Apple II
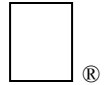# Technical Notes

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Developer Technical Support

GS/OS

#1:   Contents of System.Disk and System.Tools

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This Technical Note describes the contents of the disks System.Disk and System.Tools and the minimum files necessary to boot GS/OS starting with System Software 5.0.

Changes since September 1990: Updated to reflect System Software version 5.0.4. Removed references to printer drivers which are not part of 5.0.3 or 5.0.4. Removed version numbers for tools from this Note in favor of Apple IIGS Technical Note #100, VersionVille.

This Note gives a description of each of the files in the Apple IIGS System Software 5.0.4 package. This package includes three disks: System.Disk, System.Tools, and the Apple II Setup disk for AppleShare 2.1.3 (Macintosh format). System.Disk is bootable and includes two block drivers with 5.0.4. System.Tools is not bootable, but with 5.0.4 it includes other drivers, AppleTalk files, the Shaston 16 font and some utility programs. The Apple II Setup disk is an update for AppleShare File Servers (version 2.01 or later) which allows them to boot into GS/OS. Since the software on this disk is not available for licensing and does not ship with applications, this Note does not cover its contents.

Although System Software 5.0.4 may function in 512K (768K to use

AppleShare or the SCSI Manager), Apple has not tested it in systems with less than 1 Mb of memory. Also note that many folder names on the 5.0.4 Golden Master disks are incorrectly in all upper-case characters. This is only a cosmetic flaw; it does not affect the installation or operation of the system software.

Because of the quantity of changes between System Software 5.0.2 and 5.0.4, the changes to 5.0.4 are not detailed in this Note; however, files that changed between 5.0.2 and 5.0.3 are marked with an asterisk (*). Files that changed between 5.0.3 and 5.0.4 are marked with two asterisks (**).

Contents of System.Disk

ProDOS
Every file system boots differently; the boot blocks for ProDOS disks look for a file name ProDOS. This is that file. It is the GS/OS file system stub necessary to start the boot process.

System
The directory containing most of the GS/OS files.

CDevs The directory containing all Apple IIGS Control Panel Devices (CDevs) required for minimal operation.

Alphabet Sets translation specifications and display languages.

DirectConnect Allows selection of direct-connected printers.

General Allows setting of general system parameters.

Keyboard Sets keyboard parameters.

Modem Controls modem port settings.

Monitor Sets 40-column or 80-column mode, monochrome or color mode, and the color of text, text background, and borders.

Mouse Sets mouse parameters.

Printer Controls printer port settings.

RAM Controls the size of the RAM disk and the GS/OS Disk Cache.

Slots Allows selection of slot settings and

startup slot.

Sound   Sets user preference for sound pitch and volume.

Time   Sets the internal clock's time and display format.

CDev.Data A list of internal Control Panel parameters for each CDev in the directory; the list is precalculated for speed when opening the Control Panel.

Desk.Accs   The directory containing all the classic and new desk accessory files to be loaded at boot time.

CtlPanel.NDA   The new desk accessory which allows users to control almost all system parameters and choose printers and file servers.

Drivers   The directory containing all device drivers needed by GS/OS and the Toolbox (including the Print Manager and MIDI Tools).

AppleDisk3.5   The Apple 3.5 Drive device driver for GS/OS.

AppleDisk5.25   The driver for Apple 5.25" disk drives, including Disk II drives and Apple UniDisk 5.25 drives. This driver is required for GS/OS to recognize 5.25" disk drives.

Console.Driver*   The text screen and keyboard device driver for GS/OS.

ImageWriter**   The ImageWriter driver for the Print Manager.

Printer*   The printer port driver for the Print Manager.

Modem*   The modem port driver for the Print Manager.

Printer.Setup   A file containing the default printer driver and port driver settings for the Print Manager.

Error.Msg*   A compiled file containing all error messages required by GS/OS. This file is separate from the GS.OS file to provide easier support for localization.

ExpressLoad*   New routines for GS/OS which load specially processed files up to four times faster than previously possible prior to System Software 5.0. GS/OS loads ExpressLoad at boot time on systems with more than 512K total memory.

Fonts   The directory containing all system fonts to be used.

Courier.10   10-point Courier font.

Courier.12   12-point Courier font.

FastFont   This makes Shaston 8 text drawing much faster on systems with more than 512K of RAM.

Geneva.10   10-point Geneva font.

Geneva.12   12-point Geneva font.

Helvetica.10 10-point Helvetica font.

Helvetica.12 12-point Helvetica font.

Shaston.16   16-point Shaston font.

Times.10   10-point Times font.

Times.12   12-point Times font.

Venice.14   14-point Venice font.

