide
Notebook = N E = SCSI Single Connector (SCA)
Low Profile = L C = SSA
V = Audio / Video optimized
D = SCSI Differential

ST-1111E (94356-111) Swift ESDI



ST-1111E
94356-111 Swift

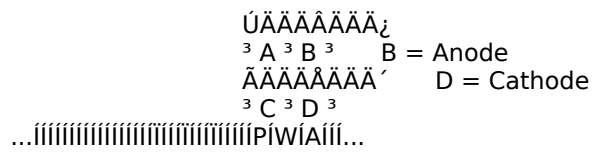
UNFORMATTED CAPACITY (MB) _____111
FORMATTED CAPACITY (36 SECTORS) (MB) _____98 **
ACTUATOR TYPE _____VOICE COIL
TRACKS _____5,360
CYLINDERS _____1,072
HEADS _____5
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.25
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
INTERFACE _____ESDI
SECTORS PER DRIVE _____192,960
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____28,103
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____33.75
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A (1073)
REDUCED WRITE CURRENT (cyl) _____N/A (1073)
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Swift Remote LED Option

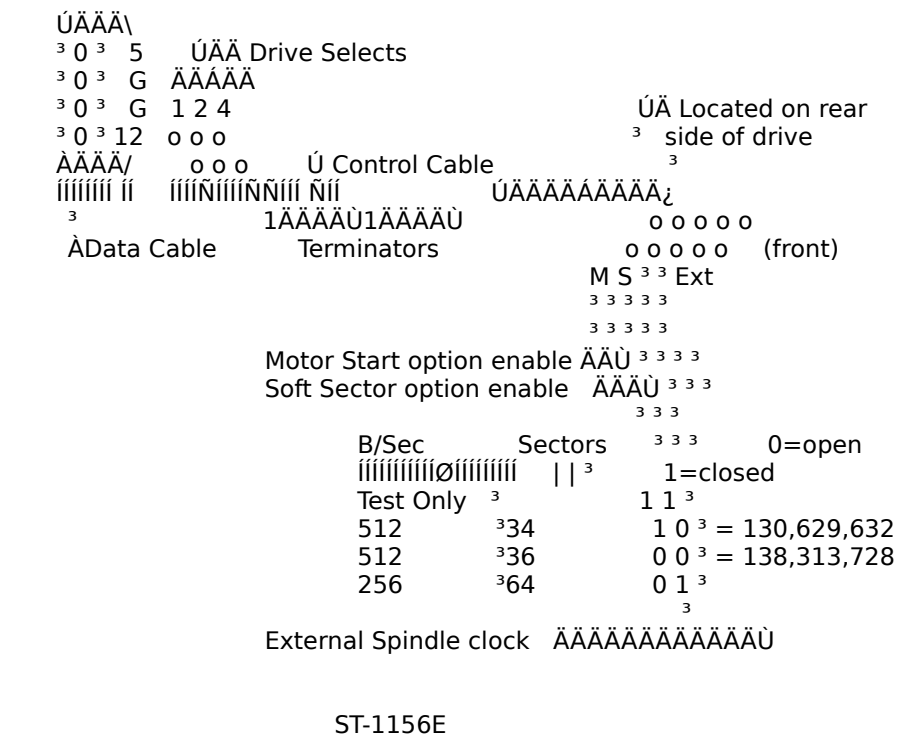
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1156E (94356-155) Swift ESDI



ST-1156E
94356-155 Swift

UNFORMATTED CAPACITY (MB)	155
FORMATTED CAPACITY (36 SECTORS) (MB)	138 **
ACTUATOR TYPE	VOICE COIL
TRACKS	7,504
CYLINDERS	1,072
HEADS	7
DISCS	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
INTERFACE	ESDI
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	28,103
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	4
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.5
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	11
MAXIMUM (watts)	33.75
BUFFERED STEP PULSE RATE (micro sec)	6-200
WRITE PRECOMP (cyl)	N/A (1073)
REDUCED WRITE CURRENT (cyl)	N/A (1073)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

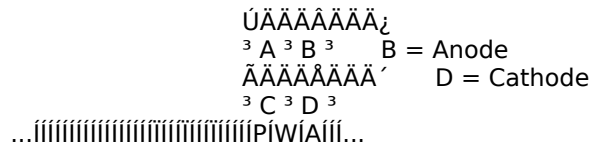
* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING
AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP

HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Swift Remote LED Option

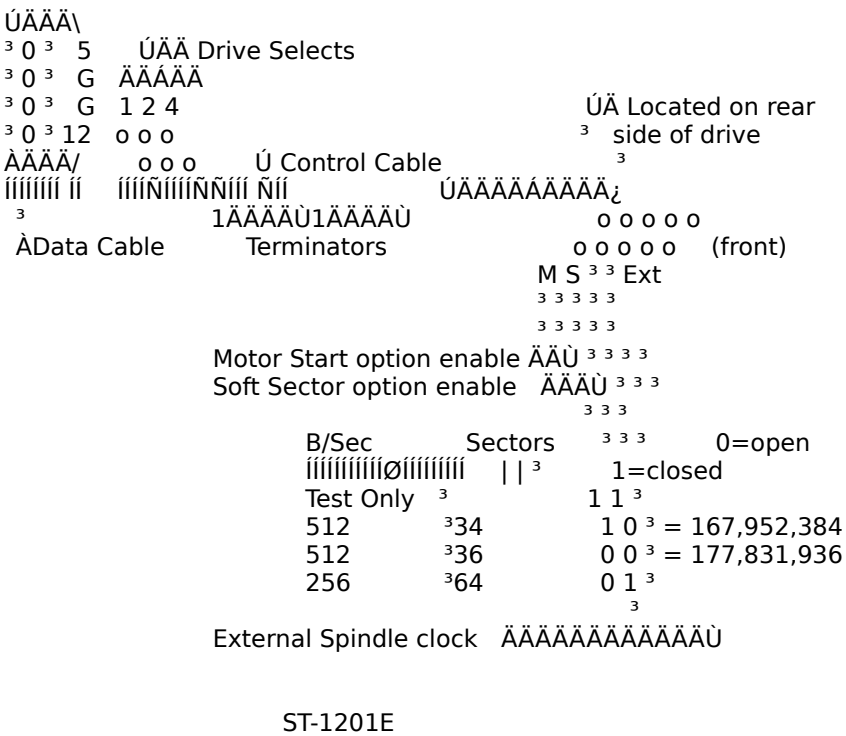
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1201E (94356-200) Swift ESDI



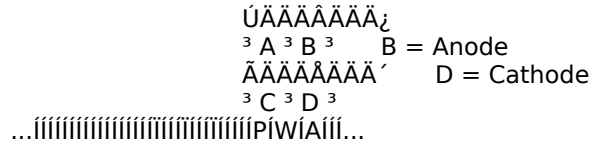
UNFORMATTED CAPACITY (MB) _____201
FORMATTED CAPACITY (36 SECTORS) (MB) _____177 **
ACTUATOR TYPE _____VOICE COIL
TRACKS _____9,648
CYLINDERS _____1,072
HEADS _____9
DISCS _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.25
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
INTERFACE _____ESDI
SECTORS PER DRIVE _____347,328
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____28,103
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____12
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A (1073)
REDUCED WRITE CURRENT (cyl) _____N/A (1073)
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Swift Remote LED Option

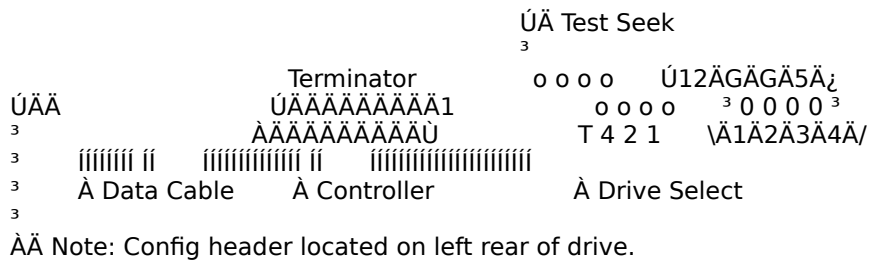
Front View of Drive Without the Plastic Bezel

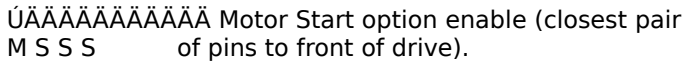


- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-2106E (94216-106) Wren 3 HH ESDI





B/Sec	Sectors	o o o o
256	64	0 0 0
512	35	1 0 0 = 91,750,400
512	36	0 1 0 = 94,371,840
512	34	1 1 0 = 89,128,960
1024	19	1 0 1
	Add/Mark	1 1 1

0=open
1=closed

ST-2106E
94216-106 WREN 3 HH

UNFORMATTED CAPACITY (MB) _____106
FORMATTED CAPACITY (34 SECTORS) (MB) _____89
ACTUATOR TYPE _____VOICE COIL
TRACKS _____5,120
CYLINDERS _____1,024
HEADS _____5
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.25
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
INTERFACE _____ESDI
TPI (TRACKS PER INCH) _____960
BPI (BITS PER INCH) _____19,058
AVERAGE ACCESS (ms) _____18
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) _____100,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.0
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.6
TYPICAL (watts) _____15
MAXIMUM (watts) _____59
BUFFERED STEP PULSE RATE (micro sec) _____N/A
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

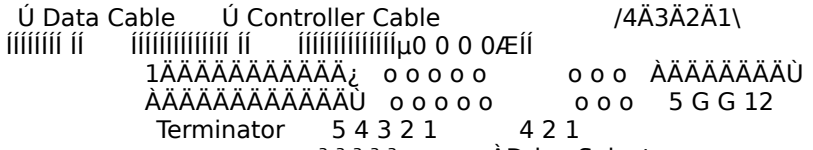
* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING
AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP

HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (11/11/92)

ST-2182E (94246-182) Wren 6 HH ESDI



B/Sec	Sectors		
256	96	0 0 0	
512	54	1 0 0	= 160,690,176
1024	15	0 1 0	
	Special	1 1 0	
512	53	0 0 1	= 157,714,432
512	51	1 0 1	= 151,762,944
1024	28	0 1 1	
	Add/Mark	1 1 1	

ST-2182E
94246-182 WREN 6 HH

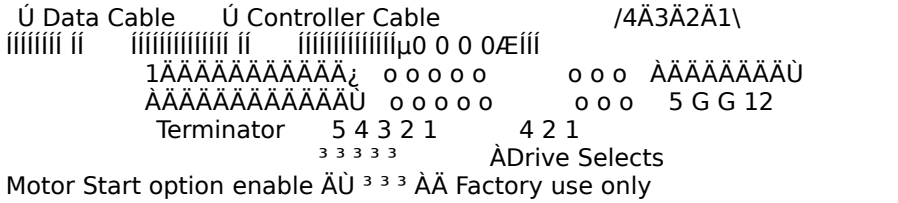
UNFORMATTED CAPACITY (MB) _____182
FORMATTED CAPACITY (54 SECTORS) (MB) _____160
ACTUATOR TYPE _____VOICE COIL
TRACKS _____5812
CYLINDERS _____1453
HEADS _____4
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.875
INTERNAL TRANSFER RATE (mbits/sec) _____15
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
INTERFACE _____ESDI
TPI (TRACKS PER INCH) _____1459
BPI (BITS PER INCH) _____31699
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____33
MTBF (power-on hours) _____100,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __0.9
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.8
TYPICAL (watts) _____15
MAXIMUM (watts) _____59
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-2383E (94246-383) Wren 6 HH ESDI



B/Sec	Sectors		
256	96	0 0 0	
512	54	1 0 0	= 338,107,392
1024	15	0 1 0	
	Special	1 1 0	
512	53	0 0 1	= 331,846,144
512	51	1 0 1	= 319,323,648
1024	28	0 1 1	
	Add/Mark	1 1 1	

ST-2383E
94246-383 WREN 6 HH

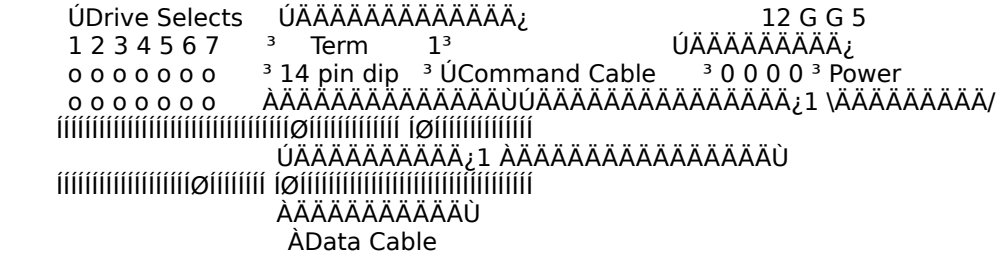
UNFORMATTED CAPACITY (MB) _____383
FORMATTED CAPACITY (54 SECTORS) (MB) _____337 **
ACTUATOR TYPE _____VOICE COIL
TRACKS _____12,229
CYLINDERS _____1,747
HEADS _____7
DISCS _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.875
INTERNAL TRANSFER RATE (mbits/sec) _____15
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
INTERFACE _____ESDI
TPI (TRACKS PER INCH) _____1,459
BPI (BITS PER INCH) _____31,699
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____33
MTBF (power-on hours) _____100,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __0.85
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.75
TYPICAL (watts) _____14
MAXIMUM (watts) _____59
BUFFERED STEP PULSE RATE (micro sec) _____N/A
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4182E (94166-182) Wren 3 ESDI



ST-4182E
94166-182 WREN 3 FH

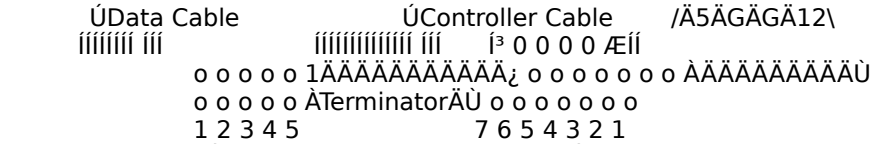
UNFORMATTED CAPACITY (MB)	182
FORMATTED CAPACITY (34 SECTORS) (MB)	151.8 **
ACTUATOR TYPE	VOICE COIL
TRACKS	8,721
CYLINDERS	969
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
INTERFACE	ESDI
TPI (TRACKS PER INCH)	960
BPI (BITS PER INCH)	19,058
AVERAGE ACCESS (ms)	16.5
SINGLE TRACK SEEK (ms)	4
MAX FULL SEEK (ms)	40
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.4
+5V START-UP (amps)	1.4
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	21
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	N/A
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4383E (94186-383) Wren 5 FH ESDI



Note: There are 2 types of PWA's. One with drive select header on the left, and one with header on the right (like this). Pins positions are the same.

64	0 0 0
35	0 0 1 = 328,939,520
10	0 1 0
19	0 1 1
36	1 0 0 = 338,337,792
34	1 0 1 = 319,541,248
87	1 1 0
Add Mark	1 1 1

0=open; 1=closed

ST-4383E
94186-383 WREN 5 FH

UNFORMATTED CAPACITY (MB)	383
FORMATTED CAPACITY (34 SECTORS) (MB)	319 **
ACTUATOR TYPE	VOICE COIL
TRACKS	18356
CYLINDERS	1412
HEADS	13
DISCS	7
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
INTERFACE	ESDI
TPI (TRACKS PER INCH)	1280
BPI (BITS PER INCH)	19600
AVERAGE ACCESS (ms)	18
SINGLE TRACK SEEK (ms)	4
MAX FULL SEEK (ms)	40
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	2.0
+5V START-UP (amps)	1.4
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	23
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

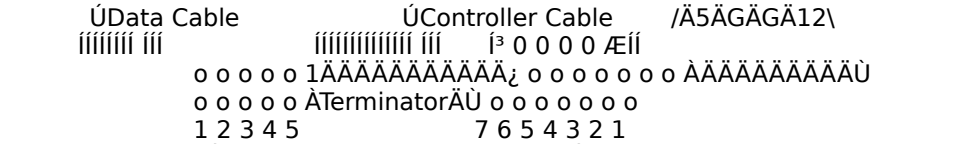
* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track

option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4384E (94186-383H) Wren 5 FH ESDI



Note: There are 2 types of PWA's. One with drive select header on the left, and one with header on the right (like this). Pin positions are the same.

0=open; 1=closed

ST-4384E
94186-383H WREN 5 FH

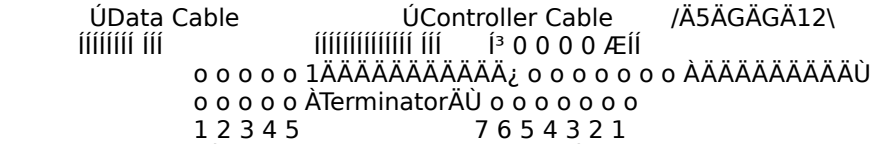
UNFORMATTED CAPACITY (MB)	383
FORMATTED CAPACITY (34 SECTORS) (MB)	319 **
ACTUATOR TYPE	VOICE COIL
TRACKS	18360
CYLINDERS	1224
HEADS	15
DISCS	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
INTERFACE	ESDI
TPI (TRACKS PER INCH)	1280
BPI (BITS PER INCH)	19600
AVERAGE ACCESS (ms)	14.5
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	29
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	2.0
+5V START-UP (amps)	1.4
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	23
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4442E (94186-442) Wren 5 FH ESDI



ST-4442E
94186-442 WREN 5 FH

UNFORMATTED CAPACITY (MB) _____442
FORMATTED CAPACITY (34 SECTORS) (MB) _____368 **
ACTUATOR TYPE _____VOICE COIL
TRACKS _____21180
CYLINDERS _____1412
HEADS _____15
DISCS _____8
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.25
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
INTERFACE _____ESDI
TPI (TRACKS PER INCH) _____1280
BPI (BITS PER INCH) _____19600
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____33
MTBF (power-on hours) _____100,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __2.0
+5V START-UP (amps) __1.4
+5V TYPICAL (amps) ___0.8
TYPICAL (watts) _____23
MAXIMUM (watts) _____61
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

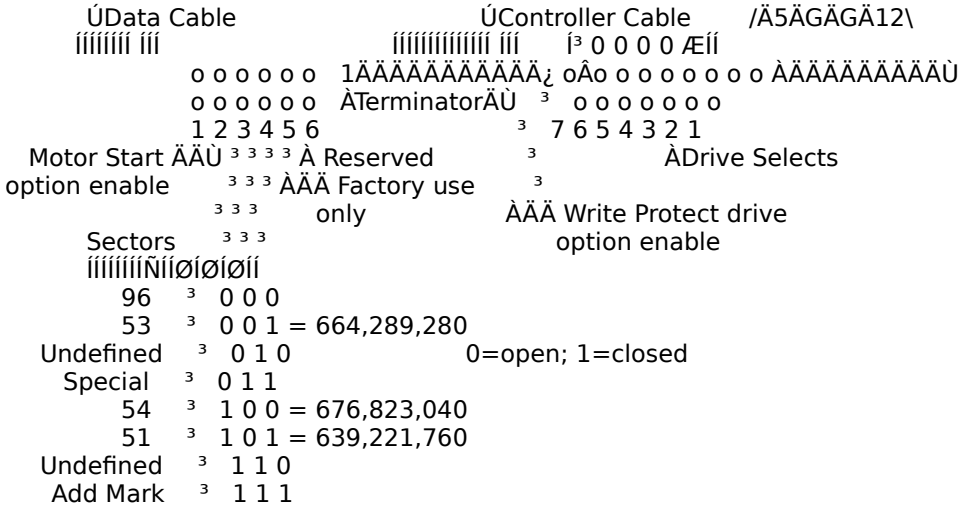
* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track

option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4766E (94196-766) (94196-383 same jumpers) Wren 6 FH ESDI



ST-4766E
94196-766 WREN 6 FH

UNFORMATTED CAPACITY (MB)	766
FORMATTED CAPACITY (53 SECTORS) (MB)	664 **
ACTUATOR TYPE	VOICE COIL
TRACKS	24480
CYLINDERS	1632
HEADS	15
DISCS	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.875
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
INTERFACE	ESDI
TPI (TRACKS PER INCH)	1459
BPI (BITS PER INCH)	30500
AVERAGE ACCESS (ms)	15.5
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	37
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.6
+5V START-UP (amps)	0.8
+5V TYPICAL (amps)	1.2
TYPICAL (watts)	20
MAXIMUM (watts)	58
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

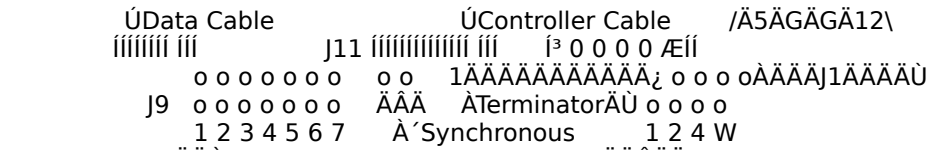
* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track

option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4767ES Wren Runner 2 FH ESDI



Special	0 0 0
60	0 0 1 = 644,659,200
61	0 1 0 = 655,403,520
62	0 1 1 = 666,147,840
63	1 0 0 = 676,892,160
33	1 0 1
Reserved	1 1 0
Add Mark	1 1 1

0=open; 1=closed

ST-4767E

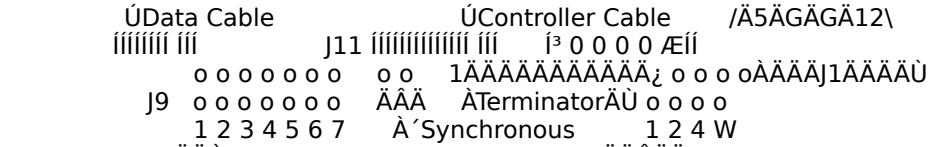
UNFORMATTED CAPACITY (MB) _____788
FORMATTED CAPACITY (63 SECTORS) (MB) _____676 **
ACTUATOR TYPE _____VOICE COIL
TRACKS _____20,985
CYLINDERS _____1399
HEADS _____15
DISCS _____8
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (1,7)
TRANSFER RATE (mbytes/sec) _____3
INTERNAL TRANSFER RATE (mbits/sec) _____24
SPINDLE SPEED (RPM) _____4,800
AVERAGE LATENCY (mSEC) _____6.25
INTERFACE _____ESDI
TPI (TRACKS PER INCH) _____1,600
BPI (BITS PER INCH) _____32,049
AVERAGE ACCESS (ms) _____11.9
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____25
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __2.0
+5V START-UP (amps) __1.2
+5V TYPICAL (amps) ___0.8
TYPICAL (watts) _____27
MAXIMUM (watts) _____
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4769ES Wren Runner 2 FH ESDI



Special	0 0 0
50	0 0 1 = 595,968,000
51	0 1 0 = 607,887,360
52	0 1 1 = 619,806,720
53	1 0 0 = 631,726,080
29	1 0 1
Reserved	1 1 0
Add Mark	1 1 1 0=open; 1=closed

ST-4769E

UNFORMATTED CAPACITY (MB) _____
FORMATTED CAPACITY (53 SECTORS) (MB) _____631
ACTUATOR TYPE _____VOICE COIL
TRACKS _____23,280
CYLINDERS _____1552
HEADS _____15
DISCS _____8
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____22
SPINDLE SPEED (RPM) _____4,800
AVERAGE LATENCY (mSEC) _____6.25
INTERFACE _____ESDI
TPI (TRACKS PER INCH) _____1,600
BPI (BITS PER INCH) _____29,378
AVERAGE ACCESS (ms) _____12.9
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __2.0
+5V START-UP (amps) __1.2
+5V TYPICAL (amps) ___0.8
TYPICAL (watts) _____27
MAXIMUM (watts) _____
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

** ESDI controllers which offer an Alternate/Spare sector per track option will format to a capacity = Cyl*Hd*(SPT-1)*512 bytes

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

A

ADDRESS MARK
ADJUSTABLE INTERLEAVE
ANSI
APPLICATION PROGRAM
AREAL DENSITY
ARRAY
ASCII
ASME
ASPI
ASYNCHRONOUS DATA
ATA
AT INTERFACE
AUTOMATIC BACK UP OF FILES
AUXILIARY MEMORY
AUXILIARY STORAGE DEVICE
AVERAGE ACCESS TIME
AZIMUTH

B

BACKUP DEVICE
BACKUP FILE
BAUD RATE
BCAI
BDOS
BIDIRECTIONAL BUS
BINARY
BIOS
BIT
BIT CELL LENGTH
BIT CELL TIME
BIT DENSITY
BIT JITTER
BIT SHIFT
BLOCK
BOOT
BUFFER
BUFFERED SEEK
BUS
BUS MASTERING
BYTE

C

CACHE HIT
CACHE MEMORY
CAM
CAPACITY
CARRIAGE ASSEMBLY
CD-ROM
CENTRAL PROCESSOR UNIT
CHANNEL
CHARACTER
CHIP
CLOCK RATE

CLOSED LOOP
CLUSTER SIZE
CODE
COERCIVITY
COMMAND
CONSOLE
CONTROLLER
CORE
CPU
CRASH
CYCLIC-REDUNDANCY-CHECK
CYLINDER

D

DAISY CHAIN
DATA
DATA ACCESS
DATA ADDRESS
DATA BASE
DATA BASE MANAGEMENT SYSTEM
DATA ENCODING
DATA FIELD
DATA SEPARATOR
DATA TRACK
DATA TRANSFER RATE
DECREASE THE FLYING HEIGHT
DEDICATED SERVO SYSTEM
DEFAULT
DEFECT-FREE DRIVE
DENSITY
DIGITAL
DIRECT ACCESS
DIRECTORY
DISC FILE
DISC OPERATING SYSTEM
DISC PACK
DISC/PLATTER
DISC STORAGE
DISKETTE
DMA
DOS
DRIVE
DRIVE SELECT
DRIVE TYPE
DRIVER
DROP-IN/DROP-OUT
DRUM

E

ECC
EFFECTIVE SEEK TIME
EISA
ELECTRO-STATIC DISCHARGE

ELEVATOR SORTING
EMBEDDED SERVO SYSTEM
ENHANCED IDE
ERASE
ERROR
ESDI
EXECUTE

F

FAST ATA
Fast SCSI
FCI
FEEDBACK
FETCH
FIELDS
FILE
FILE ALLOCATION TABLE
FILE NAME
FIRMWARE
FIXED DISC
FLOPPY DISC
FLUX CHANGE
FLUX CHANGES PER INCH
FM
FORMAT
FORMATTED CAPACITY
FPI
FRICTION
FULL HEIGHT DRIVE

G

G
GAP
GAP LENGTH
GAP WIDTH
GCR
GIGABYTE
GUARD BAND

H

HALF HIGH DRIVE
HARD DISC DRIVE
HARD ERROR
HARD ERROR MAP
HARD SECTOR MODE
HARDWARE
HDA
HEAD
HEAD CRASH
HEAD LANDING AND TAKEOFF
HEAD LANDING ZONE

I

J

K

L

M

MEGABYTE
MEMORY
MICROCOMPUTER
MICROINCH
MICROSECOND
MILLISECOND
MINICOMPUTER
MINI-SLIDER HEADS
MINI WINCHESTER
MIRRORING
MNEUMONIC
MODIFIED FREQUENCY MODULATION
MULTIPLE SEGMENT CACHING
MULTIPROCESSOR
MULTITASKING
MULTI-THREADED
MULTIUSER

N

NOISE
NRZ

O

OEM
OFF LINE
OPEN COLLECTOR
OPERATING SYSTEM
OUTPUT

P

PARITY
PARKING
PARTITIONING
PATH
PCMCIA
PERIPHERAL EQUIPMENT
PLATED THIN FILM DISCS
PLATTER
POLLING
PRECOMPENSATION
PREVENTIVE MAINTENANCE
PRINTED CIRCUIT BOARD
PROCESSING
PROGRAM
PROTOCOL

Q

R

RADIAL
RAID
RAM DISC
RANDOM ACCESS MEMORY
READ
RECALIBRATE
RECORD
REDUCED WRITE CURRENT
REDUCED WRITECURRENT
RESOLUTION
RLL
ROM
ROTATIONAL SPEED

S

SCATTER/GATHER
SCSI
SECTOR
SECTOR-SLIP
SEEK
SEEK COMPLETE
SEQUENTIAL ACCESS
SERVO TRACK
SETUP
SILICON
SINGLE CONNECTOR ATTACHMENT
SINGLE-ENDED
SKEWING
SMD
SOFT ERROR
SOFT SECTOR MODE
SOFTWARE
SOFTWARE PATCH
SPINDLE
SPINDLE MOTOR
ST-506/ST-412 INTERFACE
STEP
STEPPER MOTOR
STEP PULSE
STEP TIME
STORAGE CAPACITY
STORAGE DENSITY
STORAGE LOCATION
STORAGE MODULE DRIVE
STRIPE
STRIPING
SYNCHRONOUS DATA

T

TAGGED COMMAND QUEUING
TAPE DRIVE

TERMINATION
THIN FILM HEADS
TPI
TRACK
TRACK ACCESS TIME
TRACK DENSITY
TRACK FOLLOWING SERVO
TRACK PITCH
TRACKS PER INCH
TRACK WIDTH
TRACK ZERO
TRACK ZERO DETECTOR
TUNNEL ERASE

U

UNFORMATTED
UPGRADE PATH

V

VERIFICATION
VOICE COIL MOTOR
VOLATILE

W

WAN
WEDGE SERVO SYSTEM
WIDE SCSI
WINCHESTER DRIVE
WORD
WRITE
WRITE CURRENT
WRITE FAULT

X

XSMD

Y

Z

ZBR (Zone Bit Recording)
ZERO LATENCY READ

ACCESS

Refers to the process of obtaining data from, or placing data into a disc storage device, register, or RAM. (i.e. accessing a memory location).

ACCESS TIME

Time required to perform an ACCESS. Usages, e.g.: 1) seek to location on a disc, 2) amount of time to read or write to a memory location, 3) the time to position to the correct location in a disc drive and carry out a read or write operation. ACCESS TIME is often defined as the time from the leading edge of the first step pulse received to SEEK COMPLETE (including settling).

ACTUATOR

See HEAD POSITIONER. The two basic types of actuators are steppers and voice coils. Open-loop steppers generally cannot achieve tracks per inch (TPI) as high as the closed-loop system because of the lack of feedback on track positioning accuracy. In open-loop stepper drives mechanical tolerances are one of the most significant factors in limiting TPI enhancement.

ADAPTIVE CACHING

This allows the drive to tune the cache (number of segments and segment size) to best suit the system's needs.

ADDRESS

(physical) A specific location in memory where a unit record, or sector, of data is stored. To return to the same area on the disc, each area is given a unique address consisting of three components: cylinder, sector, and head. CYLINDER ADDRESSING is accomplished by assigning numbers to the disc's surface concentric circles (cylinders). The cylinder number specifies the radial address component of the data area. SECTOR ADDRESSING is accomplished by numbering the data records (sectors) from an index that defines the reference angular position of the discs. Index records are then counted by reading their ADDRESS MARKS. Finally, HEAD ADDRESSING is accomplished by vertically numbering the disc surfaces, usually starting with the bottom-most disc data surface. For example, the controller might send the binary equivalent of the decimal number 610150 to instruct the drive to access data at cylinder 610, sector 15, and head 0.

ADDRESS MARK

Two byte address at the beginning of both the ID field and the data field of the track format. The first byte is the "A1" data pattern, the second byte is used to specify either an ID field or a data field.

ADJUSTABLE INTERLEAVE

Interleaving permits access to more than one memory module, e.g., if one memory module contains odd-numbered address and another even-numbered address, they can both be accessed simultaneously for storage. If the interleave is adjustable, the user may select which ranges or areas are to be accessed each time.

ANSI

American National Standards Institute

APPLICATION PROGRAM

A sequence of programmed instructions that tell the computer how to perform an end use task (i.e. accounting, word processing or other work for the computer system user). To use a program, it must first be loaded into MAIN MEMORY from some AUXILIARY MEMORY such as a floppy diskette or hard disk.

AREAL DENSITY

Bit density (bits per inch, or BPI) multiplied by track density (tracks per inch, or TPI), or bits per square inch of the disc surface. Bit density is measured around a track (circumferential on the disc), and track density is radially measured.

ARRAY

A group of disk drives which have been combined into a common Hardware Array or Dual-Level Array and appear as a single LSU (Logical Storage Unit).

ASCII

American Standard for Coded Information Interchange.

ASME

American Society of Mechanical Engineers

ASPI

Advanced SCSI Programming Interface - A protocol developed by Adaptec and supported by host adapter OEM's is used by some SCSI application programs to communicate with SCSI adapters.

ASYNCHRONOUS DATA

Data sent usually in parallel mode without a clock pulse. Time intervals between transmitted bits may be of unequal lengths.

ATA

AT Attachment. This term defines the signal and logical protocol described in X3.221 for IDE (Integrated Drive Electronics) peripherals.

AT INTERFACE

Disk drive interface on the ibm pc-at computer and compatibles. Sometimes called the ide (integrated drive electronics) interface

AUTOMATIC BACK UP OF FILES

This gives a user the security to make changes to a file without worrying about accidently destroying it; there is always another copy. One weakness of this method is that files take up twice the room on a disc.

AUXILIARY MEMORY

Memory other than main memory; generally a mass storage subsystem, it can include disc drives, backup tape drives, controllers and buffer memory. Typically, AUXILIARY MEMORY is non-volatile.

AUXILIARY STORAGE DEVICE

Devices, generally magnetic tape and magnetic disk, on which data can be stored for use by computer programs. Also known as secondary storage.

AVERAGE ACCESS TIME

The average track access time, calculated from the end of the CONTROLLER commands to access a drive, to drive "seek complete" time averaged over all possible track locations at the start of ACCESS, and over all possible data track ADDRESSES. Typically, the minimum average access time including carriage settling for open loop actuators is less than 85 ms and for voice coil disc drives is less than 40 ms. As technology improves these times will continue to decrease.

AZIMUTH

The angular distance in the horizontal plane, usually measured as an angle from true track location.

BACKUP DEVICE

Disc or tape drive used with a fixed Winchester disc drive to make copies of files or other data for off line storage, distribution or protection against accidental data deletion from the Winchester drive, or against drive failure.

BASE CASTING

The rigid structure which holds the mechanical sub-assemblies. Together with the top cover, creates an airtight, extremely clean enclosure.

BACKUP FILE

File copies made on another removable media device (disc, tape or sometimes a remote hard dsic system) and kept to ensure recovery of data lost due to equipment failure, human errors, updates, disasters and the like.

BAUD RATE

A variable unit of data transmission speed equal to one bit per second.

BCAI

Byte count after index. Used in defect mapping to indicate the position of defects with relation to index.

BDOS

The Basic Disk Operating System (BDOS) controls the organization of data on a disk. BDOS is usually pronounced "B-DOS".

BIDIRECTIONAL BUS

A bus that may carry information in either direction but not in both simultaneously.

BINARY

A number system like the decimal numbers, but using 2 as its base and having only the two digits 0 (zero) and 1 (one). It is used in computers because digital logic can only determine one of two states - "OFF" and "ON." Digital data is equivalent to a binary number.

BIOS

(BASIC INPUT OUTPUT SYSTEM) A collection of information (firmware) that controls communication between the Central Processor and its peripherals.

BIT

The smallest unit of data. Consists of a single binary digit that can take the value of 0 or 1.

BIT CELL LENGTH

Physical dimension of the bit cell in direction of recording along the disc circumference of a track.

BIT CELL TIME

The time required to pass one bit of information between the controller and the drive. Cell time is the inverse of the drive's data rate; nominally 200 nsec for 5 Mhz drives.

BIT DENSITY

Expressed as "BPI" (for bits per inch), bit density defines how many bits can be written onto one inch of a track on a disc surface. It is usually specified for "worst case", which is the inner track. Data is the densest in the inner tracks where track circumferences are the smallest.

BIT JITTER

The time difference between the leading edge of read and the center of the data window.

BIT SHIFT

A data recording effect, which results when adjacent 1's written on magnetic discs repel each other. The "worst case" is at the inner cylinder where bits are closest together. BIT SHIFT is also called pulse crowding.

BLOCK

A group of BYTES handled, stored and accessed as a logical data unit, such as an individual file record. Typically, one block of data is stored as one physical sector of data on a disc drive.

BOOT

(Short for bootstrap). Transfer of a disc operating system program from storage on diskette or hard disc drive to computer's working memory.

BUFFER

A temporary data storage area that compensates for a difference in data transfer rates and/or data processing rates between sender and receiver.

BUFFERED SEEK

A feature of the ST412 INTERFACE. In buffered mode head motion is postponed until a string of step pulses can be sent to the drive. These pulses represent the number of tracks that the head is to be stepped over and are sent much faster than the heads can move. The pulses are saved or buffered then the optimum head movement to the correct track is performed.

BUS

A length of parallel conductors that forms a major interconnection route between the computer system CPU and its peripheral subsystems. Depending on its design, a bus may carry data to and from peripheral's addresses, power, and other related signals.

BUS MASTERING

A method of data transfer which allows data to be moved between a peripheral controller and system memory without interaction with the host CPU or a third party DMA controller. This technique allows the peripheral controller to take control of the system bus, and in the case of EISA, to move data at up to 33MB/s.

BYTE

A sequence of adjacent BINARY digits or BITS considered as a unit, 8 bits in length. One byte is sufficient to define all the alphanumeric characters. There are 8 BITS in 1 BYTE. The storage capacity of a disc drive is commonly measured in MEGABYTES, which is the total number of bits storable, divided by eight million.

CACHE HIT

This occurs when the data requested is already in the cache. A cache hit saves the time of getting the data from the rotating disc; the seek, latency and read times.

CACHE MEMORY

Cache Memory allows the system to load bytes of data from the hard disc to memory. The system may then refer to memory for information instead of going back to the hard disc, thereby increasing the processing speed.

CAM

Common Access Method. Defines a set of software and hardware interfaces which attempt to standardize an operating system's access to peripheral devices.

CAPACITY

Amount of memory (measured in megabytes) which can be stored in a disc drive. Usually given as formatted (see FORMAT OPERATION).

CARRIAGE ASSEMBLY

Assembly which holds read/write heads and roller bearings. It is used to position the heads radially by the actuator, in order

to access a track of data.

CD-ROM

Compact Disc Read Only Memory. A read only storage device which retrieves up to 660 Mbytes of information from a removable laser disk similar to an audio compact disc.

CENTRAL PROCESSOR UNIT

(CPU). The heart of the computer system that executes programmed instructions. It includes the arithmetic logic unit (ALU) for performing all math and logic operations, a control section for interpreting and executing instructions, fast main memory for temporary (VOLATILE) storage of an application program and its data.

CHANNEL

With regards to disk drives, a channel is an electrical path for the transfer of data and control information between a disk and a disk controller. The Primary and Secondary Hard Drive Port Addresses are an example to two channels.

CHARACTER

An information symbol used to denote a number, letter, symbol or punctuation mark stored by a computer. In a computer a character can be represented in one (1) byte or eight (8) bits of data. There are 256 different one-byte binary numbers, sufficient for 26 lower case alphas, 26 upper case alphas, 10 decimal digits, control codes and error checks.

CHIP

An integrated circuit fabricated on a chip of silicon or other semiconductor material, e.g., a CHIP is an integrated circuit, a microprocessor, memory device, or a digital logic device.

CLOCK RATE

The rate at which bits or words are transferred between internal elements of a computer or to another computer.

CLOSED LOOP

A control system consisting of one or more feedback control loops in which functions of the controlled signals are combined with functions of the command to maintain prescribed relationships between the commands and the controlled signals.

This control technique allows the head actuator system to detect and correct off-track errors. The actual head position is monitored and compared to the ideal track position, by reference information either recorded on a dedicated servo surface, or embedded in the inter-sector gaps. A position error is

used to produce a correction signal (FEEDBACK) to the actuator to correct the error. See TRACK FOLLOWING SERVO.

CLUSTER SIZE

Purely an operating system function or term describing the number of sectors that the operating system allocates each time disc space is needed.

CODE

A set of unambiguous rules specifying the way which digital data is represented physically, as magnetized bits, on a disc drive. One of the objectives of coding is to add timing data for use in data reading. See DATA SEPARATOR, MFM and RLL.

COERCIVITY

A measurement in units of orsteads of the amount of magnetic energy to switch or "coerce" the flux change (di-pole) in the magnetic recording media.

COMMAND

1) An instruction sent by the central processor unit (CPU) to a controller for execution. 2) English-like commands entered by users to select computer programs or functions. 3) A CPU command, which is a single instruction such as "add two binary numbers" or "output a byte to the display screen."

CONSOLE

(also called CRT or Terminal) A device from which a computer can be operated; often includes a monitor and keyboard.

CONTROLLER

A controller is a printed circuit board required to interpret data access commands from host computer (via a BUS), and send track seeking, read/write, and other control signals to a disc drive. The computer is free to perform other tasks until the controller signals DATA READY for transfer via the CPU BUS.

CORE

Originally a computer's main memory was made of ferrite rings (CORES) that could be magnetized to contain one bit of data each. CORE MEMORY is synonymous with MAIN MEMORY. Main memory today is fabricated from CHIPS.

CPU

See CENTRAL PROCESSOR UNIT

CRASH

A malfunction in the computer hardware or software, usually causing loss of data.

CYCLIC-REDUNDANCY-CHECK

(CRC). Used to verify data block integrity. In a typical scheme, 2 CRC bytes are added to each user data block. The 2 bytes are computed from the user data, by digital logical chips. The mathematical model is polynomials with binary coefficients. When reading back data, the CRC bytes are read and compared to new CRC bytes computed from the read back block to detect a read error. The read back error check process is mathematically equivalent to dividing the read block, including its CRC, by a binomial polynomial. If the division remainder is zero, the data is error free.

CYLINDER

The cylindrical surface formed by identical track numbers on vertically stacked discs. At any location of the head positioning arm, all tracks under all heads are the cylinder. Cylinder number is one of the three address components required to find a specific ADDRESS, the other two being head number and sector number.

DAISY CHAIN

A way of connecting multiple drives to one controller. The controller drive select signal is routed serially through the drives, and is intercepted by the drive whose number matches. The disc drives have switches or jumpers on them which allow the user to select the drive number desired.

DATA

Information processed by a computer, stored in memory, or fed into a computer.

DATA ACCESS

When the controller has specified all three components of the sector address to the drive, the ID field of the sector brought under the head by the drive is read and compared with the address of the target sector. A match enables access to the data field of the sector.

DATA ADDRESS

To return to the same area on the disc, each area is given a unique address consisting of the three components: cylinder, head and sector. HORIZONTAL: accomplished by assigning numbers to the concentric circles (cylinders) mapped out by the heads as the positioning arm is stepped radially across the surface, starting with 0 for the outermost circle. By specifying the cylinder number the controller specifies a horizontal or radial

address component of the data area. ROTATIONAL: once a head and cylinder have been addressed, the desired sector around the selected track of the selected surface is found by counting address marks from the index pulse of the track. Remember that each track starts with an index pulse and each sector starts with an address mark. VERTICAL: assume a disc pack with six surfaces, each with its own read/write head, vertical addressing is accomplished by assigning the numbers 00 through XX to the heads, in consecutive order. By specifying the head number, the controller specifies the vertical address component of the data area.

DATA BASE

An organized collection of data stored in DISC FILES, often shared by multiple users., e.g., the Official Airline Guide, which contains up-to-date schedules for all airlines.

DATA BASE MANAGEMENT SYSTEM

(DBMS) Application program used to manage, access and update files in a data base.

DATA ENCODING

To use a code such as GCR, MFM, RLL, NZR, etc. to represent characters for memory storage.

DATA FIELD

The portion of a sector used to store the user's DIGITAL data. Other fields in each sector include ID, SYNC and CRC which are used to locate the correct data field.

DATA SEPARATOR

Controller circuitry takes the CODED playback pulses and uses the timing information added by the CODE during the write process to reconstruct the original user data record. See NRZ, MFM, and RLL.

DATA TRACK

Any of the circular tracks magnetized by the recording head during data storage.

DATA TRANSFER RATE

(DTR). Speed at which bits are sent: In a disc storage system, the communication is between CPU and controller, plus controller and the disc drive. Typical units are bits per second (BPS), or bytes per second, e.g., ST506/412 INTERFACE allows 5 Mbits/sec. transfer rate. I/O transfer rate is the data rate between the drive and the CPU. Internal transfer rate is the rate data is written to/from the disc.

DECREASE THE FLYING HEIGHT

Since the head core is closer to the media surface, the lines of flux magnetize a smaller area. Thus, more bits can be recorded in a given distance, and higher BPI (bits per inch) is achievable.

DEDICATED SERVO SYSTEM

A complete disc surface is dedicated for servo data.

DEFAULT

A particular value of a variable which is used by a computer unless specifically changed, usually via an entry made through a software program.

DEFECT-FREE DRIVE

With a nonintelligent drive and controller (ST412, ESDI) the drive installer has to enter the locations of any sectors with hard errors so the operating system can remember not to read these locations, but rather seek to other sectors which are substitutes for the defective ones. This relocation or error mapping must be logged by the operating system and accordingly, adds overhead to the operation of the system. With an intelligent drive (AT, SCSI) the relocation of sectors with hard errors is done at the factory during the low-level formatting and is monitored by the drive. In this way, the operating system does not need to keep track of defective sectors (blocks). The drive appears defect-free to the operating system. As a result, the installation is much easier.

DENSITY

Generally, bit recording density. SEE AREAL, BIT and STORAGE DENSITY.

DIGITAL

Any system that processes digital binary signals having only the values of a 1 or 0. An example of a non-digital signal is an analog signal which continuously varies, e.g., TV or audio.

DIRECT ACCESS

Generally refers to an AUXILIARY MEMORY device, having all data on-line. E.G., a tape drive without a tape mounted is not direct access, but a WINCHESTER DRIVE is direct access.

DIRECTORY

A special disc storage area (usually cylinder zero) that is read by a computer operating system to determine the ADDRESSES of the data records that form a DISC FILE.

DISC FILE
A file of user data, e.g. the company employee list, with all names and information. The data in the file is stored in a set of disc SECTORS (records).

DISC OPERATING SYSTEM
(DOS). A computer program which continuously runs and mediates between the computer user and the APPLICATION PROGRAM, and allows access to disc data by DISC FILE names.

DISC PACK
A number of metal discs packaged in a canister for removal from the disc drive. WINCHESTER DRIVES do not have disc packs.

DISC/PLATTER
For rigid discs, a flat, circular aluminum disc substrate, coated on both sides with a magnetic substance (iron oxide or thin film metal media) for non-VOLATILE data storage. The substrate may consist of metal, plastic, or even glass. Surfaces of discs are usually lubricated to minimize wear during drive start-up or power down.

DISC STORAGE
Auxiliary memory system containing disc drives.

DISKETTE
A floppy disc. A plastic (mylar) substrate, coated with magnetic iron oxide, enclosed in a protective jacket.

DMA
Direct Memory Access. A means of data transfer between peripheral and host memory without processor intervention.

DOS
Disc Operating System. a computer program which runs continuously and mediates between the computer user and the application program and allows access to the disc data by disc file names.

DRIVE
A computer memory device with moving storage MEDIA (disc or tape).

DRIVE SELECT

An ADDRESS component that selects among a string of drives attached to a disc controller. In the ST 506/412 interface standard, a drive's select code is physically set in the drive to a value between 0 and 3. When the controller activates one of the four drive select code lines in the J1 cable, the selected drive is enabled to respond to access commands from the controller.

DRIVE TYPE

A number representing a standard configuration of physical parameters (cylinders, heads, and sectors) of a particular type of disc drive. Each at system bios contains a list of drive types that the system considers "standard types". These types are not necessarily the same from one bios to the next. That is, drive type 25 on one bios may represent a drive that has 615 cylinders, 4 data heads, and 17 sectors per track, while type 25 on another bios could be totally different.

DRIVER

A software routine which receives I/O requests from higher levels within the operating system and converts those requests to the protocol required by a specific hardware device.

DROP-IN/DROP-OUT

Types of disc media defects usually caused by a pin-hole in the disc coating. If the coating is interrupted, the magnetic flux between medium and head is zero. A large interruption will induce two extraneous pulses, one at the beginning and one at the end of the pin-hole (2 DROP-INs). A small coating interruption will result in no playback from a recorded bit (a DROP-OUT).

DRUM

An early form of rotating magnetic storage, utilizing a rotating cylindrical drum and a multiplicity of heads (one per track). Discs stack more compactly than drums.

E BLOCK

A single metal piece which joins all the head and slider assemblies to the accuator. When viewed from the side, this unit looks like an E (if there were three heads.)

ECC

ERROR CORRECTION CODE: The ECC hardware in the controller used to interface the drive to the system can typically correct a single burst error of 11 bits or less. This maximum error burst correction length is function of the controller. With some controllers the user is allowed to the select this length. The most common selection is 11.

EFFECTIVE SEEK TIME

Sometimes drives have the needed data in their buffer so the drive will not have to perform a seek to get the data. If the average seek time of the drive is, say, 20 msec but for half of the data requests the buffer already contains the data, the effective seek time will be about half of 20 msec or 10 msec. It takes almost no time at all (compared to the time it takes to do a seek) for a buffer to deliver its contents, so the average time required drops significantly, in this example by one half.

EISA

Extended Industry Standard Architecture - An enhanced version of the PC/AT architecture which provides backwards compatibility with existing 8 and 16-bit hardware cards. In addition, EISA supports 32-bit data paths, 33 Mbytes/sec data transfers from Bus Mastering peripheral cards, automatic configuration, and a more sophisticated I/O addressing scheme.

ELECTRO-STATIC DISCHARGE

(ESD) An integrated circuit (CHIP) failure mechanism. Since the circuitry of CHIPs are microscopic in size, they can be damaged or destroyed by small static discharges. People handling electronic equipment should always ground themselves before touching the equipment. Electronic equipment should always be handled by the chassis or frame. Components, printed circuit board edge connectors should never be touched.

ELEVATOR SORTING

A method of sorting records or cache pages by physical location on disk so that the information may be written to disk with less seek and rotational latency.

EMBEDDED SERVO SYSTEM

Servo data is embedded or superimposed along with data on every cylinder.

ENHANCED IDE

Enhanced IDE (EIDE) is the market identity given to a collection of four features that are designed to help meet the future needs of the market. Enhanced IDE features include: High-capacity addressing of ATA hard drives over 528 Mbytes, fast data transfer rates for ATA hard drives (support for PIO mode 3 up to 13.3 Mbytes per sec), Dual ATA host adapters supporting up to 4 hard disc drives per computer system, nonhard disc ATA peripherals (such as CD-ROM).

ERASE

To remove previously recorded data from magnetic storage media.

ERROR
See HARD ERROR and SOFT ERROR.

ESDI
ENHANCED SMALL DEVICE INTERFACE. A set of specifications for the drives. See also SCSI.

EXECUTE
To perform a data processing operation described by an instruction or a program in a computer.

FAST ATA
Fast ATA is the market identity given to disc drives that support the high-speed data transfers resulting from implementing the industry standard protocols: Programmed input/output (PIO) mode 3, Multiword direct memory access, read/write multiple sectors per interrupt.

FAST SCSI
The original SCSI specification defined synchronous data transmission speeds of up to 5MHz. By assuming transceivers which provide tighter timing margins, the SCSI-2 standard allows synchronous transfers of up to 10MHz. Devices which utilize these faster timings are called Fast SCSI devices.

FCI
(FLUX CHANGES PER INCH): Synonymous with FRPI (flux reversals per inch). In MFM recording 1 FCI equals 1 BPI (bit per inch). In RLL encoding schemes, 1 FCI generally equals 1.5 BPI.

FEEDBACK
A closed-loop control system, using the head-to-track positioning signal (from the servo head) to modify the HEAD POSITIONER signal (to correctly position the head on the track).

FETCH
A CPU read operation from MAIN MEMORY and its related data transfer operations.

FIELDS
1. SOFTWARE: Storage units grouped together to make a record are considered to be a field; e.g., a record might be a company's address; a field in the record might be the company's ZIP code.

FILE

See DISC FILE. 1. SOFTWARE: A file consists of a group of logically related records that, in turn, are made up of groups of logically related fields.

FILE ALLOCATION TABLE

FAT: What the operating systems uses to keep track of which clusters are allocated to which files and which are available for use. FAT is usually stored on Track-0.

FILE NAME

Each file has a name, just like the name on the tab of a file folder. When you want DOS to find a file, you give DOS the file name.

FIRMWARE

A computer program written into a storage medium which cannot be accidentally erased, e.g., ROM. It can also refer to devices containing such programs.

FIXED DISC

A disc drive with discs that cannot be removed from the drive by the user, e.g., WINCHESTER DISC DRIVE.

FLEXTURE

An extremely pliable plastic circuit which connects the accuator assembly electronics to the base casting. The drive may have access times that move the heads from the outer diameter to the inner as low as 20 milliseconds and this flecture rides along.

FLOPPY DISC

A flexible plastic disc coated with magnetic media and packaged in a stiff envelope. Comes in 8-inch, 5-1/4-inch, and various sub-4 inch sizes. FLOPPY DISCS generally exhibit slow ACCESS TIME and smaller CAPACITY compared to WINCHESTER DRIVES, but feature removable diskettes.

FLUX CHANGE

Location on the data track, where the direction of magnetization reverses in order to define a 1 or 0 bit.

FLUX CHANGES PER INCH

(FCI). Linear recording density defined as the number of flux changes per inch of data track.

FM

Frequency modulation CODE scheme, superceded by MFM,

which is being superceded by RLL.

FORMAT

The purpose of a format is to record "header" data that organize the tracks into sequential sectors on the disc surfaces. This information is never altered during normal read/write operations. Header information identifies the sector number and also contains the head and cylinder ADDRESS in order to detect an ADDRESS ACCESS error.

FORMATTED CAPACITY

Actual capacity available to store user data. The formatted capacity is the gross capacity, less the capacity taken up by the overhead data used in formatting the discs. While the unformatted size may be 24 M bytes, only 20 M bytes of storage may actually be available to the user after formatting.

FPI

(flux changes per inch), also FRPI, the number of Flux Reversals per inch.

FRICTION

Resistance to relative motion between two bodies in contact; e.g., there is sliding friction between head and disc during drive power up/down.

FULL HEIGHT DRIVE

Winchester 5-1/4" drive which fits in the same space as full height mini-floppy drive (called the full-height form factor), which is 3.25 inches high.

G

A G is a unit of force applied to a body at rest equal to the force exerted on it by gravity. Hard disc drive shock specifications are usually called out in Gs. A shock specification of 40 Gs non-operating means that a drive will not suffer any permanent damage if subjected to a 40 G shock. This is roughly equivalent to a drop of the drive to a hard surface from a distance of 1 inch.

GAP

1. FORMAT: Part of the disc format. Allows mechanical compensations (e.g. spindle motor rotational speed variations) without the last sector on a track overwriting the first sector. 2. HEAD: An interruption in the permeable head material, usually a glass bonding material with high permeability, allowing the flux fields to exit the head structure to write / read data bits in the form of flux changes on the recording media.

GAP LENGTH

Narrowing the head gap length achieves higher bit density because the lines of force magnetize a smaller area where writing data in the form of flux changes on the recording media.

GAP WIDTH

The narrower the gap width, the closer the tracks can be placed. Closer track placement results in higher TPI.

GCR

GROUP CODE ENCODING. Data encoding method.

GIGABYTE

1,000,000,000 bytes. (not 1,073,741,824 bytes). Gbytes

GUARD BAND

1. Non-recorded band between adjacent data tracks, 2. For closed loop servo drives, extra servo tracks outside the data band preventing the Carriage Assembly from running into the crash stop.

HALF HIGH DRIVE

A Winchester drive which fits in one half of the space of a full height mini-floppy drive, which is 1.63 inches high.

HARD DISC DRIVE

Commonly called rigid disc drives, or Winchester disc drives. An electromechanical device that can read rigid discs. Though similar to floppy disc drives, the hard discs have higher bit density and multiple read/write surfaces.

HARD ERROR

An error that occurs repeatedly at the same location on a disc surface. Hard errors are caused by imperfections in the disc surface, called media defects. When formatting hard disc drives, hard error locations, if known, should be spared out so that data ia not written to these locations. Most drives come with a hard error map listing the locations of any hard errors by head, cylinder and BFI (bytes from index - or how many bytes from the beginning of the cylinder).

HARD ERROR MAP

Also called defect map, bad spot map, media map. Media defects are avoided by deleting the defective sectors from system use, or assigning an alternative track (accomplished during format operation). The defects are found during formatting, and their locations are stored on a special DOS file

on the disc, usually on cylinder 0.

HARD SECTOR MODE

a hardware controlled convention defining a fixed number of sectors per track in any specified zone

HARDWARE

Computer equipment (as opposed to the computer programs and software).

HDA

HEAD/DISK ASSEMBLY: A sealed Winchester assembly including discs, heads, filter and actuator assembly.

HDA INTERCONNECT

Connects the drive electronics to the mechanical assembly.

HEAD

An electromagnetic device that can write (record), read (playback), or erase data on magnetic media. There are three types: Head Type BPI TPI Areal density Monolithic 8000 450 3.6 X 10 to 6th Composition 12000 1000 12 X 10 to 6th Thin-film 25000 1500 37.5 X 10 to 6th

HEAD CRASH

A head landing occurs when the disc drive is turned on or off. This function normally does not damage the disc as the disc has a very thin lubricant on it. A head crash occurs when the head and disc damage each other during landing, handling or because a contaminant particle gets between them. Head crash is a catastrophic failure condition and causes permanent damage and loss of data.

HEAD LANDING AND TAKEOFF

In Winchester drives, the head is in contact with the platter when the drive is not powered. During the power up cycle, the disc begins rotation and an "air bearing" is established as the disc spins up to full RPM (rotations per minute). This air bearing prevents any mechanical contact between head and disc.

HEAD LANDING ZONE

An area of the disc set aside for takeoff and landing of the Winchester heads when the drive is turned on and off.

HEAD POSITIONER

Also known as the ACTUATOR, a mechanism that moves the CARRIAGE ASSEMBLY to the cylinder being accessed.

HEAD SLAP

Similar to a head crash but occurs while the drive is turned off. It usually occurs during mishandling or shipping. Head slap can cause permanent damage to a hard disc drive. See HEAD CRASH.

HEXIDECIMAL

(HEX) A number system based on sixteen, using digits 0 through 9 and letters A through F to represent each digit of the number. (A = 10, B = 11, C = 12, D = 13, E = 14, F = 15).

HOT SPARE

A spare disk drive which, upon failure of a member of a redundant disk array, will automatically be used to replace the failed disk drive.

HOT SWAP

The operation of removing a failed disk drive, which is a member of a redundant array, and replacing it with a good drive.

IDE

Integrated Drive Electronics. IDE describes a device with built in ATA protocol electronics.

ID FIELD

The address portion of a sector. The ID field is written during the Format operation. It includes the cylinder, head, and sector number of the current sector. This address information is compared by the disc controller with the desired head, cylinder, and sector number before a read or write operation is allowed.

IMAGE-BACKUP MODE

Used with streaming tape, image-backup mode records an exact copy of the disc, including unused sectors and bad tracks.

INDEX

(PULSE): The Index Pulse is the starting point for each disc track. The index pulse provides initial synchronization for sector addressing on each individual track.

INDEX TIME

The time interval between similar edges of the index pulse, which measures the time for the disc to make one revolution. This information is used by a disc drive to verify correct rotational speed of the media.

INPUT

1. Data entered into the computer to be processed. 2. User commands or queries.

INPUT/OUTPUT

The process of entering data into or removing data from a computer system.

INTELLIGENT PERIPHERAL

A peripheral device that contains a processor or microprocessor to enable it to interpret and execute commands, thus relieving the computer for other tasks.

INTERFACE

The protocol data transmitters, data receivers, logic and wiring that link one piece of computer equipment to another, such as a disc drive to a controller or a controller to a system bus. Protocol means a set of rules for operating the physical interface, e.g., don't read or write before SEEK COMPLETE is true.

INTERFACE CONNECTOR

Attachment point for the interface ribbon cable. 40 pins for ATA; 50 pins for SCSI Narrow etc. Care must always be taken to orient pin-1 on the cable to pin-1 on the drive. Pin-1 on the cable is usually marked. The cable should never be removed when power is applied to the drive.

INTERFACE STANDARD

The interface specifications agreed to by various manufacturers to promote industry-wide interchangeability of products such as disc drives and controllers. An interface standard generally reduces product costs, allows buyers to purchase from more than one source, and allows faster market acceptance of new products. (See ST-506/412, SCSI, ESDI)

INTERLEAVE FACTOR

The ratio of physical disc sectors skipped for every sector actually written.

INTERLEAVING

The interleave value tells the controller where the next logical sector is located in relation to the current sector. For example, an interleave value of one (1) specifies that the next logical sector is physically the next sector on the track. Interleave of two (2) specifies every other physical sector, three (3) every third sector and so on. Interleaving is used to improve the system throughout based on overhead time of the host

software, the disc drive and the controller; e.g., if an APPLICATION PROGRAM is processing sequential logical records of a DISC FILE in a CPU time of more than one second but less than two, then an interleave factor of 3 will prevent wasting an entire disc revolution between ACCESSES.

INTERRUPT

A signal, usually from a peripheral device to a CPU, to signify that a commanded operation has been completed or cannot be completed.

I/O PROCESSOR

Intelligent processor or controller that handles the input/output operations of a computer.

ISA

Industry Standard Architecture - The name given to the original IBM PC/AT 16-bit bus architecture.

KILOBYTE

(KBYTE). 1) 1024 bytes (two to the tenth power); 2) 1000 bytes; 1024 bytes is the normal definition.

LABEL

Basic information about the drive: part number, model number, serial number, firmware revision, production lot number, bar code, jumper settings, drive geometry specifications. Voids warranty if removed.

LAN

Local Area Network

LANDING ZONE

The landing zone is where the read/write head sits when it is not active. If the system features a dedicated landing zone, the head will rest on the same track each time.

LATENCY

(ROTATIONAL) The time for the disc to rotate the accessed sector under the head for read or write. On the average, latency is the time for half of a disc revolution.

LOGIC

Electronic circuitry that switches on and off ("1" and "0") to perform digital operations.

LOOKUP
The action of obtaining and displaying data in a file.

LOW LEVEL FORMAT
The first step in preparing a drive to store information after physical installation is complete. The process sets up the "handshake" between the drive and the controller. In an XT system, the low level format is usually done using DOS's debug utility. In an AT system, AT advanced diagnostics is typically used. Other third party software may also be used to do low level format on both XTs and ATs.

LUN
Logical Unit Number

MAGNET
Two very strong magnets are used in conjunction with the voice coil assembly to position the heads over the data tracks.

MAGNETIC MEDIA
A disc or tape with a surface layer containing particles of metal, or metallic oxides that can be magnetized in different directions to represent bits of data, sounds or other information.

MAGNETIC RECORDING
The use of a head, recording head, recording media (tape or disc), and associated electronic circuitry for storing data or sound or video.

MAINFRAME COMPUTER
A large computer generally found in data processing centers. See MINICOMPUTER AND MICROCOMPUTER.

MAIN MEMORY
Random-access memory used by the CPU for storing program instructions and data currently being processed by those instructions. See RANDOM-ACCESS MEMORY.

MEAN TIME BEFORE FAILURE
(MTBF). The average time before a failure will occur. This is not a warranty measurement. MTBF is a calculation taking into consideration the MTBF of each component in a system and is the statistical average operation time between the start of a unit's lifetime and its time of a failure. After a product has been in the field for a few years, the MTBF can become a field proven statistic.

MEAN TIME TO REPAIR
(MTTR) The average time to repair a given unit. Limited to a qualified technician with proper equipment.

MEAN TIME until DATA LOSS
(MTDL) The average time from startup until a component failure causes a permanent loss of user data in a disk array. The concept is similar to MTBF, but takes into account the possibility that RAID redundancy can protect against loss due to single component failures.

MEDIA
The magnetic layers of a disc or tape. See DISC/PLATTER.

MEDIA DEFECT
A media defect can cause a considerable reduction of the read signal (missing pulse or DROP-OUT), or create an extra pulse (DROP-IN). See HARD ERROR MAP.

MEGABYTE
One million bytes (exactly 1,000,000 bytes). Abbreviation: MB or Mbyte. (not 1,048,576 bytes)

MEMORY
Any device or storage system capable of storing and retrieving information. See also STORAGE DEFINITIONS.

MICROCOMPUTER
A computer whose central processor unit (CPU) is manufactured as a chip or a small number of chips. Personal computers are examples of microcomputers.

MICROINCH
One-millionth of an inch.

MICROSECOND
One-millionth of a second.

MILLISECOND
(Msec) One-thousandth of a second.

MINICOMPUTER
A computer midway in size and processing power between a MICROCOMPUTER and a MAINFRAME COMPUTER.

MINI-SLIDER HEADS

Manganese/Zinc Ferrite Winchester heads. Smaller, lighter heads with stiffer load arms than standard Winchester heads. They allow smaller flying heights, and therefore higher bit and track density, if they are made with smaller and narrower gaps.

MINI WINCHESTER

A Winchester disc drive with 5-1/4 or 3-1/2 inch diameter discs.

MIRRORING

A popular term for RAID-1. A method of creating disk-fault tolerance by redundantly storing information on pairs of drives.

MNEUMONIC

A shortened code for a longer term.

MODIFIED FREQUENCY MODULATION

(MFM). A method of recording digital data, using a particular CODE to get the flux reversal times from the data pattern. MFM recording is self-clocking because the CODE guarantees timing information for the playback process. The controller is thus able to synchronize directly from the data. This method has a maximum of one bit of data with each flux reversal. (See NRZ, RLL).

MOUNTING HOLES

Attachment points for mounting the drive to the system enclosure. Also, may be used to attach drive rails which are commonly used for sliding a drive into a drive bay. Frame kits that adapt 3.5 to 5.25 drive bays may attach to these holes. Screws should be made barely tight because over tightening the mounting screws may cause the drive to flex and go off track.

MULTIPLE SEGMENT CACHING

This allows the user to divide the cache into segments so that different blocks of data can be cached simultaneously and subsequent commands will have a better probability of a cache hit

.

MULTIPROCESSOR

A computer containing two or more processors.

MULTITASKING

The ability of a computer system to execute more than one program or program task at a time.

MULTI-THREADED

Having multiple concurrent or pseudo-concurrent execution sequences. Used to describe processes in computer systems. Multi-threaded processes are one means by which throughput intensive applications can make maximum use of a disk array to increase I/O performance.

MULTIUSER

The ability of a computer system to execute programs for more than one user at a time.

NOISE

Extraneous electronic signals that interfere with information signals (similar to radio static or TV interference). Sources of noise in computers can be power supplies, ground loops, radio interference, cable routing, etc.

NRZ

NON-RETURN TO ZERO 1) User digital data bits; 2) A method of magnetic recording of digital data in which a flux reversal denotes a one bit, and no flux reversal a zero bit, NRZ recording requires an accompanying synchronization clock to define each cell time unlike MFM or RLL recording). No Seagate drives use NRZ recording methods.

OEM

Original Equipment Manufacturer, such as Hewlett Packard, IBM or Apple.

OFF LINE

Processing or peripheral operations performed while not connected to the system CPU via the system BUS.

OPEN COLLECTOR

A type of output structure found in certain bipolar logic families. The device has a transistor that enables it to output to a low voltage level only. When the device is inactive, an external resistor holds the device output at a high voltage level.

OPERATING SYSTEM

An operating system is a program which acts as an interface between the user of a computer and the computer hardware. The purpose of the operating system is to provide an environment in which a user may run programs. The goal of the operating system is to enable the user to conveniently use the computer's resources such as the CPU, memory, storage devices and printers.

OUTPUT

Processing data being transferred out of the computer system to peripherals (i.e. disc, printer, etc.). This includes responses to user commands or queries.

PARITY

A computer data checking method using an extra bit in which the total number of binary 1's (or 0's) in a byte is always odd or always even; thus, in an odd parity scheme, every byte has eight bits of data and one parity bit. If using odd parity and the number of 1 bits comprising the byte of data is not odd, the 9th or parity bit is set to 1 to create the odd parity. In this way, a byte of data can be checked for accurate transmission by simply counting the bits for an odd parity indication. If the count is ever even, an error is indicated.

PARKING

Parking the disc drive heads means the recording heads are moved so that they are not over the platter's data area. Many drives have an auto-park feature where the heads are automatically parked when power to the drive is shut off. Other drives require the user to run some kind of parking software to park the heads.

PARTITIONING

Method for dividing an area on disc drive for use by more than one disc operating system or for dividing large disc drives into areas which the File Allocation Table (FAT) can deal with when in use. The current IBM DOS maximum partition size is 32 MB for the XT and AT. This limit can be overridden using partitioning software written expressly for this purpose.

PATH

The DOS term "path" has three definitions and each definition involves directories. A PATH may be defined as: 1) the names of the chain of directories leading to a file; 2) the complete file or directory name; 3) a DOS command.

PCMCIA

This is the acronym for the Personal Computer Memory Card Industry Association, a trade association responsible for the promotion of removable device interfaces for a variety of products including memory, modems, disks, etc.

PERIPHERAL EQUIPMENT

Auxiliary memory, displays, printers, disc drives, and other equipment usually attached to computer systems' CPU by controllers and cables (they are often packaged together in a

desktop computer).

PLATED THIN FILM DISCS

Magnetic disc memory media having its surface plated with a thin coating of a metallic alloy instead of being coated with oxide.

PLATTER

The round magnetic disc surfaces used for read/write operations in a hard disc system.

POLLING

A technique that discerns which of several devices on a connection is trying to get the processor's attention.

POWER PLUG

4-pin power supply molex type connector delivers +5V, +12V and two grounds. Some drives have an optional 3-pin connector. Some drives have the drive power delivered through the interface cable.

PRECOMPENSATION

Applied to write data by the controller in order to partially alleviate bit shift which causes adjacent 1's written on magnetic media physically to move apart. When adjacent 1's are sensed by the controller, precompensation is used to write them closer together on the disc, thus fighting the repelling effect caused by the recording. Precompensation is only required on some oxide media drives.

PREVENTIVE MAINTENANCE

A method of doing a scheduled routine observation or exchanging a part, prior to a breakdown of a piece of equipment.

PRINTED CIRCUIT BOARD

(PCB) The circuit board with the chips attached to a drive.

PROCESSING

(DATA PROCESSING) The process of computer handling, manipulating, and modifying data such as arithmetic calculation, file lookup and updating, or word processing.

PROGRAM

A sequence of instructions stored in memory and executed by a processor or microprocessor. See also APPLICATIONS PROGRAMS.

PROTOCOL

A set of conventions governing the format of messages to be exchanged within a communications system.

RADIAL

A way of connecting multiple drives to one controller. In radial operation, all output signals are active even if the drive is not selected. Also see DAISY CHAIN.

RAID

Redundant Array of Inexpensive Disks - A method of combining hard disks into one logical storage unit which offers disk-fault tolerance and can operate at higher throughput levels than a single hard disk.

RAM DISC

A DOS operation, where part of the computer's random access memory is used to simulate a disk drive. The RAM disc and its contents will disappear if power is lost or DOS MAIN MEMORY is restarted. RAM is far faster (microseconds ACCESS TIME) than discs (milliseconds), so APPLICATIONS PROGRAMS which access the disk run faster.

RANDOM ACCESS MEMORY

(RAM) Memory where any location can be read from or written to in a random order. Random access memory usually refers to volatile memory where the contents are lost when power is removed. The user addressable memory of a computer is random access memory.

READ

To access a storage location and obtain previously recorded data.

RECALIBRATE

Return to Track Zero. A common disc drive function in which the heads are returned to track 0 (outermost track).

RECORD

1. Software. A record is a single unit made up of logically related fields.

REDUCED WRITE CURRENT

A signal input (to some older drives) which decreases the amplitude of the write current at the actual drive head. Normally this signal is specified to be used during inner track write operations to lessen the effect of adjacent bit "crowding." Most

drives today provide this internally and do not require controller intervention.

REDUCED WRITECURRENT

To minimize the effects of peak shift, on some drives, the magnitude of the write current is reduced on some of the innermost tracks. When installing a drive in a system, the number requested is the first track number to begin the area of reduced write current. that track and all subsequent tracks will be written with reduced write current.

RESOLUTION

With regards to magnetic recording, the band width (or frequency response) of the recording heads.

RLL

(RUN LENGTH LIMITED CODE). 1) A method of recording digital data, whereby the combinations of flux reversals are coded/decoded to allow greater than one (1) bit of information per flux reversal. This compaction of information increases data capacity by approximately 50 percent; 2) a scheme of encoding designed to operate with the ST412 interface at a dial transfer rate of 7.5 megabit/sec. The technical name of the specific RLL CODE used is "two, seven".

ROM

(READ ONLY MEMORY) A chip that can be programmed once with bits of information. This chip retains this information even if the power is turned off. When this information is programmed into the ROM, it is called burning the ROM.

ROTATIONAL SPEED

The speed at which the media spins. On a 5-1/4 or 3-1/2" Winchester drive it is usually 3600 rpm.

SCATTER/GATHER

A feature which allows data to be transferred to or from multiple discontiguous areas of host computer memory with a single I/O command.

SCSI

Small Computer Systems Interface. The current "high end" CPU-to-drive interface.

SECTOR

A sector is a section of a track whose size is determined by formatting. When used as an address component, sector and location refer to the sequence number of the sector around the

track. Typically, one sector stores one user record of data. Drives typically are formatted from 17 to 26 sectors per track. Determining how many sectors per track to use depends on the system type, the controller capabilities and the drive encoding method and interface.

SECTOR-SLIP

Sector-slip allows any sector with a defect to be mapped and bypassed. The next contiguous sector is given that sector address.

SEEK

The radial movement of the heads to a specified track address.

SEEK COMPLETE

An ST506 interface signal from drive to controller which indicates that read/write heads have settled on the desired track and completed the seek.

SEQUENTIAL ACCESS

Writing or reading data in a sequential order, such as reading data blocks stored one after the other on magnetic tape (the opposite of random access).

SERVO TRACK

A prerecorded reference track on the dedicated servo surface of a closed-loop disc drive. All data track positions are compared to their corresponding servo track to determine "off-track/on-track" position.

Information written on the servo surface that the electronics of the drive uses to position the heads over the correct data track. This information is written on the drive by the servo track writer.

SETUP

Program used by at type computers to store configuration in cmos. This program is sometimes found in the system bios and can be accessed from the keyboard. On other systems, the program is on a diskette.

SILICON

Semiconductor substrate material generally used to manufacture micro- processors and other integrated circuit chips.

SINGLE CONNECTOR ATTACHMENT

The single-connector attachment incorporates all of the disc functionality and configurations into a single point of connection. This is a cost-effective solution for multi-disc and removable applications requiring semi-automated connections and installations. Used primarily with backplanes.

SINGLE-ENDED

An electrical signal protocol which transmits information through changes in voltage. Single-ended SCSI uses standard TTL signal-and-ground pairs to transmit information over the SCSI bus.

SKEWING

Some low-level formatting routines may ask for a Head and/or Cylinder Skew value. The value will represent the number of sectors being skewed to compensate for head switching time of the drive and/or track-to-track seek time allowing continuous read/write operation without losing disk revolutions.

SLIDER ASSEMBLY

Includes the magnetic recording head, the slider (which lands on the media when the platters stop spinng), and the head arm. The arm is aerodynamically designed to fly at a very low height above the media. The spinning media creates air motion within the enclosure which is used to fly the heads.

SMD

SURFACE MOUNTED DEVICE. A CHIP in a smaller integrated surface package, without connection leads.

SOFT ERROR

A bit error during playback which can be corrected by repeated attempts to read.

SOFT SECTOR MODE

A convention, defined by software, of setting a variable numbers of sectors per track in direct relationship to the drive's fci rating in regards to the area of media that passes beneath the head. This schema takes advantage of the fact that, in actual surface area, the outermost tracks are longer than the innermost.

SOFTWARE

APPLICATION PROGRAMS, disc operating systems and other programs (as opposed to HARDWARE). The instructions or programs, usually stored on floppy or hard discs, which are used to direct the operations of a computer, or other hardware.

SOFTWARE PATCH
Software modification which allows or adds functions not otherwise available using the standard software program.

SPINDLE
The rotating hub structure to which the discs are attached.

SPINDLE MOTOR
The spindle motor is the electro-mechanical part of the disc drive that rotates the platters.

ST-506/ST-412 INTERFACE
One of several industry standard interfaces between a hard disc and hard disc controller. In the ST-506/ST-412 interface, the "intellegence" is on the controller rather than the drive. SEE INTERFACE STANDARD, ESDI AND SCSI.

STEP
An increment or decrement of the head positioning arm to move the heads in or out, respectively, one track from their current position. In buffered mode (open loop drives), the head motion is postponed until the last of a string of step pulses has been received.

STEPPER MOTOR
The stepper motor is the electro-mechanical part of the disc drive that positions the heads by step pulse on the tracks of the disc to read and write data.

STEP PULSE
The pulse sent from the controller to the stepper motor on the step interface signal line to initiate a step operation.

STEP TIME
The time required by the drive to step the heads from the current cylinder position to a target cylinder.

STORAGE CAPACITY
Amount of data that can be stored in a memory, usually specified in kilobytes (KB) for main memory and floppy disc drives and megabytes (MB) for hard disc and tape drives.

STORAGE DENSITY
Usually refers to recording density (BPI, TPI, or their product, AREAL DENSITY).

STORAGE LOCATION
A memory location, identified by an ADDRESS, where information is to be read or written.

STORAGE MODULE DRIVE
(SMD). Storage module drive interface. An interface, used in larger disc drives, e.g., 14" drives.

STRIPE
A contiguous region of disk space. Stripes may be as small as one sector or may be composed of many contiguous sectors.

STRIPING
Also called RAID-0, A method of distributing data evenly across all drives in an array by concatenating interleaved stripes from each drive.

SYNCHRONOUS DATA
Data sent, usually in serial mode, with a clock pulse.

TAGGED COMMAND QUEUING
The drive can accept commands while processing a current command and reorder the commands to save seek time. Tagged command queuing sets the priorities for the reordering. To utilize these advanced features, the host adapter must be SCSI-2 compatible. If the host adapter is not SCSI-2 compatible, the disc drive will still work, but not all of the features will be implemented.

TAPE DRIVE
A sequential access memory device whose magnetic media is tape in a cassette, reel or continuous loop.

TERMINATION
A method of matching the transmission impedance of a electrical bus so as to eliminate signal reflections from the physical ends of the bus.

THIN FILM HEADS
A read/write head whose read/write element is deposited using integrated circuit techniques rather than being manually fabricated by grinding ferrite and hand winding coils.

TOP COVER
Together with the base casting, creates an airtight, extremely clean environment. Any attempt to remove this top

cover outside of a clean room will immediately contaminate and ruin a disc drive. Needless to say, any warranty is immediately vioded if the top is removed.

TPI
Tracks per inch.

TRACK
The radial position of the heads over the disc surface. A track is the circular ring traced over the disc surface by a head as the disc rotates under the heads.

TRACK ACCESS TIME
See AVERAGE ACCESS TIME.

TRACK DENSITY
See TPI.

TRACK FOLLOWING SERVO
A closed-loop positioner control system that continuously corrects the position of the disc drive's heads by utilizing a reference track and a feedback loop in the head positioning system. See also CLOSED LOOP.

TRACK PITCH
Distance from centerline to centerline of adjacent tracks (TPI divided into 1.0).

TRACKS PER INCH
Track density, number of tracks per inch.

TRACK WIDTH
Width of data track. Also called core width of Read/Write Head.

TRACK ZERO
Track zero is the outermost data track on a disc drive. In the ST 506 INTERFACE, the interface signal denotes that the heads are positioned at the outermost cylinder.

TRACK ZERO DETECTOR
An obsolete technology that RECALIBRATES by sensing when infrared beams between a LED and infrared sensitive photo-transistor are blocked by the track zero interrupter (TZI).

TUNNEL ERASE

An erase scheme where both sides of the recorded data is erased when writing data to eliminate track to track interference. This is primarily used on floppy disk drives.

UNFORMATTED

(Capacity) Drive byte capacity before formatting. Maximum capacity of a disc drive before formatting = (bits per track) x number of heads x # of cylinders. See MEGABYTE.

UPGRADE PATH

Generally, with disc products, a family having multiple products with varying capacities such that the system storage capacity can increase with changing application requirements simply using a different disc drive within the product family.

VERIFICATION

This feature lets the computer go back and read what it just wrote to disc to ensure the data was written correctly.

VOICE COIL MOTOR

An electro-magnetic positioning motor in the rigid disk drive similar to that used in audio speakers. A wire coil is placed in a stationary magnetic field. When current is passed through the coil, the resultant flux causes the coil to move. In a disc drive, the CARRIAGE ASSEMBLY is attached to the voice coil motor. Either a straight line (linear) or circular (rotary) design may be employed to position the heads on the disc's surface.

VOLATILE

Memory that will be erased if power is lost. Typically, MAIN MEMORY is volatile, and AUXILIARY MEMORY is non-volatile and can be used for permanent (but changeable at will) storage of programs and data.

WAN

Wide Area Network

WEDGE SERVO SYSTEM

A certain part of each CYLINDER contains servo positioning data. Gap spacing between each sector contains servo data to maintain position on that cylinder.

WIDE SCSI

The Wide SCSI interface provides a 16-bit wide SCSI bus, as compared to the narrow 8-bit SCSI bus. The wider 16-bit bus provides a transfer rate of 20 Mbytes per second compared to 10 Mbytes per second with Fast SCSI 8-bit interface.

WINCHESTER DRIVE

A disc drive with a Winchester head and non-removable (fixed) discs sealed in a contaminant-free housing.

WORD

Number of bits processed in parallel (in a single operation) by a CPU. Standard word lengths are 8, 16, 32, and 64 (1, 2, 4 or 8 bytes).

WRITE

To access a storage location and store data on the magnetic surface.

WRITE CURRENT

The optimum HEAD write current necessary to saturate the magnetic media in a cell location.

WRITE FAULT

Disc drive interface signal to the controller used to inhibit further writing when a condition exists in the drive which, if not detected, would cause improper writing on the disc.

WRITE IMMEDIATE

With host-controlled write immediate, status is returned when data is transferred to the drive buffer instead of waiting until the data is written to the media. The seek, latency, and write times are cut out of the total command completion as seen by the host.

XSMD

Extended storage module drive interface.

ZBR (Zone Bit Recording)

Trademark of Seagate Technology. A media optimization technique where the number of sectors per track is dependent upon the cylinder circumference. E.G. tracks on the outside cylinders have more sectors per track than the inside cylinders. The ZBR format is only done at the factory. These drives should not be low-level formatted by the end-user.

ZERO LATENCY READ

This reduces the delay in transferring data from the drive to the initiator due to rotational latency delays. Data is read out of order from the disc and transferred to the host where the requested order is restored.

ST-41201K (97509-12G) Elite-1.2

ST-41201K
97509-12G Elite-1.2

UNFORMATTED CAPACITY _____1,200
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,101
HEADS _____17
DISCS (5.25 in) _____10
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____24
EXTERNAL TRANSFER RATE (mbytes/sec) _____3
SPINDLE SPEED (RPM) _____5,400
AVERAGE LATENCY (mSEC) _____5.56
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____33,600
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____571,200
TPI (TRACKS PER INCH) _____1,801
BPI (BITS PER INCH) _____17,591-33,344
AREAL DENSITY (MBits/sq in) _____60.0
AVERAGE ACCESS (ms) _____11.5
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts) _____50
POWER REQUIREMENTS:
TYPICAL (watts) _____44
IDLE (watts) __ _____40
USER MANUAL PART NUMBER _____83327320
REFERENCE MANUAL PART NUMBER _____83327330
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.57/146.1
Depth	(inches/mm):	9.90/252.5
Weight	(lbs/kg):	9/4.1

ST-41800K Elite 2

ST-41800K
Elite 2

UNFORMATTED CAPACITY _____1,986
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,627
HEADS _____18
DISCS (5.25 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____60
EXTERNAL TRANSFER RATE (mbyte/sec) _____7.5
SPINDLE SPEED (RPM) _____5,400
AVERAGE LATENCY (mSEC) _____5.55
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____84,000
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____756,000
TPI (TRACKS PER INCH) _____2,250
BPI (BITS PER INCH) _____37,836
AVERAGE ACCESS (ms) _____11.5
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS:
+12V START-UP (amps) _
+12V TYPICAL (amps) __
+5V START-UP (amps) __
+5V TYPICAL (amps) ___
TYPICAL (watts) _____35
IDLE (watts) __ _____31
USER MANUAL PART NUMBER _____
OTHER _____Dual Access, Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.5/216
Weight	(lbs/kg):	7.8/3.6

ST-43200K Elite 3 2HP

ST-43200K
Elite 3 2HP

UNFORMATTED CAPACITY _____3,338
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,627
HEADS _____20
DISCS (5.25 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____72 to 108
INTERNAL TRANSFER RATE (mbyte/sec) _____12.0 avg
EXTERNAL TRANSFER RATE (mbyte/sec) _____25
SPINDLE SPEED (RPM) _____5,400
AVERAGE LATENCY (mSEC) _____5.55
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____100,800 to 151,200
SECTORS PER DRIVE _____2,984,520
BYTES PER CYLINDER _____1,008,000 to 1,512,000
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____11.5
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS:
+12V START-UP (amps) _
+12V TYPICAL (amps) __
+5V START-UP (amps) __
+5V TYPICAL (amps) ___
TYPICAL (watts) _____35
IDLE (watts) __ _____31
USER MANUAL PART NUMBER _____
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability,
Writes/Reads Two Heads Parallel

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.5/216
Weight	(lbs/kg):	7.8/3.6

ST-6515K (97159-500) FSD-515

ST-6515K
97159-500 FSD-515

UNFORMATTED CAPACITY _____516
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____
TRACKS _____
CYLINDERS _____711
HEADS _____24
DISCS (9 in) _____7
MEDIA TYPE _____OXIDE
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____1.80
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____30,240
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____302,400
TPI (TRACKS PER INCH) _____960
BPI (BITS PER INCH) _____9,167-15,040
AREAL DENSITY (MBits/sq in) _____14.6
AVERAGE ACCESS (ms) _____18
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____40
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____30,000
POWER DISSIPATION (watts) _____225
USER MANUAL PART NUMBER _____
OTHER _____Dual Access, Sweep Cycle Capability, Remote/Integral Power Supply

Physical:

Height	(inches/mm):	10.20/259
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	30.0/757
Weight	(lbs/kg):	82/36.4

Seagate reserves the right to change, without notice, product offerings or specifications. (10/23/91)

ST-8100K

ST-8100K
Solid State Disc

UNFORMATTED CAPACITY _____100
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____1 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____100,000
POWER DISSIPATION (watts/BTU) _____89/304
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	31/14.09

Seagate reserves the right to change, without notice, product offerings or specifications. (10/23/91)

ST-81154K (97229-1150) Sabre 5 2HP

ST-81154K
97229-1150 Sabre 5 2HP

UNFORMATTED CAPACITY _____1,154
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,635
HEADS (Logical/Physical)_____7/14
DISCS (8 in) _____9
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____6.0
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____100,800
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____705,600
TPI (TRACKS PER INCH) _____1,289
BPI (BITS PER INCH) _____16,420-24,307
AREAL DENSITY (MBits/sq in) _____32.6
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____110/375
USER MANUAL PART NUMBER _____83326010
DIAGRAMS MANUAL PART NUMBER _____83325730
MAINT. MANUAL PART NUMBER _____83325720
PARTS MANUAL PART NUMBER _____83325700
THEORY MANUAL PART NUMBER _____83325690
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability,
Writes/Reads Two Heads Parallel

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.38
Weight	(lbs/kg):	32/15

ST-81236K (97209-12G) Sabre 5

ST-81236K
97209-12G Sabre 5

UNFORMATTED CAPACITY _____1,236
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,635
HEADS _____15
DISCS (8 in) _____9
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____3.0
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____50,400
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____756,000
TPI (TRACKS PER INCH) _____1,289
BPI (BITS PER INCH) _____16,420-24,307
AREAL DENSITY (MBits/sq in) _____32.6
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83326010
DIAGRAMS MANUAL PART NUMBER _____83325730
MAINT. MANUAL PART NUMBER _____83325720
PARTS MANUAL PART NUMBER _____83325700
THEORY MANUAL PART NUMBER _____83325690
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.38
Weight	(lbs/kg):	32/15

ST-8134K

ST-8134K

UNFORMATTED CAPACITY _____134
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____1 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____90,000
POWER DISSIPATION (watts/BTU) _____92/314
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	32/14.55

ST-8135K

ST-8135K
Solid State Disc

UNFORMATTED CAPACITY _____134
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____4 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____98/334
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	33/14.97

ST-8167K

ST-8167K
Solid State Disc

UNFORMATTED CAPACITY _____167
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____1 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____80,000
POWER DISSIPATION (watts/BTU) _____95/324
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	33/14.97

ST-8201K

ST-8201K
Solid State Disc

UNFORMATTED CAPACITY _____201
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____4 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____120,000
POWER DISSIPATION (watts/BTU) _____101/344
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	33/14.97

ST-82030K Sabre 6

ST-82030K
Sabre 6

UNFORMATTED CAPACITY _____2,030
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,120
HEADS _____19
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____3.0
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____50,400
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____957,600
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____20,789
AVERAGE ACCESS (ms) _____11
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83327230
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height (inches/mm):	4.75/120.65
Width (inches/mm):	8.50/216
Depth (inches/mm):	14.7/373.3
Weight (lbs/kg):	32/13

ST-82105K (97289-21G) Sabre 6 8HP

ST-82105K
97289-21G Sabre 6 8HP

UNFORMATTED CAPACITY _____2,105
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,611
HEADS (Logical/Physical)_____2/16
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____24.3
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____403,199
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____806,400
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____24,200
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____100,000
MTBF (power-on hours) Office _____80,000
POWER DISSIPATION (watts/BTU) _____255/870
USER MANUAL PART NUMBER _____
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability,
Writes/Reads Eight Heads Parallel

Physical:

Height	(inches/mm):	8.44/214.4
Width	(inches/mm):	8.72/221.5
Depth	(inches/mm):	29.5/749.3
Weight	(lbs/kg):	55/25

ST-82368K (97299-23G) Sabre 6 9HP

ST-82368K
97299-23G Sabre 6 9HP

UNFORMATTED CAPACITY _____2,368
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,611
HEADS (Logical/Physical)_____2/18
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____27.3
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____453,599
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____907,200
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____24,200
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____100,000
MTBF (power-on hours) Office _____80,000
POWER DISSIPATION (watts/BTU) _____275/938
USER MANUAL PART NUMBER _____83327350
PARTS MANUAL PART NUMBER _____83327360
MAINT. MANUAL PART NUMBER _____83327370
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability,
Writes/Reads Nine Heads Parallel

Physical:

Height	(inches/mm):	8.44/214.4
Width	(inches/mm):	8.72/221.5
Depth	(inches/mm):	29.5/749.3
Weight	(lbs/kg):	55/25

ST-82500K (97209-25G) Sabre 6

ST-82500K
97209-25G Sabre 6

UNFORMATTED CAPACITY _____2,500
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,611
HEADS _____19
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____3.04
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____50,400
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____957,600
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____24,200
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83327210
MAINT. MANUAL PART NUMBER _____83327230
PARTS MANUAL PART NUMBER _____83327240
THEORY MANUAL PART NUMBER _____83327530
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.3
Weight	(lbs/kg):	28/13

ST-8268K

ST-8268K
Solid State Disc

UNFORMATTED CAPACITY _____268
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____4 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____100,000
POWER DISSIPATION (watts/BTU) _____104/355
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	33/14.97

ST-83050K Sabre 7 2HP

ST-83050K
Sabre 7 2HP

UNFORMATTED CAPACITY _____3,050
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,655
HEADS _____18
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (1,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____9.34
SPINDLE SPEED (RPM) _____4,365
AVERAGE LATENCY (mSEC) _____6.87
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____127,680
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____1,149,120
TPI (TRACKS PER INCH) _____1,912
BPI (BITS PER INCH) _____32,202
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____110/375
USER MANUAL PART NUMBER _____83327210
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability
Writes/Reads Two Heads Parallel

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.3
Weight	(lbs/kg):	26/13

Seagate reserves the right to change, without notice, product offerings or specifications. (10/23/91)

ST-83220K Sabre 7

ST-83220K
Sabre 7

UNFORMATTED CAPACITY _____3,220
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,655
HEADS _____19
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (1,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____4.67
SPINDLE SPEED (RPM) _____4,365
AVERAGE LATENCY (mSEC) _____6.87
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____63,840
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____1,212,960
TPI (TRACKS PER INCH) _____1,912
BPI (BITS PER INCH) _____32,202
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2.2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83327210
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height (inches/mm):	4.75/120.65
Width (inches/mm):	8.50/216
Depth (inches/mm):	14.7/373.3
Weight (lbs/kg):	28/13

ST-8335K

ST-8335K
Solid State Disc

UNFORMATTED CAPACITY _____335
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____4 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____85,000
POWER DISSIPATION (watts/BTU) _____107/365
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	33/14.97

ST-833K

ST-833K
Solid State Disc

UNFORMATTED CAPACITY _____33
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____1 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____83/284
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	29/13.18

Seagate reserves the right to change, without notice, product offerings or specifications. (10/23/91)

ST-8402K

ST-8402K
Solid State Disc

UNFORMATTED CAPACITY _____402
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____4 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____75,000
POWER DISSIPATION (watts/BTU) _____110/375
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	33/14.97

ST-867K

ST-867K
Solid State Disc

UNFORMATTED CAPACITY _____67
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____1 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____120,000
POWER DISSIPATION (watts/BTU) _____86/294
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	30/13.64

ST-868K

ST-868K
Solid State Disc

UNFORMATTED CAPACITY _____67
FORMATTED CAPACITY (xx SECTORS) _____
SECTORS PER TRACK (Logical)_____1-256
CYLINDERS (Logical)_____1-992
HEADS (Logical)_____1-32
MEDIA TYPE _____SOLID STATE
HEAD TYPE _____SOLID STATE
RECORDING METHOD _____4 Mbit DRAM
BACKUP MEMORY _____3.5" disc drive
BATTERY LIFE _____3 yrs.
TRANSFER RATE (mbytes/sec) _____2.5-10.0
BUFFER _____
INTERFACE _____IPI-2
AVERAGE ACCESS (ms) _____0.1
MTBF (power-on hours) Office _____200,000
POWER DISSIPATION (watts/BTU) _____95/324
USER MANUAL PART NUMBER _____
OTHER _____

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.26/209.8
Depth	(inches/mm):	15.75/400.05
Weight	(lbs/kg):	33/14.97

ST-8851K (97209-850) Sabre 4

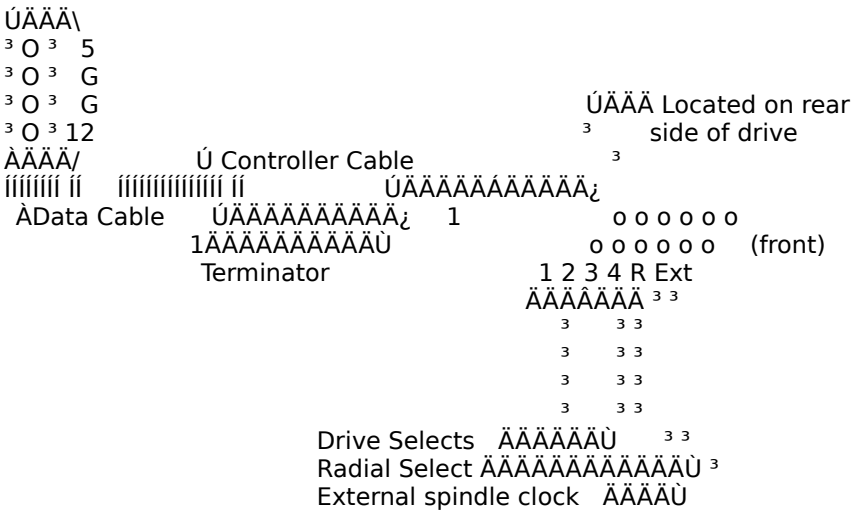
ST-8851K
97209-850 Sabre 4

UNFORMATTED CAPACITY ____ _____851
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,381
HEADS _____15
DISCS (8 in) _____9
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____2.46
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____IPI-2
BYTES PER TRACK _____41,088
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____616,320
TPI (TRACKS PER INCH) _____1,089
BPI (BITS PER INCH) _____19,816
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Class A Room _____100,000
MTBF (power-on hours) Office _____100,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83326010
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.38
Weight	(lbs/kg):	32/15

ST-1100 (94355-100) Swift ST412 MFM



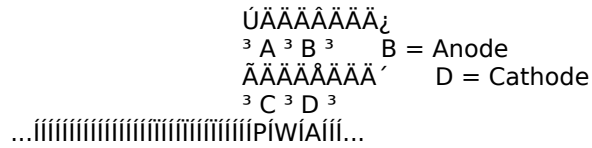
ST-1100
94355-100 Swift

UNFORMATTED CAPACITY (MB)	100
FORMATTED CAPACITY (17 SECTORS) (MB)	83
ACTUATOR TYPE	VOICE COIL
TRACKS	9,648
CYLINDERS	1,072
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
INTERFACE	ST412
SECTORS PER DRIVE	164,016
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	14,019
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	4
MAX FULL SEEK (ms)	35
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.5
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	10
MAXIMUM (watts)	12
BUFFERED STEP PULSE RATE (micro sec)	6-200
WRITE PRECOMP (cyl)	N/A (1073)
REDUCED WRITE CURRENT (cyl)	N/A (1073)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	35 or *

* FORMATTING AND PARTITIONING SOFTWARE MAY BE REQUIRED TO ACHIEVE FULL CAPACITY. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Swift Remote LED Option

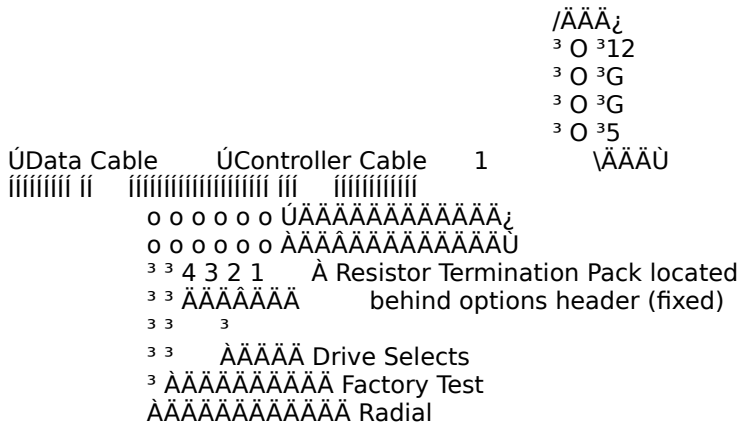
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-124 ST412 MFM



ST - 124

UNFORMATTED CAPACITY (MB)	25.6
FORMATTED CAPACITY (17 SECTORS) (MB)	21.4
ACTUATOR TYPE	STEPPER
TRACKS	2,460
CYLINDERS	615
HEADS	4
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	ST412
SECTORS PER DRIVE	41,820
TPI (TRACKS PER INCH)	824
BPI (BITS PER INCH)	14,953
AVERAGE ACCESS (ms)	40
SINGLE TRACK SEEK (ms)	12
MAX FULL SEEK (ms)	95
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.4
+12V TYPICAL (amps)	0.35
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	8
MAXIMUM (watts)	33
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	670
IBM AT DRIVE TYPE	6

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-125 ST412 MFM

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                                                          /ÄÄÄ¿
                                                          ³ O ³12
                                                          ³ O ³G
                                                          ³ O ³G
                                                          ³ O ³5
ÚData Cable            ÚController Cable     1              \ÄÄÄÙ
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        o o o o o o o o o ÀÄÄÂÄÄÂÄÄÄÄÄÄÄÄÄÙ
        ³ ³ ³ ³ 4 3 2 1      À Resistor Termination Pack
        ³ ³ ³ ³ ÄÄÄÂÄÄÄ
        ³ ³ ³ ³       ³
        ³ ³ ³ ³       ÀÄÄÄÄ Drive Selects
        ³ ³ ³ ÀÄÄÄÄÄÄÄÄÄÄ Factory Test
        ³ ³ ÀÄÄÄÄÄÄÄÄÄÄÄÄ Write Fault
        ³ ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Not Used
        ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Radial
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Note: Some configurations have the drive select jumper block oriented perpendicular to the back of the drive. In this configuration, pin-1 (radial select) is closest to the front faceplate of the drive.

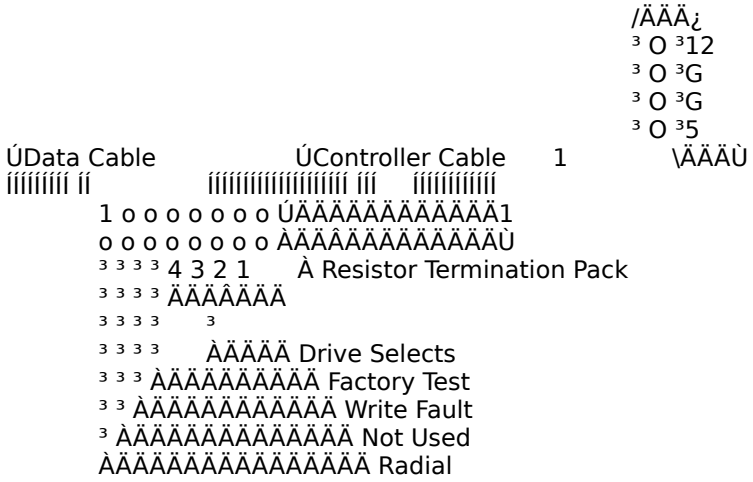
ST - 125

UNFORMATTED CAPACITY (MB) ________________25.6
FORMATTED CAPACITY (17 SECTORS) (MB) _____21.4
ACTUATOR TYPE ____________________________STEPPER
TRACKS ___________________________________2,460
CYLINDERS ________________________________615
HEADS ____________________________________4
DISCS ____________________________________2
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________MFM
TRANSFER RATE (mbits/sec) ________________5.0
SPINDLE SPEED (RPM) ______________________3,600
AVERAGE LATENCY (mSEC) ___________________8.3
INTERFACE ________________________________ST412
SECTORS PER DRIVE ________________________41,820
TPI (TRACKS PER INCH) ____________________824
BPI (BITS PER INCH) ______________________14,953
AVERAGE ACCESS (ms)*______________________40/28
SINGLE TRACK SEEK (ms) ___________________8
MAX FULL SEEK (ms) _______________________70
MTBF (power-on hours) ____________________150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.35
+5V TYPICAL (amps) ___0.8
TYPICAL (watts) ______8
MAXIMUM (watts) ______28
BUFFERED STEP PULSE RATE (micro sec) _____3-200
WRITE PRECOMP (cyl) ______________________N/A (616)
REDUCED WRITE CURRENT (cyl) ______________N/A (616)
LANDING ZONE (cyl)________________________AUTO PARK
IBM AT DRIVE TYPE ________________________6

*ST125-0/ST125-1

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-138 ST412 MFM



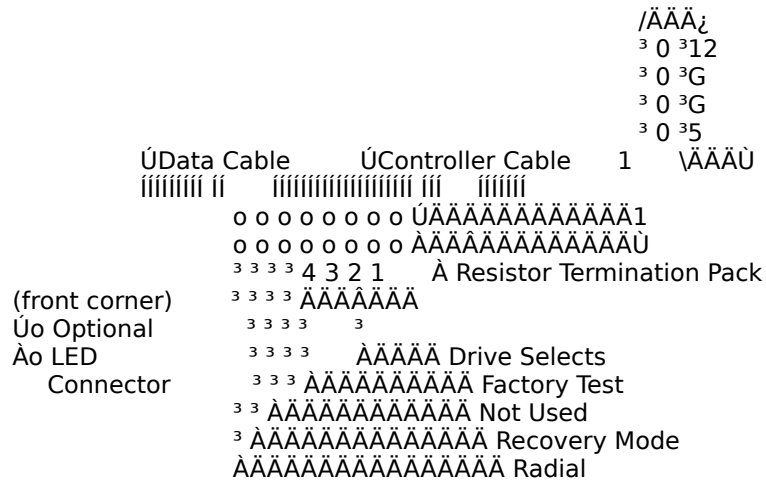
Note: Some configurations have the drive select jumper block oriented perpendicular to the back of the drive. In this configuration, pin-1 (radial select) is closest to the front faceplate of the drive.

ST - 138

UNFORMATTED CAPACITY (MB)	38.4
FORMATTED CAPACITY (17 SECTORS) (MB)	32.1
ACTUATOR TYPE	STEPPER
TRACKS	3,690
CYLINDERS	615
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	ST412
SECTORS PER DRIVE	62,730
TPI (TRACKS PER INCH)	824
BPI (BITS PER INCH)	14,953
AVERAGE ACCESS (ms)*	40/28
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	70
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.35
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	8
MAXIMUM (watts)	28
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	3

*ST138-0/ST138-1

ST-151 ST412 MFM



ST - 151

UNFORMATTED CAPACITY (MB)	50.8
FORMATTED CAPACITY (17 SECTORS) (MB)	42.5
ACTUATOR TYPE	VOICE COIL
TRACKS	4,885
CYLINDERS	977
HEADS	5
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
INTERFACE	ST412
SECTORS PER DRIVE	83,045
TPI (TRACKS PER INCH)	1,300
BPI (BITS PER INCH)	14,108
AVERAGE ACCESS (ms)	24
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	44
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.45
+5V TYPICAL (amps)	0.5
TYPICAL (watts)	8
MAXIMUM (watts)	27
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (978)
REDUCED WRITE CURRENT (cyl)	N/A (978)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	17 or 11*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-212 ST412 MFM

UNFORMATTED CAPACITY (MB) _____12.76
FORMATTED CAPACITY (17 SECTORS) (MB) _____10.0
ACTUATOR TYPE _____STEPPER
TRACKS _____1,224
CYLINDERS _____306
HEADS _____4
DISCS _____1
MEDIA TYPE _____OXIDE
RECORDING METHOD _____MFM
TRANSFER RATE (mbits/sec) _____5.0
SPINDLE SPEED (RPM) _____3,600
INTERFACE _____ST412
TPI (TRACKS PER INCH) _____550
BPI (BITS PER INCH) _____10,560
AVERAGE ACCESS (ms) _____65
SINGLE TRACK SEEK (ms) _____23
MTBF (power-on hours) _____11,000
POWER REQUIREMENTS: +12V START-UP (amps) _3.2
+12V TYPICAL (amps) __1.0
+5V TYPICAL (amps) ___1.0
TYPICAL (watts) _____17
MAXIMUM (watts) _____44.4
BUFFERED STEP PULSE RATE (micro sec) _____5-500
WRITE PRECOMP (cyl) _____128
REDUCED WRITE CURRENT (cyl) _____N/A (307)
LANDING ZONE (cyl)_____319
IBM AT DRIVE TYPE _____1

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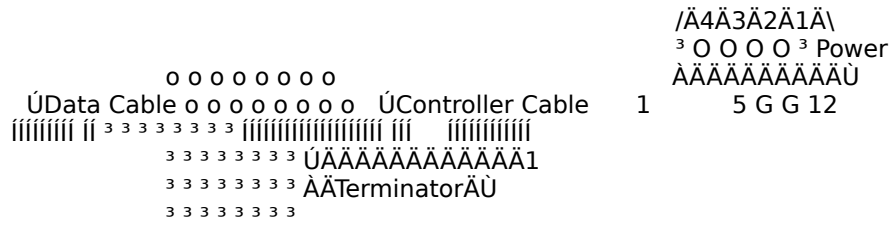
ST-213 ST412 MFM

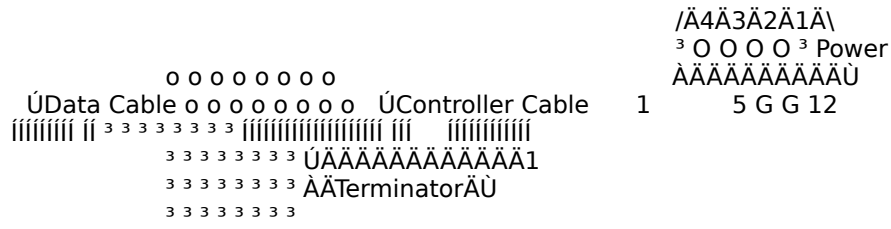


ST - 213

UNFORMATTED CAPACITY (MB)	12.8
FORMATTED CAPACITY (17 SECTORS) (MB)	10.7
ACTUATOR TYPE	STEPPER
TRACKS	1,230
CYLINDERS	615
HEADS	2
DISCS	1
MEDIA TYPE	OXIDE
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	588
BPI (BITS PER INCH)	9,827
AVERAGE ACCESS (ms)	65
SINGLE TRACK SEEK (ms)	20
MTBF (power-on hours)	20,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.2
+12V TYPICAL (amps)	0.9
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	14.8
MAXIMUM (watts)	30.4
BUFFERED STEP PULSE RATE (micro sec)	5-200
WRITE PRECOMP (cyl)	300
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	670
IBM AT DRIVE TYPE	N/A

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-225 ST412 MFM

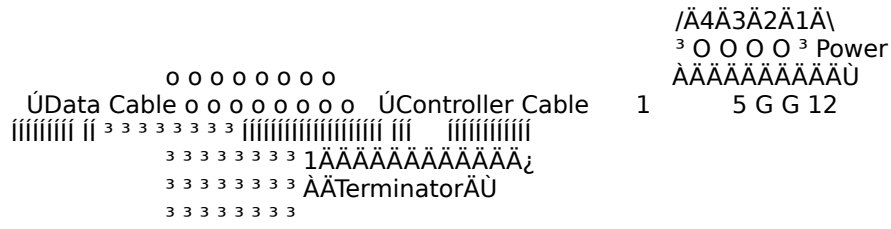


ST - 225

UNFORMATTED CAPACITY (MB) _____25.6
FORMATTED CAPACITY (17 SECTORS) (MB) _____21.4
ACTUATOR TYPE _____STEPPER
TRACKS _____2,460
CYLINDERS _____615
HEADS _____4
DISCS _____2
MEDIA TYPE _____OXIDE
RECORDING METHOD _____MFM
TRANSFER RATE (mbits/sec) _____5.0
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.3
INTERFACE _____ST412
SECTORS PER DRIVE _____41,820
TPI (TRACKS PER INCH) _____588
BPI (BITS PER INCH) _____9,827
AVERAGE ACCESS (ms) _____65
SINGLE TRACK SEEK (ms) _____20
MAX FULL SEEK (ms) _____150
MTBF (power-on hours) _____100,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.4
+12V TYPICAL (amps) __0.9
+5V TYPICAL (amps) ___0.8
TYPICAL (watts) _____14.8
MAXIMUM (watts) _____33
BUFFERED STEP PULSE RATE (micro sec) _____5-200
WRITE PRECOMP (cyl) _____300
REDUCED WRITE CURRENT (cyl) _____N/A (616)
LANDING ZONE (cyl)_____670
IBM AT DRIVE TYPE _____2

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-251 ST412 MFM



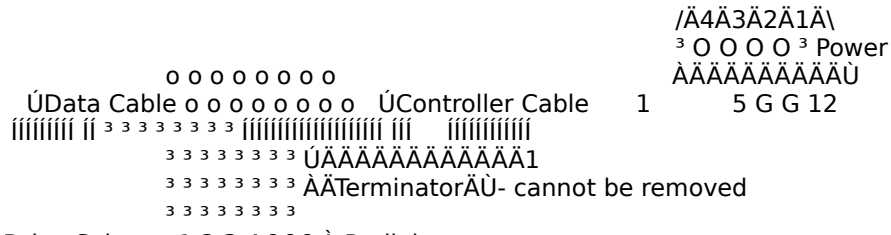
ST - 251

UNFORMATTED CAPACITY (MB)	51.2
FORMATTED CAPACITY (17 SECTORS) (MB)	42.8
ACTUATOR TYPE	STEPPER
TRACKS	4,920
CYLINDERS	820
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	ST412
SECTORS PER DRIVE	83,640
TPI (TRACKS PER INCH)	777
BPI (BITS PER INCH)	9,935
AVERAGE ACCESS (ms)	40/28*
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	/70
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0/2.5*
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	1.0/1.2*
TYPICAL (watts)	11/12*
MAXIMUM (watts)	29/36*
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (821)
REDUCED WRITE CURRENT (cyl)	N/A (821)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	44, 40, or 3**

*ST251-0/ST251-1
**MAY REQUIRE PARTITIONING SOFTWARE

ST-252 ST412 MFM

(same as ST-251 with Terminator that cannot be removed, therfore drive must be installed at the end of the daisychain cable.)