Font.Lists   A file prepared by the Font Manager when FMStartUp is first called. It contains information about all the fonts in the Fonts directory and is only recalculated if the Font Manager reasonably believes the information has changed.

FSTs   The directory containing the file system translators to be loaded at boot time.

Char.FST*   The character device FST.

Pro.FST*   The ProDOS FST.

GS.OS*   The remainder of GS/OS.

GS.OS.Dev*   The GS/OS Device Manager and associated core routines. Separate from GS.OS for speed reasons.

P8*   The ProDOS 8 operating system.

Start   The boot program. If this file exists, GS/OS always launches it upon booting. In this case, as in most cases, this is the Finder.

Start.GS.OS*   The   file   containing   the `GLoader` and `GQuit` routines. It loads the files GS.OS and GS.OS.Dev, which contain the rest of the operating system.

System.Setup   The directory containing all the initialization files to be executed at boot time.

CDev.Init   A file, required for the Control Panel new desk accessory, which executes any initialization code in any CDev that is in the CDev subdirectory.

Resource.Mgr*   The Resource Manager. This is an initialization file; the design of the Resource Manager

requires it to be present even when an application has not specifically loaded it. The system does not boot if this file is not present.

Sys.Resources   A file containing system resources, which are available to applications, used by the tools and the Control Panel.

Tool.Setup A required file that loads files which contain all the patches to tools in ROM for ROM levels 01 (TS2) and 03 (TS3). Tool.Setup would attempt to load TS1 if executed on a machine with ROM level 00, but GS/OS does not boot on such a machine, therefore, TS1 is not included.

TS2*   All the patches to ROM tools for ROM level 01.

TS3**   All the patches to ROM tools for ROM level 03.

Tools   The directory containing tool files for all tools not in ROM.

Tool014*	Window Manager .
Tool015*	Menu Manager.
Tool016*	Control Manager.
Tool018**	QuickDraw Auxiliary.
Tool019	Print Manager.
Tool020*	LineEdit.
Tool021*	Dialog Manager.
Tool022	Scrap Manager.
Tool023*	Standard File.
Tool025	Note Synthesizer.
Tool026	Note Sequencer.
Tool027*	Font Manager.
Tool028*	List Manager.
Tool034*	TextEdit.

Finder.Def   Finder default settings file. This file must be present on the backup copy of System.Disk used with the Installer. The Installer cannot install GS/OS if this file is not present on System.Disk.

Icons   The directory containing all the Finder's icon files.

Finder.Icons   The core set of icons used by the Finder for all system files and devices.

Finder.Icons.X   The additional icons used by the Finder on systems with more than 512K total total

memory.

FType.Main*   The file type names used by the Finder on all systems.

FType.Aux*   The additional file type names used by the Finder on systems with more than 512K total memory.

AppleTalk   A directory containing files to implement the AppleTalk networking protocols. On this disk, this folder is empty.

BASIC.System*   The ProDOS 8 BASIC command interpreter.

BASIC.Launcher   A short program which allows BASIC.System to run AppleSoft program files which are opened from the Finder.

Tutorial   A directory containing several files and directories, used in user-level documentation to teach the concepts of a hierarchical file system. These files are unnecessary to the operation of the System Software.

Budgets
    Finder.Data
    Home
        CY.1990
        CY.1991
        Finder.Data
    Office
        Finder.Data
        FY.1990
        FY.1991
Finder.Data
Graphics
    Ad
    Finder.Data
    Flier
    Letterhead
    Masthead
Letters
    Finder.Data
    Mr.Merritt
    Ms.Bachtold
    To.Family
        Dad
        Finder.Data
        Mom

                                              TO.FRIENDS
                                                  Darryl
                                                  Finder.Data
                                                  Molly
Finder.Data*   Information on window positions for the
                        Finder.

Contents of System.Tools

Icons   Additional icons for the Finder. This
                        folder is currently empty.

System   A directory containing additional parts of
                        GS/OS not found on System.Disk.

CDevs   Directory with additional Control
                        Panel Devices.

                                              AppleShare Allows users to choose and log onto
                        AppleShare file servers.

                                              ATIWriter* Allows users to choose ImageWriter
                        printers on AppleTalk networks for use with the Print
                        Manager.

                                              ATLQIWriter*   Allows   users   to   choose
                        ImageWriter LQ printers on AppleTalk networks for use
                        with the Print Manager.

                                              ATLWriter* Allows users to choose LaserWriter
                        printers on AppleTalk networks for use with the Print
                        Manager.

                                              DirectConnect   Allows   selection   of   direct-
                        connected printers.

Desk.Accs   Directory   with   additional   desk
                        accessories.