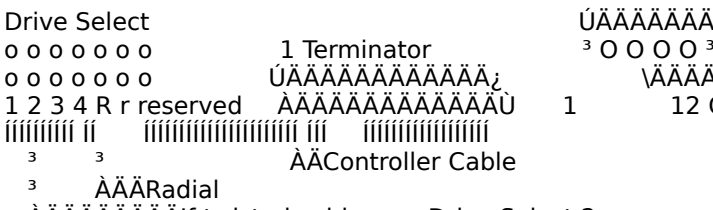
ST - 252

UNFORMATTED CAPACITY (MB)	51.2
FORMATTED CAPACITY (17 SECTORS) (MB)	42.8
ACTUATOR TYPE	STEPPER
TRACKS	4,920
CYLINDERS	820
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	777
BPI (BITS PER INCH)	9,935
AVERAGE ACCESS (ms)	40/28*
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0/2.5*
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	1.0/1.2*
TYPICAL (watts)	11/12*
MAXIMUM (watts)	29/36*
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (821)
REDUCED WRITE CURRENT (cyl)	N/A (821)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	44, 40, or 3**

*ST251-0/ST251-1
**MAY REQUIRE PARTITIONING SOFTWARE

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-253 (94205-51) Wren 2 HH ST412 MFM

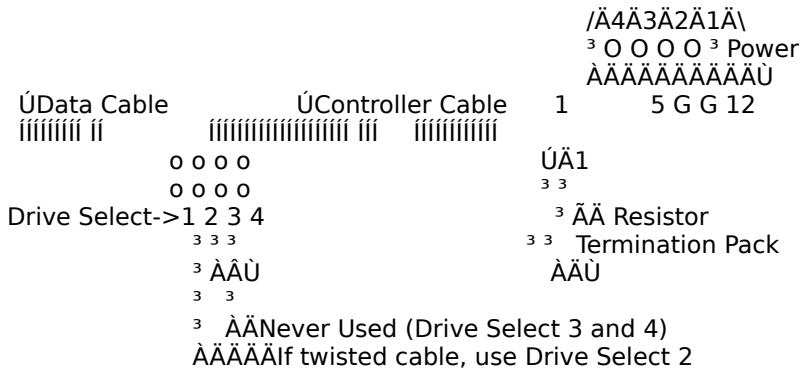


ST-253
94205-51 WREN 2 HH

UNFORMATTED CAPACITY (MB)	51
FORMATTED CAPACITY (17 SECTORS) (MB)	43
ACTUATOR TYPE	VOICE COIL
TRACKS	4,795
CYLINDERS	989
HEADS	5
DISCS	3
MEDIA TYPE	OXIDE
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	960
BPI (BITS PER INCH)	9,535
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	5
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.5
+5V START-UP (amps)	1.0
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	20
MAXIMUM (watts)	??
BUFFERED STEP PULSE RATE (micro sec)	8-200
WRITE PRECOMP (cyl)	128
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*, 17 is close

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

ST-4026 ST412 MFM

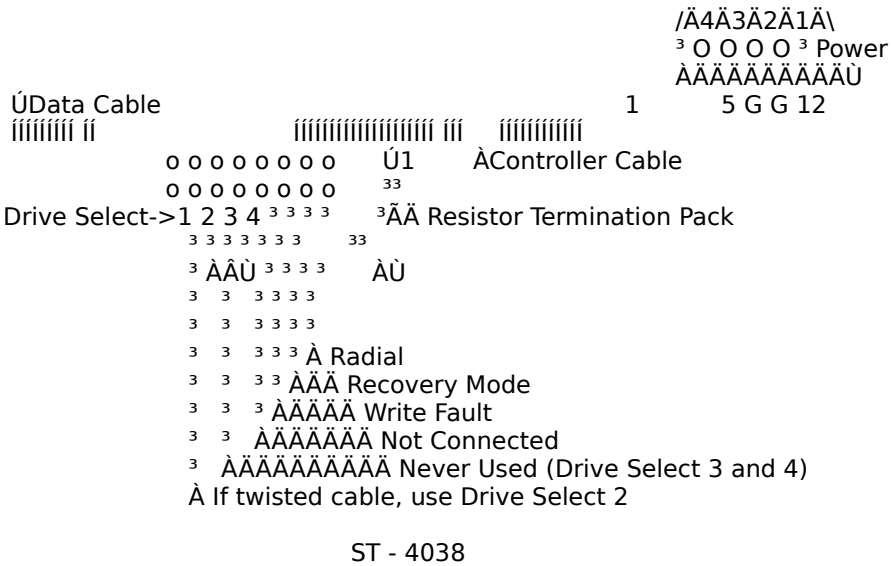


ST - 4026

UNFORMATTED CAPACITY (MB)	25.6
FORMATTED CAPACITY (17 SECTORS) (MB)	21.4
ACTUATOR TYPE	VOICE COIL
TRACKS	2,460
CYLINDERS	615
HEADS	4
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	625
BPI (BITS PER INCH)	9,617
AVERAGE ACCESS (ms)	40
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	15,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.0
+12V TYPICAL (amps)	1.5
+5V TYPICAL (amps)	1.5
TYPICAL (watts)	25.5
MAXIMUM (watts)	55
BUFFERED STEP PULSE RATE (micro sec)	25-50
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	2

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4038 ST412 MFM



ST - 4038

UNFORMATTED CAPACITY (MB)	38.2
FORMATTED CAPACITY (17 SECTORS) (MB)	31.9
ACTUATOR TYPE	VOICE COIL
TRACKS	3,665
CYLINDERS	733
HEADS	5
DISCS	3
MEDIA TYPE	OXIDE
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	750
BPI (BITS PER INCH)	9,617
AVERAGE ACCESS (ms)	40
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	25,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.0
+12V TYPICAL (amps)	1.5
+5V TYPICAL (amps)	1.5
TYPICAL (watts)	25.5
MAXIMUM (watts)	56
BUFFERED STEP PULSE RATE (micro sec)	10-70
WRITE PRECOMP (cyl)	300
REDUCED WRITE CURRENT (cyl)	N/A (734)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	22, 20 or 8

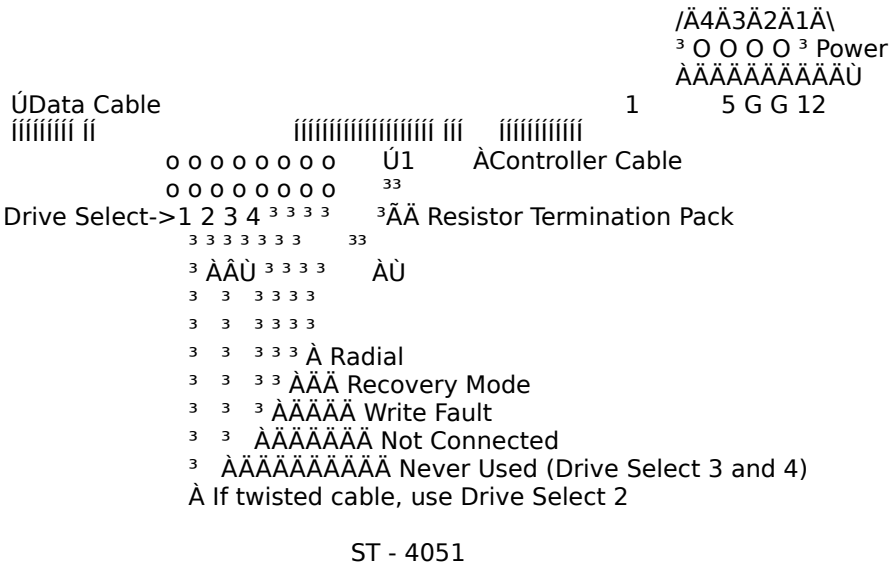
Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4038M ST412 MFM

UNFORMATTED CAPACITY (MB) _____38.2
FORMATTED CAPACITY (17 SECTORS) (MB) _____31.9
ACTUATOR TYPE _____VOICE COIL
TRACKS _____3,665
CYLINDERS _____733
HEADS _____5
DISCS _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____MFM
TRANSFER RATE (mbits/sec) _____5.0
SPINDLE SPEED (RPM) _____3,600
INTERFACE _____ST412
TPI (TRACKS PER INCH) _____750
BPI (BITS PER INCH) _____9,617
AVERAGE ACCESS (ms) _____40
SINGLE TRACK SEEK (ms) _____8
MTBF (power-on hours) _____15,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.0
+12V TYPICAL (amps) __1.5
+5V TYPICAL (amps) ___1.5
TYPICAL (watts) _____25.5
MAXIMUM (watts) _____56
BUFFERED STEP PULSE RATE (micro sec) _____10-70
WRITE PRECOMP (cyl) _____N/A (734)
REDUCED WRITE CURRENT (cyl) _____N/A (734)
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____8

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4051 ST412 MFM



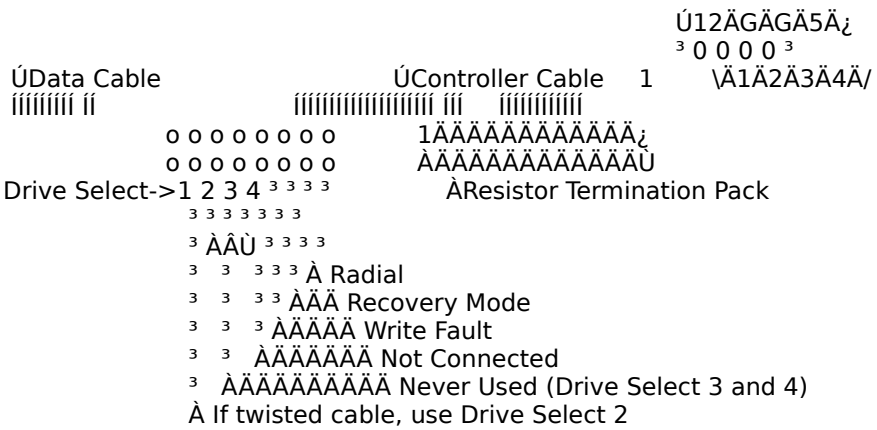
ST - 4051

UNFORMATTED CAPACITY (MB)	50.88
FORMATTED CAPACITY (17 SECTORS) (MB)	42.52
ACTUATOR TYPE	VOICE COIL
TRACKS	4,885
CYLINDERS	977
HEADS	5
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	960
BPI (BITS PER INCH)	9,720
AVERAGE ACCESS (ms)	40
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	15,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.0
+12V TYPICAL (amps)	1.5
+5V TYPICAL (amps)	1.5
TYPICAL (watts)	25.5
MAXIMUM (watts)	55
BUFFERED STEP PULSE RATE (micro sec)	10-70
WRITE PRECOMP (cyl)	N/A (978)
REDUCED WRITE CURRENT (cyl)	N/A (978)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	11 or 17*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4053 ST412 MFM



ST - 4053

UNFORMATTED CAPACITY (MB)	53.3
FORMATTED CAPACITY (17 SECTORS) (MB)	44.5
ACTUATOR TYPE	VOICE COIL
TRACKS	5,120
CYLINDERS	1,024
HEADS	5
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	1,031
BPI (BITS PER INCH)	9,792
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	6
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.0
+12V TYPICAL (amps)	1.3
+5V TYPICAL (amps)	1.3
TYPICAL (watts)	23
MAXIMUM (watts)	55
BUFFERED STEP PULSE RATE (micro sec)	3-70
WRITE PRECOMP (cyl)	N/A (1025)
REDUCED WRITE CURRENT (cyl)	N/A (1025)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	36 (11 or 17*)

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-406 ST412 MFM

OPTION SHUNT BLOCK

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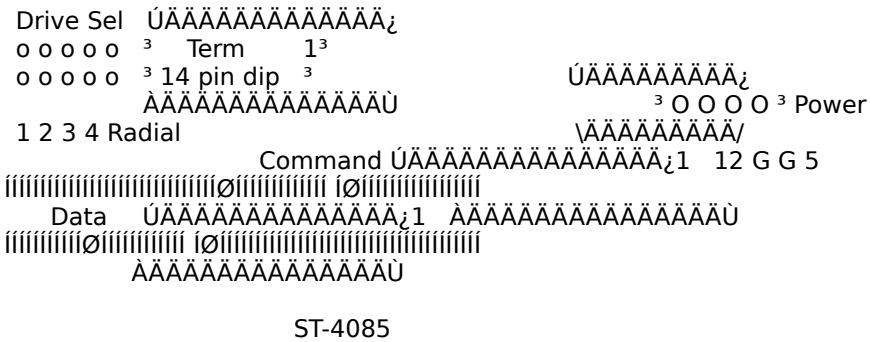
   ÚÄÄ\ÄÄÄ/ÄÄ¿
1 ³   R     ³ 16
2 ³   NC    ³ 15
3 ³   NC    ³ 14
4 ³   NC    ³ 13
5 ³   DS4   ³ 12
6 ³   DS3   ³ 11
7 ³   DS2   ³ 10
8 ³   DS1   ³ 9
   ÀÄÄÄÄÄÄÄÄÄÄÙ
```

DS1,DS2,DS3,DS4=DRIVE SELECTED
R=RADIAL OPERATION

ST - 406

UNFORMATTED CAPACITY (MB) _____6.38
FORMATTED CAPACITY (17 SECTORS) (MB) _____5.0
ACTUATOR TYPE _____STEPPER
TRACKS _____612
CYLINDERS _____306
HEADS _____2
DISCS _____1
MEDIA TYPE _____OXIDE
RECORDING METHOD _____MFM
TRANSFER RATE (mbits/sec) _____5.0
SPINDLE SPEED (RPM) _____3,600
INTERFACE _____ST412
TPI (TRACKS PER INCH) _____345
BPI (BITS PER INCH) _____9,074
AVERAGE ACCESS (ms) _____85
SINGLE TRACK SEEK (ms) _____< 16.67
MTBF (power-on hours) _____11,000
POWER REQUIREMENTS: +12V START-UP (amps) _3.5
+12V TYPICAL (amps) __1.6
+5V TYPICAL (amps) ___1.1
TYPICAL (watts) _____24.7
MAXIMUM (watts) _____50
BUFFERED STEP PULSE RATE (micro sec) _____5-500
WRITE PRECOMP (cyl) _____128
REDUCED WRITE CURRENT (cyl) _____N/A (307)
LANDING ZONE (cyl)_____319
IBM AT DRIVE TYPE _____N/A

ST-4085 (94155-85) Wren 2 ST412 MFM



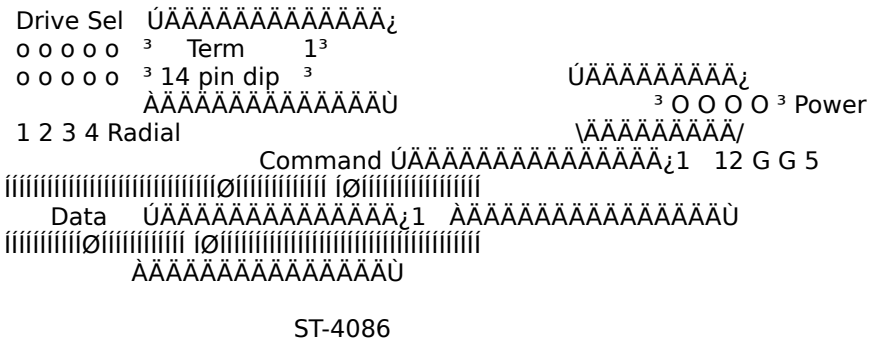
ST-4085
94155-85 WREN 2 FH

UNFORMATTED CAPACITY (MB)	85
FORMATTED CAPACITY (17 SECTORS) (MB)	71
ACTUATOR TYPE	VOICE COIL
TRACKS	8,192
CYLINDERS	1,024
HEADS	8
DISCS	5
MEDIA TYPE	OXIDE
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	980
BPI (BITS PER INCH)	9,400
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	5
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	2.0
+5V START-UP (amps)	1.3
+5V TYPICAL (amps)	0.75
TYPICAL (watts)	28
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	8-200
WRITE PRECOMP (cyl)	N/A (or 128 for the "85P" version)
REDUCED WRITE CURRENT (cyl)	N/A (1024)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	45, *

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4086 (94155-86) Wren 2 ST412 MFM

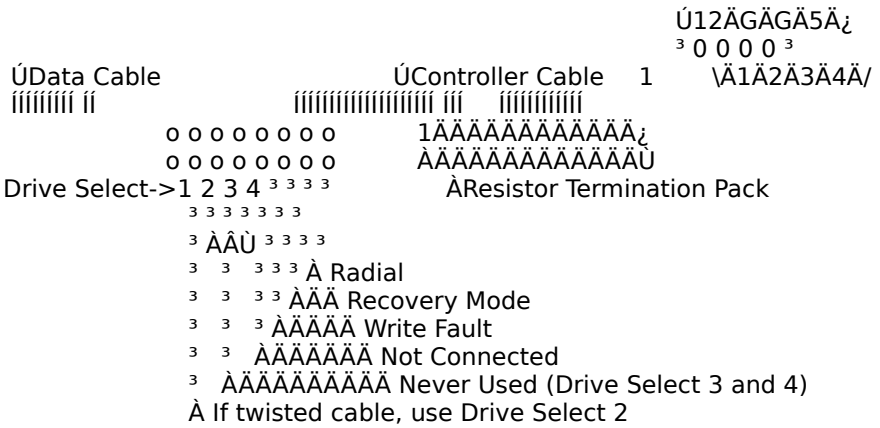


ST-4086
94155-86 WREN 2 FH

UNFORMATTED CAPACITY (MB)	86
FORMATTED CAPACITY (17 SECTORS) (MB)	72
ACTUATOR TYPE	VOICE COIL
TRACKS	8,325
CYLINDERS	925
HEADS	9
DISCS	5
MEDIA TYPE	OXIDE
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	960
BPI (BITS PER INCH)	9,274
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	5
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	2.0
+5V START-UP (amps)	1.3
+5V TYPICAL (amps)	0.75
TYPICAL (watts)	28
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	8-200
WRITE PRECOMP (cyl)	N/A (926)
REDUCED WRITE CURRENT (cyl)	N/A (926)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	46, *

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

ST-4096 ST412 MFM



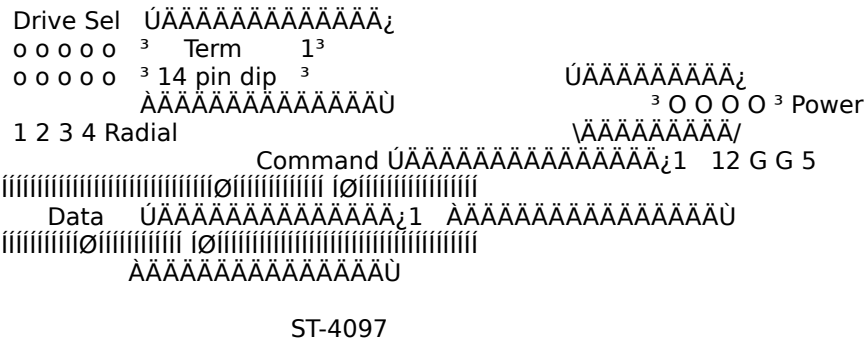
ST - 4096

UNFORMATTED CAPACITY (MB)	96.0
FORMATTED CAPACITY (17 SECTORS) (MB)	80.2
ACTUATOR TYPE	VOICE COIL
TRACKS	9,216
CYLINDERS	1,024
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	ST412
SECTORS PER DRIVE	156,672
TPI (TRACKS PER INCH)	1,031
BPI (BITS PER INCH)	9,792
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	6
MAX FULL SEEK (ms)	55
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.0
+12V TYPICAL (amps)	1.3**
+5V TYPICAL (amps)	1.3
TYPICAL (watts)	23**
MAXIMUM (watts)	55
BUFFERED STEP PULSE RATE (micro sec)	3-70
WRITE PRECOMP (cyl)	N/A (1025)
REDUCED WRITE CURRENT (cyl)	N/A (1025)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	35 or 12*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

**1.5 amps/25 watts FOR 2-BOARD ST-4096 ONLY

ST-4097 (94155-96) Wren 2 ST412 MFM



ST-4097
94155-96 WREN 2 FH

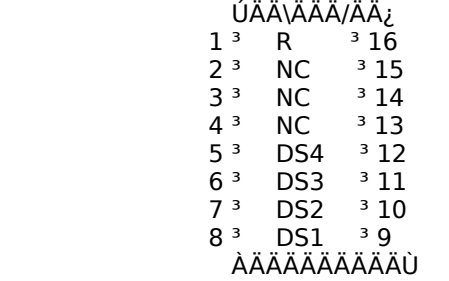
UNFORMATTED CAPACITY (MB)	96
FORMATTED CAPACITY (17 SECTORS) (MB)	80
ACTUATOR TYPE	VOICE COIL
TRACKS	9,216
CYLINDERS	1,024
HEADS	9
DISCS	5
MEDIA TYPE	OXIDE
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	980
BPI (BITS PER INCH)	9,400
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	5
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	2.0
+5V START-UP (amps)	1.3
+5V TYPICAL (amps)	0.75
TYPICAL (watts)	28
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	8-200
WRITE PRECOMP (cyl)	N/A (or 128 for the "97P" version)
REDUCED WRITE CURRENT (cyl)	N/A (1024)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	35 *

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-412 ST412 MFM

OPTION SHUNT BLOCK



DS1,DS2,DS3,DS4=DRIVE SELECTED
R=RADIAL OPERATION

ST - 412

UNFORMATTED CAPACITY (MB)	12.76
FORMATTED CAPACITY (17 SECTORS) (MB)	10.0
ACTUATOR TYPE	STEPPER
TRACKS	1,224
CYLINDERS	306
HEADS	4
DISCS	2
MEDIA TYPE	OXIDE
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
INTERFACE	ST412
TPI (TRACKS PER INCH)	345
BPI (BITS PER INCH)	9,074
AVERAGE ACCESS (ms)	85
SINGLE TRACK SEEK (ms)	< 16.67
MTBF (power-on hours)	11,000
POWER REQUIREMENTS: +12V START-UP (amps)	3.5
+12V TYPICAL (amps)	1.7
+5V TYPICAL (amps)	1.1
TYPICAL (watts)	25.9
MAXIMUM (watts)	50
BUFFERED STEP PULSE RATE (micro sec)	5-500
WRITE PRECOMP (cyl)	128
REDUCED WRITE CURRENT (cyl)	N/A (307)
LANDING ZONE (cyl)	319
IBM AT DRIVE TYPE	1

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-419 ST412 MFM

OPTION SHUNT BLOCK

```
   ÚÄÄ\ÄÄÄ/ÄÄ¿
1 ³    R      ³ 16
2 ³    NC     ³ 15
3 ³    NC     ³ 14
4 ³    NC     ³ 13
5 ³    DS4    ³ 12
6 ³    DS3    ³ 11
7 ³    DS2    ³ 10
8 ³    DS1    ³ 9
   ÀÄÄÄÄÄÄÄÄÄÄÙ
```

DS1,DS2,DS3,DS4=DRIVE SELECTED
R=RADIAL OPERATION

ST - 419

UNFORMATTED CAPACITY (MB) _____19.14
FORMATTED CAPACITY (32 SECTORS) (MB) _____15.0
ACTUATOR TYPE _____STEPPER
TRACKS _____612
CYLINDERS _____306
HEADS _____6
DISCS _____3
MEDIA TYPE _____OXIDE
RECORDING METHOD _____MFM
TRANSFER RATE (mbits/sec) _____5.0
INTERFACE _____ST412
TPI (TRACKS PER INCH) _____345
BPI (BITS PER INCH) _____9,074
AVERAGE ACCESS (ms) _____85
SINGLE TRACK SEEK (ms) _____< 16.67
MTBF (power-on hours) _____11,000
POWER REQUIREMENTS: +12V START-UP (amps) _3.5
+12V TYPICAL (amps) __1.6
+5V TYPICAL (amps) ___1.1
TYPICAL (watts) _____24.7
MAXIMUM (watts) _____50
BUFFERED STEP PULSE RATE (micro sec) _____5-500
WRITE PRECOMP (cyl) _____128
REDUCED WRITE CURRENT (cyl) _____N/A (307)
LANDING ZONE (cyl)_____319
IBM AT DRIVE TYPE _____N/A

ST-506 ST506 MFM

UNFORMATTED CAPACITY (MB) _____6.38
FORMATTED CAPACITY (17 SECTORS) (MB) _____5.0
ACTUATOR TYPE _____STEPPER
TRACKS _____612
CYLINDERS _____153
HEADS _____4
DISCS _____2
MEDIA TYPE _____OXIDE
RECORDING METHOD _____MFM
TRANSFER RATE (mbits/sec) _____5.0
INTERFACE _____ST506
TPI (TRACKS PER INCH) _____255
BPI (BITS PER INCH) _____7,690
AVERAGE ACCESS (ms) _____85
SINGLE TRACK SEEK (ms) _____3
MTBF (power-on hours) _____11,000
POWER REQUIREMENTS: +12V START-UP (amps) _3.5
+12V TYPICAL (amps) __1.6
+5V TYPICAL (amps) ___0.7
TYPICAL (watts) _____22.7
MAXIMUM (watts) _____47
BUFFERED STEP PULSE RATE (micro sec) _____3 ms ONLY
WRITE PRECOMP (cyl) _____128
REDUCED WRITE CURRENT (cyl) _____128
LANDING ZONE (cyl)_____157
IBM AT DRIVE TYPE _____N/A

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

Old Conner Peripherals Drives Specs and Jumper Settings

CONNER
The Storage Answer

Older Conner Peripherals products NOT converted to new Seagate model numbers.

Select an interface:

ATA (IDE)

SCSI

Old Conner Peripherals drives, ATA (IDE) Interface:

CFA1080A
CFA170A
CFA340A
CFA810A
CFN170A
CFN250A
CP2024
CP2034
CP2044
CP2044PK
CP2064
CP2084
CP2088
CP2124
CP3000
CP30064
CP30064H
CP30084
CP30084E
CP30104
CP30104H
CP30124
CP30174
CP30174E
CP30204
CP3022
CP3024
CP30254
CP30254H
CP3044
CP30544
CP3104
CP3114
CP3184
CP3204
CP3204F
CP324
CP3304
CP3364
CP344
CP3504
CP3544
CP4024
CP4044

Old Conner Peripherals drives, SCSI Interface:

CFA1080S
CFA1275S
CFA170S
CFA340S
CFA540S
CFA810S
CFA850S
CFN170S
CP2020
CP30060
CP30080
CP30080E
CP30100
CP30170
CP30170E
CP3020
CP30200
CP3040
CP30540
CP3100
CP31370
CP3150
CP3180
CP320
CP3200
CP3200F
CP3360
CP340
CP3540

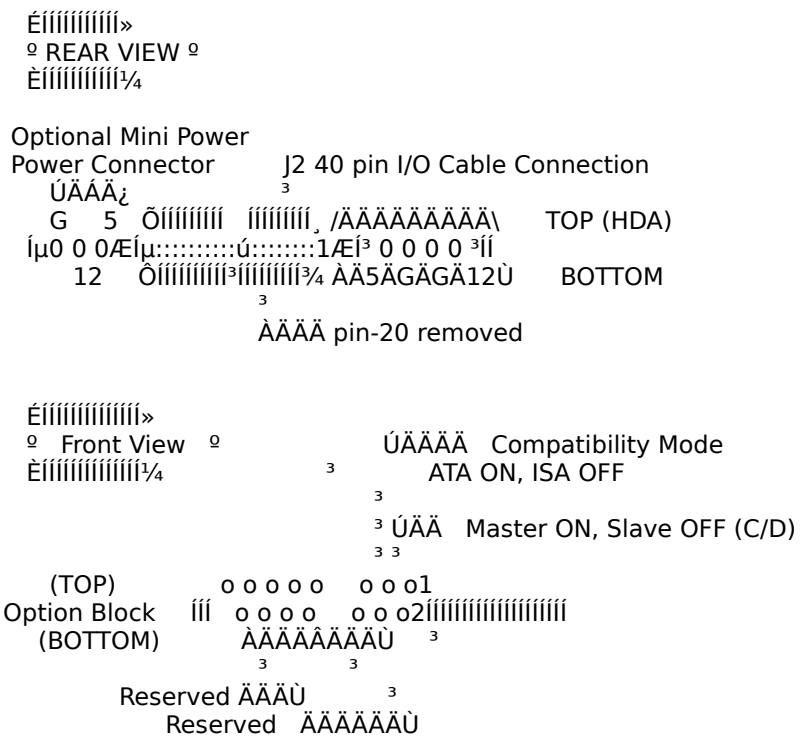
Misc ATA (IDE) Conner Peripherals drives needing more specs....

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP2034	31.9	411	4	38	3486	32	19.0	1.3	
CP30174	168.2	326	16	63	4500	32	12.0	1.0	
CP324	20.0	752	2	26					Fat

Misc SCSI Conner Peripherals drives needing more specs....

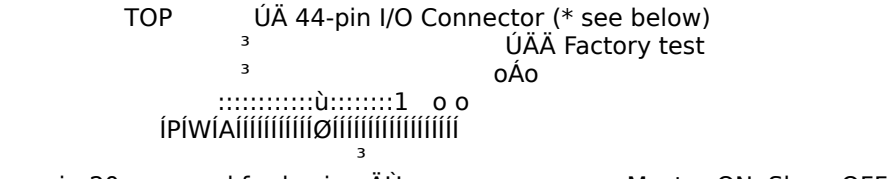
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP2040	42.6	548	4	38	3486	32	15.0	1.5	
CP30170	172						13.0		Jaguar
CP320	20.0	752	2	26					

CFA1080A, CFA170A (CP30174), CFA340A (CP30344), CFA810A - Filepro Advantage



Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CFA1080A	1082.2	2097	16	63	4500	256	10.5	4.5	Advantage
CFA170A	171.3	332	16	63	4011	64	13.0	3.8	Advantage
CFA340A	343.2	665	16	63	4011	64	13.0	3.8	Advantage
CFA810A	811.3	1572	16	63	4500	256	10.5	4.5	Advantage

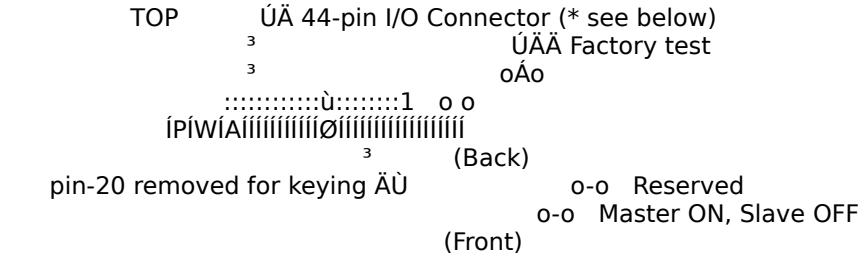
CFN170A, CFN250A - Trigger



* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CFN170A	168.2	326	16	63	4500	32	12.0	1.0	Trigger
CFN250A	252.3	489	16	63	4500	32	12.0	1.0	Trigger

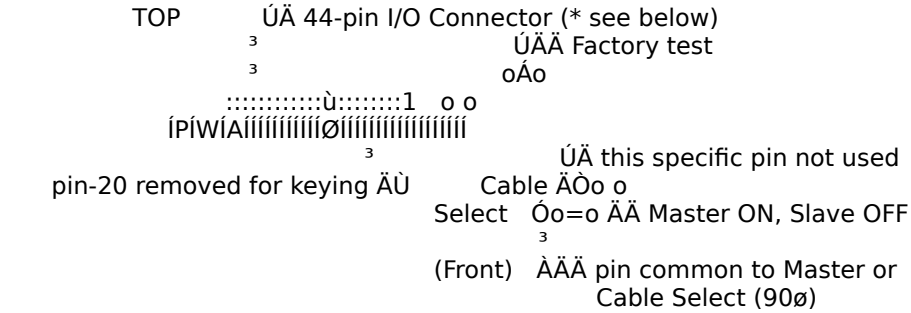
CP2024 - Kato



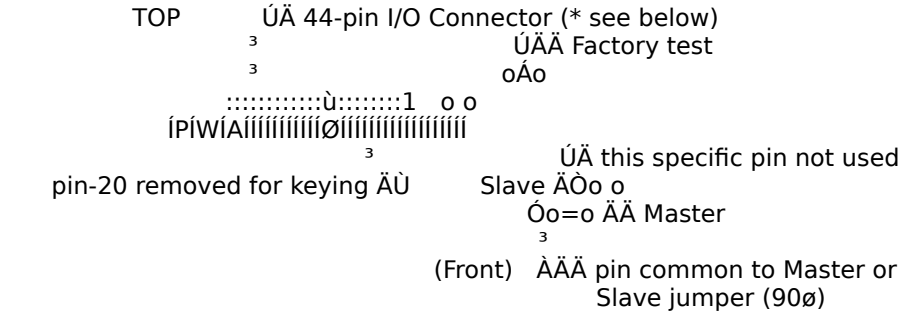
* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP2024	20	653	2	32		23			Kato

CP2044, CP2044PK



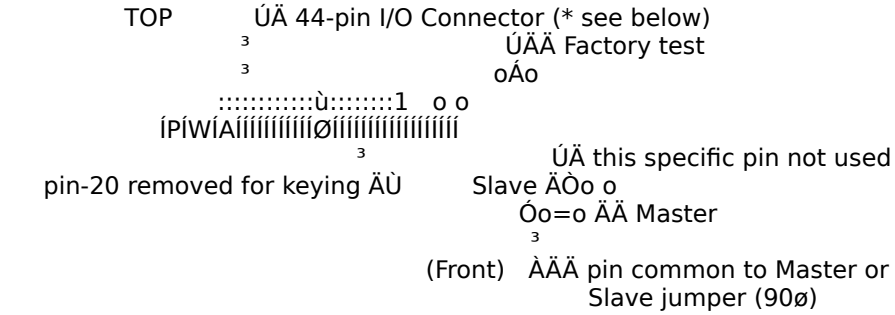
CP2044PK



* Drive uses +5vdc power supplied to the drive via the interface connector. The drive does NOT make use of a +12vdc power line.
  pin-41 +5vdc (Logic)
  pin-42 +5vdc (Motor)
  pin-43 Ground
  pin-44 Reserved

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP2044PK	42.6	980	5	17	3486	32	15.0	1.5	

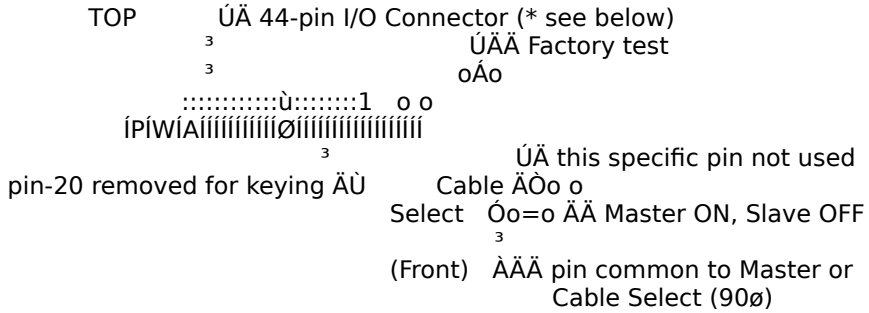
CP2064 - Sahara



* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP2064	64.0	823	4	38	3486	32	19.0	1.3	Sahara

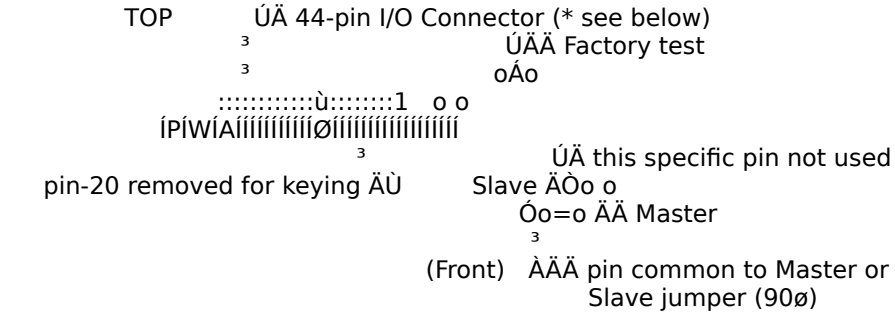
CP2084, CP2124 - Pancho



* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP2084	85.2	548	8	38	3486	32	19.0	1.2	Pancho
CP2124	121.7	762	8	39	3743	32	16.0	1.2	Pancho

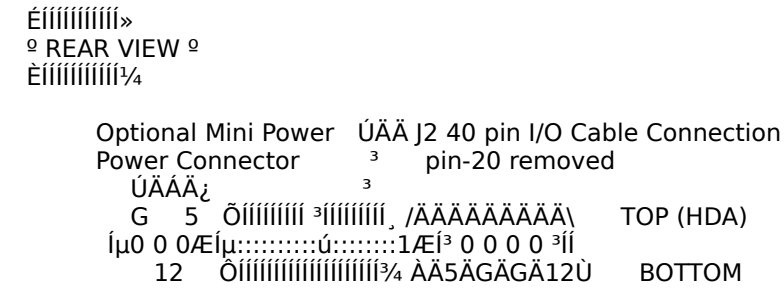
CP2088 - Honshu



* Drive uses +5vdc power supplied to the drive via the interface connector. The drive does NOT make use of a +12vdc power line.
  pin-41 +5vdc (Logic)
  pin-42 +5vdc (Motor)
  pin-43 Ground
  pin-44 Reserved

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP2088	85.2	548	8	38	3486	32	19.0	1.5	Honshu

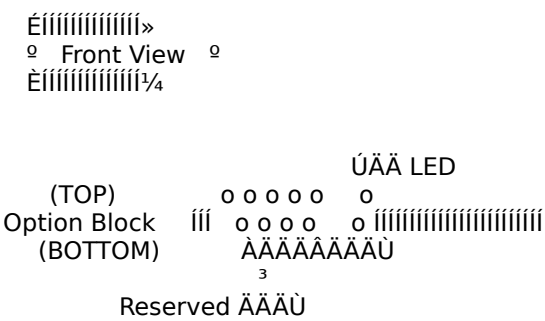
CP3000, CP3024 - Allegheny



(Back)

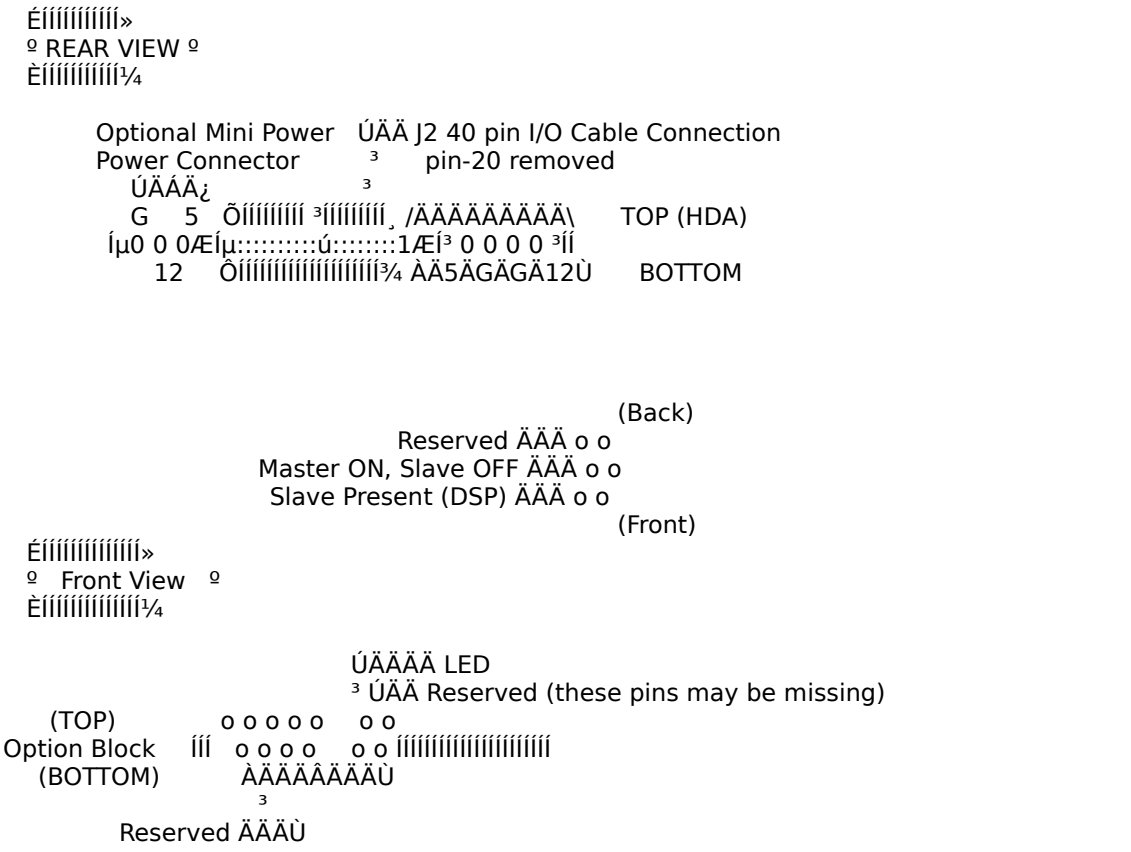
o o Active (use when Single drive system)
o o DSP (Slave present used on Master)
o o Master ON, Slave OFF (C/D)
o o HSP (may be used on a Slave to make it more recognizable to some Masters)

(Front)



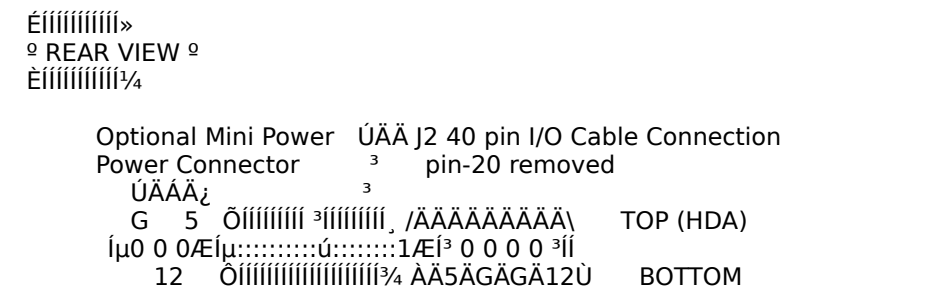
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3000	42.6	980	5	17	3557	8	28.0	2.0	Allegheny
CP3024	21.4	615	4	17	3574	8	27.0	2.0	

CP30064 - Allegheny



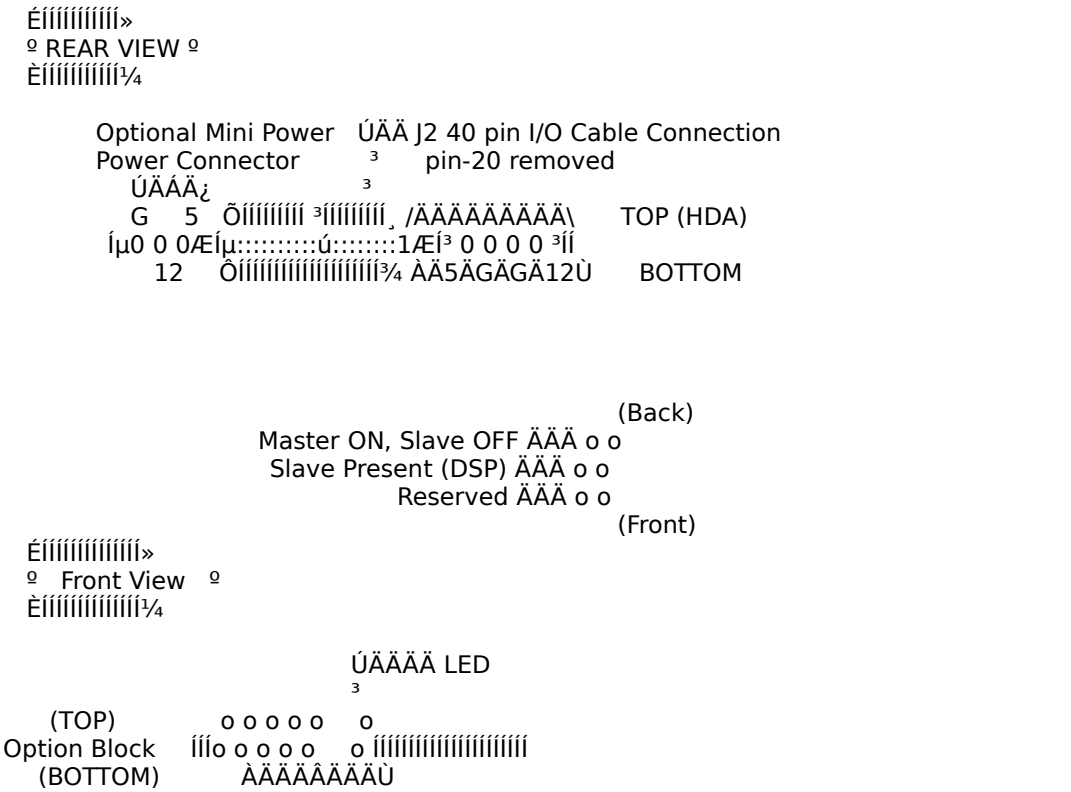
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30064	60.8	762	4	39	3400	64	19.0	2.8	Allegheny

CP30064H, CP30104H - Allegheny



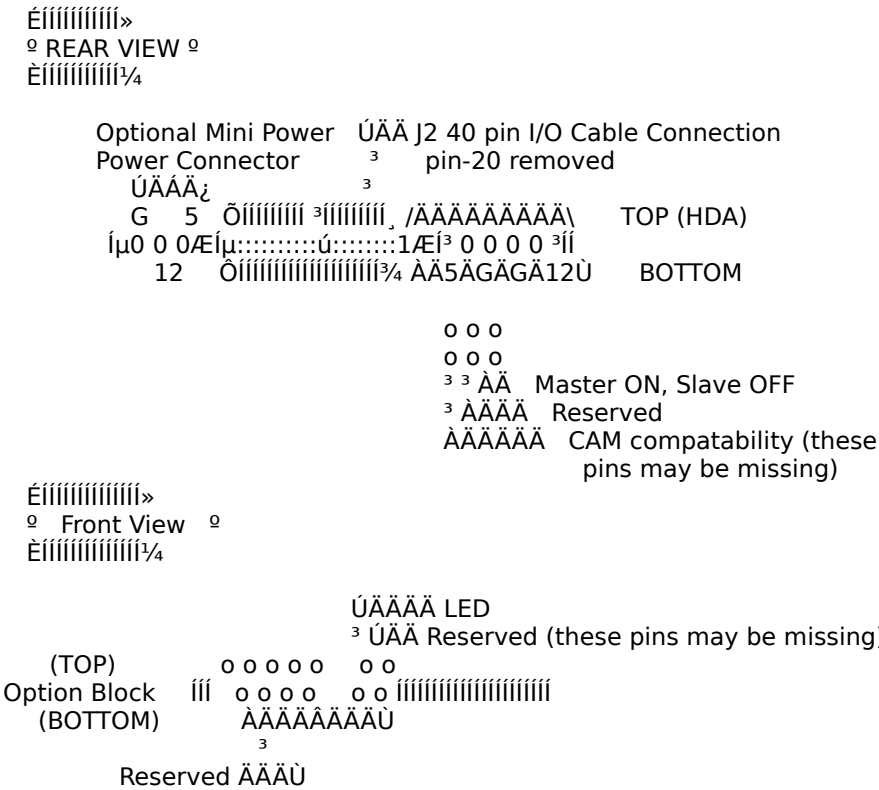
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30064H	60.8	762	4	39	3399	32	19.0	2.8	Allegheny
CP30104H	121.7	762	8	39	3399	34	19.0	2.8	Allegheny

CP30084 - Hopi



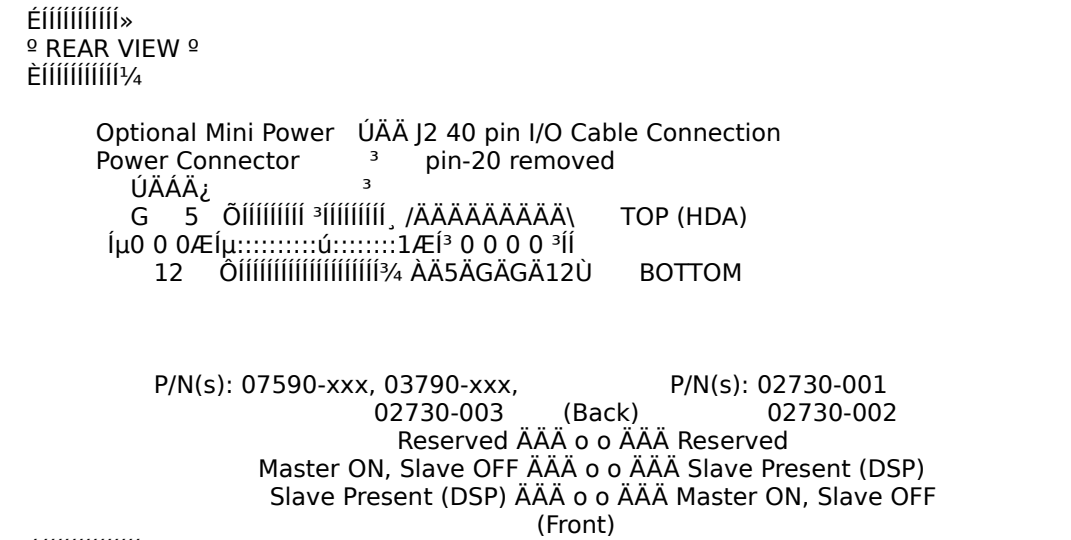
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30084	84.1	526	8	39	3400	64	19.0	2.8	Hopi

CP30084E, CP30174E - Jaguar



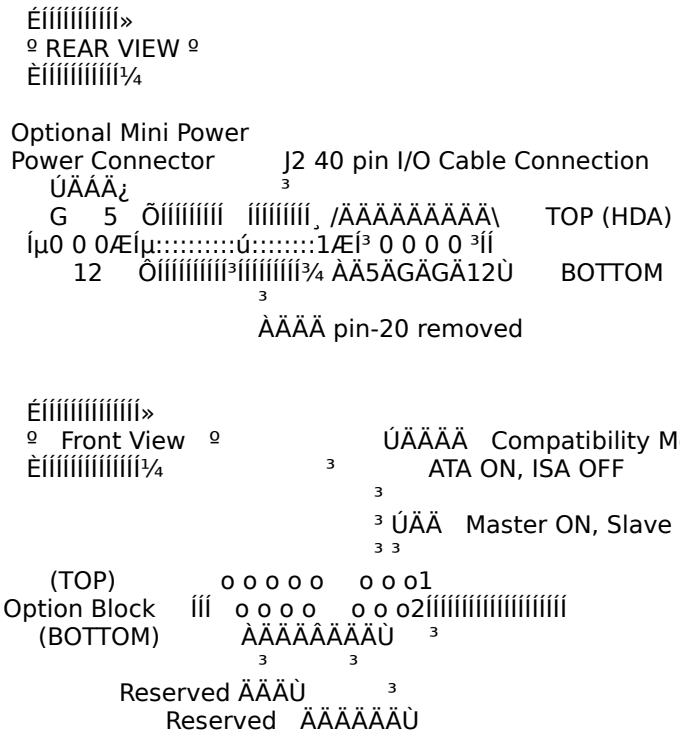
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30084E	85.0	903	4	46	3822	32	17.0	2.5	Jaguar
CP30174E	170.1	903	8	46	3822	64	17.0	2.5	Jaguar

CP30104 - Hopi



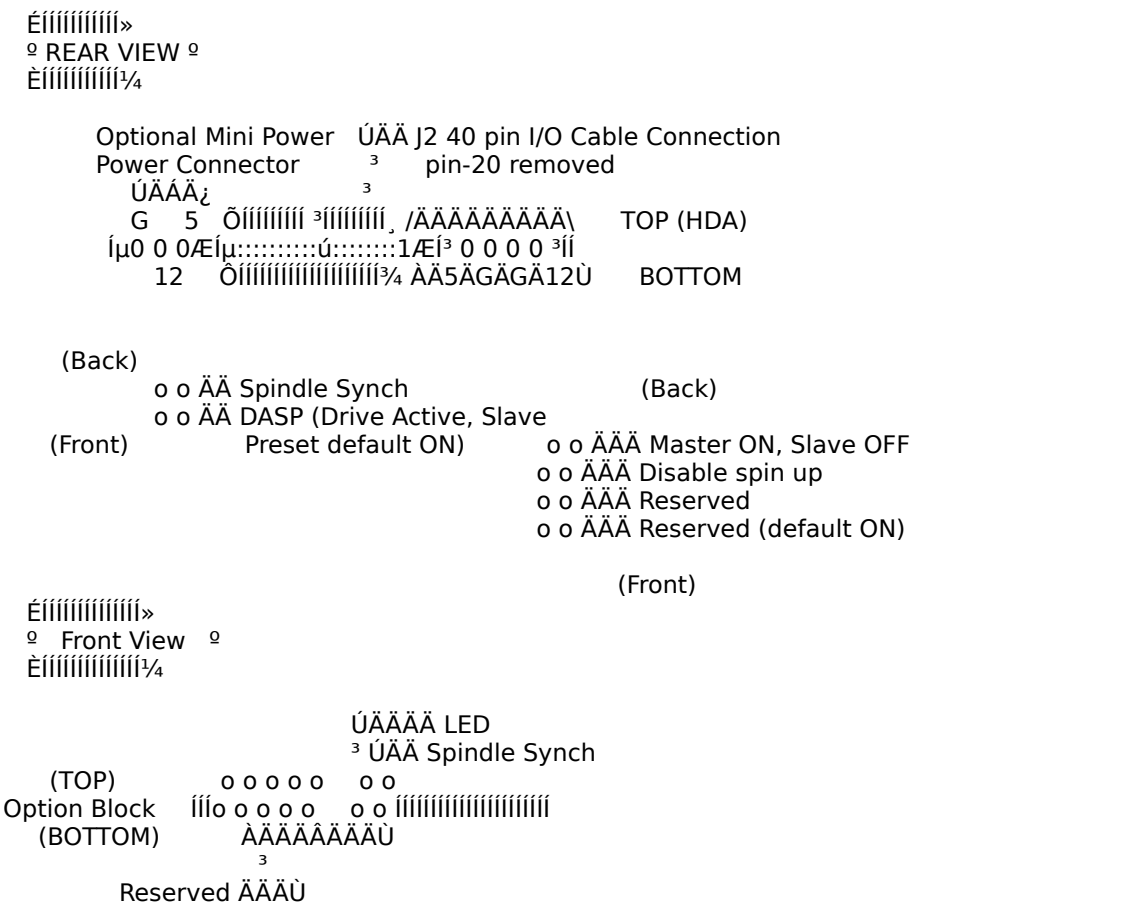
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30104	121.7	762	8	39	3400	64	19.0	2.8	Hopi

CP30124, CP30254, CP30254H - Monterey



Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30124	126.0	895	5	55	4542	32	14.0	3.1	Monterey
CP30254(H)	252.0	895	10	55	4542	64	14.0	3.1	Monterey

CP30204 - Cougar



Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30204	212.6	683	16	38	4498	256	12.0	5.2	Cougar

CP3022

ÉÍÍÍÍÍÍÍÍÍÍÍ»
º REAR VIEW º
ÈÍÍÍÍÍÍÍÍÍÍÍ¼

Optional Mini Power ÚÄÄ J2 40 pin I/O Cable Connection
Power Connector ³ pin-20 removed
ÚÄÁÄ¿ ³
G 5 ÕÍÍÍÍÍÍÍÍÍ ³ÍÍÍÍÍÍÍÍ¸ /ÄÄÄÄÄÄÄÄÄ\ TOP (HDA)
Íµ0 0 0ÆÍµ::::::::::ú::::::::1ÆÍ³ 0 0 0 0 ³ÍÍ
12 ÔÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¾ ÀÄ5ÄGÄGÄ12Ù BOTTOM

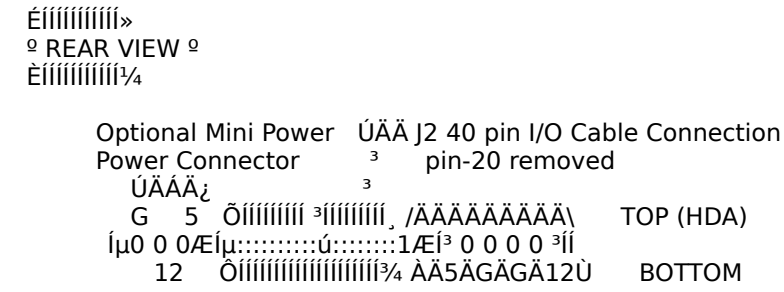
(Back)		SINGLE	MASTER	SLAVE
E6	o o ÄÄ	Open	Closed	Closed
E5	o o ÄÄ	Closed	Open	Open
E7	o o ÄÄ	Closed	Closed	Open
(Front)				

ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º Front View º
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

ÚÄÄ LED
(TOP) o o o o o o
Option Block ÍÍÍ o o o o o ÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ
(BOTTOM) ÀÄÄÄÄÂÄÄÄÄÙ
³
Reserved ÄÄÄÙ

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3022	21.4	636	2	33				27.0	

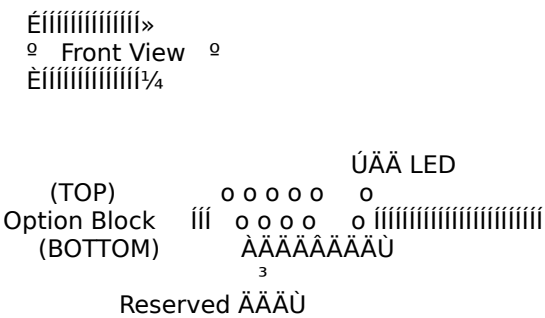
CP3044 - Sierra



(Back)

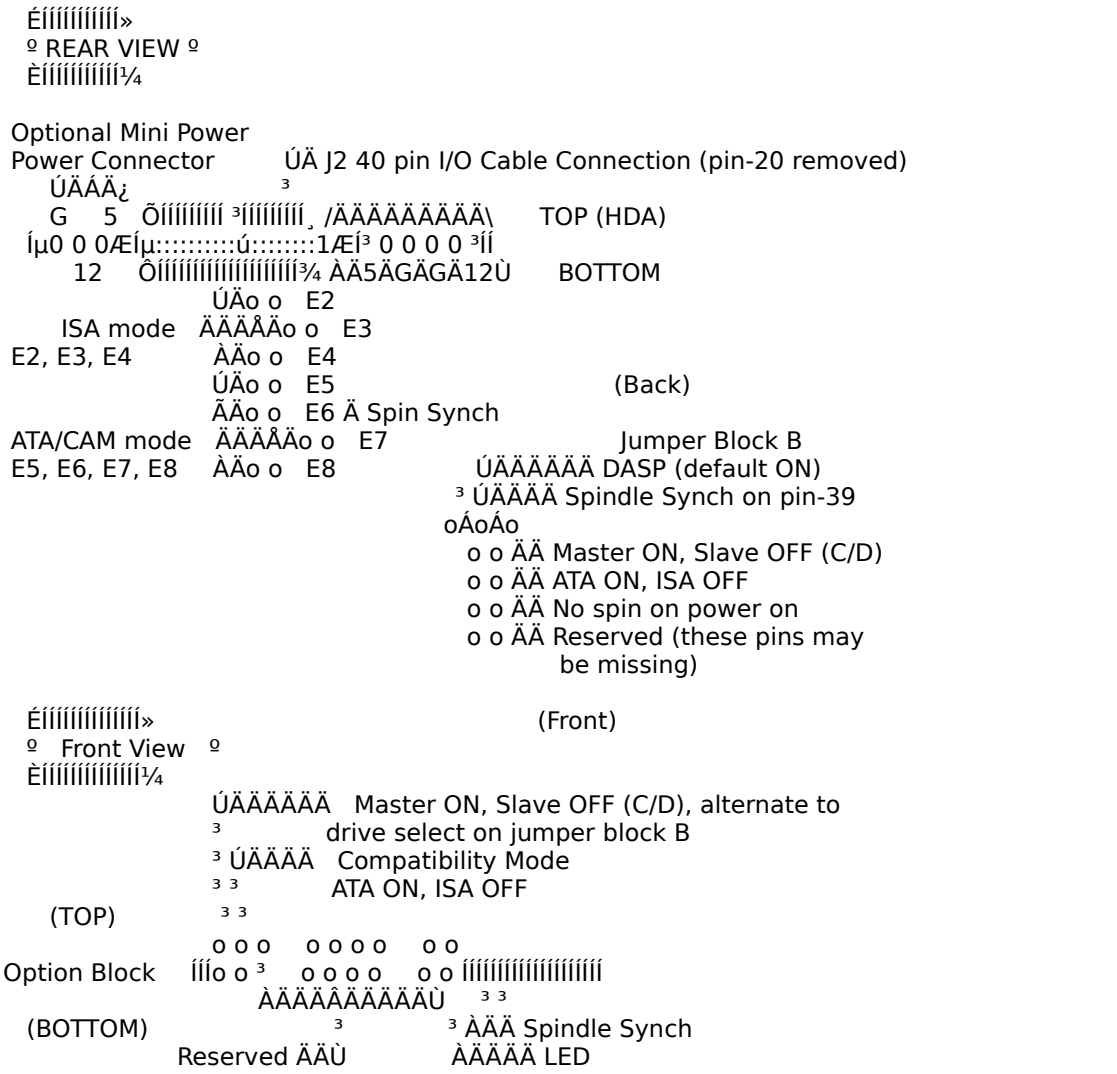
o o ÄÄ Active (use when Single drive system)
o o ÄÄ DSP (Slave present used on Master)
o o ÄÄ Master ON, Slave OFF (C/D)
o o ÄÄ Reserved (HSP)

(Front)



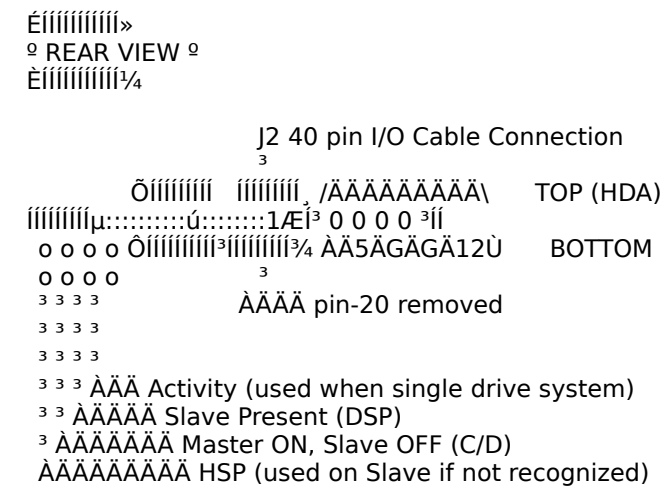
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3044	42.6	980	5	17	3557	8	25.0	2.0	Sierra

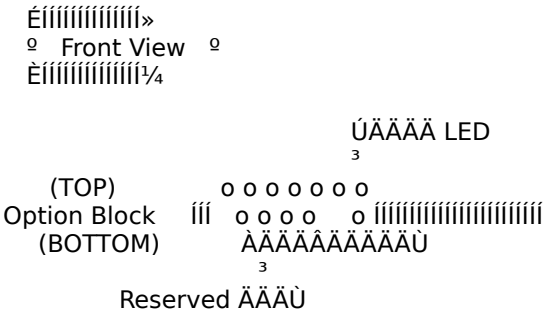
CP30544 - Aegean



Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30544	527.9	1023	16	63	5400	256	10.0	5.2	Aegean

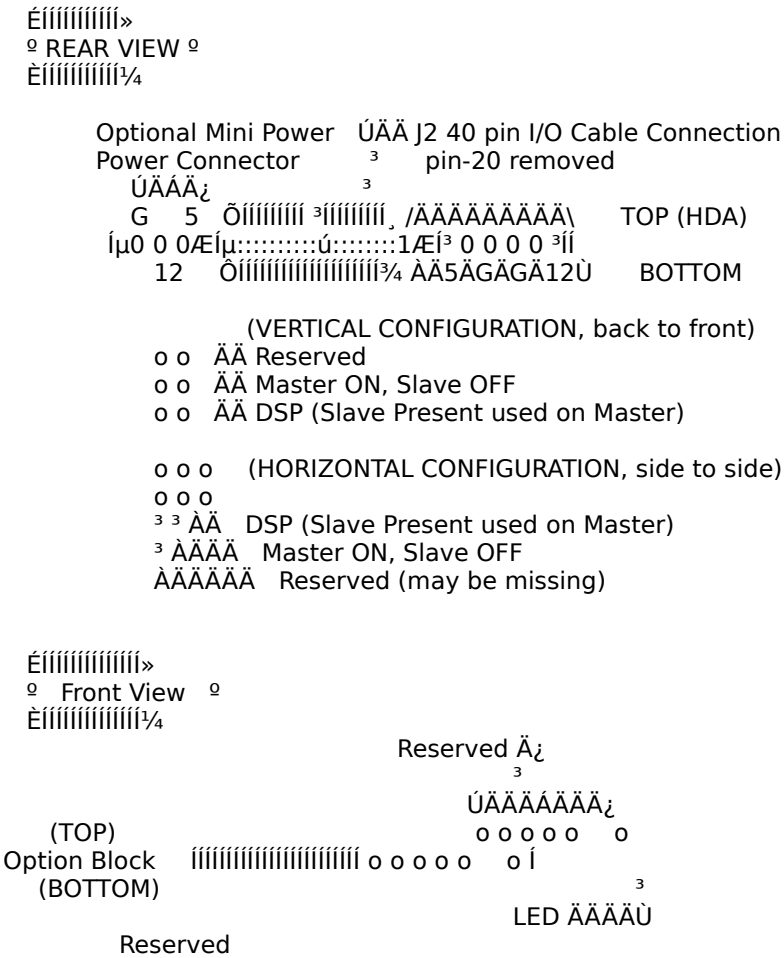
CP3104 , CP3114, CP3184, CP344 - Fat 100, Fat 80, Fat 40





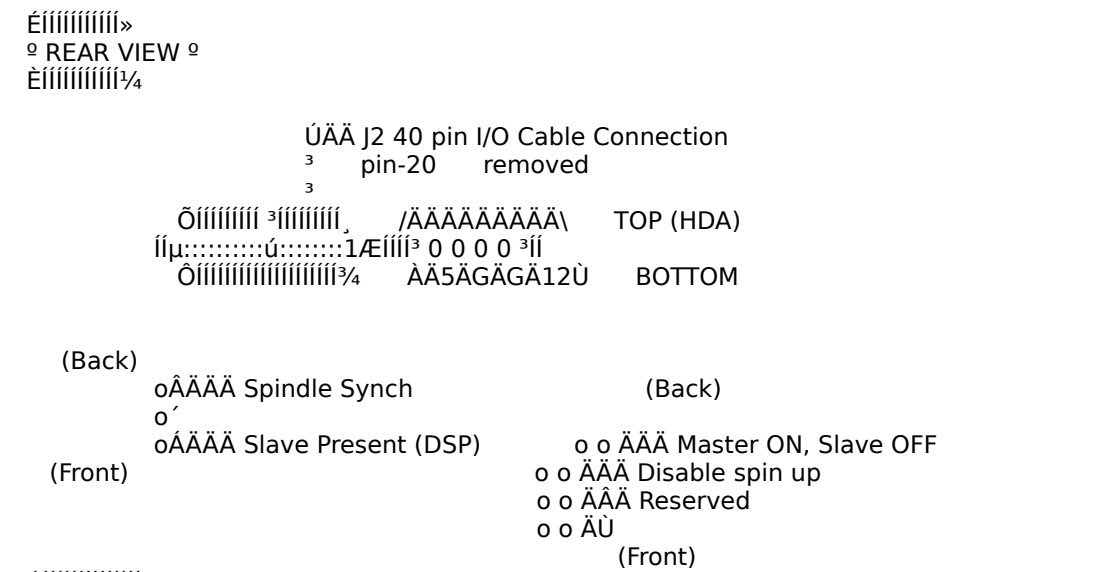
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3104	104.8	776	8	33	3574	32	25.0	2.9	Fat 100
CP3114	112.4	832	8	33	3574	32	25.0	2.9	Fat
CP3184	84.3	832	6	33	3575	32	25.0	2.9	Fat 80
CP344	42.8	805	4	26		29			Fat 40

CP3204F, CP3204 - Rambo



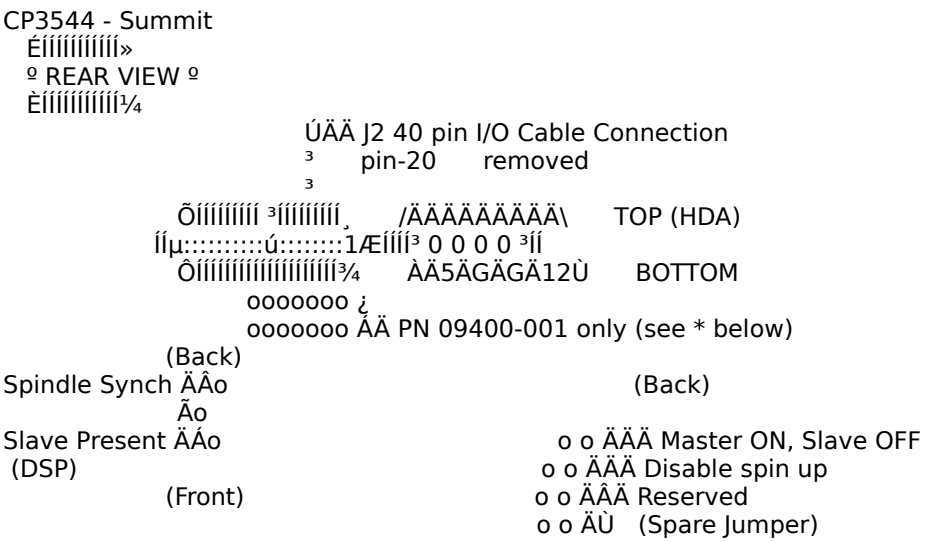
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3204F	212.6	683	16	38	3485	64	16.0	3.5	Rambo
CP3204	212.6	683	16	38			19.0		

CP3304, CP3364, CP3504 - Summit



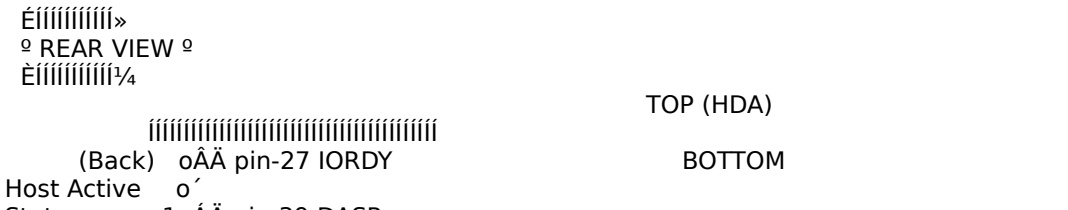
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3304	340.1	659	16	63	3828	256	12.0	4.4	Summit
CP3364	362.2	702	16	63	4498	256	12.0	6.6	Summit
CP3504	509.3	987	16	63	3828	256	12.0	4.4	Summit

CP3544 - Summit



Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3544	527.9	1023	16	63	4500	256	12.0	6.6	Summit

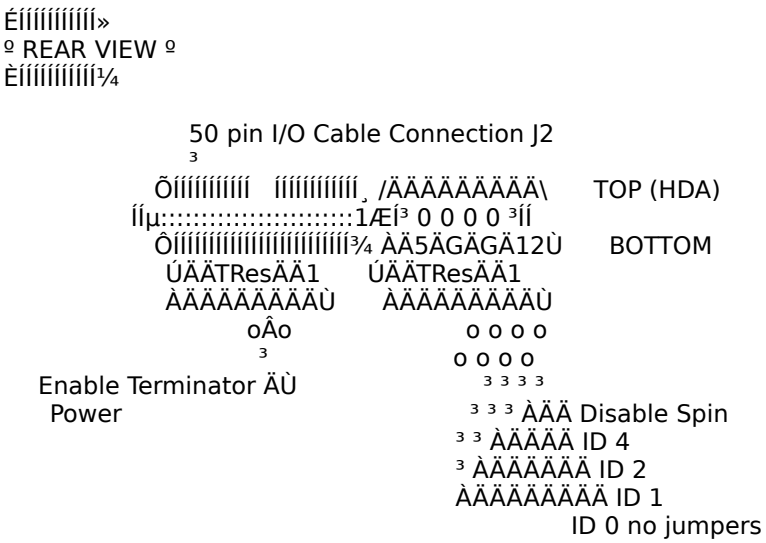
CP4024, CP4044 - Stubby

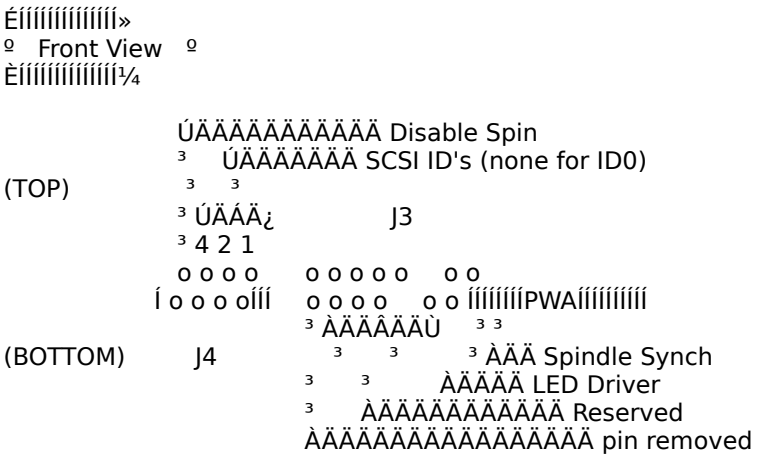


* Drive uses +5vdc power supplied to the drive
via the interface connector. The drive does
NOT make use of a +12vdc power line.
pin-41 +5vdc (Logic)
pin-42 +5vdc (Motor)
pin-43 Ground
pin-44 Reserved

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP4024	21.5	620	2	34			29.0		Stubby
	21.4	615	4	17					
CP4044	42.6	1096	2	38			29.0		Stubby
	42.6	980	5	17					

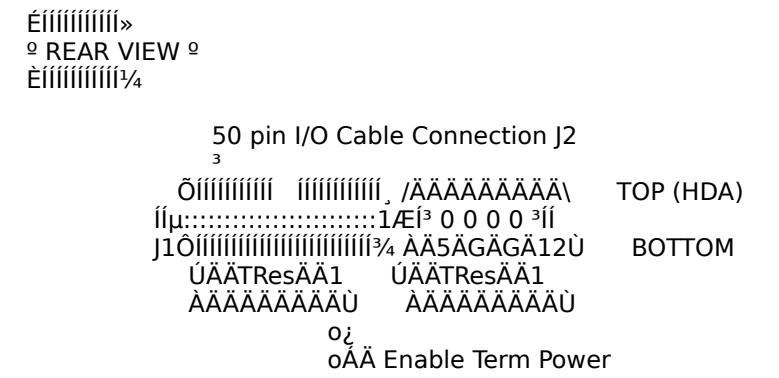
CFA1275S, CFA850S - Filepro Advantage

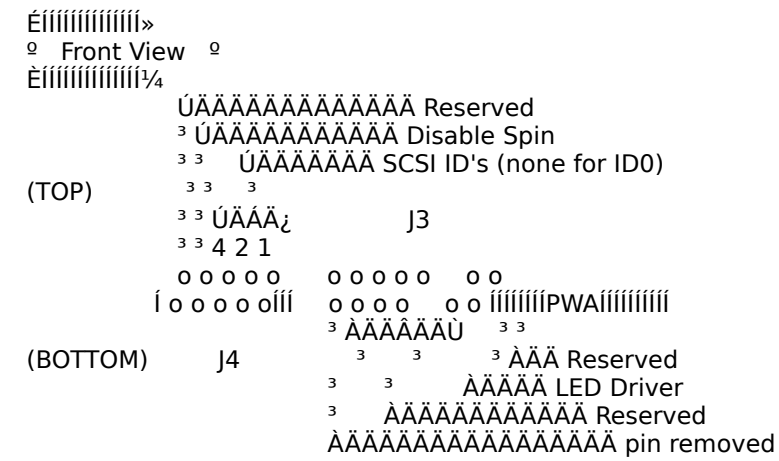




Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CFA1275S	1278	3613	6	115	4500	256	12.0	3.9	Advantage
CFA850S	852	3613	4	115	4500	256	12.0	3.9	Advantage

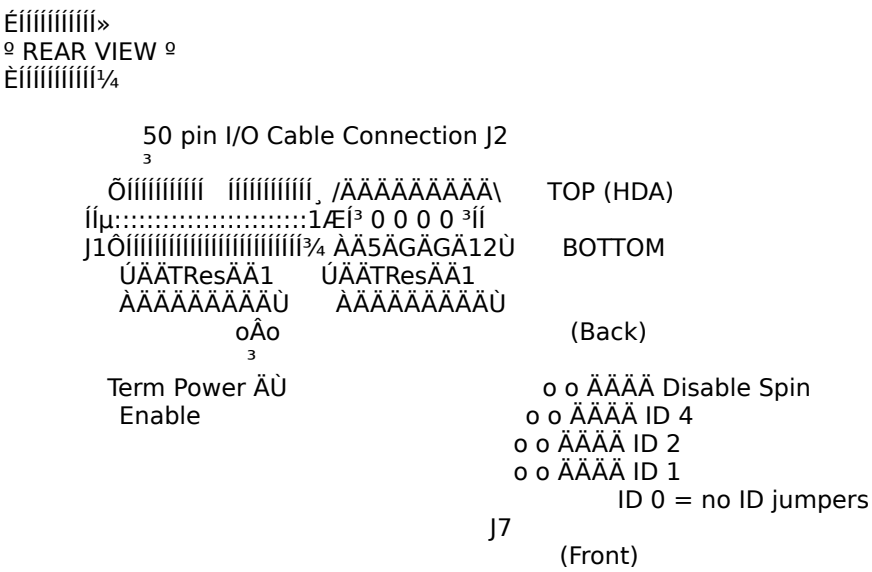
CFA170S, CFA340S, CP30170, CP30340 - Filepro Advantage

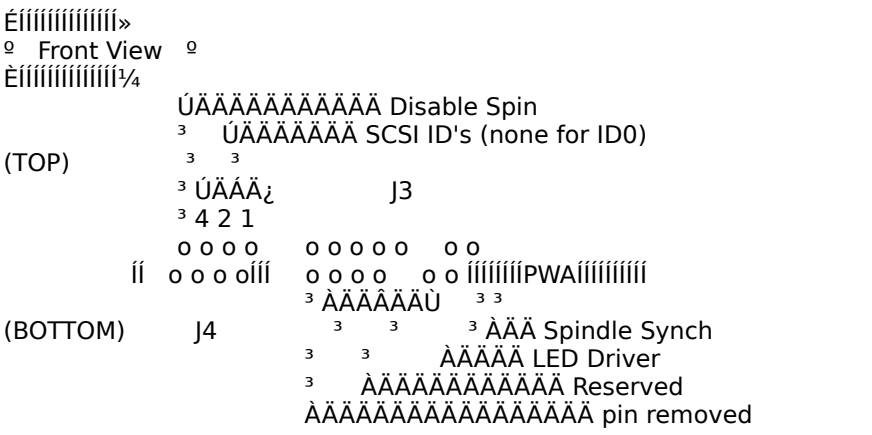




Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CFA170S	171.6	2111	2	79	4011	64	13.0	3.5	Advantage CP30170
CFA340S	343.3	2111	4	79	4011	64	13.0	3.5	Advantage CP30340

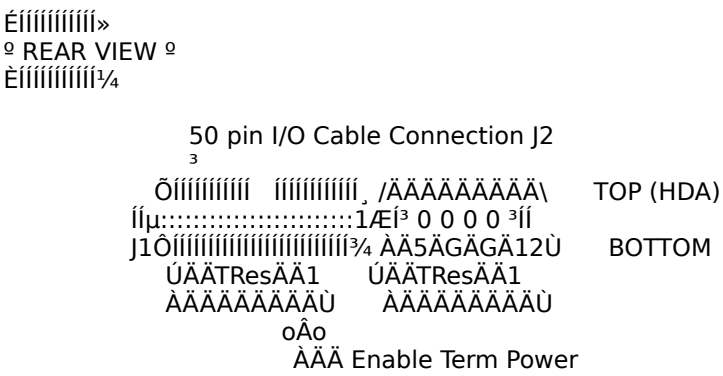
CFA540S - Filepro Advantage

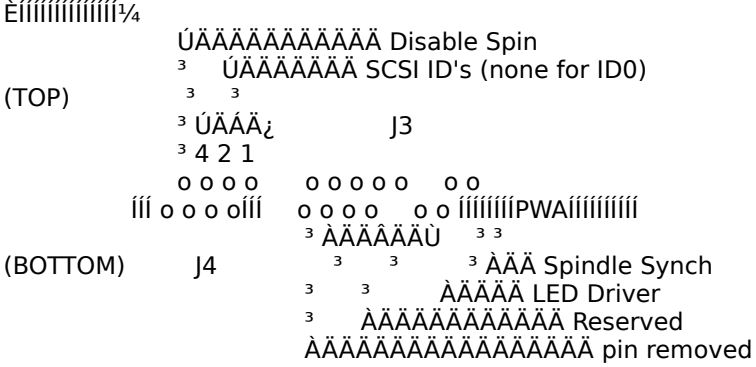




Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CFA540S	541.9	2805	4	94	4500	256	10.5	3.8	Advantage

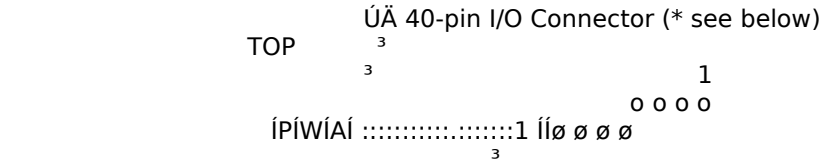
CFA810S, CFA1080S - Filepro Advantage





Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CFA810S	810	2794	6	94	4500	256	12.0	4.8	Advantage
CFA1080S	1080	2794	8	94	4500	256	12.0	5.8	Advantage

CFN170S - Trigger



pin-17 removed for keying ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ

Pin assignments for the 2.5" drive SCSI interface connector

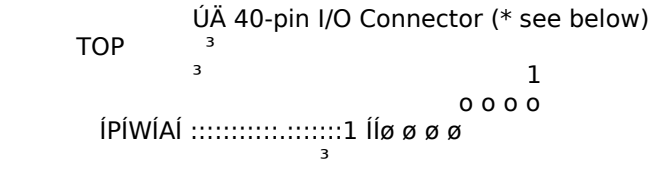
(signal)	(pin)	(signal)
	ÚÄÄÄÄÄÄÄÄÄÄ¿	
Reserved (NC)	³ 1 2 ³	Reserved (ND)
Reserved (NC)	³ 3 4 ³	Reserved (ND)
ID1-	³ 5 6 ³	ID2-
ID4-	³ 7 8 ³	LED
	ÀÄÄÄÄÄÄÄÄÄÄÙ	
	ÚÄÄÄÄÄÄÄÄÄÄ¿	
+5v	³ 1 2 ³	+5v
+5v Ret	³ 3 4 ³	+5v Ret
Ground	³ 5 6 ³	DB0-
Ground	³ 7 8 ³	DB1-
Ground	³ 9 10³	DB2-
Ground	³ 11 12³	DB3-
Ground	³ 13 14³	DB4-
Ground	³ 15 16³	DB5-
Connector Key	³ nopin 18³	DB6-
Ground	³ 19 20³	DB7-
Ground	³ 21 22³	Parity-
Ground	³ 23 24³	TRMPWR
ATN-	³ 25 26³	BSY-
Ground	³ 27 28³	ACK-
RST-	³ 29 30³	MSG-
Ground	³ 31 32³	SEL-
I/O-	³ 33 34³	C/D-
Ground	³ 35 36³	REQ-
+5v Ret	³ 37 38³	+5v Ret
+5v	³ 39 40³	+5v
	ÀÄÄÄÄÄÄÄÄÄÄÙ	

pin ID	ID1	ID2	ID4
0 ³	H	H	H
1 ³	L	H	H
2 ³	H	L	H
3 ³	L	L	H
4 ³	H	H	L
5 ³	L	H	L
6 ³	H	L	L
7 ³	L	L	L

H = high
L = low

Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CFN170S	168.2	1339	4	61	4500	32	12.0	1.0	Trigger

CP2020 - Kato



(Contains non-removable termination resistors. Must be the last unit if daisy-chained with other SCSI devices.)

Pin assignments for the 2.5" drive SCSI interface connector

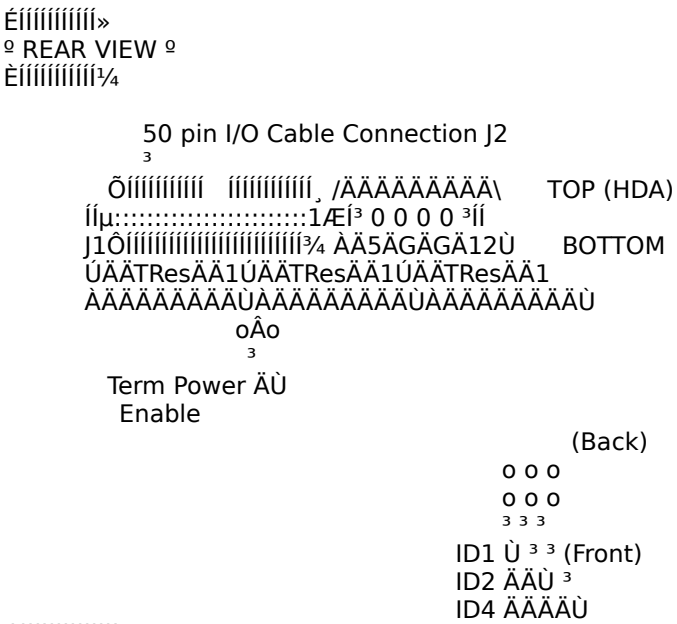
(signal)	(pin)	(signal)
Reserved (NC)	1 2	Reserved (ND)
Reserved (NC)	3 4	Reserved (ND)
ID1-	5 6	ID2-
ID4-	7 8	LED
+5v	9 10	+5v
+5v Ret	11 12	+5v Ret
Ground	13 14	DB0-
Ground	15 16	DB1-
Ground	17 18	DB2-
Ground	19 20	DB3-
Ground	21 22	DB4-
Ground	23 24	DB5-
Connector Key	nopin 25	DB6-
Ground	26 27	DB7-
Ground	28 29	Parity-
Ground	30 31	TRMPWR
ATN-	32 33	BSY-
Ground	34 35	ACK-
RST-	36 37	MSG-
Ground	38 39	SEL-
I/O-	40	C/D-
Ground		REQ-
+5v Ret		+5v Ret
+5v		+5v

pin ID1 ID2 ID4	
0	H H H
1	L H H
2	H L H
3	L L H
4	H H L
5	L H L
6	H L L
7	L L L

H = high
L = low

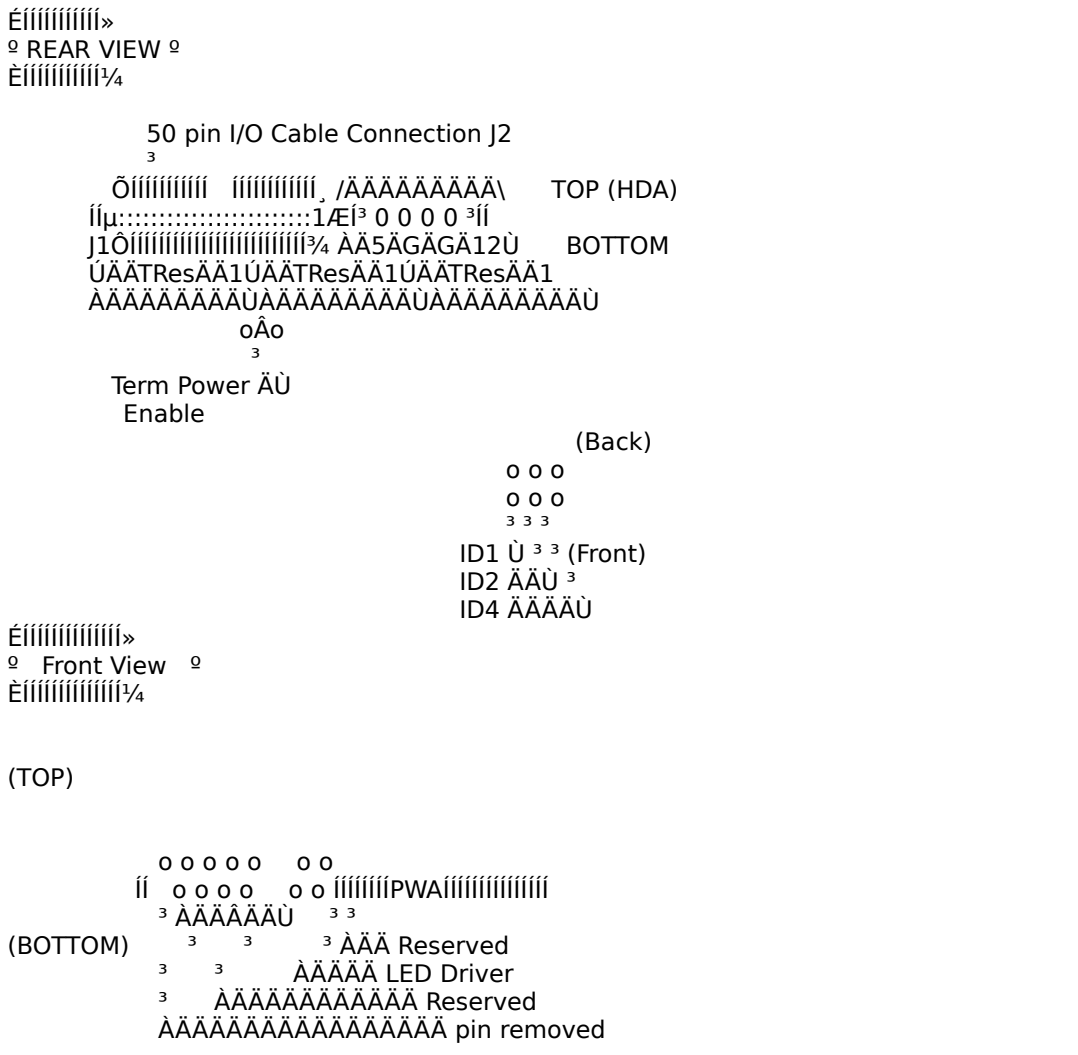
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP2020	21.3	653	2	32			23.0		Kato

CP30060 - Allegheny



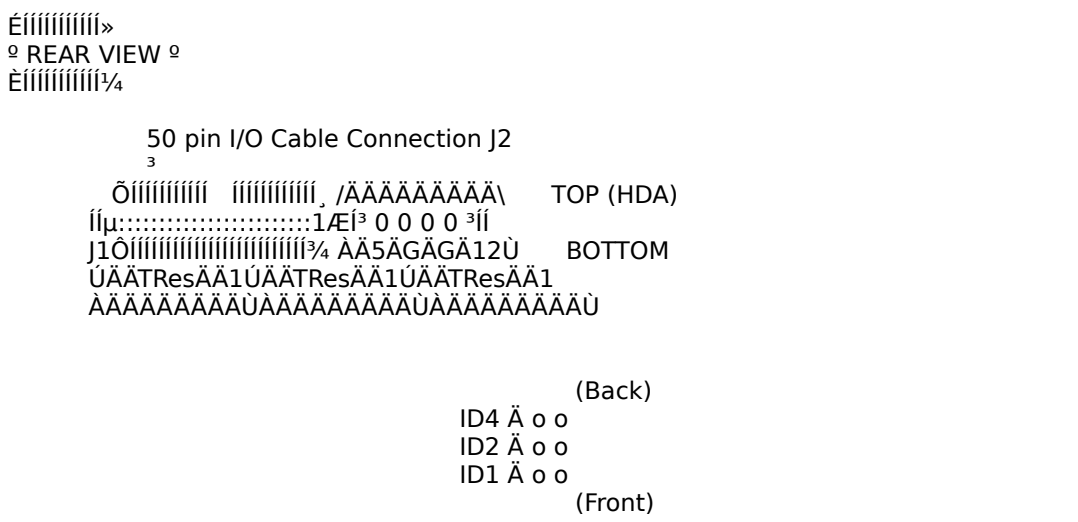
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30060	60.8	1524	2	39	3400	64	19.0	2.8	Allegheny

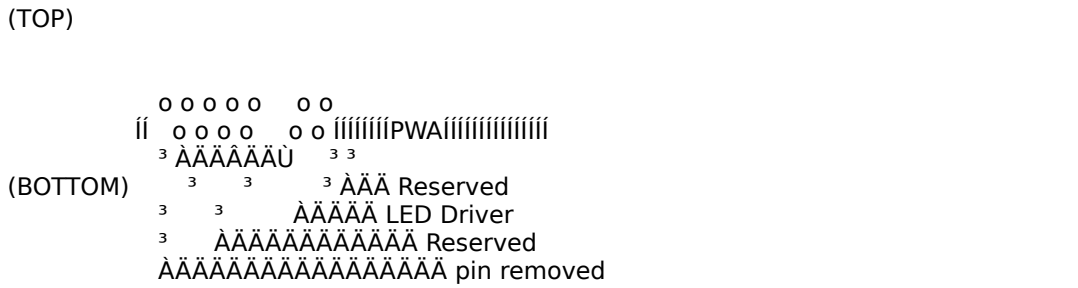
CP30080 - Hopi



Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30080	84.1	1058	4	39	3400	64	19.0	2.8	Hopi

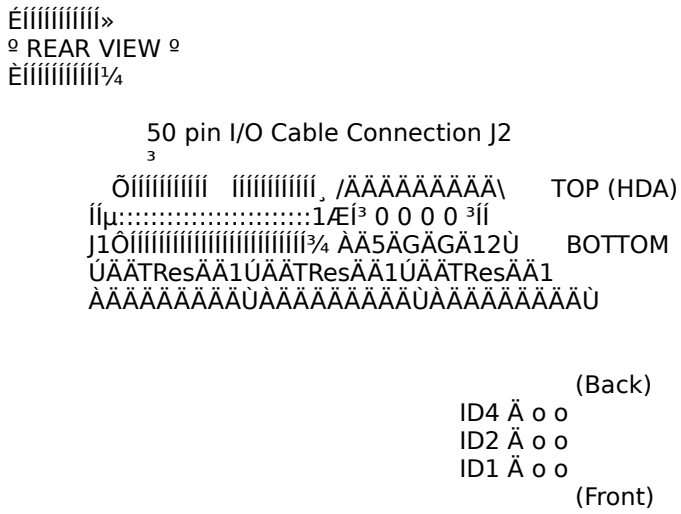
CP30080E, CP30170E - Jaguar



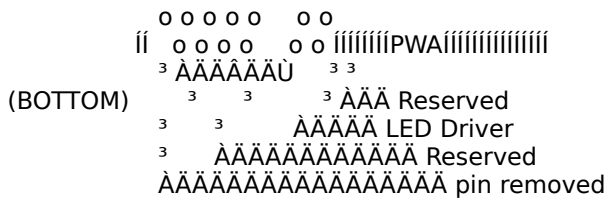


Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30080E	85.0	1806	2	46	3833	32	17.0	2.5	Jaguar
CP30170E	170.1	1806	4	46	3833	32	17.0	2.5	Jaguar

CP30100 - Hopi

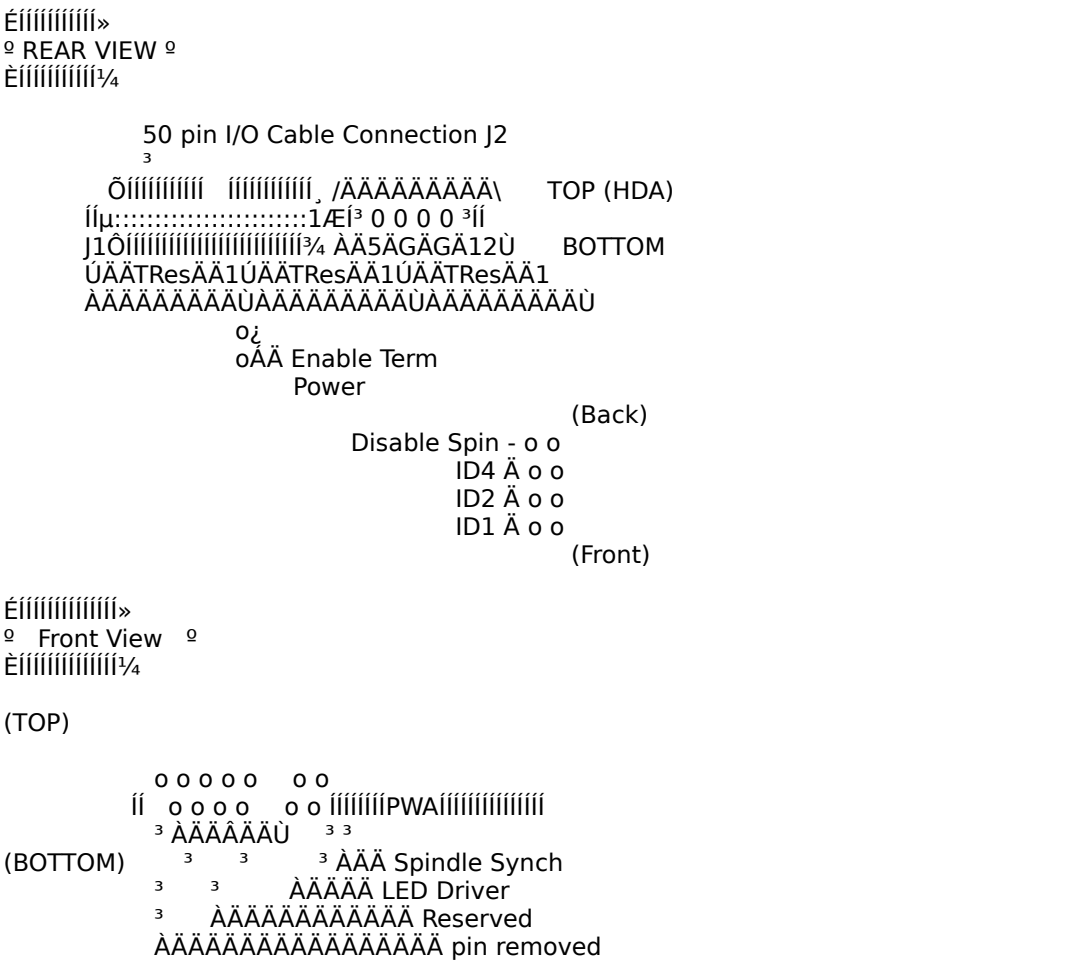


(TOP)



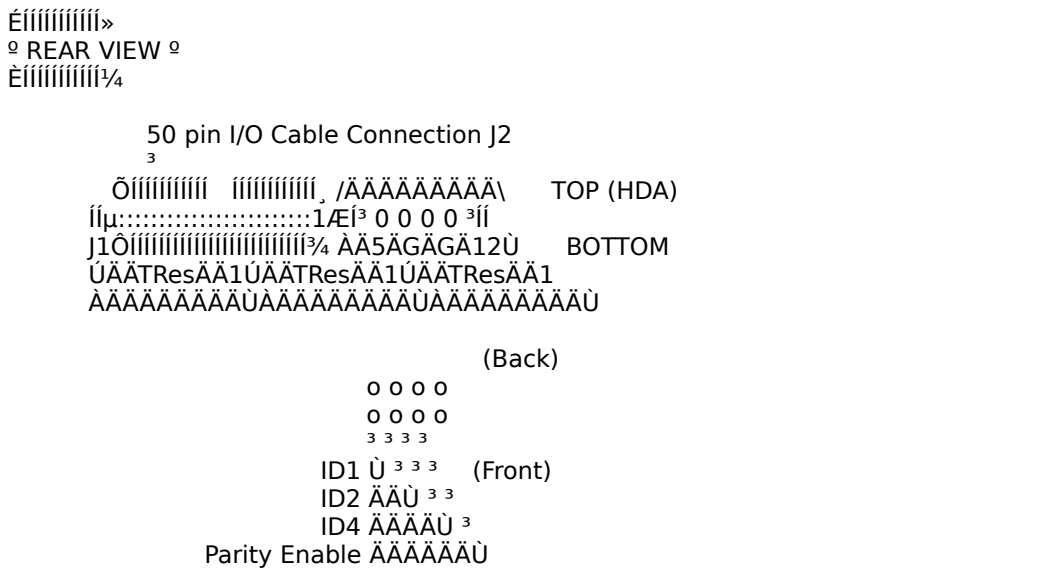
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30100	121.5	1524	4	39	3399	64	19.0	2.8	Hopi

CP30200 - Cougar



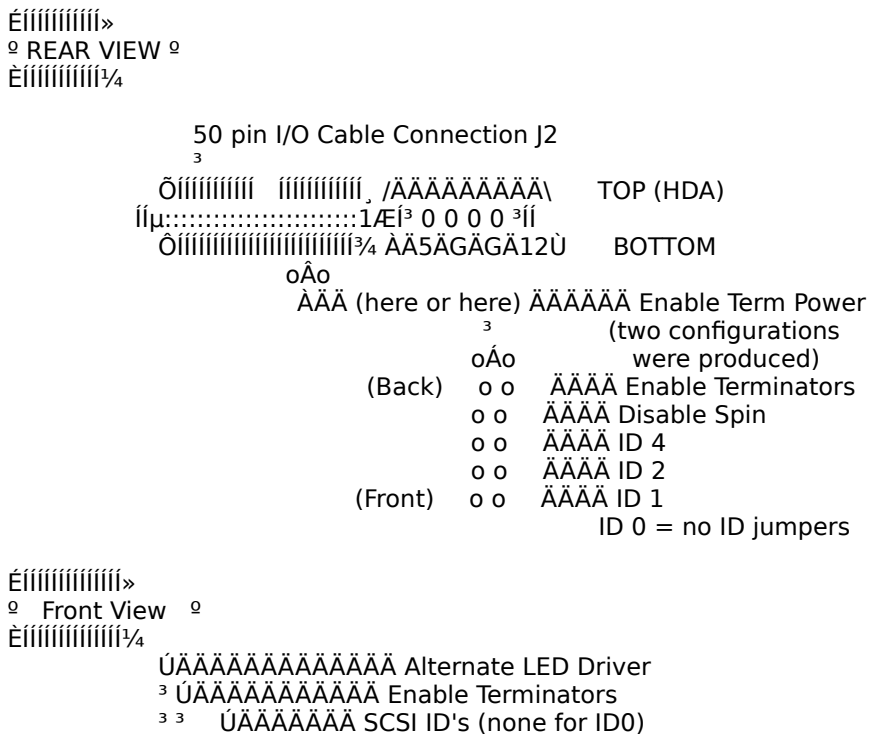
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30200	212.6	2124	4	49	4500	256	12.0	5.2	Cougar

CP3020, CP3040 - Sierra



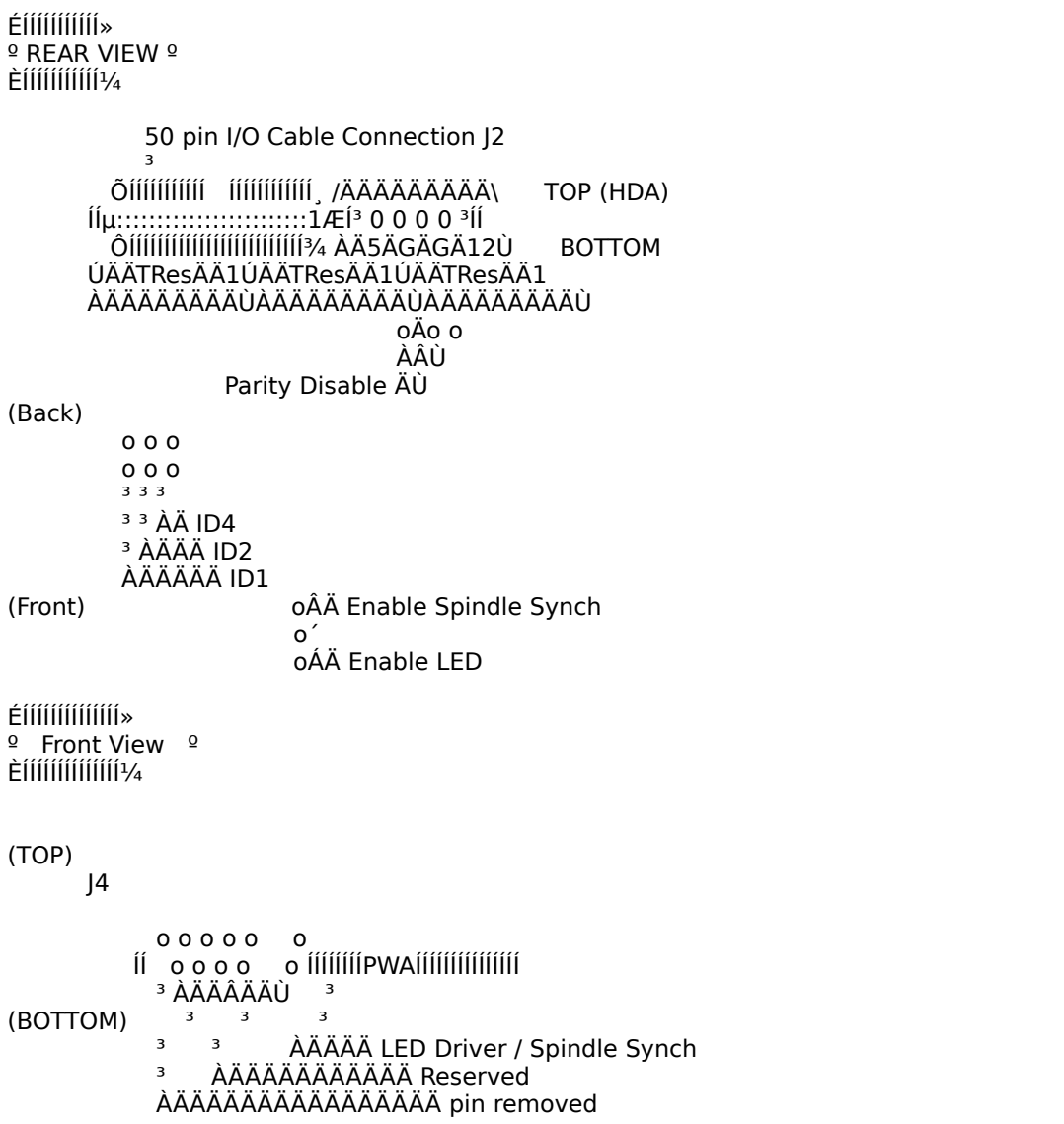
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3020	21.4	636	2	33	3574	8	27.0	2.0	
CP3040	42.0	1026	2	40	3557	8	25.0	2.3	Sierra

CP30540 - Aegean



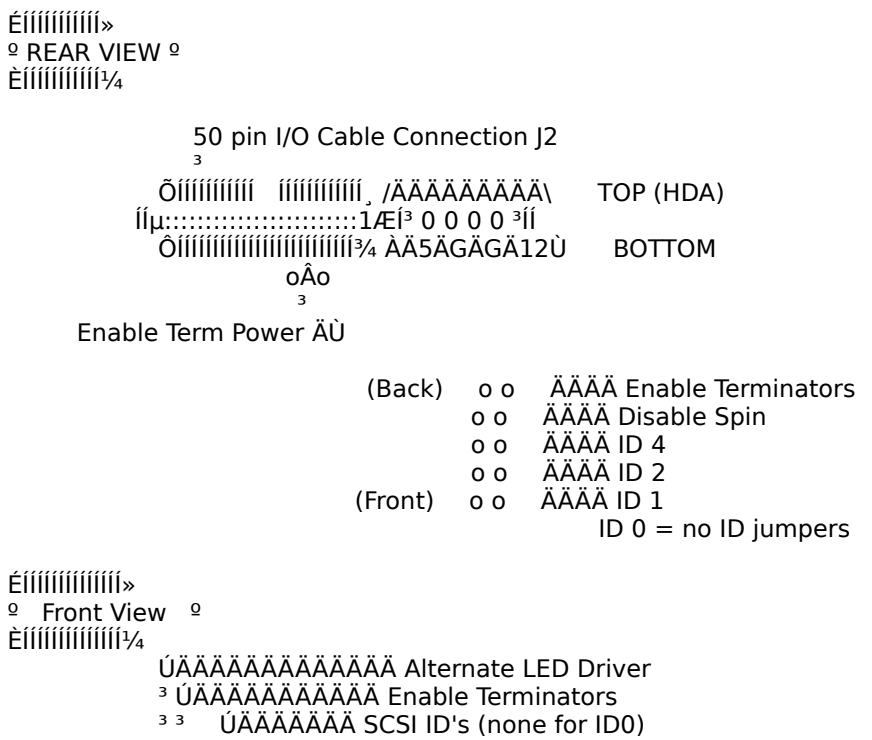
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP30540	545.9	2242	6	79	5400	256	10.0	5.2	Aegean

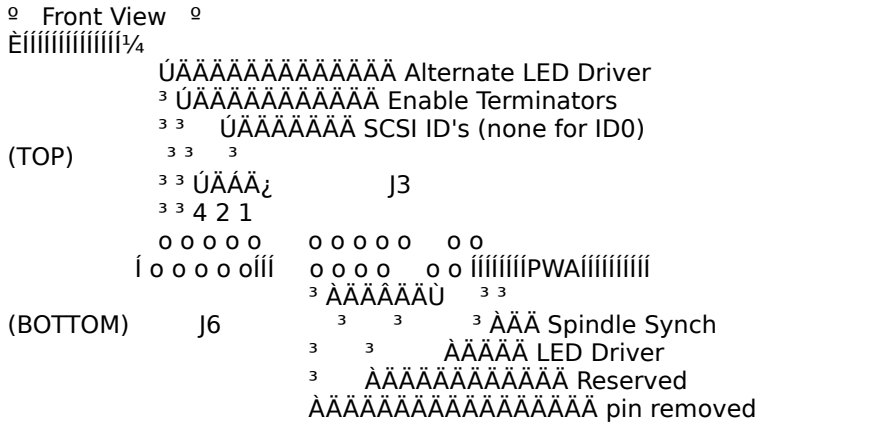
CP3100, CP3150, CP3180 - Fat 100



Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3100	104.0	776	8	33	3575	16	25.0	4.7	Fat 100
CP3150	52.4	776	4	33	3575	16	25.0	4.7	Fat
CP3180	84.3	832	6	33	3575	32	25.0	2.9	Fat 80

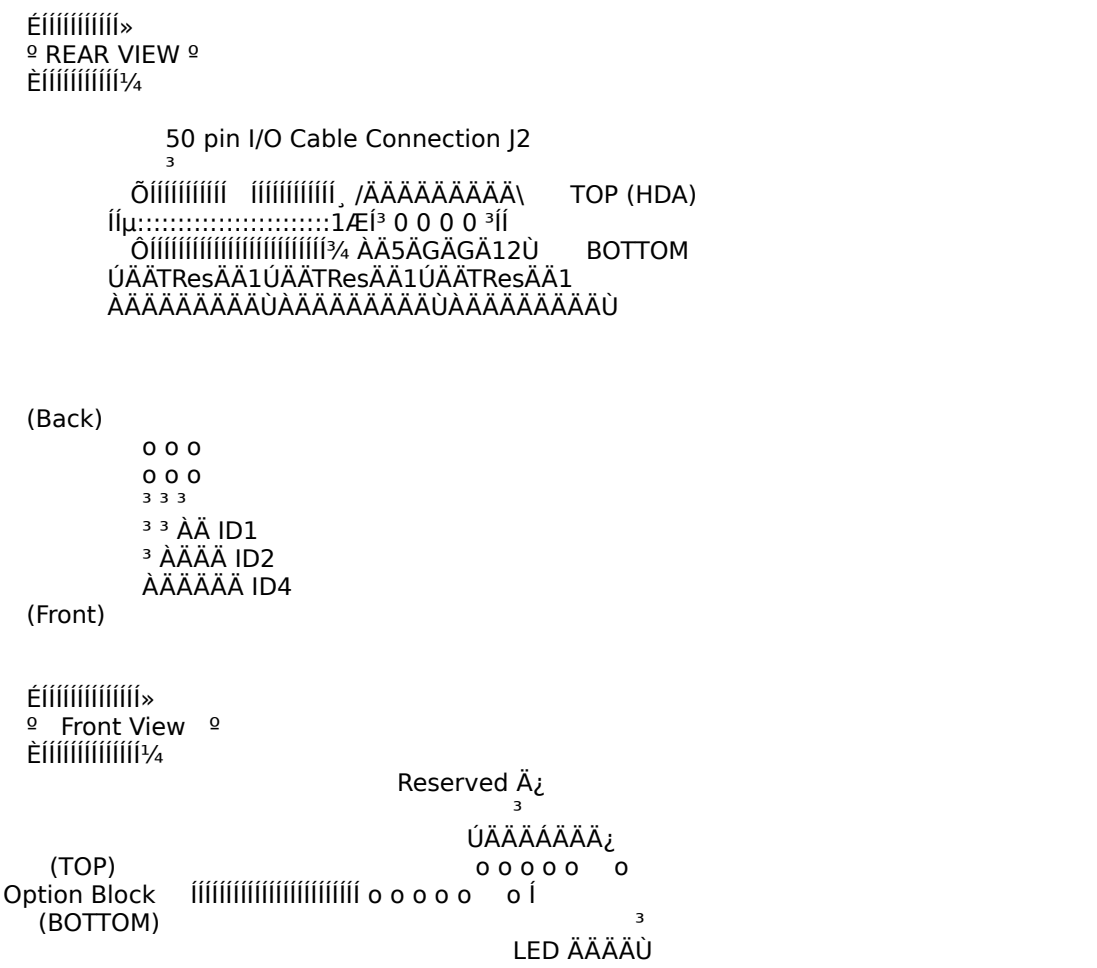
CP31370 - Baja





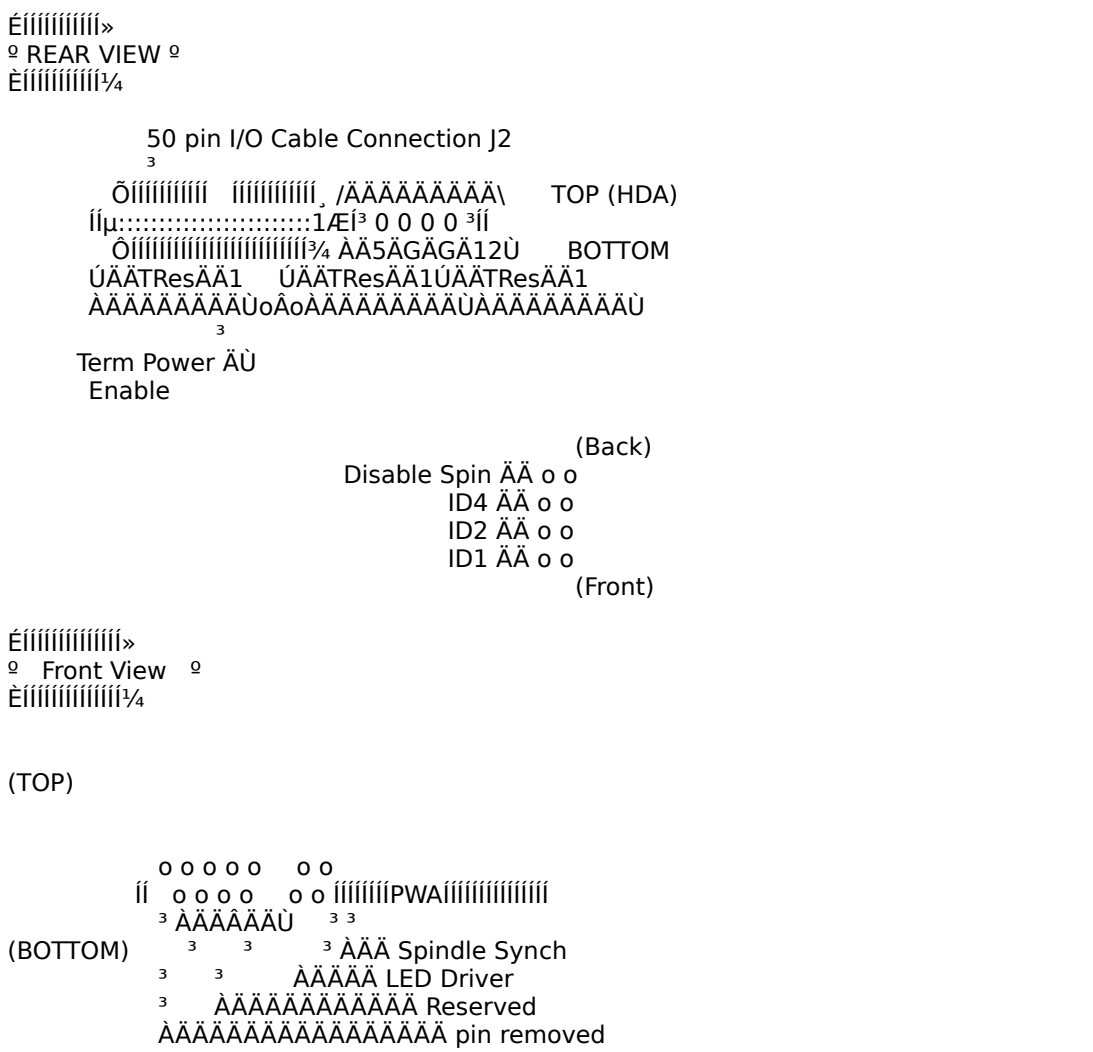
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP31370	1371.8	2386	14	80	5400	256	10.0	8.0	Baja

CP3200F - Rambo



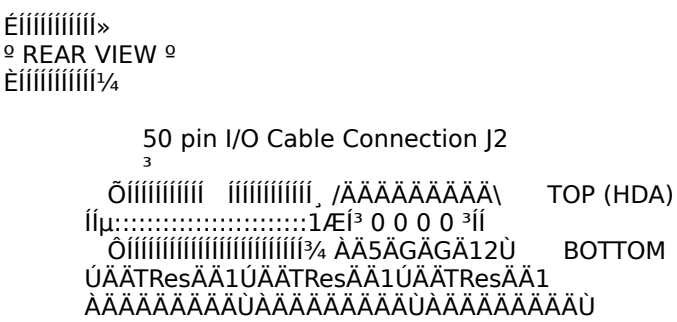
Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3200	209.8	1348	8	38			19.0		
CP3200F	212	1366	8	37	3485	64	16.0	4.2	Rambo

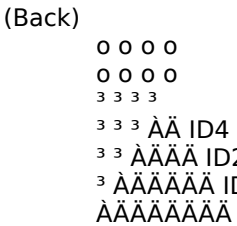
CP3360, CP3540 - Summit



Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP3360	362.5	1807	8	49	4500	256	12.0	6.7	Summit
CP3540	543.7	1807	12	49	4500	256	12.0	6.7	Summit

CP340 - Fat 40





Model	Cap	Cyl	Hd	SPT	Spin	BufK	Access	IdleW	Family
CP340	42.8	788	4	26	3600	8	29.0	2.5	Fat 40

Old CDC / Imprimis Specifications and Jumper Settings:

Older CDC / Imprimis Wren products NOT converted to new Seagate model numbers.

Select a Wren Family:

9415-5 or BJ7Dx-A Wren 1
94151 Wren 2 SCSI (SASI subset)
94155 Wren 2 ST412 MFM
94155 Wren 2 ST412 RLL
94156 Wren 2 ESDI
94161 Wren 3 SCSI
94166 Wren 3 ESDI
94171 Wren 4 SCSI
94186 Wren 5 ESDI
94204 Wren 2 ATA
94205 Wren 2 ST412 MFM
94211 Wren 3 SCSI
94221 Wren 5 SCSI
94244 Wren 6 ATA
94246 Wren 6 ESDI

CONTROL DATA CORPORATION

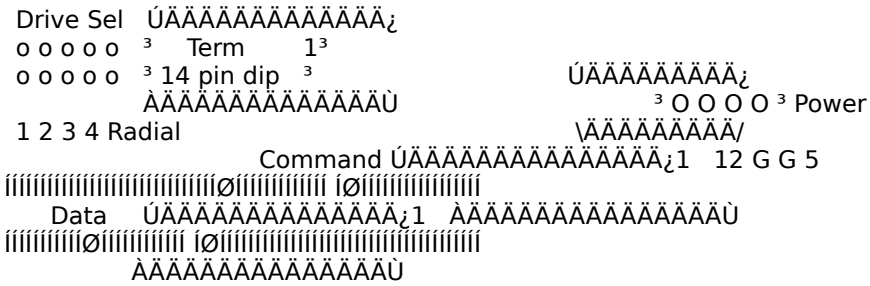
IMPRIMIS

MAGNETIC PERIPHERALS, INC.
a Control Data Company

Honeywell

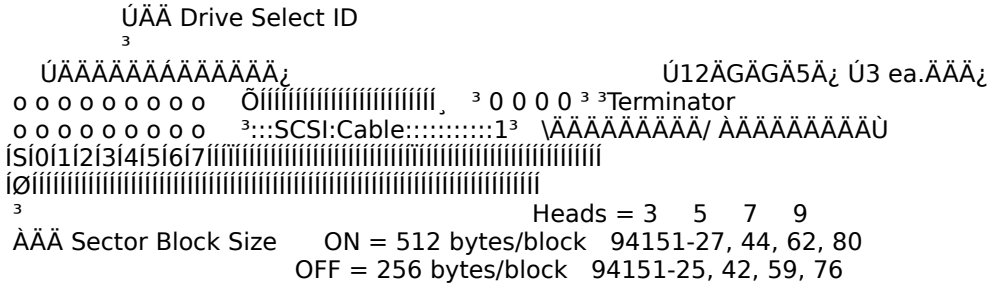
9415-5 xx (Wren 1) ST506 MFM

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
9415-5 21	Wren1	ST412	697	3	17	35,547	18,200,064	0
9415-5 25	Wren1	ST412	697	4	17	47,396	24,266,752	0
9415-5 28	Wren1	ST412	697	4	17	47,396	24,266,752	0
9415-5 36	Wren1	ST412	697	5	17	59,245	30,333,440	0
9415-5 38	Wren1	ST412	733	5	17	62,305	31,900,160	0



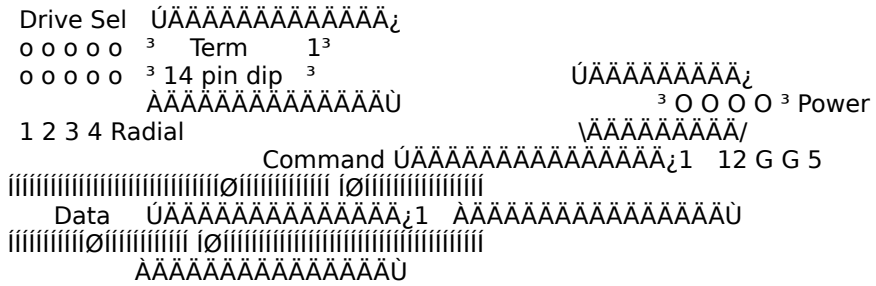
94151-xx (Wren 2) SCSI (SASI subset)

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94151-25	Wren2	SASI	921	3	36		n/a(256 byte/sct)	
94151-27	Wren2	SASI	921	3	19		n/a(512 byte/sct)	
94151-42	Wren2	SASI	921	5	36		n/a(256 byte/sct)	
94151-44	Wren2	SASI	921	5	19		n/a(512 byte/sct)	
94151-59	Wren2	SASI	921	7	36		n/a(256 byte/sct)	
94151-62	Wren2	SASI	921	7	19		n/a(512 byte/sct)	
94151-76	Wren2	SASI	921	9	36		n/a(256 byte/sct)	
94151-80	Wren2	SASI	921	9	19		n/a(512 byte/sct)	



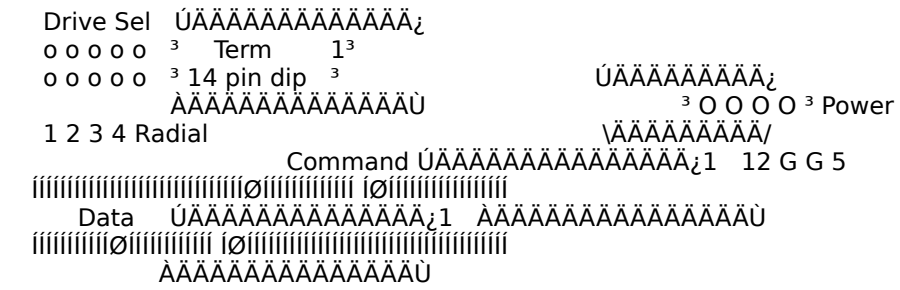
94155-xxx (Wren 2) ST412 MFM

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94155-36	Wren2	ST412	697	5	17	59,245	30,333,440	128
94155-48	Wren2	ST412	925	5	17	78,625	40,256,000	?
94155-57	Wren2	ST412	925	6	17	94,350	48,307,200	?
94155-67	Wren2	ST412	925	7	17	110,075	56,358,400	?
94155-77	Wren2	ST412	925	8	17	125,800	64,409,600	?



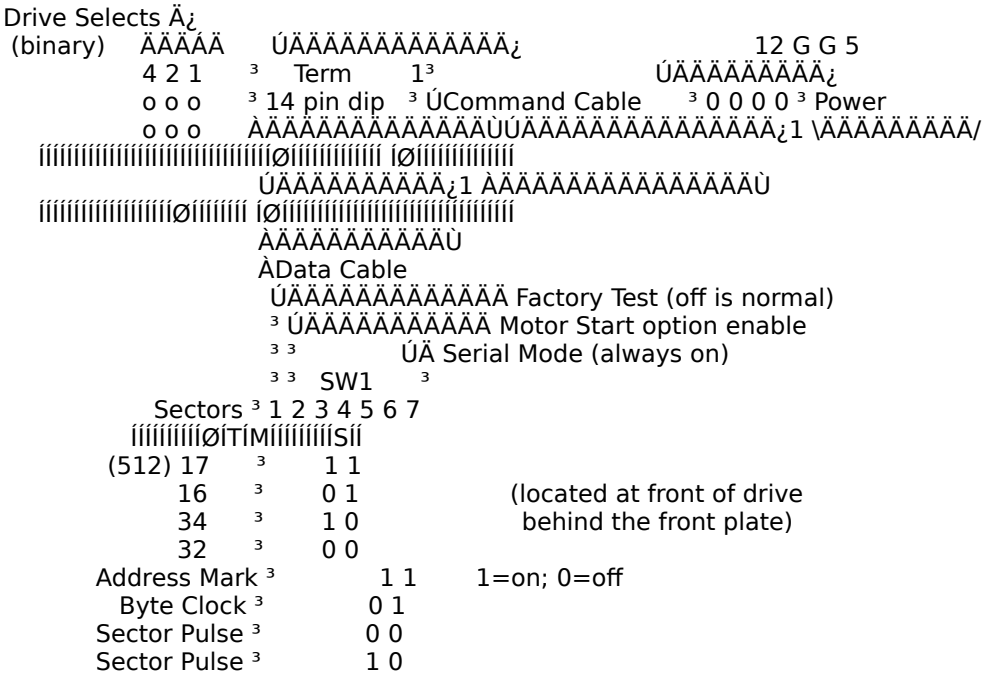
94155-xxx (Wren 2) ST412 RLL

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94155-120	Wren2	ST412	960	8	26	199,680	102,236,160	



94156-xx (Wren 2) ESDI (MFM Recording Mode)

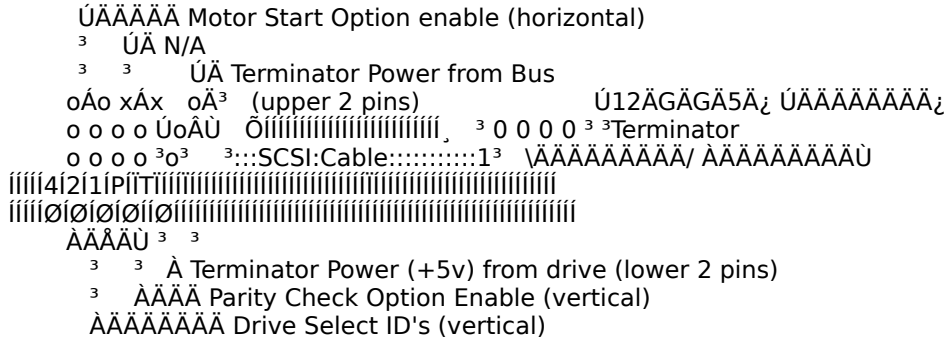
Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94156-48	Wren2	ESDI	925	5	17	78,625	40,256,000	
94156-67	Wren2	ESDI	925	7	17	110,075	56,358,400	
94156-86	Wren2	ESDI	925	9	17	141,525	72,460,800	



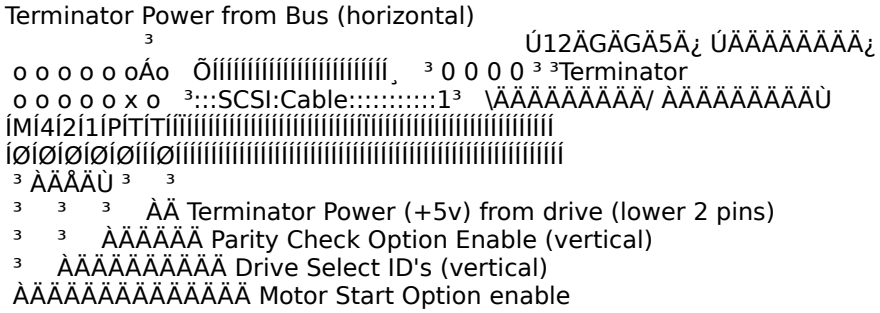
94161-xxx (Wren 3) SCSI

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94161- 86	Wren3	SCSI	969	5	35	169,575	86,822,400	
94161-101	Wren3	SCSI	969	5	34	164,730	84,341,760	
94161-103	Wren3	SCSI	969	6	35	203,490	104,186,880	
94161-121	Wren3	SCSI	969	7	35	237,405	121,551,360	
94161-138	Wren3	SCSI	969	8	35	271,320	138,915,840	
94161-141	Wren3	SCSI	969	7	34	230,622	118,078,464	
94161-155	Wren3	SCSI	969	9	34	296,514	151,815,168	

(3 by 5 configuration jumper block)

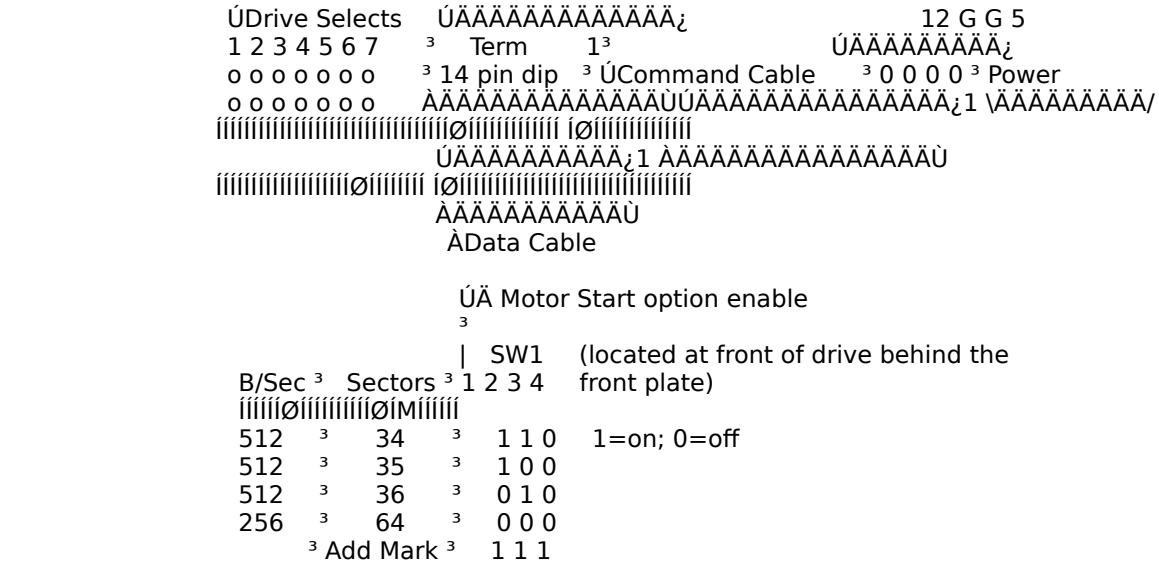


(2 by 7 configuration jumper block)



94166-xxx (Wren 3) ESDI

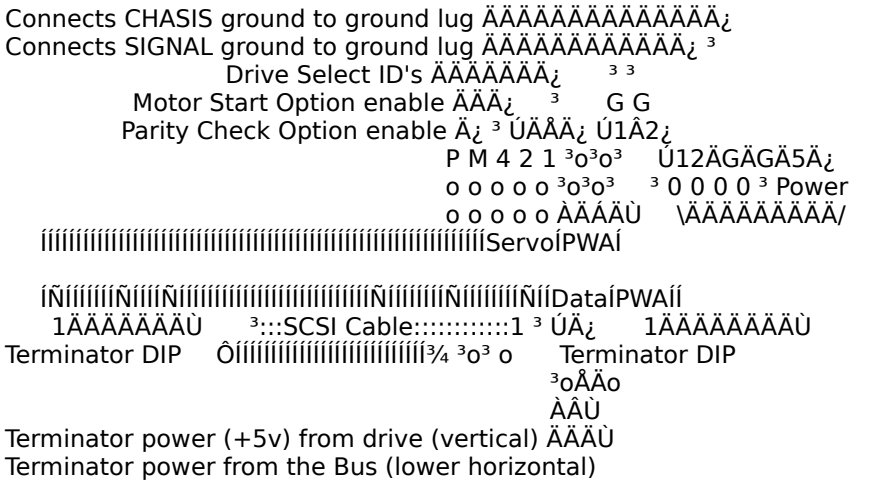
Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94166-101	Wren3	ESDI	969	5	36	174,420	89,303,040	
94166-121	Wren3	ESDI	969	6	36	209,304	107,163,648	
94166-141	Wren3	ESDI	969	7	36	244,188	125,024,256	
94166-161	Wren3	ESDI	969	8	36	279,072	142,884,864	



B/Sec	Sectors	1 2 3 4
512	34	1 1 0
512	35	1 0 0
512	36	0 1 0
256	64	0 0 0
Add Mark		1 1 1

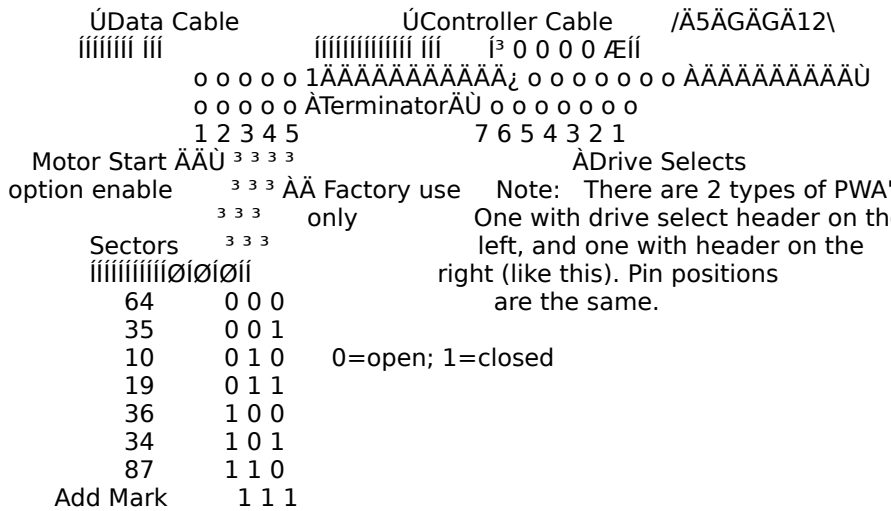
94171-xxx (Wren 4) SCSI

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94171-300	Wren4	SCSI	1412	9	ZBR	586,763	300,422,656	
94171-307	Wren4	SCSI	1412	9	ZBR	586,763	300,422,656	
94171-327	Wren4	SCSI	1412	9	ZBR	586,763	300,422,656	
94171-344	Wren4	SCSI	1549	9	ZBR	631,016	323,080,192	



94186-xxx (Wren 5) FH ESDI

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94186-265	Wren5	ESDI	1412	9	36	457,488	234,233,856	
94186-324	Wren5	ESDI	1412	11	36	559,152	286,285,824	



94204-xx (Wren 2) HH AT

```
                    Inter-                    Total      Formatted
   Model    Family face    Cyl    Hd   SPT    Sectors     Capacity       WPC
----------|------|------|-----|---|-----|---------|-------------|----
94204-65    Wren2   AT        949     5

                                ÚÄÄ Master on /Slave off
                                ³
                                ³    Factory      Ú12ÄGÄGÄ5Ä¿ Power
     AT Cable Connector     ³     1   J2         ³ 0 0 0 0 ³
   1::::::::ù::::::::::     ::    :::::::::   \Ä1Ä2Ä3Ä4Ä/
  ííííííííííÑíííííííííííííííííííííííííííííííííííííííííííí
              pin-20 key        ³
                                 ³   ³ For "non-C" model, jumper, if present,
                                 ³   ³ must remain on. Drive will not operate
                                 ÀÄÄ´ properly if jumper is removed (or added
                                     ³ if not originally there).
                                     ³
                                     ³ For "C" model, jumper on indicates No
                                     ³ Slave Present; jumper off means Slave
                                     ³ Drive Is Present.
                                     ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
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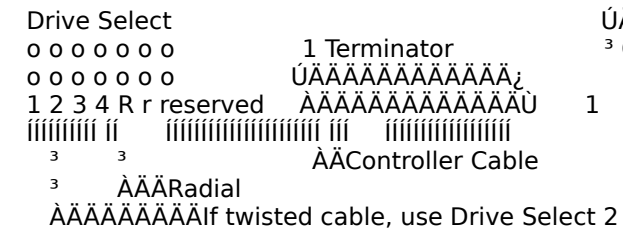
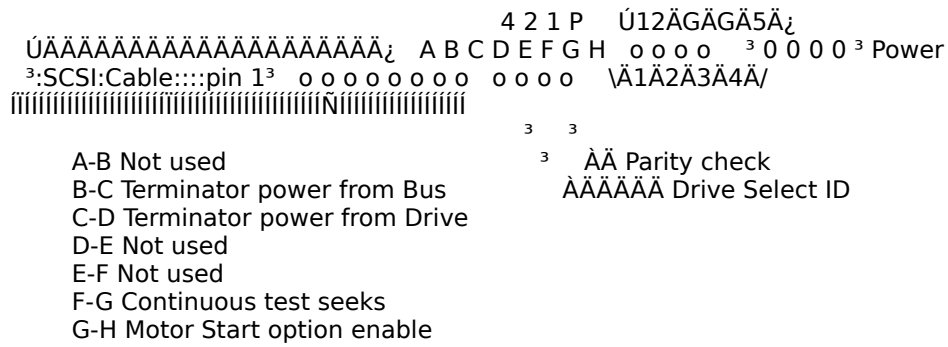
94205-xx (Wren 2) HH ST412 MFM

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94205-30	Wren2	ST412	989	3	17	50,439	25,824,768	
94205-41	Wren2	ST412	989	4	17	67,252	34,433,024	
94205-53	Wren2	ST412	1024	5	17	87,040	44,564,480	



94211-xxx (Wren 3) SCSI

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94211-91	Wren3	SCSI	992	5				

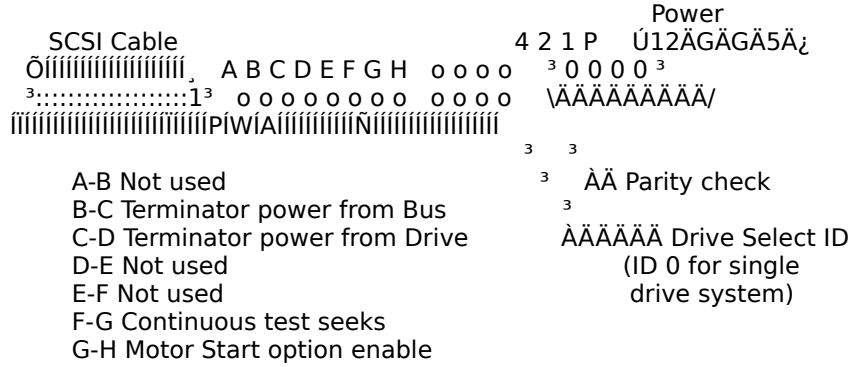


A-B Not used
B-C Terminator power from Bus
C-D Terminator power from Drive
D-E Not used
E-F Not used
F-G Continuous test seeks
G-H Motor Start option enable

ÀÄ Parity check
ÀÄÄÄÄÄ Drive Select ID

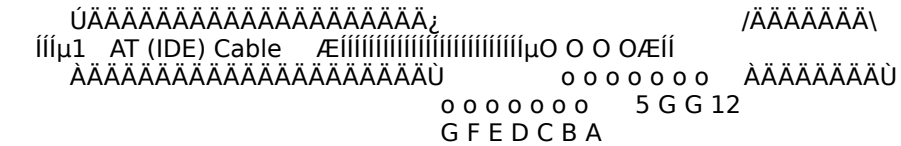
94221-xxx(Wren 5) HH SCSI

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94221-169	Wren5	SCSI	1310	5	ZBR	310,539	158,995,968	
94221-184	Wren5	SCSI						



94244-xxx (Wren 6) HH AT (IDE)

Model	Family	Inter-face	Cyl	Hd	SPT	Total Sectors	Formatted Capacity	WPC
94244-164	Wren6	AT	1747	3	54	283,014	144,903,168	
94244-219	Wren6	AT	1747	4	54	377,352	193,204,224	
94244-502	Wren6	AT						



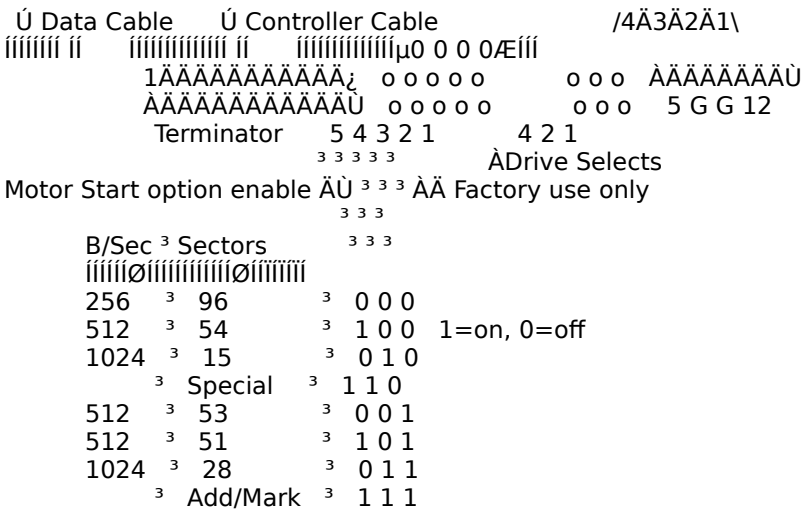
A	B	
0	0	Factory use only
0	1	Drive is Slave, motor start delay 20 sec from master start-up
1	0	Drive is Slave, no motor start delay
1	1	Drive is Master, motor starts at application of DC power

C	D	
0	0	Physical mode
0	1	Translate (logical) mode, sparing scheme is one sector
1	0	Translate (logical) mode, no sparing space allocated
1	1	Factory use only

E	
0	Slave present, only meaningful on master
1	No Slave present

F	G	
x	x	Factory test, position G may or may not be present by PWA

94246-xxx (Wren 6) HH ESDI



ST-71P

ST-71P
Solid State FlashCard

FORMATTED CAPACITY _____1.8
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
Sleep to Write (msec) _____<3
Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
Auto Sense of interface type
PCMCIA Card Type II
MTBF (power-on hours) Office _____250,000
SHOCK (G's):
operating (Read/Write) _____1000
nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
Reading 5v/12v _____100/NA
Writing 5v/12v _____100/30
Erasing 5v/12v _____100/20
IBM AT DRIVE TYPE _____

Physical:

Height (inches/mm):	0.196/5
Width (inches/mm):	2.126/54.0
Depth (inches/mm):	3.37/85.6
Weight (oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-71P5

ST-71P5
Solid State FlashCard

FORMATTED CAPACITY _____1.8
TRANSFER RATE To/From Memory (Mbytes/sec) up to 3
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.25
STARTUP TIMES:
 Sleep to Write (msec) _____<2.5
 Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____500,000
SHOCK (G's):
 operating (Read/Write) _____1000
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v/12v _____.../NA
 Writing 5v/12v _____.../NA
 Erasing 5v/12v _____.../NA
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.196/5
Width	(inches/mm):	2.126/54.0
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-72P

ST-72P
Solid State FlashCard

FORMATTED CAPACITY _____2.6
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
Sleep to Write (msec) _____<3
Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
Auto Sense of interface type
PCMCIA Card Type II
MTBF (power-on hours) Office _____250,000
SHOCK (G's):
operating (Read/Write) _____1000
nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
Reading 5v/12v _____100/NA
Writing 5v/12v _____100/30
Erasing 5v/12v _____100/20
IBM AT DRIVE TYPE _____

Physical:

Height (inches/mm):	0.196/5
Width (inches/mm):	2.126/54.0
Depth (inches/mm):	3.37/85.6
Weight (oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-72P5

ST-72P5
Solid State FlashCard

FORMATTED CAPACITY _____2.6
TRANSFER RATE To/From Memory (Mbytes/sec) up to 3
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.25
STARTUP TIMES:
 Sleep to Write (msec) _____<2.5
 Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____500,000
SHOCK (G's):
 operating (Read/Write) _____1000
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v/12v _____.../NA
 Writing 5v/12v _____.../NA
 Erasing 5v/12v _____.../NA
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.196/5
Width	(inches/mm):	2.126/54.0
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-75P

ST-75P
Solid State FlashCard

FORMATTED CAPACITY _____5.2
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
Sleep to Write (msec) _____<3
Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
Auto Sense of interface type
PCMCIA Card Type II
MTBF (power-on hours) Office _____250,000
SHOCK (G's):
operating (Read/Write) _____1000
nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
Reading 5v/12v _____100/NA
Writing 5v/12v _____100/30
Erasing 5v/12v _____100/20
IBM AT DRIVE TYPE _____

Physical:

Height (inches/mm):	0.196/5
Width (inches/mm):	2.126/54.0
Depth (inches/mm):	3.37/85.6
Weight (oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-75P5

ST-75P5
Solid State FlashCard

FORMATTED CAPACITY _____5.2
TRANSFER RATE To/From Memory (Mbytes/sec) up to 3
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.25
STARTUP TIMES:
 Sleep to Write (msec) _____<2.5
 Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____500,000
SHOCK (G's):
 operating (Read/Write) _____1000
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v/12v _____.../NA
 Writing 5v/12v _____.../NA
 Erasing 5v/12v _____.../NA
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.196/5
Width	(inches/mm):	2.126/54.0
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-710P

ST-710P
Solid State FlashCard

FORMATTED CAPACITY _____10.4
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
Sleep to Write (msec) _____<3
Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
Auto Sense of interface type
PCMCIA Card Type II
MTBF (power-on hours) Office _____250,000
SHOCK (G's):
operating (Read/Write) _____1000
nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
Reading 5v/12v _____100/NA
Writing 5v/12v _____100/30
Erasing 5v/12v _____100/20
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.196/5
Width	(inches/mm):	2.126/54.0
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.34/38

ST-710P5

ST-710P5
Solid State FlashCard

FORMATTED CAPACITY _____10.4
TRANSFER RATE To/From Memory (Mbytes/sec) up to 3
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.25
STARTUP TIMES:
 Sleep to Write (msec) _____<2.5
 Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____500,000
SHOCK (G's):
 operating (Read/Write) _____1000
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v/12v _____.../NA
 Writing 5v/12v _____.../NA
 Erasing 5v/12v _____.../NA
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.196/5
Width	(inches/mm):	2.126/54.0
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-720P

ST-720P
Solid State FlashCard

FORMATTED CAPACITY _____20.9
TRANSFER RATE To/From Memory (Mbytes/sec) up to 2.5
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.5
STARTUP TIMES:
Sleep to Write (msec) _____<3
Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
Auto Sense of interface type
PCMCIA Card Type II
MTBF (power-on hours) Office _____250,000
SHOCK (G's):
operating (Read/Write) _____1000
nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
Reading 5v/12v _____100/NA
Writing 5v/12v _____100/30
Erasing 5v/12v _____100/20
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.196/5
Width	(inches/mm):	2.126/54.0
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-720P5

ST-720P5
Solid State FlashCard

FORMATTED CAPACITY _____20.9
TRANSFER RATE To/From Memory (Mbytes/sec) up to 3
TRANSFER RATE To/From Interface _____up to 6
CONTROLLER OVERHEAD (msec-Command to DRQ) <1.25
STARTUP TIMES:
 Sleep to Write (msec) _____<2.5
 Sleep to Read (msec) _____<2
INTERFACE _____PCMCIA/ATA
 Auto Sense of interface type
 PCMCIA Card Type II
MTBF (power-on hours) Office _____500,000
SHOCK (G's):
 operating (Read/Write) _____1000
 nonoperating _____1000
POWER REQUIREMENTS: Maximum Current (mA)
 Reading 5v/12v _____.../NA
 Writing 5v/12v _____.../NA
 Erasing 5v/12v _____.../NA
IBM AT DRIVE TYPE _____

Physical:

Height	(inches/mm):	0.196/5
Width	(inches/mm):	2.126/54.0
Depth	(inches/mm):	3.37/85.6
Weight	(oz/g):	1.34/38

Seagate reserves the right to change, without notice, product offerings or specifications. (11/08/93)

ST-7050P

ST-7050P

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____42.7
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____(user)
HEADS _____2
DISCS (1.8 in) _____1
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____up to 16
SPINDLE SPEED (RPM) _____3,545
AVERAGE LATENCY (mSEC) _____8.46
BUFFER _____32 Kbyte
Multisegmented adaptive cache
INTERFACE _____PCMCIA/ATA
Auto Sense of interface type
PCMCIA Type III form factor
SECTORS PER DRIVE _____83,520
TPI (TRACKS PER INCH) _____2,748
BPI (BITS PER INCH) _____53,200
FCI (FLUX CHANGES PER INCH) _____39,447
AVERAGE ACCESS (ms) _____18
SINGLE TRACK SEEK (ms) _____6
MAX FULL SEEK (ms) _____28
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating _____10
nonoperating _____300
POWER REQUIREMENTS: +5V START-UP (amps) __0.45
POWER MANAGEMENT (Watts):
ACTIVE _____1.2
IDLE _____0.42
STANDBY _____0.1
SLEEP _____0.06
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____0

Physical:

Height (inches/mm):	0.413/10.5
Width (inches/mm):	2.13/54.0
Depth (inches/mm):	3.38/85.7
Weight (oz/g):	3/85

* MAY REQUIRE FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE. (see below)

Possible translation: 580 cyl, 9 heads, 16 sectors = 42,762,240

Note: A "custom" or "user-definded" CMOS drivetype may ask for a numerical value for the Write Precompensation cylinder and for the Landing Zone cylinder. A basic rule-of-thumb for drive models that do

not require the old Write Precomp technique or a Landing Zone because they are Auto-Parking is to add 1 to the cylinder value being used. As an example: If cylinders equaled 820, then both Write Precomp and Landing Zone would be entered as 821. Some BIOS will convert this to 65535 or -1, which are functionally equivalent to "none (not used)".

PHYSICAL/LOGICAL equivalent to NATIVE/TRANSLATION
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Since a User-definable or Custom translation geometry may be used, it is imperative that the values be written down and kept with your permanent records for retrieval in the event of CMOS battery failure.

Seagate reserves the right to change, without notice, product offerings or specifications. (02/24/94)

Telephone numbers for Tech Support and BBS's

'A' thru 'H' 'I' thru 'P' 'Q' thru 'Z'

Seagate's Telephone Numbers

Telephones 'A' thru 'H'

3COM	408-980-8204	BBS
3COM	800-NET-3COM	General
Acculogic	714-454-8124	BBS
Acculogic	800-234-7811	General
Acer America	800-833-8241	BBS
Acer Technologies Corp.	408-922-0333	Tech Support
Acumen Computer Systems	800-876-0486	General
Adaptec	408-945-7727	BBS
Adaptec	408-945-8600	General
Adaptec	408-945-2550	Tech Support
Addstor	415-688-0470	General
ADIC (Advanced Digital Equip. Corp.)	800-336-1233	General
Advanced Storage Concepts	512-335-1077	General
Ahead Systems	510-623-0900	General
Alpha Research	512-345-6465	General
Alps America	408-432-6000	General
Altos Computer Systems	408-258-6787	General
Always Technology		see Bason Computers
AMI (Bios)	770-246-8780	BBS
AMI (Bios)	770-263-8181	Tech Support
ANSI (American Nat'l Standards Inst.)	212-642-4900	General
APCUG (Association of PC User Groups)	408-439-9367	BBS
Apple Computer	800-538-9696	Tech Support
Archive Corp.	714-641-0279	General
Areal Technology	408-436-6800	General
ARCO Electronics	305-925-2688	General
Artisoft Inc.	602-293-6363	General: LANtastic
Ashton-Tate	408-431-2275	BBS
AST Research	714-727-4723	BBS
Atari	408-745-2000	General
AT&T	800-247-1212	Tech Support
AT&T Support	201-769-6397	BBS
ATI Technologies	416-756-4591	BBS
ATI Technologies	416-756-0711	Tech Support
Aura Assoc.	408-252-2872	General
Award (Bios)	415-968-0249	BBS
Award (Bios)	415-968-4433	Tech Support
Bason Computers	818-727-0530	BBS: Always Tech.
Bason Computers	818-727-9054	Tech Support
Bi-Tech Enterprises	516-567-8155	General
Borland	408-439-9096	BBS
Brand Technologies	818-407-4040	General
Brown Bag Software	408-371-7654	BBS
BusLogic (BusTek)	408-492-1984	BBS
BusLogic (BusTek)	408-492-9090	General
Byte (magazine)	617-861-9764	BBS
Canon USA	516-488-6528	BBS
Cardinal Technologies	717-293-3074	BBS
Catapult Systems	510-659-0365	General

Central Point Software	503-690-6650	BBS
Central Point Software	503-690-8090	Tech Support: PC Tools
Chicony	714-771-9067	Tech Support
Chips & Technologies	408-434-0600	General
Chipsoft	619-453-5232	BBS
Ciprico	612-559-4258	BBS
Ciprico	612-551-4000	General
Colorado Memory Systems	303-679-0650	BBS
Colorado Memory Systems	800-432-5858	Tech Support
Columbia Data Products	407-862-4742	BBS
Columbia Data Products	407-869-6700	General
Commodore Business Mach.	215-431-9100	Tech Support
Compaq (US)	800-345-1518	Tech Support
Compaq (Canada)	800-263-5868	Tech Support
Compuadd	800-456-3116	Tech Support
CompuServ Info. Serv.	800-848-8199	General
Computer Peripherals Inc	805-499-9646	BBS
Computer Peripherals Inc	805-499-5751	Tech Support
Conner Peripherals	408-456-4415	BBS
Conner Peripherals	408-456-3388	Tech Support
Control Concepts Inc	703-876-6444	General
Control Data Corp. (CDC)	612-851-4131	General
Core International	407-241-2929	BBS
Core International	407-997-6044	Tech Support
Cornerstone Technology	408-435-8943	BBS
Cornerstone Technology	408-435-8900	Tech Support
Corporate Systems Center	408-737-7312	General
Creative Interaction Tech	800-545-2442	Tech Support: AshWIN
Creative Labs	405-742-6660	BBS
Creative Labs	405-742-6655	Tech Support
Crystal Computer Services	604-681-9516	BBS
Crystal Computer Services	604-669-8379	Tech Support
Crosstalk Communications	404-641-1803	BBS
Data Technology Corp	408-942-4010	BBS
Data Technology Corp	408-262-7700	Tech Support
Data Technology Corp	408-942-4005	Auto-Fax System
Dell Computer	800-624-9896	Tech Support
Delphi Online Service	800-365-4636	BBS
Diamond Flower Inc	800-929-2727	Tech Support
Digiboard Inc.	612-922-5604	BBS
Digiboard Inc.	612-922-8055	Tech Support
Digital Equip. Corp.(DEC)	508-493-5111	General
Digital Research	408-646-6464	Tech Support
Digitrend Systems Corp.	818-772-0190	General
Dilog	408-241-3192	General
Disctec	800-553-0337	General
Distr. Process Technology	407-830-5522	Tech Support
DPT (Dist Process Tech)	407-831-6432	BBS
DPT (Dist Process Tech)	800-322-4378	General
DPT (Dist Process Tech)	407-830-5522	Tech Support
DTK Computer	818-810-4724	BBS
DTK Computer	818-810-0098	General
DTK (Bios)	818-333-7533	Tech Support
Dysan Corp.	408-988-3472	Tech Support
Emulex Corp.	800-368-5393	General

Epson	213-539-9955	Tech Support
Everex Systems	510-226-9694	BBS
Everex Systems	510-498-4411	Tech Support
Fifth Generation Systems	504-295-3344	BBS
Fifth Generation Systems	800-873-4384	Tech Support: Mace, Fastback
Frye Computer Systems	617-753-0488	BBS
Frye Computer Systems	617-451-5400	Tech Support
Fujitsu America, Inc.	408-944-9899	BBS
Fujitsu America, Inc.	800-826-6112	Tech Support
Future Domain	714-253-0432	BBS
Future Domain	714-253-0400	Tech Support
Gazelle Systems	800-233-0383	Tech Support: Optune
GEnie Information Service	800-638-8369	BBS
Genoa	408-943-1231	BBS
Genoa	408-432-9090	Tech Support
Gibson Research	714-830-3300	BBS
Gibson Research	714-830-2200	Sales/Tech Support: Spinwrite
Goldstar	408-432-1331	Tech Support
GSI Inc	714-261-7949	General
GVC Technologies	201-579-2380	BBS
Hayes Public BBS	404-446-6336	BBS
Headland Technology	510-656-0503	BBS
Headland Technology	800-238-0101	General
Hercules Computer Tech.	510-623-7034	BBS
Hewlett-Packard Co.	208-323-2551	Tech Support
Hitachi	617-890-0804	Tech Support
Hitachi	800-851-2460	"HitFax" Fax demand
Hyundai Electronics	800-234-3553	Tech Support

Telephones 'I' thru 'P'

IBM PC Users Group	404-835-6600	BBS
IBM	800-426-2468	General
Intel	800-538-3373	Tech Support
Intel Support	503-645-6275	BBS
Irwin Magnetics	313-930-9380	BBS
Kalok Corp.	408-747-1315	General
Kaypro	619-481-3900	Tech Support
Keytronics	800-262-6006	Tech Support
Kimpsion Intern'l	818-330-5500	Tech Support
Kodiak Technology	800-777-7704	Tech Support
Kodiak Technology	408-452-0677	BBS
Kolod Research	708-291-1586	General
Kyocera Unison Inc.	415-848-6680	General
LAN (magazine)	415-267-7640	BBS
Laura Technologies	602-940-9800	General
Logitech	415-795-0408	BBS
Logitech	415-795-8100	Tech Support
Lotus Development	617-577-8500	General
Mace, Paul Software	714-240-7459	BBS
Mace, Paul Software	800-523-0258	Tech Support
Maxtor/Miniscribe	303-678-2222	BBS
Maxtor/Miniscribe	800-356-5333	Tech Support
McAfee Assoc	408-988-4004	BBS, virus protection software
McAfee Assoc	408-988-3832	Tech Support
Micro House International	303-443-9957	BBS
Micro House International	303-443-3389	Tech Support (USA)
Micro House International	800-926-8299	General: EZ-Drive, DrivePro
Micro House Europe	31 4927-60900	Tech Support (Holland)
Micro House Europe	31 4927-61072	BBS
Microbotics	214-437-5330	Tech Support
Microid Research	408-727-6991	General: MR Bios
Micronet	714-837-6033	General
Micronics	510-651-6837	BBS
Micropolis Corp.	818-709-3310	BBS
Micropolis Corp.	818-709-3325	Tech Support
Microsoft	206-637-9009	BBS
Microsoft	206-646-5104	Tech Support: DOS, person
Microsoft	206-646-5103	Tech Support: DOS, recordings
Microsoft	206-637-7099	Tech Support: Windows Applica'n
Microsoft	206-637-7098	Tech Support: Windows Interface
Microsoft	206-635-7000	Tech Support: Windows 95
Mitsubishi Inc.	213-324-3092	BBS
Mitsubishi Inc.	213-515-3993	Tech Support
Mouse Systems	415-683-0617	BBS
Mouse Systems	415-656-1117	Tech Support
Morse Technology Inc	818-854-8688	General
Multi-Tech Systems	612-785-9875	BBS
Multisoft	800-283-6858	General: PCKwik
Mylex Corp.	510-796-6100	General
National Semiconductor	408-245-0671	BBS
NCL America	408-956-1040	General
NCR	316-688-8529	Tech Support

NEC Technologies	508-635-4706	BBS
NEC Technologies	800-388-8888	General
New Media Graphics	508-663-7612	
Norton	213-319-2020	Tech Support
Norton/Symantec	503-484-6669	BBS
Novell	801-429-3030	BBS
Novell	CompuServ	BBS, Go NetWire
Novell	800-638-9273	Tech Support
Okidata	800-283-5474	BBS
Okidata	609-235-2600	Tech Support
Olivetti Office USA	201-526-8200	General
OMTI/Scientific Micro	408-954-1633	Tech Support
Ontrack Computer Systems	612-937-0860	BBS
Ontrack Computer Systems	800-872-2599	Data Recovery
Ontrack Computer Systems	800-752-1333	Sales: Disk Manager, Dosutils
Ontrack Computer Systems	612-937-2121	Tech Support
Orchid Technology	510-683-0327	BBS
Orchid Technology	510-683-0323	Tech Support
Packard Bell	818-773-7207	BBS
Packard Bell	800-733-4411	Tech Support
Palindrome	708-505-3336	BBS
Palindrome	847-882-0067	Tech Support
Panasonic Comm. Sys.	201-863-7845	BBS
Paradise	415-968-1834	BBS
Paradise	800-832-4778	Tech Support
Perceptive Solutions	214-954-1856	BBS
Perceptive Solutions	800-486-3278	General
Perstore	602-894-4601	Tech Support
Phoenix (Bios)	617-551-4000	Tech Support
PKWare (PKZip)	414-354-8670	BBS
Plus Development	408-434-1664	BBS
Plus Development	800-826-8022	Tech Support in Calif.
Plus Development	900-740-4433	Tech Support out of Calif.
Priam Systems	408-434-1646	BBS
Priam Systems	408-954-8680	Tech Support
Prime Solutions	619-272-9240	BBS
Prime Solutions	800-847-5000	Tech Support: Disk Technician
Procom	800-800-8600	General: host adapters
ProComm Support	314-474-8477	BBS: PCPlus communications
Procomp USA	216-234-6387	General: Novell DCB's
Promise Technology	408-452-0948	General
Promise Technology	408-452-1180	Tech Support
Promise Technology	408-452-1534	BBS

Telephones 'Q' thru 'Z'

QMS	205-633-3632	BBS
QMS	205-633-4500	Tech Support
Quantum	408-894-3214	BBS
Quantum	408-894-4000	General
Quarterdeck Office Syst.	310-314-3227	BBS
Quarterdeck Office Syst.	310-392-9701	Tech Support: Manifest, DeskView
Quarterdeck Office Syst.	310-314-3217	TS FAX
Rancho Technology	909-987-3966	Tech Support
Ricoh Corp.	201-882-2000	General
Rodime Inc.	407-997-0774	General
Samsung Info. Syst.	408-434-5684	BBS
Samsung Info. Syst.	800-446-0262	Tech Support
Santa Cruz Operation (SCO)	800-347-4381	Tech Support
Seagate Enterprise Management Software	408-342-4747	BBS (NetLabs)
	800-961-0501	Tech Support
Seagate Technology	408-438-8771	BBS United States
Seagate Technology	44-628-478011	BBS England
Seagate Technology	33-1 40 67 10 34	BBS France
Seagate Technology	49-89-140-9331	BBS Germany
Seagate Technology	65-292-6973	BBS Singapore
Seagate Technology	61-2-756-2359	BBS Australia
Seagate Technology	662-531-8111	BBS Thailand
Seagate Technology	82-2-556-7294	BBS Korea
Seagate Technology	ftp.seagate.com	Internet
Seagate Technology	www.seagate.com	Internet
Seagate Technology	408-438-6550	General, Corporate HQ
Seagate Technology	408-438-8222	Tech Support-SeaFONE
Seagate Technology	408-438-8137	Tech Support FAX
Seagate Technology	408-438-2620	Automated SeaFAX System
Seagate Technology	408-438-8111	Sales, Telemarketing
Seagate Technology	800-468-3472	Cust. Service (Warranty/Repair)
Sharp Electronics	404-962-1788	BBS
Shugart Associates	602-294-0898	Tech Support
Silicon Graphics	415-960-1980	General
Silicon Graphics	800-800-4744	Tech Support
Silicon Valley Computers	415-967-8081	BBS
Silicon Valley Computers	415-967-1100	General
Softlogic Solutions	800-272-9900	Tech Support: Disk Optimize
Sony Corp.	408-432-0190	General: Drives
Stac Electronics	619-431-5956	BBS: Stacker
Storage Dimensions	408-944-1207	Tech Support: Speedstor
Sumo Systems	408-453-5744	General
SunDisk	408-562-0500	General
Sun Microsystems	800-USA-4SUN	Tech Support
Syquest	510-226-4000	For ST02 v3.1
Syquest	510-226-4280	Tech Support
Tandon Corp.	805-523-0340	General
Tandy Corp.	817-390-3011	General
Tandy Corp.	817-878-6875	Tech Support

Tatung Co. of America	213-979-7055	Tech Support
Teac America, Inc.	213-726-0303	Tech Support
Tech Data	813-538-7090	BBS
Tech Data	800-553-7977	Tech Support
Telebit Corp.	408-745-3803	BBS
Telebit Corp.	800-835-3248	Tech Support
Telix Support	416-439-9399	BBS
Texas Instruments	512-250-6112	BBS
Texas Instruments	512-250-7407	Tech Support
TOPS Support	415-769-8874	BBS
Toshiba America	714-837-4408	BBS
Toshiba America	800-999-4273	Tech Support
Trantor Systems	510-656-5159	BBS
Trantor Systems	510-770-1400	General
Trident	415-691-1016	BBS
Trident	415-691-9211	Tech Support
Tulin	408-432-9025	General
Ultrastor	714-581-4125	BBS
Ultrastor	714-581-4100	General
Ultrastor	714-581-4016	Tech Support
USNO Time of Day	202-653-0351	BBS
U.S.Robotics	708-982-5092	BBS
Ven Tel	408-922-0988	BBS
Video Seven	(now Headland Tech.)	
Western Digital	714-753-1234	BBS
Western Digital	800-832-4778	Tech Support
WordPerfect Corp.	801-225-4414	BBS
WordPerfect Corp.	800-541-5096	Tech Support
Wyse Technology	408-922-4400	BBS
Wyse Technology	408-435-2770	Tech Support
Xerox Computer Serv.	213-306-4000	General
XTree	805-546-9150	BBS
Y-E Data	714-898-3677	General (C.Itoh drv suppt)
Zenith Data Systems	800-888-3058	BBS
Zeos	800-228-5390	Tech Support
Zsoft	404-427-1045	BBS
ZyXEL	714-693-0762	BBS

Seagate Telephones

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Seagate Technology, Inc.

Corporate Headquarters:

920 Disc Drive
Scotts Valley
California 95066
U.S.A.

General, Corporate	408-438-6550
General, Corporate FAX	408-429-6356
Pre-Sales Support, Telemarketing	408-438-8111

USA Sales Offices
International Sales Offices
Seagate Service Centers for Warranty and Repair
Seagate Technical Support
Seagate Software Companies

Temporary listing to Conner Peripherals

Seagate USA Sales Offices

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Seagate Technology, Inc.

USA Sales Offices:

Arizona:
367 E. Briarwood Terrace
Phoenix, AZ 85048
Main 602/460-1499
FAX 602/460-1708

California:
30497 Canwood Street, Suite 201
Agoura Hills, CA 91301
Main 818/597-7725
FAX 818/991-1961

Koll Center Irvine North-East Tower
2010 Main Street, Suite 120
Irvine, CA 92714
Main 714/252-7800
FAX 714/261-5926; 714/261-2740

181 Metro Drive, Suite 710
San Jose, CA 95110
Main 4081452-2000
FAX 408/452-2067

Florida:
5200 Blue Lagoon Drive
4th Floor, Suite 410
Miami, FL 33126
Main 305/262-7888
FAX 305/262-3070

Georgia:
210 Interstate North, Suite 150
Atlanta, GA 30339
Main 404/952-0652
FAX 404/956-0287

Illinois:
450 E. Devon Avenue, Suite 295
Itasca, IL 60143
Main 708/250-7060
FAX 708/250-8057, 708/250-7069

Massachusetts:
239 Littleton Road, Suite 3B
Westford, MA 01886
Main 508/692-8585
FAX 508/692-8599

Minnesota:
7801 Computer Avenue South, Bldgs. A-F
Bloomington, MN 55435-5489
Main 612/844-8000
FAX 612/844-5887

New Jersey:
302 Harper Drive, Suite 1 0 1
Moorestown, NJ 08057
Main 609/234-3799
FAX 609/234-5887

Short Hills Plaza
636 Morris Turnpike
Short Hills, NJ 07078
Main 201/564-6120
FAX 201/564-7564

Oregon:
Manufacturer's Rep.
Pacific Rim Technology Partners Ltd.
10200 SW Eastridge Ave, Suite 205
Portland, OR 97225-5083
Main 503/291-4359
FAX 503/291-4375

South Carolina:
2211 Standing Springs Road
Greenvile, SC 29605
Main 803/299-3005
FAX 803/299-1564

Texas:
8240 North Mopac Expressway, Suite 180
Austin, TX 78759
Main 512/338-1901
FAX 512/338-4160

5000 Quorum Drive, Suite 485
Dallas, TX 75240
Main 214/448-8050
FAX 214/448-8070

16945 Northchase Drive, No. 2100
Houston, TX 77060
Main 713/874-2575
FAX 713/874-2584

Seagate International Sales Offices

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Seagate Technology, Inc.

International Sales Offices:

Brazil (Manufacturer's Rep.):
Miranda and Associates
Rua Visconde de Inhauma 77 7th Floor
Rio de Janeiro, RJ
Brazil 20091 -000
Main 55/21/253-6649
FAX 55/21/253-6467

Asia/Pacific Headquarters:
Seagate Technology International
202 Kallang Bahru
Seagate Building, No. 08-21
Singapore 1233
Main 65/292-6266
FAX 65/299-5176; 65/299-5181

Australia:
1st Floor, 17/18, Walker Place
Wetherill Park NSW 2164
Australia
Main 61/2/725-3366
FAX 61/2/725-4052

Hong Kong:
Seagate Technology International
Room 505, Energy Plaza
92 Granville Road
Tsim Sha Tsui East
Kowloon,
Hong Kong
Main 852/2368-9918
FAX 852/2368-7173

Japan:
Nippon Seagate Inc.
Shiba Amerex Building, 1/2/3 Floor
4-9-1, Shiba, Minato-ku
Tokyo 108
Japan
Main 81/3/5476-5821
FAX 81/3/5476-5950

Korea:
Seagate Technology Korea, Ltd.
Suite 307, Poong Lim Building
823-1 Yeoksam-Dong
Kangnam-ku, Seoul
Korea 135-080
Main 82/2/556-8241
FAX 82/2/556-4251
TLX 787/26820 ST KOREA

Taiwan:
Room C, 9th Floor, No. 363
Fu Hsin North Road
Taipei, Taiwan,
R.O.C.
Main 886/2/545-1305
FAX 886/2/719-5681; 886/2/719-5712

Europe, Middle East and Africa Headquarters:
62 bis, avenue André Morizet
92643 Boulogne-Billancourt Cedex
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Main 33/1/40/67 13 00
FAX 33/1/40/67 10 37

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Seagate House
Globe Park
Fieldhouse Lane
Marlow Bucks SL7 1LW
United Kingdom
Main 44/1628/890366
FAX 44/1628/890660
TLX 846218 SEAGAT G

Germany:
Messerschmittstrasse 4
80992 München
Germany
Main 49/89//149891-0
Tech 49/89/1409332
FAX 49/89/1407617
TLX 841/524-275 SEAG D

Ireland:
208 Holywell
Kilmacud Road Upper
Dublin 14
Ireland
Main 353/1/298-1865
FAX 353/1/2988-1893

Italy:
Via Degli Artaria, No. 15

20161 Milan
Italy
Main 392/662-01515
FAX 392/662-02530

Sweden:
Seagate Technology AB
Torshamnsgatan 35
164 40 Kista
Sweden
Main 46-8-750 31 20
FAX 46-8-752 05 65

Seagate Warranty and Repair Offices

Seagate Technology, Inc.

Warranty and Repair Offices:

United States	800-468-3472
Canada, Mexico, South America	405-491-6260
FAX - United States, Canada, Mexico, South America	405-491-6261
Asia/Pacific (Singapore)	65-290-3721
FAX - Asia/Pacific (Singapore)	65-297-2082
Europe, Middle East, Africa	44-3552-35951
FAX - Europe, Middle East, Africa	44-3552-38559
The Netherlands	31-20-6-533539
FAX - Europe The Netherlands	31-20-6-530890

Seagate Technical Support Services

Seagate Technology, Inc.

Technical Support Services:

SeaFONE: Call Seagate for one-on-one technical help. SeaFONE offers technical support on all Seagate products. The enhanced phone system also provides recorded technical information on selected Seagate products while on hold. Users may talk to a technical support person from 8:00 AM to 5:00 PM Pacific Standard Time, Monday through Friday. Recordings are accessible 24 hours/day, 7 days/week.
SeaFONE: 408-438-8222

SeaBOARD: Seagate's Technical Support Bulletin Board System (BBS) provides specifications for all Seagate products, reprints of Seagate documentation and free utility software. This service is available 24 hours/day, 7 days/week. (modem required, 33600 max, 8-N-1)

SeaBOARD:	
USA, Canada, Mexico, South America	408-438-8771
England	44-62-847-8011
France	33-1 40 67 10 34
Germany	49-89-140-9331
Singapore	65-292-6973
Thailand	662-531-8111
Australia	61-2-756-2359
Korea	82-2-556-7294
Internet	ftp.seagate.com
World Wide Web	www.seagate.com

Online technical support for Seagate products is available on **CompuServe**. To access the Seagate technical support forum, type **GO SEAGATE** This forum provides information similar to that found on SeaBOARD.

SeaFAX: Use a touchtone telephone to access Seagate's Automated FAX system and request technical support information by return FAX. The system is available 24 hours/day, 7 days/week. SeaFAX: 408-438-2620 USA, Canada, Mexico, South America
44-628-477080 UK

SeaTDD: Telecommunications Device for the Deaf. Online assistance for the deaf and hearing impaired. TDD device required. Auto Answer 24 hours/day, 7 days/week. Online responses 8:00 AM to 5:00 PM Pacific Standard Time, Monday through Friday.

SeaTDD: 408-438-5382

Seagate Software Companies

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Seagate Technology, Inc.

Seagate Software Companies

Creative Interaction Technologies
2525 Meridian Parkway, Suite 280
Durham, NC 27713

Products: AshWin

Sales: 800-7ASHWIN
919-361-0310 (main)
Fax: 919-405-2296
Support: 800-545-2442

Crystal Computer Services
1095 W. Pender St., 4th floor
Vancouver, BC, Canada V6E 3S7

Products: Crystal Reports, Crystal Info

Sales: 800-877-2340
604-681-3435 (main)
Fax: 604-681-2934
Support: 604-669-8379
BBS: 604-681-9516

Frye Computer Systems
19 Temple Place
Boston, MA 02111

Products: The Frye Utilities for Networks suite of products, including NetWare Management, NetWare Early Warning System, LAN Directory, NetWare Console Comander, Node Tracker, Alert Interface Manager, Software Update and Distribution System (SUDS), Software Metering and Resource Tracking. Also has Statistics Display Rack for NetWare.

Sales: 800-234-3793
617-451-5400 (main)
Fax: 617-451-6711
Support: 617-451-5400
BBS: 617-753-0488

Palindrome
600 E. Diehl Rd.

Naperville, IL 60563

Products: Backup Director, Storage Manager, Visual Storage Administrator

Sales: 800-288-4912
708-505-3300 (main)
Fax: 708-505-7917
Support: 847-882-0067
BBS: 708-505-3336

Seagate Enterprise Management Software

(formerly NetLabs and Network Computing, Inc.)
19925 Stevens Creek Blvd., Building 150
Cupertino, CA 95014

Products: NerveCenter, AssetManager, Assist, LANAlert

Sales: 408-342-4500 (main)
800-525-5645
800-736-3012
Fax: 408-342-4600
Support: 800-961-0501
BBS: 408-342-4747

Conner Peripherals phone listings

CONNER PERIPHERALS
WORLD HEADQUARTERS

Corporate/Disk Products Group
3081 Zanker Road
San Jose, CA 95134
Phone : (408) 456-4500
FAX : (408) 456-4501

Storage Systems Group
450 Technology Park Drive
Lake Mary, FL 32746
Phone : (407) 263-3500
FAX : (407) 263-3627

Tape Products Group
1650 Sunflower Avenue
Costa Mesa, CA 92626
Phone : (714) 641-1230
FAX : (714) 641-2590

Arcada Software
37 Skyline Drive
Lake Mary, FL 32746
Phone : (407) 333-7500
FAX : (407) 333-7770
TS: (407) 333-7600
BBS: (407) 444-9979

SALES OFFICES
United States
Northeast Region
(617) 449-9550
(908) 879-5005

Southeast Region
(404) 806-3900
(813) 538-0825

Central Region
(214) 789-2800
(612) 449-5186
(303) 682-8642
(512) 346-5706

Northwest Region
(408) 456-4500

Southwest Region
(714) 641-4482

(818) 597-8895

Canada
Ontario (905) 272-3216

Europe

Aosta	39/125-800111
London	44/1628-777277
Munich	49/89-996-5570
Paris	33/1-4745-9250

Asia

Hong Kong	852/560-0229
Seoul	82/2-551-0511
Singapore	65/296-1992
Taipei	886/2-718-9193
Tokyo	81/3-3485-8901

Latin America
Miami (305) 789-6685

SERVICES

CONFAX FAX INFORMATION

Disk/Tape Products

West Coast:	(408) 456-4903
East Coast:	(407) 262-4755
United Kingdom:	4/1294-315205

Software Products	1- 800-272-2232
RAID Products	1-800-724-3511

CONNER EXPRESS

Retail disk and tape products, tapes, cleaning kits, software upgrades, spare parts and controller cards. Exceptionally fast and reliable service. 1-800-531-0968

CUSTOMER SERVICE

1-800-537-2248

PRODUCT SUPPORT

Disk/Tape Products

Technical :	1-800-426-6637
Sales :	1-800-626-6637
Software Products	1-800-3ARCADA
RAID Products	1-800-RAID511

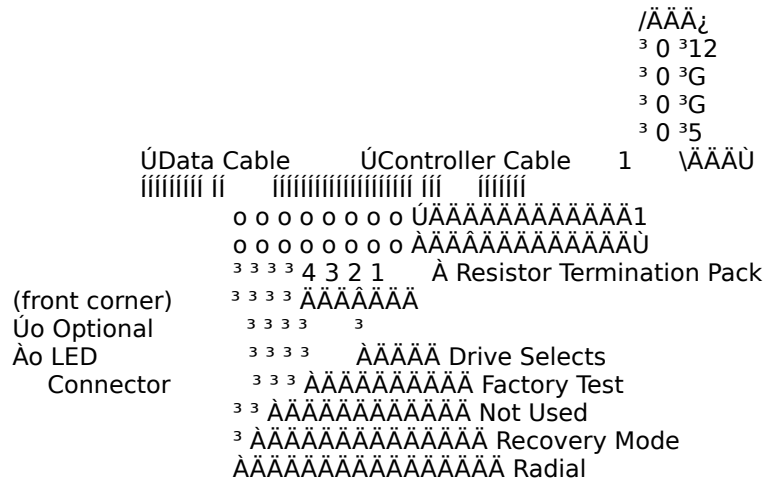
FULL LINE PRODUCT GUIDE

1-800-845-2215

BBS

(408) 456-4415

ST-1106R ST412 RLL



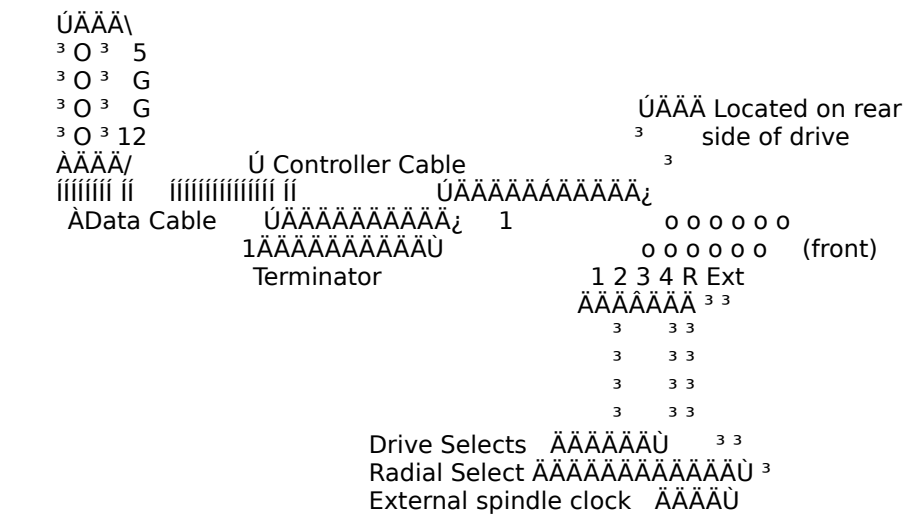
ST-1106R

UNFORMATTED CAPACITY (MB)	106.6
FORMATTED CAPACITY (26 SECTORS) (MB)	91
ACTUATOR TYPE	VOICE COIL
TRACKS	3,908
CYLINDERS	977
HEADS	7
DISCS	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	1,900
BPI (BITS PER INCH)	21,162
AVERAGE ACCESS (ms)	24
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	50,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.45
+5V START-UP (amps)	
+5V TYPICAL (amps)	0.5
TYPICAL (watts)	8
MAXIMUM (watts)	
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A (978)
REDUCED WRITE CURRENT (cyl)	N/A (978)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1150R (94355-150) Swift ST412 RLL



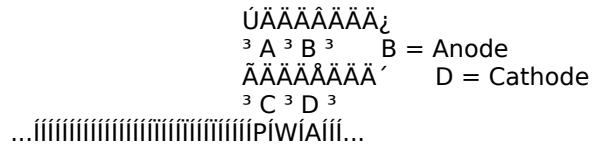
ST-1150R
94355-150 Swift

UNFORMATTED CAPACITY (MB)	150
FORMATTED CAPACITY (26 SECTORS) (MB)	128
ACTUATOR TYPE	VOICE COIL
TRACKS	9,648
CYLINDERS	1,072
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	21,030
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	4
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.5
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	10
MAXIMUM (watts)	12
BUFFERED STEP PULSE RATE (micro sec)	6-200
WRITE PRECOMP (cyl)	300
REDUCED WRITE CURRENT (cyl)	N/A (1073)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Swift Remote LED Option

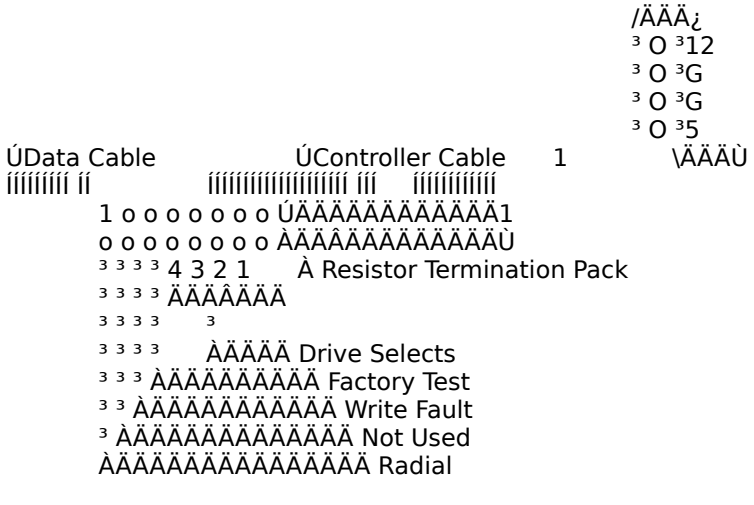
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-138R ST412 RLL



Note: Some configurations have the drive select jumper block oriented perpendicular to the back of the drive. In this configuration, pin-1 (radial select) is closest to the front faceplate of the drive.

ST - 138R

UNFORMATTED CAPACITY (MB)	38.4
FORMATTED CAPACITY (26 SECTORS) (MB)	32.7
ACTUATOR TYPE	STEPPER
TRACKS	2,460
CYLINDERS	615
HEADS	4
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	ST412
SECTORS PER DRIVE	63,960
TPI (TRACKS PER INCH)	824
BPI (BITS PER INCH)	22,430
AVERAGE ACCESS (ms)*	40/28
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	/70
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.35
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	8
MAXIMUM (watts)	28
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	**

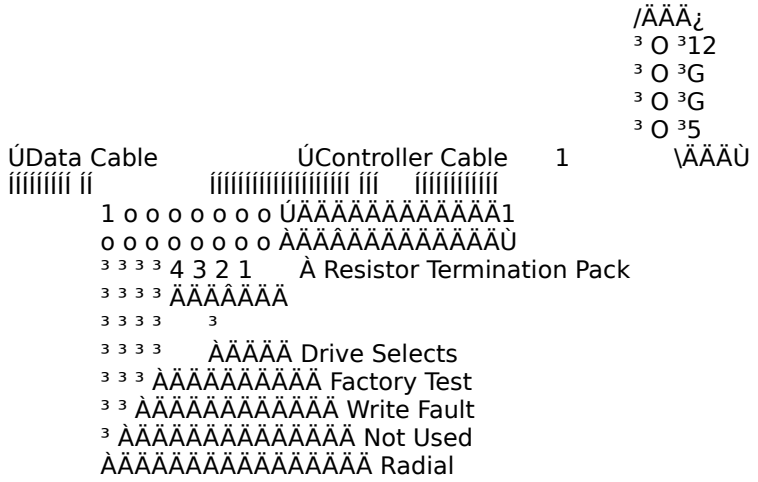
*ST138R-0/ST138R-1

** MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING

AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-157R ST412 RLL



Note: Some configurations have the drive select jumper block oriented perpendicular to the back of the drive. In this configuration, pin-1 (radial select) is closest to the front faceplate of the drive.

ST - 157R

UNFORMATTED CAPACITY (MB)	57.7
FORMATTED CAPACITY (26 SECTORS) (MB)	49.1
ACTUATOR TYPE	STEPPER
TRACKS	3,690
CYLINDERS	615
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	824
BPI (BITS PER INCH)	22,430
AVERAGE ACCESS (ms)*	40/28
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.35
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	8
MAXIMUM (watts)	28
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	**

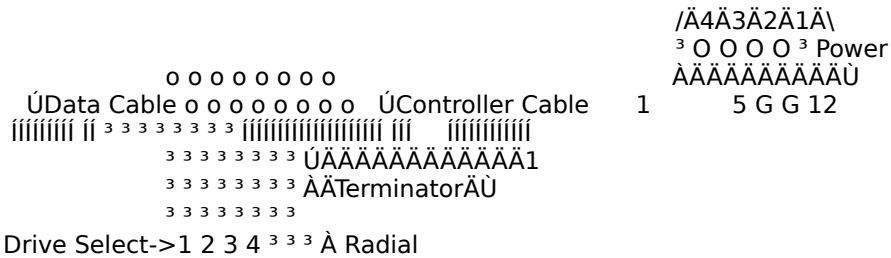
*ST157R-0/ST157R-1

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product

offerings or specifications. (6/26/90)

ST-225R ST412 RLL



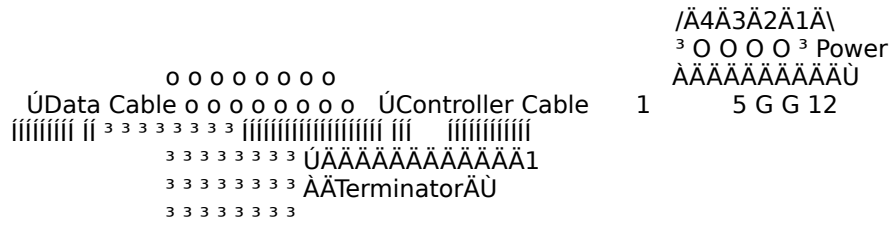
ST - 225R

UNFORMATTED CAPACITY (MB)	25.0
FORMATTED CAPACITY (31 SECTORS) (MB)	21.2
ACTUATOR TYPE	STEPPER
TRACKS	1,334
CYLINDERS	667
HEADS	2
DISCS	1
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,000
INTERFACE	ST412
TPI (TRACKS PER INCH)	588
BPI (BITS PER INCH)	18,897
AVERAGE ACCESS (ms)	70
SINGLE TRACK SEEK (ms)	20
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.4
+12V TYPICAL (amps)	0.9
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	14.8
MAXIMUM (watts)	33
BUFFERED STEP PULSE RATE (micro sec)	5-200
WRITE PRECOMP (cyl)	N/A (668)
REDUCED WRITE CURRENT (cyl)	N/A (668)
LANDING ZONE (cyl)	670
IBM AT DRIVE TYPE	*

*MUST BE USED WITH THE ST11R CONTROLLER OR
16-BIT CONTROLLER

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

ST-238R (or ST-238) ST412 RLL



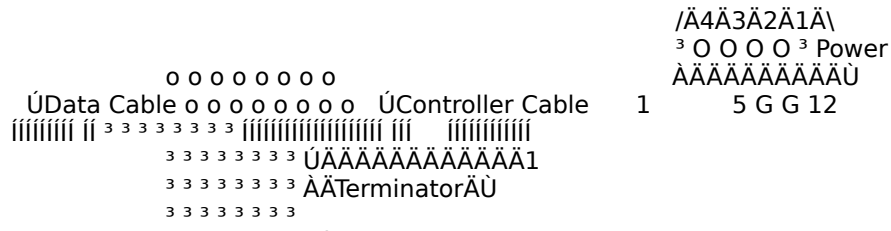
ST - 238R

UNFORMATTED CAPACITY (MB)	38.4
FORMATTED CAPACITY (26 SECTORS) (MB)	32.7
ACTUATOR TYPE	STEPPER
TRACKS	2,460
CYLINDERS	615
HEADS	4
DISCS	2
MEDIA TYPE	OXIDE
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	ST412
SECTORS PER DRIVE	63,960
TPI (TRACKS PER INCH)	588
BPI (BITS PER INCH)	14,740
AVERAGE ACCESS (ms)	65
SINGLE TRACK SEEK (ms)	20
MAX FULL SEEK (ms)	150
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.4
+12V TYPICAL (amps)	0.9
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	14.8
MAXIMUM (watts)	33
BUFFERED STEP PULSE RATE (micro sec)	5-200
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	670
IBM AT DRIVE TYPE	*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-250R ST412 RLL

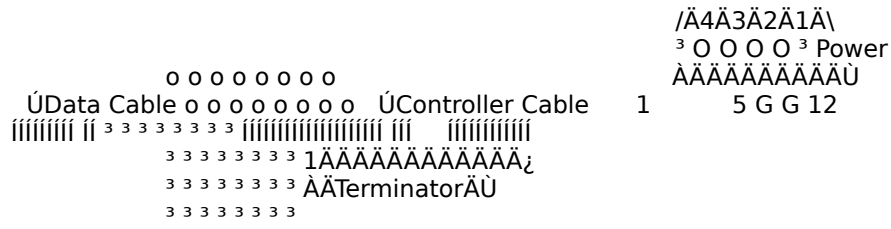


ST - 250R

UNFORMATTED CAPACITY (MB)	50.0
FORMATTED CAPACITY (31 SECTORS) (MB)	42.3
ACTUATOR TYPE	STEPPER
TRACKS	2,668
CYLINDERS	667
HEADS	4
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,000
INTERFACE	ST412
TPI (TRACKS PER INCH)	588
BPI (BITS PER INCH)	18,897
AVERAGE ACCESS (ms)	70
SINGLE TRACK SEEK (ms)	20
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.4
+12V TYPICAL (amps)	0.9
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	14.8
MAXIMUM (watts)	33
BUFFERED STEP PULSE RATE (micro sec)	5-200
WRITE PRECOMP (cyl)	N/A (668)
REDUCED WRITE CURRENT (cyl)	N/A (668)
LANDING ZONE (cyl)	670
IBM AT DRIVE TYPE	N/A*

*MUST BE USED WITH THE ST11R CONTROLLER OR 16-BIT CONTROLLER; MAY REQUIRE PARTITIONING SOFTWARE

ST-277R ST412 RLL



ST - 277R

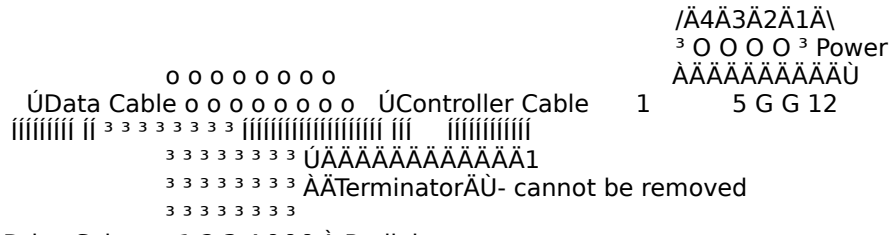
UNFORMATTED CAPACITY (MB)	76.9
FORMATTED CAPACITY (26 SECTORS) (MB)	65.5
ACTUATOR TYPE	STEPPER
TRACKS	4,920
CYLINDERS	820
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	ST412
SECTORS PER DRIVE	127,920
TPI (TRACKS PER INCH)	777
BPI (BITS PER INCH)	14,902
AVERAGE ACCESS (ms)*	40/28
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	/70
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0/2.5*
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	1.0/1.2*
TYPICAL (watts)	11/12*
MAXIMUM (watts)	29/36*
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (821)
REDUCED WRITE CURRENT (cyl)	N/A (821)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	**

*ST277R-0/ST277R-1

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

ST-278R ST412 RLL

(same as ST-277R with Terminator that cannot be removed, therefore drive must be installed at the end of the daisychain cable.)



ST - 278R

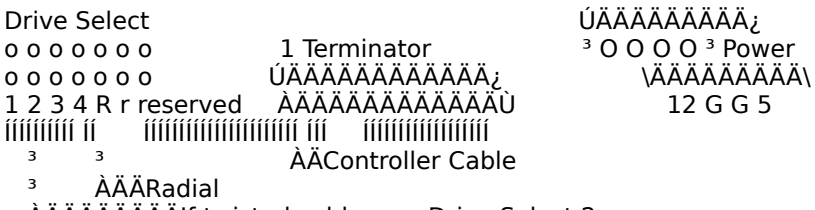
UNFORMATTED CAPACITY (MB)	76.9
FORMATTED CAPACITY (26 SECTORS) (MB)	65.5
ACTUATOR TYPE	STEPPER
TRACKS	4,920
CYLINDERS	820
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	777
BPI (BITS PER INCH)	14,902
AVERAGE ACCESS (ms)*	40/28
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0/2.5*
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	1.0/1.2*
TYPICAL (watts)	11/12*
MAXIMUM (watts)	29/36*
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (821)
REDUCED WRITE CURRENT (cyl)	N/A (821)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	**

*ST277R-0/ST277R-1

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-279R (94205-77) Wren 2 HH ST412 RLL

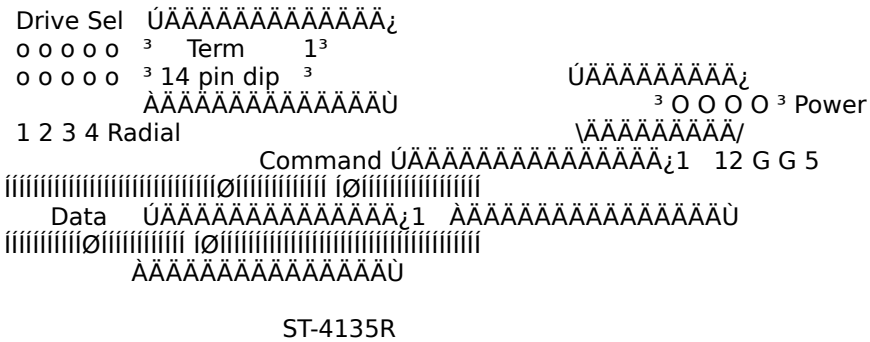


ST-279R
94205-77 WREN 2 HH

UNFORMATTED CAPACITY (MB)	77
FORMATTED CAPACITY (26 SECTORS) (MB)	65
ACTUATOR TYPE	VOICE COIL
TRACKS	4,945
CYLINDERS	989
HEADS	5
DISCS	3
MEDIA TYPE	OXIDE
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	960
BPI (BITS PER INCH)	14,302
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	5
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.5
+5V START-UP (amps)	1.0
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	20
MAXIMUM (watts)	??
BUFFERED STEP PULSE RATE (micro sec)	8-200
WRITE PRECOMP (cyl)	128
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

ST-4135R (94155-135) Wren 2 ST412 RLL



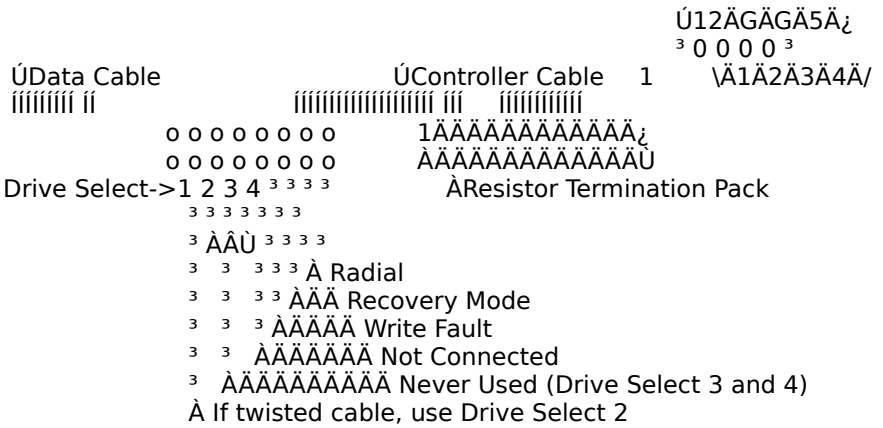
ST-4135R
94155-135 WREN 2 FH

UNFORMATTED CAPACITY (MB)	135
FORMATTED CAPACITY (26 SECTORS) (MB)	115
ACTUATOR TYPE	VOICE COIL
TRACKS	8,640
CYLINDERS	960
HEADS	9
DISCS	5
MEDIA TYPE	OXIDE
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	ST412
TPI (TRACKS PER INCH)	980
BPI (BITS PER INCH)	13,670
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	5
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	2.0
+5V START-UP (amps)	1.3
+5V TYPICAL (amps)	0.75
TYPICAL (watts)	28
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	8-200
WRITE PRECOMP (cyl)	128
REDUCED WRITE CURRENT (cyl)	N/A (961)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4144R ST412 RLL



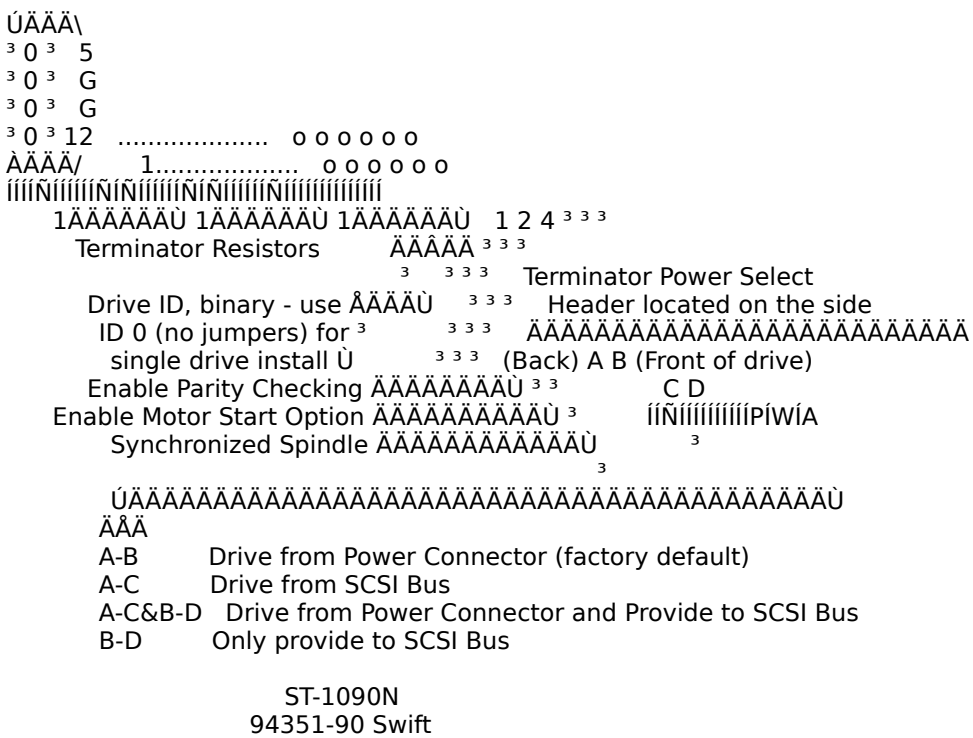
ST - 4144R

UNFORMATTED CAPACITY (MB)	144.0
FORMATTED CAPACITY (26 SECTORS) (MB)	122.7
ACTUATOR TYPE	VOICE COIL
TRACKS	9,216
CYLINDERS	1,024
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	ST412
SECTORS PER DRIVE	239,616
TPI (TRACKS PER INCH)	1,031
BPI (BITS PER INCH)	14,688
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	6
MAX FULL SEEK (ms)	55
MTBF (power-on hours)	40,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.0
+12V TYPICAL (amps)	1.3
+5V TYPICAL (amps)	1.3
TYPICAL (watts)	23
MAXIMUM (watts)	55
BUFFERED STEP PULSE RATE (micro sec)	3-70
WRITE PRECOMP (cyl)	N/A (1025)
REDUCED WRITE CURRENT (cyl)	N/A (1025)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	*

* MAY REQUIRE A CONTROLLER WITH BIOS SUPPORT, OR FORMATTING AND PARTITIONING SOFTWARE. ALSO, CHECK TO SEE IF YOUR CMOS SETUP HAS A "CUSTOM" OR "USER DEFINABLE" DRIVE TYPE AVAILABLE.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1090N (94351-090) Swift SCSI



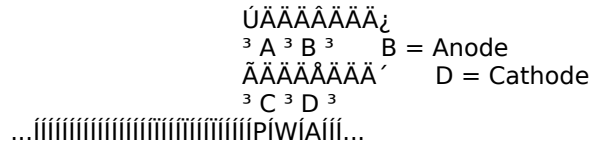
ST-1090N
94351-90 Swift

UNFORMATTED CAPACITY (MB)	90
FORMATTED CAPACITY (29 SECTORS) (MB)	79
ACTUATOR TYPE	VOICE COIL
TRACKS	7,476
CYLINDERS	1,068
HEADS	5
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbytes/sec)	1
SPINDLE SPEED (RPM)	3,600
BUFFER	32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	22,840
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	4
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.5
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	11
MAXIMUM (watts)	33.75
BUFFERED STEP PULSE RATE (micro sec)	6-200
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.

Swift Remote LED Option

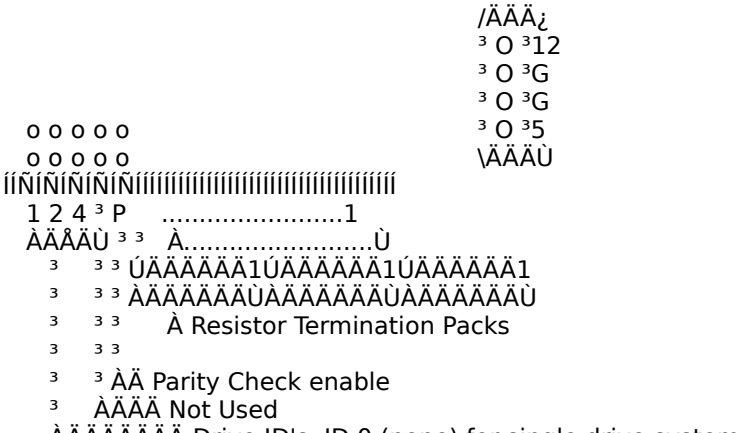
Front View of Drive Without the Plastic Bezel



- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1096N SCSI

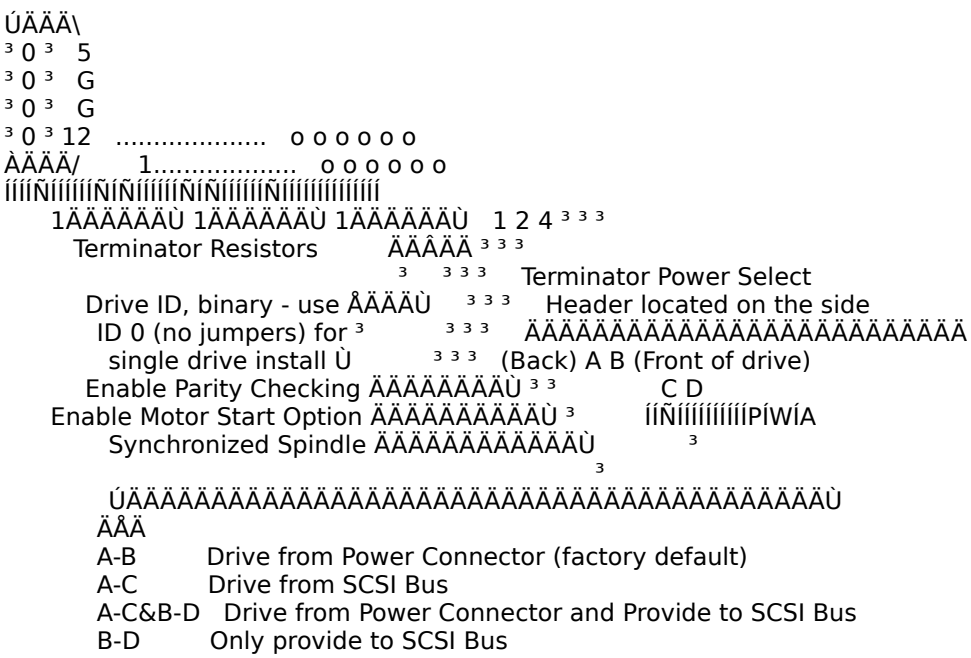


ST - 1096N

UNFORMATTED CAPACITY (MB)	N/A
FORMATTED CAPACITY (26 SECTORS) (MB)	83.9
ACTUATOR TYPE	VOICE COIL
TRACKS	6,342
CYLINDERS	906
HEADS	7
DISCS	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
BUFFER	2 Kbyte SeaCache
INTERFACE	SCSI
SECTORS PER DRIVE	163,986
TPI (TRACKS PER INCH)	1,300
BPI (BITS PER INCH)	19,893
AVERAGE ACCESS (ms)	20
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	44
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	0.6
TYPICAL (watts)	9
MAXIMUM (watts)	33.75
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (907)
REDUCED WRITE CURRENT (cyl)	N/A (907)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1111N (94351-111) Swift SCSI



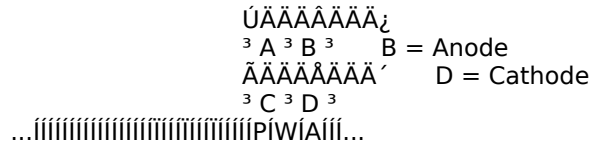
ST-1111N
94351-111 Swift

UNFORMATTED CAPACITY (MB)	111
FORMATTED CAPACITY (36 SECTORS) (MB)	98
ACTUATOR TYPE	VOICE COIL
TRACKS	5,340
CYLINDERS	1,068
HEADS	5
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
BUFFER	32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	28,282
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	4
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.5
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	11
MAXIMUM (watts)	33.75
BUFFERED STEP PULSE RATE (micro sec)	6-200
WRITE PRECOMP (cyl)	N/A (1069)
REDUCED WRITE CURRENT (cyl)	N/A (1069)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.