                                              CDRemote An updated version of the CD Remote
                        new desk accessory which ships with the AppleCD SC.
                        This version works with the SCSI Manager in System
                        Software 5.0.

                                              VideoMix.NDA* An updated version of the
                        VideoMix new desk accessory which ships with the
                        Apple II Video Overlay Card.

Drivers   Directory   with   additional   device
                        drivers for GS/OS and the Toolbox.

                                              Apple.Midi The Apple MIDI Interface driver for
                        the MIDI Tools.

AppleDisk5.25 The driver for Apple 5.25" disk drives, including Disk II drives and Apple UniDisk 5.25 drives. This driver is required for GS/OS to recognize 5.25" disk drives.

AppleTalk The AppleTalk port driver for the Print Manager. It works with either serial port when configured for AppleTalk.

AT.IW.PSetup This file contains the same information as the file Printer.Setup for an ImageWriter printing through AppleTalk. The Installer replaces the file Printer.Setup on the destination disk with this file and renames it Printer.Setup.

AT.IWLQ.PSetup This file contains the same information as the file Printer.Setup for an ImageWriter LQ printing through AppleTalk. The Installer replaces the file Printer.Setup on the destination disk with this file and renames it Printer.Setup.

ATalk* The main AppleTalk GS/OS driver.

ATP1.ATROM AppleTalk protocols to patch the IIGS ROM.

ATP2.ATRAM* AppleTalk protocols not in ROM.

Card6850.MIDI The driver for 6850-based MIDI interface cards for the MIDI Tools.

Epson The Epson® printer driver for the Print Manager.

EPSON.PSetup This file contains the same information as the file Printer.Setup for an Epson printing through the parallel card driver. The Installer replaces the file Printer.Setup on the destination disk with this file and renames it Printer.Setup.

ImageWriter** The ImageWriter driver for the Print Manager.

ImageWriter.LQ** The ImageWriter LQ driver for the Print Manager. For 5.0.3, this driver is completely new and uses all the capabilities of the ImageWriter LQ.

IW.PSetup This file contains the same information as the file Printer.Setup for an ImageWriter printing through the printer port. The Installer replaces the file Printer.Setup on the destination disk with this file and renames it Printer.Setup.

IWEM PostScript® program which allows a

LaserWriter emulate an ImageWriter. A user can load it into the LaserWriter with the LaserWriter CDev, and it is automatically invoked when printing through the slot associated with AppleTalk.

IWLQ.PSetup   This file contains the same information as the file Printer.Setup for an ImageWriter LQ printing through the printer port. The Installer replaces the file Printer.Setup on the destination disk with this file and renames it Printer.Setup.

LaserWriter*   The LaserWriter driver for the Print Manager. This driver works with any LaserWriter with PostScript. It does not work with the LaserWriter IISC.

LW.PSetup This   file   contains   the   same information as the file Printer.Setup for an LaserWriter printing through AppleTalk. The Installer replaces the file Printer.Setup on the destination disk with this file and renames it Printer.Setup.

Modem*   The modem port driver for the Print Manager.

Parallel.Card   A driver for some parallel printer interface cards for the Print Manager. This driver works with the Apple Parallel Interface Card, as well as several other parallel interface cards.

Printer*   The printer port driver for the Print Manager.

SCC.Manager   The GS/OS supervisory driver that arbitrates hardware-level usage of the SCC in the Apple IIGS.

SCSI.Manager**   The GS/OS SCSI Manager, the supervisory driver that arbitrates hardware-level usage of Apple II SCSI cards.

SCSICD.Driver*   The GS/OS driver for the AppleCD SC drive. This driver is required for GS/OS to recognize CD-ROM drives.

SCSIHD.Driver*   The GS/OS driver for SCSI hard disks. This driver is required for GS/OS to recognize SCSI hard disks.

UniDisk3.5*The GS/OS driver for UniDisk 3.5 drives. This driver is required for proper operation of UniDisk 3.5 drives. Using the UniDisk with GS/OS without this driver eventually corrupts media.

FSTs   Directory with additional File System Translators.

　　　　AppleShare.FST**The AppleShare FST which allows GS/OS to access AppleShare file servers.

　　　　HS.FST   The High Sierra FST which allows GS/OS to access CD-ROM discs formatted in the international standard High Sierra or ISO 9660 formats. This FST is read-only; it only performs read operations.

System.Setup   Directory with additional initialization files.

　　　　AppleIIVOC.INIT An initialization file used by the Apple IIGS Video Overlay Card tool set.

　　　　ATInit   The AppleTalk initialization file.

　　　　ATResponder   The AppleTalk Responder, used for AppleTalk network management.

Tools   Directory with additional tools.

　　　Tool029*   ACE Tools.

　　　Tool032   MIDI Tools.