Swift Remote LED Option

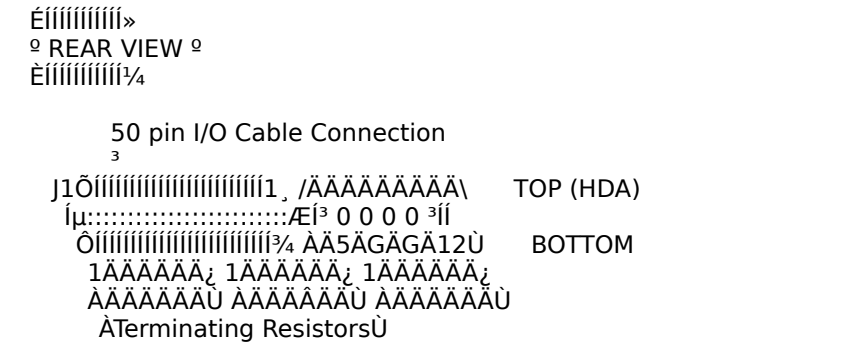
Front View of Drive Without the Plastic Bezel

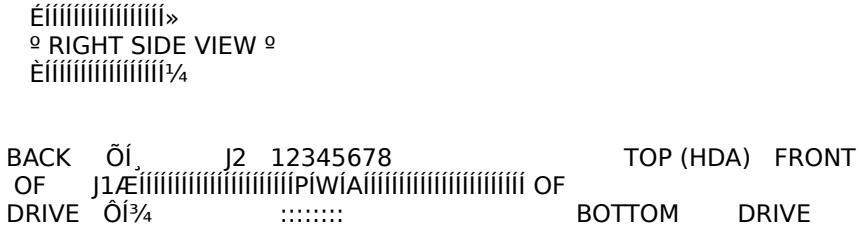


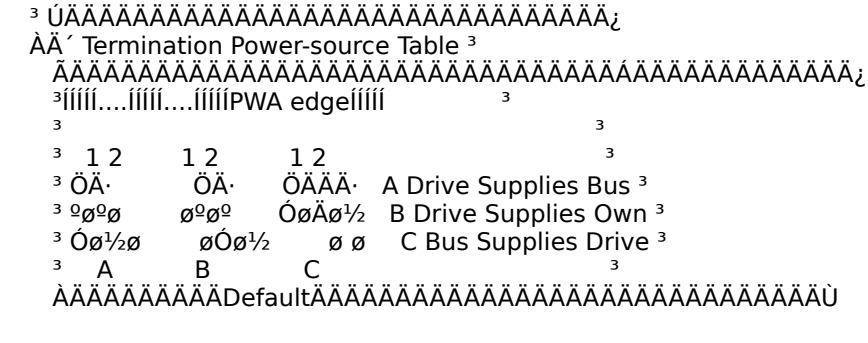
- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

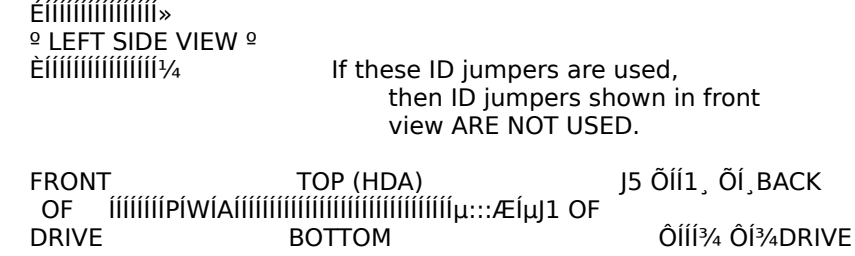
Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-11200N SCSI-2 Fast (Hawk 1)









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ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º
ÈÍÍÍÍÍÍÍÍÍÍÍͼ


                        TOP (HDA)     J6   ÕÍÍÍÍÍ1¸
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ͵::::::ÆÍ
                   *      BOTTOM              ÔÍÍÍÍÍÍ¾
                   ³                        123456
          LED ÄÙ                              ³³³³³³
                                        ID 4 Ù³³³³À Reserved
                                        ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                                        ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                                    (pin-6 REF SIG+)
    If these ID jumper are used, then
       ID jumpers shown in left side
       view ARE NOT USED.
```

ST - 11200N
Hawk 1

UNFORMATTED CAPACITY (MB) ________________1,248
FORMATTED CAPACITY (xx SECTORS) (MB) _____1,054
AVERAGE SECTORS PER TRACK ________________73
ACTUATOR TYPE ____________________________VOICE COIL
TRACKS ___________________________________28,080
CYLINDERS ________________________________1,872 (user)
HEADS ____________________________________15
DISCS (3.5 in) ___________________________8
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _______23.2 to 40.6
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________5,411
AVERAGE LATENCY (mSEC) ___________________5.4
BUFFER ___________________________________256 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 Fast
BYTES PER TRACK __________________________41,660 avg.
SECTORS PER DRIVE ________________________2,059,139
TPI (TRACKS PER INCH) ____________________2,150
AVERAGE ACCESS (ms) (read/write)__________10.5/11.2
Drive level without controller overhead
SINGLE TRACK SEEK (ms) ___________________1.5/2.0
MAX FULL SEEK (ms) _______________________20.0/21.0
MTBF (power-on hours) ____________________200,000
SHOCK (G's):
operating (Read/Write) __________10
nonoperating ____________________60
ACOUSTICS (typ/max dBA) __________________/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.5
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) ______11
IDLE (watts) _________9
LANDING ZONE (cyl)________________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

Formatted at the factory with 12 spare sectors per cylinder
and two spare cylinders at inner tracks per unit.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-11201N SCSI-2 Fast Wide

ST - 11201N

UNFORMATTED CAPACITY (MB)	1,248
FORMATTED CAPACITY (xx SECTORS) (MB)	1,054
AVERAGE SECTORS PER TRACK	73
ACTUATOR TYPE	VOICE COIL
TRACKS	28,080
CYLINDERS	1,872 (user)
HEADS	15
DISCS (3.5 in)	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	22 to 40
EXTERNAL TRANSFER RATE (mbyte/sec)	4 Async
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	5,411
AVERAGE LATENCY (mSEC)	5.4
BUFFER	240 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented Cache	
INTERFACE	SCSI-2 Fast Wide
BYTES PER TRACK	41,660 avg.
SECTORS PER DRIVE	2,059,139
TPI (TRACKS PER INCH)	2,150
AVERAGE ACCESS (ms) (read/write)	10.5/12.0 *
SINGLE TRACK SEEK (ms)	2.6 *
MAX FULL SEEK (ms)	26.6 *
MTBF (power-on hours)	200,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	11
IDLE (watts)	9
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

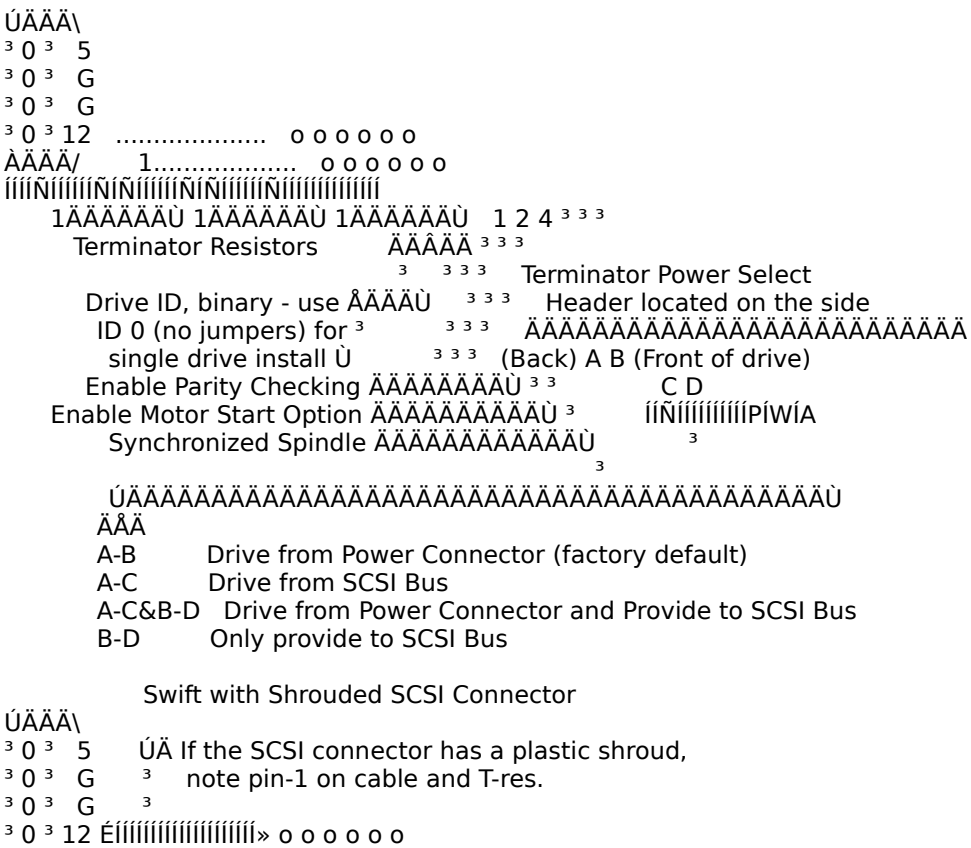
* Including on-board controller overhead (0.6ms less without overhead).

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

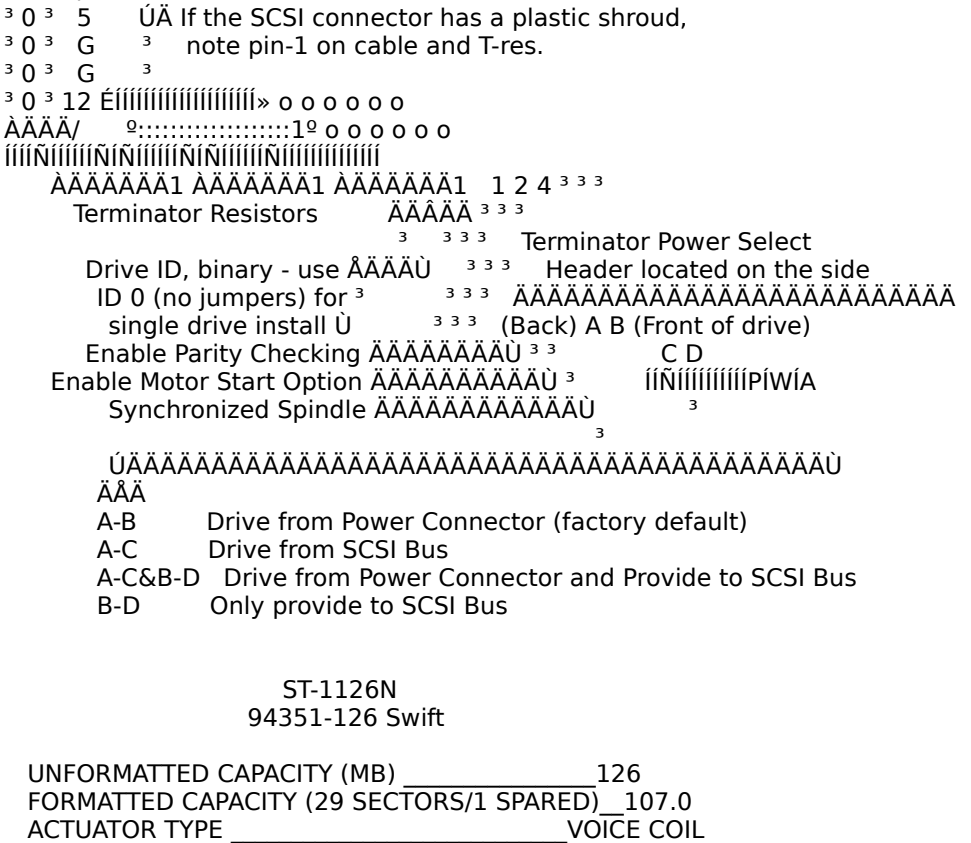
Formatted at the factory with 12 spare sectors per cylinder and two spare cylinders at inner tracks per unit.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/22/92)

ST-1126N (94351-126) Swift SCSI



Swift with Shrouded SCSI Connector



ST-1126N
94351-126 Swift

UNFORMATTED CAPACITY (MB)	126
FORMATTED CAPACITY (29 SECTORS/1 SPARED)	107.0
ACTUATOR TYPE	VOICE COIL
TRACKS	7,476
CYLINDERS	1,068
HEADS	7

DISCS _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____1
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____SCSI
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____22,840
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____34
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A (1069)
REDUCED WRITE CURRENT (cyl) _____N/A (1069)
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory.

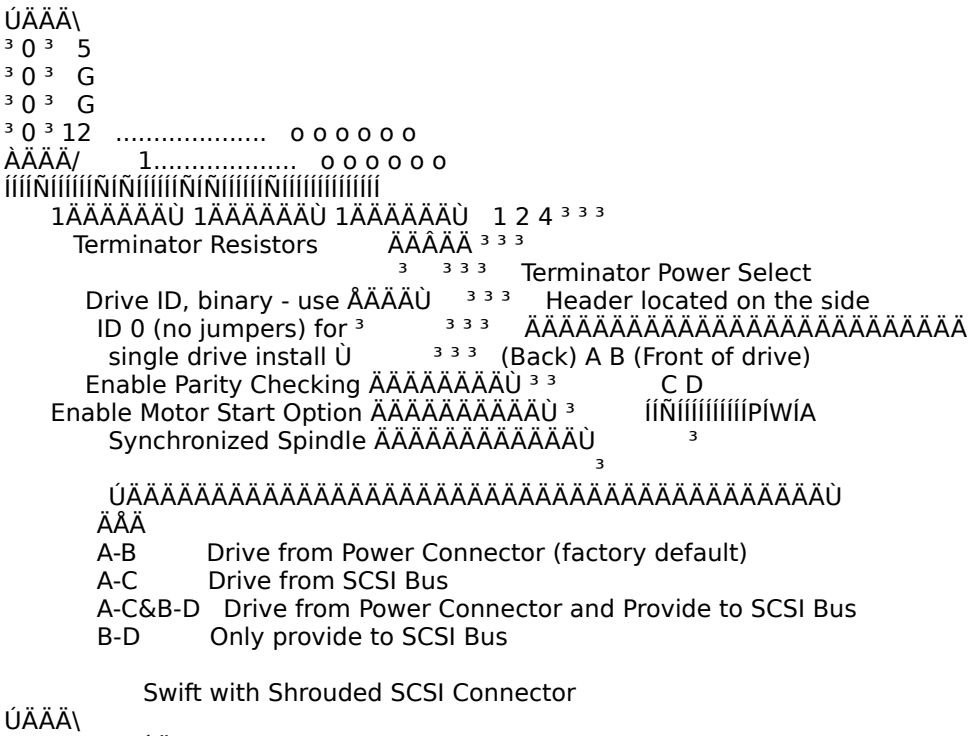
Swift Remote LED Option

Front View of Drive Without the Plastic Bezel

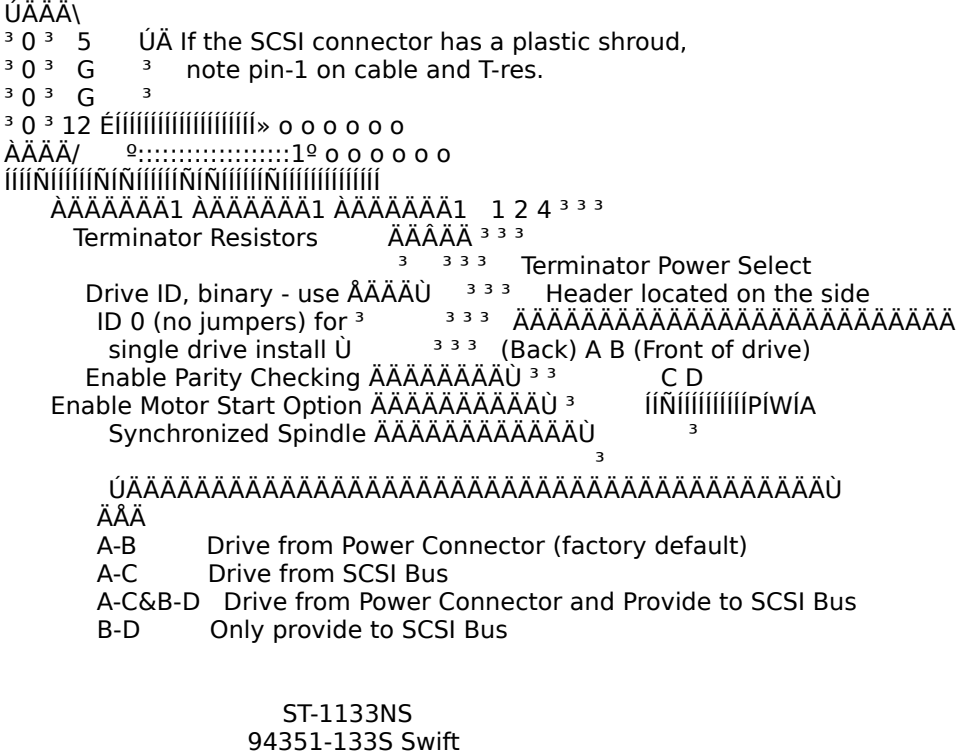
- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1133NS (94351-133S) Swift SCSI



Swift with Shrouded SCSI Connector



ST-1133NS
94351-133S Swift

UNFORMATTED CAPACITY (MB)	133
FORMATTED CAPACITY (36 SECTORS/1 SPARED)	113.4
ACTUATOR TYPE	VOICE COIL
TRACKS	6,340
CYLINDERS	1,268
HEADS	5

DISCS ____3
MEDIA TYPE __________________________________THIN FILM
RECORDING METHOD ___________________________RLL
TRANSFER RATE (mbytes/sec) ________________1.25
SPINDLE SPEED (RPM) ________________________3,600
BUFFER ______________________________________32 or 64 Kbyte
  Read Look-Ahead, Non-Adaptive,
  Single-Segmented
INTERFACE ___________________________________SCSI
TPI (TRACKS PER INCH) ______________________1,543
BPI (BITS PER INCH) ________________________30,000 max
AVERAGE ACCESS (ms) ________________________15
SINGLE TRACK SEEK (ms) _____________________4
MTBF (power-on hours) ______________________150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) ______11
MAXIMUM (watts) ______34
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) ________________________N/A (1269)
REDUCED WRITE CURRENT (cyl) ______________N/A (1269)
LANDING ZONE (cyl) _________________________AUTO PARK
IBM AT DRIVE TYPE __________________________0 or NONE

Already low-level formatted at the factory.

Swift Remote LED Option

Front View of Drive Without the Plastic Bezel

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                    ÚÄÄÄÂÄÄÄ¿
                    ³ A ³ B ³      B = Anode
                    ÃÄÄÄÅÄÄÄ´      D = Cathode
                    ³ C ³ D ³
...ÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÏÍÍÍÏÍÍÍÍÍÍÍPÍWÍAÍÍÍ...
```
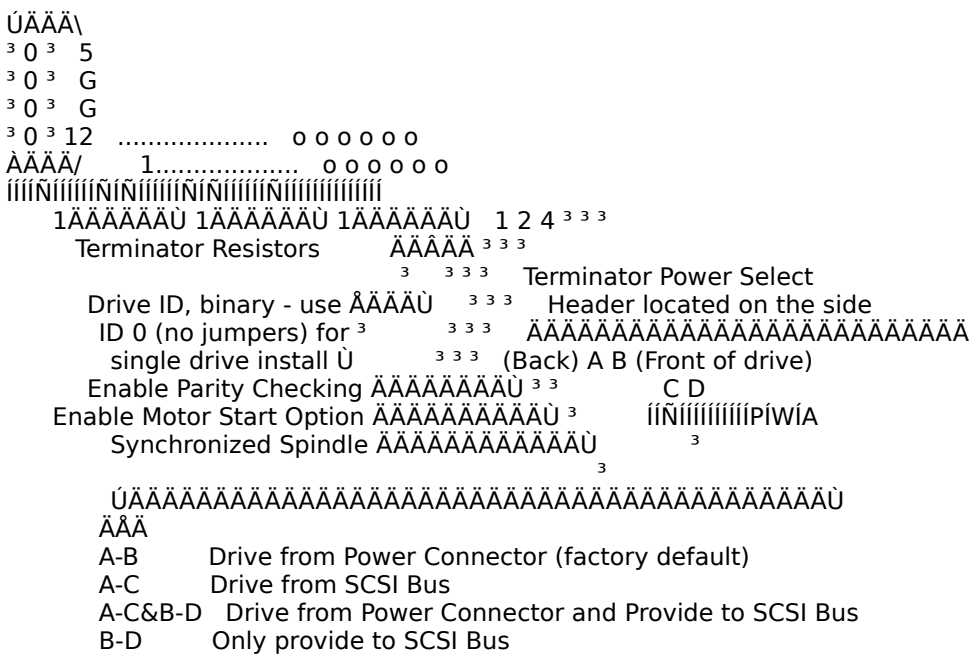

ø Default jumper at C-D for LED mounted on drive PWA
ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
ø Swift LED kit 75912397 allows connection to a remote LED
ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1156N (94351-155) Swift SCSI



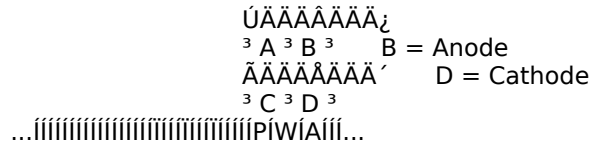
ST-1156N
94351-155 Swift

UNFORMATTED CAPACITY (MB)	156
FORMATTED CAPACITY (36 SECTORS) (MB)	138
ACTUATOR TYPE	VOICE COIL
TRACKS	7,476
CYLINDERS	1,068
HEADS	7
DISCS	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
BUFFER	32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1,350
BPI (BITS PER INCH)	28,282
AVERAGE ACCESS (ms)	15
SINGLE TRACK SEEK (ms)	4
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.5
+12V TYPICAL (amps)	0.7
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.4
TYPICAL (watts)	11
MAXIMUM (watts)	34
BUFFERED STEP PULSE RATE (micro sec)	6-200
WRITE PRECOMP (cyl)	N/A (1069)
REDUCED WRITE CURRENT (cyl)	N/A (1069)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.

Swift Remote LED Option

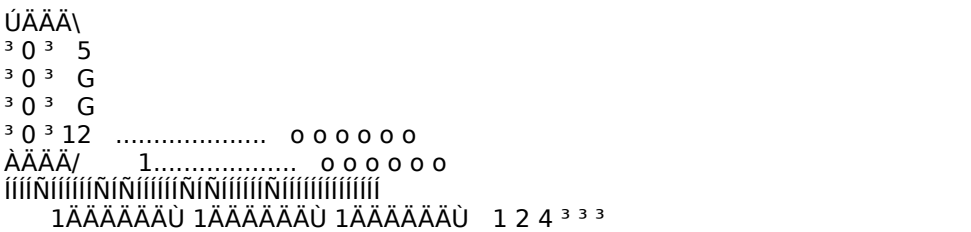
Front View of Drive Without the Plastic Bezel



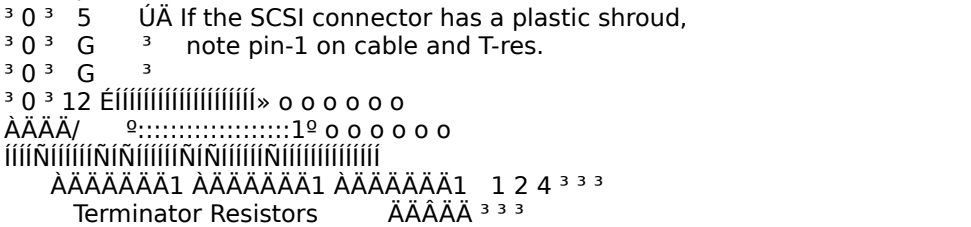
- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1162N (94351-160) Swift SCSI



Swift with Shrouded SCSI Connector



ST-1162N
94351-160 Swift

UNFORMATTED CAPACITY (MB)	162
FORMATTED CAPACITY (29 SECTORS/1 SPARED)	137.5
ACTUATOR TYPE	VOICE COIL
TRACKS	9,612
CYLINDERS	1,068
HEADS	9

DISCS _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL
TRANSFER RATE (mbytes/sec) _____1
SPINDLE SPEED (RPM) _____3,600
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____SCSI
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____22,840
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MTBF (power-on hours) _____70,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____34
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A (1069)
REDUCED WRITE CURRENT (cyl) _____N/A (1069)
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory.

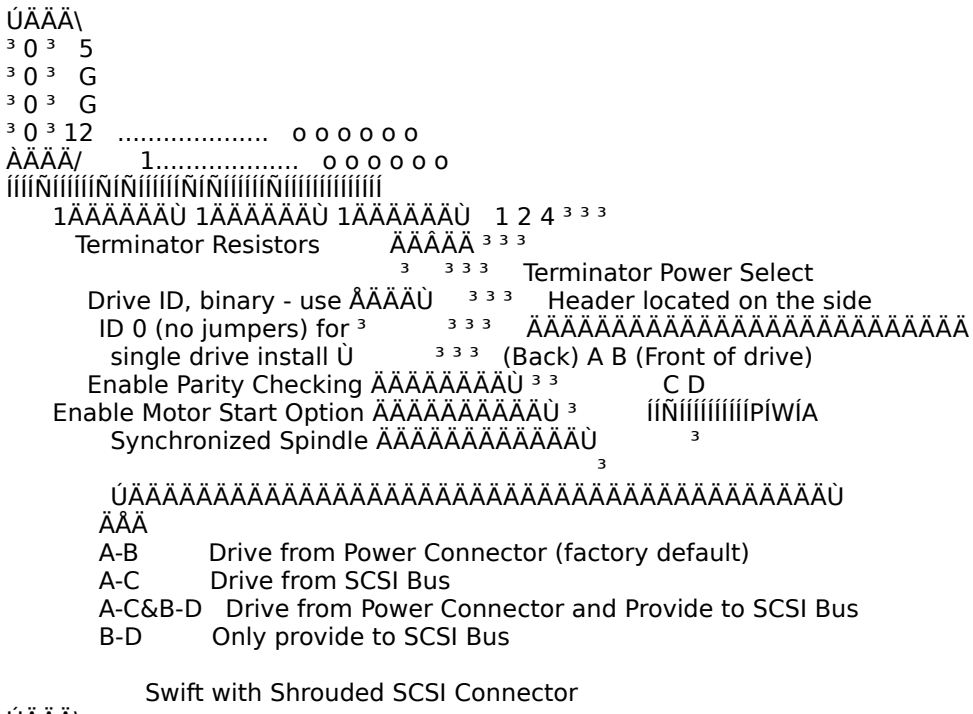
Swift Remote LED Option

Front View of Drive Without the Plastic Bezel

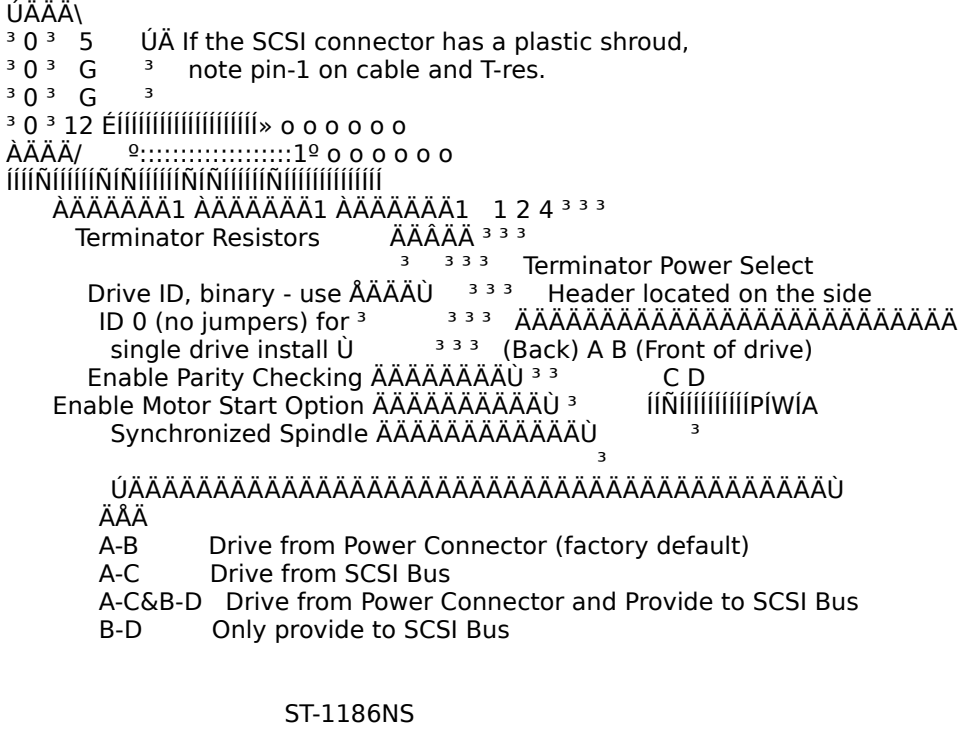
- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1186NS (94351-186S) Swift SCSI



Swift with Shrouded SCSI Connector



ST-1186NS
94351-186S Swift

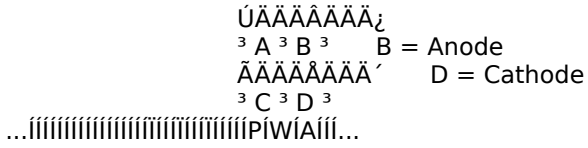
UNFORMATTED CAPACITY (MB)	186
FORMATTED CAPACITY (36 SECTORS/1 SPARED)	158.8
ACTUATOR TYPE	VOICE COIL
TRACKS	8,876
CYLINDERS	1,268
HEADS	7

DISCS _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.25
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____SCSI
SECTORS PER DRIVE _____310,170
TPI (TRACKS PER INCH) _____1,543
BPI (BITS PER INCH) _____30,000 max
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____34
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A (1269)
REDUCED WRITE CURRENT (cyl) _____N/A (1269)
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory.

Swift Remote LED Option

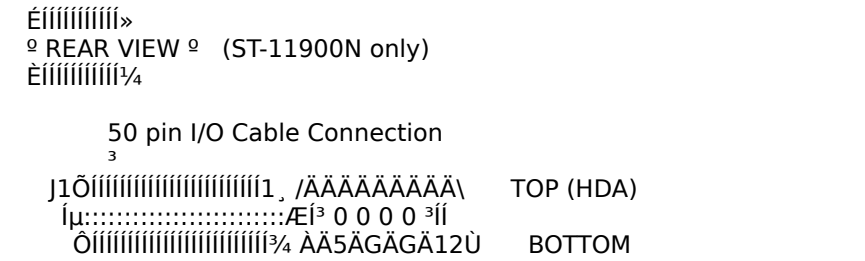
Front View of Drive Without the Plastic Bezel

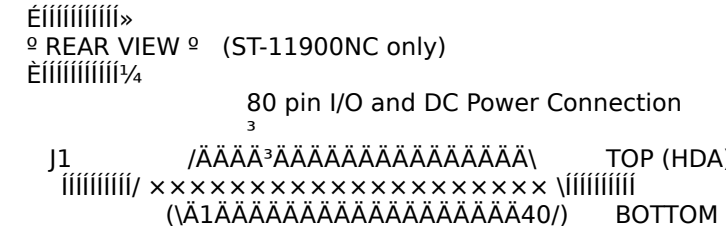


- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-11900N SCSI-2 Fast (Hawk 2)

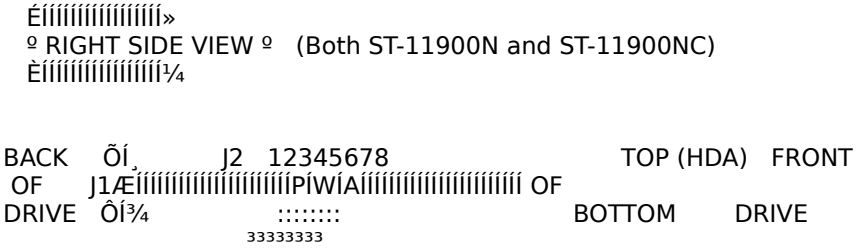




Notes on 80 pin I/O connector:

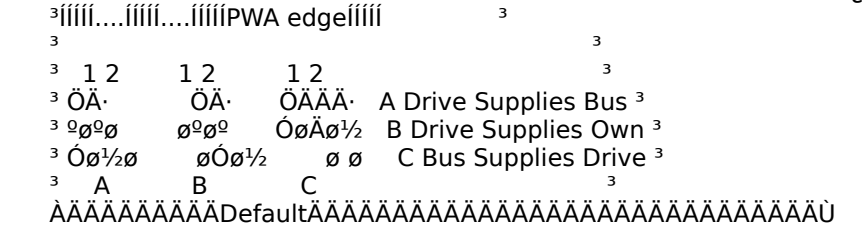
pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle



Terminator Power Reserved
Terminator Power Start Delay (12 secs * ID)
Enable T-Res Motor Start
Parity Enable Write Protect

Termination Power-source Table



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ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º LEFT SIDE VIEW º   (ST-11900N only)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼                    If these ID jumpers are used,
                                         then ID jumpers shown in front
                                         view ARE NOT USED.

FRONT                         TOP (HDA)                        J5 ÕÍÍ1¸ ÕÍ¸BACK
 OF     ÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::ÆÍµJ1 OF
DRIVE                        BOTTOM                                ÔÍÍÍ¾ ÔÍ¾DRIVE
                                                              ³³³
                                                         ID 1 ÄÙ³ÀÄ ID 4
                                                                ID 2


ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-11900N and ST-11900NC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                             TOP (HDA)     J6   ÕÍÍÍÍÍ1¸
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
                    *       BOTTOM               ÔÍÍÍÍÍÍ¾
                    ³                          123456
          LED ÄÙ                                ³³³³³³
                                        ID 4 Ù³³³³À Reserved
                                        ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                                        ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                                    (pin-6 REF SIG+, default
     If these ID jumper are used, then                 jumper installed)
        ID jumpers shown in left side view J5
        or 80 pin I/O cable ARE NOT USED.
```

ST-11900N
Hawk 2

UNFORMATTED CAPACITY (MB) ________________2003
FORMATTED CAPACITY (xx SECTORS) (MB) _____1700
AVERAGE SECTORS PER TRACK ________________83 rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________39,315
CYLINDERS ________________________________2,621 user
HEADS ______PHYSICAL______________________15
DISCS (3.5 in) ___________________________8
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________26.8 to 45.6
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________5,411
AVERAGE LATENCY (mSEC) ___________________5.54
BUFFER ___________________________________256/1024 KByte
  Read Look-Ahead, Adaptive,
  Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST
                                          ASA
SECTORS PER DRIVE ________________________
TPI (TRACKS PER INCH) ____________________3000
AVERAGE ACCESS (ms) (read/write)__________9.0/10.5
  Drive level without controller overhead

SINGLE TRACK SEEK (ms) _____1
MAX FULL SEEK (ms) _____19
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____60
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.54
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.43
TYPICAL (watts) _____9
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

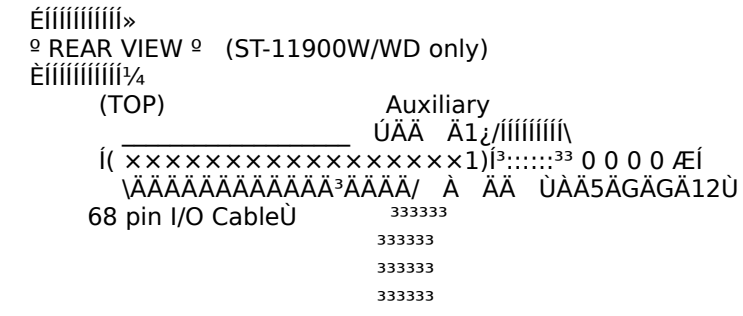
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	2.5/0.99

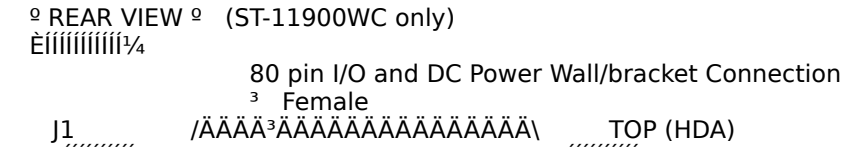
Already low-level formatted at the factory with six spare sectors per cylinder and two spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-11900W SCSI-2 Fast (Hawk 2)

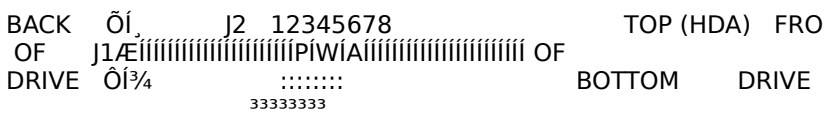




Notes on 80 pin I/O connector:

pins	1 - 4 = +12v	41 - 44 = 12v GND
	34 - 36 = +5v	74 - 76 = 5v GND
	37 = SYNC	77 = LEDC
	38 = MTRON	78 = DLYDST
	39 = SCSIA0	79 = SCSIA1
	40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



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ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ           ³
³                                                 ³
³   1 2      1 2       1 2                        ³
³ ÖÄ·         ÖÄ·      ÖÄÄÄ·   A Drive Supplies Bus ³
³ ºøºø       øºøº      ÓøÄø½   B Drive Supplies Own ³
³ Óø½ø       øÓø½       ø ø    C Bus Supplies Drive ³
³    A          B           C                     ³
ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
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Note: The model ST-11900WC drive cannot furnish terminator power, because no pins on the 80 pin I/O connector are devoted to terminator power.

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ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-11900W and ST-11900WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼


                      TOP (HDA)     J6   ÕÍÍÍÍÍ1¸
  ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
               *      BOTTOM              ÔÍÍÍÍÍ¾
               ³                        ³³³³³³
        LED ÄÙ                            ³³³³³³
                                        ³³³³³³
                                        ³³³³³³
          Auxiliary option header ³³³³³³
             pin-11 +5v   ÄÄÄÄÄÄÄÄÄÄÙ³³³³³
             pin-10 GND   ÄÄÄÄÄÄÄÄÄÄÄÙ³³³³
             SCSI ID = 8 ÄÄÄÄÄÄÄÄÂÄÄÄÙ³³³
               or pin-8 BUSY ÄÄÄÄÙ      ³³³
             SCSI ID = 4 ÄÄÄÄÄÄÄÄÂÄÄÄÄÙ³³
               or pin-6 REFIND+ ÄÙ        ³³
             SCSI ID = 2 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ³
             SCSI ID = 1 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
             SCSI ID = 0 (none)
```

If these ID jumper are used, then
ID jumpers shown in left side view J5
or 80 pin I/O cable ARE NOT USED.

ST-11900W
Hawk 2

UNFORMATTED CAPACITY (MB) ________________2003
FORMATTED CAPACITY (xx SECTORS) (MB) _____1700
AVERAGE SECTORS PER TRACK ________________83 rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________39,315
CYLINDERS ________________________________2,621 user
HEADS ______PHYSICAL______________________15
DISCS (3.5 in) ___________________________8
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________26.8 to 45.6
EXTERNAL TRANSFER RATE (mbyte/sec) _______20 Sync
SPINDLE SPEED (RPM) ______________________5,411
AVERAGE LATENCY (mSEC) ___________________5.54
BUFFER ___________________________________256/1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache

INTERFACE _____SCSI-2 FAST WIDE
ASA
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____3000
AVERAGE ACCESS (ms) (read/write)_____9.0/10.5
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____1
MAX FULL SEEK (ms) _____19
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____60
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.54
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.43
TYPICAL (watts) _____9
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

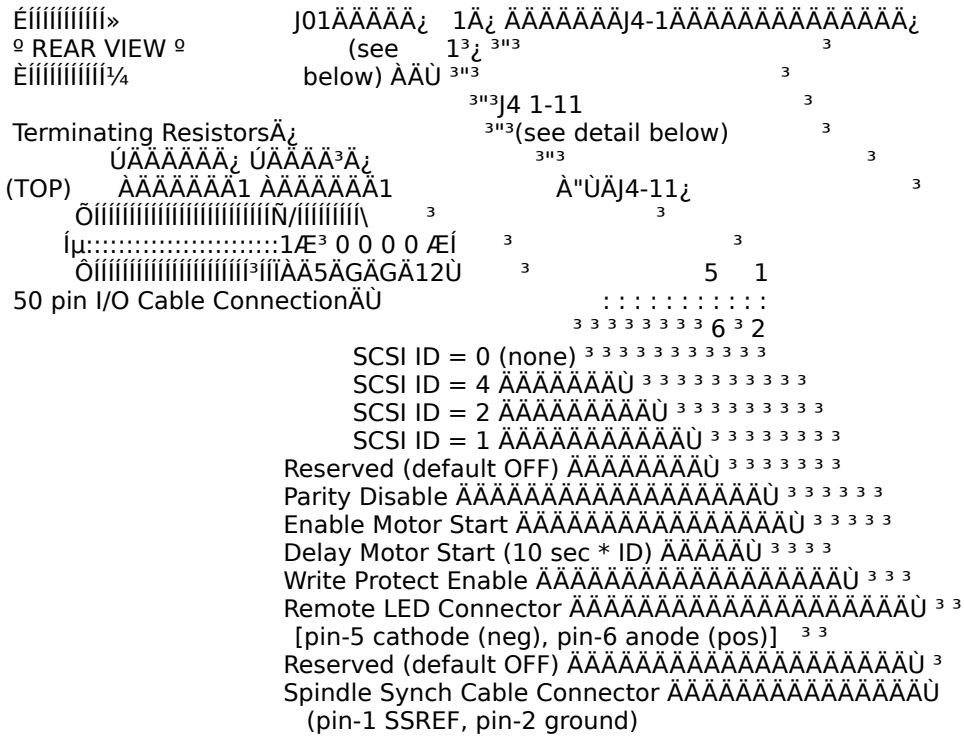
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	2.5/0.99

Already low-level formatted at the factory with six spare sectors per cylinder and two spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-11950N SCSI-2 Fast (Barracuda 1)



J01 - Terminator Power Jumpers

Terminator power from the drive. (default)	Ö1Ä2· * ÓøÄø½ ø ø
Terminator power from pin 26 on the SCSI bus.	ÖÄ· * øºøº øÓø½
Terminator to the SCSI bus on pin 26.	ÖÄ· ºøºø Óø½ø
Terminator power to the SCSI bus and drive.	ÖÄÒÄ·* ºøºøº Óø½øÐ

* Valid for single-ended drives only.

Note: ST-11950ND (differential model) does not come with any provision to use Termination resistors. Therefore, SCSI bus needs to be externally terminated.

ST-11950N

UNFORMATTED CAPACITY (MB)	2030
FORMATTED CAPACITY (xx SECTORS) (MB)	1690
AVERAGE SECTORS PER TRACK	81 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	40,665

CYLINDERS _____2,706 user
HEADS _____PHYSICAL_____15
DISCS (3.5 in) _____8
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____34.3 to 56.5
EXTERNAL TRANSFER RATE (mbyte/sec) _____5 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
BYTES PER TRACK _____49,768 average
SECTORS PER DRIVE _____3,291,790
TPI (TRACKS PER INCH) _____3,047
BPI (BITS PER INCH) _____52,187
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____500,000
POWER DISSIPATION (watts/BTUs) Active ____16/55
Idle _____15/51
POWER REQUIREMENTS: +12V START-UP (amps) _2.18
+12V TYPICAL (amps) __0.83 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____12.5
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

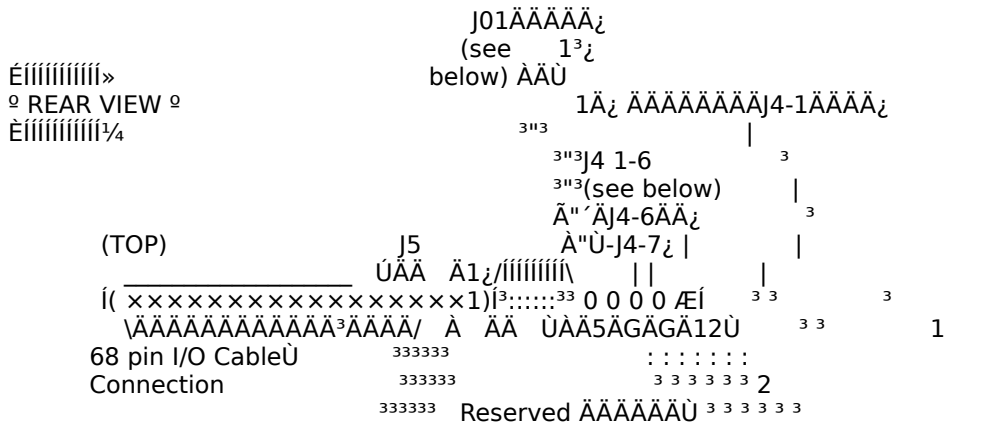
Height	(inches/mm):	1.63/41.4
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.97/151.6
Weight	(lbs/kg):	2.3/1.04

Already low-level formatted at the factory with 6 spare sectors per cylinder and 1 spare cylinder/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-11950W SCSI-2 Fast Wide (Barracuda 1) (aka ST-11951N)



Note: ST-11950WD (differential model) does not come with any provision to use Termination resistors. Therefore, SCSI bus needs to be externally terminated.

ST-11950W

UNFORMATTED CAPACITY (MB)	2030
FORMATTED CAPACITY (xx SECTORS) (MB)	1690
AVERAGE SECTORS PER TRACK	81 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL

TRACKS _____40,665
CYLINDERS _____2,706 user
HEADS _____PHYSICAL_____15
DISCS (3.5 in) _____8
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____34.3 to 56.5
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER __W/WD_____1024/512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST WIDE
BYTES PER TRACK _____49,768 average
SECTORS PER DRIVE _____3,291,790
TPI (TRACKS PER INCH) _____3,047
BPI (BITS PER INCH) _____52,187
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____500,000
POWER DISSIPATION (watts/BTUs) Active ____16/55
Idle _____15/51
POWER REQUIREMENTS: +12V START-UP (amps) _2.18
+12V TYPICAL (amps) __0.83 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____12.5
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

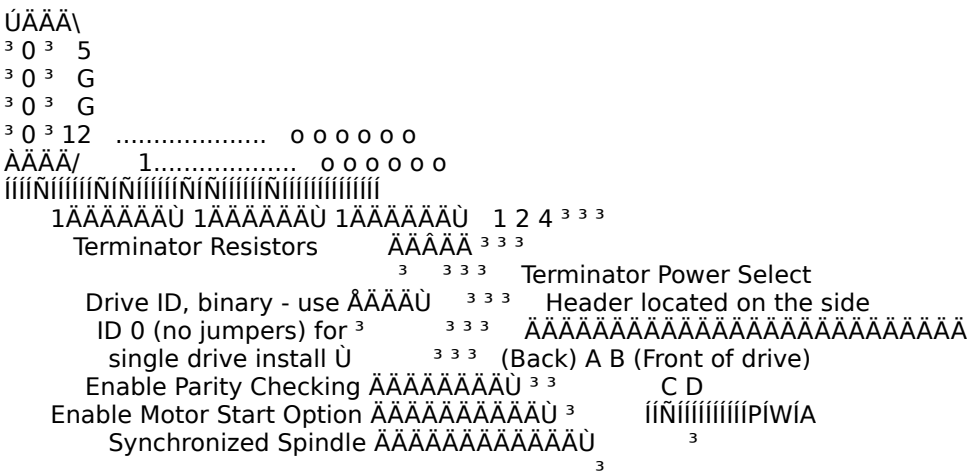
Height	(inches/mm):	1.63/41.4
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.97/151.6
Weight	(lbs/kg):	2.3/1.04

Already low-level formatted at the factory with 6 spare sectors per cylinder and 1 spare cylinders per unit.

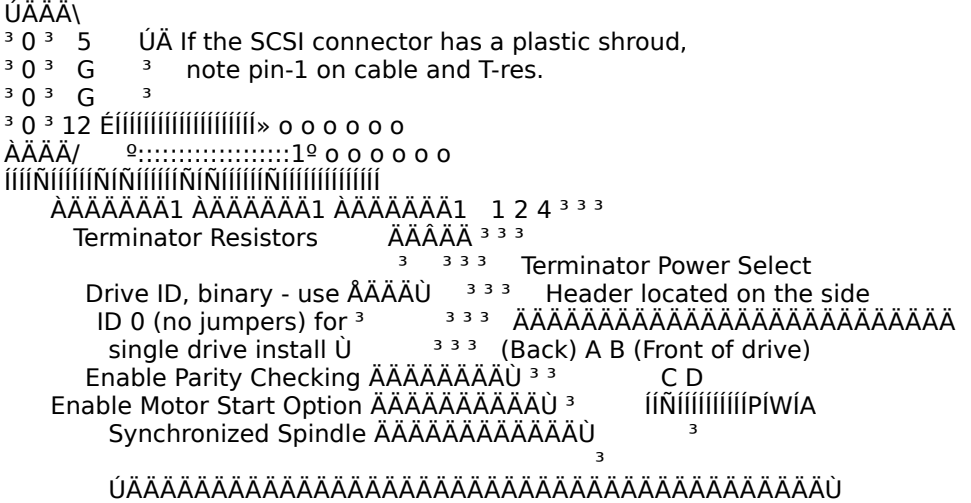
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-1201N (94351-200) Swift SCSI



Swift with Shrouded SCSI Connector



ST-1201N
94351-200 Swift

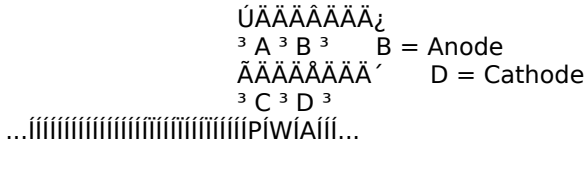
UNFORMATTED CAPACITY (MB)	201
FORMATTED CAPACITY (36 SECTORS/1 SPARED)	171.9
ACTUATOR TYPE	VOICE COIL
TRACKS	9,612
CYLINDERS	1,068
HEADS	9

DISCS _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
TRANSFER RATE (mbytes/sec) _____1.25
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____32 or 64 Kbyte
Read Look-Ahead, Non-Adaptive,
Single-Segmented
INTERFACE _____SCSI
SECTORS PER DRIVE _____335,790
TPI (TRACKS PER INCH) _____1,350
BPI (BITS PER INCH) _____28,282
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V START-UP (amps) __0.75
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) _____11
MAXIMUM (watts) _____34
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) _____N/A (1069)
REDUCED WRITE CURRENT (cyl) _____N/A (1069)
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory.

Swift Remote LED Option

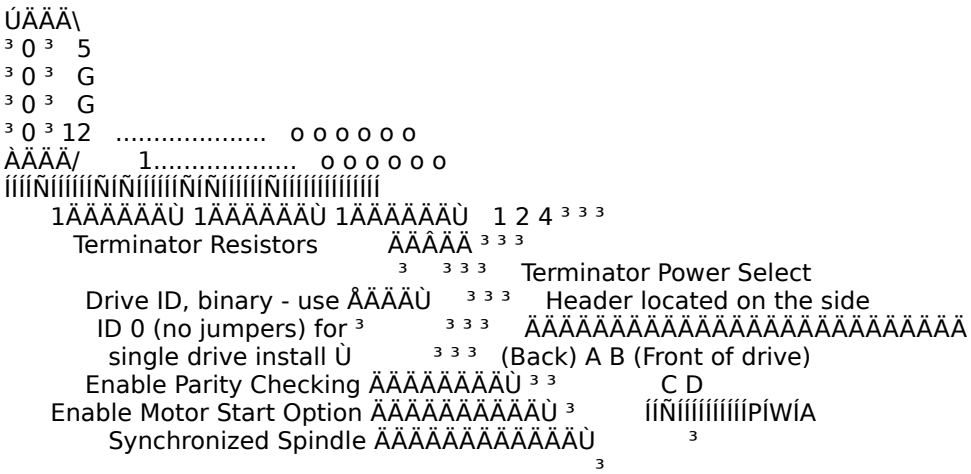
Front View of Drive Without the Plastic Bezel



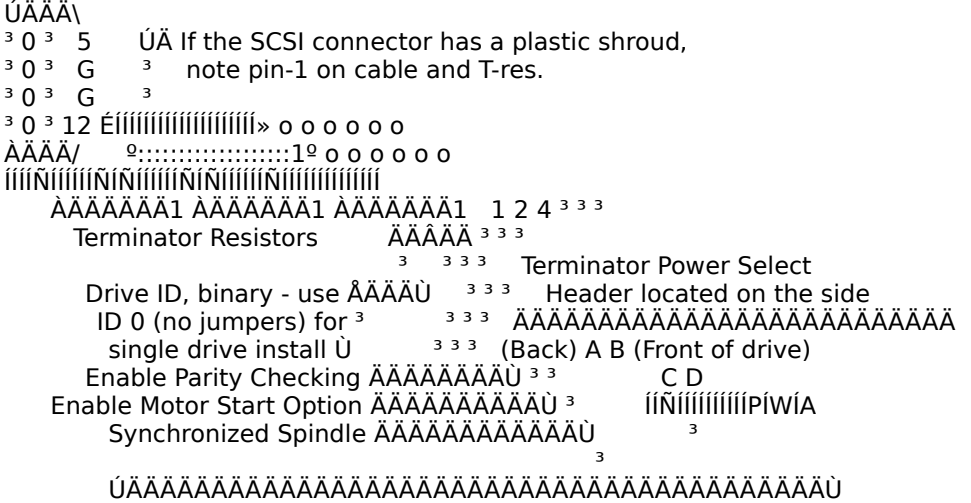
- ø Default jumper at C-D for LED mounted on drive PWA
- ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
- ø Swift LED kit 75912397 allows connection to a remote LED
- ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1239NS (94351-230S) Swift SCSI



Swift with Shrouded SCSI Connector



ST-1239NS
94351-230S Swift

UNFORMATTED CAPACITY (MB)	239
FORMATTED CAPACITY (36 SECTORS/1 SPARED)	204.2
ACTUATOR TYPE	VOICE COIL
TRACKS	11,412
CYLINDERS	1,268
HEADS	9

DISCS ____________________________________5
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________RLL (2,7)
TRANSFER RATE (mbytes/sec) _______________1.25
SPINDLE SPEED (RPM) ______________________3,600
AVERAGE LATENCY (mSEC) ___________________8.33
BUFFER ___________________________________32 or 64 Kbyte
  Read Look-Ahead, Non-Adaptive,
  Single-Segmented
INTERFACE ________________________________SCSI
SECTORS PER DRIVE ________________________398,790
TPI (TRACKS PER INCH) ____________________1,543
BPI (BITS PER INCH) ______________________30,000 max
AVERAGE ACCESS (ms) ______________________15
SINGLE TRACK SEEK (ms) ___________________4
MAX FULL SEEK (ms) _______________________35
MTBF (power-on hours) ____________________150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
                    +12V TYPICAL (amps) __0.7
                    +5V START-UP (amps) __0.75
                    +5V TYPICAL (amps) ___0.4
                    TYPICAL (watts) ______11
                    MAXIMUM (watts) ______34
BUFFERED STEP PULSE RATE (micro sec) _____6-200
WRITE PRECOMP (cyl) ______________________N/A (1269)
REDUCED WRITE CURRENT (cyl) ______________N/A (1269)
LANDING ZONE (cyl) _______________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

Already low-level formatted at the factory.

Swift Remote LED Option

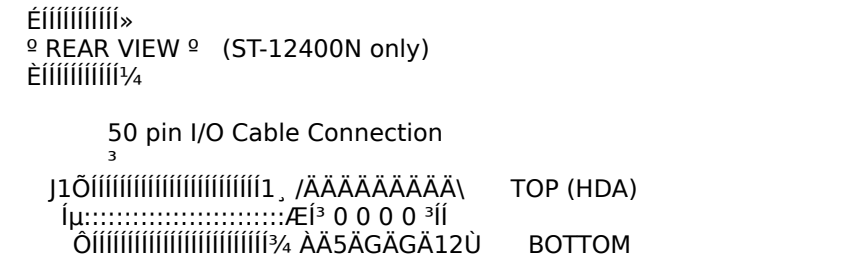
Front View of Drive Without the Plastic Bezel

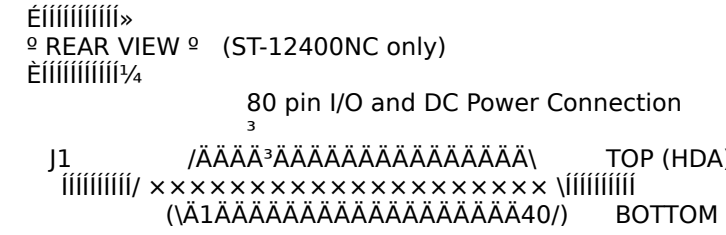
```
                        ÚÄÄÄÂÄÄÄ¿
                        ³ A ³ B ³      B = Anode
                        ÃÄÄÄÅÄÄÄ´      D = Cathode
                        ³ C ³ D ³
         ...ííííííííííííííííííííííííííííííííííPíWíAííí...
```

ø Default jumper at C-D for LED mounted on drive PWA
ø To use remote LED, remove jumper and extend B (Anode) and D (Cathode).
ø Swift LED kit 75912397 allows connection to a remote LED
ø Swift LED kit 95913369 has an LED for attachment to the system front bezel or a 5.25-inch frame kit

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-12400N SCSI-2 Fast (Hawk 2)

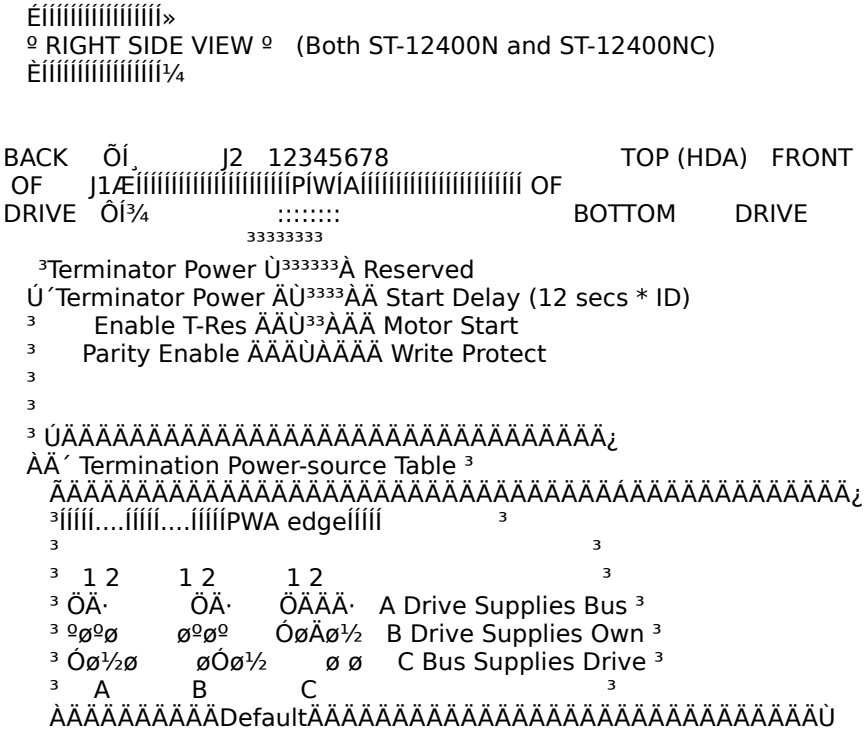




Notes on 80 pin I/O connector:

pins	1 - 4 = +12v	41 - 44 = 12v GND	
	34 - 36 = +5v	74 - 76 = 5v GND	
	37 = SYNC	77 = LEDC	
	38 = MTRON	78 = DLYDST	
	39 = SCSIA0	79 = SCSIA1	
	40 = SCSIA2	80 = SCSIA3	

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



```
ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º LEFT SIDE VIEW º   (ST-12400N only)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼                  If these ID jumpers are used,
                                       then ID jumpers shown in front
                                       view ARE NOT USED.

FRONT                  TOP (HDA)                J5 ÕÍÍ1¸ ÕÍ¸BACK
 OF    ÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::ÆÍµJ1 OF
DRIVE                 BOTTOM                       ÔÍÍÍ¾ ÔÍ¾DRIVE
                                                  ³³³
                                             ID 1 ÄÙ³ÀÄ ID 4
                                                  ID 2


ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-12400N and ST-12400NC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼


                     TOP (HDA)    J6   ÕÍÍÍÍÍ1¸
  ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::::ÆÍ
            *      BOTTOM             ÔÍÍÍÍÍÍ¾
            ³                        123456
       LEDÄÙ                          ³³³³³³
                                ID 4 Ù³³³³À Reserved
                                ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                                ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                           (pin-6 REF SIG+, default
   If these ID jumper are used, then          jumper installed)
     ID jumpers shown in left side view J5
     or 80 pin I/O cable ARE NOT USED.
```

ST-12400N
Hawk 2

UNFORMATTED CAPACITY (MB) ________________2537
FORMATTED CAPACITY (xx SECTORS) (MB) _____2148
AVERAGE SECTORS PER TRACK ________________83 rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________49,799
CYLINDERS ________________________________2,621 user
HEADS ______PHYSICAL______________________19
DISCS (3.5 in) ___________________________10
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________26.8 to 45.6
EXTERNAL TRANSFER RATE (mbyte/sec) _______5 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________5,411
AVERAGE LATENCY (mSEC) ___________________5.54
BUFFER ___________________________________256/1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST
ASA
SECTORS PER DRIVE ________________________
TPI (TRACKS PER INCH) ____________________3000
AVERAGE ACCESS (ms) (read/write)__________9.0/10.5
Drive level without controller overhead

SINGLE TRACK SEEK (ms) _____1
MAX FULL SEEK (ms) _____19
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____60
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.54
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.43
TYPICAL (watts) _____9
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

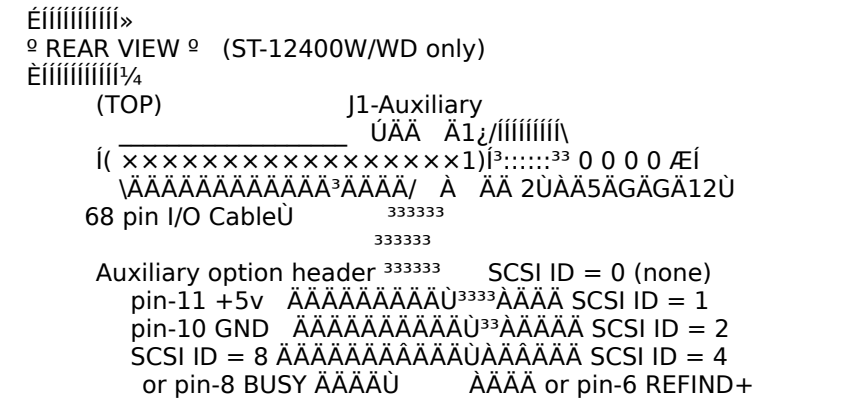
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	2.5/0.99

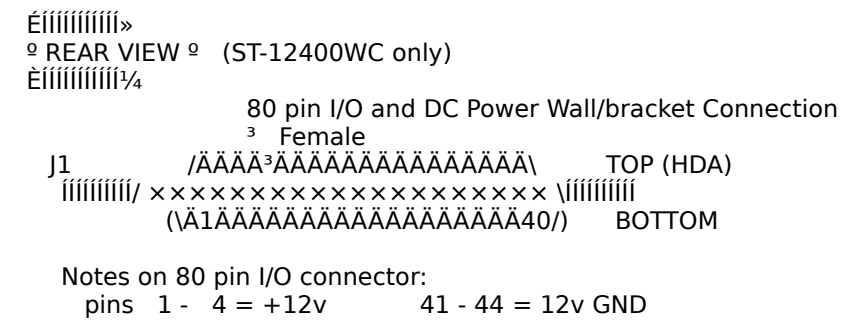
Already low-level formatted at the factory with twelve spare sectors per cylinder and two spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-12400W SCSI-2 Fast Wide (Hawk 2)

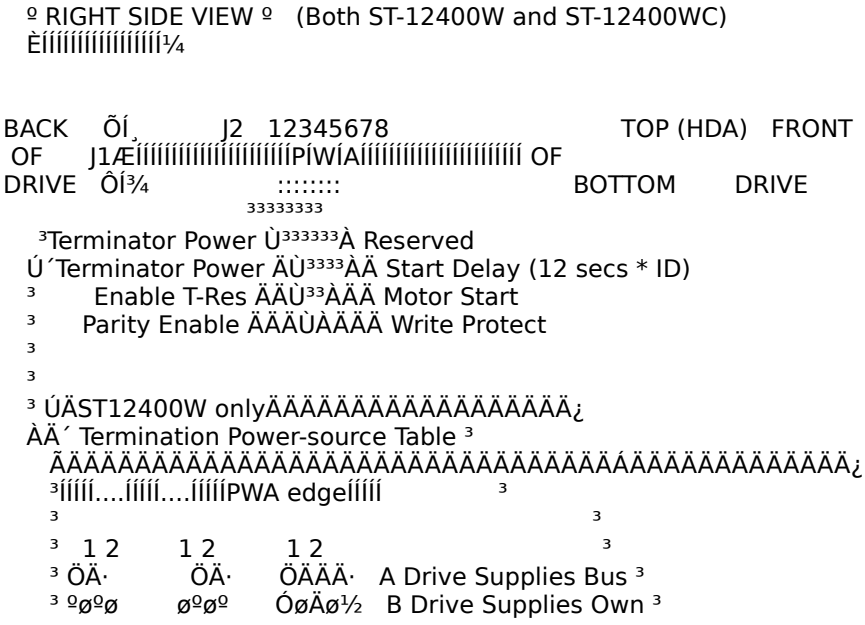


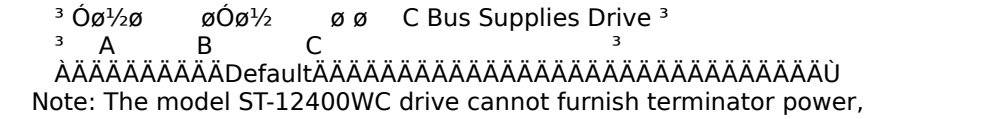


Notes on 80 pin I/O connector:

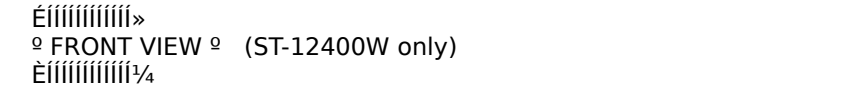
pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB

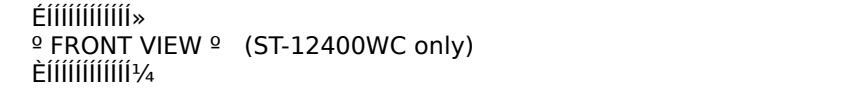


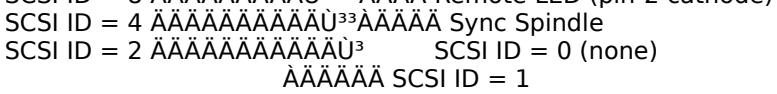


Note: The model ST-12400WC drive cannot furnish terminator power, because no pins on the 80 pin I/O connector are devoted to terminator power.



If these ID jumper are used, then
ID jumpers shown in rear view Aux-J1
or 80 pin I/O cable ARE NOT USED.





ST-12400W
Hawk 2

UNFORMATTED CAPACITY (MB)	2537
FORMATTED CAPACITY (xx SECTORS) (MB)	2148
AVERAGE SECTORS PER TRACK	84 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	49,799
CYLINDERS	2,621 user
HEADS PHYSICAL	19
DISCS (3.5 in)	10
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	26.8 to 45.6
EXTERNAL TRANSFER RATE (mbyte/sec)	20 Sync
SPINDLE SPEED (RPM)	5,411
AVERAGE LATENCY (mSEC)	5.54

BUFFER _____256/1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____3000
AVERAGE ACCESS (ms) (read/write)_____9.3/10.8
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____1
MAX FULL SEEK (ms) _____21
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____60
ACOUSTICS (typ/max dBA) _____
POWER REQUIREMENTS: +12V START-UP (amps) _2.4
+12V TYPICAL (amps) __0.57
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.42
TYPICAL (watts) _____8.9
MAXIMUM (watts) _____10.8
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	2.5/0.99

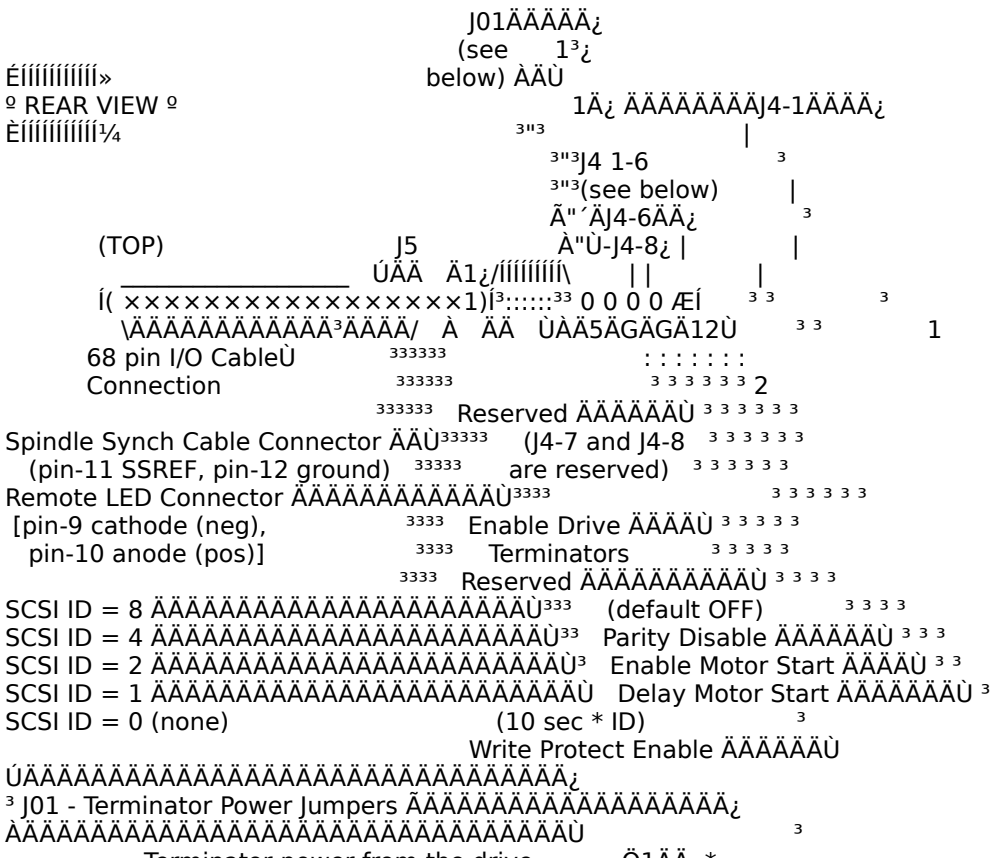
Already low-level formatted at the factory with twelve spare sectors per cylinder and two spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/26/94)

ST-12450W SCSI-2 Fast Wide (Barracuda 2, 2HP)

2HP = 2 Head Parallel = two read write channels at once



Note: ST-12450WD (differential model) does not come with any provision to use Termination resistors. Therefore, SCSI bus needs to be externally terminated.

ST-12450W

UNFORMATTED CAPACITY (MB)	2437
FORMATTED CAPACITY (512 byte sectors)	1849

FORMATTED CAPACITY (2048 byte sectors)____2134
Standard OEM model formatted to 512 bytes/block
AVERAGE SECTORS PER TRACK _____149 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____48,726
CYLINDERS _____2,710 user
HEADS _____PHYSICAL/LOGICAL_____18/9
DISCS (3.5 in) _____10
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec):
Per Logical Head _____68.6 to 113.0
Per Physical Head _____34.3 to 56.5
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____1024 KByte
Read Look-Ahead, Adaptive, Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST WIDE ASA
BYTES PER TRACK _____99,536 average
SECTORS PER DRIVE _____3,957,500
TPI (TRACKS PER INCH) _____3,047
BPI (BITS PER INCH) _____52,187
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____50
ACOUSTICS (typ/max dBA) _____4.7/
POWER DISSIPATION (watts/BTUs) Active ____16/54
Idle _____15/51
POWER REQUIREMENTS: +12V START-UP (amps) _2.18
+12V TYPICAL (amps) __0.83 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____13.5
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

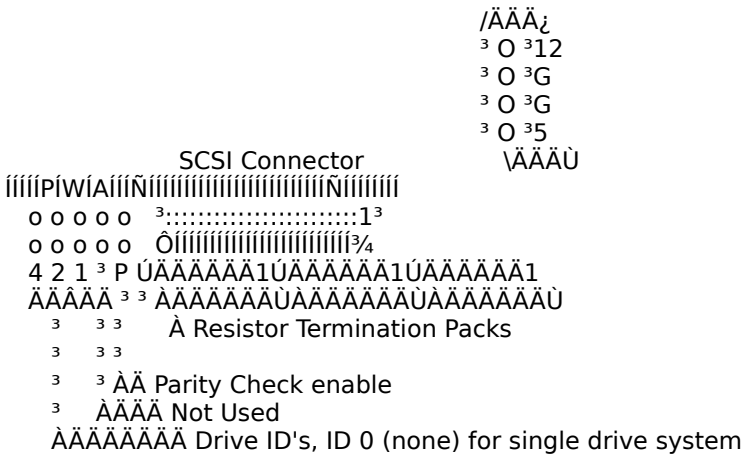
Physical:

Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.97/151.6
Weight (lbs/kg):	2.3/1.04

Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

ST-125N SCSI



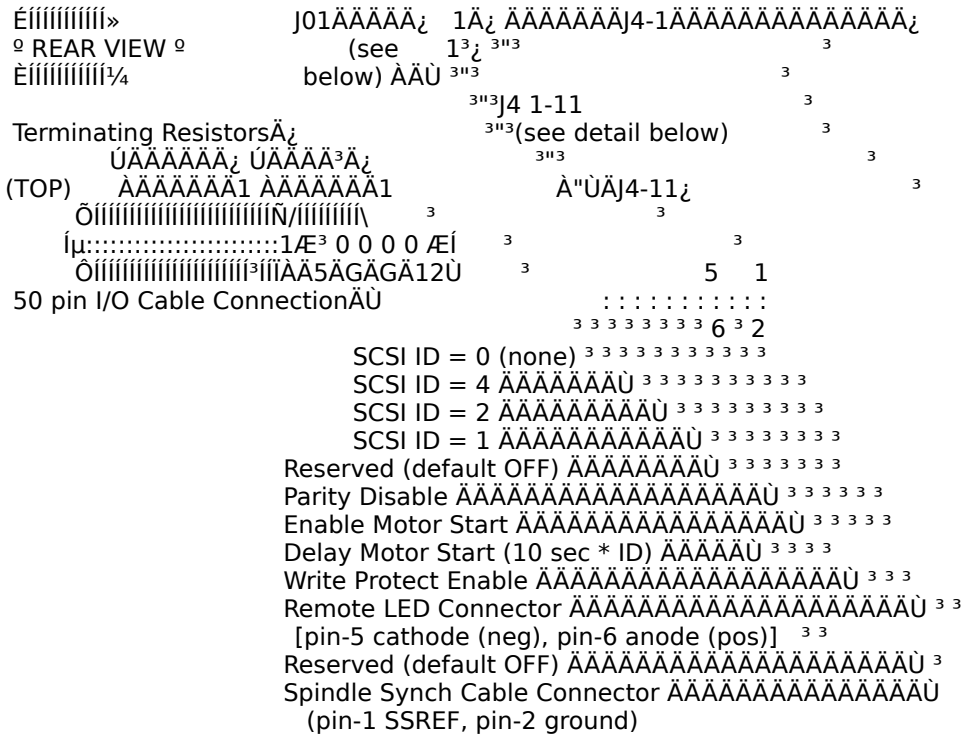
ST - 125N

UNFORMATTED CAPACITY (MB)	25
FORMATTED CAPACITY (26 SECTORS) (MB)	21.5
ACTUATOR TYPE	STEPPER
TRACKS	1,628
CYLINDERS	407
HEADS	4
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	SCSI
TPI (TRACKS PER INCH)	824
BPI (BITS PER INCH)	16,546
AVERAGE ACCESS (ms)	40/28*
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.35
+5V TYPICAL (amps)	0.9
TYPICAL (watts)	9
MAXIMUM (watts)	29
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (408)
REDUCED WRITE CURRENT (cyl)	N/A (408)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

*ST125-0/ST125-1

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-12550N SCSI-2 Fast (Barracuda 2)



J01 - Terminator Power Jumpers

Terminator power from the drive. (default)	Ö1Ä2· * ÓøÄø½ ø ø
Terminator power from pin 26 on the SCSI bus.	ÖÄ· * øºøº øÓø½
Terminator to the SCSI bus on pin 26.	ÖÄ· ºøºø Óø½ø
Terminator power to the SCSI bus and drive.	ÖÄÒÄ·* ºøºøº Óø½øÐ

* Valid for single-ended drives only.

Note: ST-12550ND (differential model) does not come with any provision to use Termination resistors. Therefore, SCSI bus needs to be externally terminated.

ST-12550N

UNFORMATTED CAPACITY (MB)	2572
FORMATTED CAPACITY (xx SECTORS) (MB)	2139
AVERAGE SECTORS PER TRACK	81 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	51,433

CYLINDERS _____2,707 user
HEADS _____PHYSICAL_____19
DISCS (3.5 in) _____10
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____34.3 to 56.5
EXTERNAL TRANSFER RATE (mbyte/sec) _____4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA
BYTES PER TRACK _____49,768 average
SECTORS PER DRIVE _____4,177,781
TPI (TRACKS PER INCH) _____3,047
BPI (BITS PER INCH) _____52,187
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____500,000
POWER DISSIPATION (watts/BTUs) Active ____16/55
Idle _____15/51
POWER REQUIREMENTS: +12V START-UP (amps) _2.18
+12V TYPICAL (amps) __0.83 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____13
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

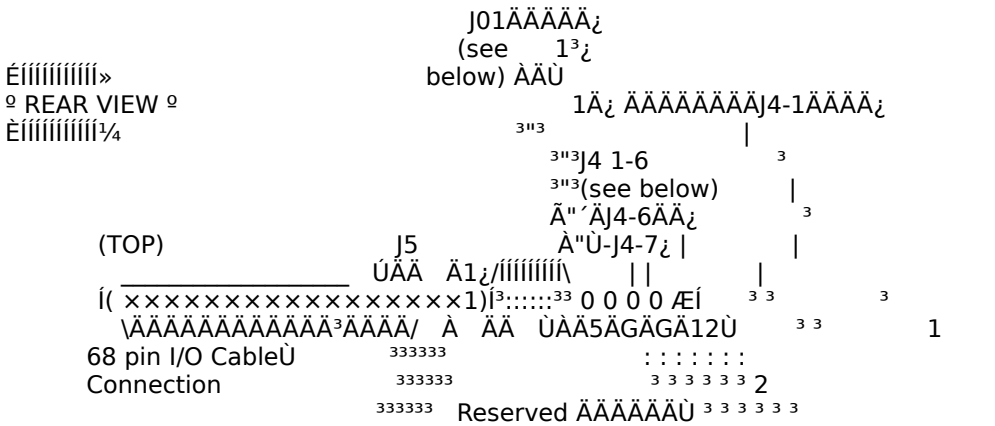
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.97/151.6
Weight (lbs/kg):	2.3/1.04

Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-12550W SCSI-2 Fast Wide (Barracuda 2) (aka ST-12551N)



J01 - Terminator Power Jumpers

Terminator power from the drive. (default)	Ö1ÄÄ· * ÓøÄø½ ø ø
Terminator power from pin 26 on the SCSI bus.	ÖÄ· * øºøº øÓø½
Terminator to the SCSI bus on pin 26.	ÖÄ· ºøºø Óø½ø
Terminator power to the SCSI bus and drive.	ÖÄÒÄ·* ºøºøº Óø½øÐ

* Valid for single-ended drives only.

Note: ST-12550WD (differential model) does not come with any provision to use Termination resistors. Therefore, SCSI bus needs to be externally terminated.

ST-12550W

UNFORMATTED CAPACITY (MB)	2572
FORMATTED CAPACITY (xx SECTORS) (MB)	2139
AVERAGE SECTORS PER TRACK	81 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL

TRACKS _____51,433
CYLINDERS _____2,707 user
HEADS _____PHYSICAL_____19
DISCS (3.5 in) _____10
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____34.3 to 56.5
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER __W/WD_____1024/512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST WIDE
ASA
BYTES PER TRACK _____49,768 average
SECTORS PER DRIVE _____4,177,781
TPI (TRACKS PER INCH) _____3,047
BPI (BITS PER INCH) _____52,187
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____500,000
POWER DISSIPATION (watts/BTUs) Active ____16/55
Idle _____15/51
POWER REQUIREMENTS: +12V START-UP (amps) _2.18
+12V TYPICAL (amps) __0.83 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____13
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

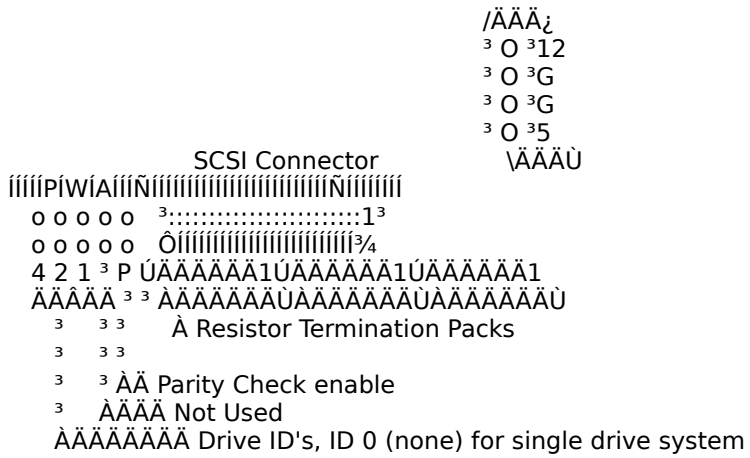
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.97/151.6
Weight (lbs/kg):	2.3/1.04

Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-138N SCSI



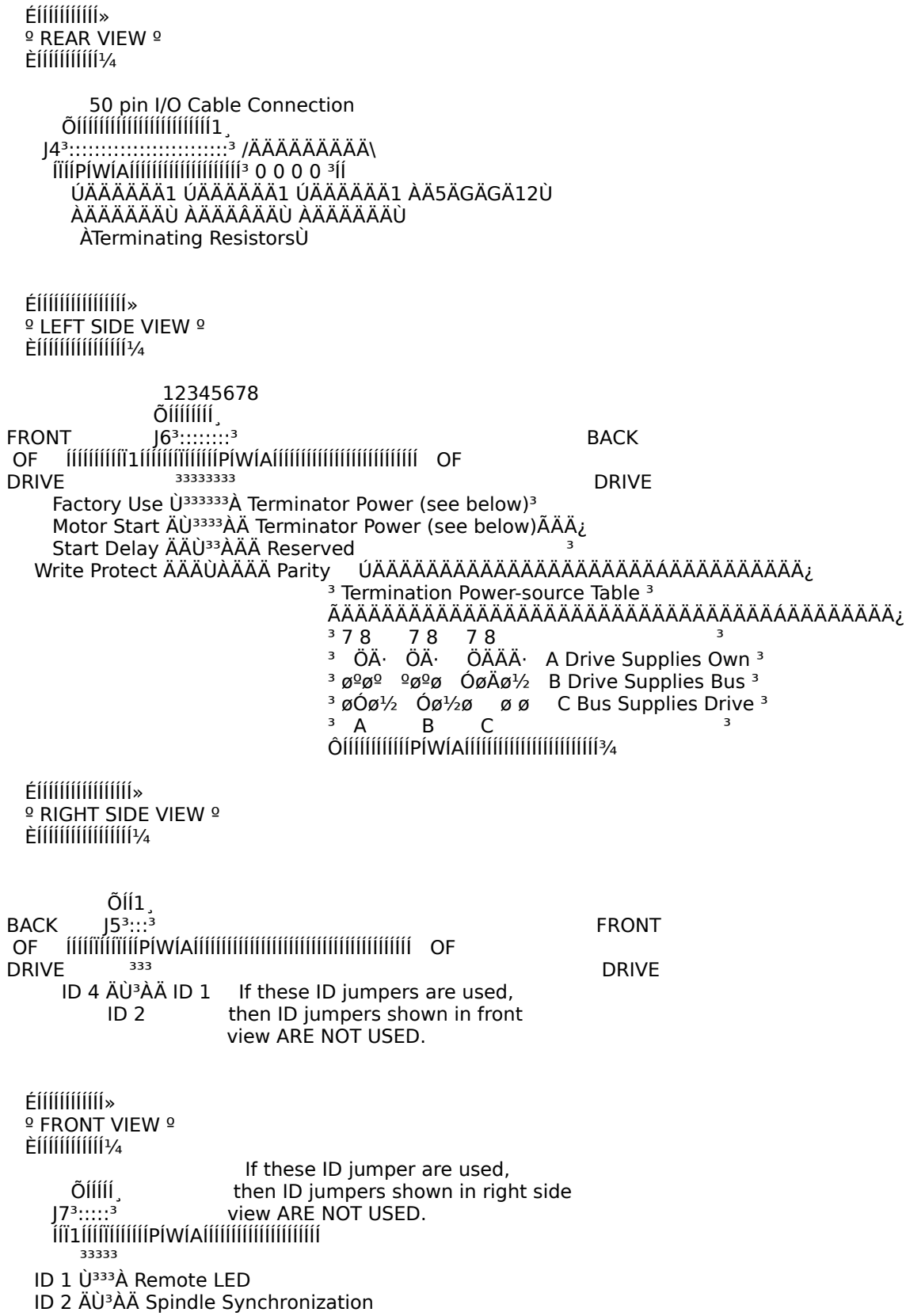
ST - 138N

UNFORMATTED CAPACITY (MB)	38
FORMATTED CAPACITY (26 SECTORS) (MB)	32.2
ACTUATOR TYPE	STEPPER
TRACKS	2,452
CYLINDERS	615
HEADS	4
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	SCSI
TPI (TRACKS PER INCH)	824
BPI (BITS PER INCH)	22,430
AVERAGE ACCESS (ms)	40/28*
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.35
+5V TYPICAL (amps)	0.9
TYPICAL (watts)	9
MAXIMUM (watts)	29
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

*ST138R-0/ST138R-1

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1400N SCSI-2



ID 4

ST - 1400N

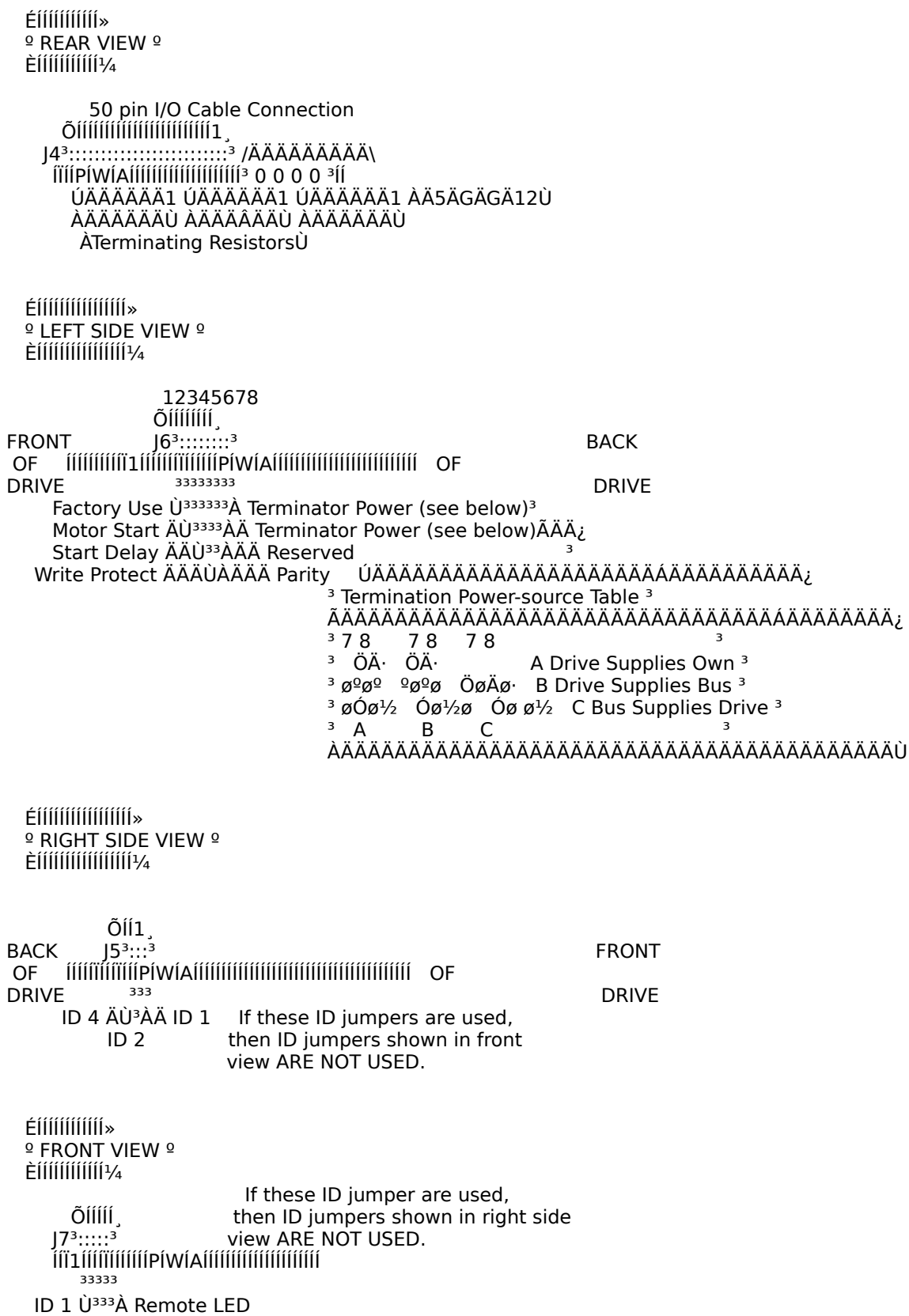
UNFORMATTED CAPACITY (MB) _____383
FORMATTED CAPACITY (xx SECTORS) (MB) _____331*
AVERAGE SECTORS PER TRACK _____62
ACTUATOR TYPE _____VOICE COIL
TRACKS _____10,332
CYLINDERS _____1476 (user)
HEADS _____7
DISCS _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____17 to 25
SPINDLE SPEED (RPM) _____4,412
AVERAGE LATENCY (mSEC) _____6.8
BUFFER _____64 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2
BYTES PER TRACK _____28,830 avg.
SECTORS PER DRIVE _____640,584
TPI (TRACKS PER INCH) _____1,760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.54
+5V TYPICAL (amps) ___0.53
TYPICAL (watts) _____9.1
MAXIMUM (watts) _____15
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

* 512 bytes per sector, one spare sector per track,
two spare cylinders per unit.

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (4/12/91)

ST-1401N SCSI-2



ID 2 ÄÙ³ÀÄ Spindle Synchronization
ID 4

ST - 1401N

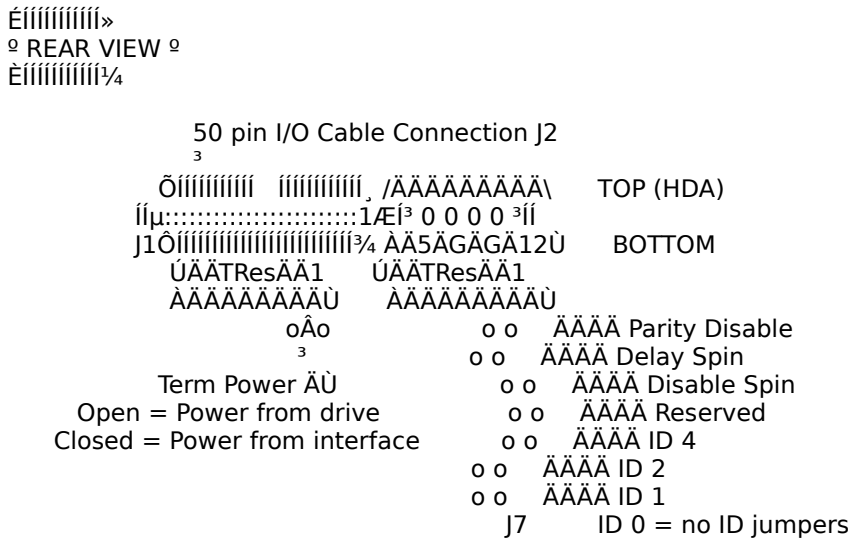
UNFORMATTED CAPACITY (MB) _____390
FORMATTED CAPACITY (xx SECTORS) (MB) _____338*
AVERAGE SECTORS PER TRACK _____66
ACTUATOR TYPE _____VOICE COIL
TRACKS _____9,900
CYLINDERS _____1,100 (user)
HEADS _____9
DISCS _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____20 to 25
SPINDLE SPEED (RPM) _____4,412
AVERAGE LATENCY (mSEC) _____6.8
BUFFER _____64 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2
BYTES PER TRACK _____39,394 avg.
SECTORS PER DRIVE _____653,400
TPI (TRACKS PER INCH) _____1760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____24
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.7
+5V TYPICAL (amps) ___0.7
TYPICAL (watts) _____9.1
MAXIMUM (watts) _____15
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

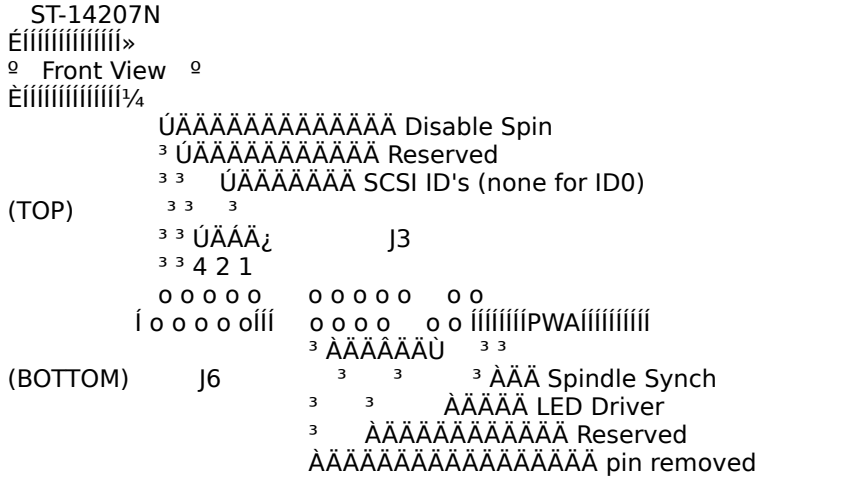
* 512 bytes per sector, one spare sector per track,
two spare cylinders per unit.

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (4/12/91)

ST-14207N SCSI-2 Fast, (Cayman CFP4207S)





ST-14207N
Cayman CFP4207S

FORMATTED CAPACITY (MB)	4294
AVERAGE SECTORS PER TRACK	104 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	40,160
CYLINDERS	4016 user
HEADS PHYSICAL	20
DISCS (3.5 in)	10
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	47.7 to 87.2
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	7,200
AVERAGE LATENCY (mSEC)	4.17
BUFFER	512 KByte

Read Look-Ahead, Adaptive,
Multi-Segmented Cache

INTERFACE _____SCSI-2 Fast
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4090
BPI (BITS PER INCH) _____78K
AVERAGE ACCESS (ms) (read/write)_____9.0/9.5
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____18
MTBF (power-on hours) _____1,000,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____50
ACOUSTICS (typ/max dBA) _____<46/
POWER REQUIREMENTS: +12V START-UP (amps) _3.5
+12V TYPICAL (amps) __.78
+5V START-UP (amps) __.88
+5V TYPICAL (amps) ___.68
IDLE (watts) _____12.8
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

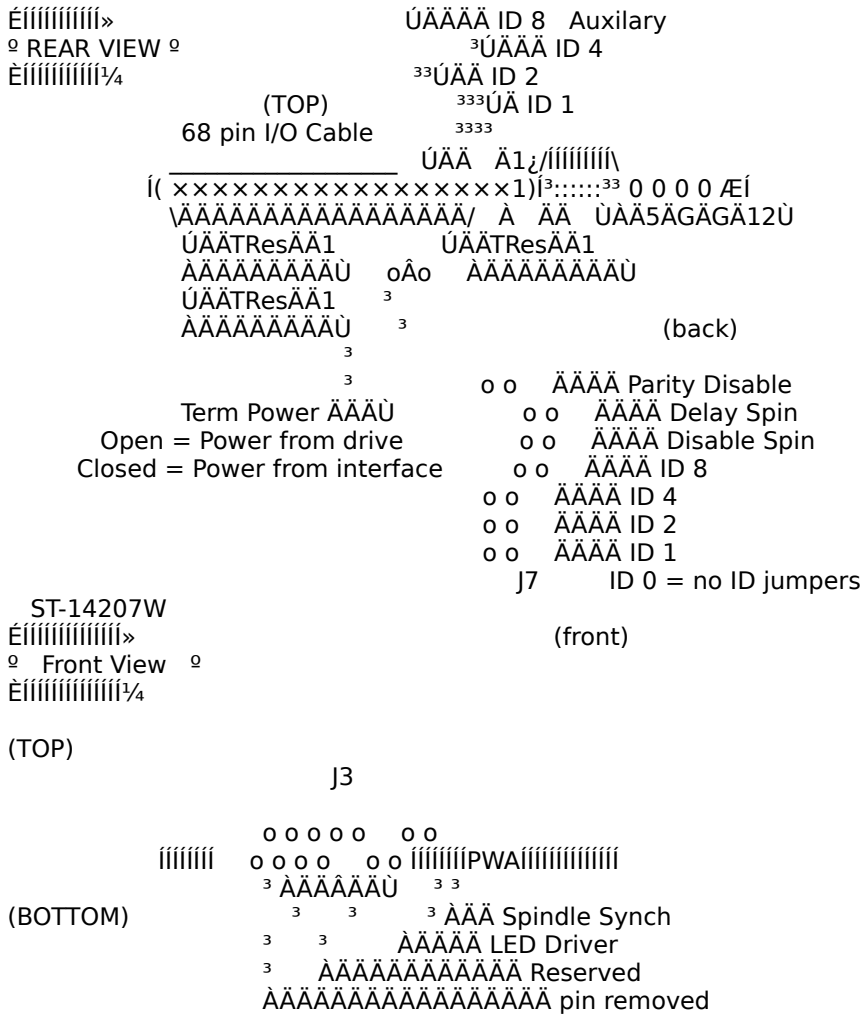
Height	(inches/mm):	1.62/41.2
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.75/146.1
Weight	(lbs/kg):	2.0/0.91

Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-14207W SCSI-2 Fast Wide, (Cayman CFP4207W)



ST-14207W
Cayman CFP4207W

FORMATTED CAPACITY (MB)	4294
AVERAGE SECTORS PER TRACK	104 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	40,160
CYLINDERS	4016 user
HEADS PHYSICAL	20
DISCS (3.5 in)	10
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	47.7 to 87.2
EXTERNAL TRANSFER RATE (mbyte/sec)	20 Sync
SPINDLE SPEED (RPM)	7,200
AVERAGE LATENCY (mSEC)	4.17
BUFFER	512 KByte
Read Look-Ahead, Adaptive,	

Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast Wide
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4090
BPI (BITS PER INCH) _____78K
AVERAGE ACCESS (ms) (read/write)_____9.0/9.5
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____18
MTBF (power-on hours) _____1,000,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____50
ACOUSTICS (typ/max dBA) _____<46/
POWER REQUIREMENTS: +12V START-UP (amps) _3.5
+12V TYPICAL (amps) __.78
+5V START-UP (amps) __.88
+5V TYPICAL (amps) ___.68
IDLE (watts) _____12.8
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

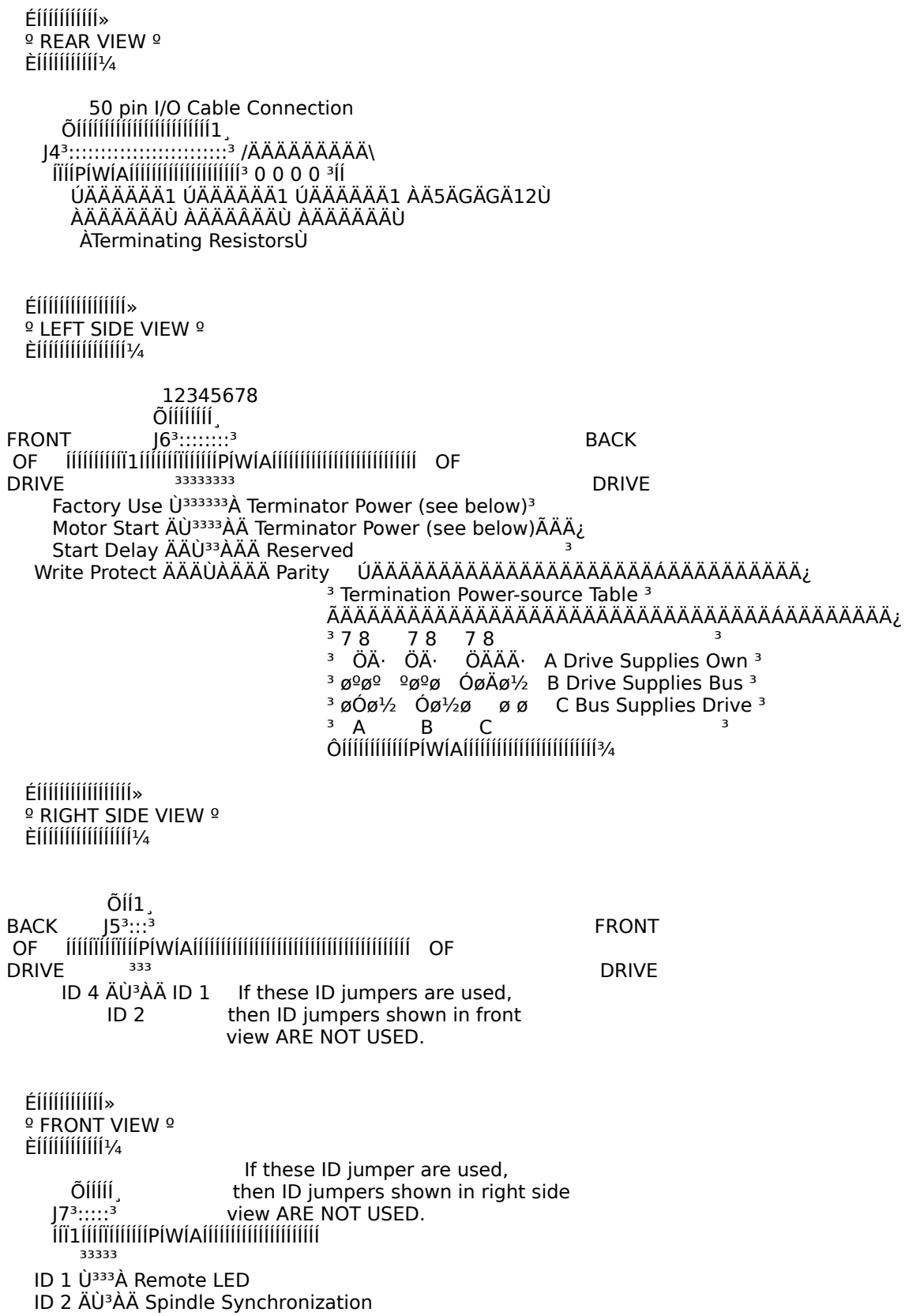
Height	(inches/mm):	1.62/41.2
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.75/146.1
Weight	(lbs/kg):	2.0/0.91

Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-1480N SCSI-2



ID 4

ST - 1480N

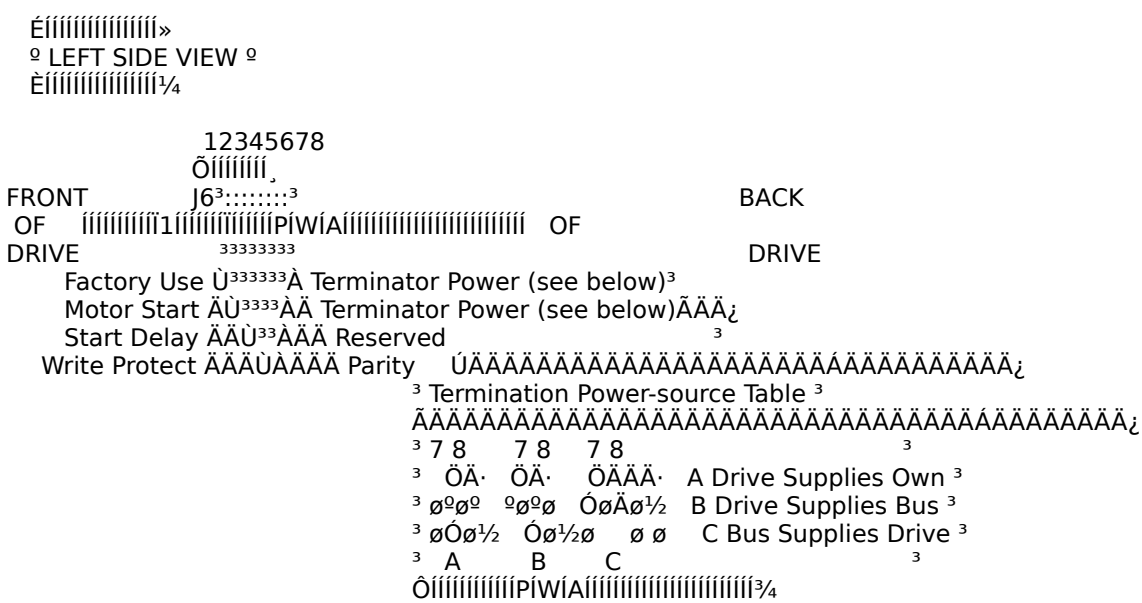
UNFORMATTED CAPACITY (MB) _____492
FORMATTED CAPACITY (xx SECTORS) (MB) _____426*
AVERAGE SECTORS PER TRACK _____62
ACTUATOR TYPE _____VOICE COIL
TRACKS _____13,302
CYLINDERS _____1476 (user)
HEADS _____9
DISCS _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR
INTERNAL TRANSFER RATE (mbits/sec) _____17 to 25
SPINDLE SPEED (RPM) _____4,412
AVERAGE LATENCY (mSEC) _____6.8
BUFFER _____64 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2
BYTES PER TRACK _____37,037 avg
SECTORS PER DRIVE _____823,608
TPI (TRACKS PER INCH) _____1760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.54
+5V TYPICAL (amps) ___0.53
TYPICAL (watts) _____9.1
MAXIMUM (watts) _____15
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

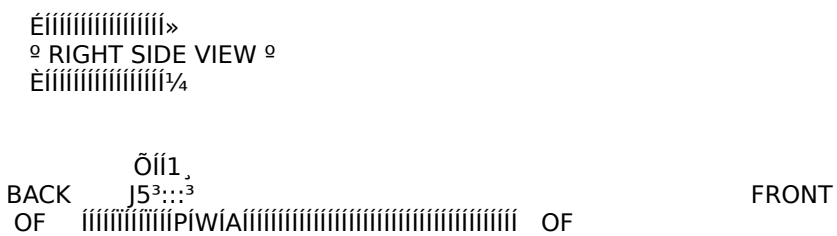
* 512 bytes per sector, one spare sector per track,
two spare cylinders per unit.

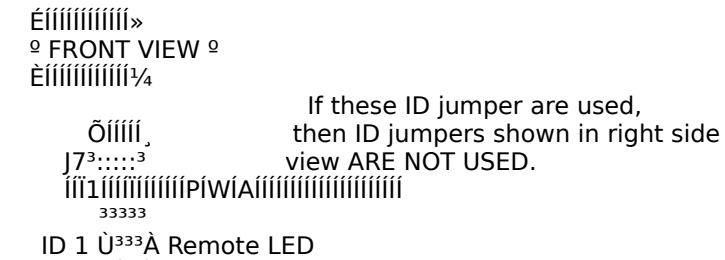
Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (4/12/91)

ST-1481N SCSI-2 Fast







ID 4

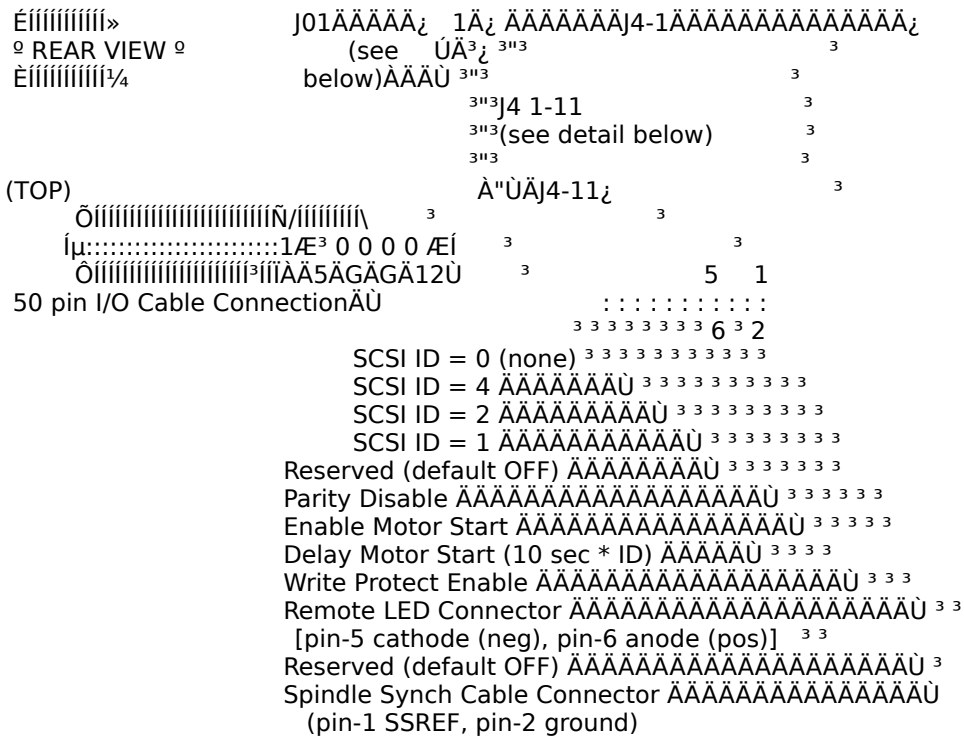
ST - 1481N

UNFORMATTED CAPACITY (MB) _____492
FORMATTED CAPACITY (xx SECTORS) (MB) _____426
AVERAGE SECTORS PER TRACK _____62
ACTUATOR TYPE _____VOICE COIL
TRACKS _____13,302
CYLINDERS _____1,476
HEADS _____9
DISCS (3.5 in) _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____17 to 25
SPINDLE SPEED (RPM) _____4,412
AVERAGE LATENCY (mSEC) _____6.8
BUFFER _____256 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast
SECTORS PER DRIVE _____823,608
TPI (TRACKS PER INCH) _____1760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.54
+5V TYPICAL (amps) ___0.53/0.8(ND)
TYPICAL (watts) _____9/11.0(ND)
MAXIMUM (watts) _____15
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

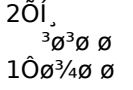
Seagate reserves the right to change, without notice, product offerings or specifications. (4/12/91)

ST-15150N SCSI-2 Fast (Barracuda 4)

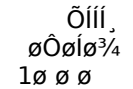


ÚÄ ST-15150N only ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³ J01 - Terminator Power 2x3 jumper block ³
ÀÄÄÙ

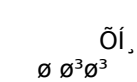
Enable Drive Terminators



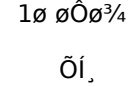
Terminator power from the drive. (default)



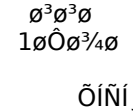
Terminator power from pin 26 on the SCSI bus.



Terminator to the SCSI bus on pin 26.



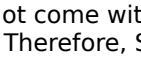
Terminator power to the SCSI bus and drive.



Note: ST-15150ND (differential model) does not come with any provision to use Termination resistors. Therefore, SCSI bus needs to be externally terminated.

ÚÄ ST-15150ND only ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³ J01 - Terminator Power 2x2 jumper block ³
ÀÄÄÙ

Terminator to the SCSI bus on pin 26.



(all other J01 jumper positions are invalid) ÔØ¾Ø

ST-15150N

UNFORMATTED CAPACITY (MB) _____5062
FORMATTED CAPACITY (xx SECTORS) (MB) _____4294
AVERAGE SECTORS PER TRACK _____107 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____77,931
CYLINDERS _____3,711 user
HEADS _____PHYSICAL_____21
DISCS (3.5 in) _____11
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____47.4 to 71.9
EXTERNAL TRANSFER RATE (mbyte/sec) _____4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA II
BYTES PER TRACK _____64,773 average
SECTORS PER DRIVE _____8,388,315
TPI (TRACKS PER INCH) _____4,048
BPI (BITS PER INCH) _____73,820
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____50
ACOUSTICS (typ/max dBA) _____4.7/
POWER DISSIPATION (watts/BTUs) Active ____15/51
Idle _____12/41
POWER REQUIREMENTS: +12V START-UP (amps) _2.18
+12V TYPICAL (amps) __0.83 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____14
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

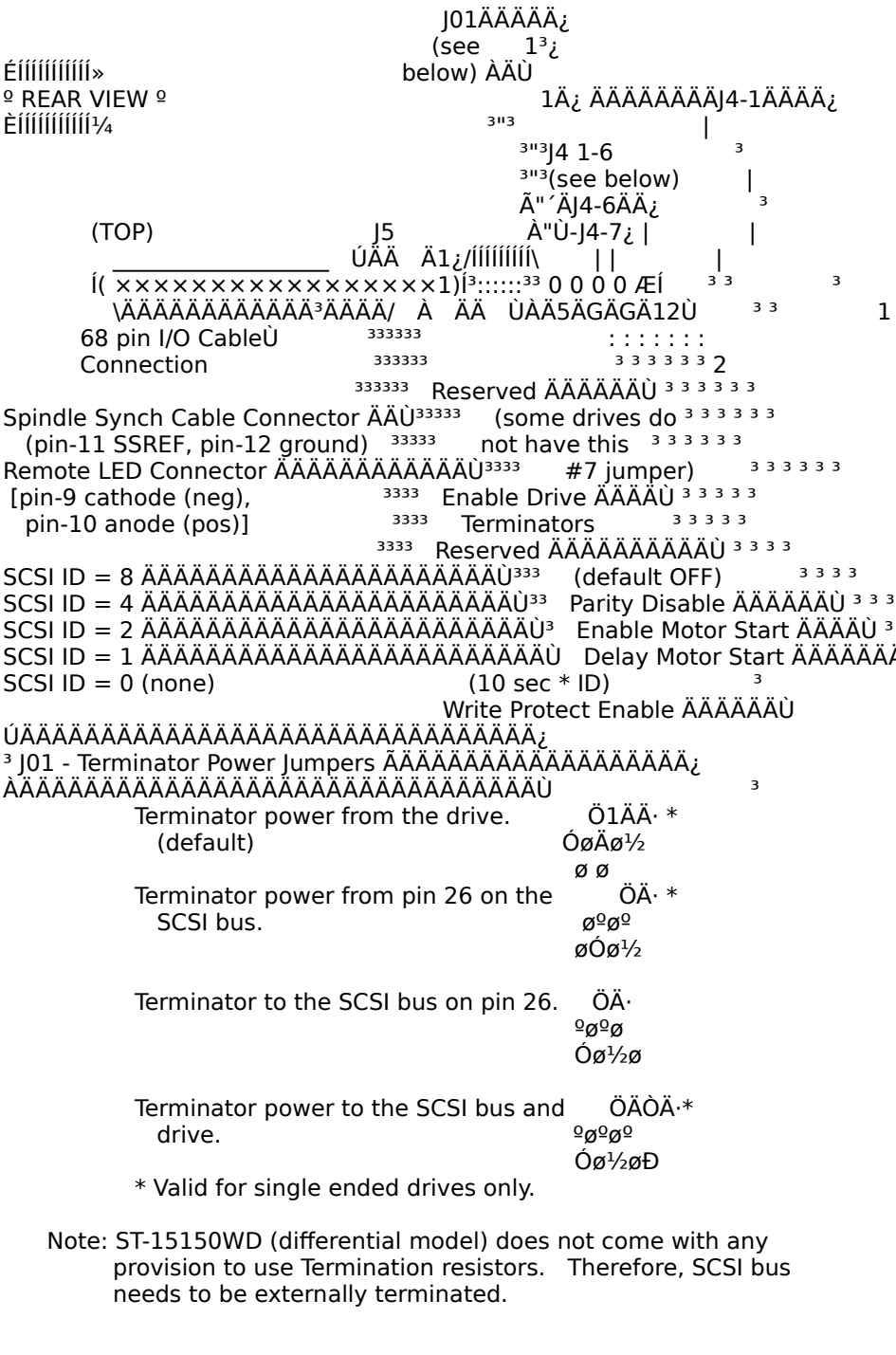
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.97/151.6
Weight (lbs/kg):	2.3/1.04

Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-15150W SCSI-2 Fast Wide (Barracuda 4)



J01 - Terminator Power Jumpers

Terminator power from the drive. (default)

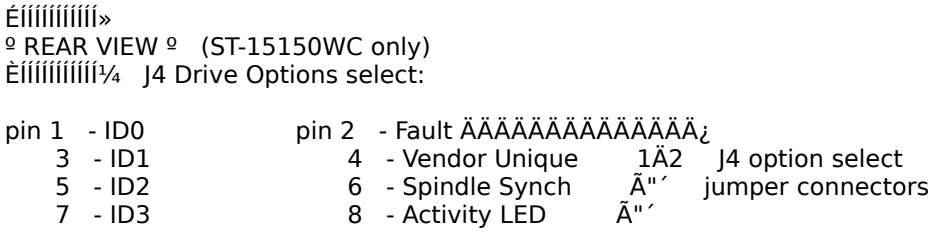
Terminator power from pin 26 on the SCSI bus.

Terminator to the SCSI bus on pin 26.

Terminator power to the SCSI bus and drive.

* Valid for single ended drives only.

Note: ST-15150WD (differential model) does not come with any provision to use Termination resistors. Therefore, SCSI bus needs to be externally terminated.



9 - No connection 10 - +5v Ã"´
15 - Ground 16 - Write Protect Ã"´
19 - Parity Enable 20 - Ground Ã"´
11,12,13,14,17,18,21,22 - Reserved Ã"´
Ã"´
TOP (HDA) J6 (/ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ1\) À"22
ÍÍÍÍÍÍÍÍÍÍ Í\××××××××××××××××××××/ÍÍÍÍÍÍÍÍÍÍ
BOTTOM ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ41
80 pin I/O and DC Power Wall/bracket
SCA-2 (Single Connector Attachment)

Notes on 80 pin I/O connector:
pins 1 - 4 = +12v 41 - 44 = 12v GND
34 - 36 = +5v 74 - 76 = 5v GND
37 = SYNC 77 = LEDC
38 = MTRON 78 = DLYDST
39 = SCSIA0 79 = SCSIA1
40 = SCSIA2 80 = SCSIA3

Mating WC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB

ST-15150W

UNFORMATTED CAPACITY (MB) _____5048
FORMATTED CAPACITY (xx SECTORS) (MB) _____4294
AVERAGE SECTORS PER TRACK _____107 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____77,931
CYLINDERS _____3,711 user
HEADS _____PHYSICAL_____21
DISCS (3.5 in) _____11
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____47.4 to 71.9
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST WIDE
ASA II
BYTES PER TRACK _____64,773 average
SECTORS PER DRIVE _____8,388,315
TPI (TRACKS PER INCH) _____4,048
BPI (BITS PER INCH) _____52,187
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____800,000
POWER DISSIPATION (watts/BTUs) Active ____15/51
Idle _____12/41
POWER REQUIREMENTS: +12V START-UP (amps) _2.18
+12V TYPICAL (amps) __0.83 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____14
LANDING ZONE (cyl) _____AUTO PARK

IBM AT DRIVE TYPE _____0 or NONE

Physical:

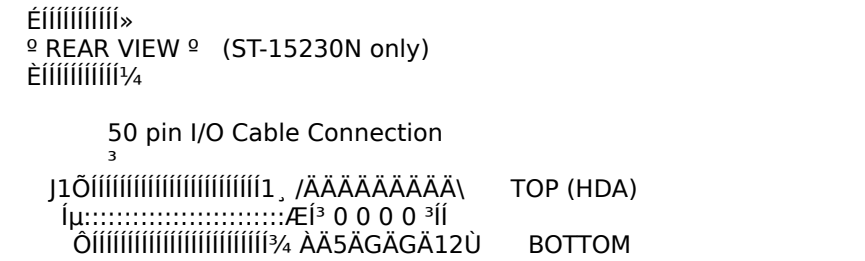
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.97/151.6
Weight (lbs/kg):	2.3/1.04

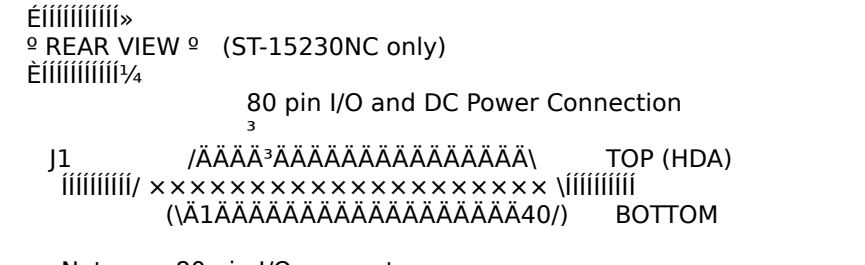
Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-15230N SCSI-2 Fast (Hawk 4)

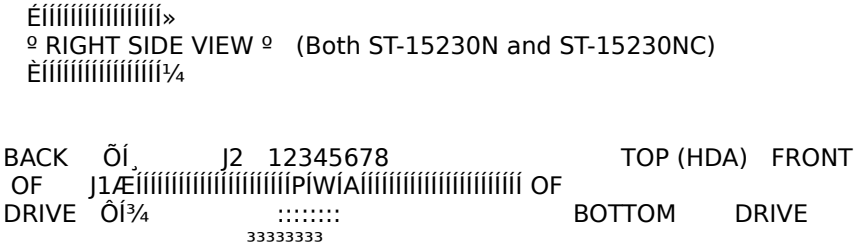




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º LEFT SIDE VIEW º (ST-15230N only)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼ If these ID jumpers are used,
then ID jumpers shown in front
view ARE NOT USED.

FRONT TOP (HDA) J5 ÕÍÍ1¸ ÕÍ¸BACK
OF ÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::ÆÍµJ1 OF
DRIVE BOTTOM ÔÍÍÍ¾ ÔÍ¾DRIVE
333
ID 1 ÄÙ³ÀÄ ID 4
ID 2

ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º (Both ST-15230N and ST-15230NC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼
ÚÄÄ´Reserved. Shipped with cover installed.
³ ÀDo not remove. Do not install jumpers
TOP (HDA) ÕØÍÍÍ¸ 1
ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³::::::ÆÍÍ
* BOTTOM ÔÍÍÍÍ¾123456
³ J6 333333
LED ÄÙ 333333
ID 4 Ù³³³³À Reserved
ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
ID 1 ÄÄÙÀÄÄ Reserved

If these ID jumper are used, then ID jumpers shown in left side
view J5 or 80 pin I/O cable ARE NOT USED.

ST-15230N
Hawk 4

UNFORMATTED CAPACITY (MB) _____5170
FORMATTED CAPACITY (xx SECTORS) (MB) _____4294
AVERAGE SECTORS PER TRACK _____110
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____75,848
CYLINDERS _____3,992 user
HEADS _____PHYSICAL_____19
DISCS (3.5 in) _____10
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____33.9 to 61.0
EXTERNAL TRANSFER RATE (mbyte/sec) _____5.2 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____5,411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____512/2048 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA II
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4200
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
Includes controller overhead
SINGLE TRACK SEEK (ms) _____2.1

MAX FULL SEEK (ms) _____20.6
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____60
ACOUSTICS (typ/max dBA) _____
POWER REQUIREMENTS: +12V START-UP (amps) _2.4
+12V TYPICAL (amps) __0.54
+5V START-UP (amps) __0.61
+5V TYPICAL (amps) ___0.36
TYPICAL (watts) _____9
MAXIMUM (watts) _____11
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

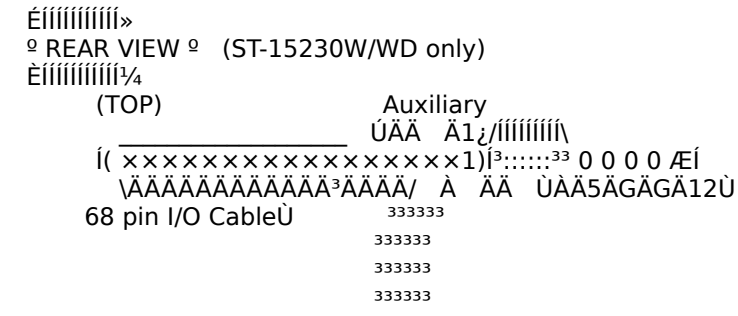
Height (inches/mm):	1.62/41.1
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.74/145.8
Weight (lbs/kg):	2.1/0.93

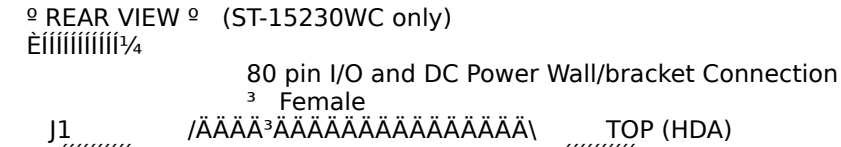
Already low-level formatted at the factory with twelve spare sectors per cylinder (all twelve spare sectors are on one track) and two spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (06/24/95)

ST-15230W SCSI-2 Fast Wide (Hawk 4)

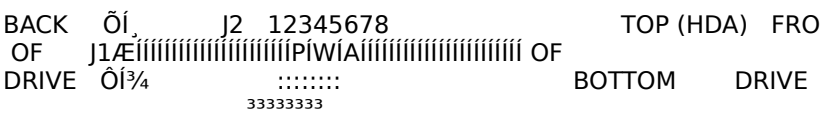




Notes on 80 pin I/O connector:

pins	1 - 4 = +12v	41 - 44 = 12v GND
	34 - 36 = +5v	74 - 76 = 5v GND
	37 = SYNC	77 = LEDC
	38 = MTRON	78 = DLYDST
	39 = SCSIA0	79 = SCSIA1
	40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



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ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ              ³
³                                                            ³
³   1 2       1 2         1 2                                 ³
³ ÖÄ·          ÖÄ·      ÖÄÄÄ·   A Drive Supplies Bus ³
³ ºøºø        øºøº      ÓøÄø½   B Drive Supplies Own ³
³ Óø½ø        øÓø½        ø ø     C Bus Supplies Drive ³
³     A          B            C                               ³
ÀÄÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
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Note: The model ST-15230WC drive cannot furnish terminator power, because no pins on the 80 pin I/O connector are devoted to terminator power.

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ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-15230W and ST-15230WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼


                        TOP (HDA)     J6   ÕÍÍÍÍÍ1¸
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
                  *       BOTTOM              ÔÍÍÍÍÍÍ¾
                  ³                           ³³³³³³
           LED ÄÙ                               ³³³³³³
                                              ³³³³³³
                                              ³³³³³³
               Auxiliary option header ³³³³³³
                    pin-11 +5v   ÄÄÄÄÄÄÄÄÄÄÄÙ³³³³³
                    pin-10 GND   ÄÄÄÄÄÄÄÄÄÄÄÙ³³³³
                    SCSI ID = 8 ÄÄÄÄÄÄÄÄÂÄÄÄÄÙ³³³
                      or pin-8 BUSY ÄÄÄÄÙ      ³³³
                    SCSI ID = 4 ÄÄÄÄÄÄÄÄÂÄÄÄÄÄÙ³³
                      or pin-6 REFIND+ ÄÙ        ³³
                    SCSI ID = 2 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ³
                    SCSI ID = 1 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
                    SCSI ID = 0 (none)
```

If these ID jumper are used, then
ID jumpers shown in left side view J5
or 80 pin I/O cable ARE NOT USED.

ST-15230W
Hawk 4

UNFORMATTED CAPACITY (MB) ________________5160
FORMATTED CAPACITY (xx SECTORS) (MB) _____4294
AVERAGE SECTORS PER TRACK ________________110
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________75,848
CYLINDERS ________________________________3,992 user
HEADS ______PHYSICAL______________________19
DISCS (3.5 in) ___________________________10
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________34 to 63
EXTERNAL TRANSFER RATE (mbyte/sec) _______20 Sync
SPINDLE SPEED (RPM) ______________________5,411
AVERAGE LATENCY (mSEC) ___________________5.54
BUFFER ___________________________________512/2048 KByte
Read Look-Ahead, Adaptive,

Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST Wide
ASA II
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____3000
AVERAGE ACCESS (ms) (read/write)_____9.0/10.5
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____1
MAX FULL SEEK (ms) _____22
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____60
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _2.4
+12V TYPICAL (amps) __0.6
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.43
TYPICAL (watts) _____9
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

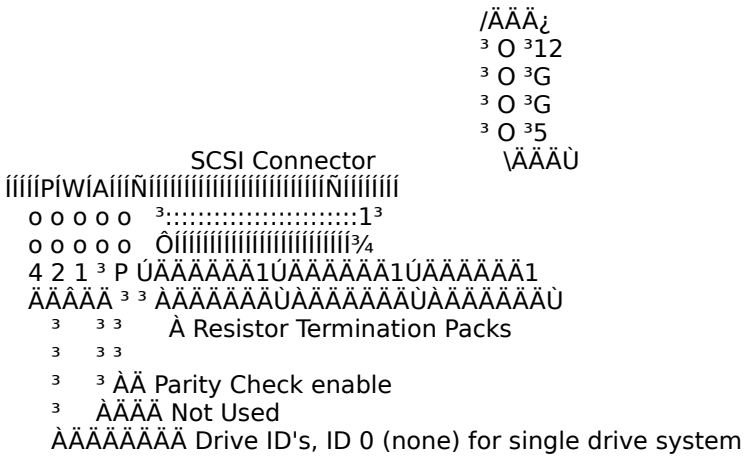
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	2.5/0.99

Already low-level formatted at the factory with twelve spare sectors per cylinder and two spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (11/03/95)

ST-157N SCSI



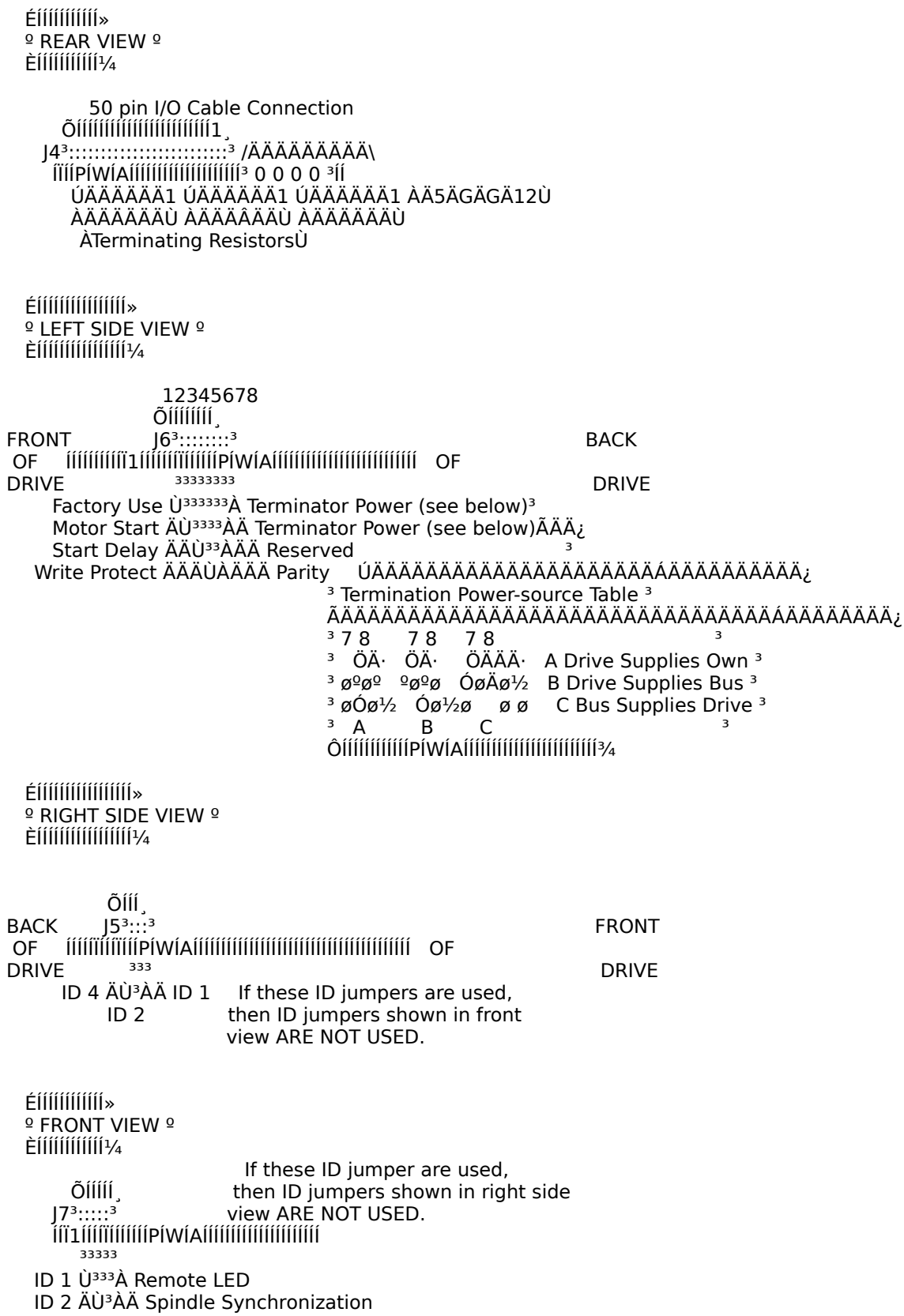
ST - 157N

UNFORMATTED CAPACITY (MB)	57
FORMATTED CAPACITY (26 SECTORS) (MB)	48.6
ACTUATOR TYPE	STEPPER
TRACKS	3,678
CYLINDERS	615
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
BUFFER	2 Kbyte
INTERFACE	SCSI
SECTORS PER DRIVE	94,860
TPI (TRACKS PER INCH)	824
BPI (BITS PER INCH)	22,430
AVERAGE ACCESS (ms)	40/28*
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	/70
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.35
+5V TYPICAL (amps)	0.9
TYPICAL (watts)	9
MAXIMUM (watts)	29
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

*ST157N-0/ST157N-1

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-1581N SCSI-2 Fast



ID 4

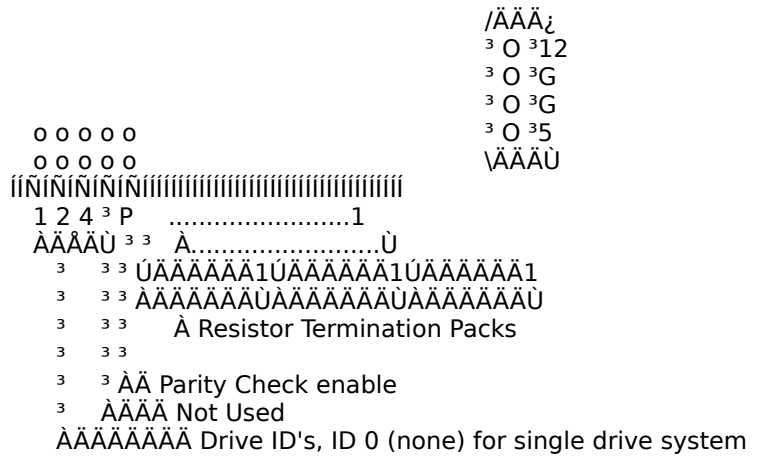
ST - 1581N

UNFORMATTED CAPACITY (MB) _____613
FORMATTED CAPACITY (xx SECTORS) (MB) _____525
AVERAGE SECTORS PER TRACK _____77
ACTUATOR TYPE _____VOICE COIL
TRACKS _____13,302
CYLINDERS _____1,476
HEADS _____9
DISCS (3.5 in) _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____20 to 32
SPINDLE SPEED (RPM) _____4,412
AVERAGE LATENCY (mSEC) _____6.8
BUFFER _____256 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast
SECTOR PER DRIVE _____1,022,868
TPI (TRACKS PER INCH) _____1760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____14
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.5
+12V TYPICAL (amps) __0.54
+5V TYPICAL (amps) ___0.53/0.8(ND)
TYPICAL (watts) _____9/11.0(ND)
MAXIMUM (watts) _____15
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl)_____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (4/12/91)

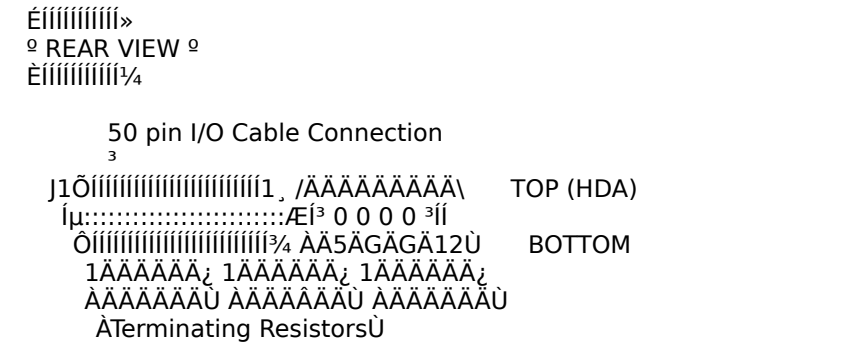
ST-177N SCSI

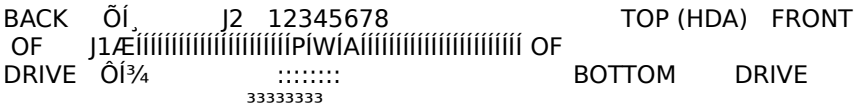


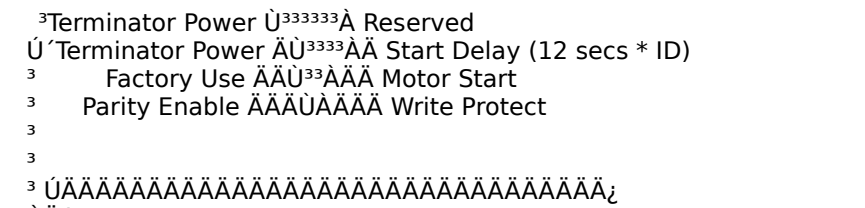
ST - 177N

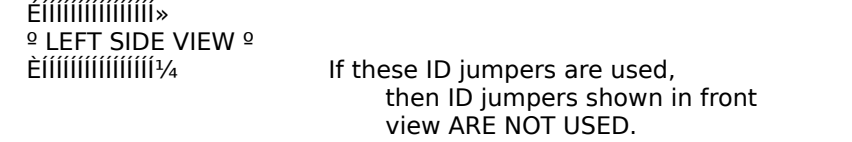
UNFORMATTED CAPACITY (MB)	N/A
FORMATTED CAPACITY (26 SECTORS) (MB)	60.8
ACTUATOR TYPE	VOICE COIL
TRACKS	4,606
CYLINDERS	921
HEADS	5
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5
SPINDLE SPEED (RPM)	3,600
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1,300
BPI (BITS PER INCH)	19,893
AVERAGE ACCESS (ms)	20
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	0.6
TYPICAL (watts)	9
MAXIMUM (watts)	27
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (922)
REDUCED WRITE CURRENT (cyl)	N/A (922)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

ST-1830N SCSI-2 Fast

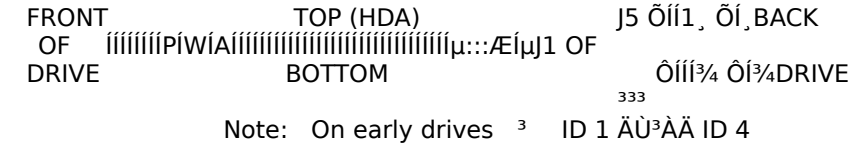








If these ID jumpers are used,
then ID jumpers shown in front
view ARE NOT USED.



Note: On early drives ID 1 ID 4
with PCB# 75782395 or ID 2
#75782485 ID jumpers are ID 4 ID 1
reversed.

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ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                    TOP (HDA)    J6   ÕÍÍÍÍÍ1¸
 ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
              *     BOTTOM            ÔÍÍÍÍÍ¾
              ³                      123456
         LED ÄÙ                       ³³³³³³
                             ID 4 Ù³³³³À Reserved
                             ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                             ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                          (pin-6 REF SIG+)
  If these ID jumper are used, then
     ID jumpers shown in left side
     view ARE NOT USED.
```

ST - 1830N

UNFORMATTED CAPACITY (MB) ________________834
FORMATTED CAPACITY (xx SECTORS) (MB) _____702
AVERAGE SECTORS PER TRACK ________________79
ACTUATOR TYPE ____________________________VOICE COIL
TRACKS ___________________________________17,225
CYLINDERS ________________________________1,325 (user)
HEADS ____________________________________13
DISCS (3.5 in) ___________________________7
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _______28.4 to 41.2
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________4,535
AVERAGE LATENCY (mSEC) ___________________6.61
BUFFER ___________________________________256 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 Fast
BYTES PER TRACK __________________________48,419 avg.
TPI (TRACKS PER INCH) ____________________2,150
AVERAGE ACCESS (ms) (read/write)__________TBD
Drive level without controller overhead
SINGLE TRACK SEEK (ms) ___________________TBD
MAX FULL SEEK (ms) _______________________TBD
MTBF (power-on hours) ____________________200,000
SHOCK (G's):
operating (Read/Write) __________10
nonoperating ____________________60
ACOUSTICS (typ/max dBA) __________________/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.5
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) ______11
IDLE (watts) _________9
LANDING ZONE (cyl)________________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

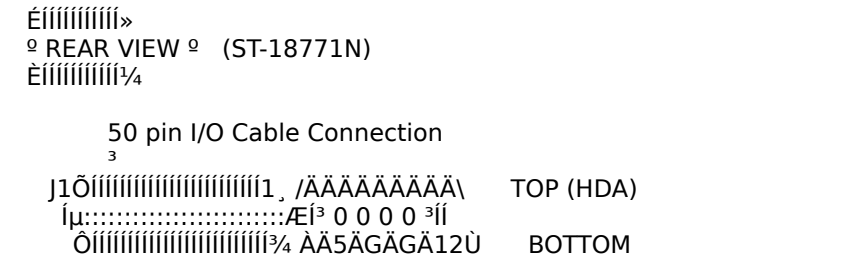
Already low-level formatted at the factory.

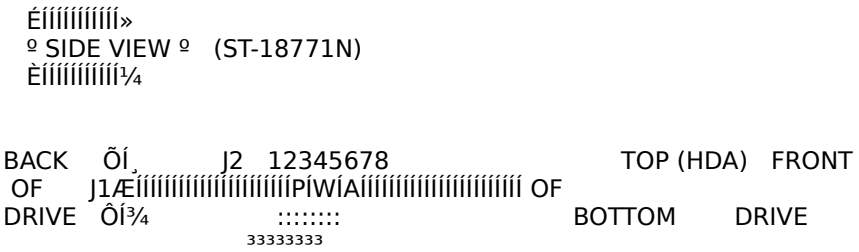
ZBR = Zone Bit Recording = Variable sectors per track

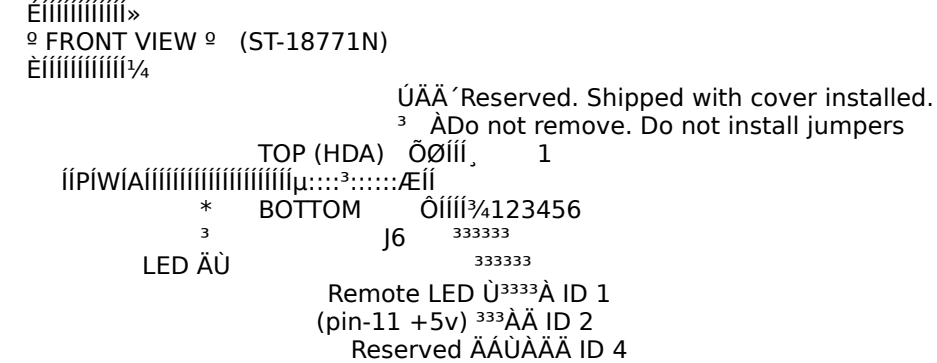
Formatted at the factory with 1 spare sector per track
and two spare cylinders at inner tracks per unit.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/12/93)

ST-18771N Ultra-SCSI (Barracuda 8)







UNFORMATTED CAPACITY (MB) _____11300
FORMATTED CAPACITY (MB) _____8700
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____105,460
CYLINDERS _____5,273 user
HEADS _____PHYSICAL_____20
DISCS (3.5 in) _____11
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____PRML (0,6,6)
INTERNAL TRANSFER RATE (mbits/sec)_____75 to 120
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER (/optional)_____512/2048 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____Ultra-SCSI
ASA II
BYTES PER TRACK _____70,830 to 111,460
SECTORS PER DRIVE _____16,997,187
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/1.1
MAX FULL SEEK (ms) _____19/20
MTBF (power-on hours) _____1,000,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.2
+12V TYPICAL (amps) __0.7 idle
+5V START-UP (amps) __
+5V TYPICAL (amps) ___0.8 idle
IDLE (watts) _____12.4
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	2.3/1.04

Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-18771W Ultra-SCSI Wide (Barracuda 8)

```
ÉÍÍÍÍÍÍÍÍÍÍ»
º REAR VIEW º   (ST-18771W only)
ÈÍÍÍÍÍÍÍÍÍÍ¼
      (TOP)                          Auxiliary
        _________________        ÚÄÄ   Ä1¿/ÍÍÍÍÍÍÍÍ\
      Í( ××××××××××××××××××1)Í³:::::³³ 0 0 0 0 ÆÍ
        \ÄÄÄÄÄÄÄÄÄÄÄÄÄ³ÄÄÄÄ/   À   ÄÄ   ÙÀÄ5ÄGÄGÄ12Ù
     68 pin I/O CableÙ             ³³³³³³
     Connection Male                 ³³³³³³
                                   ³³³³³³
                                   ³³³³³³
      Auxiliary option header ³³³³³³
         pin-11 +5v   ÄÄÄÄÄÄÄÄÄÄÙ³³³³³
         pin-10 GND   ÄÄÄÄÄÄÄÄÄÄÙ³³³³
         SCSI ID = 8 ÄÄÄÄÄÄÄÄÄÄÄÄÙ³³³
         SCSI ID = 4 ÄÄÄÄÄÄÄÄÄÄÄÄÄ´³³
          or pin-6 REFIND+ ÄÄÄÄÄÄÙ³³
         SCSI ID = 2 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ³
         SCSI ID = 1 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
         SCSI ID = 0 (none)


ÉÍÍÍÍÍÍÍÍÍÍ»
º REAR VIEW º   (ST-18771WC only)
ÈÍÍÍÍÍÍÍÍÍÍ¼
                     80 pin I/O and DC Power Wall/bracket Connection
                     ³   Female
  J1            /ÄÄÄÄ³ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ\        TOP (HDA)
   ÍÍÍÍÍÍÍÍÍ/ ×××××××××××××××××××××× \ÍÍÍÍÍÍÍÍÍ
              (\Ä1ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ40/)      BOTTOM

   Notes on 80 pin I/O connector:
     pins   1 -   4 = +12v           41 - 44 = 12v GND
           34 - 36 = +5v            74 - 76 = 5v GND
                37 = SYNC                77 = LEDC
                38 = MTRON                78 = DLYDST
                39 = SCSIA0              79 = SCSIA1
                40 = SCSIA2              80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
                                 2-557101-1 right angle to PCB


ÉÍÍÍÍÍÍÍÍÍÍ»
º SIDE VIEW º   (ST-18771W/WC)
ÈÍÍÍÍÍÍÍÍÍÍ¼


BACK     ÕÍ¸          J2   12345678                        TOP (HDA)   FRONT
 OF      J1ÆÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ OF
DRIVE   ÔÍ¾                ::::::::                     BOTTOM       DRIVE
                          ³³³³³³³³
 ³Terminator Power Ù³³³³³³À Enable T-Res (not used on WC,WD models)
Ú´Terminator Power ÄÙ³³³³ÀÄ Start Delay (12 secs * ID)
³            Reserved ÄÄÙ³³ÀÄÄ Motor Start
³    Parity Disable ÄÄÄÙÀÄÄÄ Write Protect
³
³
³ ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
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ÀÄ´ Termination Power-source Table ³
   ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
   ³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍ                       ³
   ³                                     A Drive Supplies Bus   ³
   ³   1 2      1 2       1 2       1 2       B Drive Supplies Own   ³
   ³ ÖÄ·        ÖÄ·              Ö Ä ·      C Bus Supplies Drive   ³
   ³ ºøºø      øºøº     ÖøÄø·     ÓøÄø½      D Differential only:   ³
   ³ Óø½ø      øÓø½     ÓøÄø½      ø ø         Drive Supplies Bus   ³
   ³    A         B          C          D                          ³
   ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
   (not used on WC model)
   Note: WD drives do not have internal terminators or any other
         way of adding internal terminators to the drive; use
         external active termination if required.


ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (ST-18771W/WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼
                                     ÚÄÄ´Reserved. Shipped with cover installed.
                                     ³   ÀDo not remove. Do not install jumpers
                     TOP (HDA)   ÕØÍÍÍ¸        1
    ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³:::::ÆÍÍ
                *      BOTTOM       ÔÍÍÍ¾123456
                ³                J6      ³³³³³³
          LED ÄÙ                          ³³³³³³
                           Remote LED Ù³³³³À ID 1
                          (pin-11 +5v) ³³³ÀÄ ID 2
                              Reserved ÄÙ³ÀÄÄ ID 4
                                         ÀÄÄÄ ID 8
```

ST-18771W

UNFORMATTED CAPACITY (MB) ________________11300
FORMATTED CAPACITY (MB) __________________8700
AVERAGE SECTORS PER TRACK ________________ rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________105,460
CYLINDERS ________________________________5,273 user
HEADS ______PHYSICAL______________________20
DISCS (3.5 in) ___________________________11
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________PRML (0,6,6)
INTERNAL TRANSFER RATE (mbits/sec)________75 to 120
EXTERNAL TRANSFER RATE (mbyte/sec) _______40 Sync
SPINDLE SPEED (RPM) ______________________7,200
AVERAGE LATENCY (mSEC) ___________________4.17
BUFFER (/optional)________________________512/2048 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________Ultra-SCSI
ASA II
BYTES PER TRACK __________________________70,830 to 111,460
SECTORS PER DRIVE ________________________16,997,187
TPI (TRACKS PER INCH) ____________________
BPI (BITS PER INCH) ______________________
AVERAGE ACCESS (ms) (read/write)__________8.0/9.5
Drive level without controller overhead
SINGLE TRACK SEEK (ms) ___________________0.6/1.1

MAX FULL SEEK (ms) _____19/20
MTBF (power-on hours) _____1,000,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.2
+12V TYPICAL (amps) __0.7 idle
+5V START-UP (amps) __
+5V TYPICAL (amps) ___0.8 idle
IDLE (watts) _____12.4
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

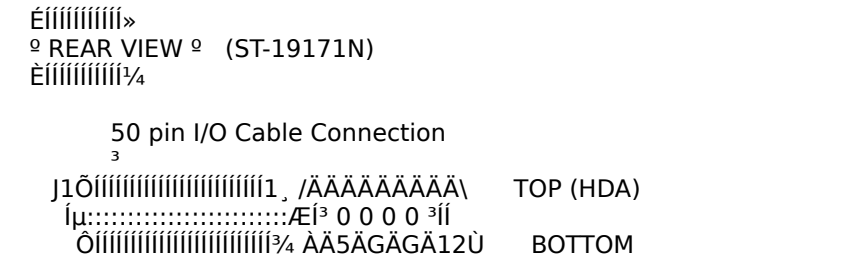
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	2.3/1.04

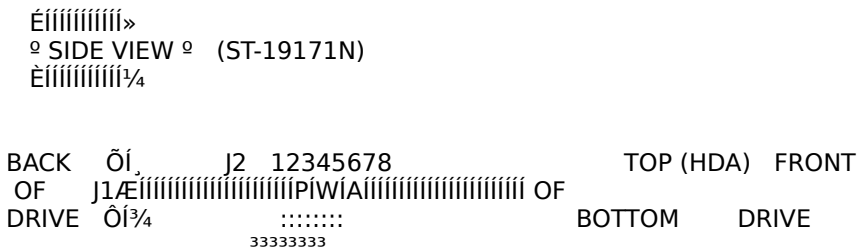
Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

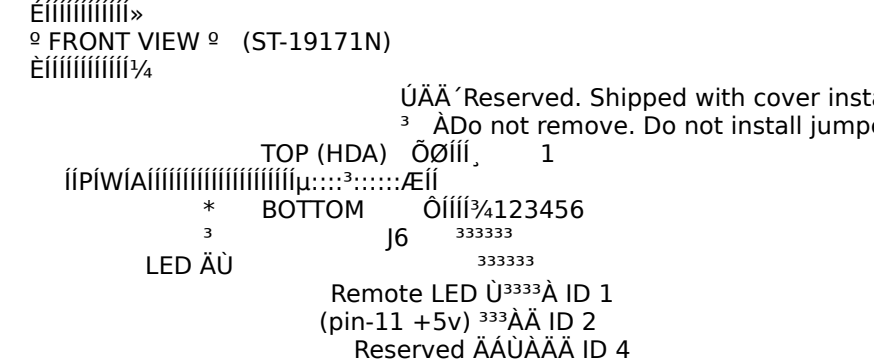
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-19171N Ultra-SCSI (Barracuda 9)







UNFORMATTED CAPACITY (MB) _____11700
FORMATTED CAPACITY (MB) _____9100
AVERAGE SECTORS PER TRACK _____166 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____106,660
CYLINDERS _____5,333 user
HEADS _____PHYSICAL_____20
DISCS (3.5 in) _____11
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____PRML (0,6,6)
INTERNAL TRANSFER RATE (mbits/sec)_____75 to 120
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER (/optional)_____512/2048 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____Ultra-SCSI
ASA II
BYTES PER TRACK _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____8.2/9.7
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.8/1.2
MAX FULL SEEK (ms) _____19.2/20.2
MTBF (power-on hours) _____1,000,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.2
+12V TYPICAL (amps) __0.7 idle
+5V START-UP (amps) __
+5V TYPICAL (amps) ___0.8 idle
IDLE (watts) _____12.4
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

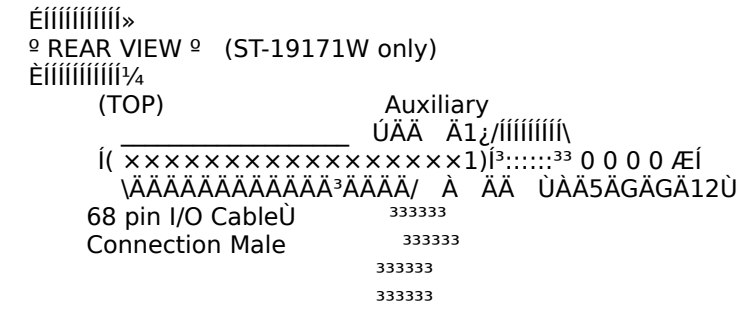
Height (inches/mm):	1.63/41.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	2.3/1.04

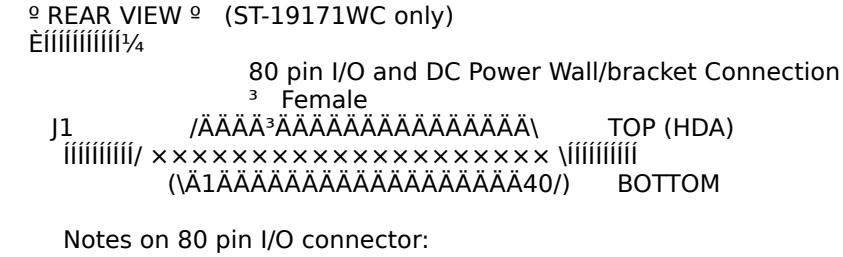
Already low-level formatted at the factory with 15 spare sectors per cylinder and 1 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-19171W Ultra-SCSI Wide (Barracuda 9)

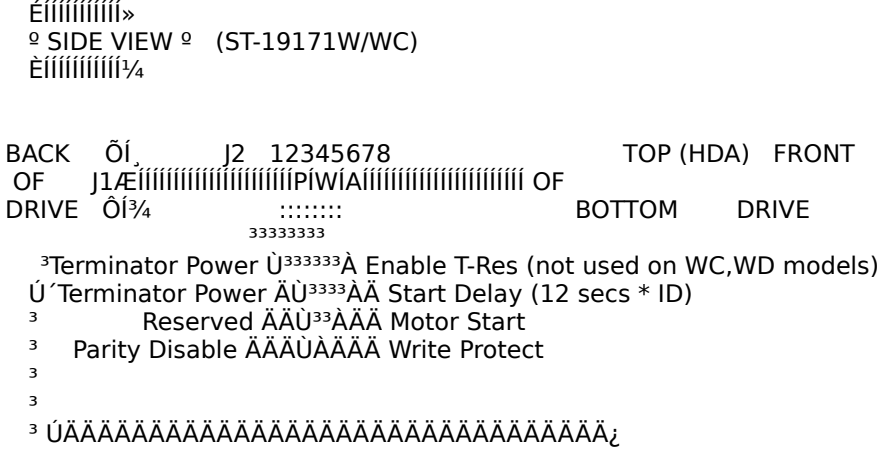




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



³Terminator Power ³ Enable T-Res (not used on WC,WD models)
³ Start Delay (12 secs * ID)
³ Reserved ³ Motor Start
³ Parity Disable ³ Write Protect
³
³
³

```
ÀÄ´ Termination Power-source Table ³
   ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
   ³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍ                         ³
   ³                                         A Drive Supplies Bus   ³
   ³   1 2       1 2        1 2        1 2       B Drive Supplies Own   ³
   ³ ÖÄ·          ÖÄ·                 Ö Ä ·      C Bus Supplies Drive   ³
   ³ ºøºø       øºøº      ÖøÄø·      ÓøÄø½      D Differential only:   ³
   ³ Óø½ø       øÓø½      ÓøÄø½       ø ø          Drive Supplies Bus   ³
   ³     A          B            C           D                           ³
   ÀÄÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
   (not used on WC model)
```

Note: WD drives do not have internal terminators or any other way of adding internal terminators to the drive; use external active termination if required.

```
ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (ST-19171W/WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼
                                           ÚÄÄ´Reserved. Shipped with cover installed.
                                           ³   ÀDo not remove. Do not install jumpers
                        TOP (HDA)   ÕØÍÍÍ¸        1
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³::::::ÆÍÍ
                  *      BOTTOM       ÔÍÍÍ¾123456
                  ³                   J6      ³³³³³³
          LED ÄÙ                                ³³³³³³
                                Remote LED Ù³³³³À ID 1
                               (pin-11 +5v) ³³³ÀÄ ID 2
                                   Reserved ÄÙ³ÀÄÄ ID 4
                                               ÀÄÄÄ ID 8
```

ST-19171W

UNFORMATTED CAPACITY (MB) ________________11700
FORMATTED CAPACITY (MB) __________________9100
AVERAGE SECTORS PER TRACK ________________166 rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________106,660
CYLINDERS ________________________________5,333 user
HEADS ______PHYSICAL______________________20
DISCS (3.5 in) ___________________________11
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________PRML (0,6,6)
INTERNAL TRANSFER RATE (mbits/sec)________75 to 120
EXTERNAL TRANSFER RATE (mbyte/sec) _______40 Sync
SPINDLE SPEED (RPM) ______________________7,200
AVERAGE LATENCY (mSEC) ___________________4.17
BUFFER (/optional)________________________512/2048 KByte
   Read Look-Ahead, Adaptive,
   Multi-Segmented Cache
INTERFACE ________________________________Ultra-SCSI
                                          ASA II
BYTES PER TRACK __________________________
SECTORS PER DRIVE ________________________
TPI (TRACKS PER INCH) ____________________
BPI (BITS PER INCH) ______________________
AVERAGE ACCESS (ms) (read/write)__________8.2/9.7
   Drive level without controller overhead
SINGLE TRACK SEEK (ms) ___________________0.8/1.2

MAX FULL SEEK (ms) _____19.2/20.2
MTBF (power-on hours) _____1,000,000
POWER REQUIREMENTS: +12V START-UP (amps) _2.2
+12V TYPICAL (amps) __0.7 idle
+5V START-UP (amps) __
+5V TYPICAL (amps) ___0.8 idle
IDLE (watts) _____12.4
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

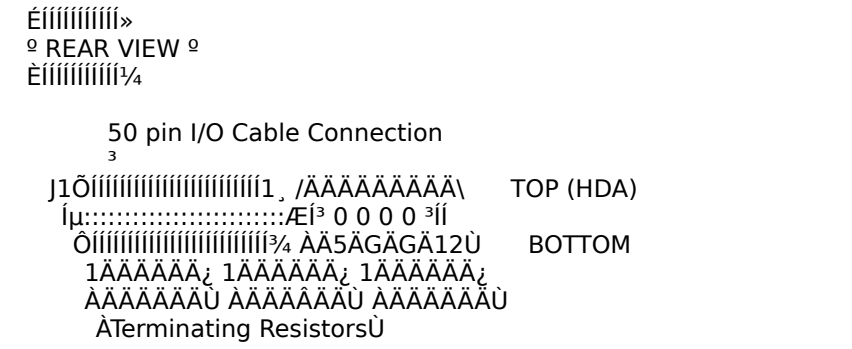
Height	(inches/mm):	1.63/41.4
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.75/146.1
Weight	(lbs/kg):	2.3/1.04

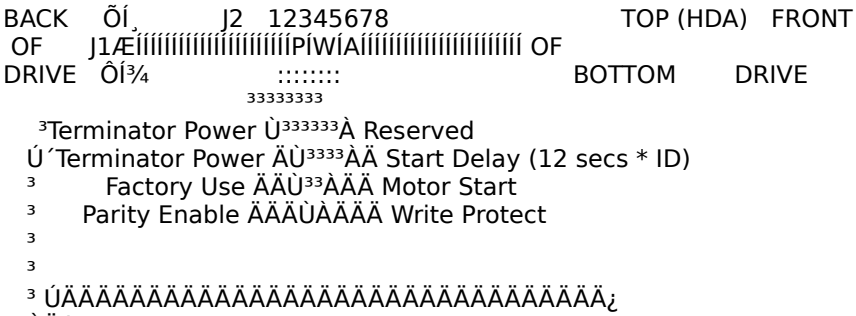
Already low-level formatted at the factory with 15 spare sectors per cylinder and 1 spare cylinder per unit.

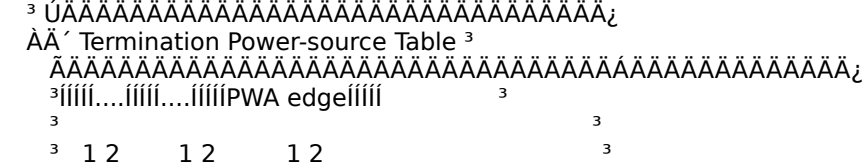
ZBR = Zone Bit Recording = Variable sectors per track

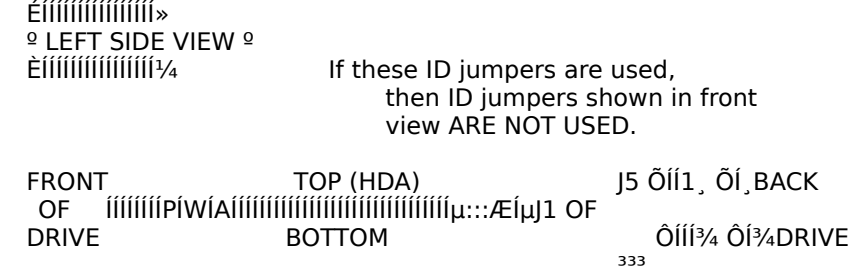
Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-1950N SCSI-2 Fast









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ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                   TOP (HDA)    J6   ÕÍÍÍÍ1¸
 ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::::ÆÍ
             *     BOTTOM           ÔÍÍÍÍÍ¾
             ³                     123456
        LED ÄÙ                      ³³³³³³
                              ID 4 Ù³³³³À Reserved
                              ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                              ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                          (pin-6 REF SIG+)
  If these ID jumper are used, then
     ID jumpers shown in left side
     view ARE NOT USED.
```

ST - 1950N

UNFORMATTED CAPACITY (MB) ________________953
FORMATTED CAPACITY (xx SECTORS) (MB) _____803
AVERAGE SECTORS PER TRACK ________________76
ACTUATOR TYPE ____________________________VOICE COIL
TRACKS ___________________________________20,475
CYLINDERS ________________________________1,575 (user)
HEADS ____________________________________13
DISCS (3.5 in) ___________________________7
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _______25.2 to 41.2
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________4,535
AVERAGE LATENCY (mSEC) ___________________6.61
BUFFER ___________________________________256 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 Fast
BYTES PER TRACK __________________________46,550 avg.
TPI (TRACKS PER INCH) ____________________2,150
AVERAGE ACCESS (ms) (read/write)__________TBD
Drive level without controller overhead
SINGLE TRACK SEEK (ms) ___________________TBD
MAX FULL SEEK (ms) _______________________TBD
MTBF (power-on hours) ____________________200,000
SHOCK (G's):
operating (Read/Write) __________10
nonoperating ____________________
ACOUSTICS (typ/max dBA) __________________/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.5
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) ______11
IDLE (watts) _________9
LANDING ZONE (cyl)________________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

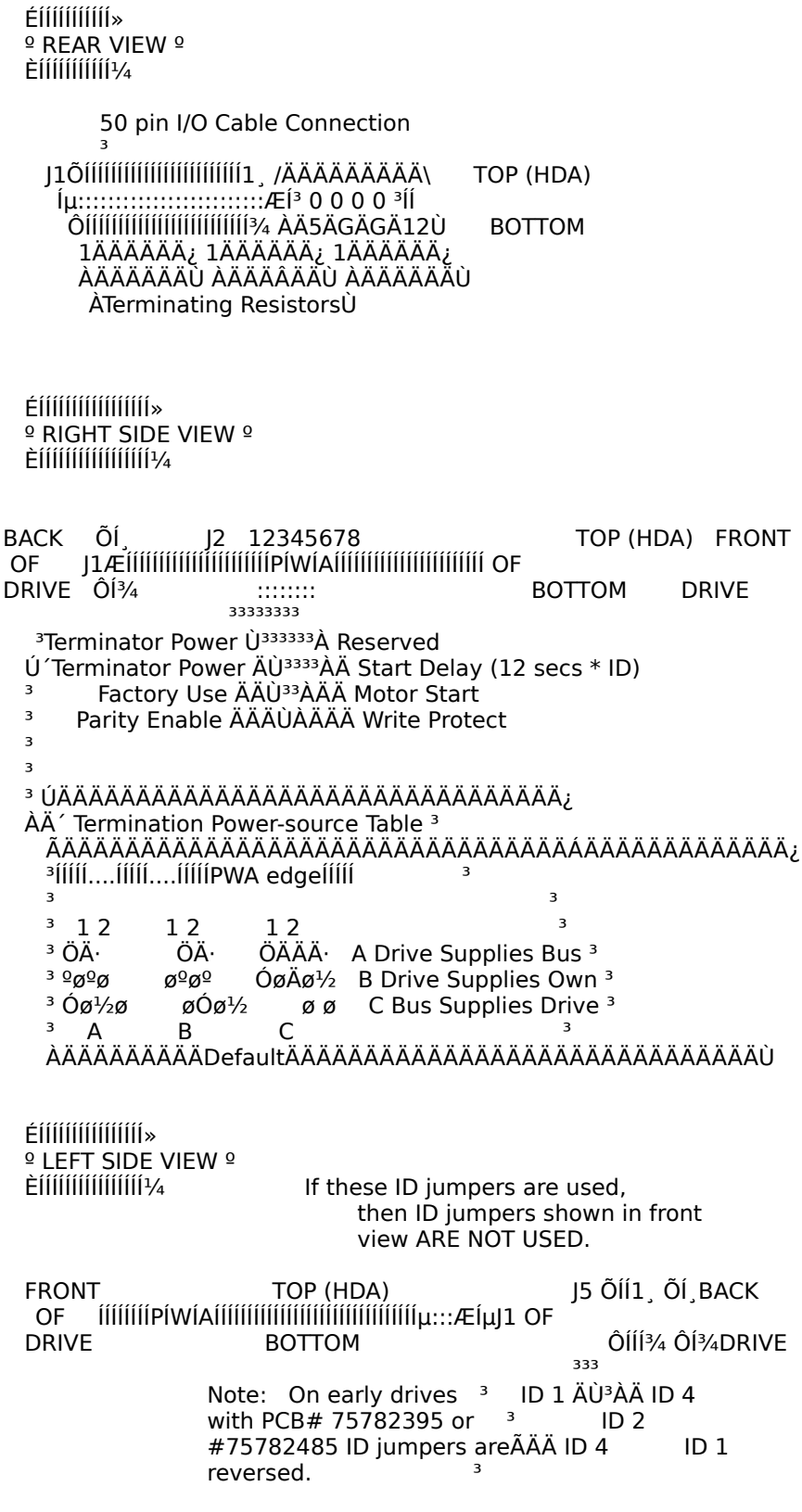
Already low-level formatted at the factory.

ZBR = Zone Bit Recording = Variable sectors per track

Formatted at the factory with 1 spare sector per track
and two spare cylinders at inner tracks per unit.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/12/93)

ST-1980N SCSI-2 Fast (Hawk 1)



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ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼

                        TOP (HDA)     J6   ÕÍÍÍÍ1¸
  ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
                *       BOTTOM              ÔÍÍÍÍÍ¾
                ³                          123456
         LED ÄÙ                             ³³³³³³
                                   ID 4 Ù³³³³À Reserved
                                   ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                                   ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                               (pin-6 REF SIG+)
   If these ID jumper are used, then
      ID jumpers shown in left side
      view ARE NOT USED.
```

ST - 1980N
Hawk 1

UNFORMATTED CAPACITY (MB) ________________1,021
FORMATTED CAPACITY (xx SECTORS) (MB) _____860
AVERAGE SECTORS PER TRACK ________________74
ACTUATOR TYPE ____________________________VOICE COIL
TRACKS ___________________________________22,490
CYLINDERS ________________________________1,730 (user)
HEADS ____________________________________13
DISCS (3.5 in) ___________________________7
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _______24.4 to 40.6
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________5,411
AVERAGE LATENCY (mSEC) ___________________5.4
BUFFER ___________________________________256 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 Fast
BYTES PER TRACK __________________________45,434 avg.
TPI (TRACKS PER INCH) ____________________2,150
AVERAGE ACCESS (ms) (read/write)__________9.9/10.6
Drive level without controller overhead
SINGLE TRACK SEEK (ms) ___________________1.5/2.0
MAX FULL SEEK (ms) _______________________19.0/20.0
MTBF (power-on hours) ____________________200,000
SHOCK (G's):
operating (Read/Write) __________10
nonoperating ____________________60
ACOUSTICS (typ/max dBA) __________________/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.5
+5V TYPICAL (amps) ___0.4
TYPICAL (watts) ______11
IDLE (watts) _________9
LANDING ZONE (cyl)________________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

Formatted at the factory with 1 spare sector per track
and two spare cylinders at inner tracks per unit.

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-2106N (94211-106) Wren 3 HH SCSI

```
                                                          4 2 1 P     Ú12ÄGÄGÄ5Ä¿
  ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿   A B C D E F G H   o o o o    ³ 0 0 0 0 ³ Power
  ³:SCSI:Cable::::pin 1³   o o o o o o o o   o o o o    \Ä1Ä2Ä3Ä4Ä/
ÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÑÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ
                                                           ³    ³
     A-B Not used                                           ³    ÀÄ Parity check
     B-C Terminator power from Bus                    ÀÄÄÄÄÄÄ Drive Select ID
     C-D Terminator power from Drive
     D-E Not used
     E-F Not used
     F-G Continuous test seeks
     G-H Motor Start option enable
```

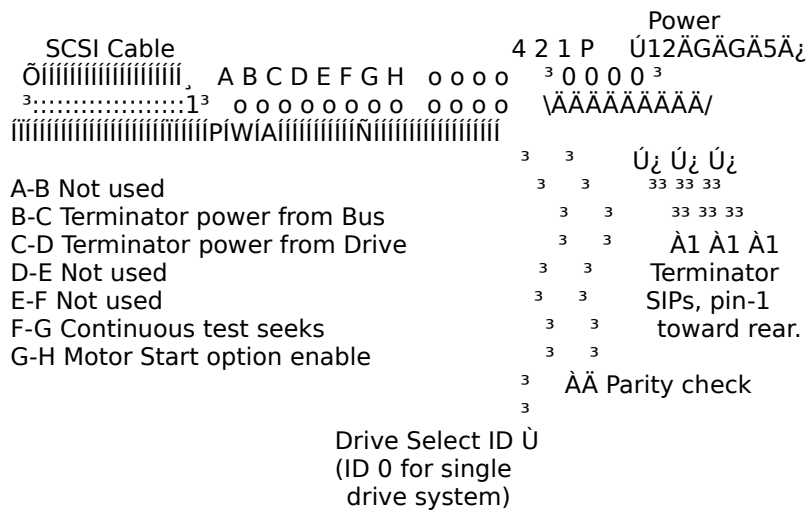
ST-2106N
94211-106 WREN 3 HH

UNFORMATTED CAPACITY (MB) ________________106
FORMATTED CAPACITY (36 SECTORS) (MB) _____91
ACTUATOR TYPE ____________________________VOICE COIL
TRACKS ___________________________________5,120
CYLINDERS ________________________________1,022
HEADS ____________________________________5
DISCS ____________________________________3
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________RLL (2,7)
TRANSFER RATE (mbytes/sec) _______________1.25
SPINDLE SPEED (RPM) ______________________3,600
AVERAGE LATENCY (mSEC) ___________________8.33
BUFFER ___________________________________8 or 32 Kbyte
  8 Kbyte: FIFO, Non-Adaptive,
   Single-Segmented Buffer
  32 Kbyte: Read Look-Ahead, Non-Adaptive,
   Single-Segmented Buffer
INTERFACE ________________________________SCSI
TPI (TRACKS PER INCH) ____________________960
BPI (BITS PER INCH) ______________________19,058
AVERAGE ACCESS (ms) ______________________18
SINGLE TRACK SEEK (ms) ___________________4
MAX FULL SEEK (ms) _______________________35
MTBF (power-on hours) ____________________100,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
                    +12V TYPICAL (amps) __1.0
                    +5V START-UP (amps) __1.7
                    +5V TYPICAL (amps) ___1.0
                    TYPICAL (watts) ______18
                    MAXIMUM (watts) ______63
BUFFERED STEP PULSE RATE (micro sec) _____N/A
WRITE PRECOMP (cyl) ______________________N/A
REDUCED WRITE CURRENT (cyl) ______________N/A
LANDING ZONE (cyl) _______________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-2125N (94221-125) Wren 5 HH SCSI



ST-2125N
94221-125/M WREN 5 HH

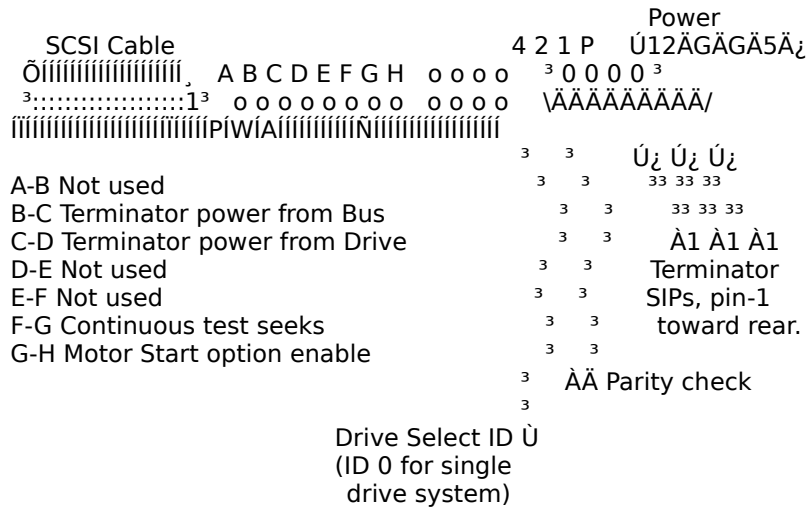
UNFORMATTED CAPACITY (MB)	125
FORMATTED CAPACITY (xx SECTORS) (MB)	107
AVERAGE SECTORS PER TRACK	45
ACTUATOR TYPE	VOICE COIL
TRACKS	4632
CYLINDERS	1544
HEADS	3
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.125-1.875
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1280
BPI (BITS PER INCH)	19213
AVERAGE ACCESS (ms)	18
SINGLE TRACK SEEK (ms)	4
MAX FULL SEEK (ms)	40
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	0.9
+5V START-UP (amps)	1.3
+5V TYPICAL (amps)	1.0
TYPICAL (watts)	16
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-2209N (94221-209/M) Wren 5 HH SCSI



ST-2209N
94221-209/M WREN 5 HH

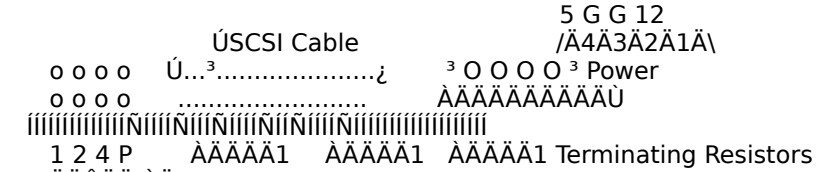
UNFORMATTED CAPACITY (MB)	209
FORMATTED CAPACITY (xx SECTORS) (MB)	179
AVERAGE SECTORS PER TRACK	45
ACTUATOR TYPE	VOICE COIL
TRACKS	7720
CYLINDERS	1544
HEADS	5
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR (RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.125-1.875
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 Kbyte
Read Look-Ahead, Non Adaptive, Single-Segmented Buffer	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1280
BPI (BITS PER INCH)	19213
AVERAGE ACCESS (ms)	18
SINGLE TRACK SEEK (ms)	4
MAX FULL SEEK (ms)	40
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	0.9
+5V START-UP (amps)	1.3
+5V TYPICAL (amps)	1.0
TYPICAL (watts)	16
MAXIMUM (watts)	61
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-225N SCSI

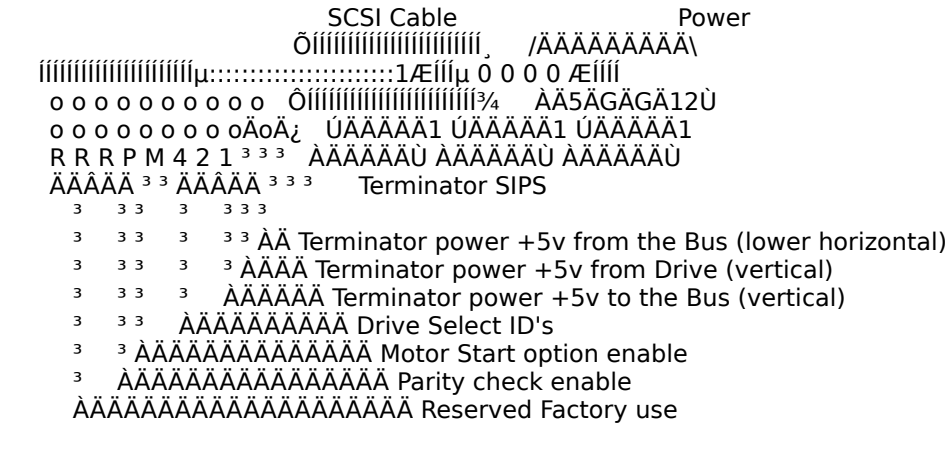


ST - 225N

UNFORMATTED CAPACITY (MB)	25
FORMATTED CAPACITY (17 SECTORS) (MB)	21.3
ACTUATOR TYPE	STEPPER
TRACKS	2,460
CYLINDERS	615
HEADS	4
DISCS	2
MEDIA TYPE	OXIDE
RECORDING METHOD	MFM
TRANSFER RATE (mbits/sec)	5.0
SPINDLE SPEED (RPM)	3,600
INTERFACE	SCSI
TPI (TRACKS PER INCH)	588
BPI (BITS PER INCH)	9,827
AVERAGE ACCESS (ms)	65
SINGLE TRACK SEEK (ms)	20
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.4
+12V TYPICAL (amps)	0.9
+5V TYPICAL (amps)	1.2
TYPICAL (watts)	16.8
MAXIMUM (watts)	35
BUFFERED STEP PULSE RATE (micro sec)	5-200
WRITE PRECOMP (cyl)	N/A (616)
REDUCED WRITE CURRENT (cyl)	N/A (616)
LANDING ZONE (cyl)	670
IBM AT DRIVE TYPE	0 or NONE

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-2383N (94241-383) Wren 6 HH SCSI and SCSI-2



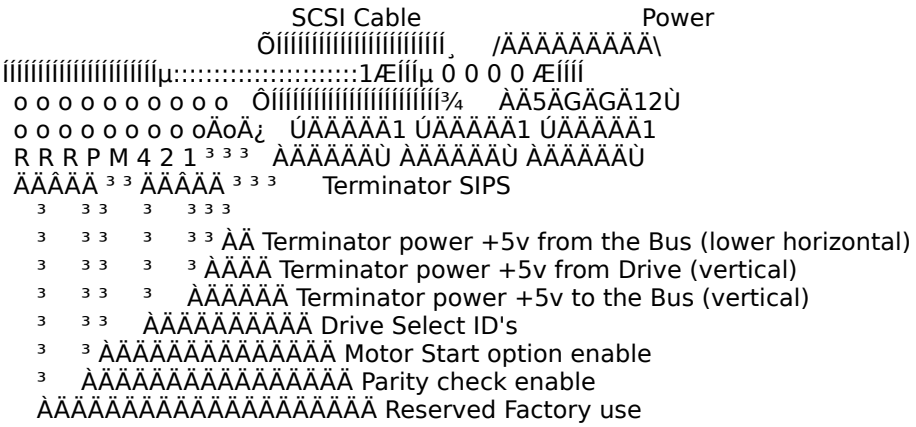
ST-2383N
94241-383 WREN 6 HH

UNFORMATTED CAPACITY (MB)	383
FORMATTED CAPACITY (xx SECTORS) (MB)	332
AVERAGE SECTORS PER TRACK	74
ACTUATOR TYPE	VOICE COIL
TRACKS	8827
CYLINDERS	1261
HEADS	7
DISCS	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE (mbytes/sec)	2.25-2.75
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	64 Kbyte
SCSI-1: Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
SCSI-2: Read Look-Ahead, Adaptive, Multi-Segmented Cache	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1459
BPI (BITS PER INCH)	31674
AVERAGE ACCESS (ms)	14
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	33
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.0
+12V TYPICAL (amps)	1.0
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.65
TYPICAL (watts)	16
MAXIMUM (watts)	58
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-2502N (94241-502) Wren 6 HH SCSI and SCSI-2



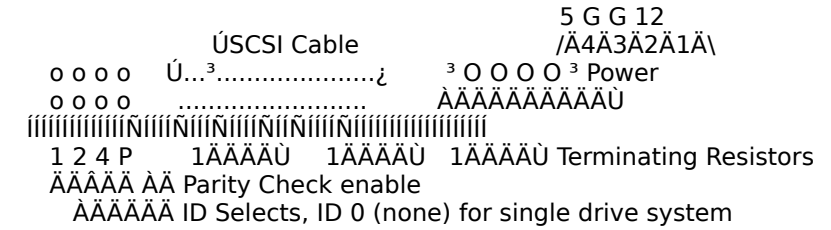
ST-2502N
94241-502 WREN 6 HH

UNFORMATTED CAPACITY (MB)	502
FORMATTED CAPACITY (xx SECTORS) (MB)	435
AVERAGE SECTORS PER TRACK	69
ACTUATOR TYPE	VOICE COIL
TRACKS	12285
CYLINDERS	1755
HEADS	7
DISCS	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.875-2.75
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	64 Kbyte
SCSI-1: Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
SCSI-2: Read Look-Ahead, Adaptive, Multi-Segmented Cache	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1459
BPI (BITS PER INCH)	31674
AVERAGE ACCESS (ms)	16
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	33
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.0
+12V TYPICAL (amps)	1.0
+5V START-UP (amps)	0.75
+5V TYPICAL (amps)	0.65
TYPICAL (watts)	16
MAXIMUM (watts)	58
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-251N SCSI



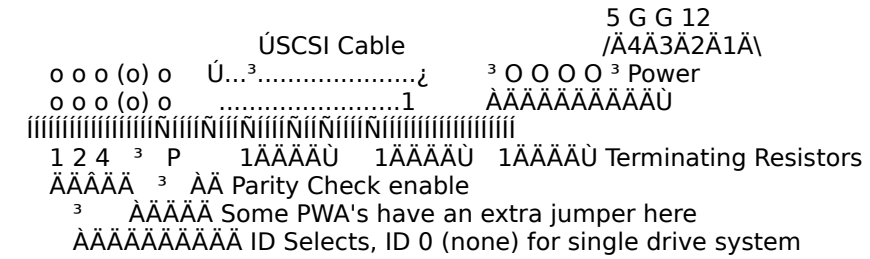
ST - 251N

UNFORMATTED CAPACITY (MB)	51
FORMATTED CAPACITY (26/34* SECTORS) (MB)	43.1/43.2*
ACTUATOR TYPE	STEPPER
TRACKS	3,280/2,520*
CYLINDERS	820/630*
HEADS	4
DISCS	2
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbits/sec)	7.5/10*
SPINDLE SPEED (RPM)	3,600
INTERFACE	SCSI
TPI (TRACKS PER INCH)	777
BPI (BITS PER INCH)	14,902/19,869*
AVERAGE ACCESS (ms)	40/28*
SINGLE TRACK SEEK (ms)	8
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0/2.5*
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	1.2/1.4*
TYPICAL (watts)	12/13*
MAXIMUM (watts)	30/37*
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (821/631*)
REDUCED WRITE CURRENT (cyl)	N/A (821/631*)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

*ST251N-0/ST251N-1

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-277N SCSI

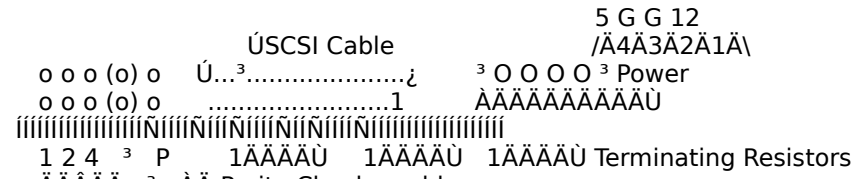


ST - 277N

UNFORMATTED CAPACITY (MB)	77
FORMATTED CAPACITY (26/34* SECTORS) (MB)	64.9
ACTUATOR TYPE	STEPPER
TRACKS	4,920/3,768*
CYLINDERS	820/628*
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbits/sec)	7.5/10*
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	SCSI
SECTORS PER DRIVE	126,875
TPI (TRACKS PER INCH)	777
BPI (BITS PER INCH)	14,902/19,869*
AVERAGE ACCESS (ms)	40/28*
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	/70
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.0/2.5*
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	1.2/1.4*
TYPICAL (watts)	12/13*
MAXIMUM (watts)	30/37*
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (821/629*)
REDUCED WRITE CURRENT (cyl)	N/A (821/629*)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

*ST277N-0/ST277N-1

ST-296N SCSI

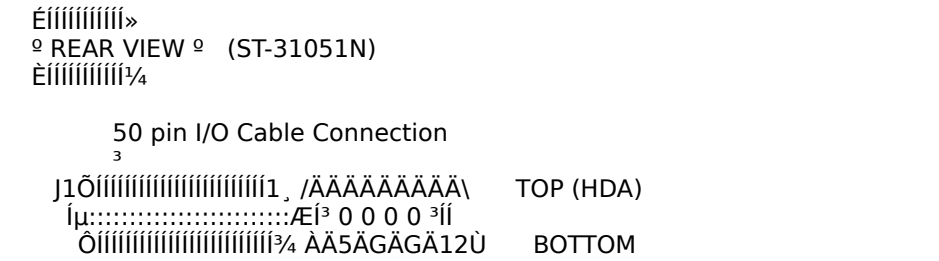


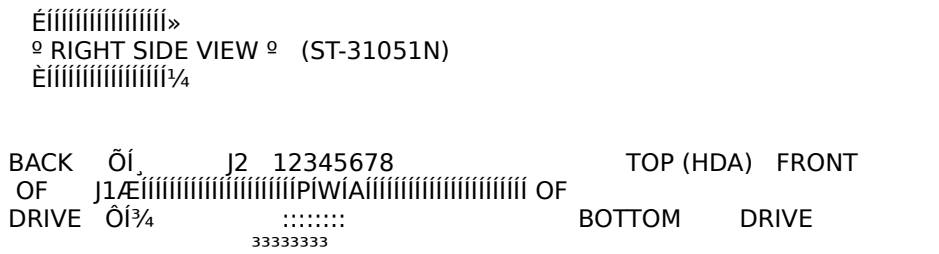
ST - 296N

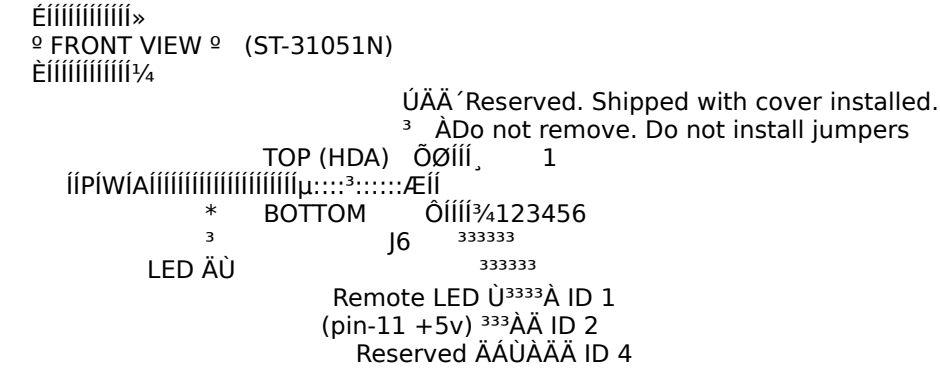
UNFORMATTED CAPACITY (MB)	96
FORMATTED CAPACITY (34 SECTORS) (MB)	84.9
ACTUATOR TYPE	STEPPER
TRACKS	4,920
CYLINDERS	820
HEADS	6
DISCS	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbits/sec)	10
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.3
INTERFACE	SCSI
SECTORS PER DRIVE	165,851
TPI (TRACKS PER INCH)	777
BPI (BITS PER INCH)	19,869
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	8
MAX FULL SEEK (ms)	/70
MTBF (power-on hours)	70,000
POWER REQUIREMENTS: +12V START-UP (amps)	2.5
+12V TYPICAL (amps)	0.5
+5V TYPICAL (amps)	1.4
TYPICAL (watts)	13
MAXIMUM (watts)	37
BUFFERED STEP PULSE RATE (micro sec)	3-200
WRITE PRECOMP (cyl)	N/A (821)
REDUCED WRITE CURRENT (cyl)	N/A (821)
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-31051N SCSI-2 Fast (Hawk 2XL)







FORMATTED CAPACITY (MB) _____1060

AVERAGE SECTORS PER TRACK _____123 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____16,704
CYLINDERS _____4,176 user
HEADS _____PHYSICAL_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)_____44 to 66
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____5,411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____256 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast
ASA II
BYTES PER TRACK (avg) _____75,900
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4800
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
With controller overhead
SINGLE TRACK SEEK (ms) _____2.7
MAX FULL SEEK (ms) _____20.4
MTBF (power-on hours) _____800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.8
+12V TYPICAL (amps) __0.34 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.32 idle
IDLE (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

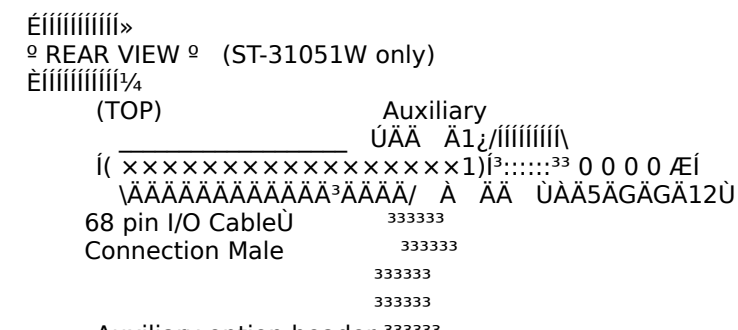
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.5/0.68

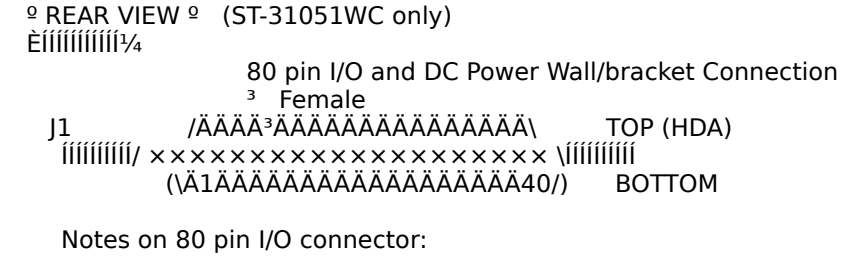
Already low-level formatted at the factory with 5 spare sectors per cylinder and 2 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-31051W/WC Fast Wide SCSI-2 (Hawk 2XL)

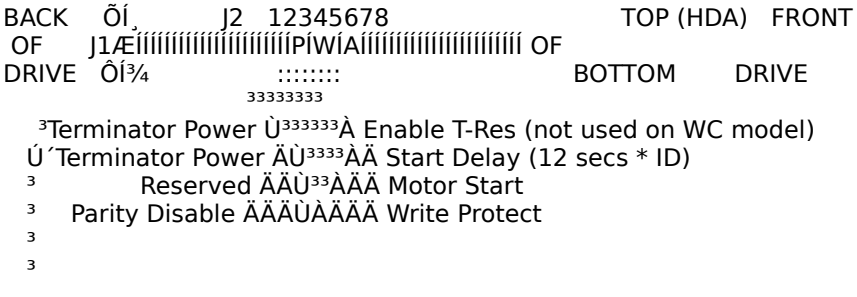




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



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³ ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
ÀÄ´ Termination Power-source Table ³
   ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
   ³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ              ³
   ³                                                  ³
   ³   1 2       1 2         1 2                      ³
   ³ ÖÄ·          ÖÄ·      ÖÄÄÄ·   A Drive Supplies Bus ³
   ³ ºøºø       øºøº      ÓøÄø½   B Drive Supplies Own ³
   ³ Óø½ø       øÓø½       ø ø    C Bus Supplies Drive ³
   ³    A          B           C                      ³
   ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
    (not used on WC model)


ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (ST-31051W/WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼
                                        ÚÄÄ´Reserved. Shipped with cover installed.
                                        ³   ÀDo not remove. Do not install jumpers
                        TOP (HDA)   ÕØÍÍÍ¸       1
    ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³:::::ÆÍÍ
                  *      BOTTOM       ÔÍÍÍ¾123456
                  ³                J6      ³³³³³³
            LED ÄÙ                            ³³³³³³
                              Remote LED Ù³³³³À ID 1
                             (pin-11 +5v) ³³³ÀÄ ID 2
                                 Reserved ÄÙ³ÀÄÄ ID 4
                                              ÀÄÄÄ ID 8
```

ST-31051W

FORMATTED CAPACITY (MB) ___________________1060
AVERAGE SECTORS PER TRACK _________________123 rounded down
ACTUATOR TYPE ______________________________ROTARY VOICE COIL
TRACKS _____________________________________16,704
CYLINDERS __________________________________4,176 user
HEADS ______PHYSICAL_______________________4
DISCS (3.5 in) ____________________________2
MEDIA TYPE ________________________________THIN FILM
RECORDING METHOD __________________________RLL (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)________44 to 66
EXTERNAL TRANSFER RATE (mbyte/sec) _______20 Sync
SPINDLE SPEED (RPM) _______________________5,411
AVERAGE LATENCY (mSEC) ____________________5.54
BUFFER _____________________________________512 KByte
  Read Look-Ahead, Adaptive,
  Multi-Segmented Cache
INTERFACE __________________________________SCSI-2 Fast
ASA II
BYTES PER TRACK (avg) _____________________75,900
SECTORS PER DRIVE _________________________
TPI (TRACKS PER INCH) _____________________4800
BPI (BITS PER INCH) _______________________
AVERAGE ACCESS (ms) (read/write)__________10.4/11.4
 With controller overhead
SINGLE TRACK SEEK (ms) ____________________2.7
MAX FULL SEEK (ms) ________________________20.4
MTBF (power-on hours) _____________________800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.8

+12V TYPICAL (amps) __0.34 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.32 idle
IDLE (watts) _____6.3

LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

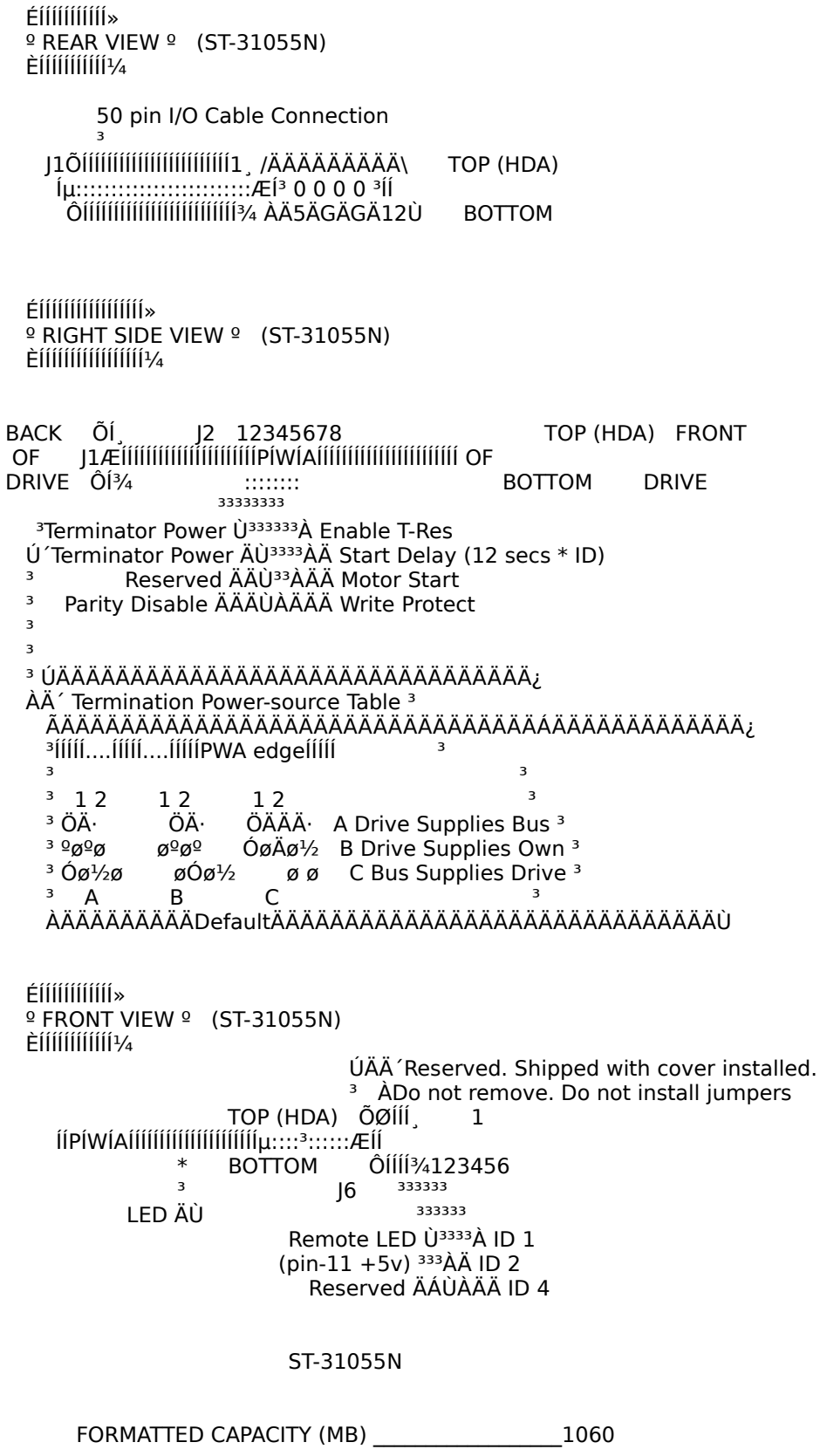
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.5/0.68

Already low-level formatted at the factory with 5 spare sectors per cylinder and 2 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-31055N Ultra-SCSI (Hawk 2XL)



FORMATTED CAPACITY (MB) _____1060

AVERAGE SECTORS PER TRACK _____123 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____16,704
CYLINDERS _____4,176 user
HEADS _____PHYSICAL_____4
DISCS (3.5 in) _____2
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)_____44 to 66
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____5,411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____Ultra-SCSI
ASA II
BYTES PER TRACK (avg) _____75,900
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4800
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
With controller overhead
SINGLE TRACK SEEK (ms) _____2.7
MAX FULL SEEK (ms) _____20.4
MTBF (power-on hours) _____800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.8
+12V TYPICAL (amps) __0.34 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.32 idle
IDLE (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

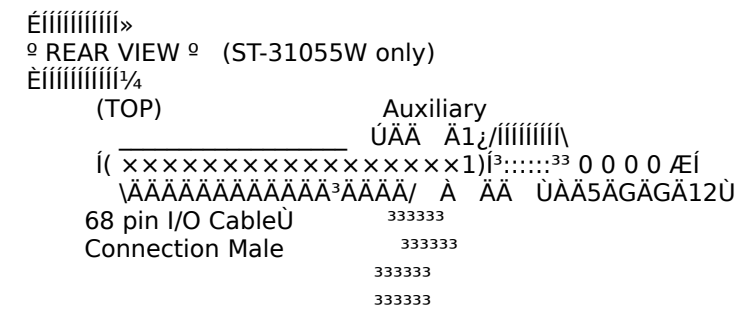
Height	(inches/mm):	1/25.4
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.75/146.1
Weight	(lbs/kg):	1.5/0.68

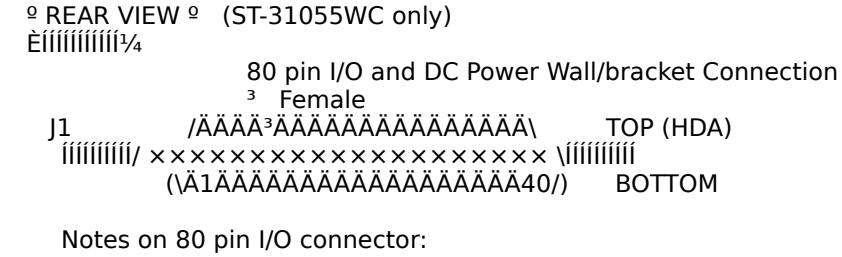
Already low-level formatted at the factory with 5 spare sectors per cylinder and 2 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-31055W/WC Utra-SCSI Wide (Hawk 2XL)

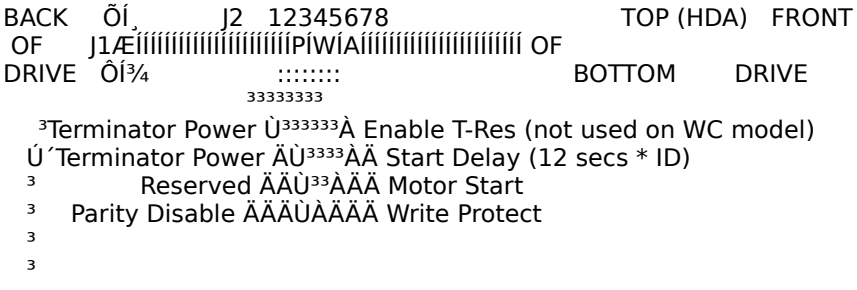




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



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³ ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
ÀÄ´ Termination Power-source Table ³
   ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
   ³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ              ³
   ³                                                               ³
   ³   1 2        1 2          1 2                                  ³
   ³ ÖÄ·           ÖÄ·       ÖÄÄÄ·    A Drive Supplies Bus ³
   ³ ºøºø        øºøº       ÓøÄø½    B Drive Supplies Own ³
   ³ Óø½ø        øÓø½         ø ø     C Bus Supplies Drive ³
   ³     A            B              C                              ³
   ÀÄÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
    (not used on WC model)


ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (ST-31055W/WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼
                                                  ÚÄÄ´Reserved. Shipped with cover installed.
                                                  ³   ÀDo not remove. Do not install jumpers
                               TOP (HDA)   ÕØÍÍÍ¸        1
    ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³::::::ÆÍÍ
                          *       BOTTOM        ÔÍÍÍÍ¾123456
                          ³                       J6       ³³³³³³
               LED ÄÙ                                       ³³³³³³
                                     Remote LED Ù³³³³À ID 1
                                    (pin-11 +5v) ³³³ÀÄ ID 2
                                       Reserved ÄÙ³ÀÄÄ ID 4
                                                     ÀÄÄÄ ID 8
```

ST-31055W

FORMATTED CAPACITY (MB) ___________________1060
AVERAGE SECTORS PER TRACK _________________123 rounded down
ACTUATOR TYPE _____________________________ROTARY VOICE COIL
TRACKS _____________________________________16,704
CYLINDERS __________________________________4,176 user
HEADS ______PHYSICAL_______________________4
DISCS (3.5 in) ____________________________2
MEDIA TYPE ________________________________THIN FILM
RECORDING METHOD _________________________RLL (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)_________44 to 66
EXTERNAL TRANSFER RATE (mbyte/sec) ________40 Sync
SPINDLE SPEED (RPM) _______________________5,411
AVERAGE LATENCY (mSEC) ____________________5.54
BUFFER _____________________________________512 KByte
  Read Look-Ahead, Adaptive,
  Multi-Segmented Cache
INTERFACE __________________________________Ultra-SCSI
ASA II
BYTES PER TRACK (avg) _____________________75,900
SECTORS PER DRIVE _________________________
TPI (TRACKS PER INCH) _____________________4800
BPI (BITS PER INCH) _______________________
AVERAGE ACCESS (ms) (read/write)___________10.4/11.4
 With controller overhead
SINGLE TRACK SEEK (ms) ____________________2.5
MAX FULL SEEK (ms) ________________________20.4
MTBF (power-on hours) _____________________800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.8

+12V TYPICAL (amps) __0.34 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.32 idle
IDLE (watts) _____

LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

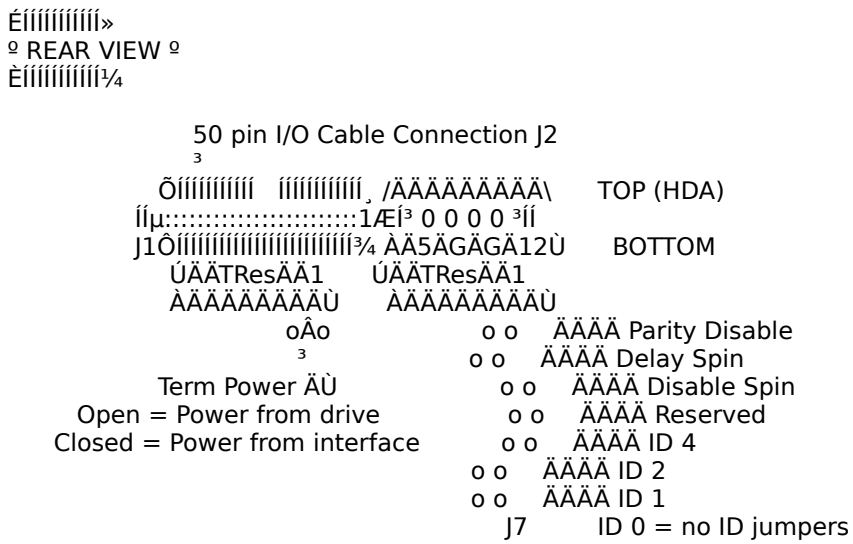
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.5/0.68

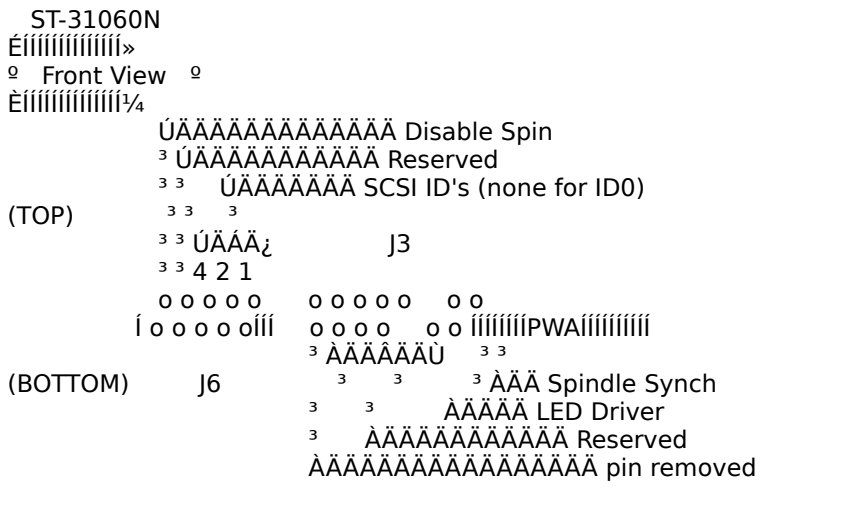
Already low-level formatted at the factory with 5 spare sectors per cylinder and 2 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-31060N SCSI-2 FAST, (Barbados CFP1060S)





ST-31060N Barbados

FORMATTED CAPACITY (MB)	1062.44
AVERAGE SECTORS PER TRACK	94 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	22,056
CYLINDERS	2757 user
HEADS PHYSICAL	8
DISCS (3.5 in)	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	31 to 55
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
BUFFER	512 KByte

Read Look-Ahead, Adaptive,
Multi-Segmented Cache

INTERFACE _____SCSI-2 Fast
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____3147
BPI (BITS PER INCH) _____65,131
AVERAGE ACCESS (ms) (read/write)_____9.0/9.5
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____16
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____75
ACOUSTICS (typ/max dBA) _____43/
POWER REQUIREMENTS: +12V START-UP (amps) _1.7
+12V TYPICAL (amps) __.3
+5V START-UP (amps) __.775
+5V TYPICAL (amps) ___.6
IDLE (watts) _____6.6
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

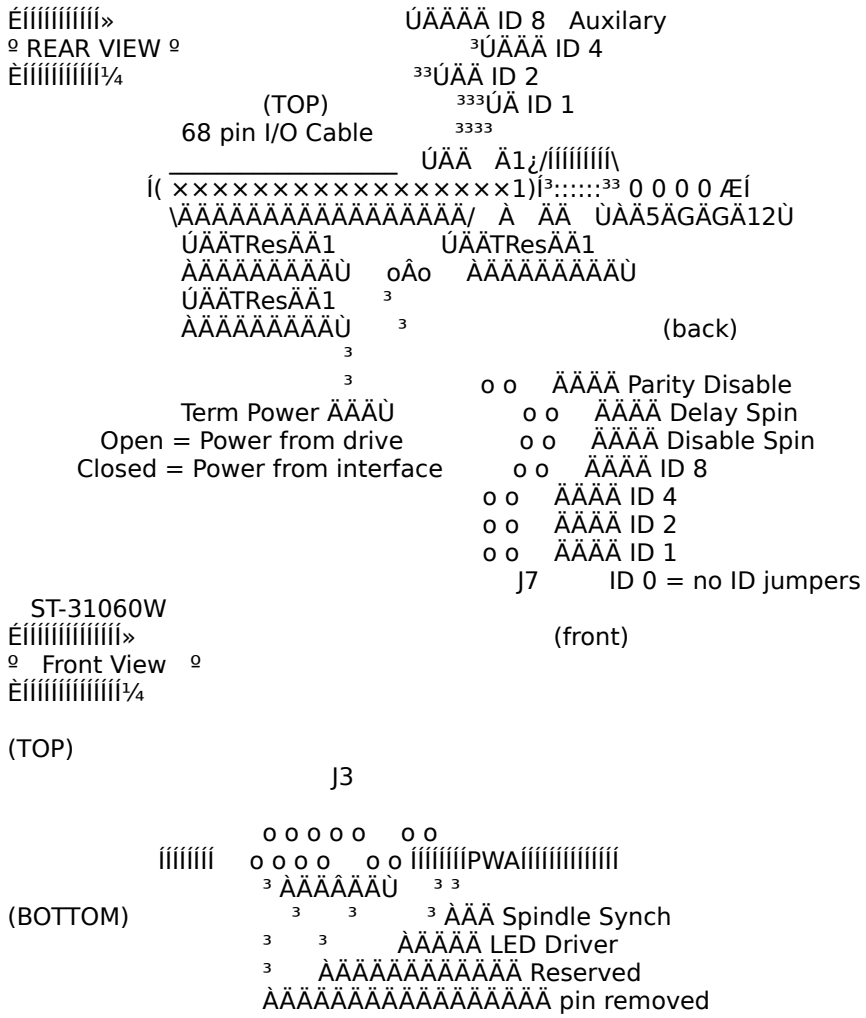
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.3/0.59

Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-31060W SCSI-2 FAST Wide, (Barbados CFP1060W)



(TOP)

ST-31060W Barbados

FORMATTED CAPACITY (MB)	1062.44
AVERAGE SECTORS PER TRACK	94 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	22,056
CYLINDERS	2757 user
HEADS _____PHYSICAL_____	8
DISCS (3.5 in)	4
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____	31 to 55
EXTERNAL TRANSFER RATE (mbyte/sec) _____	20 Sync
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
BUFFER	512 KByte

Read Look-Ahead, Adaptive,

Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast Wide
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____3147
BPI (BITS PER INCH) _____65,131
AVERAGE ACCESS (ms) (read/write)_____9.0/9.5
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____16
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____75
ACOUSTICS (typ/max dBA) _____43/
POWER REQUIREMENTS: +12V START-UP (amps) _1.7
+12V TYPICAL (amps) __.3
+5V START-UP (amps) __.775
+5V TYPICAL (amps) ___.6
IDLE (watts) _____6.6
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

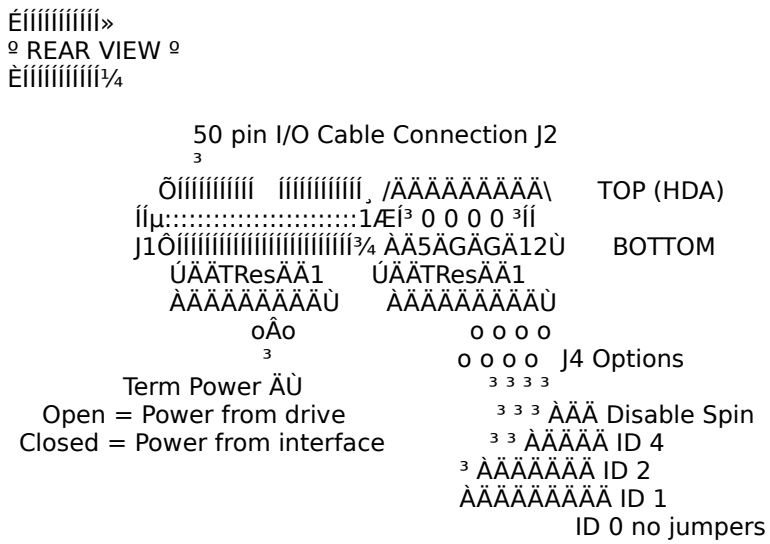
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.3/0.59

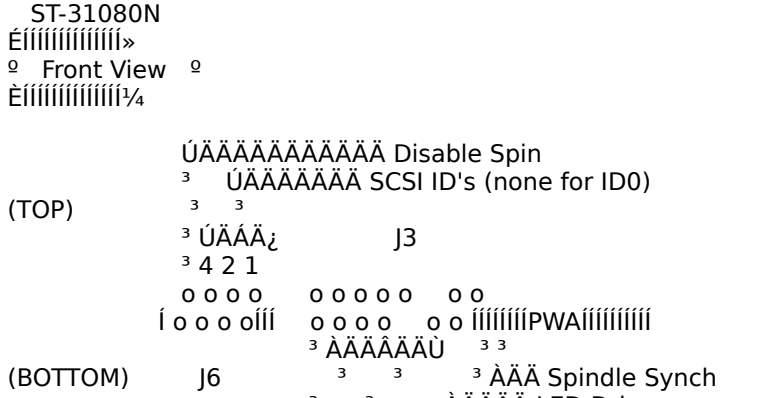
Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-31080N SCSI-2 FAST, (Antigua CFP1080S)





ST-31080N Antigua

FORMATTED CAPACITY (MB)	1080
AVERAGE SECTORS PER TRACK	96 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	21,948
CYLINDERS	3658 user
HEADS PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	31.5 to 55.7
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
BUFFER	256/512 KByte

Read Look-Ahead, Adaptive,
Multi-Segmented Cache

INTERFACE _____SCSI-2 Fast
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____3849
BPI (BITS PER INCH) _____64K
AVERAGE ACCESS (ms) (read/write)_____11/11.5
SINGLE TRACK SEEK (ms) _____3
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____75
ACOUSTICS (typ/max dBA) _____<43/
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
+12V TYPICAL (amps) __.2
+5V START-UP (amps) __.5
+5V TYPICAL (amps) ___.275
IDLE (watts) _____3.75
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

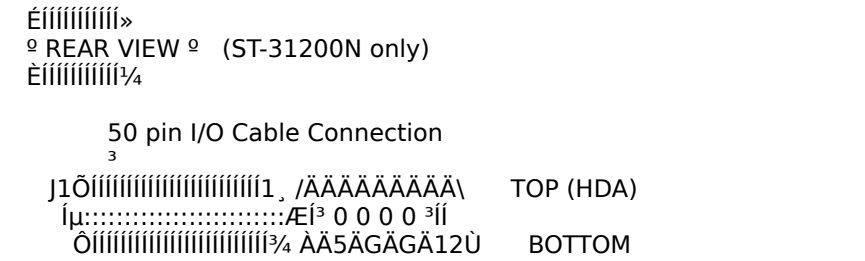
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.3/0.59

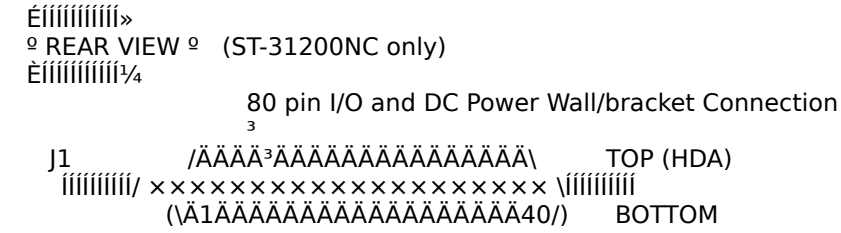
Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-31200N SCSI-2 Fast (Hawk 1LP)

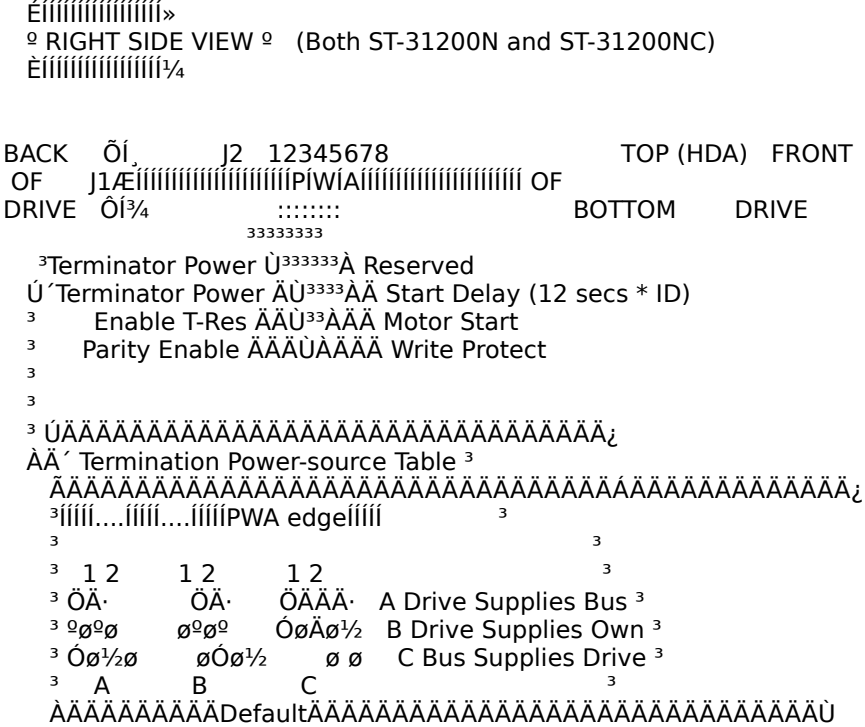




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in
2-557101-1 right angle to PCB



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ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º LEFT SIDE VIEW º   (ST-31200N only)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼                    If these ID jumpers are used,
                                       then ID jumpers shown in front
                                       view ARE NOT USED.

FRONT                  TOP (HDA)                 J5 ÕÍÍ1¸ ÕÍ¸BACK
 OF    ÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::ÆÍµJ1 OF
DRIVE                 BOTTOM                        ÔÍÍÍ¾ ÔÍ¾DRIVE
                                                 ³³³
                                            ID 1 ÄÙ³ÀÄ ID 4
                                                 ID 2


ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-31200N and ST-31200NC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                      TOP (HDA)    J6   ÕÍÍÍÍÍ1¸
  ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
                *     BOTTOM             ÔÍÍÍÍÍÍ¾
                ³                       123456
          LEDÄÙ                           ³³³³³³
                                   ID 4 Ù³³³³À Reserved
                                   ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                                   ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                               (pin-6 REF SIG+)
```

If these ID jumper are used, then
ID jumpers shown in left side view J5
or 80 pin I/O cable ARE NOT USED.

ST-31200N
Hawk 1LP

UNFORMATTED CAPACITY (MB) ________________1258.8
FORMATTED CAPACITY (xx SECTORS) (MB) _____1052.4
AVERAGE SECTORS PER TRACK ________________84
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________24,300
CYLINDERS ________________________________2,700 user
HEADS ______PHYSICAL______________________9
DISCS (3.5 in) ___________________________5
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________26.8 to 47.2
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________5411
AVERAGE LATENCY (mSEC) ___________________5.54
BUFFER ___________________________________256/1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST
ASA
TPI (TRACKS PER INCH) ____________________3000
AVERAGE ACCESS (ms) (read/write)__________9.3/10.5
Drive level without controller overhead
SINGLE TRACK SEEK (ms) (read/write)_______1.2/1.7

MAX FULL SEEK (ms) (read/write)_____19.4/20.4
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
+12V TYPICAL (amps) __0.5
+5V START-UP (amps) __
+5V TYPICAL (amps) ___0.2
TYPICAL (watts) _____7
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

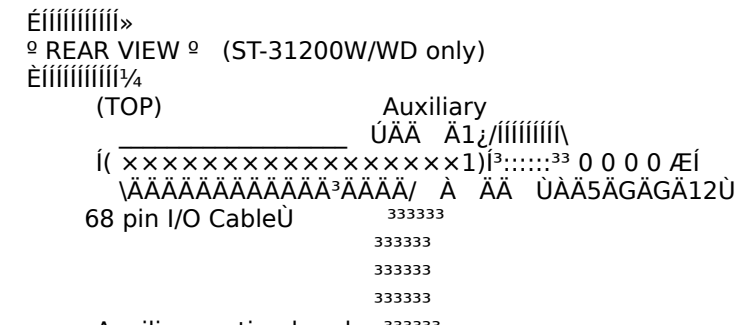
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

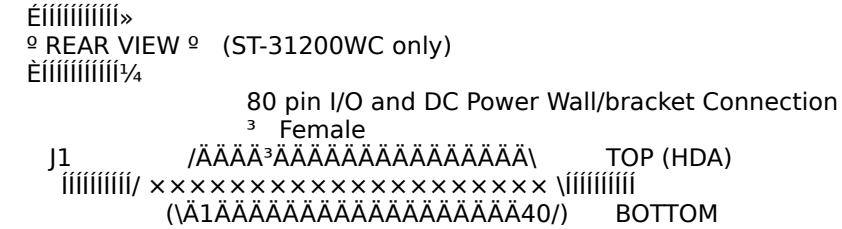
Already low-level formatted at the factory with 1 spare sector per track and 2 spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

ST-31200W/WD/WC Fast Wide SCSI-2 (Hawk 1LP)

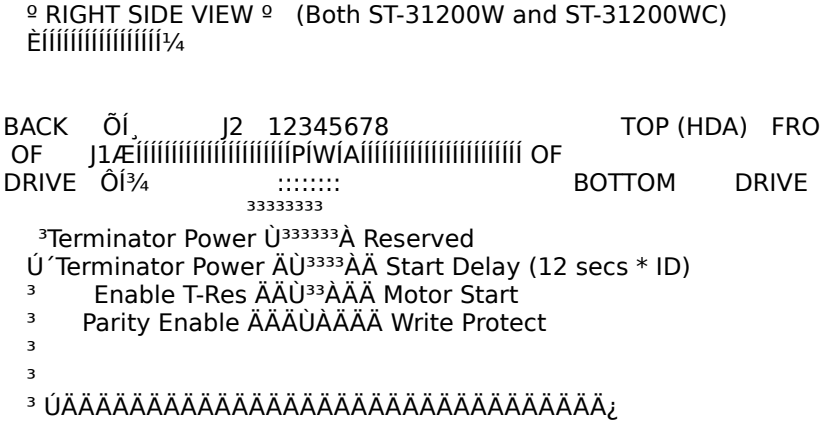




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



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ÀÄ´ Termination Power-source Table ³
   ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
   ³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ              ³
   ³                                                    ³
   ³   1 2       1 2         1 2                          ³
   ³ ÖÄ·          ÖÄ·      ÖÄÄÄ·   A Drive Supplies Bus ³
   ³ ºøºø       øºøº      ÓøÄø½   B Drive Supplies Own ³
   ³ Óø½ø       øÓø½        ø ø    C Bus Supplies Drive ³
   ³    A          B            C                         ³
   ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
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Note: The model ST-31200WC drive cannot furnish terminator power, because no pins on the 80 pin I/O connector are devoted to terminator power.

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ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-31200W and ST-31200WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

                         TOP (HDA)     J6   ÕÍÍÍÍÍ1¸
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
                  *       BOTTOM              ÔÍÍÍÍÍ¾
                  ³                        ³³³³³³
            LED ÄÙ                            ³³³³³³
                                           ³³³³³³
                                           ³³³³³³
              Auxiliary option header ³³³³³³
                  pin-11 +5v   ÄÄÄÄÄÄÄÄÄÄÙ³³³³³
                  pin-10 GND   ÄÄÄÄÄÄÄÄÄÄÄÙ³³³³
                  SCSI ID = 8 ÄÄÄÄÄÄÄÄÂÄÄÄÄÙ³³³
                    or pin-8 BUSY ÄÄÄÄÙ      ³³³
                  SCSI ID = 4 ÄÄÄÄÄÄÄÄÂÄÄÄÄÄÙ³³
                    or pin-6 REFIND+ ÄÙ        ³³
                  SCSI ID = 2 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ³
                  SCSI ID = 1 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
                  SCSI ID = 0 (none)

      If these ID jumper are used, then
         ID jumpers shown in left side view J5
         or 80 pin I/O cable ARE NOT USED.
```

ST-31200W
Hawk 1LP

UNFORMATTED CAPACITY (MB) ________________1258.8
FORMATTED CAPACITY (xx SECTORS) (MB) _____1055.28
AVERAGE SECTORS PER TRACK ________________84
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________24,300
CYLINDERS ________________________________2,700 user
HEADS ______PHYSICAL______________________9
DISCS (3.5 in) ___________________________5
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________26.8 to 47.2
EXTERNAL TRANSFER RATE (mbyte/sec) _______20 Sync
SPINDLE SPEED (RPM) ______________________5411
AVERAGE LATENCY (mSEC) ___________________5.54

BUFFER _____256/1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST WIDE
ASA
TPI (TRACKS PER INCH) _____3000
AVERAGE ACCESS (ms) (read/write)_____9.3/10.5
Drive level without controller overhead
SINGLE TRACK SEEK (ms) (read/write)_____1.2/1.7
MAX FULL SEEK (ms) (read/write)_____19.4/20.4
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
+12V TYPICAL (amps) __0.37
+5V START-UP (amps) __0.65
+5V TYPICAL (amps) ___0.45
TYPICAL (watts) _____7
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

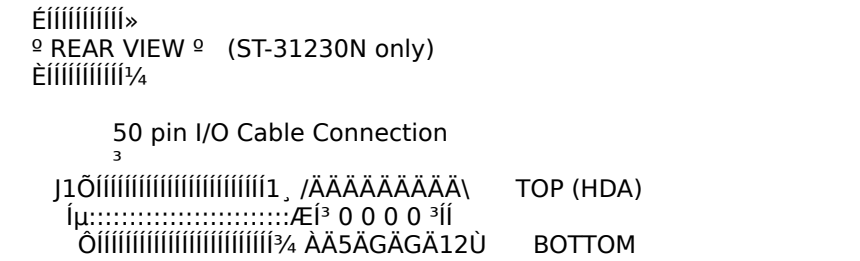
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

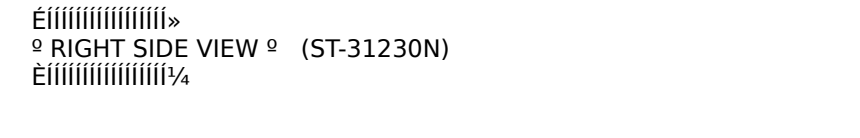
Already low-level formatted at the factory with 9 spare sector per cylinder and 2 spare cylinders/unit.

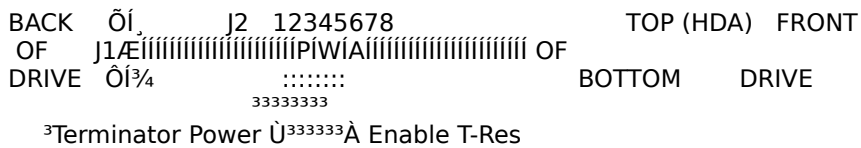
ZBR = Zone Bit Recording = Variable sectors per track

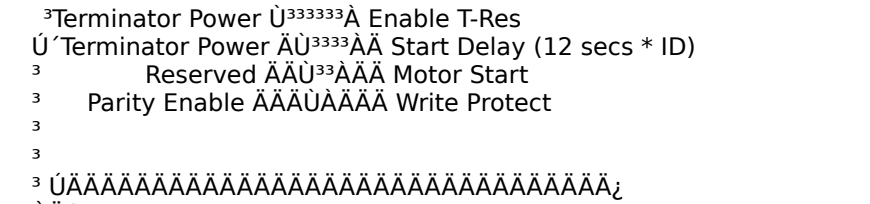
Seagate reserves the right to change, without notice, product offerings or specifications. (10/24/94)

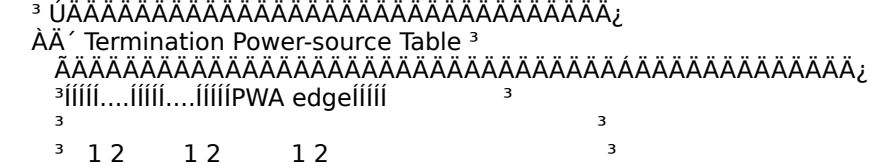
ST-31230N SCSI-2 Fast (Hawk 2LP)

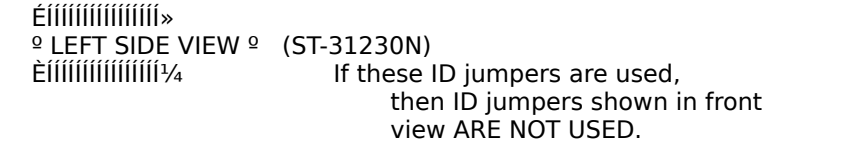


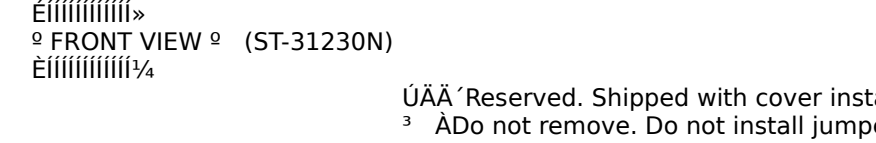












TOP (HDA) ÕØÍÍÍ¸ 1
ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³::::::ÆÍÍ
* BOTTOM ÔÍÍÍÍ¾123456
³ J6 ³³³³³³
LED ÄÙ ³³³³³³
ID 4 Ù³³³³À Reserved
ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
ID 1 ÄÄÙÀÄÄ Reserved

If these ID jumper are used, then ID jumpers shown in left side view J5 ARE NOT USED.

ST-31230N
Hawk 2LP

UNFORMATTED CAPACITY (MB) _____1280
FORMATTED CAPACITY (xx SECTORS) (MB) _____1060
AVERAGE SECTORS PER TRACK _____103
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____19,960
CYLINDERS _____3992
HEADS _____PHYSICAL_____5
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____33.9 to 56.7
EXTERNAL TRANSFER RATE (mbyte/sec) _____5.2 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____5411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA II
TPI (TRACKS PER INCH) _____4200
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
Including controller overhead
SINGLE TRACK SEEK (ms) (read/write)_____2.1/2.5
MAX FULL SEEK (ms) (read/write)_____20.4/21.4
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.35
+5V START-UP (amps) __0.61
+5V TYPICAL (amps) ___0.35
TYPICAL (watts) _____6
MAXIMUM (watts) _____9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

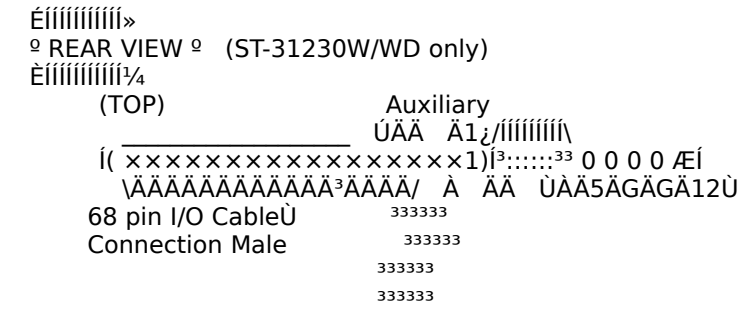
Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/101.6
Depth (inches/mm): 5.74/145.8
Weight (lbs/kg): 1.5/0.68

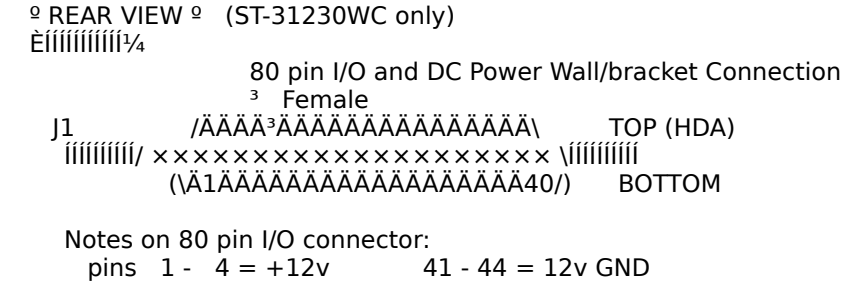
Already low-level formatted at the factory with 1 spare sector per head (all spare sectors are on one track) and 2 spare cylinders per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/26/94)

ST-31230W/WD/WC Fast Wide SCSI-2 (Hawk 2LP)

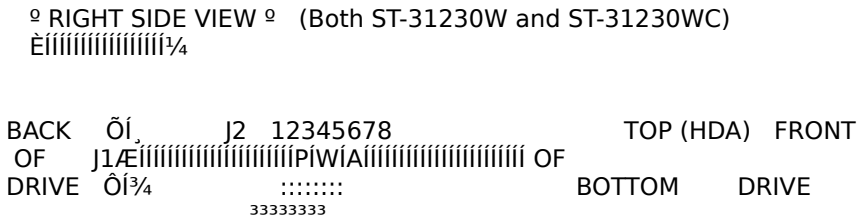




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



Terminator Power Enable T-Res
Terminator Power Start Delay (12 secs * ID)
Reserved Motor Start
Parity Enable Write Protect

Termination Power-source Table

```
ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ            ³
³                                                ³
³  1 2       1 2        1 2                      ³
³ ÖÄ·         ÖÄ·      ÖÄÄÄ·   A Drive Supplies Bus ³
³ ºøºø       øºøº     ÓøÄø½   B Drive Supplies Own ³
³ Óø½ø       øÓø½       ø ø    C Bus Supplies Drive ³
³    A          B           C                    ³
ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
```

Note: The model ST-31230WC drive cannot furnish terminator power, because no pins on the 80 pin I/O connector are devoted to terminator power.

```
ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-31230W and ST-31230WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                    TOP (HDA)     J6   ÕÍÍÍÍ1¸
  ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
              *      BOTTOM             ÔÍÍÍÍÍ¾
              ³                       ³³³³³³
       LED ÄÙ                           ³³³³³³
                                      ³³³³³³
                                      ³³³³³³
            Auxiliary option header ³³³³³³
               pin-11 +5v   ÄÄÄÄÄÄÄÄÄÄÙ³³³³³
               pin-10 GND   ÄÄÄÄÄÄÄÄÄÄÄÙ³³³³
               SCSI ID = 8 ÄÄÄÄÄÄÄÄÂÄÄÄÙ³³³
                 or pin-8 BUSY ÄÄÄÄÙ      ³³³
               SCSI ID = 4 ÄÄÄÄÄÄÄÄÂÄÄÄÄÙ³³
                 or pin-6 REFIND+ ÄÙ        ³³
               SCSI ID = 2 ÄÄÄÄÄÄÄÄÄÄÄÄÄÙ³
               SCSI ID = 1 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
               SCSI ID = 0 (none)
```

If these ID jumper are used, then
ID jumpers shown in left side view J5
or 80 pin I/O cable ARE NOT USED.

ST-31230W
Hawk 2LP

UNFORMATTED CAPACITY (GB) _________________1.28
FORMATTED CAPACITY (xx SECTORS) (GB) _____1.06
AVERAGE SECTORS PER TRACK _________________103
ACTUATOR TYPE _____________________________ROTARY VOICE COIL
TRACKS _____________________________________19,960
CYLINDERS __________________________________3992
HEADS ______PHYSICAL_______________________5
DISCS (3.5 in) ____________________________3
MEDIA TYPE ________________________________THIN FILM
RECORDING METHOD __________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________33.9 to 56.7
EXTERNAL TRANSFER RATE (mbytes/sec)_______20 Sync.
SPINDLE SPEED (RPM) _______________________5411
AVERAGE LATENCY (mSEC) ____________________5.54
BUFFER _____________________________________512 KByte
Read Look-Ahead, Adaptive,

Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST Wide
ASA II
TPI (TRACKS PER INCH) _____4200
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
Drive level with controller overhead
SINGLE TRACK SEEK (ms) (read/write)_____2.1/2.5
MAX FULL SEEK (ms) (read/write)_____20.4/21.4
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.35
+5V START-UP (amps) __0.61
+5V TYPICAL (amps) ___0.36
TYPICAL (watts) _____
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

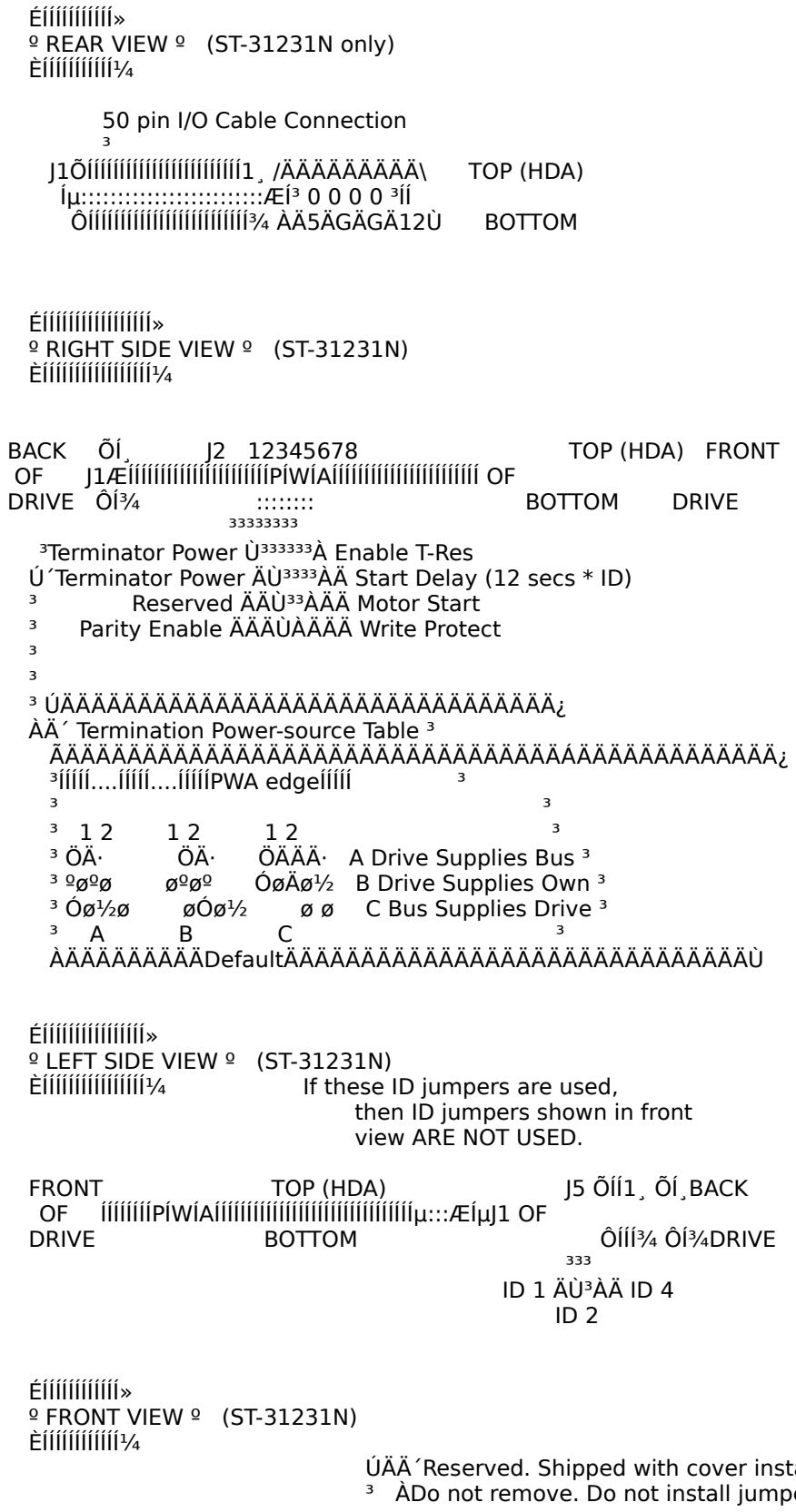
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

Already low-level formatted at the factory with 1 spare sector per track and 2 spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (10/24/94)

ST-31231N SCSI-2 Fast (Hawk 2LP)



TOP (HDA) ÕØÍÍÍ¸ 1
ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³::::::ÆÍÍ
* BOTTOM ÔÍÍÍÍ¾123456
³ J6 ³³³³³³
LED ÄÙ ³³³³³³
ID 4 Ù³³³³À Reserved
ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
ID 1 ÄÄÙÀÄÄ Reserved

If these ID jumper are used, then ID jumpers shown in left side view J5 ARE NOT USED.

ST-31231N
Hawk 2LP

UNFORMATTED CAPACITY (MB) _____1280
FORMATTED CAPACITY (xx SECTORS) (MB) _____1060
AVERAGE SECTORS PER TRACK _____103
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____19,960
CYLINDERS _____3992
HEADS _____PHYSICAL_____5
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____33.9 to 56.7
EXTERNAL TRANSFER RATE (mbyte/sec) _____5.2 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____5411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____256 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA II
TPI (TRACKS PER INCH) _____4200
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
Including controller overhead
SINGLE TRACK SEEK (ms) (read/write)_____2.1/2.5
MAX FULL SEEK (ms) (read/write)_____20.4/21.4
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.35
+5V START-UP (amps) __0.61
+5V TYPICAL (amps) ___0.35
TYPICAL (watts) _____6
MAXIMUM (watts) _____9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

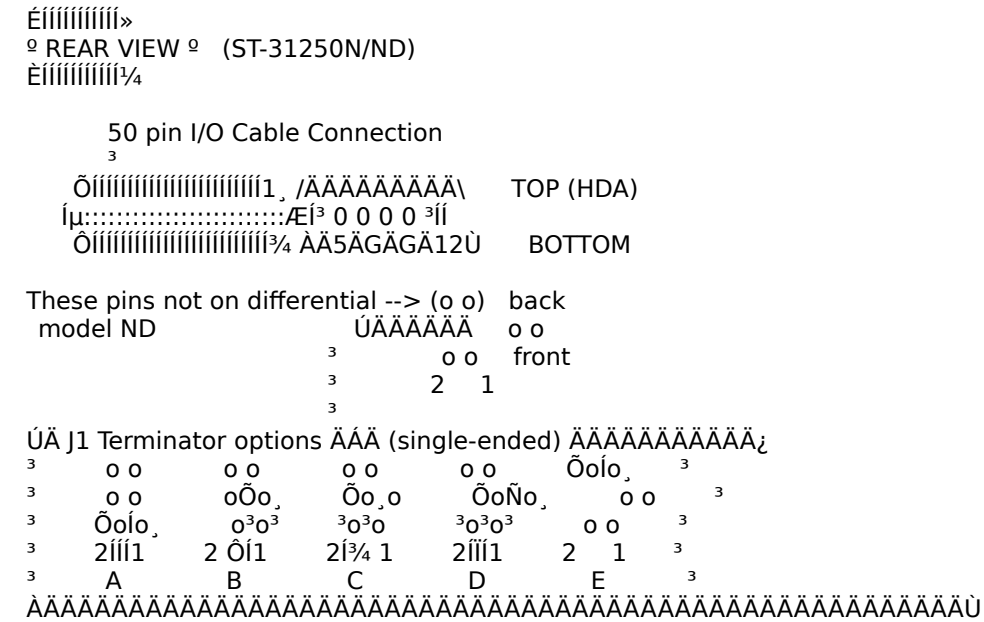
Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/101.6
Depth (inches/mm): 5.74/145.8
Weight (lbs/kg): 1.5/0.68

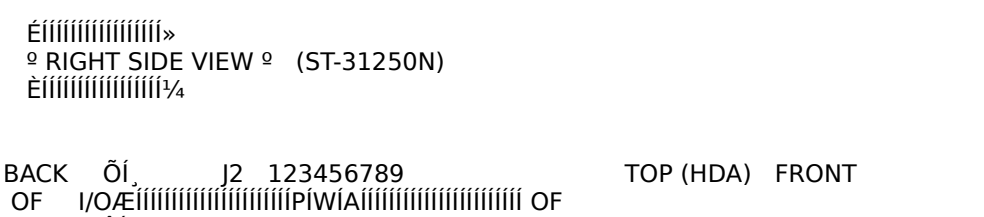
Already low-level formatted at the factory with 1 spare sector per head (all spare sectors are on one track) and 2 spare cylinders per unit.

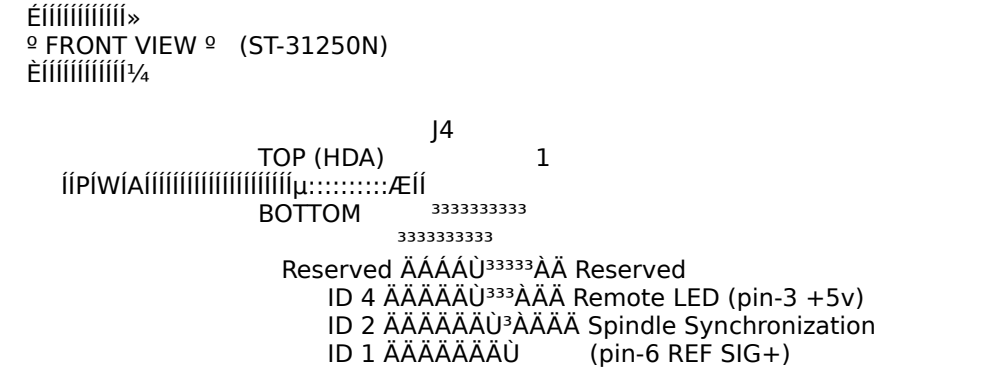
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-31250N SCSI-2 Fast (Barracuda 2LP)







ST-31250N
Barracuda 2LP

UNFORMATTED CAPACITY (MB) _____1205.3
FORMATTED CAPACITY (xx SECTORS) (MB) _____1020.9
AVERAGE SECTORS PER TRACK _____107 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____18,555
CYLINDERS _____3,711 user
HEADS _____PHYSICAL_____5
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____47.5 to 72.0
EXTERNAL TRANSFER RATE (mbyte/sec) _____5 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____2.5 to 10 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA II
BYTES PER TRACK _____64,160 average
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4,048
BPI (BITS PER INCH) _____73,820
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____50
ACOUSTICS (typ/max dBA) _____4.7/
POWER DISSIPATION (watts/BTUs) Active ____11/35
Idle _____9/31
POWER REQUIREMENTS: +12V START-UP (amps) _1.26
+12V TYPICAL (amps) __0.88 idle
+5V START-UP (amps) __0.91
+5V TYPICAL (amps) ___0.33 idle
IDLE (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

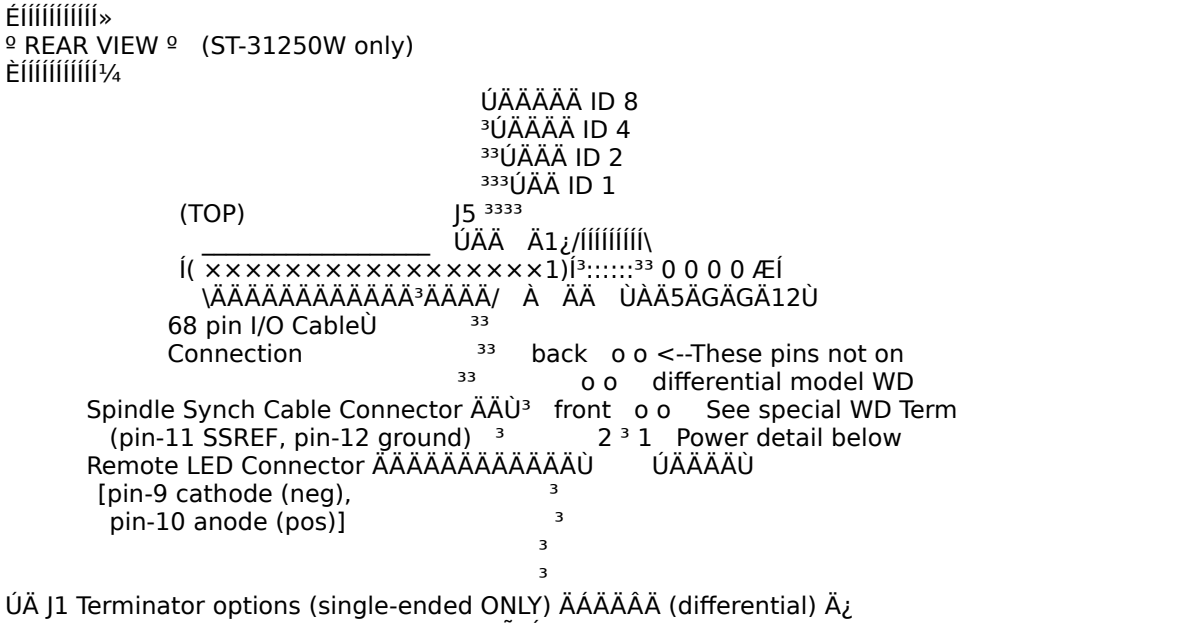
Physical:

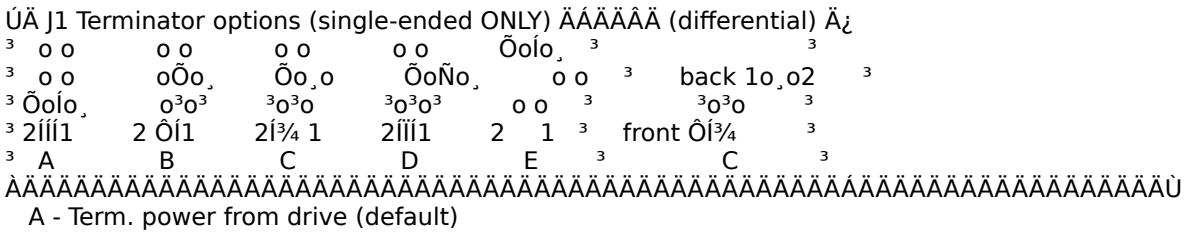
Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.75/146.05
Weight	(lbs/g):	1.2/545

Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

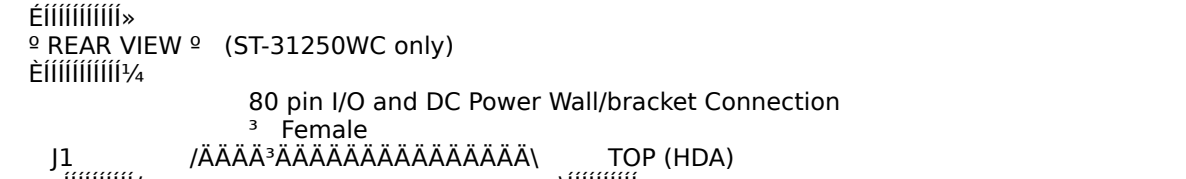
ZBR = Zone Bit Recording = Variable sectors per track

ST-31250W/WC SCSI-2 Fast Wide (Barracuda 2LP)





A - Term. power from drive (default)
B - Term. power to SCSI bus
C - Term. power from SCSI bus
D - Term. power to SCSI bus and drive
E - Enable SCSI terminator (jumper on pins 5-6)



Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating WC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB

```
BACK     ÕÍ¸           J2   123456789                         TOP (HDA)   FRONT
 OF     I/OÆÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ OF
DRIVE   ÔÍ¾                 :::::::::                     BOTTOM       DRIVE
                            ³³³³³³³³³

        1-2 Reserved ÄÄÁÙ³³³³ÀÁÁÄÄ Reserved 7-9
   3 Parity Disable ÄÄÄÄÙ³³ÀÄÄÄÄÄÄ Delay Motor Start 6
    4 Write Protect ÄÄÄÄÄÙÀÄÄÄÄÄÄÄ Motor Start Enable 5
```

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   ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
   º FRONT VIEW º   (ST-31250W/WC)         ÚÄÄÄÄÄÄÄ +5V
   ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼                         ³ÚÄÄÄÄÄÄÄ Enable SCSI terminator
                                          ³³ÚÄÄÄÄÄÄ ID 8
                                          ³³³ÚÄÄÄÄÄ ID 4
                                          ³³³³ÚÄÄÄ ID 2
                                          ³³³³³ÚÄÄ ID 1     (J4 top row)
                   TOP (HDA)           ³³³³³³1
      ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::::::ÆÍÍ   J4
                   BOTTOM          ³³³³³³³³³³
                                 ³³³³³³³³³³                 (J4 bottom row)
                    Reserved ÄÁÁÁÙ³³³³³³
               No connection ÄÄÄÄÄÙ³³³³³
                      Ground ÄÄÄÄÄÄÙ³³³³
        Unit Active LED pin (+) ÄÄÄÄÄÄÄÙ³³³
         SSREF (+) spindle sync ÄÄÄÄÄÄÄÄÙ³³
               Vendor Unique ÄÄÄÄÄÄÄÄÄÙ³
           Fault LED pin (+) ÄÄÄÄÄÄÄÄÄÄÙ
```

ST-31250W
Barracuda 2LP

UNFORMATTED CAPACITY (MB) ________________1205.3
FORMATTED CAPACITY (xx SECTORS) (MB) _____1020.9
AVERAGE SECTORS PER TRACK ________________107 rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________18,555
CYLINDERS ________________________________3,711 user
HEADS ______PHYSICAL______________________5
DISCS (3.5 in) ___________________________3
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________47.5 to 72.0
EXTERNAL TRANSFER RATE (mbyte/sec) _______5 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______5.0 to 20 Sync
SPINDLE SPEED (RPM) ______________________7,200
AVERAGE LATENCY (mSEC) ___________________4.17
BUFFER ___________________________________512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST Wide
ASA II
BYTES PER TRACK __________________________64,160 average
SECTORS PER DRIVE ________________________
TPI (TRACKS PER INCH) ____________________4,048
BPI (BITS PER INCH) ______________________73,820
AVERAGE ACCESS (ms) (read/write)__________8.0/9.0

Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____50
ACOUSTICS (typ/max dBA) _____4.7/
POWER DISSIPATION (watts/BTUs) Active ____11/35
Idle _____9/31
POWER REQUIREMENTS: +12V START-UP (amps) _1.26
+12V TYPICAL (amps) __0.88 idle
+5V START-UP (amps) __0.91
+5V TYPICAL (amps) ___0.33 idle
IDLE (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

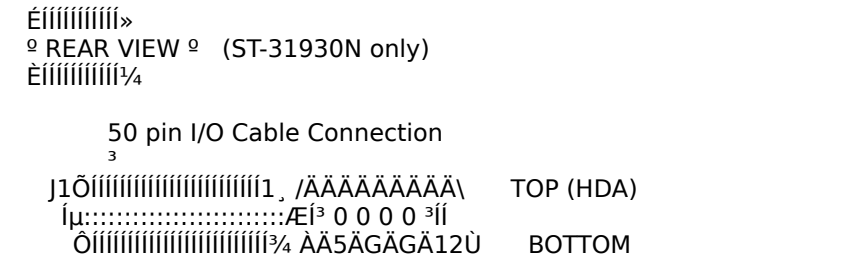
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.05
Weight (lbs/g):	1.2/545

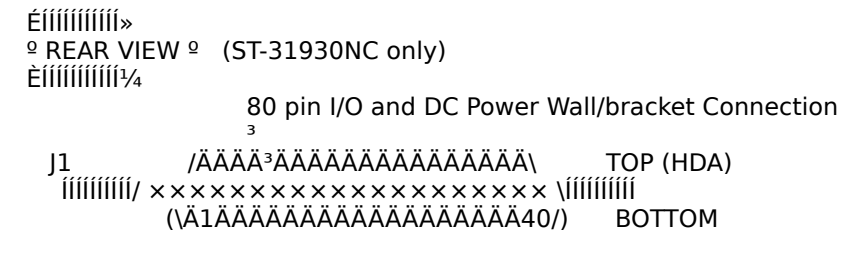
Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-31930N SCSI-2 Fast

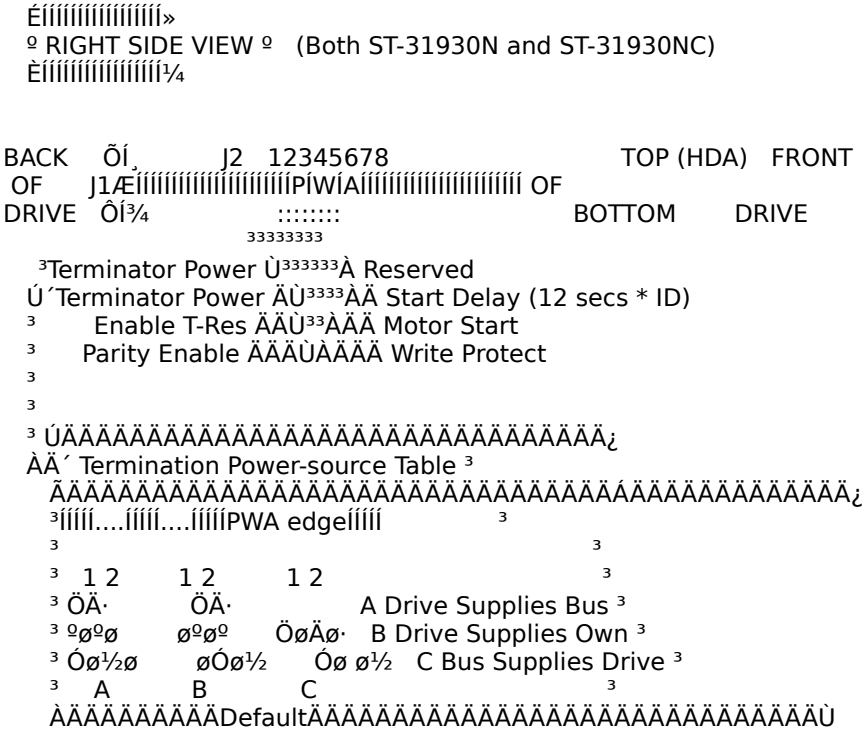




Notes on 80 pin I/O connector:

pins	1 - 4 = +12v	41 - 44 = 12v GND	
	34 - 36 = +5v	74 - 76 = 5v GND	
	37 = SYNC	77 = LEDC	
	38 = MTRON	78 = DLYDST	
	39 = SCSIA0	79 = SCSIA1	
	40 = SCSIA2	80 = SCSIA3	

Mating NC connector: AMP US p/n: 2-557103-1 straight-in
2-557101-1 right angle to PCB



ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º LEFT SIDE VIEW º (ST-31930N only)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼ If these ID jumpers are used,
then ID jumpers shown in front
view ARE NOT USED.

FRONT TOP (HDA) J5 ÕÍÍ1¸ ÕÍ¸BACK
OF ÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::ÆÍµJ1 OF
DRIVE BOTTOM ÔÍÍÍ¾ ÔÍ¾DRIVE
333
ID 1 ÄÙ³ÀÄ ID 4
ID 2

ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º (Both ST-31930N and ST-31930NC)
ÈÍÍÍÍÍÍÍÍÍÍÍ¼

TOP (HDA) J6 ÕÍÍÍÍÍ1¸
ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
* BOTTOM ÔÍÍÍÍÍÍ¾
³ 123456
LED ÄÙ 333333
ID 4 Ù³³³³À Reserved
ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
ID 1 ÄÄÙÀÄÄ Spindle Synchronization
(pin-6 REF SIG+)

If these ID jumper are used, then
ID jumpers shown in left side view J5
or 80 pin I/O cable ARE NOT USED.

ST-31930N

UNFORMATTED CAPACITY (MB) _____1900
FORMATTED CAPACITY (xx SECTORS) (MB) _____1700
AVERAGE SECTORS PER TRACK _____
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____
CYLINDERS _____3898
HEADS _____PHYSICAL_____7
DISCS (3.5 in) _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____38 to 62
EXTERNAL TRANSFER RATE (mbytes/sec)_____10 Sync.
SPINDLE SPEED (RPM) _____5411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
TPI (TRACKS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____9.3/10.5
Drive level without controller overhead
SINGLE TRACK SEEK (ms) (read/write)_____1.2/1.7
MAX FULL SEEK (ms) (read/write)_____19.4/20.4

MTBF (power-on hours) _____800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.7
+12V TYPICAL (amps) __0.36
+5V START-UP (amps) __
+5V TYPICAL (amps) ___0.54
TYPICAL (watts) _____7
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

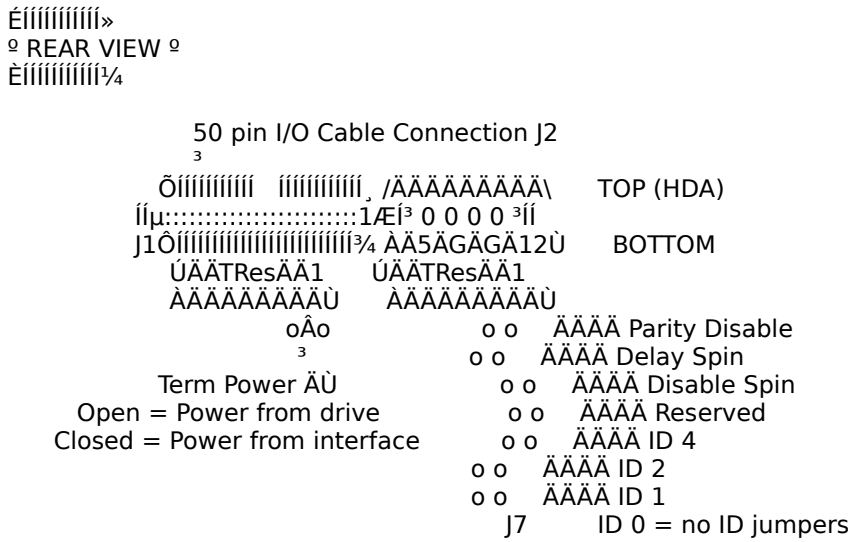
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

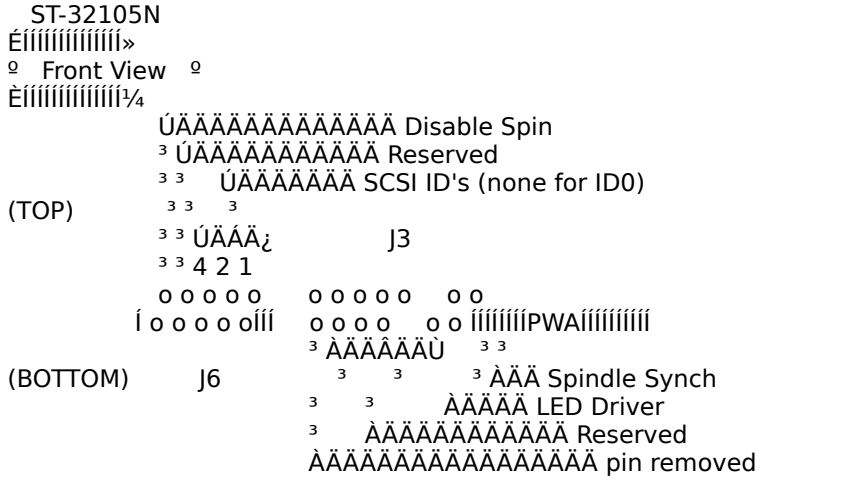
Already low-level formatted at the factory with 1 spare sector per track and 2 spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

ST-32105N SCSI-2 FAST, (Cayman CFP2105S)





ST-32105N Cayman

FORMATTED CAPACITY (MB)	2147
AVERAGE SECTORS PER TRACK	106 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	39,480
CYLINDERS	3948 user
HEADS PHYSICAL	10
DISCS (3.5 in)	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	33.3 to 68.7
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
BUFFER	512 KByte

Read Look-Ahead, Adaptive,

Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4030
BPI (BITS PER INCH) _____74K
AVERAGE ACCESS (ms) (read/write)_____8.5/9.0
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____18
MTBF (power-on hours) _____1,000,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____75
ACOUSTICS (typ/max dBA) _____<43/
POWER REQUIREMENTS: +12V START-UP (amps) _1.7
+12V TYPICAL (amps) __.3
+5V START-UP (amps) __.7
+5V TYPICAL (amps) ___.42
IDLE (watts) _____5.7
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

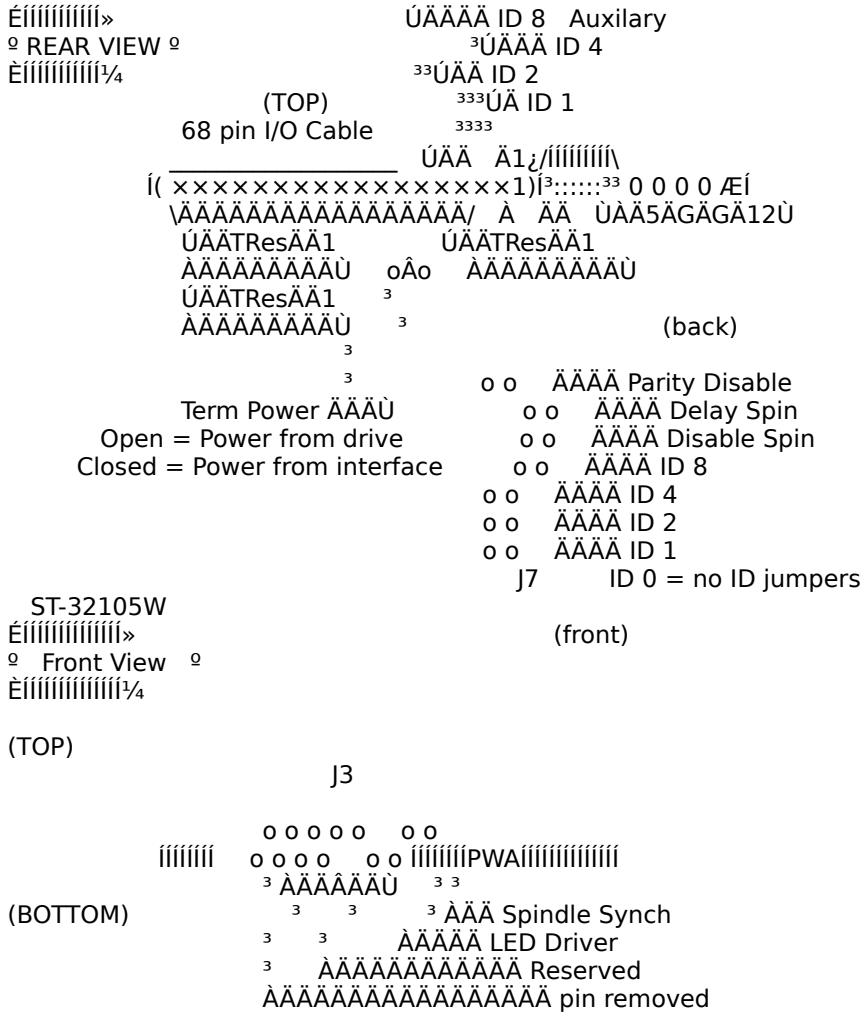
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.3/0.59

Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-32105W SCSI-2 FAST Wide, (Cayman CFP2105W)



(TOP)

(BOTTOM)

ST-32105W Cayman

FORMATTED CAPACITY (MB)	2147
AVERAGE SECTORS PER TRACK	106 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	39,480
CYLINDERS	3948 user
HEADS PHYSICAL	10
DISCS (3.5 in)	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	33.3 to 68.7
EXTERNAL TRANSFER RATE (mbyte/sec)	20 Sync
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
BUFFER	512 KByte
Read Look-Ahead, Adaptive, Multi-Segmented Cache	

INTERFACE _____SCSI-2 Fast Wide
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4030
BPI (BITS PER INCH) _____74K
AVERAGE ACCESS (ms) (read/write)_____8.5/9.0
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____18
MTBF (power-on hours) _____1,000,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____75
ACOUSTICS (typ/max dBA) _____<43/
POWER REQUIREMENTS: +12V START-UP (amps) _1.7
+12V TYPICAL (amps) __.3
+5V START-UP (amps) __.7
+5V TYPICAL (amps) ___.42
IDLE (watts) _____5.7
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

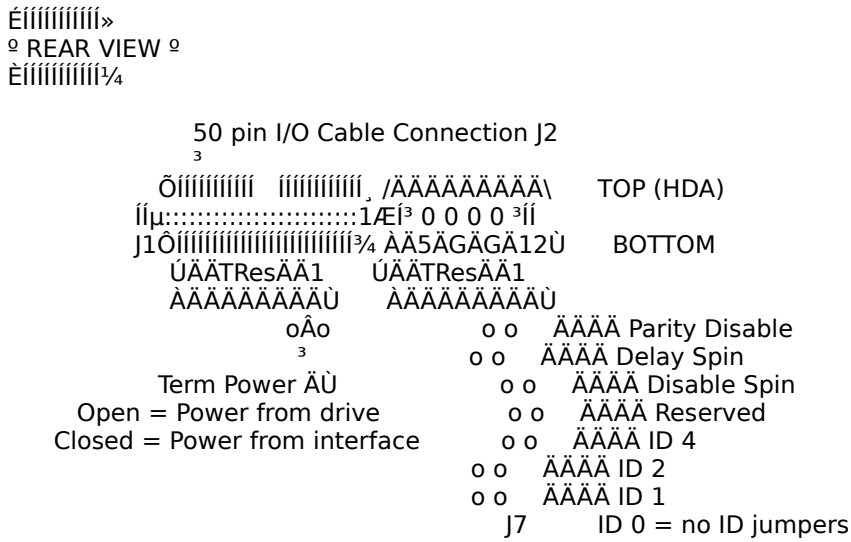
Height	(inches/mm):	1/25.4
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.75/146.1
Weight	(lbs/kg):	1.3/0.59

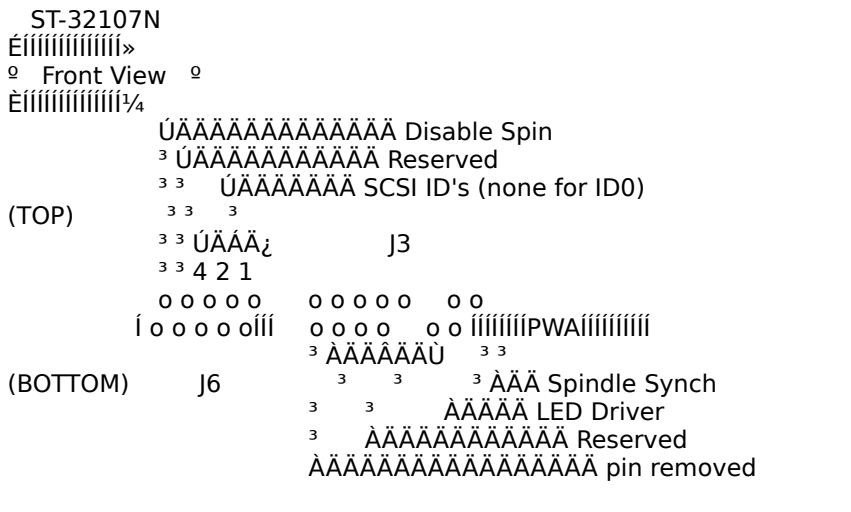
Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-32107N SCSI-2 Fast, (Cayman CFP2107S)





ST-32107N Cayman

FORMATTED CAPACITY (MB)	2147
AVERAGE SECTORS PER TRACK	104 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	40,160
CYLINDERS	4016 user
HEADS PHYSICAL	10
DISCS (3.5 in)	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	47.7 to 87.2
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	7,200
AVERAGE LATENCY (mSEC)	4.17
BUFFER	512 KByte

Read Look-Ahead, Adaptive,
Multi-Segmented Cache

INTERFACE _____SCSI-2 Fast
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4090
BPI (BITS PER INCH) _____78K
AVERAGE ACCESS (ms) (read/write)_____8.5/9.0
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____18
MTBF (power-on hours) _____1,000,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____75
ACOUSTICS (typ/max dBA) _____<46/
POWER REQUIREMENTS: +12V START-UP (amps) _2.3
+12V TYPICAL (amps) __.55
+5V START-UP (amps) __.75
+5V TYPICAL (amps) ___.44
IDLE (watts) _____8.9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

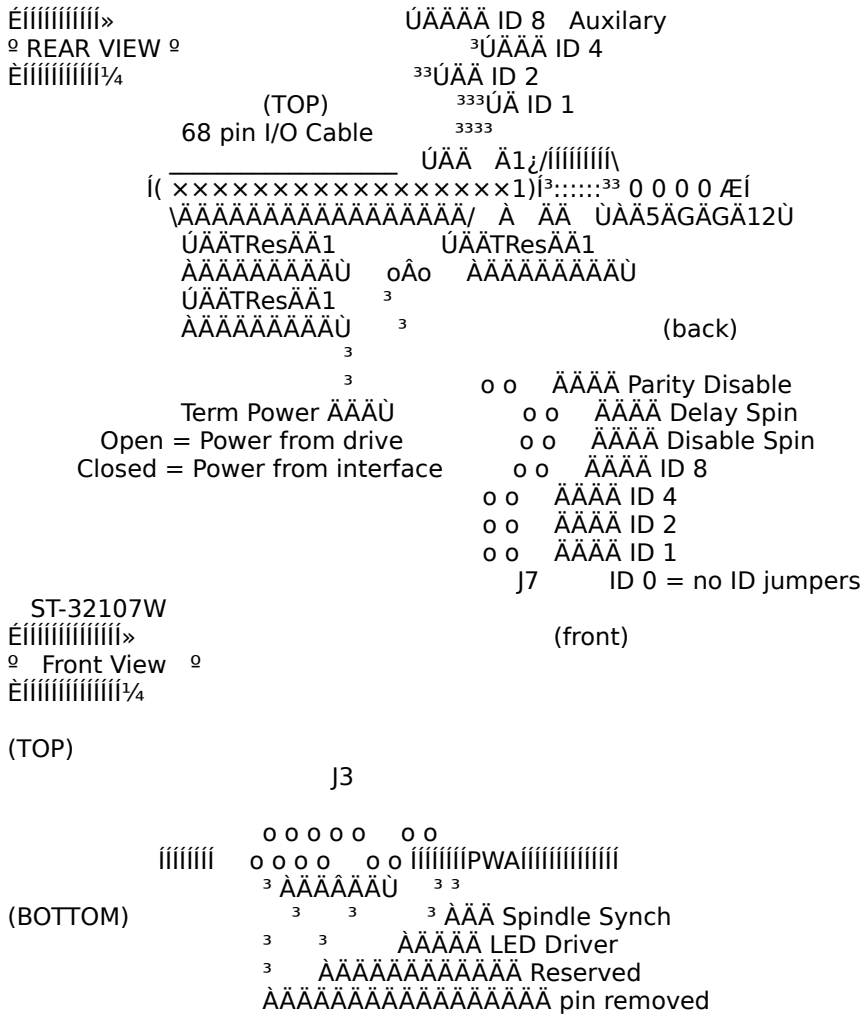
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.3/0.59

Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-32107W SCSI-2 FAST Wide, (Cayman CFP2107W)



(TOP)

J3

ST-32107W Cayman

FORMATTED CAPACITY (MB)	2147
AVERAGE SECTORS PER TRACK	104 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	40,160
CYLINDERS	4016 user
HEADS PHYSICAL	10
DISCS (3.5 in)	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	47.7 to 87.2
EXTERNAL TRANSFER RATE (mbyte/sec)	20 Sync
SPINDLE SPEED (RPM)	7,200
AVERAGE LATENCY (mSEC)	4.17
BUFFER	512 KByte
Read Look-Ahead, Adaptive,	

Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast Wide
BYTES PER TRACK (avg) _____
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4090
BPI (BITS PER INCH) _____78K
AVERAGE ACCESS (ms) (read/write)_____8.5/9.0
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____18
MTBF (power-on hours) _____1,000,000
SHOCK (G's):
operating (Read/Write) _____5
nonoperating _____75
ACOUSTICS (typ/max dBA) _____<46/
POWER REQUIREMENTS: +12V START-UP (amps) _2.3
+12V TYPICAL (amps) __.55
+5V START-UP (amps) __.75
+5V TYPICAL (amps) ___.44
IDLE (watts) _____8.9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

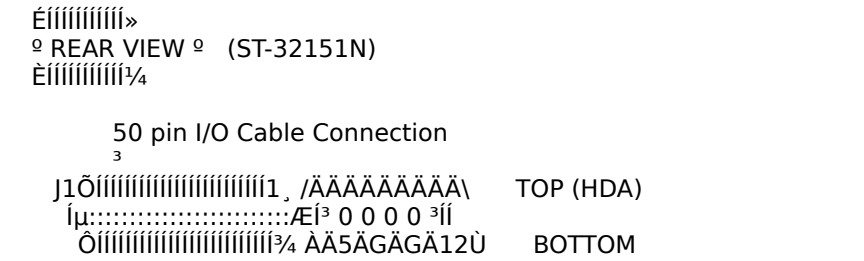
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.3/0.59

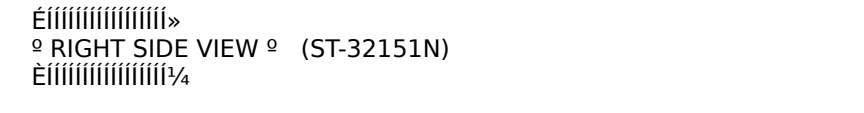
Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

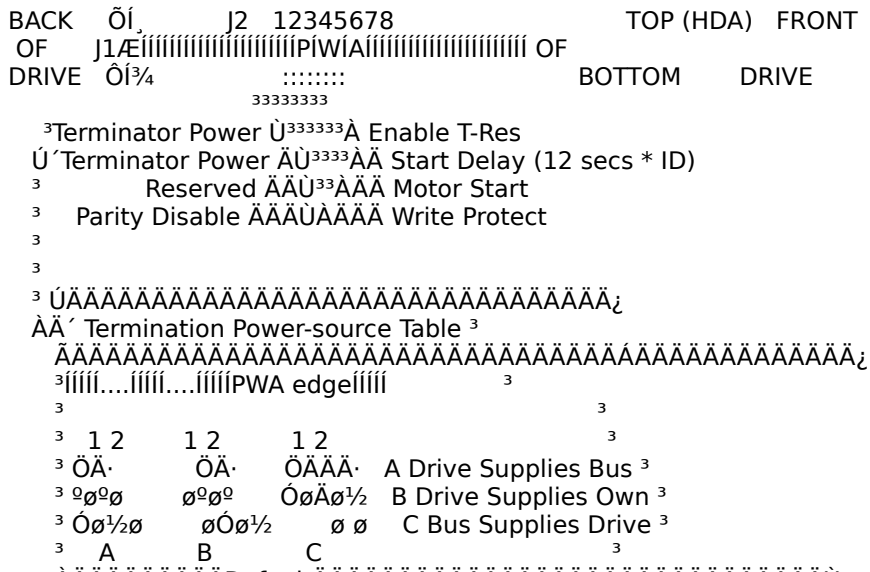
ZBR = Zone Bit Recording = Variable sectors per track

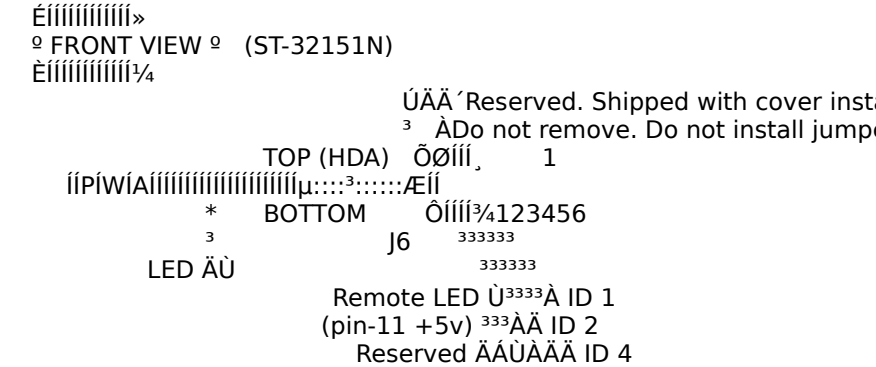
Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-32151N SCSI-2 Fast (Hawk 2XL)









FORMATTED CAPACITY (MB) _____2148

AVERAGE SECTORS PER TRACK _____125 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____33,408
CYLINDERS _____4,176 user
HEADS _____PHYSICAL_____8
DISCS (3.5 in) _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)_____44 to 66
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____5,411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____256 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast
ASA II
BYTES PER TRACK (avg) _____75,900
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4800
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
With controller overhead
SINGLE TRACK SEEK (ms) _____2.7
MAX FULL SEEK (ms) _____20.4
MTBF (power-on hours) _____800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.8
+12V TYPICAL (amps) __0.34 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.32 idle
IDLE (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

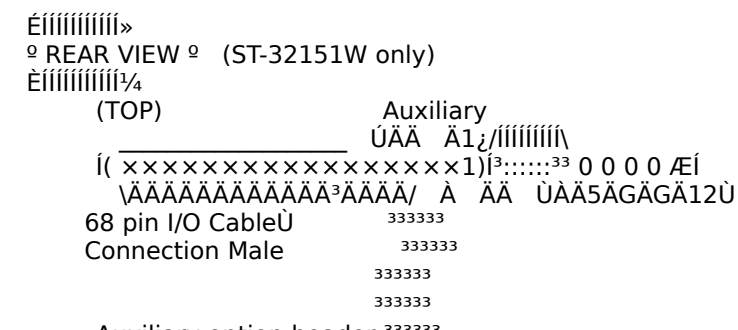
Height	(inches/mm):	1/25.4
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.75/146.1
Weight	(lbs/kg):	1.5/0.68

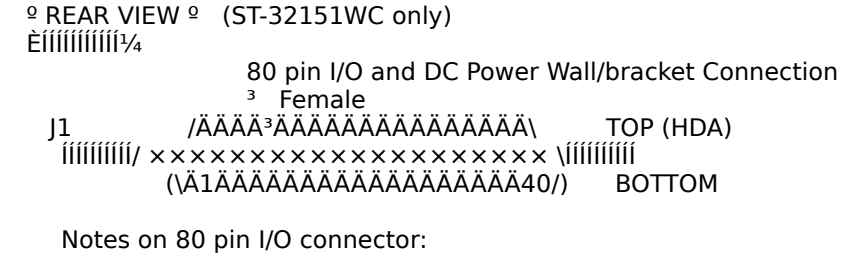
Already low-level formatted at the factory with 8 spare sectors per cylinder and 2 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-32151W/WC Fast Wide SCSI-2 (Hawk 2XL)

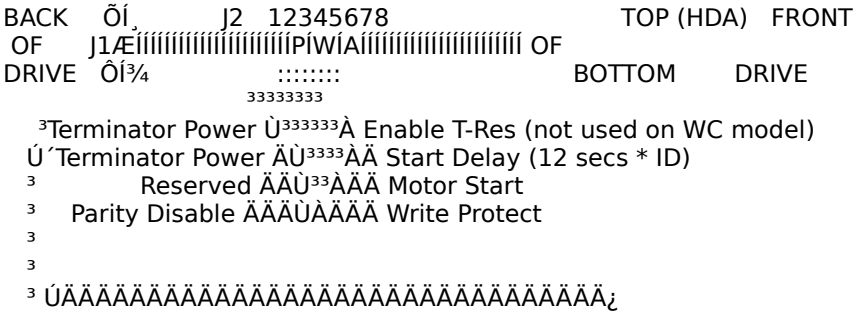




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



Terminator Power Enable T-Res (not used on WC model)
Terminator Power Start Delay (12 secs * ID)
Reserved Motor Start
Parity Disable Write Protect

```
ÀÄ´ Termination Power-source Table ³
  ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
  ³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ            ³
  ³                                                       ³
  ³   1 2       1 2         1 2                            ³
  ³ ÖÄ·          ÖÄ·      ÖÄÄÄ·   A Drive Supplies Bus ³
  ³ ºøºø        øºøº      ÓøÄø½   B Drive Supplies Own ³
  ³ Óø½ø        øÓø½        ø ø    C Bus Supplies Drive ³
  ³    A           B            C                           ³
  ÀÄÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
    (not used on WC model)


ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (ST-32151W/WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼
                                          ÚÄÄ´Reserved. Shipped with cover installed.
                                          ³   ÀDo not remove. Do not install jumpers
                          TOP (HDA)   ÕØÍÍÍ¸        1
    ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³::::::ÆÍÍ
                   *      BOTTOM        ÔÍÍÍ¾123456
                   ³                  J6      ³³³³³³
           LED ÄÙ                                ³³³³³³
                                Remote LED Ù³³³³À ID 1
                              (pin-11 +5v) ³³³ÀÄ ID 2
                                   Reserved ÄÙ³ÀÄÄ ID 4
                                                  ÀÄÄÄ ID 8
```

ST-32151W

FORMATTED CAPACITY (MB) ___________________2148
AVERAGE SECTORS PER TRACK _________________125 rounded down
ACTUATOR TYPE ______________________________ROTARY VOICE COIL
TRACKS _____________________________________33,408
CYLINDERS __________________________________4,176 user
HEADS ______PHYSICAL_______________________8
DISCS (3.5 in) ____________________________4
MEDIA TYPE _________________________________THIN FILM
RECORDING METHOD ___________________________RLL (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)________44 to 66
EXTERNAL TRANSFER RATE (mbyte/sec) _______20 Sync
SPINDLE SPEED (RPM) _______________________5,411
AVERAGE LATENCY (mSEC) ____________________5.54
BUFFER _____________________________________512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE __________________________________SCSI-2 Fast
ASA II
BYTES PER TRACK (avg) _____________________75,900
SECTORS PER DRIVE _________________________
TPI (TRACKS PER INCH) _____________________4800
BPI (BITS PER INCH) _______________________
AVERAGE ACCESS (ms) (read/write)__________10.4/11.4
Drive level without controller overhead
SINGLE TRACK SEEK (ms) ____________________2.7
MAX FULL SEEK (ms) ________________________20.4
MTBF (power-on hours) _____________________800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.8

+12V TYPICAL (amps) __0.34 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.32 idle
IDLE (watts) _____

LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

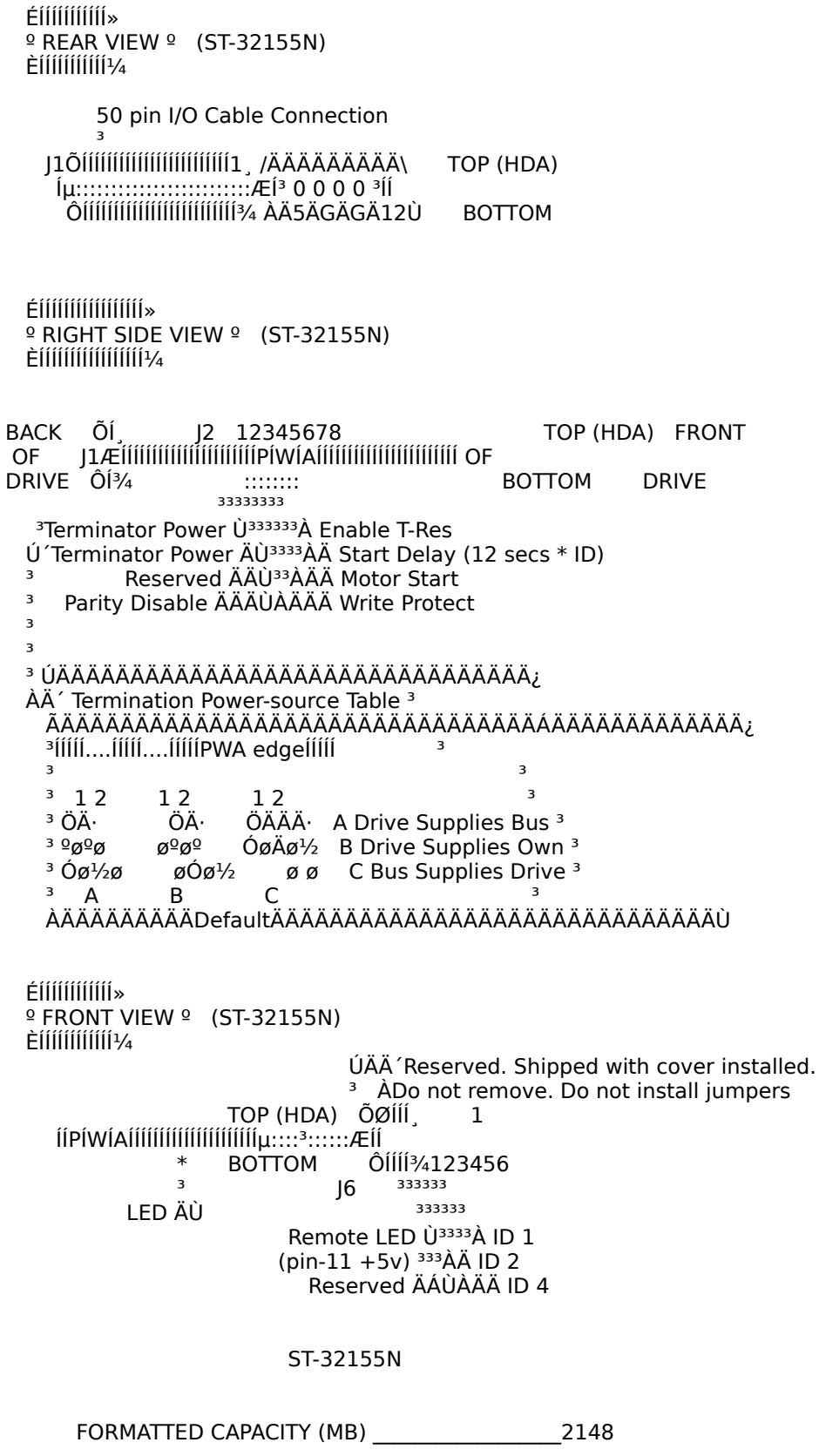
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.5/0.68

Already low-level formatted at the factory with 8 spare sectors per cylinder and 2 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-32155N Ultra-SCSI (Hawk 2XL)



FORMATTED CAPACITY (MB) _____2148

AVERAGE SECTORS PER TRACK _____125 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____33,408
CYLINDERS _____4,176 user
HEADS _____PHYSICAL_____8
DISCS (3.5 in) _____4
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____RLL (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)_____44 to 66
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____5,411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____Ultra-SCSI
ASA II
BYTES PER TRACK (avg) _____75,900
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4800
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
With controller overhead
SINGLE TRACK SEEK (ms) _____2.7
MAX FULL SEEK (ms) _____20.4
MTBF (power-on hours) _____800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.8
+12V TYPICAL (amps) __0.34 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.32 idle
IDLE (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

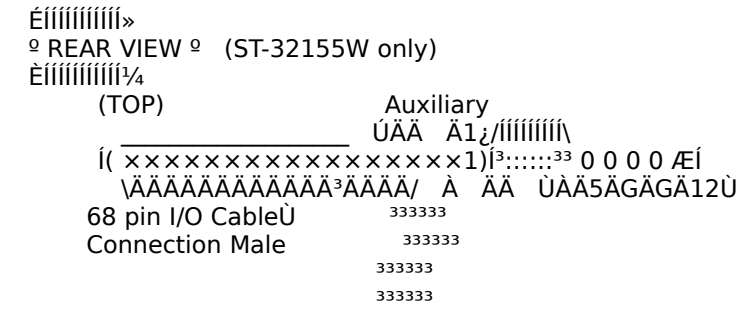
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.5/0.68

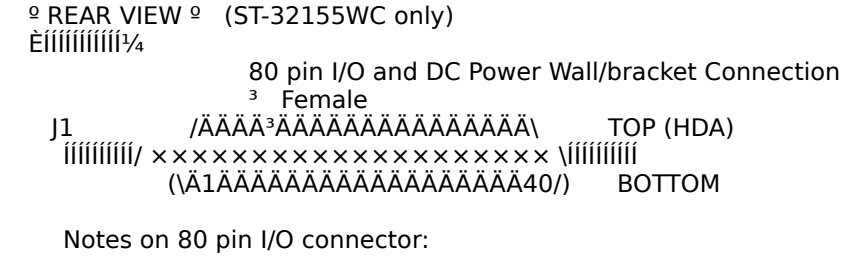
Already low-level formatted at the factory with 8 spare sectors per cylinder and 2 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-32155W/WC Ultra-SCSI Wide (Hawk 2XL)

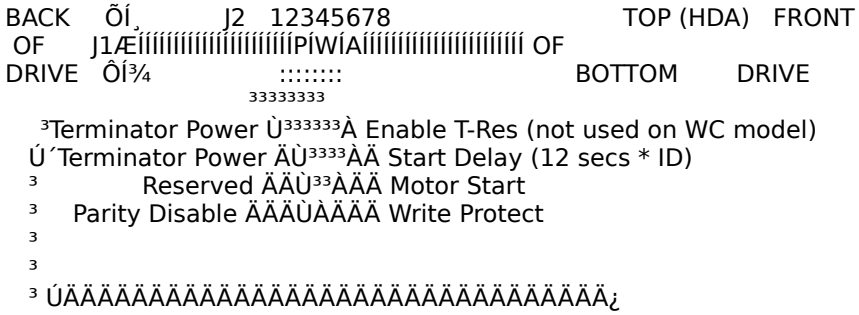




Notes on 80 pin I/O connector:

pins	1 - 4 = +12v	41 - 44 = 12v GND	
	34 - 36 = +5v	74 - 76 = 5v GND	
	37 = SYNC	77 = LEDC	
	38 = MTRON	78 = DLYDST	
	39 = SCSIA0	79 = SCSIA1	
	40 = SCSIA2	80 = SCSIA3	

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



ÀÄ´ Termination Power-source Table ³
ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ ³
³ ³
³ 1 2 1 2 1 2 ³
³ ÖÄ· ÖÄ· ÖÄÄÄ· A Drive Supplies Bus ³
³ ºøºø øºøº ÓøÄø½ B Drive Supplies Own ³
³ Óø½ø øÓø½ ø ø C Bus Supplies Drive ³
³ A B C ³
ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
(not used on WC model)

ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º (ST-32155W/WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼
ÚÄÄ´Reserved. Shipped with cover installed.
³ ÀDo not remove. Do not install jumpers
TOP (HDA) ÕØÍÍÍ¸ 1
ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³::::::ÆÍÍ
* BOTTOM ÔÍÍÍÍ¾123456
³ J6 ³³³³³³
LED ÄÙ ³³³³³³
Remote LED Ù³³³³À ID 1
(pin-11 +5v) ³³³ÀÄ ID 2
Reserved ÄÙ³ÀÄÄ ID 4
ÀÄÄÄ ID 8

ST-32155W

FORMATTED CAPACITY (MB) ___________________2148
AVERAGE SECTORS PER TRACK _________________125 rounded down
ACTUATOR TYPE _____________________________ROTARY VOICE COIL
TRACKS _____________________________________33,408
CYLINDERS __________________________________4,176 user
HEADS ______PHYSICAL_______________________8
DISCS (3.5 in) ____________________________4
MEDIA TYPE _________________________________THIN FILM
RECORDING METHOD ___________________________RLL (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)________44 to 66
EXTERNAL TRANSFER RATE (mbyte/sec) _______40 Sync
SPINDLE SPEED (RPM) _______________________5,411
AVERAGE LATENCY (mSEC) ____________________5.54
BUFFER _____________________________________512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE __________________________________Ultra-SCSI
ASA II
BYTES PER TRACK (avg) _____________________75,900
SECTORS PER DRIVE _________________________
TPI (TRACKS PER INCH) _____________________4800
BPI (BITS PER INCH) _______________________
AVERAGE ACCESS (ms) (read/write)__________10.4/11.4
With controller overhead
SINGLE TRACK SEEK (ms) ____________________2.7
MAX FULL SEEK (ms) ________________________20.4
MTBF (power-on hours) _____________________800,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.8

+12V TYPICAL (amps) __0.34 idle
+5V START-UP (amps) __1.0
+5V TYPICAL (amps) ___0.32 idle
IDLE (watts) _____

LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

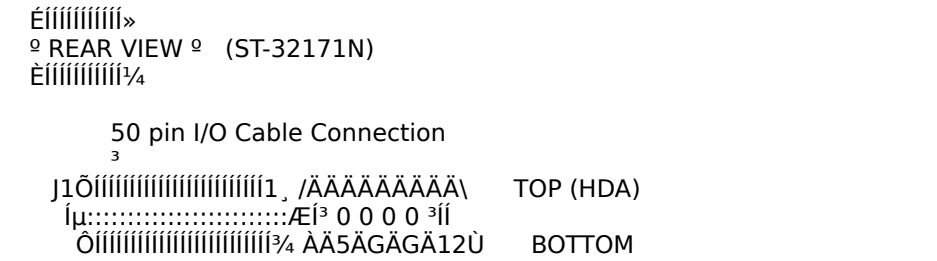
Height (inches/mm):	1/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.1
Weight (lbs/kg):	1.5/0.68

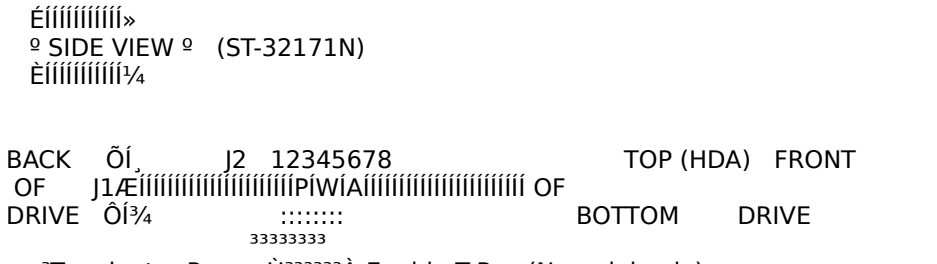
Already low-level formatted at the factory with 8 spare sectors per cylinder and 2 spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

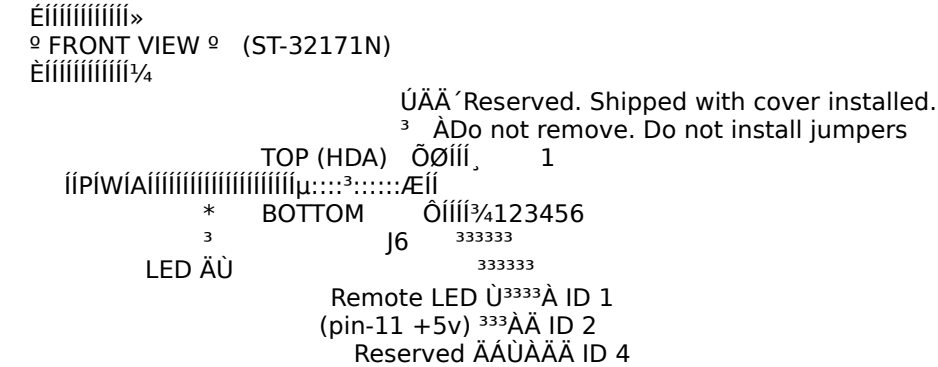
ST-32171N Ultra-SCSI (Barracuda 4LP)





Terminator Power
Enable T-Res (N model only)
Terminator Power
Start Delay (12 secs * ID)
Reserved
Motor Start
Parity Disable
Write Protect

Note: ND drives do not have internal terminators or any other way of adding internal terminators to the drive; use external active termination if required.



FORMATTED CAPACITY (GB) _____2.16
AVERAGE SECTORS PER TRACK _____163 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____25,835
CYLINDERS _____5,167 user
HEADS _____PHYSICAL_____5
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM/MR
RECORDING METHOD _____ZBR PRML (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)_____75 to 120
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____Ultra SCSI
ASA II, SCAM level 2
BYTES PER TRACK _____ average
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____5,555
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____8.5/9.5
Drive level with controller overhead
SINGLE TRACK SEEK (ms) _____1.3/1.6
MAX FULL SEEK (ms) _____17.5/19.5
MTBF (power-on hours) _____1,000,000
POWER DISSIPATION (watts/BTUs) Active ____11.5/37.9
Idle _____6.74/23.0
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.51 idle
+5V START-UP (amps) __0.70
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

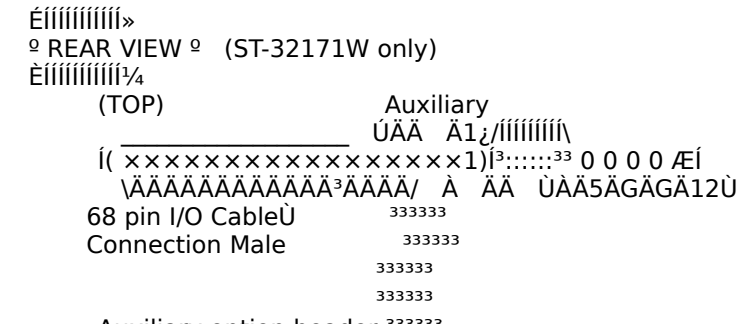
Height (inches/mm):	1.0/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.47/146
Weight (lbs/kg):	1.5/0.68

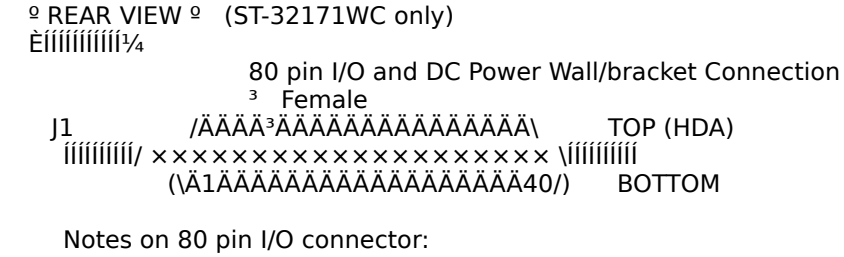
Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-32171W/WC Ultra-SCSI Wide (Barracuda 4LP)

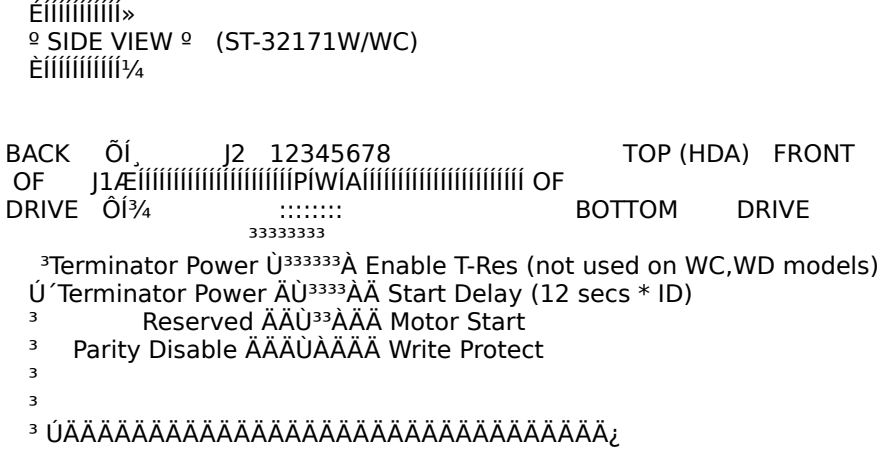




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



Terminator Power Enable T-Res (not used on WC,WD models)
Terminator Power Start Delay (12 secs * ID)
Reserved Motor Start
Parity Disable Write Protect

```
ÀÄ´ Termination Power-source Table ³
  ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
  ³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍ                       ³
  ³                                        A Drive Supplies Bus   ³
  ³   1 2       1 2        1 2        1 2       B Drive Supplies Own   ³
  ³ ÖÄ·          ÖÄ·                 Ö Ä ·      C Bus Supplies Drive   ³
  ³ ºøºø       øºøº      ÖøÄø·      ÓøÄø½      D Differential only:   ³
  ³ Óø½ø       øÓø½      ÓøÄø½       ø ø          Drive Supplies Bus   ³
  ³    A          B            C            D                          ³
  ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
  (not used on WC model)
  Note: WD drives do not have internal terminators or any other
        way of adding internal terminators to the drive; use
        external active termination if required.


ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (ST-32171W/WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼
                                          ÚÄÄ´Reserved. Shipped with cover installed.
                                          ³   ÀDo not remove. Do not install jumpers
                          TOP (HDA)   ÕØÍÍÍ¸        1
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³:::::ÆÍÍ
                   *      BOTTOM       ÔÍÍÍ¾123456
                   ³                   J6        ³³³³³³
         LED ÄÙ                                   ³³³³³³
                                   Remote LED Ù³³³³À ID 1
                                  (pin-11 +5v) ³³³ÀÄ ID 2
                                      Reserved ÄÙ³ÀÄÄ ID 4
                                                 ÀÄÄÄ ID 8
```


ST-32171W

```
    FORMATTED CAPACITY (GB) __________________2.16
    AVERAGE SECTORS PER TRACK ________________163 rounded down
    ACTUATOR TYPE ____________________________ROTARY VOICE COIL
    TRACKS ___________________________________25,835
    CYLINDERS ________________________________5,167 user
    HEADS ______PHYSICAL______________________5
    DISCS (3.5 in) ___________________________3
    MEDIA TYPE _______________________________THIN FILM/MR
    RECORDING METHOD _________________________ZBR PRML (0,4,4)
    INTERNAL TRANSFER RATE (mbits/sec)________75 to 120
    EXTERNAL TRANSFER RATE (mbyte/sec) _______40 Sync
    SPINDLE SPEED (RPM) ______________________7,200
    AVERAGE LATENCY (mSEC) ___________________4.17
    BUFFER ___________________________________512 KByte
      Read Look-Ahead, Adaptive,
      Multi-Segmented Cache
    INTERFACE ________________________________Ultra SCSI
                                      ASA II, SCAM level 2
    BYTES PER TRACK __________________________ average
    SECTORS PER DRIVE ________________________
    TPI (TRACKS PER INCH) ____________________5,555
    BPI (BITS PER INCH) ______________________
    AVERAGE ACCESS (ms) (read/write)__________8.5/9.5
      Drive level with controller overhead
    SINGLE TRACK SEEK (ms) ___________________1.3/1.6
    MAX FULL SEEK (ms) _______________________17.5/19.5
```

MTBF (power-on hours) _____1,000,000
POWER DISSIPATION (watts/BTUs) Active ____11.5/37.9
Idle _____6.74/23.0
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.51 idle
+5V START-UP (amps) __0.70
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

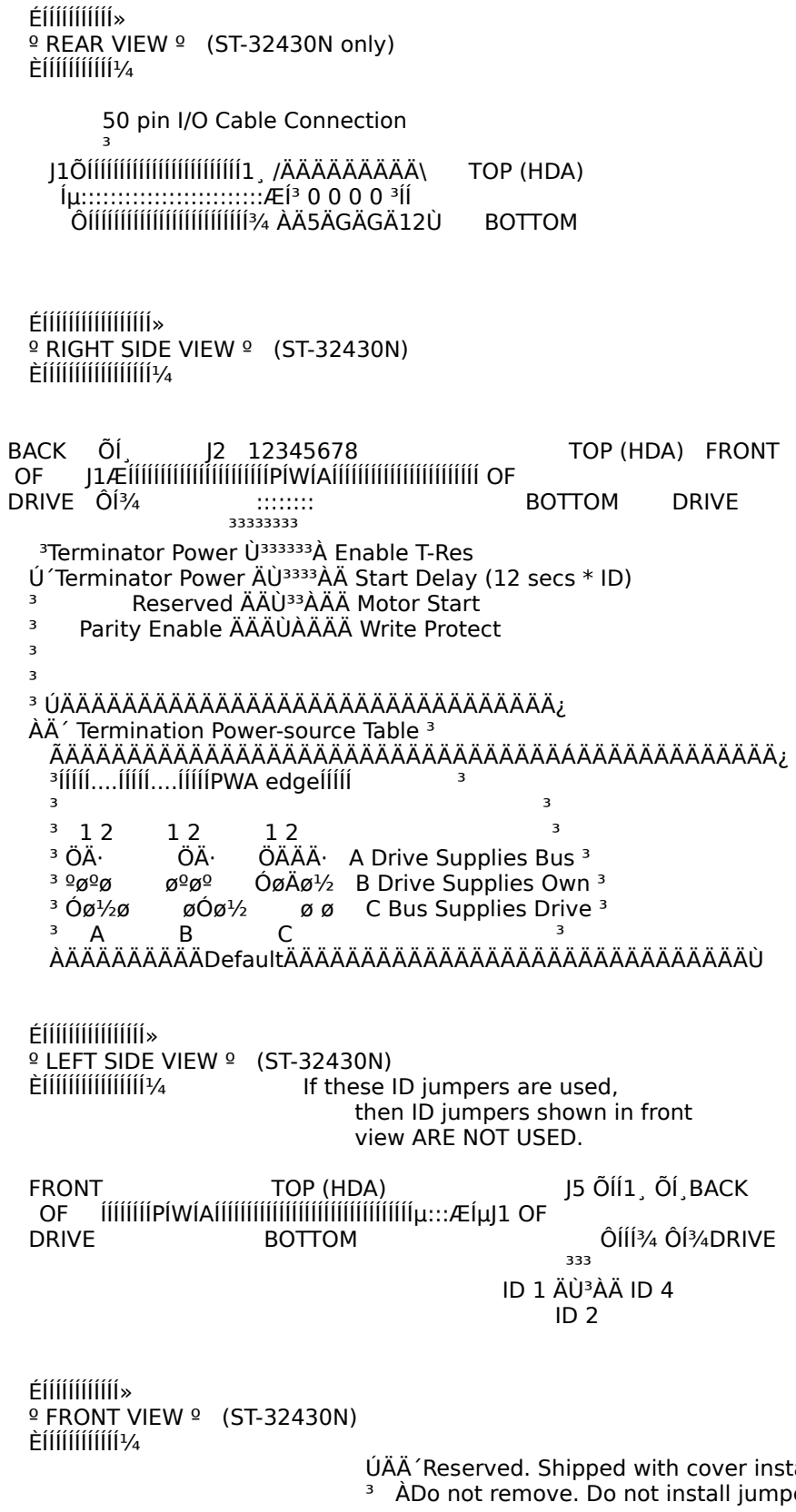
Height (inches/mm):	1.0/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.47/146
Weight (lbs/kg):	1.5/0.68

Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-32430N SCSI-2 Fast (Hawk 2LP)



TOP (HDA) ÕØÍÍÍ¸ 1
ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³::::::ÆÍÍ
* BOTTOM ÔÍÍÍÍ¾123456
³ J6 ³³³³³³
LED ÄÙ ³³³³³³
ID 4 Ù³³³³À Reserved
ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
ID 1 ÄÄÙÀÄÄ Reserved

If these ID jumper are used, then ID jumpers shown in left side view J5 ARE NOT USED.

ST-32430N
Hawk 2LP

UNFORMATTED CAPACITY (MB) _____2590
FORMATTED CAPACITY (xx SECTORS) (MB) _____2140
AVERAGE SECTORS PER TRACK _____116
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____35,928
CYLINDERS _____3992
HEADS _____PHYSICAL_____9
DISCS (3.5 in) _____5
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____35.8 to 62.2
EXTERNAL TRANSFER RATE (mbyte/sec) _____5.2 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____5411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA II
TPI (TRACKS PER INCH) _____4200
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
Including controller overhead
SINGLE TRACK SEEK (ms) (read/write)_____2.1/2.5
MAX FULL SEEK (ms) (read/write)_____20.4/21.4
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.35
+5V START-UP (amps) __0.61
+5V TYPICAL (amps) ___0.35
TYPICAL (watts) _____6
MAXIMUM (watts) _____9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

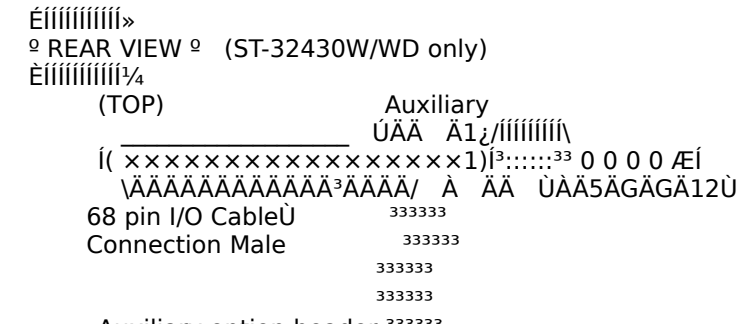
Physical:
Height (inches/mm): 1.00/25.4
Width (inches/mm): 4.02/101.6
Depth (inches/mm): 5.74/145.8
Weight (lbs/kg): 1.5/0.68

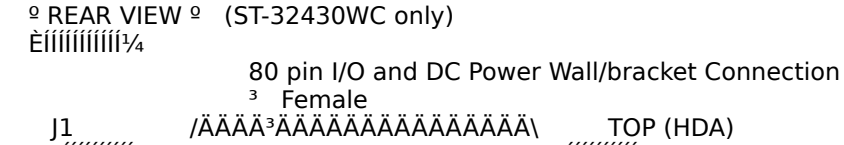
Already low-level formatted at the factory with 1 spare sector per head (all spare sectors are on one track) and 2 spare cylinders per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/26/94)

ST-32430W/WD/WC Fast Wide SCSI-2 (Hawk 2LP)

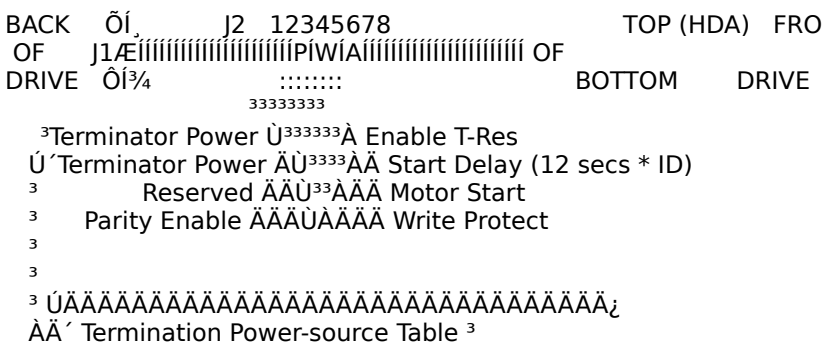




Notes on 80 pin I/O connector:

pins	1 - 4 = +12v	41 - 44 = 12v GND	
	34 - 36 = +5v	74 - 76 = 5v GND	
	37 = SYNC	77 = LEDC	
	38 = MTRON	78 = DLYDST	
	39 = SCSIA0	79 = SCSIA1	
	40 = SCSIA2	80 = SCSIA3	

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



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ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍÍ              ³
³                                                    ³
³   1 2        1 2         1 2                         ³
³ ÖÄ·          ÖÄ·       ÖÄÄÄ·    A Drive Supplies Bus ³
³ ºøºø        øºøº       ÓøÄø½    B Drive Supplies Own ³
³ Óø½ø        øÓø½        ø ø     C Bus Supplies Drive ³
³     A           B            C                       ³
ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
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Note: The model ST-32430WC drive cannot furnish terminator power, because no pins on the 80 pin I/O connector are devoted to terminator power.

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ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-32430W and ST-32430WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼

                         TOP (HDA)     J6   ÕÍÍÍÍÍ1¸
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
                   *       BOTTOM              ÔÍÍÍÍÍÍ¾
                   ³                          ³³³³³³
          LED ÄÙ                                ³³³³³³
                                              ³³³³³³
                                              ³³³³³³
               Auxiliary option header ³³³³³³
                   pin-11 +5v   ÄÄÄÄÄÄÄÄÄÄÄÙ³³³³³
                   pin-10 GND   ÄÄÄÄÄÄÄÄÄÄÄÙ³³³³
                   SCSI ID = 8 ÄÄÄÄÄÄÄÄÂÄÄÄÄÙ³³³
                     or pin-8 BUSY ÄÄÄÄÙ      ³³³
                   SCSI ID = 4 ÄÄÄÄÄÄÄÄÂÄÄÄÄÄÙ³³
                     or pin-6 REFIND+ ÄÙ        ³³
                   SCSI ID = 2 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ³
                   SCSI ID = 1 ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
                   SCSI ID = 0 (none)
```

If these ID jumper are used, then
ID jumpers shown in left side view J5
or 80 pin I/O cable ARE NOT USED.

ST-32430W
Hawk 2LP

UNFORMATTED CAPACITY (MB) ________________2600
FORMATTED CAPACITY (xx SECTORS) (MB) _____2147
AVERAGE SECTORS PER TRACK ________________116
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________35,928
CYLINDERS ________________________________3992
HEADS ______PHYSICAL______________________9
DISCS (3.5 in) ___________________________5
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________35.8 to 62.2
EXTERNAL TRANSFER RATE (mbytes/sec)_______20 Sync.
SPINDLE SPEED (RPM) ______________________5411
AVERAGE LATENCY (mSEC) ___________________5.54
BUFFER ___________________________________512 KByte
Read Look-Ahead, Adaptive,

Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST Wide
ASA II
TPI (TRACKS PER INCH) _____4200
AVERAGE ACCESS (ms) (read/write)_____10.4/11.4
Drive level with controller overhead
SINGLE TRACK SEEK (ms) (read/write)_____2.1/2.5
MAX FULL SEEK (ms) (read/write)_____20.4/21.4
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _2.0
+12V TYPICAL (amps) __0.35
+5V START-UP (amps) __0.61
+5V TYPICAL (amps) ___0.36
TYPICAL (watts) _____7
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

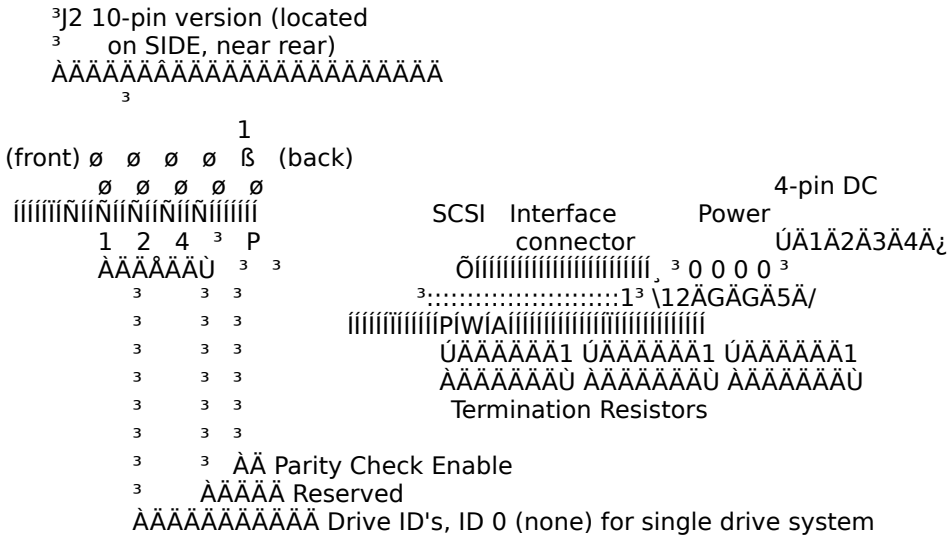
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

Already low-level formatted at the factory with 8 spare sectors per cylinder and 2 spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (10/24/94)

ST-325N SCSI Interface

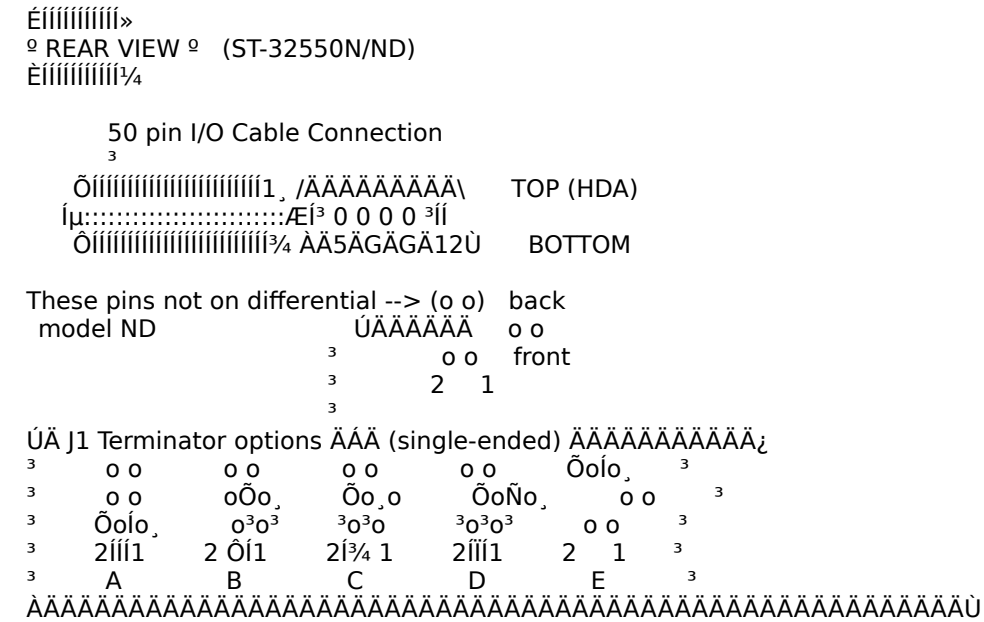


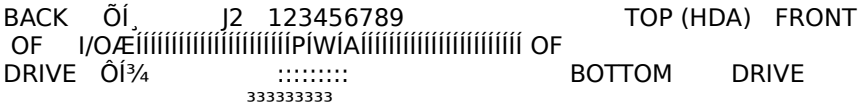
ST - 325N

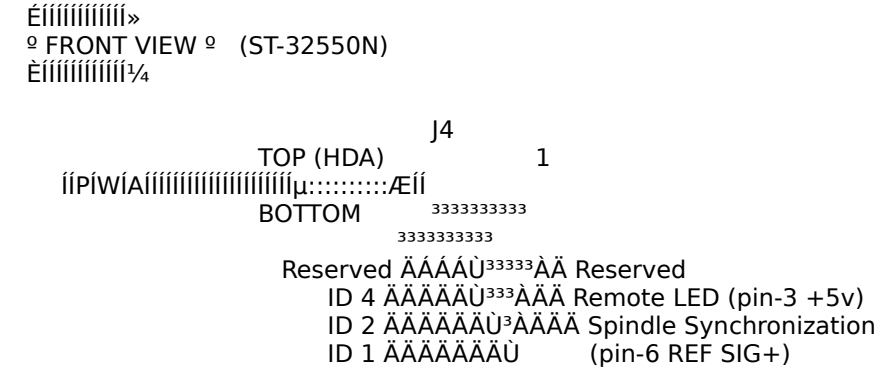
UNFORMATTED CAPACITY (MB)	25
FORMATTED CAPACITY (32 SECTORS) (MB)	21.4
ACTUATOR TYPE	STEPPER
TRACKS	1,308
CYLINDERS	654
HEADS	2
DISCS	1
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL 2,7
INTERNAL TRANSFER RATE (mbits/sec)	9.2
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	2K or 8K
INTERFACE	SCSI
BYTES PER TRACK	16,384
SECTORS PER DRIVE	41,856
TPI (TRACKS PER INCH)	1,015
BPI (BITS PER INCH)	22,762
AVERAGE ACCESS (ms)	28
SINGLE TRACK SEEK (ms)	7
MTBF (power-on hours)	50,000
POWER REQUIREMENTS: +12V START-UP (amps)	1.2
+5V TYPICAL (amps)	0.26
POWER MANAGEMENT (Watts):	
ACTIVE	7.0
IDLE	2.4
STANDBY	1.4
SLEEP	
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0

Seagate reserves the right to change, without notice, product offerings or specifications. (5/6/91)

ST-32550N SCSI-2 Fast (Barracuda 2LP)







ST-32550N
Barracuda 2LP

UNFORMATTED CAPACITY (MB) _____2541.3
FORMATTED CAPACITY (xx SECTORS) (MB) _____2147.4
AVERAGE SECTORS PER TRACK _____108 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____38,610
CYLINDERS _____3,510 user
HEADS _____PHYSICAL_____11
DISCS (3.5 in) _____6
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____49.4 to 72.0
EXTERNAL TRANSFER RATE (mbyte/sec) _____5 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____2.5 to 10 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST
ASA II
BYTES PER TRACK _____64,160 average
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____4,048
BPI (BITS PER INCH) _____72,680
AVERAGE ACCESS (ms) (read/write)_____8.0/9.0
Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____50
ACOUSTICS (typ/max dBA) _____4.7/
POWER DISSIPATION (watts/BTUs) Active ____11/35
Idle _____9/31
POWER REQUIREMENTS: +12V START-UP (amps) _1.26
+12V TYPICAL (amps) __0.88 idle
+5V START-UP (amps) __0.91
+5V TYPICAL (amps) ___0.33 idle
IDLE (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

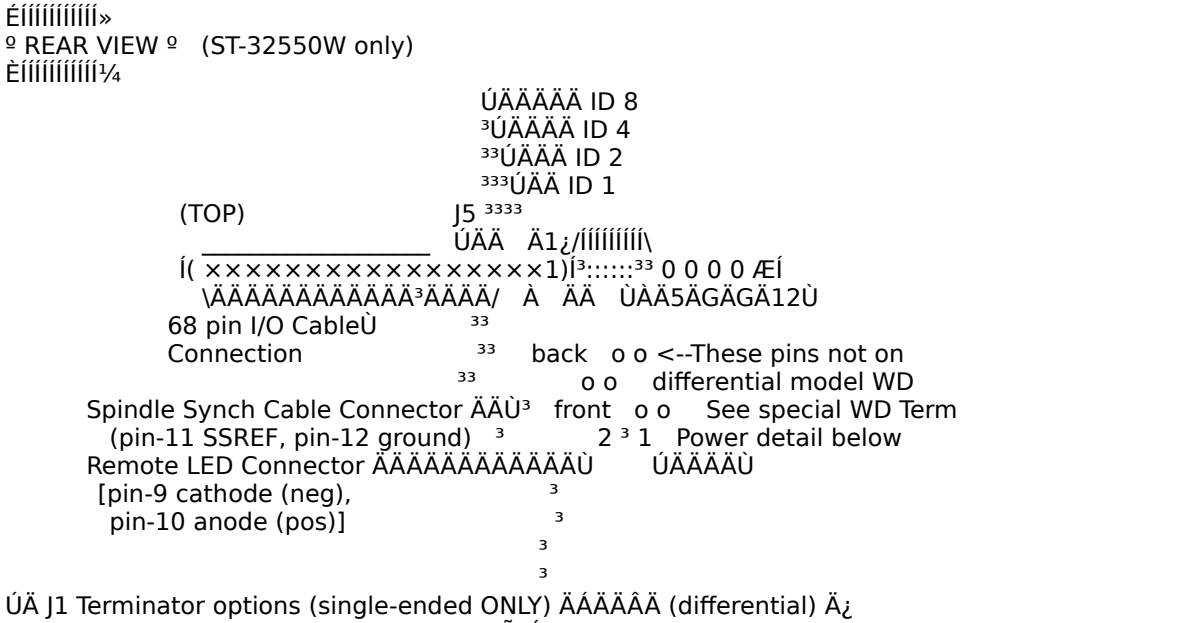
Physical:

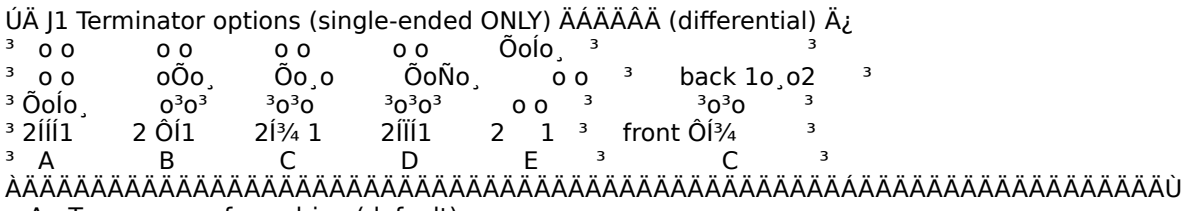
Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.00/101.6
Depth	(inches/mm):	5.75/146.05
Weight	(lbs/g):	1.2/545

Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

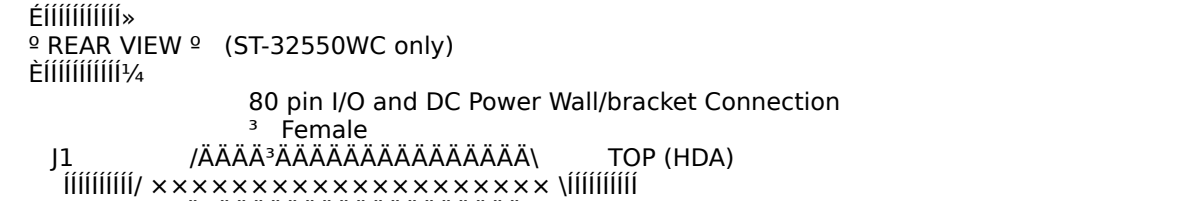
ZBR = Zone Bit Recording = Variable sectors per track

ST-32550W/WC SCSI-2 Fast Wide (Barracuda 2LP)





A - Term. power from drive (default)
B - Term. power to SCSI bus
C - Term. power from SCSI bus
D - Term. power to SCSI bus and drive
E - Enable SCSI terminator (jumper on pins 5-6)



Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating WC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB

```
BACK     ÕÍ¸           J2   123456789                          TOP (HDA)   FRONT
 OF     I/OÆÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ OF
DRIVE   ÔÍ¾                 ::::::::                        BOTTOM       DRIVE
                         ³³³³³³³³³
      1-2 Reserved ÄÄÁÙ³³³³ÀÁÁÄÄ Reserved 7-9
  3 Parity Disable ÄÄÄÄÙ³³ÀÄÄÄÄÄ Delay Motor Start 6
   4 Write Protect ÄÄÄÄÄÙÀÄÄÄÄÄÄÄ Motor Start Enable 5



  ÉÍÍÍÍÍÍÍÍÍÍÍ»
  º FRONT VIEW º   (ST-32550W/WC)        ÚÄÄÄÄÄÄÄ +5V
  ÈÍÍÍÍÍÍÍÍÍÍÍ¼                        ³ÚÄÄÄÄÄÄ Enable SCSI terminator
                                        ³³ÚÄÄÄÄÄ ID 8
                                        ³³³ÚÄÄÄÄ ID 4
                                        ³³³³ÚÄÄÄ ID 2
                                        ³³³³³ÚÄÄ ID 1     (J4 top row)
                      TOP (HDA)           ³³³³³³1
     ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::::::ÆÍÍ   J4
                      BOTTOM          ³³³³³³³³³³
                                  ³³³³³³³³³³           (J4 bottom row)
                        Reserved ÄÁÁÁÙ³³³³³³
                   No connection ÄÄÄÄÄÙ³³³³³
                          Ground ÄÄÄÄÄÄÙ³³³³
         Unit Active LED pin (+) ÄÄÄÄÄÄÄÙ³³³
          SSREF (+) spindle sync ÄÄÄÄÄÄÄÄÙ³³
                   Vendor Unique ÄÄÄÄÄÄÄÄÄÙ³
               Fault LED pin (+) ÄÄÄÄÄÄÄÄÄÄÙ
```

ST-32550W
Barracuda 2LP

UNFORMATTED CAPACITY (MB) ________________2541.3
FORMATTED CAPACITY (xx SECTORS) (MB) _____2147.4
AVERAGE SECTORS PER TRACK ________________108 rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________38,610
CYLINDERS ________________________________3,510 user
HEADS ______PHYSICAL______________________11
DISCS (3.5 in) ___________________________6
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________49.4 to 72.0
EXTERNAL TRANSFER RATE (mbyte/sec) _______5 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______5.0 to 20 Sync
SPINDLE SPEED (RPM) ______________________7,200
AVERAGE LATENCY (mSEC) ___________________4.17
BUFFER ___________________________________512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST Wide
ASA II
BYTES PER TRACK __________________________64,160 average
SECTORS PER DRIVE ________________________
TPI (TRACKS PER INCH) ____________________4,048
BPI (BITS PER INCH) ______________________72,680
AVERAGE ACCESS (ms) (read/write)__________8.0/9.0

Drive level without controller overhead
SINGLE TRACK SEEK (ms) _____0.6/0.9
MAX FULL SEEK (ms) _____17/19
MTBF (power-on hours) _____800,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____50
ACOUSTICS (typ/max dBA) _____4.7/
POWER DISSIPATION (watts/BTUs) Active ____11/35
Idle _____9/31
POWER REQUIREMENTS: +12V START-UP (amps) _1.26
+12V TYPICAL (amps) __0.88 idle
+5V START-UP (amps) __0.91
+5V TYPICAL (amps) ___0.33 idle
IDLE (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

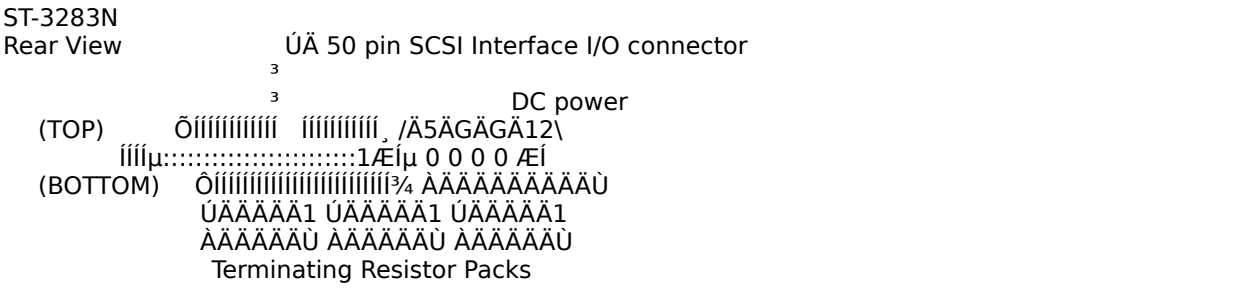
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.75/146.05
Weight (lbs/g):	1.2/545

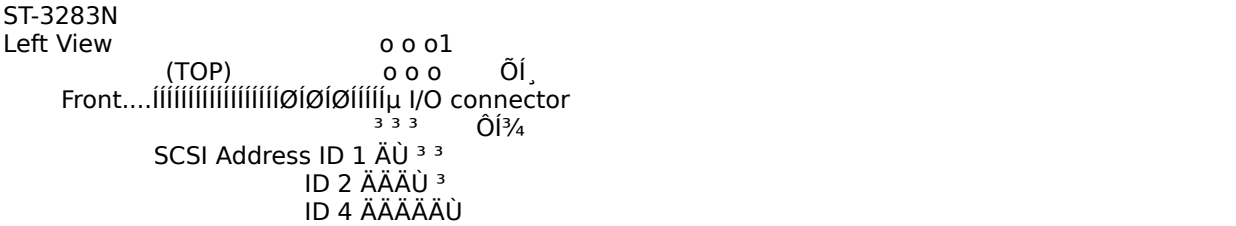
Already low-level formatted at the factory with 9 spare sectors per cylinder and 1 spare cylinder per unit.

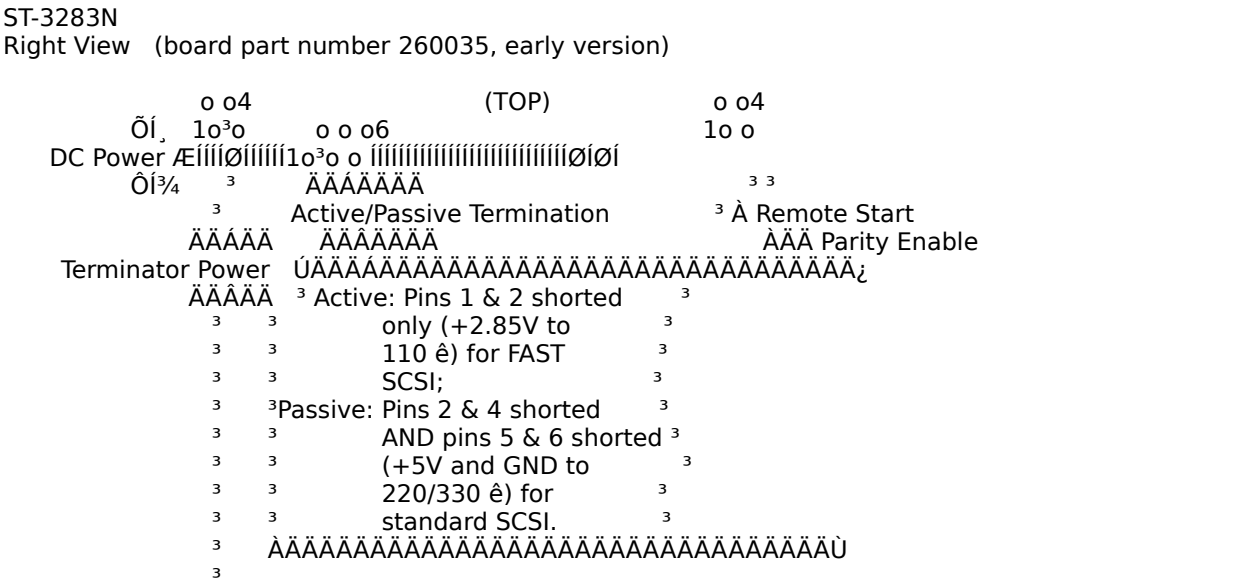
ZBR = Zone Bit Recording = Variable sectors per track

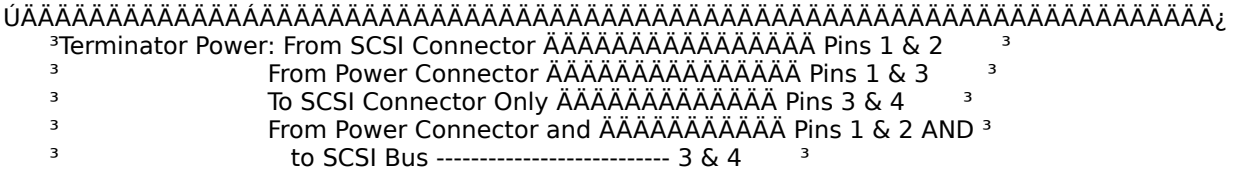
Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

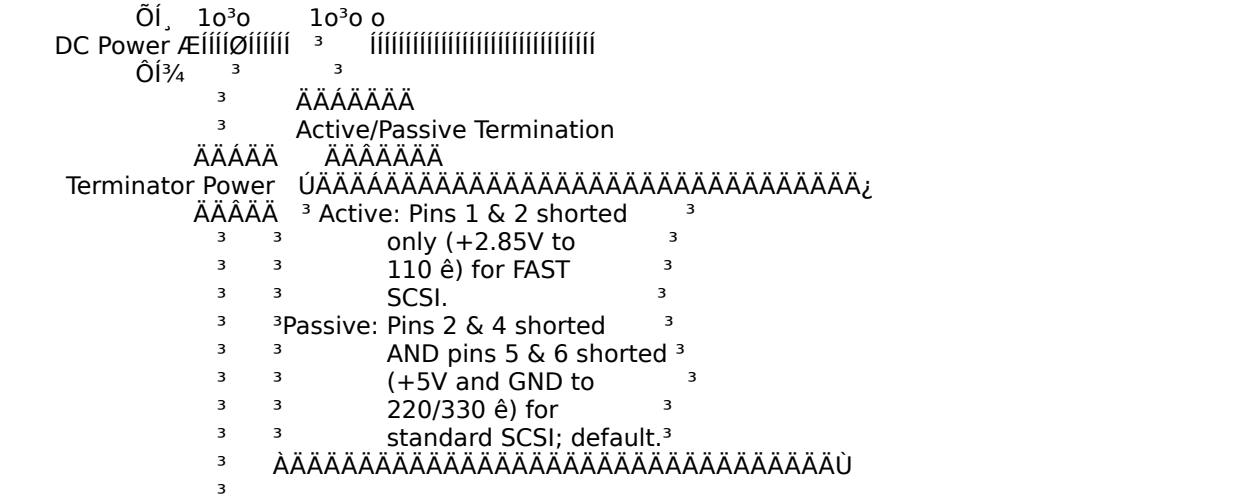
ST-3283N Jumpers

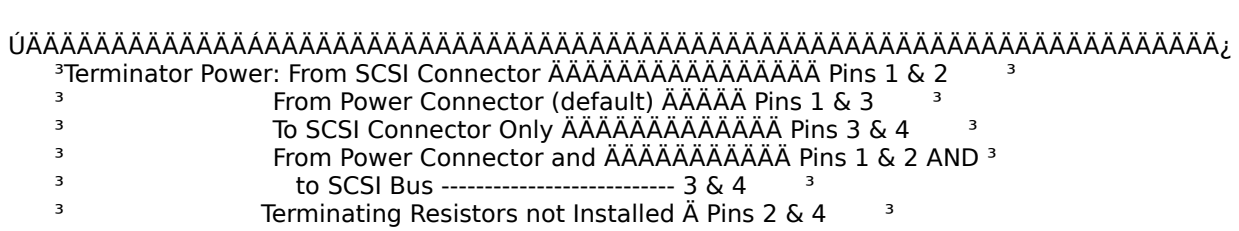




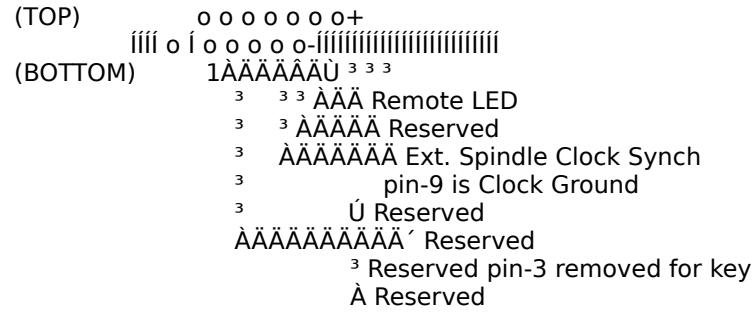




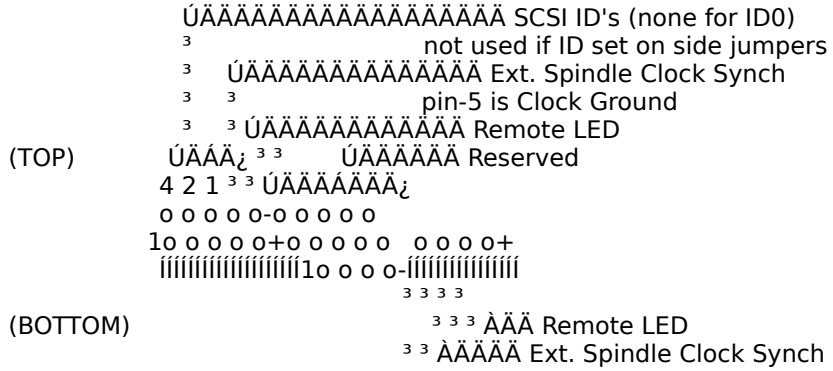




ST-3283N
Front View (board part number 260035, early version)



ST-3283N
Front View



³ ³ pin-5 is Clock Ground
³ ÀÄÄÄÄÄÄ Remote Start Enable
ÀÄÄÄÄÄÄÄÄ Parity Enable

ST-3283N

ST-3283N jumpers

ST-3283N

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____248.62
AVERAGE SECTORS PER TRACK _____57 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____8,455
CYLINDERS _____1,689 (user)
HEADS _____5
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____15.0 to 24.4
EXTERNAL TRANSFER RATE (mbyte/sec) _____4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____4,500
AVERAGE LATENCY (mSEC) _____6.67
BUFFER _____128 Kbyte SeaCache
Read Look-Ahead Multisegmented cache
INTERFACE _____SCSI-2 Fast
SECTORS PER DRIVE _____485,601
TPI (TRACKS PER INCH) _____1,960
BPI (BITS PER INCH) _____38,000
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____<4
MAX FULL SEEK (ms) _____32
MTBF (power-on hours) Office _____250,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
POWER MANAGEMENT (Watts):
ACTIVE _____5.7
IDLE _____3.0
STANDBY _____1.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____0

Formatted at the factory with 2 alternate cylinders. Total physical cylinders equal 1691.

Physical:

Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.5/0.68

Note: If FAST SCSI transfer rates are used, then the active termination options must be used. If the transfer rates are 5.0 MBytes/sec and below, either method of termination can be used. Although active and passive terminated devices can be installed on the same bus, both ends of the cable should be terminated in the same manner, either both active or both passive.

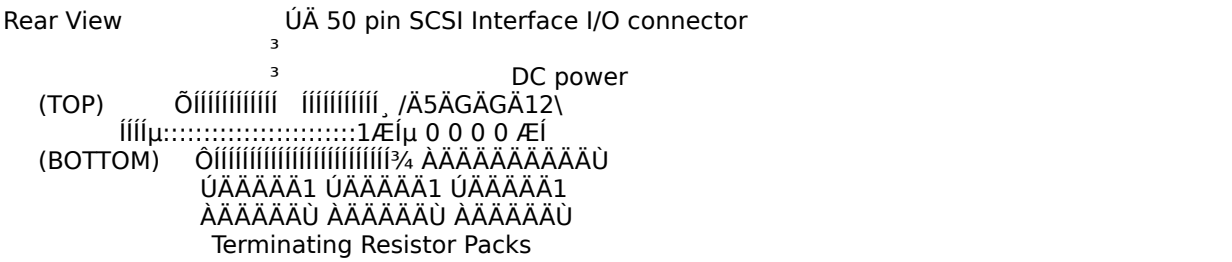
Note: If your application requires no terminators, remove the

terminators from the circuit board. Merely removing the terminator power source selection jumper does not disconnect the terminator resistors from the circuit.

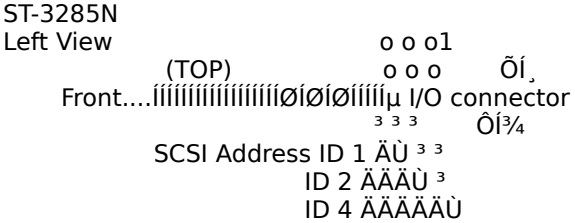
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

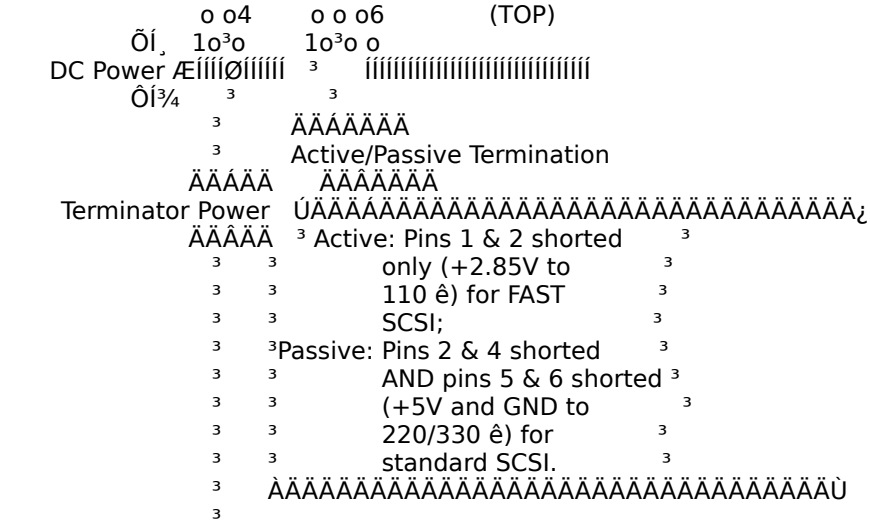
ST-3285N

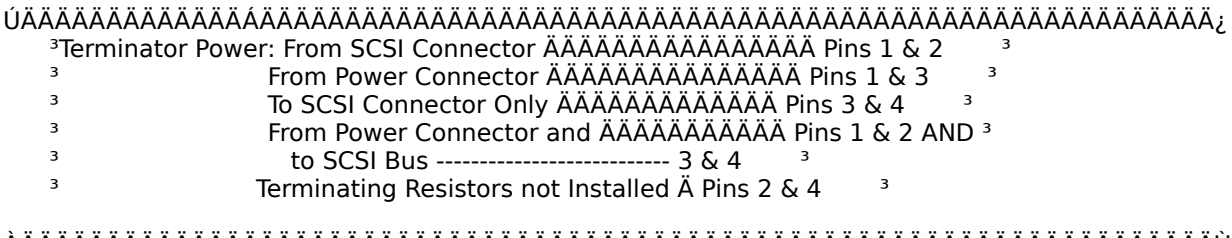


ST-3285N
Left View

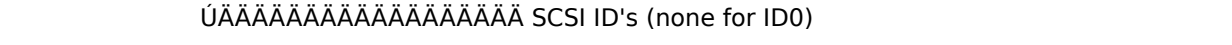


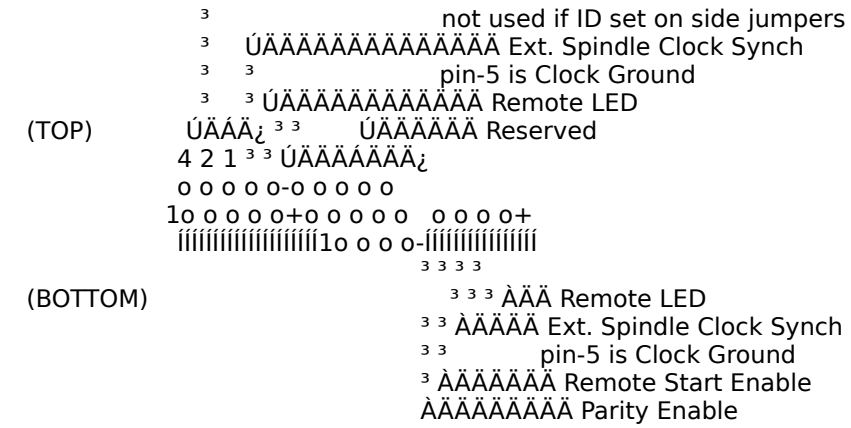
ST-3285N
Right View





ST-3285N
Front View





ST-3285N

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	248.62
AVERAGE SECTORS PER TRACK	57 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	8,455
CYLINDERS	1,689 (user)
HEADS	3
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	15.0 to 24.4
EXTERNAL TRANSFER RATE (mbyte/sec)	4 Async
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	128 Kbyte SeaCache
Read Look-Ahead Multisegmented cache	
INTERFACE	SCSI-2 Fast
SECTORS PER DRIVE	485,601
TPI (TRACKS PER INCH)	1,960
BPI (BITS PER INCH)	38,000
AVERAGE ACCESS (ms)	12
SINGLE TRACK SEEK (ms)	<4
MAX FULL SEEK (ms)	32
MTBF (power-on hours) Office	250,000
POWER REQUIREMENTS: +12V START-UP (amps)	1.5
POWER MANAGEMENT (Watts):	
ACTIVE	5.7
IDLE	3.0
STANDBY	1.0
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO
IBM AT DRIVE TYPE	0

Formatted at the factory with 2 alternate cylinders. Total physical cylinders equal 1691.

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

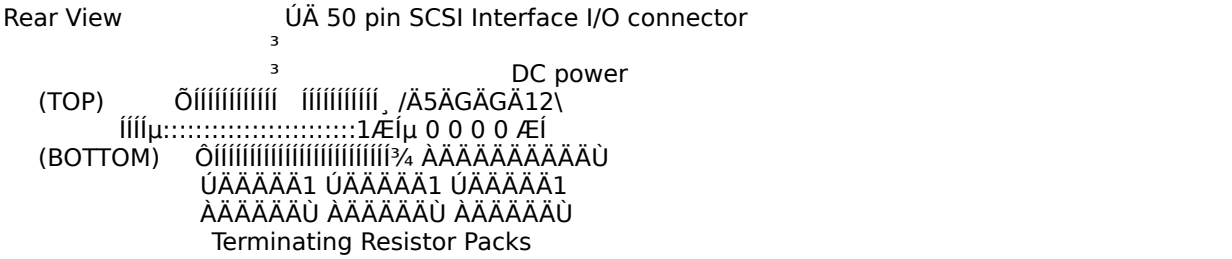
Note: If FAST SCSI transfer rates are used, then the active termination options must be used. If the transfer rates are 5.0 MBytes/sec and below, either method of termination can be used. Although active and passive terminated devices can be installed on the same bus, both ends of the cable should be terminated in the same manner, either both active or both passive.

Note: If your application requires no terminators, remove the terminators from the circuit board. Merely removing the terminator power source selection jumper does not disconnect the terminator resistors from the circuit.

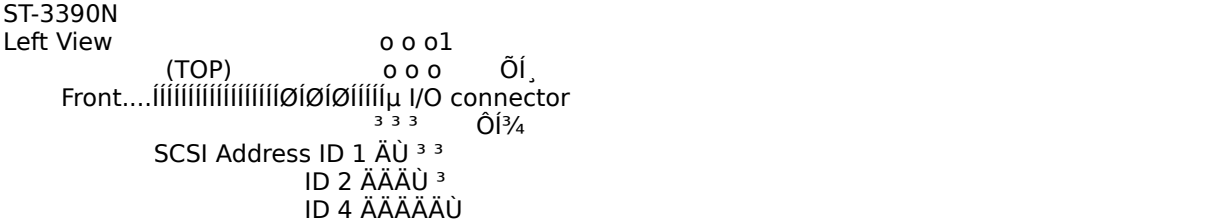
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

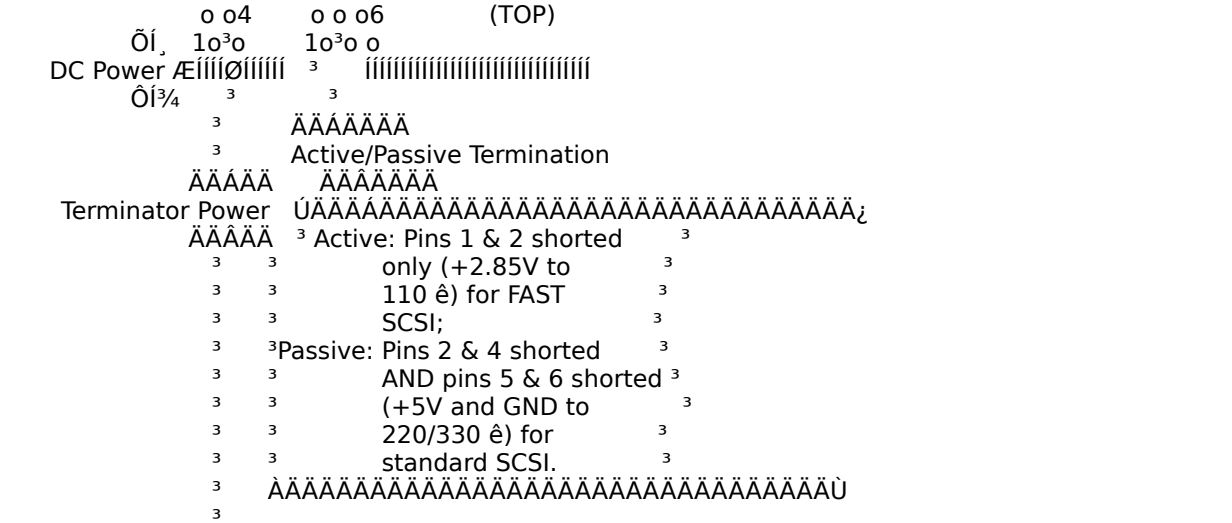
ST-3390N

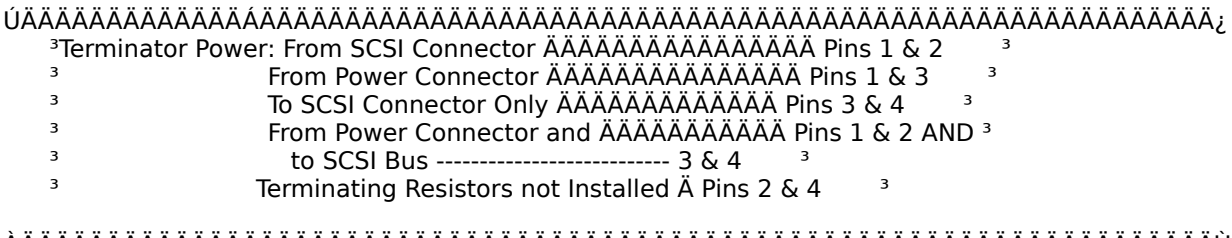


ST-3390N
Left View

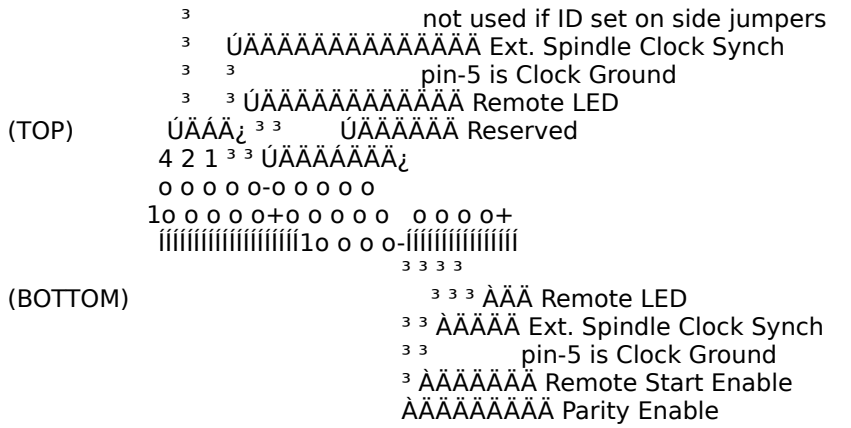


ST-3390N
Right View





ST-3390N
Front View



ST-3390N

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	344.3
AVERAGE SECTORS PER TRACK	83 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	8,028
CYLINDERS	2,676 (user)
HEADS	3
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	21.6 to 36.3
EXTERNAL TRANSFER RATE (mbyte/sec)	4 Async
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache
Multisegmented, read look-ahead	
INTERFACE	SCSI-2 Fast
BYTES PER TRACK	42,888 avg.
SECTORS PER DRIVE	672,480
TPI (TRACKS PER INCH)	3,000
BPI (BITS PER INCH)	52,602
AVERAGE ACCESS (ms)	12
SINGLE TRACK SEEK (ms)	<4
MAX FULL SEEK (ms)	30
MTBF (power-on hours) Office	250,000
POWER REQUIREMENTS: +12V START-UP (amps)	1.9
POWER MANAGEMENT (Watts):	
ACTIVE	5.75
IDLE	3.0
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO
IBM AT DRIVE TYPE	0

Formatted at the factory with 2 alternate cylinders. Total physical cylinders equal 2678.

Physical:

Height (inches/mm): 1.00/25.4

Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.5/0.68

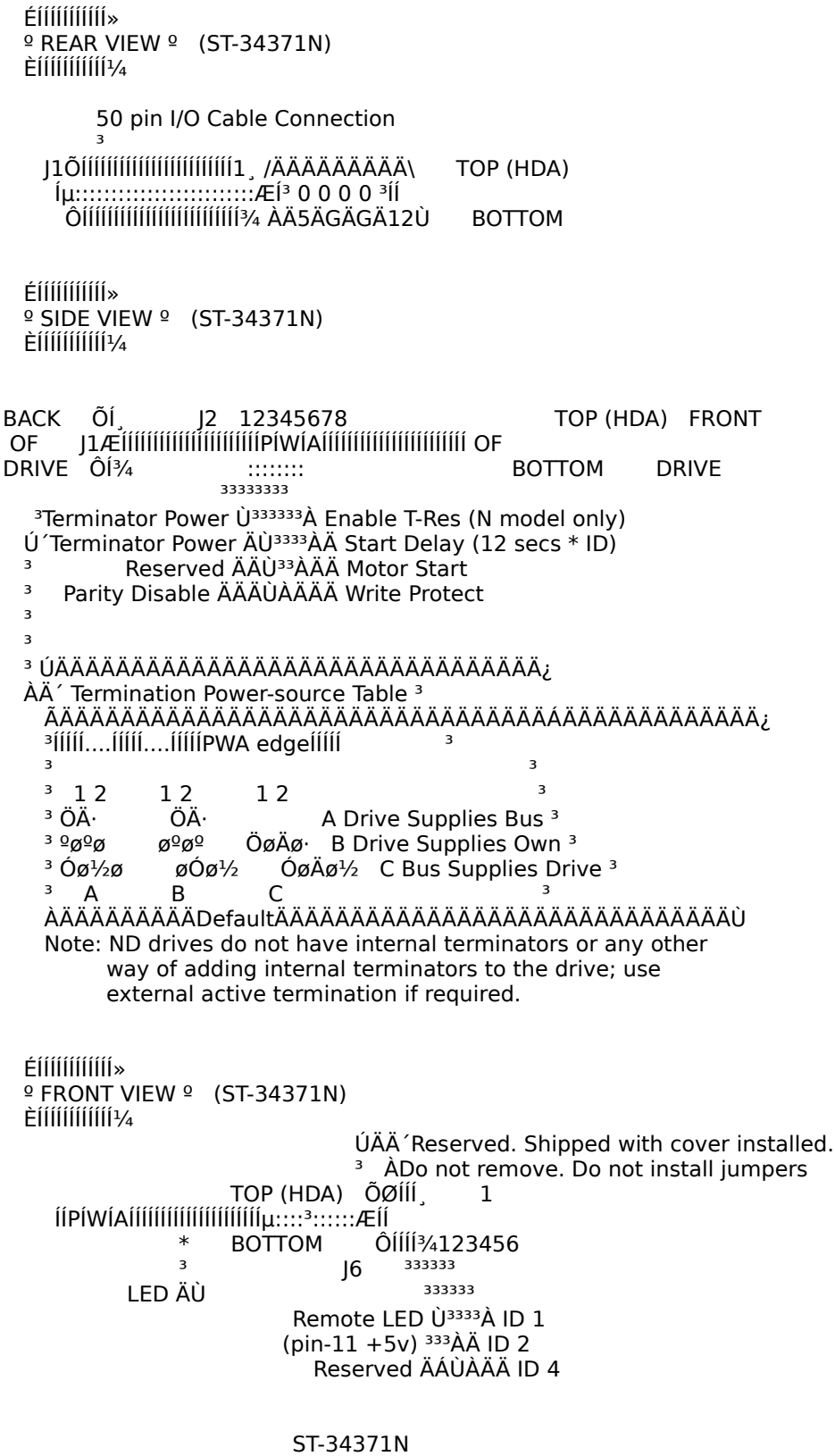
Note: If FAST SCSI transfer rates are used, then the active termination options must be used. If the transfer rates are 5.0 MBytes/sec and below, either method of termination can be used. Although active and passive terminated devices can be installed on the same bus, both ends of the cable should be terminated in the same manner, either both active or both passive.

Note: If your application requires no terminators, remove the terminators from the circuit board. Merely removing the terminator power source selection jumper does not disconnect the terminator resistors from the circuit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

ST-34371N Ultra-SCSI (Barracuda 4LP)



FORMATTED CAPACITY (GB) _____4.32
AVERAGE SECTORS PER TRACK _____163 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____51,670
CYLINDERS _____5,167 user
HEADS _____PHYSICAL_____10
DISCS (3.5 in) _____5
MEDIA TYPE _____THIN FILM/MR
RECORDING METHOD _____ZBR PRML (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)_____75 to 120
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____7,200
AVERAGE LATENCY (mSEC) _____4.17
BUFFER _____512 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____Ultra SCSI
ASA II, SCAM level 2
BYTES PER TRACK _____ average
SECTORS PER DRIVE _____
TPI (TRACKS PER INCH) _____5,555
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) (read/write)_____8.5/9.5
Drive level with controller overhead
SINGLE TRACK SEEK (ms) _____1.3/1.6
MAX FULL SEEK (ms) _____17.5/19.5
MTBF (power-on hours) _____1,000,000
POWER DISSIPATION (watts/BTUs) Active ____11.5/37.9
Idle _____6.74/23.0
POWER REQUIREMENTS: +12V START-UP (amps) _2.44
+12V TYPICAL (amps) __0.61 idle
+5V START-UP (amps) __0.70
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

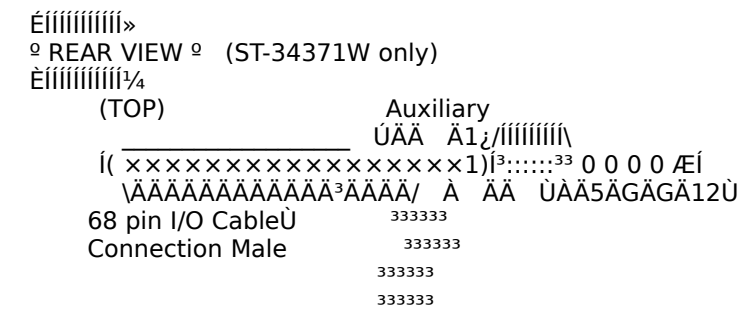
Physical:

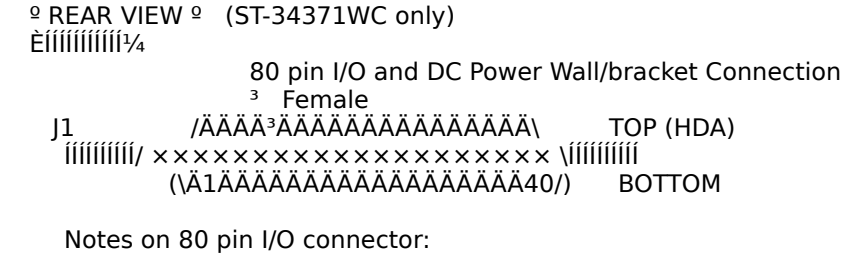
Height (inches/mm):	1.0/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.47/146
Weight (lbs/kg):	1.5/0.68

Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

ST-34371W/WC Ultra-SCSI Wide (Barracuda 4LP)

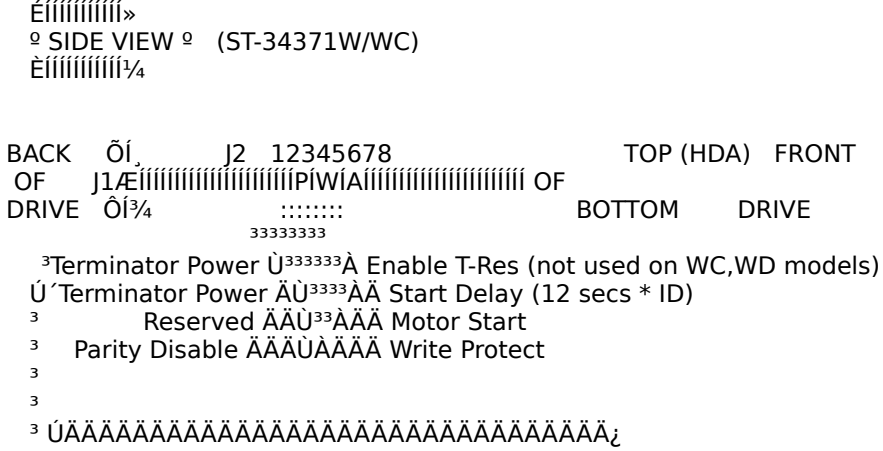




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in, Male 80-pin
2-557101-1 right angle to PCB



³Terminator Power ³ Enable T-Res (not used on WC,WD models)
³ Terminator Power ³ Start Delay (12 secs * ID)
³ Reserved ³ Motor Start
³ Parity Disable ³ Write Protect
³
³
³

```
ÀÄ´ Termination Power-source Table ³
   ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
   ³ÍÍÍÍÍ....ÍÍÍÍÍ....ÍÍÍÍÍPWA edgeÍÍÍÍ                      ³
   ³                                     A Drive Supplies Bus   ³
   ³   1 2       1 2        1 2        1 2       B Drive Supplies Own   ³
   ³ ÖÄ·          ÖÄ·                 Ö Ä ·      C Bus Supplies Drive   ³
   ³ ºøºø       øºøº      ÖøÄø·      ÓøÄø½      D Differential only:   ³
   ³ Óø½ø       øÓø½      ÓøÄø½        ø ø          Drive Supplies Bus   ³
   ³     A           B            C            D                          ³
   ÀÄÄÄÄÄÄÄÄÄÄDefaultÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
   (not used on WC model)
   Note: WD drives do not have internal terminators or any other
         way of adding internal terminators to the drive; use
         external active termination if required.
```

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ÉÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (ST-34371W/WC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍ¼
                                  ÚÄÄ´Reserved. Shipped with cover installed.
                                  ³   ÀDo not remove. Do not install jumpers
                     TOP (HDA)   ÕØÍÍÍ¸        1
    ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::³:::::ÆÍÍ
                  *      BOTTOM       ÔÍÍÍ¾123456
                  ³                  J6       ³³³³³³
          LED ÄÙ                                ³³³³³³
                           Remote LED Ù³³³³À ID 1
                          (pin-11 +5v) ³³³ÀÄ ID 2
                              Reserved ÄÙ³ÀÄÄ ID 4
                                          ÀÄÄÄ ID 8
```

ST-34371W

FORMATTED CAPACITY (GB) ___________________4.32
AVERAGE SECTORS PER TRACK _________________163 rounded down
ACTUATOR TYPE _____________________________ROTARY VOICE COIL
TRACKS _____________________________________51,670
CYLINDERS _________________________________5,167 user
HEADS ______PHYSICAL_______________________10
DISCS (3.5 in) ____________________________5
MEDIA TYPE _________________________________THIN FILM/MR
RECORDING METHOD __________________________ZBR PRML (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)________75 to 120
EXTERNAL TRANSFER RATE (mbyte/sec) _______40 Sync
SPINDLE SPEED (RPM) _______________________7,200
AVERAGE LATENCY (mSEC) ____________________4.17
BUFFER _____________________________________512 KByte
  Read Look-Ahead, Adaptive,
  Multi-Segmented Cache
INTERFACE __________________________________Ultra SCSI
                                ASA II, SCAM level 2
BYTES PER TRACK ____________________________ average
SECTORS PER DRIVE _________________________
TPI (TRACKS PER INCH) _____________________5,555
BPI (BITS PER INCH) _______________________
AVERAGE ACCESS (ms) (read/write)__________8.5/9.5
  Drive level with controller overhead
SINGLE TRACK SEEK (ms) ____________________1.3/1.6
MAX FULL SEEK (ms) ________________________17.5/19.5

MTBF (power-on hours) _____1,000,000
POWER DISSIPATION (watts/BTUs) Active ____11.5/37.9
Idle _____6.74/23.0
POWER REQUIREMENTS: +12V START-UP (amps) _2.44
+12V TYPICAL (amps) __0.61 idle
+5V START-UP (amps) __0.70
+5V TYPICAL (amps) ___0.76 idle
IDLE (watts) _____9
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

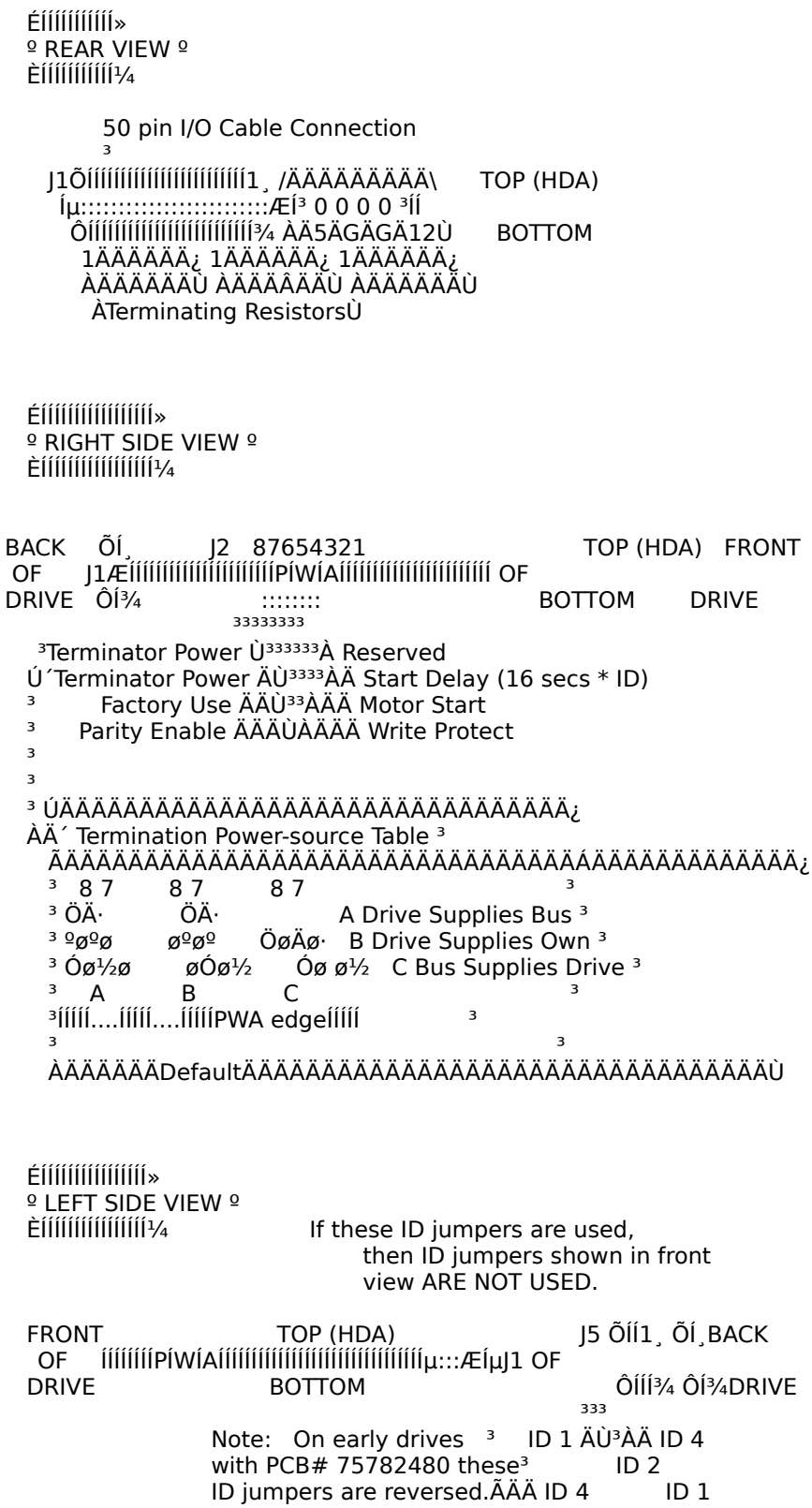
Height (inches/mm):	1.0/25.4
Width (inches/mm):	4.00/101.6
Depth (inches/mm):	5.47/146
Weight (lbs/kg):	1.5/0.68

Already low-level formatted at the factory with x spare sectors per cylinder and x spare cylinder per unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (05/20/96)

ST-3500N SCSI-2 Fast



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ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                     TOP (HDA)    J6   ÕÍÍÍÍÍ1¸
 ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
              *      BOTTOM            ÔÍÍÍÍÍ¾
              ³                       123456
         LED ÄÙ                        ³³³³³³
                                 ID 4 Ù³³³³À Reserved
                                 ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                                 ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                             (pin-6 REF SIG+)
    If these ID jumper are used, then
       ID jumpers shown in left side
       view ARE NOT USED.
```

ST-3500N

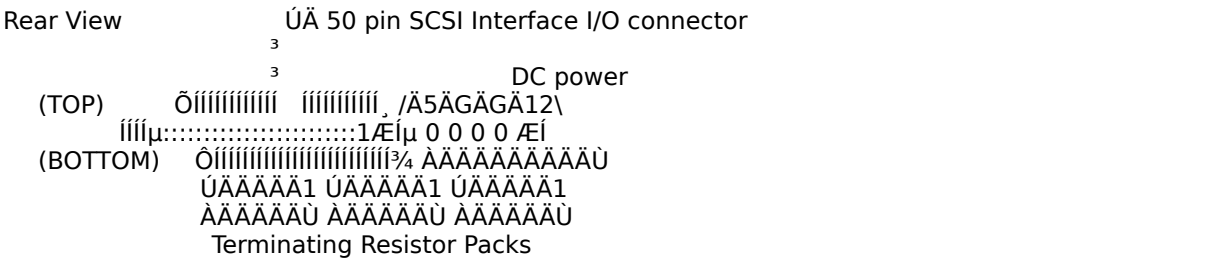
UNFORMATTED CAPACITY (MB) ________________502
FORMATTED CAPACITY (xx SECTORS) (MB) _____426
AVERAGE SECTORS PER TRACK ________________76
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________10,829
CYLINDERS __PHYSICAL______________________1,547 (user)
HEADS ______PHYSICAL______________________7
DISCS (3.5 in) ___________________________4
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________21.7 to 31.9
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________4,535
AVERAGE LATENCY (mSEC) ___________________6.61
BUFFER ___________________________________240 KByte
  Read Look-Ahead, Adaptive,
  Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST
SECTORS PER DRIVE ________________________
TPI (TRACKS PER INCH) ____________________2150
AVERAGE ACCESS (ms) (read/write)__________9.9/11.4
SINGLE TRACK SEEK (ms) ___________________2
MAX FULL SEEK (ms) _______________________26
MTBF (power-on hours) ____________________200,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
  +12V TYPICAL (amps) __0.4
  +5V START-UP (amps) __
  +5V TYPICAL (amps) ___0.2
  TYPICAL (watts) ______5
  MAXIMUM (watts) ______
WRITE PRECOMP (cyl) ______________________N/A
REDUCED WRITE CURRENT (cyl) ______________N/A
LANDING ZONE (cyl) _______________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

Already low-level formatted at the factory with one spare sector per track and two spare cylinders/unit.

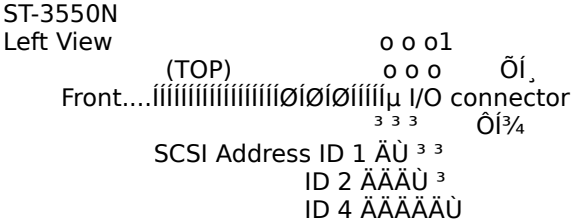
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

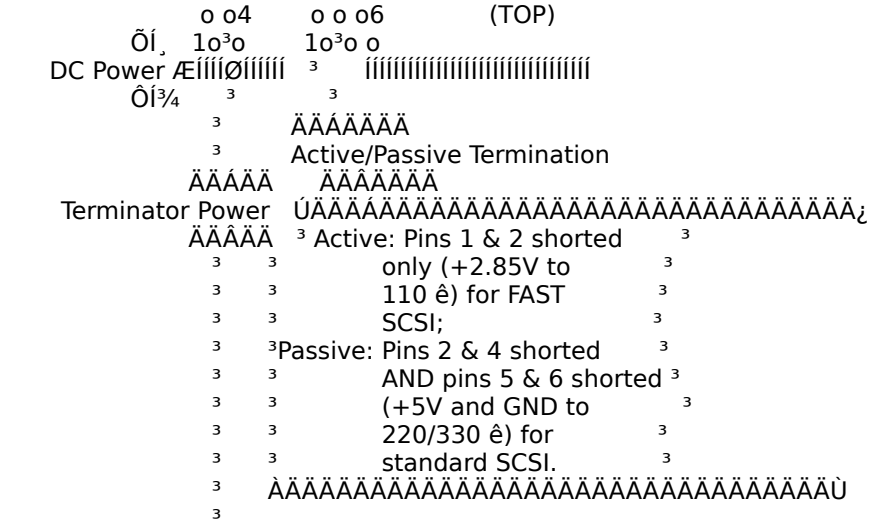
ST-3550N

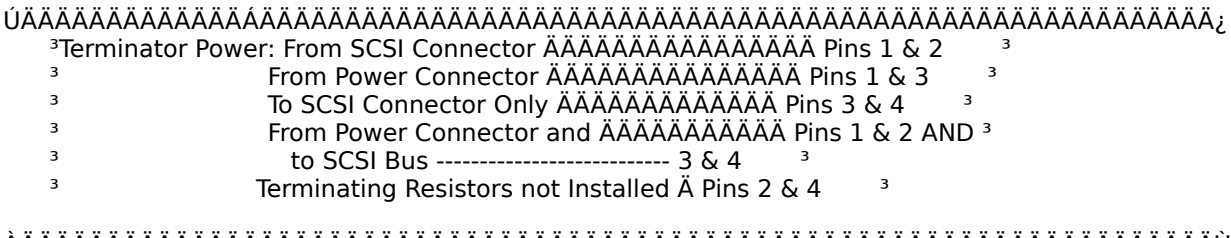


ST-3550N
Left View

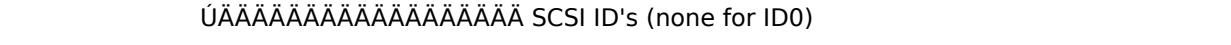


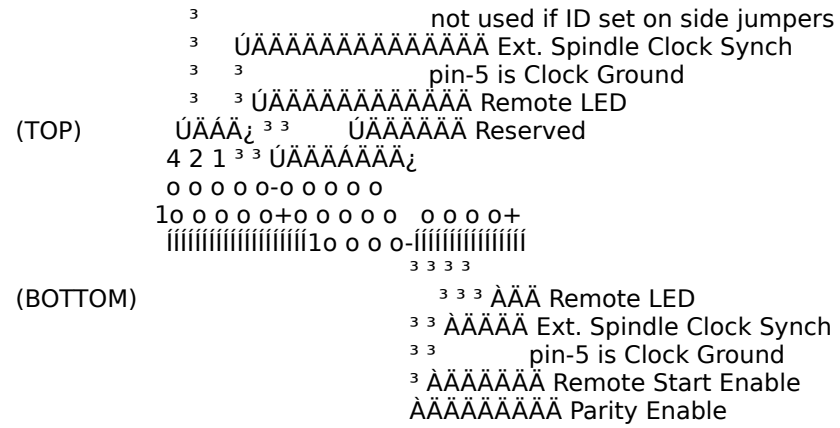
ST-3550N
Right View





ST-3550N
Front View





ST-3550N

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	456.5
AVERAGE SECTORS PER TRACK	83 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	10,630
CYLINDERS	2,126 (user)
HEADS	5
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	21.6 to 36.3
EXTERNAL TRANSFER RATE (mbyte/sec)	4 Async
EXTERNAL TRANSFER RATE (mbyte/sec)	10 Sync
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache Multisegmented, read look-ahead
INTERFACE	SCSI-2 Fast
BYTES PER TRACK	42,943 avg.
SECTORS PER DRIVE	891,574
TPI (TRACKS PER INCH)	2,400
BPI (BITS PER INCH)	52,602
AVERAGE ACCESS (ms)	12
SINGLE TRACK SEEK (ms)	<4
MAX FULL SEEK (ms)	32
MTBF (power-on hours) Office	250,000
POWER REQUIREMENTS: +12V START-UP (amps)	1.9
POWER MANAGEMENT (Watts):	
ACTIVE	5.75
IDLE	3.0
STANDBY	1.0
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO
IBM AT DRIVE TYPE	0

Formatted at the factory with 2 alternate cylinders. Total physical cylinders equal 2128.

Physical:

Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

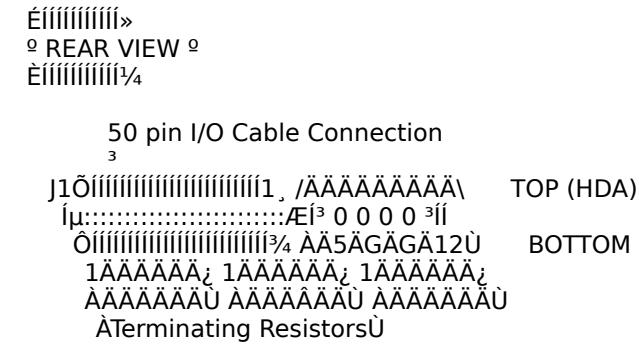
Note: If FAST SCSI transfer rates are used, then the active termination options must be used. If the transfer rates are 5.0 MBytes/sec and below, either method of termination can be used. Although active and passive terminated devices can be installed on the same bus, both ends of the cable should be terminated in the same manner, either both active or both passive.

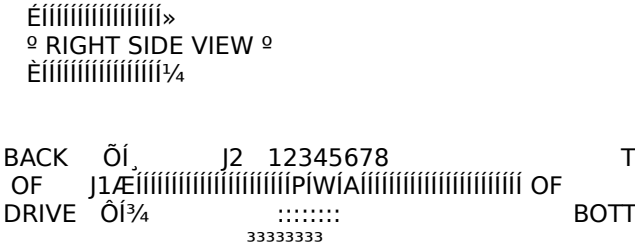
Note: If your application requires no terminators, remove the terminators from the circuit board. Merely removing the terminator power source selection jumper does not disconnect the terminator resistors from the circuit.

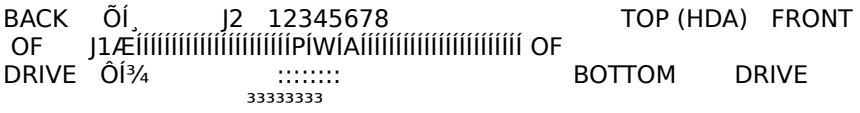
ZBR = Zone Bit Recording = Variable sectors per track

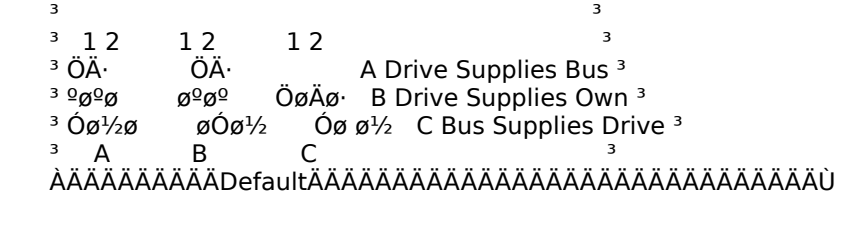
Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

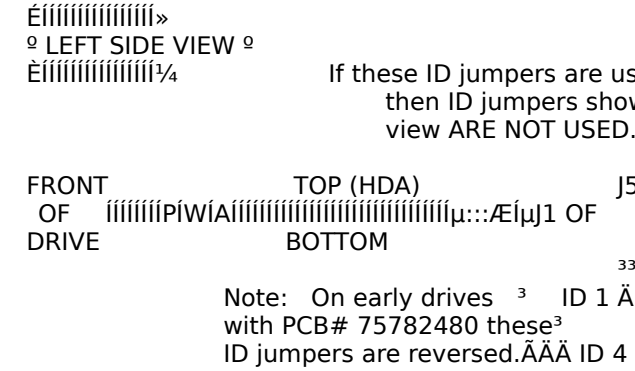
ST-3600N SCSI-2 Fast











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ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                    TOP (HDA)    J6   ÕÍÍÍÍÍ1¸
 ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::::ÆÍ
            *       BOTTOM            ÔÍÍÍÍÍ¾
            ³                        123456
       LED ÄÙ                         ³³³³³³
                               ID 4 Ù³³³³À Reserved
                               ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                               ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                           (pin-6 REF SIG+)
  If these ID jumper are used, then
     ID jumpers shown in left side
     view ARE NOT USED.
```

ST-3600N

UNFORMATTED CAPACITY (MB) ________________617
FORMATTED CAPACITY (xx SECTORS) (MB) _____525
AVERAGE SECTORS PER TRACK ________________79
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________13,104
CYLINDERS __PHYSICAL______________________1,872 (user)
HEADS ______PHYSICAL______________________7
DISCS (3.5 in) ___________________________4
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________18.5 to 34.2
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________4,467
AVERAGE LATENCY (mSEC) ___________________6.71
BUFFER ___________________________________240 KByte
  Read Look-Ahead, Adaptive,
  Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST
SECTORS PER DRIVE ________________________1,025,919
TPI (TRACKS PER INCH) ____________________2150
AVERAGE ACCESS (ms) (read/write)__________10.5/11.2
  Drive level without controller overhead
SINGLE TRACK SEEK (ms) ___________________2
MAX FULL SEEK (ms) _______________________24
MTBF (power-on hours) ____________________200,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
                    +12V TYPICAL (amps) __0.4
                    +5V START-UP (amps) __
                    +5V TYPICAL (amps) ___0.2
                    TYPICAL (watts) ______5
                    MAXIMUM (watts) ______
WRITE PRECOMP (cyl) ______________________N/A
REDUCED WRITE CURRENT (cyl) ______________N/A
LANDING ZONE (cyl) _______________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

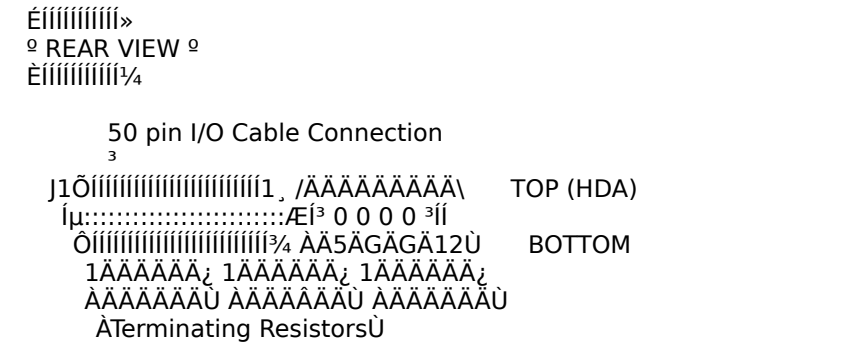
Already low-level formatted at the factory with one spare sector

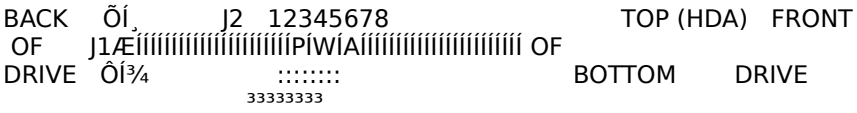
per track and two spare cylinders/unit.

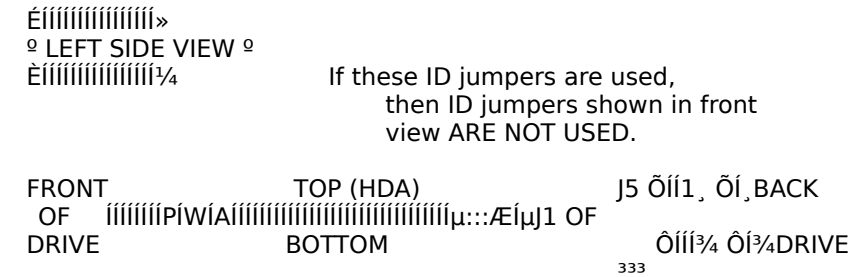
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

ST-3610N SCSI-2 Fast







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ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                        TOP (HDA)    J6   ÕÍÍÍÍÍ1¸
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
                 *      BOTTOM             ÔÍÍÍÍÍ¾
                 ³                       123456
          LED ÄÙ                           ³³³³³³
                                 ID 4 Ù³³³³À Reserved
                                 ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                                 ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                                  (pin-6 REF SIG+)
    If these ID jumper are used, then
       ID jumpers shown in left side
       view ARE NOT USED.
```

ST-3610N

UNFORMATTED CAPACITY (MB) ________________635
FORMATTED CAPACITY (xx SECTORS) (MB) _____535
AVERAGE SECTORS PER TRACK ________________79 rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________13,104
CYLINDERS __PHYSICAL______________________1,872 (user)
HEADS ______PHYSICAL______________________7
DISCS (3.5 in) ___________________________4
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________25 to 41
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________5,411
AVERAGE LATENCY (mSEC) ___________________5.54
BUFFER ___________________________________240 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST
BYTES PER TRACK (unformatted) ____________48,460 average
SECTORS PER DRIVE ________________________1,046,205
TPI (TRACKS PER INCH) ____________________2150
AVERAGE ACCESS (ms) (read/write)__________10.5/11.2
Drive level without controller overhead
SINGLE TRACK SEEK (ms) ___________________2
MAX FULL SEEK (ms) _______________________24
MTBF (power-on hours) ____________________200,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
+12V TYPICAL (amps) __0.4
+5V START-UP (amps) __
+5V TYPICAL (amps) ___0.6
TYPICAL (watts) ______6.5
MAXIMUM (watts) ______
WRITE PRECOMP (cyl) ______________________N/A
REDUCED WRITE CURRENT (cyl) ______________N/A
LANDING ZONE (cyl) _______________________AUTO PARK
IBM AT DRIVE TYPE ________________________0 or NONE

Physical:

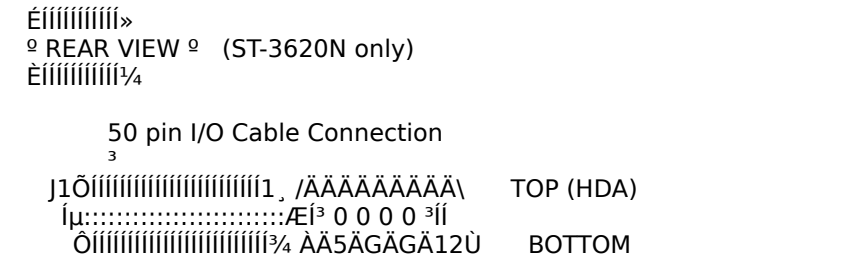
Height	(inches/mm):	1.00/25.4
Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.5/0.68

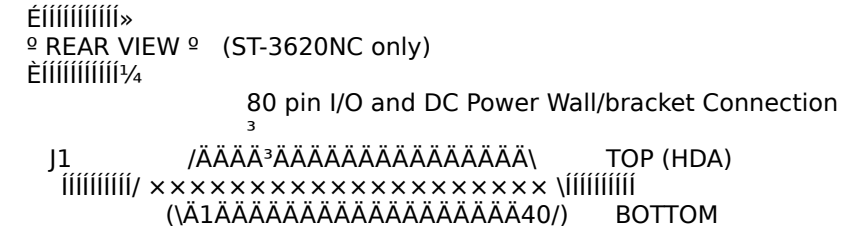
Already low-level formatted at the factory with one spare sector per track and two spare cylinders/unit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (06/24/95)

ST-3620N SCSI-2 Fast (Hawk 1LP)

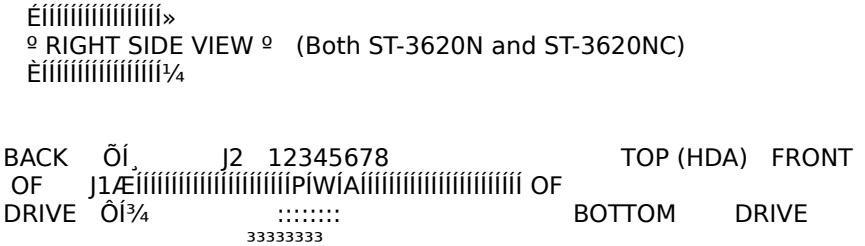




Notes on 80 pin I/O connector:

pins 1 - 4 = +12v	41 - 44 = 12v GND
34 - 36 = +5v	74 - 76 = 5v GND
37 = SYNC	77 = LEDC
38 = MTRON	78 = DLYDST
39 = SCSIA0	79 = SCSIA1
40 = SCSIA2	80 = SCSIA3

Mating NC connector: AMP US p/n: 2-557103-1 straight-in
2-557101-1 right angle to PCB



Terminator Power Reserved
Terminator Power Start Delay (12 secs * ID)
Enable T-Res Motor Start
Parity Enable Write Protect

Termination Power-source Table

1 2	1 2	1 2	A Drive Supplies Bus
			B Drive Supplies Own
			C Bus Supplies Drive
A	B	C	Default

```
ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º LEFT SIDE VIEW º   (ST-3620N only)
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼                If these ID jumpers are used,
                                      then ID jumpers shown in front
                                      view ARE NOT USED.

FRONT                    TOP (HDA)                   J5 ÕÍÍ1¸ ÕÍ¸BACK
 OF     ÍÍÍÍÍÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ:::ÆÍµJ1 OF
DRIVE                   BOTTOM                          ÔÍÍÍ¾ ÔÍ¾DRIVE
                                                     ³³³
                                               ID 1 ÄÙ³ÀÄ ID 4
                                                    ID 2


ÉÍÍÍÍÍÍÍÍÍÍÍÍ»
º FRONT VIEW º   (Both ST-3620N and ST-3620NC)
ÈÍÍÍÍÍÍÍÍÍÍÍÍ¼


                       TOP (HDA)     J6   ÕÍÍÍÍÍ1¸
   ÍÍPÍWÍAÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍµ::::::ÆÍ
                 *      BOTTOM               ÔÍÍÍÍÍÍ¾
                 ³                         123456
            LED ÄÙ                           ³³³³³³
                                      ID 4 Ù³³³³À Reserved
                                      ID 2 ÄÙ³³ÀÄ Remote LED (pin-3 +5v)
                                      ID 1 ÄÄÙÀÄÄ Spindle Synchronization
                                                    (pin-6 REF SIG+)
     If these ID jumper are used, then
        ID jumpers shown in left side view J5
        or 80 pin I/O cable ARE NOT USED.
```

ST-3620N
Hawk 1LP

UNFORMATTED CAPACITY (MB) ________________651.8
FORMATTED CAPACITY (xx SECTORS) (MB) _____545.9
AVERAGE SECTORS PER TRACK ________________78 rounded down
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________13,500
CYLINDERS __PHYSICAL______________________2,700 user
HEADS ______PHYSICAL______________________5
DISCS (3.5 in) ___________________________3
MEDIA TYPE _______________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)________24.4 to 42.4
EXTERNAL TRANSFER RATE (mbyte/sec) _______4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 Sync
SPINDLE SPEED (RPM) ______________________5411
AVERAGE LATENCY (mSEC) ___________________5.54
BUFFER ___________________________________256/1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE ________________________________SCSI-2 FAST
SECTORS PER DRIVE ________________________
TPI (TRACKS PER INCH) ____________________3000
AVERAGE ACCESS (ms) (read/write)__________9.3/10.5
Drive level without controller overhead
SINGLE TRACK SEEK (ms) (read/write)_______1.0/1.7

MAX FULL SEEK (ms) (read/write)_____19.4/22.9
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _1.5
+12V TYPICAL (amps) __0.5
+5V START-UP (amps) __
+5V TYPICAL (amps) ___0.2
TYPICAL (watts) _____7
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

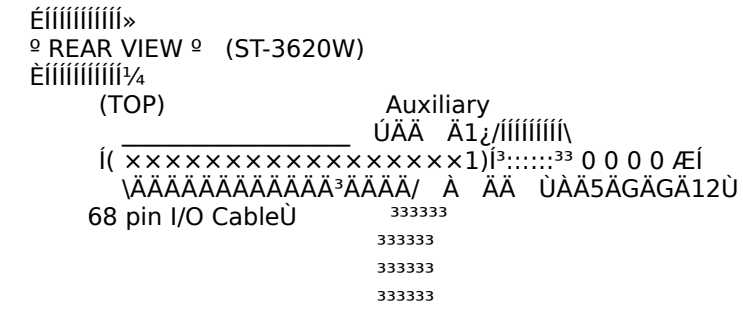
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

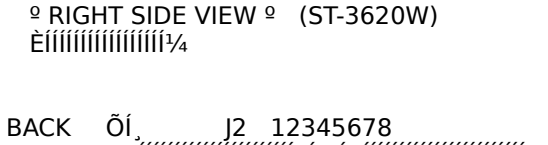
Already low-level formatted at the factory with one spare sector per track and two spare cylinders/unit.

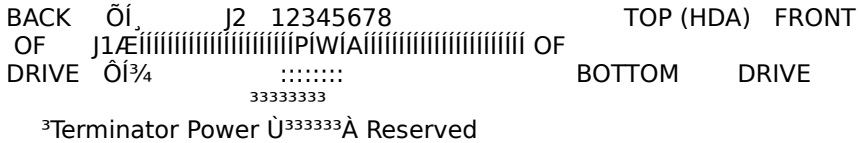
ZBR = Zone Bit Recording = Variable sectors per track

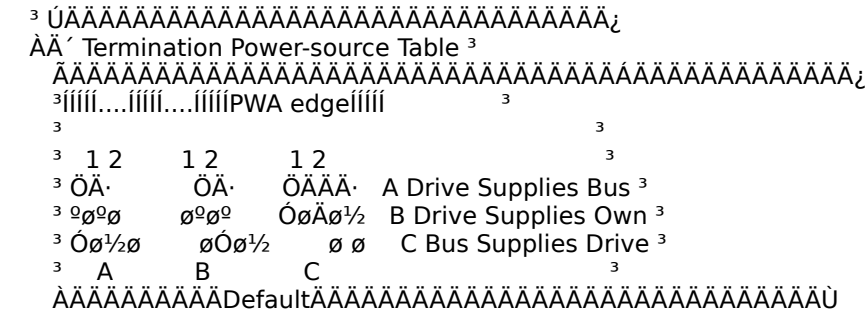
Seagate reserves the right to change, without notice, product offerings or specifications. (08/09/94)

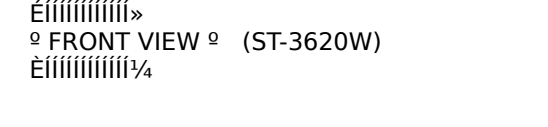
ST-3620W Fast Wide SCSI-2 (Hawk 1LP)

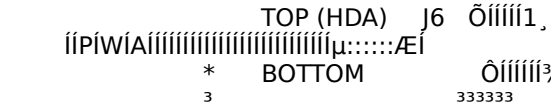












LED ÄÙ

Auxiliary option header
pin-11 +5v
pin-10 GND
SCSI ID = 8
or pin-8 BUSY
SCSI ID = 4
or pin-6 REFIND+
SCSI ID = 2
SCSI ID = 1
SCSI ID = 0 (none)

If these ID jumper are used, then
ID jumpers shown in left side view J5
or 80 pin I/O cable ARE NOT USED.

ST-3620W
Hawk 1LP

UNFORMATTED CAPACITY (MB) _____651.8
FORMATTED CAPACITY (xx SECTORS) (MB) _____545.9
AVERAGE SECTORS PER TRACK _____78
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____24,300
CYLINDERS _____2,700 user
HEADS _____PHYSICAL_____5
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)_____24.4 to 42.4
EXTERNAL TRANSFER RATE (mbyte/sec) _____20 Sync
SPINDLE SPEED (RPM) _____5411
AVERAGE LATENCY (mSEC) _____5.54
BUFFER _____256/1024 KByte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST WIDE
TPI (TRACKS PER INCH) _____3000
AVERAGE ACCESS (ms) (read/write)_____9.3/10.5
Drive level without controller overhead
SINGLE TRACK SEEK (ms) (read/write)_____1.2/1.7
MAX FULL SEEK (ms) (read/write)_____19.4/20.4
MTBF (power-on hours) _____500,000
SHOCK (G's):
operating (Read/Write) _____10
nonoperating _____75
ACOUSTICS (typ/max dBA) _____/
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
+12V TYPICAL (amps) __0.37
+5V START-UP (amps) __0.65
+5V TYPICAL (amps) ___0.45
TYPICAL (watts) _____7
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Physical:

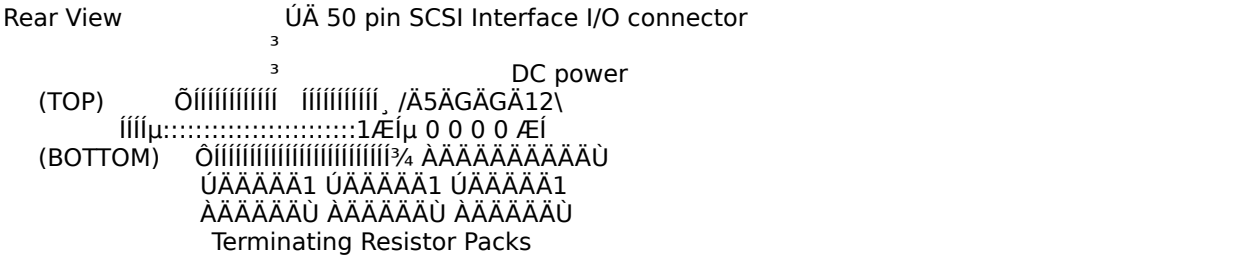
Height (inches/mm):	1.00/25.4
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5.77/146.6
Weight (lbs/kg):	1.5/0.68

Already low-level formatted at the factory with 9 spare sector per cylinder and 2 spare cylinders/unit.

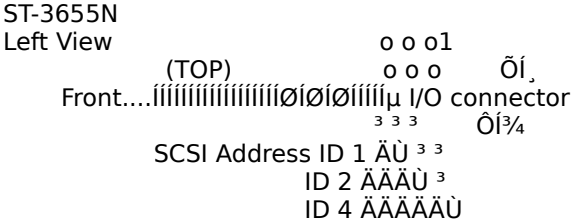
ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (10/24/94)

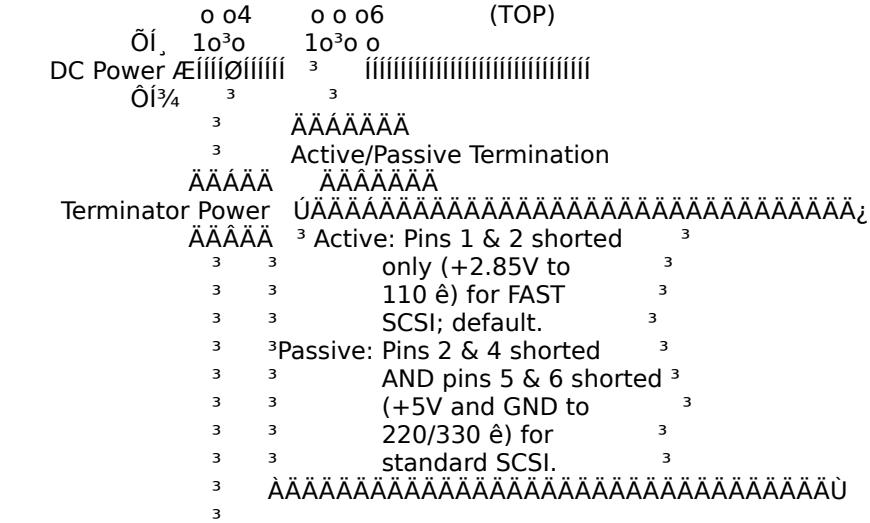
ST-3655N

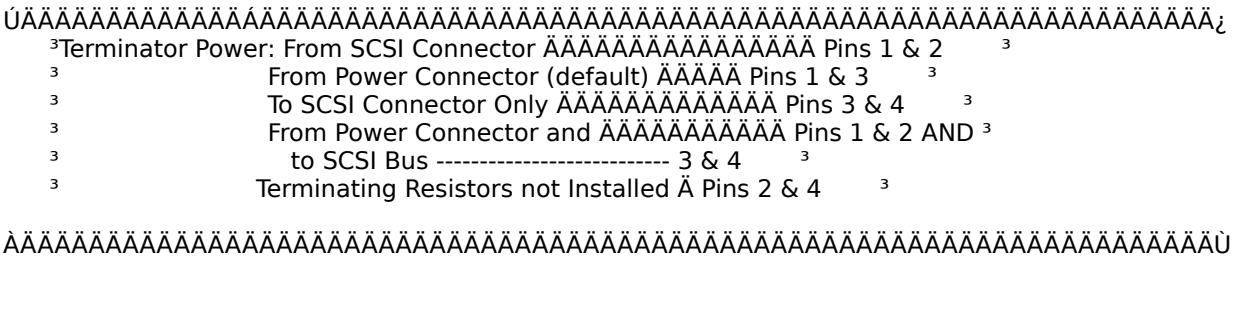


ST-3655N
Left View

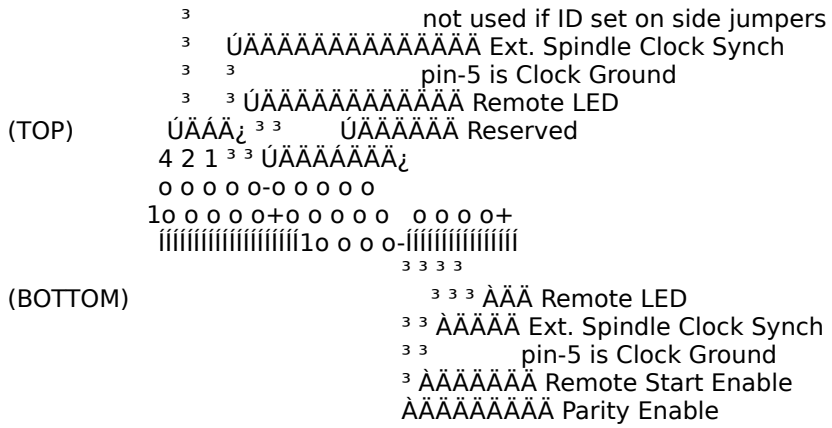


ST-3655N
Right View





ST-3655N
Front View



ST-3655N

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____545.29
AVERAGE SECTORS PER TRACK _____89 rounded down
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____13,380
CYLINDERS _____2,393 (user)
HEADS _____5
DISCS (3.5 in) _____3
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____21.6 to 36.3
EXTERNAL TRANSFER RATE (mbyte/sec) _____4 Async
EXTERNAL TRANSFER RATE (mbyte/sec) _____10 Sync
SPINDLE SPEED (RPM) _____4,500
AVERAGE LATENCY (mSEC) _____6.67
BUFFER _____256 Kbyte SeaCache
Multisegmented, read look-ahead
INTERFACE _____SCSI-2 Fast
BYTES PER TRACK _____40,754 avg.
SECTORS PER DRIVE _____1,065,036
TPI (TRACKS PER INCH) _____3,000
BPI (BITS PER INCH) _____52,602
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____<4
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Office _____250,000
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____5.75
IDLE _____3.0
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____0

Formatted at the factory with 2 alternate cylinders. Total physical cylinders equal 2678.

Physical:
Height (inches/mm): 1.00/25.4

Width	(inches/mm):	4.02/102.1
Depth	(inches/mm):	5.77/146.6
Weight	(lbs/kg):	1.5/0.68

Note: If FAST SCSI transfer rates are used, then the active termination options must be used. If the transfer rates are 5.0 MBytes/sec and below, either method of termination can be used. Although active and passive terminated devices can be installed on the same bus, both ends of the cable should be terminated in the same manner, either both active or both passive.

Note: If your application requires no terminators, remove the terminators from the circuit board. Merely removing the terminator power source selection jumper does not disconnect the terminator resistors from the circuit.

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

ST-410800N Elite 9 Fast SCSI-2

```
                                          ÚÄ Terminator Power Source (see below)ÄÄ¿
                                        4o³o3                                   ³
J4A                                     2o o1                             J4B   ³
   o o o o o o   A R o   o                              Power     o o o o       ³
   o o o o o o   g F o   o Õíííííííííííííííííííííííí¸ Ú12ÄGÄGÄ5Ä¿ o o o o      ³
  íØíØíØíØíØíØííØíØíØííØíµ::::::::::::::::::::::1ÆÍµ 0 0 0 0 ÆÍØíØíØíØíí      ³
   ³ 4 2 1 ³ ³   ÃÄÙ ³   ³ Ôíííííííííííííííííííííííí¾ \ÄÄÄÄÄÄÄÄÄ/ ³ ³ ³ ³     ³
   ³ ÄÄÂÄÄ ³ ³   ³    ³   ³      SCSI Cable Connector                ³ ³ ³ ³     ³
   ³    ³    ³ ³   ³    ³   ³                                    ³ ³ ³ ³     ³
   ³    ³    ³ ³   ³    ³   ÀÄÄ Spindle Synch Cable Connector     ³ ³ ³ ³     ³
   ³    ³    ³ ³   ³    ³           (top pin: SSREF, bottom: ground)   ³ ³ ³ ³     ³
   ³    ³    ³ ³   ³   ÀÄÄÄÄÄÄ Terminator Enable (N&W models only)  ³ ³ ³ ³     ³
   ³    ³    ³ ³   ÀÄÄÄÄÄÄÄÄÄÄ LED Connection (g: ground pin)     ³ ³ ³ ³     ³
   ³    ³    ³ ³                  Activity (A-G)                 ³ ³ ³ ³     ³
   ³    ³    ³ ³                     Ready (R-G)                  ³ ³ ³ ³     ³
   ³    ³    ³ ³                     Fault (F-G)                  ³ ³ ³ ³     ³
   ³    ³    ³ ÀÄ Reserved                                       ³ ³ ³ ³     ³
   ³    ³    ÀÄÄÄ Write Protect Enable            Spinup Delay   ÄÙ ³ ³ ³     ³
   ³    ÀÄÄÄÄÄÄÄÄ SCSI ID                          (10 secs * ID)    ³ ³ ³     ³
   ÀÄÄÄÄÄÄÄÄÄÄÄÄÄ Reserved                  Motor Start option enable ÄÄÄÙ ³ ³     ³
                                          Parity check DISable ÄÄÄÄÄÙ ³     ³
                                                    Reserved ÄÄÄÄÄÄÄÙ     ³
Õíííííííííííííííííííííííííííííííí¸                                         ³
³  Terminator Power Source Options ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³  2 & 4 Ä Initiator supplies power over the SCSI Bus for terminators. ³
³            Drive supplies no terminator power.                        ³
³  1 & 2 Ä Drive supplies power for its own terminator resistor-paks    ³
³            but not to SCSI Bus.   This is the factory setting.         ³
³  1 & 3                                                                ³
³   AND   Ä Drive supplies power for external terminator at end of the  ³
³  2 & 4      daisy chain. Terminator resistor-paks must be removed.    ³
³            This option is recommended only for last drive on daisy    ³
³            chain.                                                     ³
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
        ST410800ND drives are shipped with two DIP terminators
        installed in sockets on the PCB. Remove to disable.
```

ST-410800N
Elite 9

UNFORMATTED CAPACITY ____________________10,800
FORMATTED CAPACITY (512 byte blk) ________9,090
AVERAGE SECTORS PER TRACK _______________133 (rounded down)
ACTUATOR TYPE ___________________________ROTARY VOICE COIL
TRACKS __________________________________132,975
CYLINDERS _______________________________4925
HEADS ___________________________________27
DISCS (5.25 in) _________________________14
MEDIA TYPE ______________________________THIN FILM
HEAD TYPE _______________________________THIN FILM
RECORDING METHOD ________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _______44-65
INTERNAL TRANSFER RATE AVG (mbyte/sec) ___7.2
EXTERNAL TRANSFER RATE (mbyte/sec) _______10 (burst)
SPINDLE SPEED (RPM) _____________________5,400
AVERAGE LATENCY (mSEC) __________________5.55
COMMAND OVERHEAD (mSEC) _________________<0.5

BUFFER _____1024 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented
Cache
INTERFACE _____SCSI-2 FAST
ASA
BYTES PER TRACK _____63,000-91,000
SECTORS PER DRIVE _____17,845,731
BYTES PER CYLINDER _____1,058,400 to 1,587,600
TPI (TRACKS PER INCH) _____3,921
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) read/write _____11/12
SINGLE TRACK SEEK (ms) read/write _____0.9/1.7
MAX FULL SEEK (ms) read/write _____23/24
MTBF (power-on hours) Class A Room _____NA
MTBF (power-on hours) Office _____500,000
POWER DISSIPATION (watts/BTUs) Active ____25/85
Idle _____22/75
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _4.8/4.8
+12V TYPICAL (amps) __1.57/1.57
+5V START-UP (amps) __0.98/1.0
+5V TYPICAL (amps) ___0.665/0.71
TYPICAL (watts seek/read)_32.60/36.41
IDLE (watts) _____28.34/31.81
USER MANUAL PART NUMBER _____

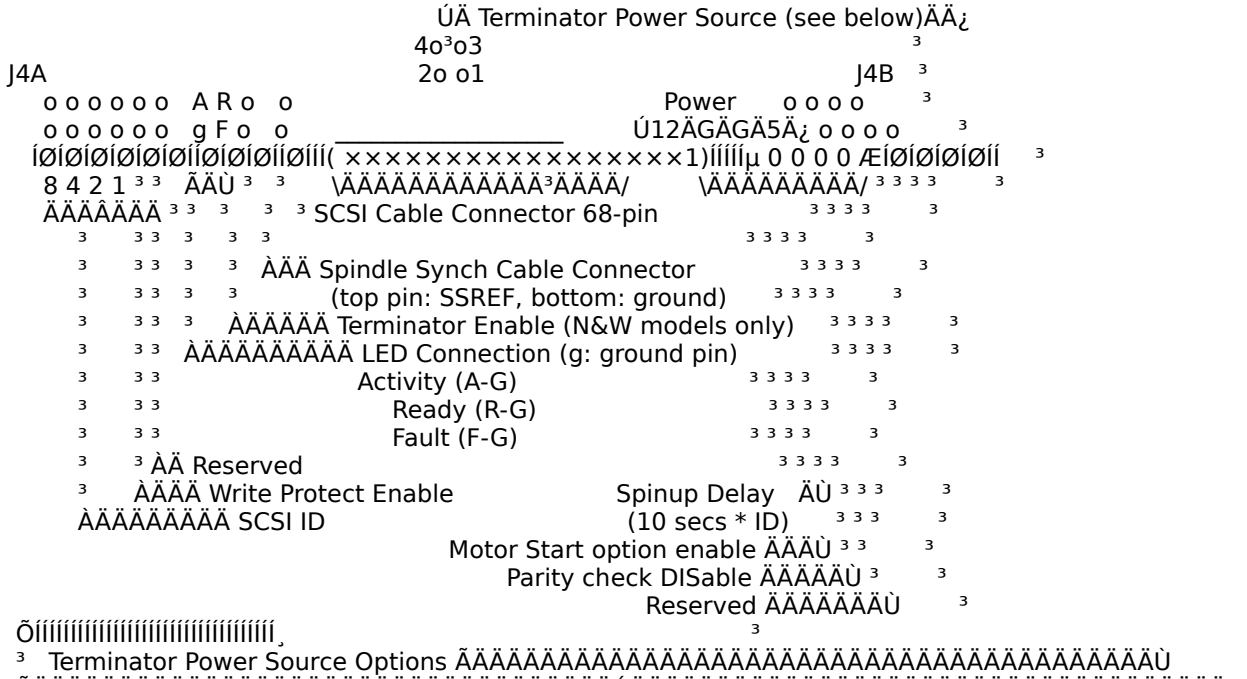
** Already low-level formatted at the factory with nine spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.0/203
Weight	(lbs/kg):	7.8/3.6

Seagate reserves the right to change, without notice, product offerings or specifications. (03/24/94)

ST-410800W Elite 9 Fast SCSI-2 Wide



Terminator Power Source Options

2 & 4 Ä Initiator supplies power over the SCSI Bus for terminators.
Drive supplies no terminator power.

1 & 2 Ä Drive supplies power for its own terminator resistor-paks
but not to SCSI Bus. This is the factory setting.

1 & 3
AND Ä Drive supplies power for external terminator at end of the
2 & 4 daisy chain. Terminator resistor-paks must be removed.
This option is recommended only for last drive on daisy
chain.

ST410800WD drives are shipped with three DIP terminators installed in sockets on the PCB. Remove to disable.

ST-410800W
Elite 9

UNFORMATTED CAPACITY	10,800
FORMATTED CAPACITY (512 byte blk)	9,090
AVERAGE SECTORS PER TRACK	133 (rounded down)
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	132,975
CYLINDERS	4925
HEADS	27
DISCS (5.25 in)	14
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	44-65
INTERNAL TRANSFER RATE AVG (mbyte/sec)	7.2
EXTERNAL TRANSFER RATE (mbyte/sec)	20 (burst)
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
COMMAND OVERHEAD (mSEC)	<0.5

BUFFER _____1024 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented Cache
INTERFACE _____SCSI-2 FAST ASA
BYTES PER TRACK _____63,000-91,000
SECTORS PER DRIVE _____17,845,731
BYTES PER CYLINDER _____1,058,400 to 1,587,600
TPI (TRACKS PER INCH) _____3,921
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) read/write _____11/12
SINGLE TRACK SEEK (ms) read/write _____0.9/1.7
MAX FULL SEEK (ms) read/write _____23/24
MTBF (power-on hours) Class A Room _____NA
MTBF (power-on hours) Office _____500,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _4.8/4.8
+12V TYPICAL (amps) __1.56/1.56
+5V START-UP (amps) __1.0/1.1
+5V TYPICAL (amps) ___0.7/1.0
TYPICAL (watts seek/read)_32.60/36.41
IDLE (watts) _____28.34/31.81
USER MANUAL PART NUMBER _____
OTHER _____
Synchronized Spindles, Sweep Cycle Capability

** Already low-level formatted at the factory with nine spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.0/203
Weight	(lbs/kg):	7.8/3.6

Seagate reserves the right to change, without notice, product offerings or specifications. (03/24/94)

ST-41200N (94601-1200) Wren 7 SCSI and SCSI-2

ÚÄÄ Some 16-pin configurations may not have these pins.
³
³ ÕÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¸ /Ä4Ä3Ä2Ä1Ä\
ÍÍÍÍÍPÍWÍAÍÍÍÍÍØÍÍµ:::SCSI:Cable:::::::::::::::1ÆÍµ 0 0 0 0 ÆÍÍ
ÚÄ¿ ³ ÔÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¾ ÀÄ5ÄGÄGÄ12Ù
³o³o o o o o o(o)o ÚÄÄÄÄÄÄÄÄ1ÚÄÄÄÄÄÄÄÄ1ÚÄÄÄÄÄÄÄÄ1 Power
ÅoÅo o o o o o(o)o ÀÄÄÄÄÄÄÄÄÙÀÄÄÄÄÄÄÄÄÙÀÄÄÄÄÄÄÄÄÙ
ÀÄÙ 4 2 1 M P ³ ³ Terminator Resistor SIPS
³ ÄÄÂÄÄ ³ ³ ³ ³
³ ³ ³ ³ ³ ÀÄ Reserved
³ ³ ³ ³ ÀÄÄÄ Motor Start Delay (16 sec * ID)
³ ³ ³ ³ ÀÄÄÄÄÄ Parity option enable
³ ³ ³ ÀÄÄÄÄÄÄ Motor Start option enable
³ ³ ÀÄÄÄÄÄÄÄÄÄÄÄ Drive ID's, ID 0 (none) if only SCSI device
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÅ Terminator power from Drive (vertical)
À Terminator power from Bus (lower horizontal)

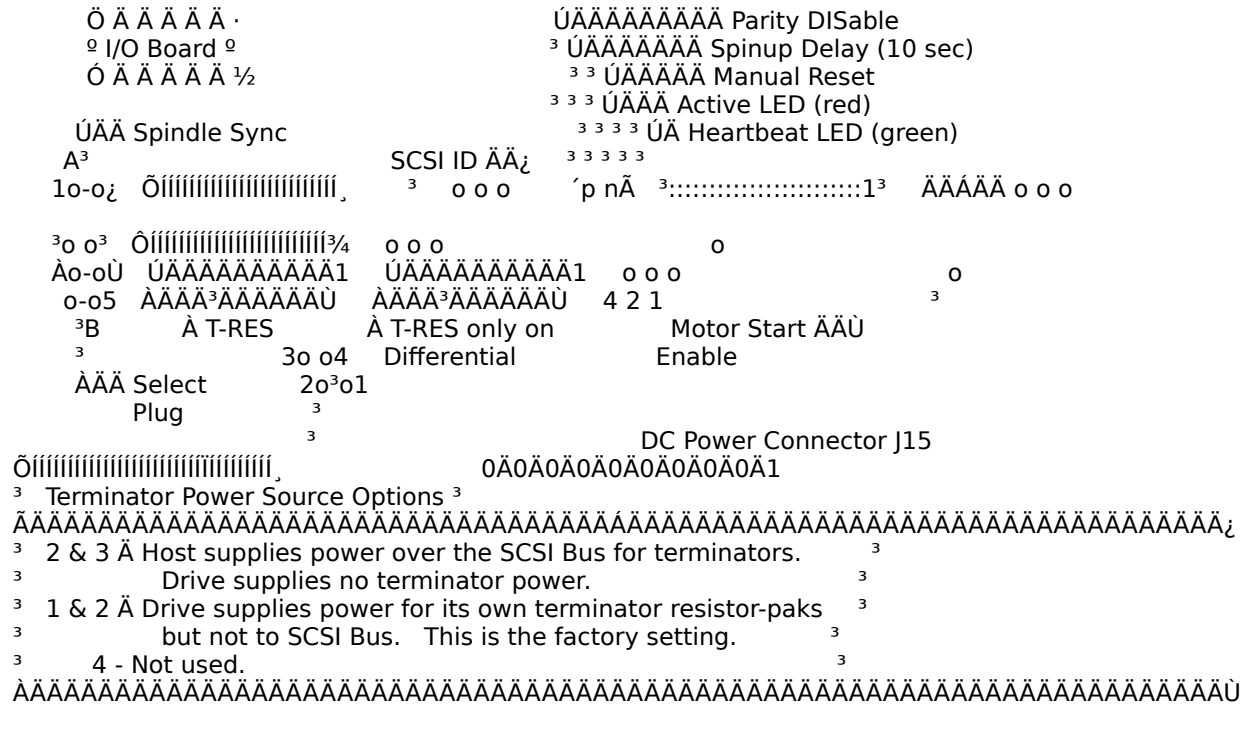
ST-41200N
94601-12G/M WREN 7 FH

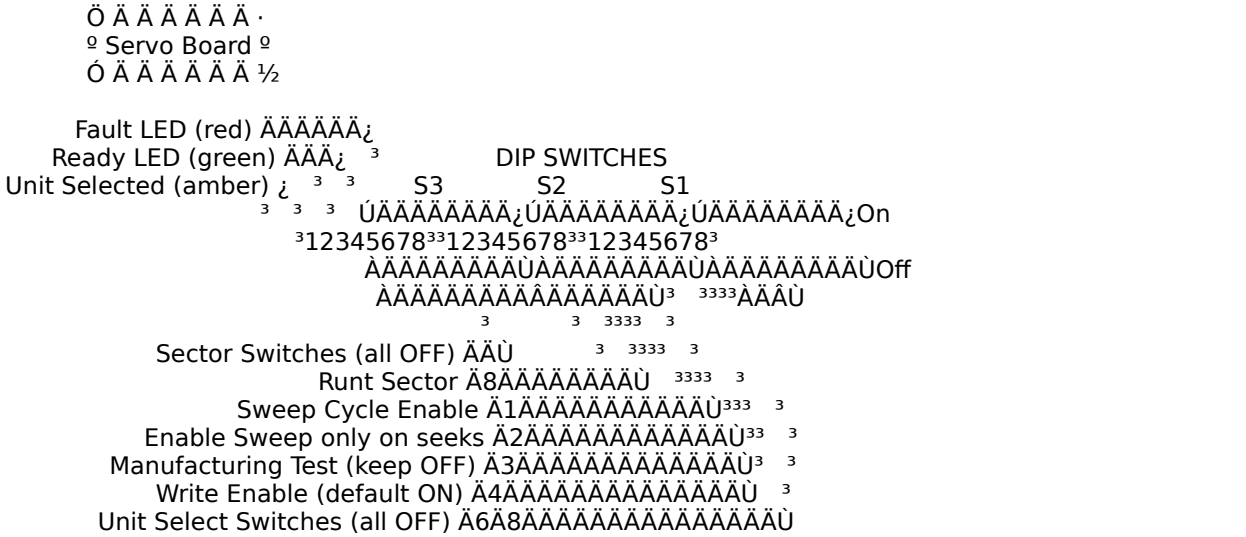
UNFORMATTED CAPACITY (MB) _____1.2G
FORMATTED CAPACITY (xx SECTORS) (MB) _____1037
AVERAGE SECTORS PER TRACK _____71
ACTUATOR TYPE _____VOICE COIL
TRACKS _____28965
CYLINDERS _____1931
HEADS _____15
DISCS _____8
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
TRANSFER RATE (mbytes/sec) _____1.875-2.875
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____256 Kbyte
SCSI-1: Read Look-Ahead, Non_Adaptive,
Single-Segmented Buffer
SCSI-2: Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2
TPI (TRACKS PER INCH) _____1600
BPI (BITS PER INCH) _____32750
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____34
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.6
+5V START-UP (amps) __1.1
+5V TYPICAL (amps) ___0.8
TYPICAL (watts) _____24
MAXIMUM (watts) _____60
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

ZBR = Zone Bit Recording = Variable sectors per track
Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-41520N (97501-16G) Elite-1 FH SCSI-2





ST-41520N
Elite-1 FH

UNFORMATTED CAPACITY	1,600,930,800
FORMATTED CAPACITY (xx SECTORS)	1,370,545,152 **
AVERAGE SECTORS PER TRACK (with spares)	74.945
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS/USER	35,717/35,666
CYLINDERS/USER	2,101/2,098
HEADS	17
DISCS	10

MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____26 to 36
EXTERNAL TRANSFER RATE (mbytes/sec) _____5
SPINDLE SPEED (RPM) _____5,400
AVERAGE LATENCY (mSEC) _____5.56
COMMAND OVERHEAD (msec) _____<0.5
BUFFER _____256 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented
Cache
INTERFACE _____SCSI-2
BYTES PER TRACK _____36,400 to 50,400
SECTORS PER DRIVE _____2,768,896
BYTES PER CYLINDER _____618,800 to 856,800
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AREAL DENSITY _____
AVERAGE ACCESS (ms) _____11.5
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _2.2/3.2
+12V TYPICAL (amps) __1.8/1.8
+5V START-UP (amps) __2.1/2.9
+5V TYPICAL (amps) ___2.0/2.3
TYPICAL (watts) _____31.6/33.1
MAXIMUM (watts) _____36.9/39.4
LANDING ZONE (cyl) _____AUTO PARK
USER MANUAL PART NUMBER _____83327300
REFERENCE MANUAL PART NUMBER _____86627310
IBM AT DRIVE TYPE _____0 or NONE
OTHER _____DUAL PORT

ZBR = Zone Bit Recording = Variable sectors per track

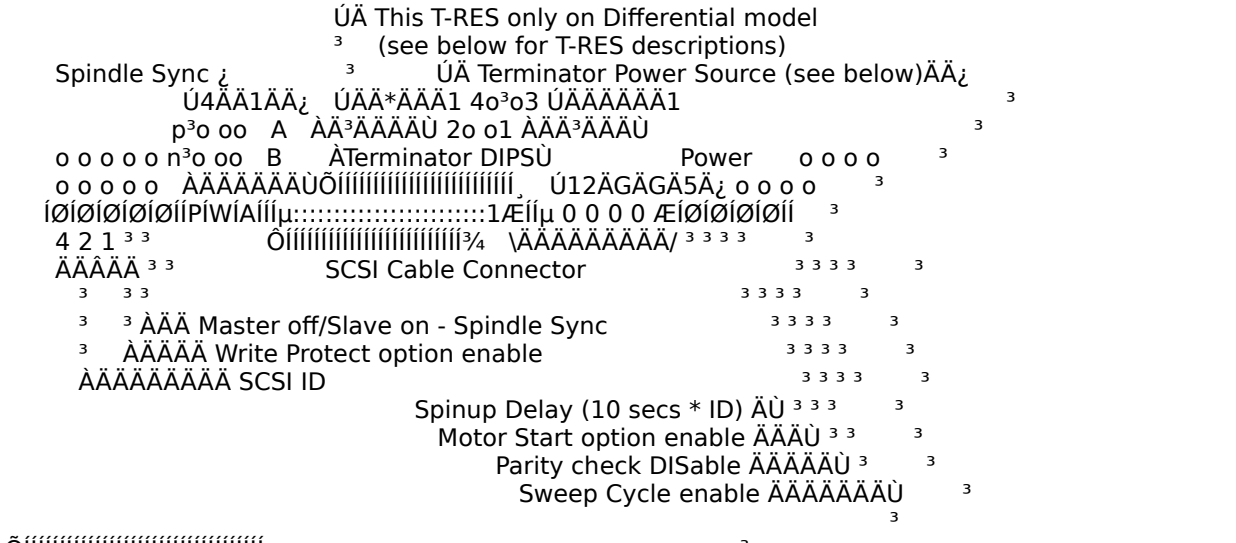
** Already low-level formatted at the factory with six spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height (inches/mm):	3.25/82.6
Width (inches/mm):	5.75/146.1
Depth (inches/mm):	9.9/252.5
Weight (lbs/kg):	9/4.1

Seagate reserves the right to change, without notice, product offerings or specifications. (10/28/91)

ST-41600N (97501-16G) Elite-1 FH SCSI-2



Terminator Power Source Options

2 & 4 Initiator supplies power over the SCSI Bus for terminators.
Drive supplies no terminator power.
1 & 2 Drive supplies power for its own terminator resistor-paks but not to SCSI Bus. This is the factory setting.
1 & 3 AND 2 & 4 Drive supplies power for external terminator at end of the daisy chain. Terminator resistor-paks must be removed. This option is recommended only for last drive on daisy chain.

T-RES descriptions: ST41600N 1 DIP
ST41601N 2 SIPs
ST41600ND 2 DIPs
ST41601ND 2 DIPs

ST-41600N
Elite-1 FH

UNFORMATTED CAPACITY	1,600,930,800
FORMATTED CAPACITY (xx SECTORS)	1,370,545,152 **
AVERAGE SECTORS PER TRACK (with spares)	74.945
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS/USER	35,717/35,666
CYLINDERS/USER	2,101/2,098
HEADS	17
DISCS	10
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec)	26 to 36
EXTERNAL TRANSFER RATE (mbytes/sec)	5
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.56
COMMAND OVERHEAD (msec)	<0.5
BUFFER	256 Kbyte

Read Look-Ahead, Adaptive, Multi-Segmented

Cache
INTERFACE _____SCSI-2
BYTES PER TRACK _____36,120 to 50,400
SECTORS PER DRIVE _____2,676,846
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AREAL DENSITY _____
AVERAGE ACCESS (ms) _____11.5
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _2.2/3.2
+12V TYPICAL (amps) __1.8/1.8
+5V TYPICAL (amps) ___2.1/2.4
TYPICAL (watts) _____32.1/33.6
MAXIMUM (watts) _____39.1/41.6
LANDING ZONE (cyl) _____AUTO PARK
USER MANUAL PART NUMBER _____83327460
REFERENCE MANUAL PART NUMBER _____83327470
IBM AT DRIVE TYPE _____0 or NONE
OTHER _____

ZBR = Zone Bit Recording = Variable sectors per track

** Already low-level formatted at the factory with six spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:
Height (inches/mm): 3.25/82.6
Width (inches/mm): 5.75/146.1
Depth (inches/mm): 8.0/203
Weight (lbs/kg): 7.8/3.6

Seagate reserves the right to change, without notice, product offerings or specifications. (10/28/91)

ST-41601N (97501-16G) Elite-1 FH SCSI-2 Fast

```
                              ÚÄ This T-RES only on Differential model
                              ³    (see below for T-RES descriptions)
   Spindle Sync ¿             ³          ÚÄ Terminator Power Source (see below)ÄÄ¿
              Ú4ÄÄ1ÄÄ¿   ÚÄÄ*ÄÄÄ1 4o³o3 ÚÄÄÄÄÄÄ1                          ³
             p³o oo   A   ÀÄ³ÄÄÄÄÙ 2o o1 ÀÄÄ³ÄÄÄÙ                         ³
   o o o o o n³o oo   B      ÀTerminator DIPSÙ              Power      o o o o      ³
   o o o o o   ÀÄÄÄÄÄÄÄÙÕÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¸   Ú12ÄGÄGÄ5Ä¿ o o o o      ³
  ÍØÍØÍØÍØÍØÍÍPÍWÍAÍÍÍµ:::::::::::::::::::::::1ÆÍÍµ 0 0 0 0 ÆÍØÍØÍØÍØÍÍ    ³
   4 2 1 ³ ³             ÔÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¾   \ÄÄÄÄÄÄÄÄÄ/ ³ ³ ³ ³      ³
   ÄÄÂÄÄ ³ ³                SCSI Cable Connector                ³ ³ ³ ³       ³
     ³    ³ ³                                                ³ ³ ³ ³       ³
     ³    ³ ÀÄÄ Master off/Slave on - Spindle Sync            ³ ³ ³ ³       ³
     ³    ÀÄÄÄÄ Write Protect option enable                   ³ ³ ³ ³       ³
     ÀÄÄÄÄÄÄÄÄÄ SCSI ID                                        ³ ³ ³ ³       ³
                                    Spinup Delay (10 secs * ID) ÄÙ ³ ³ ³       ³
                                       Motor Start option enable ÄÄÄÙ ³ ³       ³
                                            Parity check DISable ÄÄÄÄÄÙ ³      ³
                                               Sweep Cycle enable ÄÄÄÄÄÄÄÙ      ³
                                                                               ³
ÕÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¸                                             ³
³   Terminator Power Source Options ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³   2 & 4 Ä Initiator supplies power over the SCSI Bus for terminators. ³
³             Drive supplies no terminator power.                        ³
³   1 & 2 Ä Drive supplies power for its own terminator resistor-paks    ³
³             but not to SCSI Bus.   This is the factory setting.        ³
³   1 & 3                                                                ³
³    AND   Ä Drive supplies power for external terminator at end of the  ³
³   2 & 4       daisy chain. Terminator resistor-paks must be removed.   ³
³             This option is recommended only for last drive on daisy    ³
³             chain.                                                     ³
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
    T-RES descriptions: ST41600N    1 DIP
                        ST41601N    2 SIPs
                        ST41600ND   2 DIPs
                        ST41601ND   2 DIPs
```

ST-41601N
Elite-1 FH

```
UNFORMATTED CAPACITY ____ _______________1,600,930,800
FORMATTED CAPACITY (xx SECTORS) ____ _____1,370,545,152 **
AVERAGE SECTORS PER TRACK (with spares)___74.945
ACTUATOR TYPE __________________________ROTARY VOICE COIL
TRACKS/USER ____________________________35,717/35,666
CYLINDERS/USER _________________________2,101/2,098
HEADS _________________________________17
DISCS _________________________________10
MEDIA TYPE _____________________________THIN FILM
HEAD TYPE ______________________________THIN FILM
RECORDING METHOD _______________________ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _______26 to 36
EXTERNAL TRANSFER RATE (mbytes/sec) ______10
SPINDLE SPEED (RPM) _____________________5,400
AVERAGE LATENCY (mSEC) __________________5.56
COMMAND OVERHEAD (msec) _________________<0.5
BUFFER __________________________________256 Kbyte
  Read Look-Ahead, Adaptive, Multi-Segmented
```

Cache
INTERFACE _____SCSI-2 Fast
BYTES PER TRACK _____36,120 to 50,400
SECTORS PER DRIVE _____2,676,846
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AREAL DENSITY _____
AVERAGE ACCESS (ms) _____11.5
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _2.2/3.2
+12V TYPICAL (amps) __1.8/1.8
+5V TYPICAL (amps) ___2.1/2.4
TYPICAL (watts) _____32.1/33.6
MAXIMUM (watts) _____39.1/41.6
LANDING ZONE (cyl) _____AUTO PARK
USER MANUAL PART NUMBER _____83327460
REFERENCE MANUAL PART NUMBER _____83327470
IBM AT DRIVE TYPE _____0 or NONE
OTHER _____

ZBR = Zone Bit Recording = Variable sectors per track

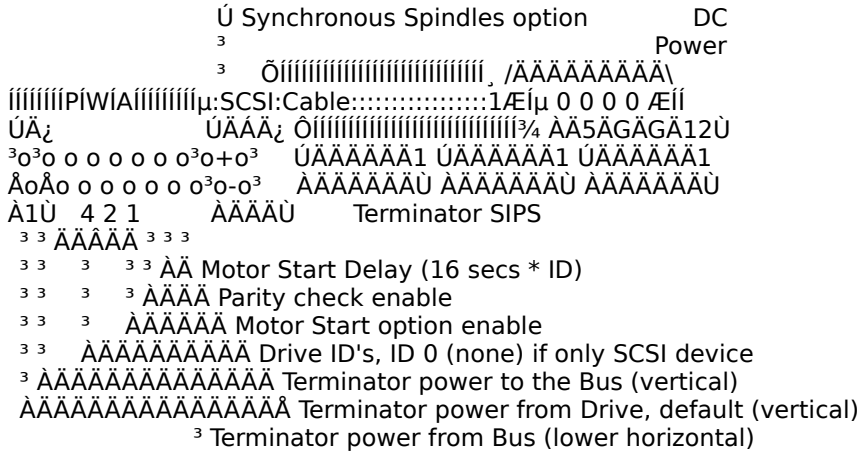
** Already low-level formatted at the factory with six spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:
Height (inches/mm): 3.25/82.6
Width (inches/mm): 5.75/146.1
Depth (inches/mm): 8.0/203
Weight (lbs/kg): 7.8/3.6

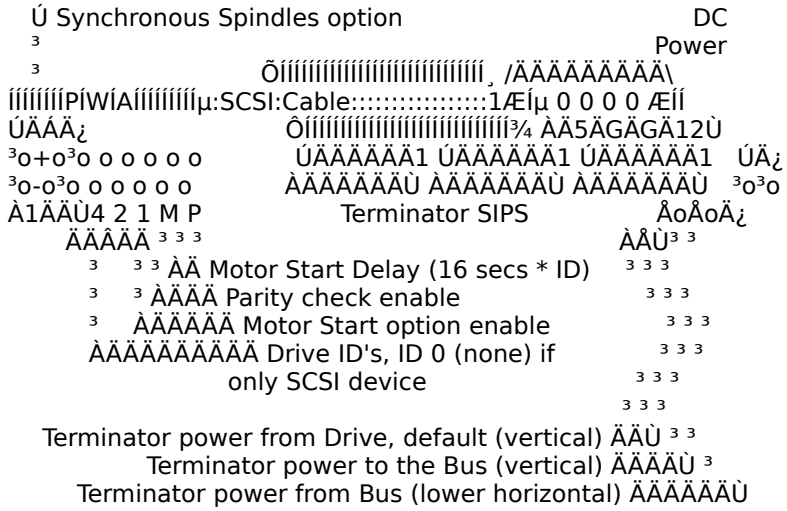
Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

ST-41650N Wren 8 FH SCSI-2

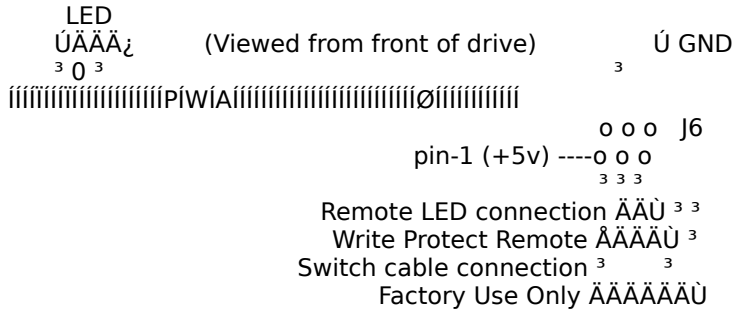
20-pin configuration jumper-block version



16-pin configuration jumper-block version



Both versions:



ST-41650N
WREN 8 FH

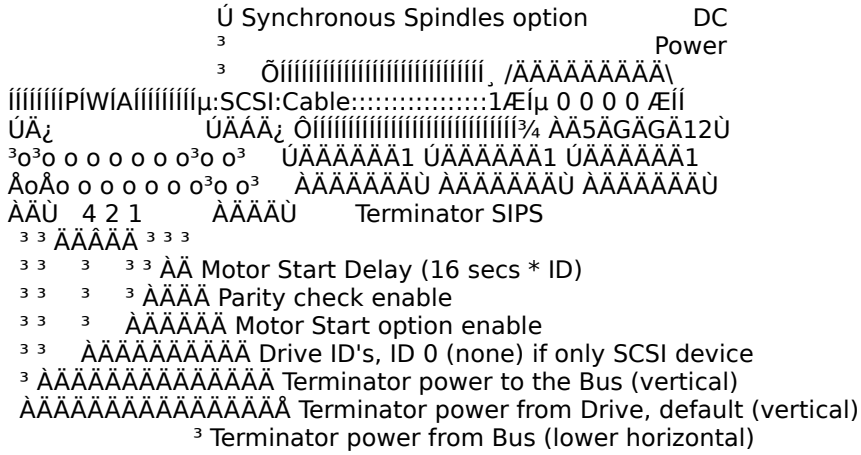
UNFORMATTED CAPACITY (MB) _____1,650
FORMATTED CAPACITY (xx SECTORS) (MB) _____1,415
AVERAGE SECTORS PER TRACK (with spares)___87
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____31,605
CYLINDERS _____2,107
HEADS _____15
DISCS _____8
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____17 to 32
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____256 Kbyte
Read Look-Ahead, Adaptive,
Multi-Segmented Cache
INTERFACE _____SCSI-2
BYTES PER TRACK _____54,900 avg.
TPI (TRACKS PER INCH) _____1,760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____34
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.5
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.6
TYPICAL (watts) _____21
MAXIMUM (watts) _____58
BUFFERED STEP PULSE RATE (micro sec) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory with one spare sector per track and two spare cylinders/unit.

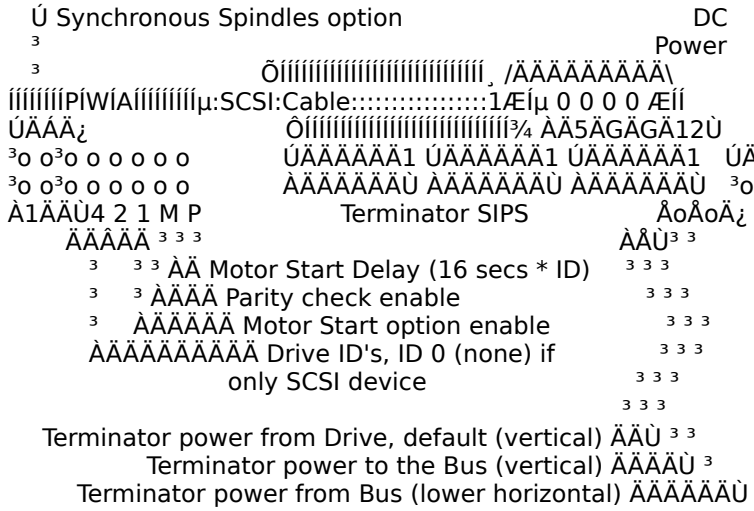
Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-41651N Wren 8 FH SCSI-2 Fast

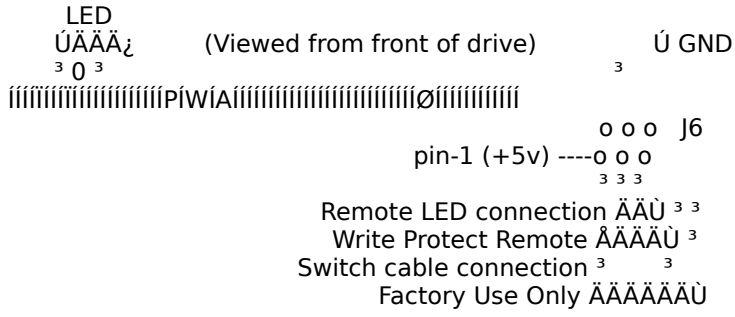
20-pin (2x10) configuration jumper-block version



16-pin (2x8) configuration jumper-block version



Both versions:



ST-41651N
WREN 8 FH

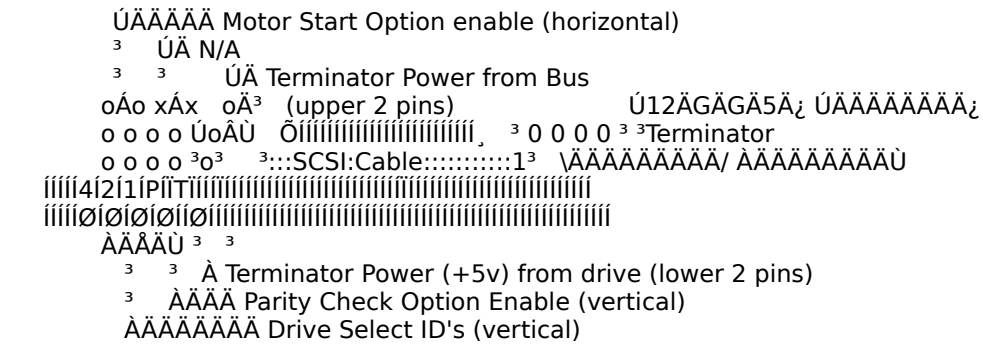
UNFORMATTED CAPACITY (MB) _____1,650
FORMATTED CAPACITY (xx SECTORS) (MB) _____1,415*
AVERAGE SECTORS PER TRACK (with spares)___87
ACTUATOR TYPE _____ROTARY VOICE COIL
TRACKS _____31,605
CYLINDERS _____2,107 (user)
HEADS _____15
DISCS (5.25 in) _____8
MEDIA TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____17 to 32
EXTERNAL TRANSFER RATE (Mbytes/sec) _____10.0 Sync.
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____256 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented Cache
INTERFACE _____SCSI-2 Fast
BYTES PER TRACK _____54,900 avg.
SECTORS PER DRIVE _____2,749,635
TPI (TRACKS PER INCH) _____1,760
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____2.5
MAX FULL SEEK (ms) _____34
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.5
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.6
TYPICAL (watts) _____21
MAXIMUM (watts) _____58
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

* Already low-level formatted at the factory with one spare sector per track and two spare cylinders/unit.

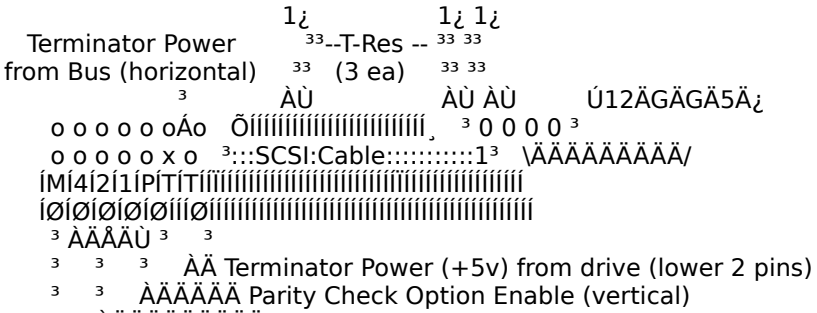
Seagate reserves the right to change, without notice, product offerings or specifications. (10/31/91)

ST-4182N (94161-182) Wren 3 FH SCSI

(3 by 5 configuration jumper block)



(2 by 7 configuration jumper block)



ST-4182N
94161-182 WREN 3 FH

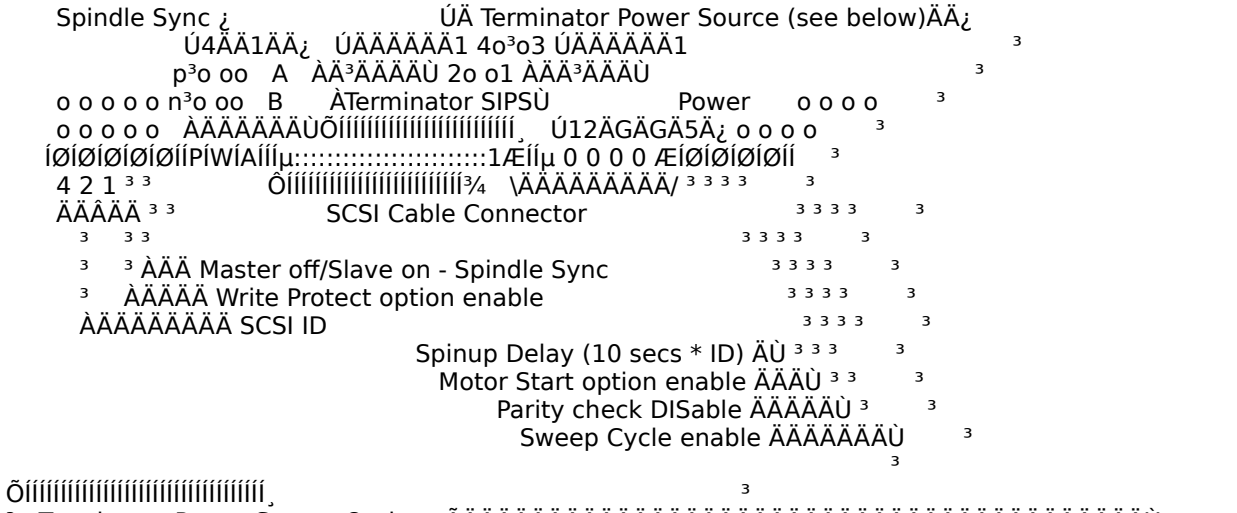
UNFORMATTED CAPACITY (MB)	182
FORMATTED CAPACITY (35 SECTORS) (MB)	155
ACTUATOR TYPE	VOICE COIL
TRACKS	8,721
CYLINDERS	969
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.25
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	8 or 32 Kbyte
8 Kbyte: FIFO, Non-Adaptive, Single-Segmented Buffer	
32 Kbyte: Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	960
BPI (BITS PER INCH)	19,058
AVERAGE ACCESS (ms)	16.5
SINGLE TRACK SEEK (ms)	4

MAX FULL SEEK (ms) _____40
MTBF (power-on hours) _____100,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.5
+5V START-UP (amps) __1.7
+5V TYPICAL (amps) ___1.3
TYPICAL (watts) _____24
MAXIMUM (watts) _____63
BUFFERED STEP PULSE RATE (micro sec) _____N/A
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (9/10/93)

ST-42000N Elite 2 Fast SCSI-2



Terminator Power Source Options

2 & 4 Initiator supplies power over the SCSI Bus for terminators.
Drive supplies no terminator power.
1 & 2 Drive supplies power for its own terminator resistor-paks
but not to SCSI Bus. This is the factory setting.
1 & 3
AND Drive supplies power fpr external terminator at end of the
2 & 4 daisy chain. Terminator resistor-paks must be removed.
This option is recommended only for last drive on daisy
chain.

T-RES descriptions: ST42000N 2 SIPs
ST42000ND 2 DIPs

ST-42000N
Elite 2

UNFORMATTED CAPACITY	2,106,263,040
FORMATTED CAPACITY (512 byte blk)	1,792,111,616
AVERAGE SECTORS PER TRACK	83
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	41,984
CYLINDERS	2,627/2,624 (user)
HEADS	16
DISCS (5.25 in)	9
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec)	30-40
EXTERNAL TRANSFER RATE (mbyte/sec)	10 (burst)
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
COMMAND OVERHEAD (mSEC)	<0.5
BUFFER	256 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented Cache	
INTERFACE	SCSI-2 FAST
BYTES PER TRACK	42,000-55,440
SECTORS PER DRIVE	3,500,218

BYTES PER CYLINDER _____672,000-887,040
TPI (TRACKS PER INCH) _____2,250
BPI (BITS PER INCH) _____41,713
AVERAGE ACCESS (ms) _____11
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER REQUIREMENTS: Single ended/Differential
+12V START-UP (amps) _4.6/4.6
+12V TYPICAL (amps) __2.0/2.0
+5V START-UP (amps) __2.3/2.6
+5V TYPICAL (amps) ___2.3/2.6
TYPICAL (watts) _____29.9/31.8
MAXIMUM (watts) _____33.7/36.6
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____Auto
USER MANUAL PART NUMBER _____
OTHER _____
Synchronized Spindles, Sweep Cycle Capability

ZBR = Zone Bit Recording = Variable sectors per track

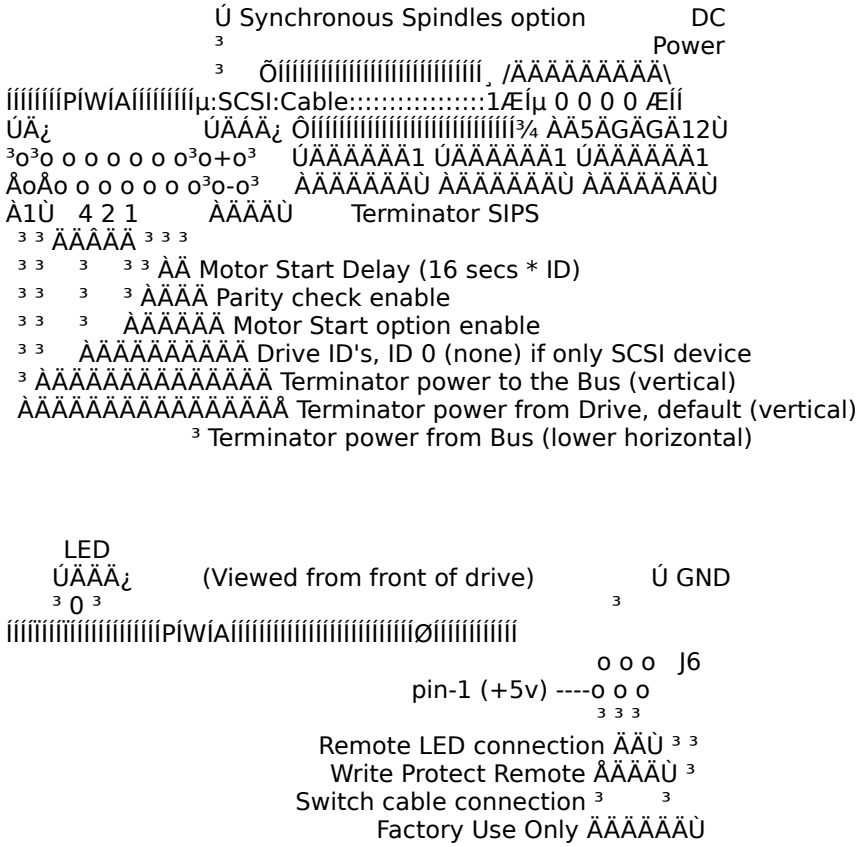
** Already low-level formatted at the factory with six spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.0/203
Weight	(lbs/kg):	7.8/3.6

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-42100N Wren 9 FH SCSI-2 Fast



ST-42100N
WREN 9 FH

UNFORMATTED CAPACITY (MB)	2,200
FORMATTED CAPACITY (xx SECTORS) (MB)	1,900*
AVERAGE SECTORS PER TRACK (with spares)	96
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	38,595
CYLINDERS	2,573 (user)
HEADS	15
DISCS (5.25 inch)	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	20 to 31
EXTERNAL TRANSFER RATE (Mbytes/sec)	10.0 Sync.
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	256 Kbyte Read Look-Ahead, Adaptive, Multi-Segmented Cache
INTERFACE	SCSI-2 Fast
BYTES PER TRACK	57,200 avg.
SECTORS PER DRIVE	3,705,120
TPI (TRACKS PER INCH)	2,150
BPI (BITS PER INCH)	
AVERAGE ACCESS (ms)	12.95
SINGLE TRACK SEEK (ms)	2

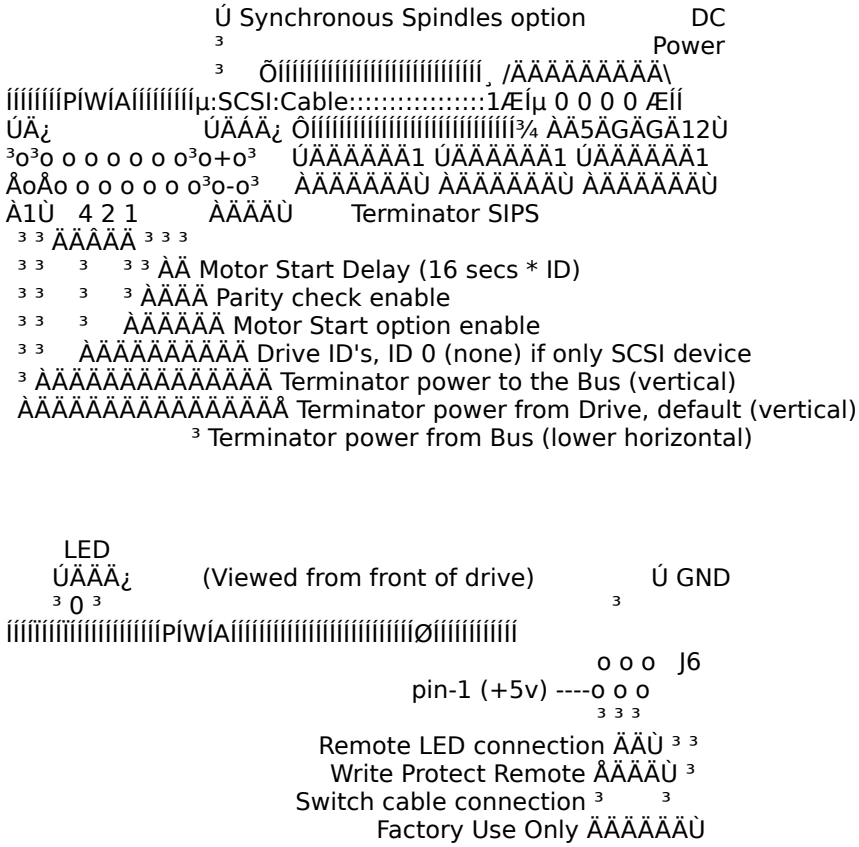
MAX FULL SEEK (ms) _____29
MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.5
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.6
TYPICAL (watts) _____21
MAXIMUM (watts) _____58
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

* 512 bytes per sector, one spare sector per track,
two spare cylinders per unit.

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/31/91)

ST-42101N Wren 9 FH SCSI-2 Fast Wide



ST-42100N
WREN 9 FH

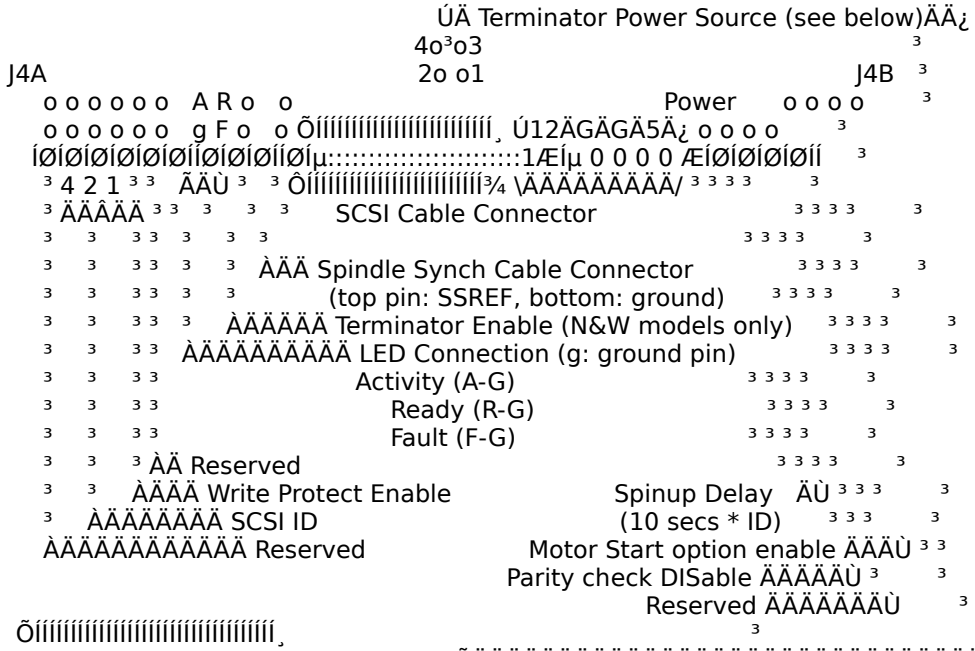
UNFORMATTED CAPACITY (MB)	2,200
FORMATTED CAPACITY (xx SECTORS) (MB)	1,900
AVERAGE SECTORS PER TRACK (with spares)	96
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	38,595
CYLINDERS	2,573
HEADS	15
DISCS (5.25 in)	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	20 to 31
EXTERNAL TRANSFER RATE (Mbytes/sec)	20.0 Sync. (16 bit)
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	256 Kbyte Read Look-Ahead, Adaptive, Multi-Segmented Cache
INTERFACE	SCSI-2 Fast Wide
SECTORS PER DRIVE	3,705,120
TPI (TRACKS PER INCH)	2,150
BPI (BITS PER INCH)	
AVERAGE ACCESS (ms)	12.95
SINGLE TRACK SEEK (ms)	2
MAX FULL SEEK (ms)	29

MTBF (power-on hours) _____150,000
POWER REQUIREMENTS: +12V START-UP (amps) _4.5
+12V TYPICAL (amps) __1.5
+5V START-UP (amps) __0.8
+5V TYPICAL (amps) ___0.6
TYPICAL (watts) _____23
MAXIMUM (watts) _____
LANDING ZONE (cyl) _____AUTO PARK
IBM AT DRIVE TYPE _____0 or NONE

Already low-level formatted at the factory with one spare sector per track and two spare cylinders/unit.

Seagate reserves the right to change, without notice, product offerings or specifications. (10/31/91)

ST-423451N Ultra-SCSI (Elite 23)



ST-423451N
Elite 23

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (512 byte blk)	23,400
AVERAGE SECTORS PER TRACK	237 (rounded down)
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	192,752
CYLINDERS	6884
HEADS	28
DISCS (5.25 in)	14
MEDIA TYPE	THIN FILM
HEAD TYPE	MR
RECORDING METHOD	ZBR PRML (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)	75 to 120
INTERNAL TRANSFER RATE AVG (mbyte/sec)	
EXTERNAL TRANSFER RATE (mbyte/sec)	20 (burst)
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
COMMAND OVERHEAD (mSEC)	<0.5

BUFFER _____2048 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented
Cache
INTERFACE _____Ultra-SCSI
ASA2
BYTES PER TRACK _____
SECTORS PER DRIVE _____45,703,125
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) read/write _____13/14
SINGLE TRACK SEEK (ms) read/write _____0.9/1.7
MAX FULL SEEK (ms) read/write _____28/
MTBF (power-on hours) Class A Room _____NA
MTBF (power-on hours) Office _____800,000
POWER DISSIPATION (watts/BTUs) Active ____
Idle _____
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _
+12V TYPICAL (amps) __
+5V START-UP (amps) __
+5V TYPICAL (amps) ___
TYPICAL (watts seek/read)_27.2
IDLE (watts) _____22_
USER MANUAL PART NUMBER _____

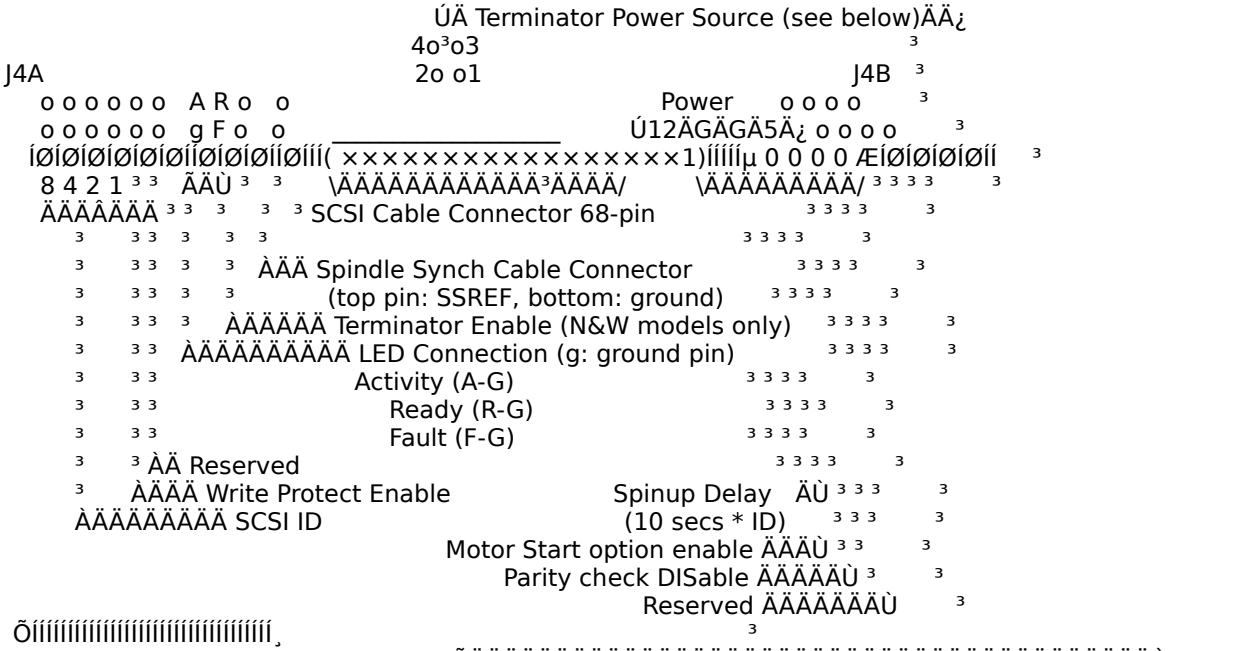
** Already low-level formatted at the factory with nine spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.0/203
Weight	(lbs/kg):	8.1/3.7

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

ST-423451W Ultra-SCSI Wide (Elite 23)



ST423451WD drives are shipped with three DIP terminators installed in sockets on the PCB. Remove to disable.

ST-423451W
Elite 23

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (512 byte blk)	23,400
AVERAGE SECTORS PER TRACK	237 (rounded down)
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	192,752
CYLINDERS	6884
HEADS	28
DISCS (5.25 in)	14
MEDIA TYPE	THIN FILM
HEAD TYPE	MR
RECORDING METHOD	ZBR PRML (0,4,4)
INTERNAL TRANSFER RATE (mbits/sec)	75 to 120
INTERNAL TRANSFER RATE AVG (mbyte/sec)	
EXTERNAL TRANSFER RATE (mbyte/sec)	40 (burst)
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
COMMAND OVERHEAD (mSEC)	<0.5

BUFFER _____2048 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented
Cache
INTERFACE _____Ultra-SCSI Wide
ASA2
BYTES PER TRACK _____
SECTORS PER DRIVE _____45,703,125
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) read/write _____13/14
SINGLE TRACK SEEK (ms) read/write _____0.9/1.7
MAX FULL SEEK (ms) read/write _____28/
MTBF (power-on hours) Class A Room _____NA
MTBF (power-on hours) Office _____800,000
POWER DISSIPATION (watts/BTUs) Active ____
Idle _____
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _
+12V TYPICAL (amps) __
+5V START-UP (amps) __
+5V TYPICAL (amps) ___
TYPICAL (watts seek/read)_27.2
IDLE (watts) _____22_
USER MANUAL PART NUMBER _____

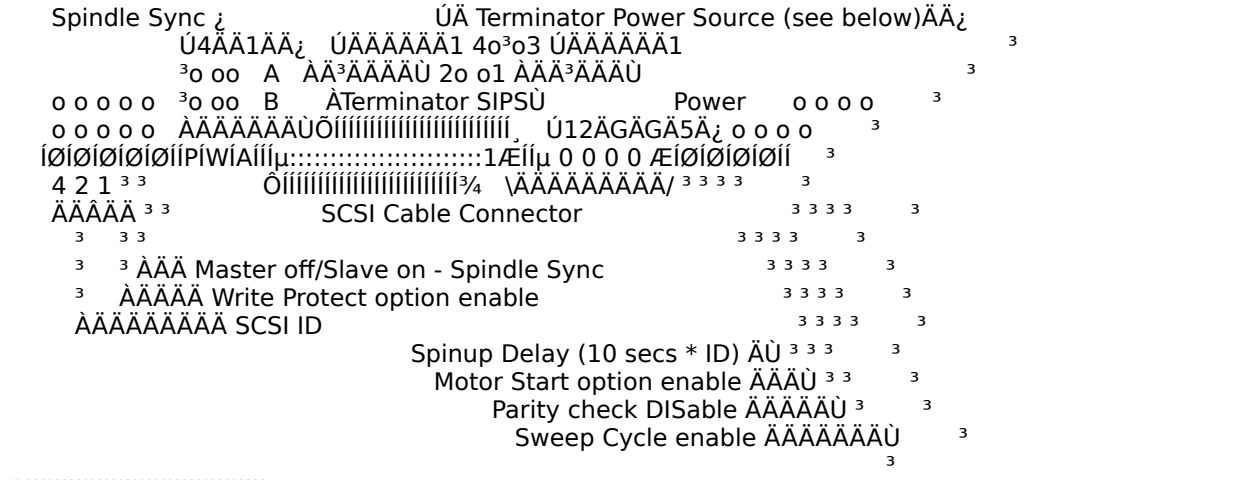
** Already low-level formatted at the factory with nine spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.0/203
Weight	(lbs/kg):	8.1/3.7

Seagate reserves the right to change, without notice, product offerings or specifications. (03/14/96)

ST-42400N Elite 2 Fast SCSI-2



Terminator Power Source Options

2 & 4 Initiator supplies power over the SCSI Bus for terminators.
Drive supplies no terminator power.

1 & 2 Drive supplies power for its own terminator resistor-paks
but not to SCSI Bus. This is the factory setting.

1 & 3
AND
2 & 4 Drive supplies power for external terminator at end of the daisy chain. Terminator resistor-paks must be removed.
This option is recommended only for last drive on daisy chain.

T-RES descriptions: ST42400N 2 SIPs
ST42400ND 2 DIPs

ST-42400N
Elite 2

UNFORMATTED CAPACITY	2,501,187,360
FORMATTED CAPACITY (512 byte blk)	2,129,644,544
AVERAGE SECTORS PER TRACK	83
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	49,913
CYLINDERS	2,627/2,624 (user)
HEADS	19
DISCS (5.25 in)	11
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec)	30-40
EXTERNAL TRANSFER RATE (mbyte/sec)	10 (burst)
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
COMMAND OVERHEAD (mSEC)	<0.5
BUFFER	256 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented Cache	
INTERFACE	SCSI-2 FAST
BYTES PER TRACK	42,000-55,440
SECTORS PER DRIVE	4,159,462

BYTES PER CYLINDER _____798,000-1,053,360
TPI (TRACKS PER INCH) _____2,250
BPI (BITS PER INCH) _____41,713
AVERAGE ACCESS (ms) _____11
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts) _____33
POWER REQUIREMENTS:
+12V START-UP (amps) _
+12V TYPICAL (amps) __
+5V START-UP (amps) __
+5V TYPICAL (amps) ___
TYPICAL (watts) _____33
IDLE (watts) _____30
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____Auto
USER MANUAL PART NUMBER _____
OTHER _____
Synchronized Spindles, Sweep Cycle Capability

ZBR = Zone Bit Recording = Variable sectors per track

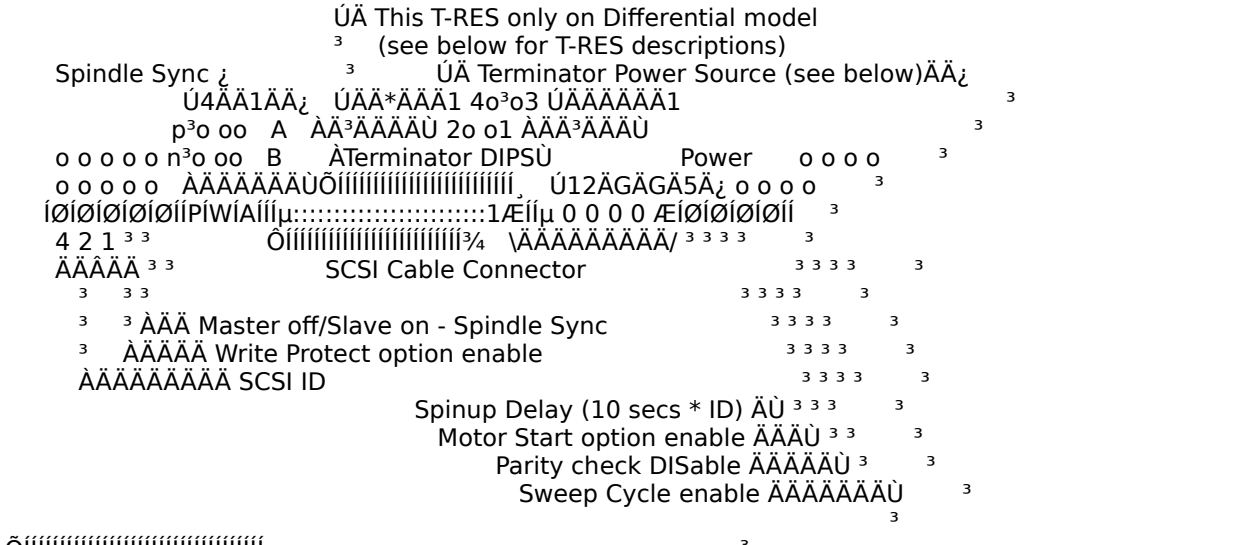
** Already low-level formatted at the factory with six spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height (inches/mm):	3.25/82.6
Width (inches/mm):	5.75/146.1
Depth (inches/mm):	8.0/203
Weight (lbs/kg):	7.8/3.6

Seagate reserves the right to change, without notice, product offerings or specifications. (01/03/96)

ST-43400N Elite 3 Fast SCSI-2



Terminator Power Source Options

2 & 4 Initiator supplies power over the SCSI Bus for terminators.
Drive supplies no terminator power.

1 & 2 Drive supplies power for its own terminator resistor-paks but not to SCSI Bus. This is the factory setting.

1 & 3 AND 2 & 4 Drive supplies power for external terminator at end of the daisy chain. Terminator resistor-paks must be removed. This option is recommended only for last drive on daisy chain.

T-RES descriptions: ST43400N 2 SIPs
ST43400ND 2 DIPs

ST-43400N
Elite 3

UNFORMATTED CAPACITY	3,554,871,600
FORMATTED CAPACITY (512 byte blk)	2,912,484,864
AVERAGE SECTORS PER TRACK	99 (rounded down)
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	57,435
CYLINDERS	2,738/2,735 (user)
HEADS	21
DISCS (5.25 in)	11
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	35-52
INTERNAL TRANSFER RATE AVG (mbyte/sec)	6.0
EXTERNAL TRANSFER RATE (mbyte/sec)	10 (burst)
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
COMMAND OVERHEAD (mSEC)	<0.5
BUFFER	512 Kbyte

Read Look-Ahead, Adaptive, Multi-Segmented Cache

INTERFACE _____SCSI-2 FAST
BYTES PER TRACK _____49,000-72,800
SECTORS PER DRIVE _____5,696,655
BYTES PER CYLINDER _____1,058,400 to 1,587,600
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) read/write _____10/11
SINGLE TRACK SEEK (ms) read/write _____0.9/1.7
MAX FULL SEEK (ms) read/write _____22.5/23.5
MTBF (power-on hours) Class A Room _____300,000
MTBF (power-on hours) Office _____200,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _3.98/4.60
+12V TYPICAL (amps) __1.90/1.88
+5V START-UP (amps) __2.37/3.48
+5V TYPICAL (amps) ___1.96/2.77
TYPICAL (watts seek/read)_32.60/36.41
IDLE (watts) _____28.34/31.81
USER MANUAL PART NUMBER _____83327630
OTHER _____
Synchronized Spindles, Sweep Cycle Capability

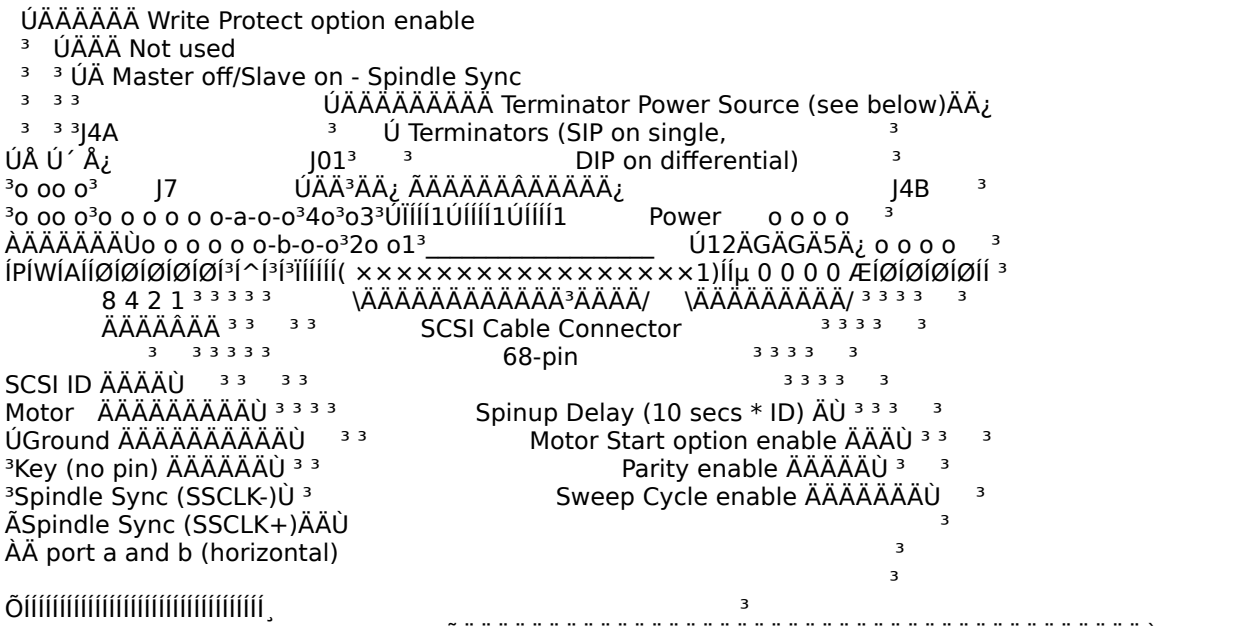
** Already low-level formatted at the factory with six spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.0/203
Weight	(lbs/kg):	7.8/3.6

Seagate reserves the right to change, without notice, product offerings or specifications. (12/14/92)

ST-43401N/ND Elite 3 SCSI-2 Fast Wide



T-RES descriptions: ST43401N 3 SIPs
ST43401ND 3 DIPs

ST-43401N/ND
Elite 3

UNFORMATTED CAPACITY	3,554,871,600
FORMATTED CAPACITY (512 byte blk)	2,912,484,864
AVERAGE SECTORS PER TRACK	99 (rounded down)
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	57,435
CYLINDERS	2,738/2,735 (user)
HEADS	21
DISCS (5.25 in)	11
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec)	35-52
INTERNAL TRANSFER RATE AVG (mbyte/sec)	6.0
EXTERNAL TRANSFER RATE (mbyte/sec)	20 Sync.
SPINDLE SPEED (RPM)	5,400
AVERAGE LATENCY (mSEC)	5.55
COMMAND OVERHEAD (mSEC)	<0.5
BUFFER	512 Kbyte

Read Look-Ahead, Adaptive, Multi-Segmented Cache

INTERFACE _____SCSI-2 FAST Wide
BYTES PER TRACK _____49,000-72,800
SECTORS PER DRIVE _____5,696,655
BYTES PER CYLINDER _____1,058,400 to 1,587,600
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AVERAGE ACCESS (ms) read/write _____10/11
SINGLE TRACK SEEK (ms) read/write _____0.9/1.7
MAX FULL SEEK (ms) read/write _____22.5/23.5
MTBF (power-on hours) Class A Room _____300,000
MTBF (power-on hours) Office _____200,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _3.98/4.60
+12V TYPICAL (amps) __1.90/1.88
+5V START-UP (amps) __2.37/3.48
+5V TYPICAL (amps) ___1.96/2.77
TYPICAL (watts seek/read)_32.60/36.41
IDLE (watts) _____28.34/31.81
USER MANUAL PART NUMBER _____83327630
OTHER _____
Synchronized Spindles, Sweep Cycle Capability

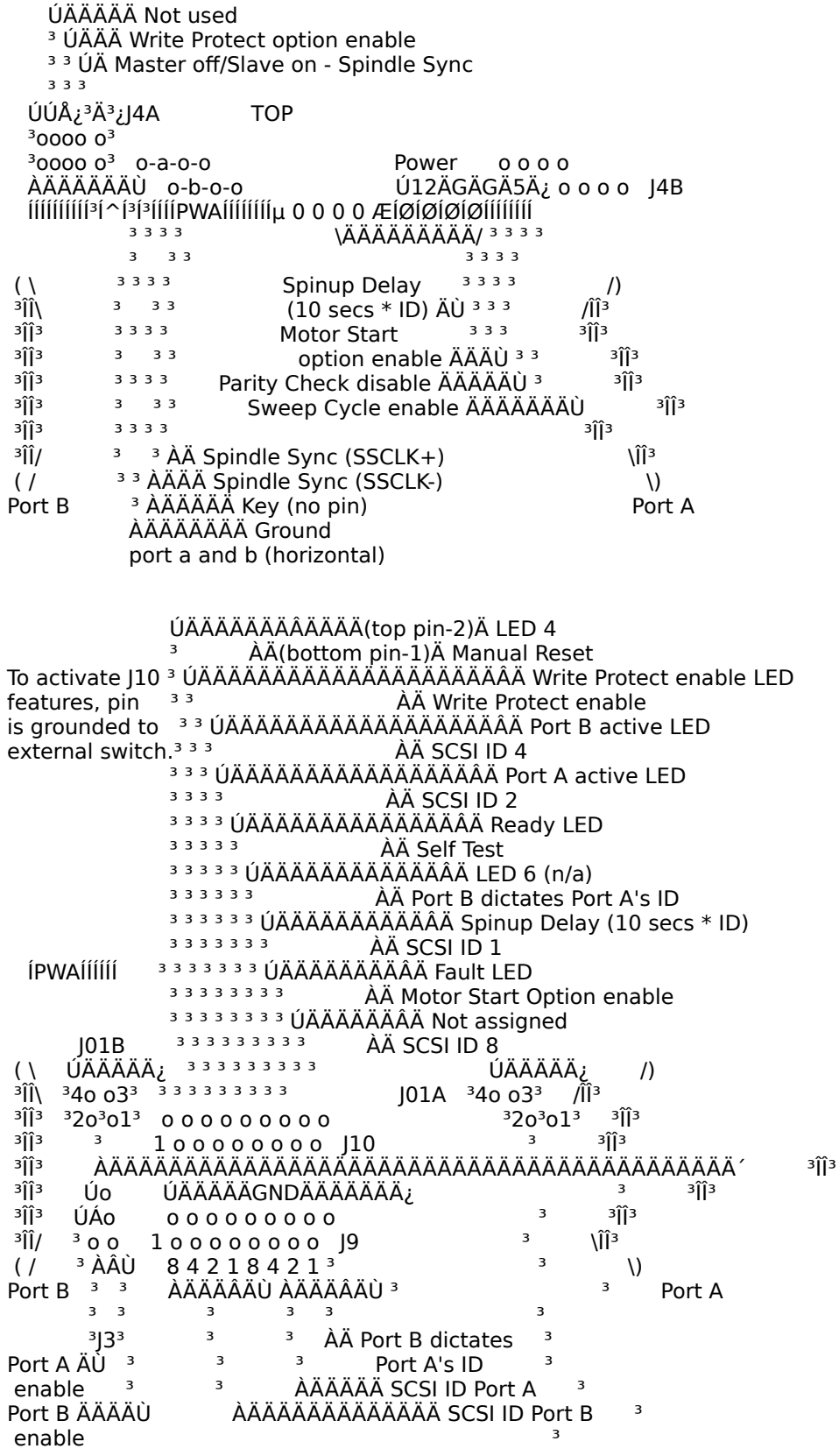
** Already low-level formatted at the factory with six spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.0/203
Weight	(lbs/kg):	7.8/3.6

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

ST-43402ND Dual Port Differential Fast Wide SCSI-2



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³ Terminator Power Source Options J01A & J01B ÄÄÄÄÄÙ

ÃÄÄÄ¿

³ 2 & 4 Ä Initiator supplies power over the SCSI Bus for terminators. ³

³ Drive supplies no terminator power. ³

³ 1 & 2 Ä Drive supplies power for its own terminator resistor-paks ³

³ but not to SCSI Bus. This is the factory setting. ³

³ 1 & 3 ³

³ AND Ä Drive supplies power for external terminator at end of the ³

³ 2 & 4 daisy chain and supplies own terminator power. ³

ÀÄÄÄÙ

ST-43402ND does not come with any provision to use Termination resistors.
Therefore, SCSI bus needs to be externally terminated.

ST-43402ND
Elite 3

UNFORMATTED CAPACITY ______________________3,554,871,600
FORMATTED CAPACITY (512 byte blk) ________2,912,484,864
AVERAGE SECTORS PER TRACK ________________99 (rounded down)
ACTUATOR TYPE ____________________________ROTARY VOICE COIL
TRACKS ___________________________________57,435
CYLINDERS ________________________________2,738/2,735 (user)
HEADS ____________________________________21
DISCS (5.25 in) __________________________11
MEDIA TYPE _______________________________THIN FILM
HEAD TYPE ________________________________THIN FILM
RECORDING METHOD _________________________ZBR RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _______35-52
INTERNAL TRANSFER RATE AVG (mbyte/sec) ___6.0
EXTERNAL TRANSFER RATE (mbyte/sec) _______20 Sync
SPINDLE SPEED (RPM) ______________________5,400
AVERAGE LATENCY (mSEC) ___________________5.55
COMMAND OVERHEAD (mSEC) __________________<0.5
BUFFER ___________________________________512 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented
Cache
INTERFACE ________________________________SCSI-2 FAST Wide
Dual-Port
BYTES PER TRACK __________________________49,000-72,800
SECTORS PER DRIVE ________________________5,696,655
BYTES PER CYLINDER _______________________1,058,400 to 1,587,600
TPI (TRACKS PER INCH) ____________________
BPI (BITS PER INCH) ______________________
AVERAGE ACCESS (ms) read/write ___________10/11
SINGLE TRACK SEEK (ms) read/write ________0.9/1.7
MAX FULL SEEK (ms) read/write ____________22.5/23.5
MTBF (power-on hours) Class A Room _______300,000
MTBF (power-on hours) Office _____________200,000
POWER DISSIPATION (watts) ________________
POWER REQUIREMENTS: Single-ended/Differential
+12V START-UP (amps) _3.98/4.60
+12V TYPICAL (amps) __1.90/1.88
+5V START-UP (amps) __2.37/3.48
+5V TYPICAL (amps) ___1.96/2.77
TYPICAL (watts seek/read)_32.60/36.41
IDLE (watts) _____________28.34/31.81
USER MANUAL PART NUMBER __________________83327630
OTHER ____________________________________

Synchronized Spindles, Sweep Cycle Capability

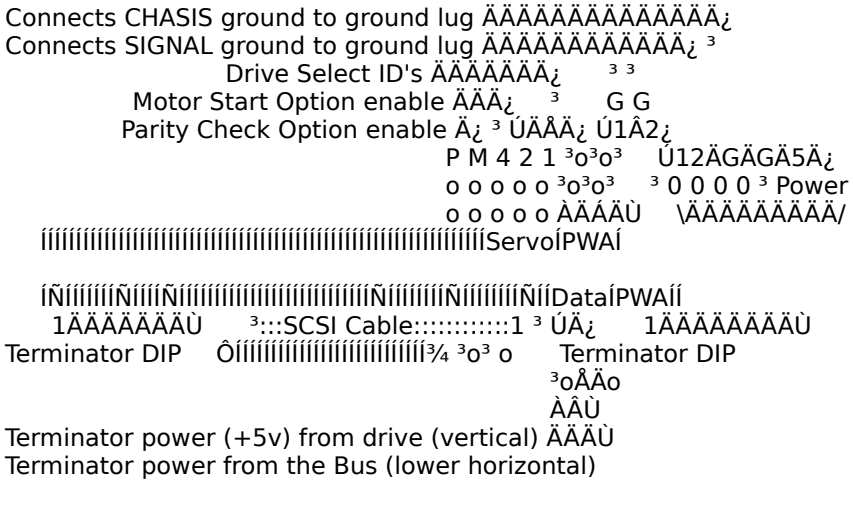
** Already low-level formatted at the factory with six spare sectors per cylinder, one spare cylinders/unit, one system cylinder/unit, and one diagnostic cylinder/unit.

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.75/146.1
Depth	(inches/mm):	8.0/203
Weight	(lbs/kg):	7.8/3.6

Seagate reserves the right to change, without notice, product offerings or specifications. (08/08/94)

ST-4350N (94171-350) Wren 4 FH SCSI



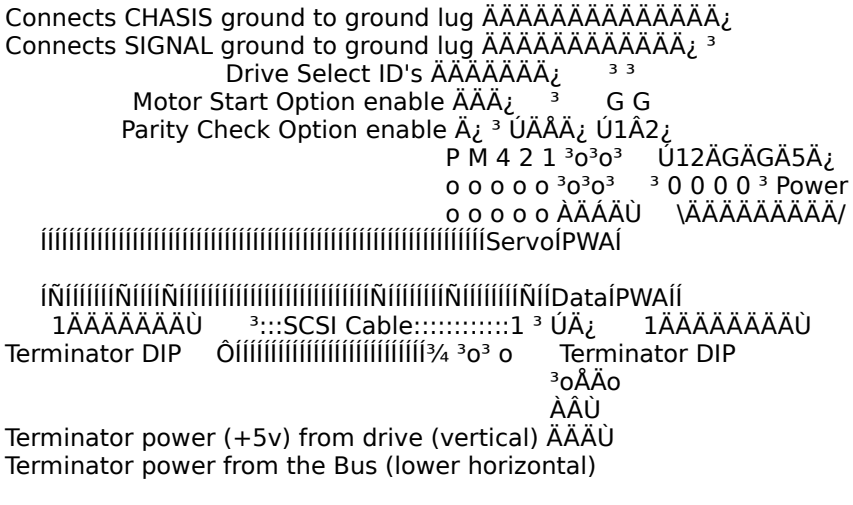
ST-4350N
94171-350/M WREN 4 FH

UNFORMATTED CAPACITY (MB)	350
FORMATTED CAPACITY (xx SECTORS) (MB)	300
AVERAGE SECTORS PER TRACK	46
ACTUATOR TYPE	VOICE COIL
TRACKS	12708
CYLINDERS	1412
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.25-1.875
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1280
BPI (BITS PER INCH)	19058
AVERAGE ACCESS (ms)	16.5
SINGLE TRACK SEEK (ms)	4
MAX FULL SEEK (ms)	43
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.5
+5V START-UP (amps)	2.0
+5V TYPICAL (amps)	1.8
TYPICAL (watts)	27
MAXIMUM (watts)	64
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

ZBR = Zone Bit Recording = Variable sectors per track
Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4376N (94171-376 or -344) Wren 4 FH SCSI



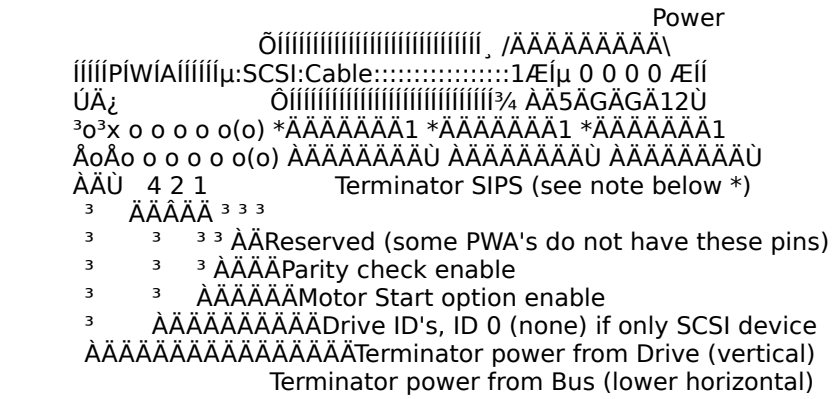
ST-4376N
94171-376/M WREN 4 FH

UNFORMATTED CAPACITY (MB)	376
FORMATTED CAPACITY (xx SECTORS) (MB)	330
AVERAGE SECTORS PER TRACK	45
ACTUATOR TYPE	VOICE COIL
TRACKS	13914
CYLINDERS	1549
HEADS	9
DISCS	5
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.125-1.875
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1280
BPI (BITS PER INCH)	19058
AVERAGE ACCESS (ms)	17.5
SINGLE TRACK SEEK (ms)	4
MAX FULL SEEK (ms)	43
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.4
+5V START-UP (amps)	1.9
+5V TYPICAL (amps)	1.5
TYPICAL (watts)	27
MAXIMUM (watts)	64
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

ZBR = Zone Bit Recording = Variable sectors per track
Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4385N (94181-385H) Wren 5 - Wren Runner 1 - SCSI



* Note: If you have #77701215k silk-screened near the 50-pin SCSI cable connector, the pin-1 for the 3 terminating resistors is away from the DC power connector.

ST-4385N
94181-385H/M WREN RUNNER FH

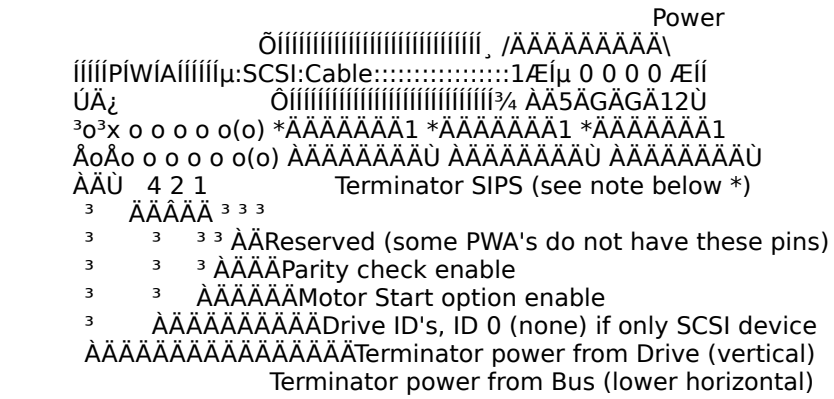
UNFORMATTED CAPACITY (MB)	385
FORMATTED CAPACITY (xx SECTORS) (MB)	330
AVERAGE SECTORS PER TRACK	55
ACTUATOR TYPE	VOICE COIL
TRACKS	11865
CYLINDERS	791
HEADS	15
DISCS	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.875-2
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1280
BPI (BITS PER INCH)	22000
AVERAGE ACCESS (ms)	10.7
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	22.5
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.6
+5V START-UP (amps)	1.0
+5V TYPICAL (amps)	0.7
TYPICAL (watts)	21
MAXIMUM (watts)	59
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4702N (94181-702) Wren 5 SCSI



* Note: If you have #77701215k silk-screened near the 50-pin SCSI cable connector, the pin-1 for the 3 terminating resistors is away from the DC power connector.

ST-4702N
94181-702/M WREN 5 FH

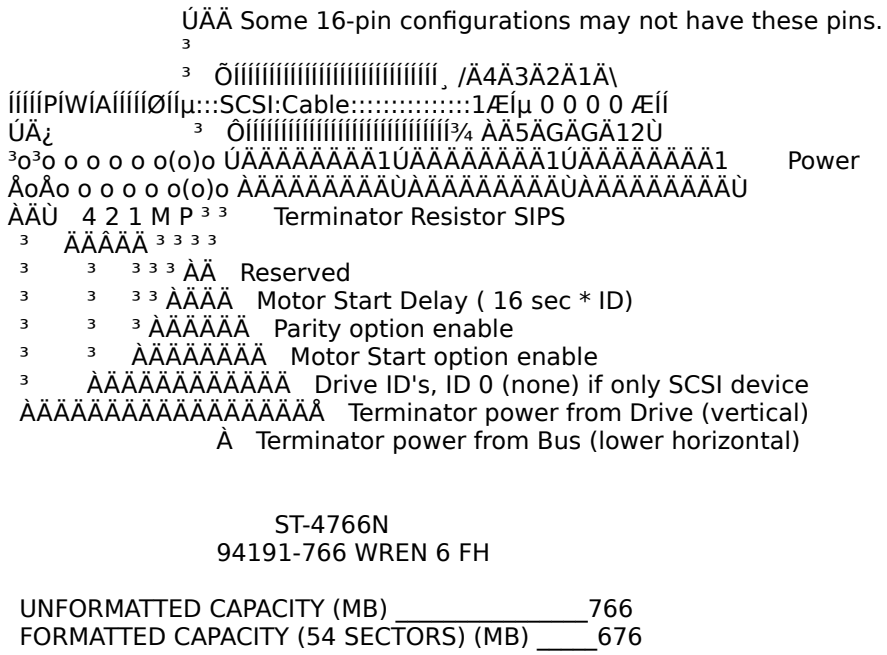
UNFORMATTED CAPACITY (MB)	702
FORMATTED CAPACITY (xx SECTORS) (MB)	601
AVERAGE SECTORS PER TRACK	50
ACTUATOR TYPE	VOICE COIL
TRACKS	23190
CYLINDERS	1546
HEADS	15
DISCS	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
TRANSFER RATE (mbytes/sec)	1.5-2
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1280
BPI (BITS PER INCH)	26000
AVERAGE ACCESS (ms)	16.5
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	39
MTBF (power-on hours)	100,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.6
+5V START-UP (amps)	1.0
+5V TYPICAL (amps)	0.7
TYPICAL (watts)	21
MAXIMUM (watts)	59
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4766N (94191-766) Wren 6 FH SCSI



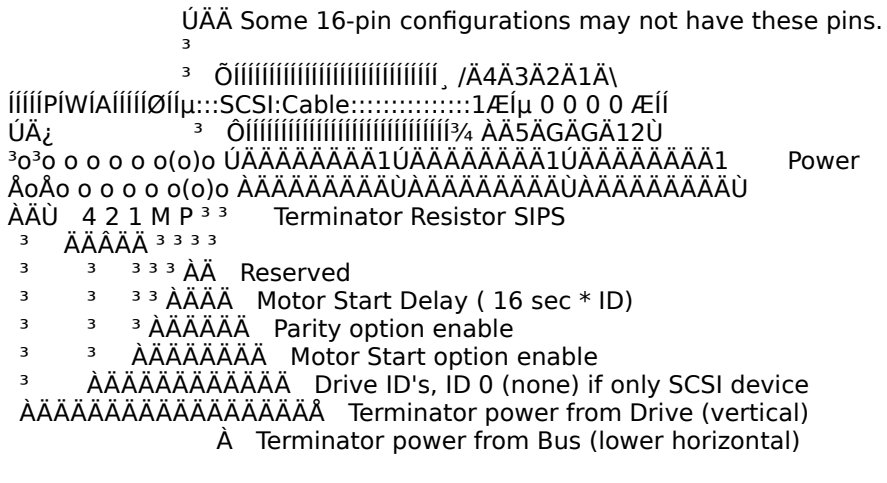
ST-4766N
94191-766 WREN 6 FH

UNFORMATTED CAPACITY (MB)	766
FORMATTED CAPACITY (54 SECTORS) (MB)	676
ACTUATOR TYPE	VOICE COIL
TRACKS	24,480
CYLINDERS	1,632
HEADS	15
DISCS	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	RLL
TRANSFER RATE (mbytes/sec)	1.875
SPINDLE SPEED (RPM)	3,600
AVERAGE LATENCY (mSEC)	8.33
BUFFER	32 Kbyte
Read Look-Ahead, Non-Adaptive, Single-Segmented Buffer	
INTERFACE	SCSI
TPI (TRACKS PER INCH)	1,459
BPI (BITS PER INCH)	30,500
AVERAGE ACCESS (ms)	15.5
SINGLE TRACK SEEK (ms)	3
MAX FULL SEEK (ms)	37
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.5
+5V START-UP (amps)	1.0
+5V TYPICAL (amps)	0.6
TYPICAL (watts)	21
MAXIMUM (watts)	59
BUFFERED STEP PULSE RATE (micro sec)	N/A
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-4767N (94601-767H) Wren Runner 2 FH SCSI-2



ST-4767N
94601-767H/M WREN RUNNER FH

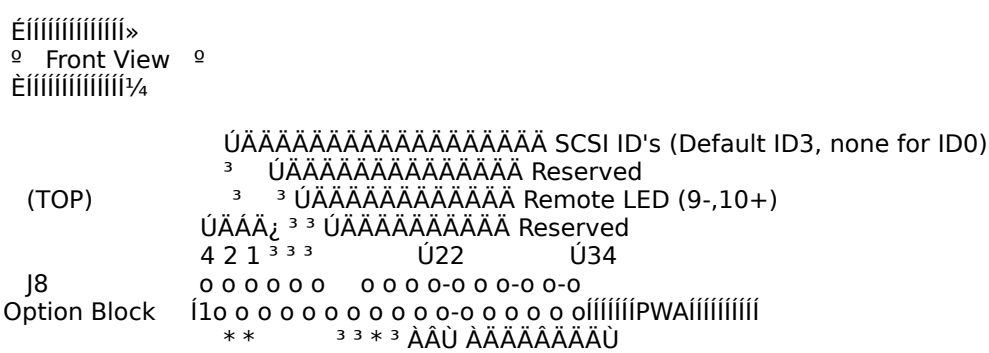
UNFORMATTED CAPACITY (MB)	767
FORMATTED CAPACITY (64 SECTORS) (MB)	665
ACTUATOR TYPE	VOICE COIL
TRACKS	20340
CYLINDERS	1356
HEADS	15
DISCS	8
MEDIA TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
TRANSFER RATE (mbytes/sec)	3
SPINDLE SPEED (RPM)	4,800
AVERAGE LATENCY (mSEC)	6.25
BUFFER	256 Kbyte
Read Look-Ahead, Adaptive, Multi-Segmented Cache	
INTERFACE	SCSI-2
TPI (TRACKS PER INCH)	1,600
BPI (BITS PER INCH)	30,600
AVERAGE ACCESS (ms)	11.9
SINGLE TRACK SEEK (ms)	2.5
MAX FULL SEEK (ms)	26
MTBF (power-on hours)	150,000
POWER REQUIREMENTS: +12V START-UP (amps)	4.5
+12V TYPICAL (amps)	1.6
+5V START-UP (amps)	1.1
+5V TYPICAL (amps)	0.8
TYPICAL (watts)	27
MAXIMUM (watts)	60
BUFFERED STEP PULSE RATE (micro sec)	
WRITE PRECOMP (cyl)	N/A
REDUCED WRITE CURRENT (cyl)	N/A
LANDING ZONE (cyl)	AUTO PARK
IBM AT DRIVE TYPE	0 or NONE

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (6/26/90)

ST-51080N Fast SCSI-2 (Medalist 1080sl SCSI, formerly Decathlon family)

ST-51080N



ST-51080N
Medalist 1080sl SCSI

FORMATTED CAPACITY (MB)	1080.23
SECTORS PER TRACK	109 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
CYLINDERS PHYSICAL	4,826 user
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	33 to 65
EXTERNAL TRANSFER RATE (Mbytes/sec)	5 Async/10 Sync
SPINDLE SPEED (RPM)	5,376
AVERAGE LATENCY (mSEC)	5.6
BUFFER	128 Kbyte SeaCache

Read/Write, Read Look-Ahead,
Multi-Segmented

INTERFACE _____SCSI-2 Fast
SECTORS PER DRIVE _____2,109,840
TPI (TRACKS PER INCH) _____4,923
BPI (BITS PER INCH) _____73,344
AVERAGE SEEK (ms) _____12.5
SINGLE TRACK SEEK (ms) _____3.5
MAX FULL SEEK (ms) _____25
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____
ACOUSTICS (dBa) idle/max _____30/34
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.32
POWER MANAGEMENT (Watts):
ACTIVE _____7.11
IDLE _____4.9
STANDBY _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____0

Physical:

Height (inches/mm):	0.75/19
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5/127
Weight (lbs/g):	0.750/340.2

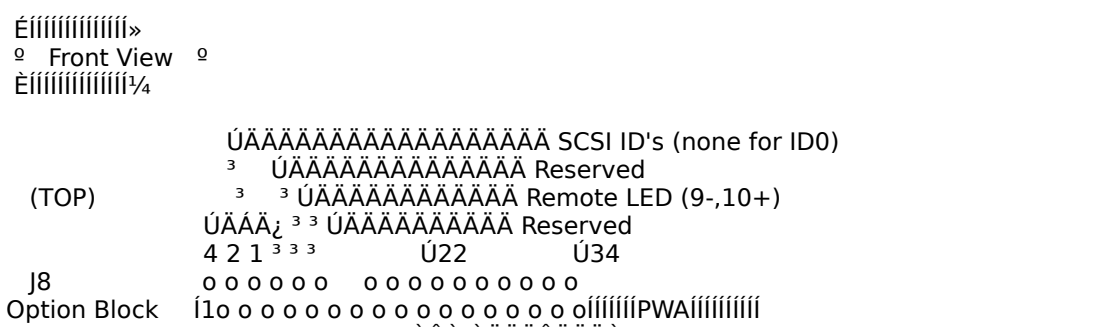
ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (01/09/96)

ST-5660N Fast SCSI-2 (Decathlon 545 SCSI)

ST-5660N



ST-5660N
Decathlon 545 SCSI

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	545.29
SECTORS PER TRACK	88 rounded down
ACTUATOR TYPE	ROTARY VOICE COIL
CYLINDERS PHYSICAL	3002
HEADS PHYSICAL	4
DISCS (3.5 in)	2
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	27.6 to 47.2
EXTERNAL TRANSFER RATE (Mbytes/sec)	5 Async/10 Sync
SPINDLE SPEED (RPM)	4,500
AVERAGE LATENCY (mSEC)	6.67
BUFFER	256 Kbyte SeaCache

Read/Write, Read Look-Ahead,
Multi-Segmented

INTERFACE _____SCSI-2 Fast
SECTORS PER DRIVE _____1,065,036
TPI (TRACKS PER INCH) _____3,309
BPI (BITS PER INCH) _____68,000
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____3.5
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Office _____300,000
SHOCK (G's):
operating (Read/Write) _____2
nonoperating _____75
ACOUSTICS (dBa) _____34
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +12V START-UP (amps) _1.9
POWER MANAGEMENT (Watts):
ACTIVE _____5.5
IDLE _____<2.5
STANDBY _____0.7
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____0

Physical:

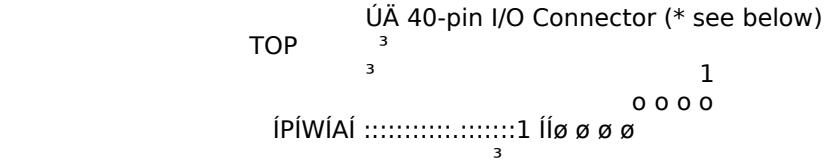
Height (inches/mm):	0.75/19
Width (inches/mm):	4.02/102.1
Depth (inches/mm):	5/127
Weight (lbs/kg):	1.5/0.68

ZBR = Zone Bit Recording = Variable sectors per track

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (11/03/95)

ST-9235NG



pin-17 removed for keying ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ

Pin assignments for the Seagate 2.5" drive SCSI interface connector

(signal)	(pin)	(signal)
	ÚÄÄÄÄÄÄÄÄÄÄ¿	
Reserved (NC)	1 2	Reserved (ND)
Reserved (NC)	3 4	Reserved (ND)
ID1-	5 6	ID2-
ID4-	7 8	LED
	ÀÄÄÄÄÄÄÄÄÄÄÙ	
	ÚÄÄÄÄÄÄÄÄÄÄ¿	
+5v	1 2	+5v
+5v Ret	3 4	+5v Ret
Ground	5 6	DB0-
Ground	7 8	DB1-
Ground	9 10	DB2-
Ground	11 12	DB3-
Ground	13 14	DB4-
Ground	15 16	DB5-
Connector Key	nopin 18	DB6-
Ground	19 20	DB7-
Ground	21 22	Parity-
Ground	23 24	TRMPWR
ATN-	25 26	BSY-
Ground	27 28	ACK-
RST-	29 30	MSG-
Ground	31 32	SEL-
I/O-	33 34	C/D-
Ground	35 36	REQ-
+5v Ret	37 38	+5v Ret
+5v	39 40	+5v
	ÀÄÄÄÄÄÄÄÄÄÄÙ	

pin			
	ID1	ID2	ID4
ID	ÚÄÄÄÄÄÄÄÄÄÄ		
0	H	H	H
1	L	H	H
2	H	L	H
3	L	L	H
4	H	H	L
5	L	H	L
6	H	L	L
7	L	L	L

H = high
L = low

ST-9235N

UNFORMATTED CAPACITY	
FORMATTED CAPACITY (xx SECTORS)	209.8
ACTUATOR TYPE	ROTARY VOICE COIL
TRACKS	
LOGICAL CYLINDERS	985
LOGICAL HEADS	13
LOGICAL SECTORS PER TRACK	32
HEADS	6
DISCS (2.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec)	up to 16
SPINDLE SPEED (RPM)	3,449
AVERAGE LATENCY (mSEC)	8.69

BUFFER _____128 Kbyte
INTERFACE _____SCSI
BYTES PER TRACK _____
SECTORS PER DRIVE _____409,760
TPI (TRACKS PER INCH) _____2,750
BPI (BITS PER INCH) _____45,500
FCI (FLUX DENSITY) _____30,300
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) Office _____150,000
SHOCK (G's) operating/nonoperating _____10/150
NG model with 'SafeRite' _____100/150
POWER REQUIREMENTS: +5V START-UP (amps) __1.3
POWER MANAGEMENT (Watts):
ACTIVE _____2.5
STANDBY _____1.8
SHUTDOWN _____1.08
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____0

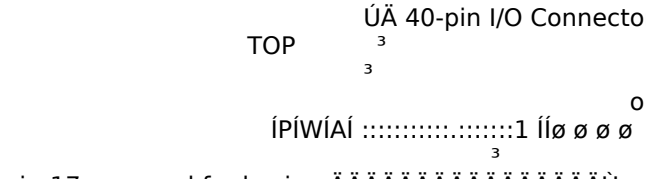
Physical:

Height (inches/mm):	0.75/19.05
Width (inches/mm):	2.76/70.10
Depth (inches/mm):	4.01/101.85
Weight (ozs/kg):	7.25/0.21

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (08/17/93)

ST-9252N, Filepro 250 SCSI (Trigger CFN250S)



pin-17 removed for keying ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ

Pin assignments for the 2.5" drive SCSI interface connector

(signal)	(pin)	(signal)
	ÚÄÄÄÄÄÄÄÄÄÄ¿	
Reserved (NC)	1 2	Reserved (ND)
Reserved (NC)	3 4	Reserved (ND)
ID1-	5 6	ID2-
ID4-	7 8	LED
	ÀÄÄÄÄÄÄÄÄÄÄÙ	
	ÚÄÄÄÄÄÄÄÄÄÄ¿	
+5v	1 2	+5v
+5v Ret	3 4	+5v Ret
Ground	5 6	DB0-
Ground	7 8	DB1-
Ground	9 10	DB2-
Ground	11 12	DB3-
Ground	13 14	DB4-
Ground	15 16	DB5-
Connector Key	nopin 18	DB6-
Ground	19 20	DB7-
Ground	21 22	Parity-
Ground	23 24	TRMPWR
ATN-	25 26	BSY-
Ground	27 28	ACK-
RST-	29 30	MSG-
Ground	31 32	SEL-
I/O-	33 34	C/D-
Ground	35 36	REQ-
+5v Ret	37 38	+5v Ret
+5v	39 40	+5v
	ÀÄÄÄÄÄÄÄÄÄÄÙ	

pin ID	ID1	ID2	ID4
0	H	H	H
1	L	H	H
2	H	L	H
3	L	L	H
4	H	H	L
5	L	H	L
6	H	L	L
7	L	L	L

H = high
L = low

ST-9252N
Filepro 250 SCSI (Trigger CFN250S)

FORMATTED CAPACITY	252.7
ACTUATOR TYPE	VOICE COIL
CYLINDERS __PHYSICAL	1339
HEADS _____PHYSICAL	6
DISCS (3.5 in)	3
MEDIA TYPE	THIN FILM
HEAD TYPE	THIN FILM
RECORDING METHOD	ZBR RLL (1,7)
INTERNAL TRANSFER RATE (Mbits/sec)	18 to 28
EXTERNAL TRANSFER RATE (Mbytes/sec)	up to 6.0
PIO MODE	2
SPINDLE SPEED (RPM)	4500
AVERAGE LATENCY (mSEC)	6.7
BUFFER	32K

Read/Write Multiple, Read Look-Ahead,
Multi-Segmented

INTERFACE _____SCSI
SECTORS PER DRIVE (LBA mode) _____493,626
TPI (TRACKS PER INCH) _____2611
BPI (KBITS PER INCH) _____58,230
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2.6
MAX FULL SEEK (ms) _____20
MTBF (power-on hours) Office _____150,000
SHOCK (G's):
operating (Read/Write) _____10
abnormal _____
nonoperating _____200
ACOUSTICS (bels) (typ/max) _____34/
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS: +5V START-UP (amps) _1.0
POWER MANAGEMENT (Watts):
ACTIVE _____1.1
IDLE _____1.0
STANDBY _____.20
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____0 or none

Physical:

Height (inches/mm):	.77/19.5
Width (inches/mm):	2.75/69.8
Depth (inches/mm):	4.00/101.6
Weight (oz/kg):	7.0/0.20

Already low-level formatted at the factory.

Seagate reserves the right to change, without notice, product offerings or specifications. (03/13/96)

ST-9295N

ST-9295N

UNFORMATTED CAPACITY _____
FORMATTED CAPACITY (xx SECTORS) _____250.6
AVERAGE SECTORS PER TRACK _____ rounded down
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____(user)
HEADS _____
DISCS (2.5 in) _____
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____ZBR RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____up to 16
SPINDLE SPEED (RPM) _____3,450
AVERAGE LATENCY (mSEC) _____8.69
BUFFER _____64 Kbyte
Multisegmented cache
INTERFACE _____SCSI
BYTES PER TRACK _____
SECTORS PER DRIVE _____489,600
TPI (TRACKS PER INCH) _____x,xxx
BPI (BITS PER INCH) _____xx,xxx
AVERAGE ACCESS (ms) _____16
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____27
MTBF (power-on hours) Office _____150,000
SHOCK (G's) operating/nonoperating _____10/150
POWER REQUIREMENTS: +5V START-UP (amps) __1.2
POWER MANAGEMENT (Watts):
ACTIVE _____1.8
IDLE _____0.7
STANDBY _____0.17
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____AUTO
IBM AT DRIVE TYPE _____0

Physical:

Height (inches/mm):	0.75/19.05
Width (inches/mm):	2.76/70.10
Depth (inches/mm):	4.01/101.85
Weight (ozs/kg):	7.25/0.21

ZBR = Zone Bit Recording = Variable sectors per track

Seagate reserves the right to change, without notice, product offerings or specifications. (12/08/92)

ST-41097J Elite-1.1

ST-41097J
Elite-1.1

UNFORMATTED CAPACITY _____1,097
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,101
HEADS _____17
DISCS (5.25 in) _____10
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____22
EXTERNAL TRANSFER RATE (mbytes/sec) _____2.75
SPINDLE SPEED (RPM) _____5,400
AVERAGE LATENCY (mSEC) _____5.56
BUFFER _____
INTERFACE _____SMD O/E
BYTES PER TRACK _____30,800
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____523,600
TPI (TRACKS PER INCH) _____
BPI (BITS PER INCH) _____
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____11.5
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts) _____
POWER REQUIREMENTS:
+12V START-UP (amps) _
+12V TYPICAL (amps) __
+5V START-UP (amps) __
+5V TYPICAL (amps) ___
TYPICAL (watts) _____44
IDLE (watts) __ _____40
USER MANUAL PART NUMBER _____83327280
REFERENCE MANUAL PART NUMBER _____83327290
OTHER _____dual port

Physical:

Height (inches/mm):	3.25/82.6
Width (inches/mm):	5.75/146.1
Depth (inches/mm):	9.9/252.5
Weight (lbs/kg):	9/4.1

ST-41201J (97500-12G) Elite-1.2

ST-41201J
(97500-12G) Elite-1.2

UNFORMATTED CAPACITY _____1,200
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,101
HEADS _____17
DISCS (5.25 in) _____10
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____24
EXTERNAL TRANSFER RATE (mbytes/sec) _____3
SPINDLE SPEED (RPM) _____5,400
AVERAGE LATENCY (mSEC) _____5.56
BUFFER _____
INTERFACE _____SMD O/E
BYTES PER TRACK _____33,600
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____571,200
TPI (TRACKS PER INCH) _____1,801
BPI (BITS PER INCH) _____17,591-33,344
AREAL DENSITY (MBits/sq in) _____60.0
AVERAGE ACCESS (ms) _____11.5
SINGLE TRACK SEEK (ms) _____1.7
MAX FULL SEEK (ms) _____22.5
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts) _____50
POWER REQUIREMENTS:
TYPICAL (watts) _____43
IDLE (watts) _____38
USER MANUAL PART NUMBER _____83327280
REFERENCE MANUAL PART NUMBER _____83327290
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	3.25/82.6
Width	(inches/mm):	5.57/146.1
Depth	(inches/mm):	9.90/252.5
Weight	(lbs/kg):	9/4.1

ST-6165J (97150-160) FSD-160

ST-6165J
97150-160 FSD-160

UNFORMATTED CAPACITY _____3,050
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___165
ACTUATOR TYPE _____
TRACKS _____
CYLINDERS _____823
HEADS _____10
DISCS (9 in) _____
MEDIA TYPE _____OXIDE
HEAD TYPE _____FERRITE CORE
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____1.209
(mhz/sec) _____9.67
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD
BYTES PER TRACK _____20,160
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____551
BPI (BITS PER INCH) _____6,117-9,492
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____30
SINGLE TRACK SEEK (ms) _____7
MAX FULL SEEK (ms) _____55
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____10,000
POWER DISSIPATION (watts) _____220
POWER REQUIREMENTS:
TYPICAL (watts) _____
MAXIMUM (watts) _____
USER MANUAL PART NUMBER _____83324500
THEORY/MAINT. MANUAL PART NUMBER _____83324510
DIAGRAMS MANUAL PART NUMBER _____83324640
OTHER _____Dual Access,
Remote/Integral Power Supply Option

Physical:

Height (inches/mm): 10.20/
Width (inches/mm): 8.50/
Depth (inches/mm): 30.0/
Weight (lbs/kg): 82/

ST-6315J (97150-300) FSD-300

ST-6315J
97150-300 FSD-300

UNFORMATTED CAPACITY _____315
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____
TRACKS _____
CYLINDERS _____823
HEADS _____19
DISCS (9 in) _____
MEDIA TYPE _____OXIDE
HEAD TYPE _____THIN FILM
RECORDING METHOD _____MFM
INTERNAL TRANSFER RATE (mbits/sec) _____1.209
(mhz/sec) _____9.67
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD E
BYTES PER TRACK _____20,160
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____1,040
BPI (BITS PER INCH) _____6,117-10,040
AREAL DENSITY (MBits/sq in) _____9.5
AVERAGE ACCESS (ms) _____20
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____45
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____30,000
POWER DISSIPATION (watts) _____225
POWER REQUIREMENTS:
TYPICAL (watts) _____
MAXIMUM (watts) _____
USER MANUAL PART NUMBER _____83327120
THEORY/MAINT. MANUAL PART NUMBER _____83327340
DIAGRAMS MANUAL PART NUMBER _____83327020
PARTS MANUAL PART NUMBER _____83327110
OTHER _____Dual Access,
Sweep Cycle Capability, Plug Compatible with 9766,
Remote/Integral Power Supply Option

Physical:

Height (inches/mm): 10.20/
Width (inches/mm): 8.50/
Depth (inches/mm): 30.0/
Weight (lbs/kg): 82/

ST-6344J (97150-340) FSD-340

ST-6344J
97150-340 FSD-340

UNFORMATTED CAPACITY _____344
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____
TRACKS _____
CYLINDERS _____711
HEADS _____24
DISCS (9 in) _____7
MEDIA TYPE _____OXIDE
HEAD TYPE _____THIN FILM
RECORDING METHOD _____MFM
EXTERNAL TRANSFER RATE (mbytes/sec) _____1.209
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD
BYTES PER TRACK _____20,160
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____201,600
TPI (TRACKS PER INCH) _____960
BPI (BITS PER INCH) _____6,111-10,027
AREAL DENSITY (MBits/sq in) _____9.5
AVERAGE ACCESS (ms) _____18
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____40
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____30,000
POWER DISSIPATION (watts) _____225
USER MANUAL PART NUMBER _____83327120
THEORY/MAINT. MANUAL PART NUMBER _____83327340
DIAGRAMS MANUAL PART NUMBER _____83327020
PARTS MANUAL PART NUMBER _____83327110
OTHER _____Dual Access,
Sweep Cycle Capability, Remote/Integral Power Supply

Physical:

Height	(inches/mm):	10.02/259
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	29.9/757 w/ power
Depth	(inches/mm):	24.5/641 w/o power
Weight	(lbs/kg):	82/36.4 w/ power

ST-6515J (97150-500) FSD-515

ST-6515J
97150-500 FSD-515

UNFORMATTED CAPACITY _____516
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____
TRACKS _____
CYLINDERS _____711
HEADS _____24
DISCS (9 in) _____7
MEDIA TYPE _____OXIDE
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____1.80
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD E
BYTES PER TRACK _____30,240
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____302,400
TPI (TRACKS PER INCH) _____960
BPI (BITS PER INCH) _____9,167-15,040
AREAL DENSITY (MBits/sq in) _____14.6
AVERAGE ACCESS (ms) _____18
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____40
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____30,000
POWER DISSIPATION (watts) _____225
USER MANUAL PART NUMBER _____83327120
THEORY/MAINT. MANUAL PART NUMBER _____83327340
DIAGRAMS MANUAL PART NUMBER _____83327020
PARTS MANUAL PART NUMBER _____83327110
OTHER _____Dual Access,
Sweep Cycle Capability, Remote/Integral Power Supply

Physical:

Height	(inches/mm):	10.20/259
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	30.0/757
Weight	(lbs/kg):	82/36.4

Seagate reserves the right to change, without notice, product offerings or specifications. (10/23/91)

ST-683J (97100-80) RSD-80

ST-683J
97100-80 RSD-80

UNFORMATTED CAPACITY _____83
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____
TRACKS _____
CYLINDERS _____823
HEADS _____5
DISCS (9 in) _____
MEDIA TYPE _____OXIDE
HEAD TYPE _____FERRITE CORE
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____1.209
(mhz/sec) _____9.67
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD
BYTES PER TRACK _____20,160
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____550
BPI (BITS PER INCH) _____6,283-9,994
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____30
SINGLE TRACK SEEK (ms) _____7
MAX FULL SEEK (ms) _____55
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____8,000
POWER DISSIPATION (watts) _____250
POWER REQUIREMENTS:
TYPICAL (watts) _____
MAXIMUM (watts) _____
USER AND PARTS MANUAL PART NUMBER _____83324480
THEORY/MAINT. MANUAL PART NUMBER _____83324490
DIAGRAMS MANUAL PART NUMBER _____83324630
OTHER _____Dual Access,
Remote/Integtral Power Supply, Removable Data Pack
model # 1209

Physical:

Height	(inches/mm):	10.20/
Width	(inches/mm):	8.50/
Depth	(inches/mm):	30.0/
Weight	(lbs/kg):	72/

ST-81123J (97200-1130) Sabre 5

ST-81123J
97200-1130 Sabre 5

UNFORMATTED CAPACITY _____1,123
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,635
HEADS _____15
DISCS (8 in) _____9
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____2.75
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD O/E
BYTES PER TRACK _____45,792
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____686,880
TPI (TRACKS PER INCH) _____1,289
BPI (BITS PER INCH) _____15,507-22,955
AREAL DENSITY (MBits/sq in) _____29.5
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83325710
MAINT. MANUAL PART NUMBER _____83325720
PARTS MANUAL PART NUMBER _____83325700
DIAGRAMS MANUAL PART NUMBER _____83325730
THEORY MANUAL PART NUMBER _____83325690
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.38
Weight	(lbs/kg):	32/15

ST-81236J (97200-12G) Sabre 5

ST-81236J
97200-12G Sabre 5

UNFORMATTED CAPACITY _____1,236
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,635
HEADS _____15
DISCS (8 in) _____9
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____3.0
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD O/E
BYTES PER TRACK _____50,400
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____756,000
TPI (TRACKS PER INCH) _____1,289
BPI (BITS PER INCH) _____16,420-24,307
AREAL DENSITY (MBits/sq in) _____32.6
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
POWER REQUIREMENTS:
TYPICAL (watts) _____
MAXIMUM (watts) _____
USER MANUAL PART NUMBER _____83325710
DIAGRAMS MANUAL PART NUMBER _____83325730
MAINT. MANUAL PART NUMBER _____83325720
PARTS MANUAL PART NUMBER _____83325700
THEORY MANUAL PART NUMBER _____83325690
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.38
Weight	(lbs/kg):	32/15

ST-82030J Sabre 6

ST-82030J
Sabre 6

UNFORMATTED CAPACITY _____2,030
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,120
HEADS _____19
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____3.0
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD O/E
BYTES PER TRACK _____50,400
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____957,600
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____20,789
AVERAGE ACCESS (ms) _____11
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83327230
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height (inches/mm):	4.75/120.65
Width (inches/mm):	8.50/216
Depth (inches/mm):	14.7/373.3
Weight (lbs/kg):	32/13

ST-82038J Sabre 6

ST-82038J
Sabre 6

UNFORMATTED CAPACITY _____2,038
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,611
HEADS _____19
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____2.4
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD E
BYTES PER TRACK _____41,088
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____780,672
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____20,789
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83327230
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.3
Weight	(lbs/kg):	28/13

Seagate reserves the right to change, without notice, product offerings or specifications. (10/23/91)

ST-82272J (97200-23G) Sabre 6

ST-82272J
97200-23G Sabre 6

UNFORMATTED CAPACITY _____2,272
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,611
HEADS _____19
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____2.75
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD E
BYTES PER TRACK _____45,792
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____870,048
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____23,099
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83327200
MAINT. MANUAL PART NUMBER _____83327230
PARTS MANUAL PART NUMBER _____83327240
THEORY MANUAL PART NUMBER _____83327530
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.3
Weight	(lbs/kg):	28/13

ST-82500J (97200-25G) Sabre 6

ST-82500J
97200-25G Sabre 6

UNFORMATTED CAPACITY _____2,500
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,611
HEADS _____19
DISCS (8 in) _____11
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____3.04
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD O/E
BYTES PER TRACK _____50,400
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____957,600
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____24,200
AREAL DENSITY (MBits/sq in) _____
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2
MAX FULL SEEK (ms) _____26
MTBF (power-on hours) Class A Room _____250,000
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts/BTU) _____95/324.2
USER MANUAL PART NUMBER _____83327200
MAINT. MANUAL PART NUMBER _____83327230
PARTS MANUAL PART NUMBER _____83327240
THEORY MANUAL PART NUMBER _____83327530
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.3
Weight	(lbs/kg):	28/13

ST-83073J Sabre 7

ST-83073J
Sabre 7

UNFORMATTED CAPACITY _____3,073
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____2,655
HEADS _____19
DISCS (8 in) _____
MEDIA TYPE _____THIN FILM
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (1,7)
INTERNAL TRANSFER RATE (mbits/sec) _____4.33
(mhz/sec) _____34.66
SPINDLE SPEED (RPM) _____4,235
AVERAGE LATENCY (mSEC) _____7.08
BUFFER _____
INTERFACE _____SMD O/E
BYTES PER TRACK _____60,928
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____1,880
BPI (BITS PER INCH) _____30,768
AVERAGE ACCESS (ms) _____12
SINGLE TRACK SEEK (ms) _____2.2
MAX FULL SEEK (ms) _____24
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____150,000
POWER DISSIPATION (watts) _____110
POWER REQUIREMENTS:
+12V START-UP (amps) _
+12V TYPICAL (amps) __
+5V START-UP (amps) __
+5V TYPICAL (amps) ___
TYPICAL (watts) _____
MAXIMUM (watts) _____
WRITE PRECOMP (cyl) _____N/A
REDUCED WRITE CURRENT (cyl) _____N/A
LANDING ZONE (cyl) _____
USER MANUAL PART NUMBER _____
OTHER _____Dual Access,
Synchronized Spindles, Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/
Width	(inches/mm):	8.50/
Depth	(inches/mm):	14.7/
Weight	(lbs/kg):	32/

ST-8368J (97200-368) Sabre 368

ST-8368J
97200-368 Sabre 368

UNFORMATTED CAPACITY _____368
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,217
HEADS _____10
DISCS (8 in) _____
MEDIA TYPE _____OXIDE
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____1.80
(mhz/sec) _____14.52
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD E
BYTES PER TRACK _____30,240
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____960
BPI (BITS PER INCH) _____10,132-15,185
AREAL DENSITY (MBits/sq in) _____14.5
AVERAGE ACCESS (ms) _____18
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____35,000
POWER DISSIPATION (watts) _____85
POWER REQUIREMENTS:
TYPICAL (watts) _____
MAXIMUM (watts) _____
USERPARTS MANUAL PART NUMBER _____83325410
THEORY/MAINT. MANUAL PART NUMBER _____83325420
DIAGRAMS MANUAL PART NUMBER _____83325430
OTHER _____Dual Access,
Sweep Cycle Capability

Physical:

Height (inches/mm):	4.75/	
Width (inches/mm):	8.50/	
Depth (inches/mm):	14.7/	
Weight (lbs/kg):	28/	

ST-8500J (97200-500) Sabre 736

ST-8500J
97200-500 Sabre 736

UNFORMATTED CAPACITY _____500
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,217
HEADS _____10
DISCS (8 in) _____
MEDIA TYPE _____OXIDE
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____2.46
(mhz/sec) _____19.72
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD E
BYTES PER TRACK _____41,088
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____960
BPI (BITS PER INCH) _____13,387-19,816
AREAL DENSITY (MBits/sq in) _____19.2
AVERAGE ACCESS (ms) _____18
SINGLE TRACK SEEK (ms) _____5
MAX FULL SEEK (ms) _____35
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____30,000
POWER DISSIPATION (watts) _____85
POWER REQUIREMENTS:
TYPICAL (watts) _____
MAXIMUM (watts) _____
USER/PARTS MANUAL PART NUMBER _____83325410
THEORY/MAINT. MANUAL PART NUMBER _____83325420
DIAGRAMS MANUAL PART NUMBER _____83325430
OTHER _____Dual Access,
Sweep Cycle Capability

Physical:

Height (inches/mm): 4.75/
Width (inches/mm): 8.50/
Depth (inches/mm): 14.7/
Weight (lbs/kg): 28/

ST-8741J (97200-736) Sabre 736

ST-8741J
97200-736 Sabre 736

UNFORMATTED CAPACITY _____741
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,635
HEADS _____15
DISCS (8 in) _____
MEDIA TYPE _____OXIDE
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
INTERNAL TRANSFER RATE (mbits/sec) _____1.80
(mhz/sec) _____14.52
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD E
BYTES PER TRACK _____30,240
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____
TPI (TRACKS PER INCH) _____1,289
BPI (BITS PER INCH) _____10,032-14,981
AREAL DENSITY (MBits/sq in) _____19.5
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Class A Room _____
MTBF (power-on hours) Office _____50,000
POWER DISSIPATION (watts) _____95
POWER REQUIREMENTS:
TYPICAL (watts) _____
MAXIMUM (watts) _____
USER MANUAL PART NUMBER _____83325710
PARTS MANUAL PART NUMBER _____83325700
MAINT. MANUAL PART NUMBER _____83325720
THEORY MANUAL PART NUMBER _____83325690
DIAGRAMS MANUAL PART NUMBER _____83325730
OTHER _____Dual Access,
Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/
Width	(inches/mm):	8.50/
Depth	(inches/mm):	14.7/
Weight	(lbs/kg):	32/

ST-8851J (97200-850) Sabre 4

ST-8851J
97200-850 Sabre 4

UNFORMATTED CAPACITY _____851
FORMATTED CAPACITY (xx SECTORS) _____
AVERAGE SECTORS PER TRACK (with spares)___
ACTUATOR TYPE _____STRAIGHT ARM
TRACKS _____
CYLINDERS _____1,381
HEADS _____15
DISCS (8 in) _____9
MEDIA TYPE _____OXIDE
HEAD TYPE _____THIN FILM
RECORDING METHOD _____RLL (2,7)
EXTERNAL TRANSFER RATE (mbytes/sec) _____2.46
SPINDLE SPEED (RPM) _____3,600
AVERAGE LATENCY (mSEC) _____8.33
BUFFER _____
INTERFACE _____SMD O/E
BYTES PER TRACK _____41,088
SECTORS PER DRIVE _____
BYTES PER CYLINDER _____616,320
TPI (TRACKS PER INCH) _____1,089
BPI (BITS PER INCH) _____13,387-19,816
AREAL DENSITY (MBits/sq in) _____21.6
AVERAGE ACCESS (ms) _____15
SINGLE TRACK SEEK (ms) _____4
MAX FULL SEEK (ms) _____30
MTBF (power-on hours) Class A Room _____100,000
MTBF (power-on hours) Office _____100,000
POWER DISSIPATION (watts/BTU) _____95/324.2
POWER REQUIREMENTS:
TYPICAL (watts) _____
MAXIMUM (watts) _____
USER MANUAL PART NUMBER _____83325710
PARTS MANUAL PART NUMBER _____83325700
MAINT. MANUAL PART NUMBER _____83325720
THEORY MANUAL PART NUMBER _____83325690
DIAGRAMS MANUAL PART NUMBER _____83325730
OTHER _____Dual Access,
Sweep Cycle Capability

Physical:

Height	(inches/mm):	4.75/120.65
Width	(inches/mm):	8.50/216
Depth	(inches/mm):	14.7/373.38
Weight	(lbs/kg):	32/15

Basic Troubleshooting

Read Me First

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(note 3/1995: The material covered in this section is outdated and will be upgraded in the next revisions.)

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2. Dealer formatted the drive in his shop. You installed drive but now it doesn't come up at all.

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6_4 System Format

1. High level format takes too long .

2. Drive doesn't format to full capacity (DOS partitions only).

3. Do not get full capacity from large capacity drive, using partitioning software.

4. Formatted with Disk Manager, cannot recognize D, E, F (drives above C:).

5. "Disk Boot Failure", "non system disk", or "No ROM Basic - SYSTEM HALTED" error messages.

6_5

6_5 General Errors

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5. Series of 1 to 7 drive LED flashes at power-on and drive doesn't work.

6_8

6_8 Software

1. Newly installed software causes problems or doesn't operate properly.

2. Need device driver for the drive.

3. DOS works OK but other Operating System doesn't.

6_0

6_0 Drive Installation Trouble Shooting

The information presented in this guide is for general reference. It is not intended to be a complete reference of computer or hard disc drive troubleshooting information, however, the solutions given below account for the vast majority of questions received by Seagate Technical Support.

Please read this entire section before contacting your dealer or distributor for additional technical support.

Comments about this guide may be left with the system operator on the Seagate Technical Support Bulletin Board service. International phone numbers are listed on page 2.

Before checking for specific problems with the installation, please verify the following:

* Check the Setup and Configuration sections in the drive and controller Installation Guides for possible oversights in user configuration.

* Interface and controller cables are fragile and should be handled with care. Make sure all cables in system are functioning properly and connected as specified.

* Make sure all cards are firmly seated in their slots.

* Make sure system power supply has adequate power for all installed devices.

* Always have current backup of your data.

6_1_1

6_1 Power On Failures

---

1. System doesn't recognize the presence of the drive.

    i) Check all cables for pin-1 to pin-1 orientation.

    ii) Verify that the drive spins up. Keep in mind that many drives are very quiet and hard to hear.

    iii) Check power supply for adequate output.

    iv) Make sure controller is the correct type needed for the interface of the drive and that the controller is correctly configured for your drive.

    v) In AT systems, confirm that the correct CMOS drive type is used.

    vi) Check drive select or drive ID jumpers.

    vii) Check the drive select jumper is correct for the number of drives in your system and/or for the type of controller cable being used.

    viii) Check for either BIOS memory address, port or interrupt conflicts with controller from other devices. Go to a bare bones system and add one device at a time until the conflict resurfaces.

    ix) Verify that you are using a hard drive 34-pin control cable. If using twisted control cable and 7 wires are twisted, then you are using floppy drive cable.

    x) Check to see if a warm boots works.

    xi) Try slowing down the system speed or bus speed.

6_1_2

2. Dealer formatted the drive in his shop. You installed drive but now it doesn't come up at all.

Refer to 6_1_1, then:

i) Make sure that the DOS version used to partition and high-level format the drive is consistent with your system.

ii) If partitioning software was used, make sure that the same drive type in CMOS is used by using the software in the manual mode.

iii) If using an AT Bus drive in translation mode , make sure the same translation parameters are used.

iv) Check that the same controller was used by the dealer as the one in your system.

v) Verify that the same kind of cables were used at the dealer.

6_1_3

3. The screen goes blank whenever I power up the system.

Immediately on power up:

i) Check that the power supply can handle drive power requirements.

ii) Try removing the new controller or host adapter to see if problem resolves; indicating a defective adapter or hardware conflict.

iii) Check that monitor is plugged in and turned on.

iv) Check that the video card is operational.

After P.O.S.T. (Power On Self Test):

v) Boot from a floppy disk and verify that the primary DOS partition is active and that the high-level FORMAT has been performed.

6_1_4

4. In an AT class system, the drive LED is always on.

i) Not a problem if drive is working. Check controller documentation for latch/non-latch jumper if available.

ii) Drive not working: check that pin1 on controller matches pin1 on drive.

6_1_5

5. 1701 ERROR

i) Refer to 6_1_1

ii) If in an XT system, perform the low-level format if drive is new to this controller.

6_1_6

6. 1780 or 1781 ERROR

Refer to 6_1_1

6_1_7

7. 1790 or 1791 ERROR

i) Need to low-level format the drive (then partition with FDISK and DOS high-level format).

ii) Try substituting another 20-pin data cable.

6_1_8

8. AT interface drive spins up after power, then it spins back down.

i) Substitute the ribbon cable.

ii) Try a different system with a different BIOS.

6_1_9

9. AT interface does not spin up after power.

i) Check to see that the ribbon cable is not reversed.
Sometimes the colored stripe on the cable is pin-40.

6_2_1

6_2 Low-level Format Errors

---

1. Low-level format takes too long or hangs. Excessive errors.
Code 20 or 80. (controller codes) or Unsuccessful format.

i) In AT systems make sure CMOS drive type is correct.

ii) In XT systems make sure dynamic configuration is correct.

iii) Check the drive parameters used in the low-level format.

iv) Check/substitute 20-pin data cable.

v) Check that you have data cable plugged into correct connector on controller.

vi) Verify that the performance capability of the controller matches the performance of drive and matches the speed of the system.

6_2_2

2. Entering the DEBUG address fails to obtain the low-level format menu.

i) Check if controller even has an onboard BIOS and confirm that it is enabled.

ii) Check DEBUG address used against the memory address jumpers on the controller (refer to controller documentation).

iii) Some systems require removing the drive type from CMOS.

iv) Look for conflicts with other controllers or adapters which have onboard BIOS; video, etc..

v) Check with controller manufacturer about the use of special formatting software on diskette that needs to be used with the controller card (Seagate controllers and host adapters do not use special diskette software).

vi) Try using the following addresses for DEBUG:

G=C800:5 or
G=CC00:5 or
G=C800:CCC or
G=C800:6 or
G=D800:5 or
G=DC00:5

6_2_3

3. "Drive not Ready" error message.

i) Check all cables for pin-1 to pin-1 orientation.

ii) Check power supply for adequate output.

iii) Verify that the drive spins up. Keep in mind that many drives are very quiet and hard to hear.

iv) Check the drive select jumper is correct for the number of drives in your system and/or for the type of controller cable being used.

v) Warm Boot; could be controller, power supply, system BIOS timing, or, relative spin-up time in two drive systems.

vi) Consider the use of diagnostic hard drive maintenance software.

vii) May need to low-level format the drive.

6_2_4

4. "Sector not found" error message.

i) Substitute the 20-pin data cable.

ii) Usually a media error or the drive not with original controller, may need to re low-level format.

6_2_5

5. Low-level Format hangs on a specific Head/Cylinder/Sector.

i) Check that the hard error list was entered. (bad track list).

ii) Check that the parameters and/or correct drive type in CMOS setup is being used and matches those of the drive.

iii) Mark the location of the problem area out in the defect map and restart the low-level format.

6_3_1

6_3 Partitioning (FDISK) Errors

---

1. "No Fixed Disk Present"

    i) Refer to 6_1_1

    ii) Check for too loose cable.

    iii) In two drive system, check that the terminating resistor has been removed from the drive in the middle of the daisy chain.

    iv) May need to re low-level format.

6_3_2

2. Hangs in FDISK or fails to create or save partition record.

i) Swap or check the 20-pin data cable.

ii) Verify that the low-level format actually took place.

iii) Check that the drive parameters have been entered correctly (re low-level if not).

iv) If AT bus interface drive, try an alternate translation geometry.

v) Substitute the cables.

vi) Try a different DOS and/or DOS utilities diskette.

vii) Try changing the partition size.

viii) Run a surface scan utility to check for defects at the beginning of the drive.

ix) If using ST07 or ST08 AT interface host adapter, check JP5.

6_3_3

3. "Hard Disk Controller Failure" or very many defect in last logical partition.

i) Confirm that the drive type definition used in the CMOS setup does not exceed the capacity of the drive. Seagate disc drives use 1 megabyte to equal 1,000,000 (10 to the 6th power) bytes. In CMOS a megabyte may be calculated as 1,048,576 (2 to the 20th power) bytes.

6_4_1

6_4 System Format

---

1. High level format takes too long.

    i) Normal operation with DOS 4.x to keep retrying hard errors,
    giving "Attempting to recover allocation units" message.

6_4_2

2. Drive doesn't format to full capacity (DOS partitions only).

i) Check the drive parameters used in the low-level format.

ii) DOS has a 1024 cylinder limitation, alternate translations or third party partitioning software may be needed.

iii) Verify that the controller is the proper type for drive interface and performance.

iv) Confirm that the parameters reported by FDISK match those of the drive.

v) Older DOS has a built in limitation of 32 megabytes. You may need to upgrade your DOS.

vi) All DOS has a limitation of reported drive parameters. You may need a controller with BIOS, partitioning software, or a system BIOS upgrade.

vii) Some controllers use disc space for defect management, refer to controller manual for explanation of default sparing overhead.

6_4_3

3. Do not get full capacity from large capacity drive, using partitioning software.

i) Likely due to a geometry mismatch in CMOS. Try creating a very small (_8 meg) DOS boot partition and then partitioning the rest of drive with write/read partitions.

6_4_4

4. Formatted with Disk Manager, cannot recognize D, E, F (drives above C:).

i) Be sure you booted from the hard drive.

ii) Verify that the Disk Manager DMDRVR.BIN device driver file is in the root directory of the C partition or boot drive.

iii) Verify that the CONFIG.SYS file on the boot disc has the statement DEVICE=DMDRVR.BIN and that it is loaded before any other memory management device drivers.

iv) Confirm that all partitions have been "prepared".

6_4_5

5. "Disk Boot Failure", "non system disk", or "No ROM Basic - SYSTEM HALTED" error messages.

i) Try using the DOS utility SYS.COM (i.e. At the A:\ prompt, with the same version of DOS as on the hard drive, type "SYS C:").

ii) When Using FDISK, make sure that the primary partition is active.

iii) On AT systems, check for the correct CMOS drive type, check the system battery.

iv) Check all cables.

v) Open floppy door.

vi) Scan for virus infections.

vii) On XT systems, back up files then reformat from the low level.

6_5_1

6_5 General Errors

---

1. Random data, seek, or format errors.

    i) Check power and grounding.

    ii) Try re-routing the cables.

    iii) Controllers are susceptible to noise, do not install next to power supply or some monitor cards.

    iv) Try slowing down the system speed or bus speed.

    v) If drive works outside of the system, it is probably ground or RFI problem.

    vi) Do a thorough media scan and reformat, sparing out all previous and new hard errors.

6_5_2

2. Error while installing a second drive of a different interface, or system doesn't boot after installation of second controller.

i) The controller must match the interface of the second drive and will need to have onboard BIOS that must not require a CMOS drive type.

ii) The BIOS memory address of the new controller must be set to a different address than that of any other devices.

iii) If new drive is an AT interface drive, the existing drive will need a controller with BIOS that does not require a CMOS drive type setting.

iv) Verify that you have only a single enabled floppy controller in the system.

v) Verify that your second controller is at a different BIOS memory and port address than any other installed devices.

6_5_3

3. "Bad or Missing Command Interpreter" error message.

i) Do not mix DOS versions.

ii) Make sure COMMAND.COM was transferred.

iii) Scan for virus infection.

iv) Reformat the C: partition using the /S option for transferring the system files.

6_5_4

4. Should I park my drive?

    i) Only if drive is not autoparking.

6_5_5

5. CheckDisk reports bytes in "Bad Sectors".

i) This is not a problem. Some controller formatting schemes spare an entire track for each hard error found by the low-level format. A hard disc drive is within spec if the drive has up to one error per megabyte of formatted capacity.

6_5_6

6. "Error reading Drive C:" type error message.

i) Scan the disc drive for defects.

ii) If excessive or intermittent, may be caused by faulty cables.

iii) Scan for Virus infection.

iv) Consider the use of diagnostic hard drive maintenance software.

v) May need to be re low-level formatted (especially if the drive orientation has been changed).

6_5_7

7. "Track 0 not found" error message.

i) Substitute the 20-pin data cable.

ii) Change the CONFIG.SYS file to include buffers=99, or upgrade DOS software to version 3.3 or higher.

iii) May need to low-level format drive.

6_6_1

6_6 Transfer rate and Seek time Access time Problems

---

1. Average access time test longer than specified.

    i) Verify drive model specifications.

    ii) Optimum step pulse rate is 10 to 35 microseconds, set in dynamic configuration of low-level format on XT type system.

    iii) Different software will measure access time differently. Make sure that the software subtracts system overhead from the calculation.

6_6_2

2. Slower data transfer rate than specified.

i) Test the data transfer rate with different diagnostic utilities.

ii) Experiment with different interleave settings during the low-level format to achieve best data transfer rate. Start with default setting.

iii) Controllers vary widely in their interleave capability. A 1:1 interleave controller should always be set for 1, regardless of the drive model. An interleave of 1 to 1 is the fastest. Consult your controller specifications. Setting interleave too fast will degrade performance.

iv) AT Bus interface drives: Verify that a low-level format was not used previously, as this may remove the head and cylinder skewing optimization.

6_7_1

6_7 SCSI Specific Problems

---

1. No ROM ID message to screen on boot up.

    i) Check for memory address conflict with other adapter BIOS.
    ST01/ST02 must be at highest address.

    ii) Bad Host Adapter

6_7_2

2. 1780, 1781, 1790, 1791 errors.

i) Check cables.

ii) Remove the drive type from CMOS in AT systems.

6_7_3

3. No SCSI device found.

i) Check for host adapter BIOS memory address conflict.

ii) Make sure no drive number is set in CMOS setup.

iii) Check installation

iv) Check cable and power output.

v) Check SCSI ID number.

vi) Verify if Parity jumper on the drive is needed.

6_7_4

4. SCSI drive type for my AT system.

    i) None or "Not Installed"; SCSI does not work if a drive type
    is entered in CMOS.

6_7_5

5. Series of 1 to 7 drive LED flashes at power-on and drive doesn't work.

i) Remove the SCSI interface cable from the drive and apply power. If drive LED still flashes, record the number of flashes and call for technical support.

6_8_1

6_8 Software

1.. Newly installed software causes problems or doesn't operate properly.

i) Call the software manufacturer.

6_8_2

2. Need device driver for the drive.

i) Device drivers are written by the controller manufacturer.
Seagate does not offer any device drivers.

6_8_3

3. DOS works OK but other Operating System doesn't.

i) Call the operating system manufacturer.