　　　Tool033   Video Overlay Card tool set.

Fonts   Directory with additional fonts.

　　　Shaston.16* 16-point Shaston font.

　　　Times.12*   12-point Times font.

Scripts   This directory contains all the scripts for the Installer. On launch, the Installer looks in its parent directory for the Scripts directory and the scripts it contains.

ACE*   Script to install the Audio Compression and Expansion tools.

ADV.DISK.UTIL Script to install the Advanced Disk Utility program.

APPLE.MIDI   Script to install the Apple MIDI Interface driver and tool set.

APPLEDISK5.25 Script to install the 5.25" disk driver for GS/OS.

APPLESHARE   Script to install AppleShare.

Aristotle.Patch   Script to install a change to Aristotle for easier class transition.

ATIMAGEWRITER   Script to install the ImageWriter printer driver for the Print Manager, as well as the files necessary to work with AppleTalk.

ATIMAGEWRITERLQ Script to install the

ImageWriter LQ printer driver for the Print Manager, as well as the files necessary to work with AppleTalk.

CARD6850.MIDI Script to install the 6850-based MIDI Interface card driver.

CDROM Script to install the High Sierra FST as well as the SCSI Manager and SCSI CD-ROM driver for GS/OS.

DCIMAGEWRITER Script to install the ImageWriter printer driver for the Print Manager, as well as the files necessary to connect it to a serial port.

DCIMAGEWRITERLQ Script to install the ImageWriter LQ printer driver for the Print Manager, as well as the files necessary to connect it to a serial port.

EPSON Script to install the Epson printer driver for the Print Manager, as well as the parallel card driver.

FONTS* Script to install additional fonts.

INST.SYS.MIN Script to install a minimal GS/OS system with AppleShare on a given destination volume. This script appears as "AppleShare on 3.5 Disk" in the Installer's list of updates.

INST.SYSF.NOFIN* Script to install a minimal GS/OS system,without the Finder, on a given destination volume.

INSTAL.SYS.FILE* Script to install a GS/OS system, with the Finder, on a given destination volume.

LASERWRITER Script to install the LaserWriter printer driver for the Print Manager, as well as the files necessary to work with AppleTalk.

Local.Net.Boot* Script to create a 3.5" floppy disk with the minimum configuration necessary to boot locally but log onto an AppleShare file server.

NAMER Script to install Namer II and related AppleTalk files.

Quick.Logoff Script to add a quick logoff feature to AppleShare.

SCSI.HARD.DISK* Script to install the SCSI Manager and SCSI hard disk driver for GS/OS.

Server.Sys.File* Script to install System Software 5.0 on an AppleShare File Server.

UNIDISK3.5 Script to install the UniDisk 3.5 driver for GS/OS.

	VIDEOMIX	Script to install the latest versions of the Apple II VideoMix software and tools.
Installer*		The Apple IIGS Installer program. This program makes use of scripts found in the Scripts directory on this disk to install parts of the system, as well as third-party applications, without the user needing to copy individual files.
AppleTalk		This directory contains additional AppleTalk files and utilities for AppleShare and AppleTalk.
	Boot.Driver	A driver for AppleShare that GS/OS loads before the other drivers are loaded and which remains resident in memory after the boot process is finished. Installed on servers by the Installer script Server.Sys.File.
	Display.0	An update to the Aristotle program installed by the "Aristotle.Patch script.
	Namer	This directory contains the Namer II application to rename AppleTalk devices.
	MtxAbs.0	MouseText code routines for by Namer II.
	Namer.II	The Namer II application (a ProDOS 8 program).
	Namer.0	Additional code needed by Namer II.
	QuickLogoff	An initialization file used to add a quick logoff feature to AppleShare.
	Start	The AppleShare startup program which is installed in place of the Finder on AppleShare volumes. It allows the user to log on and then launches the server startup program for the user's machine.
Adv.Disk.Util		The Advanced Disk Utility program which allows for partitioning of SCSI hard disks, as well as erasing, initializing, and zeroing volumes or partitions.

Minimum GS/OS System Disk Requirements

The following files are required for GS/OS to boot. This list does not address files needed by the Finder or the IIGS Toolbox. Those files only required in certain circumstances are noted as such. Those files that may be excluded **only** when disk space or memory limitations make it **absolutely** necessary are marked with asterisks (*).

ProDOS

System

Start.GS.OS
GS.OS
GS.OS.Dev
Error.Msg
FSTs
      Pro.FST   Required for ProDOS disks.
      HS.FST   Required for High Sierra or ISO 9660 discs.
      Char.FST
      AppleShare.FST   Required to use AppleShare file servers
Drivers
      AppleDisk3.5   Required for Apple 3.5 Drives.
      AppleDisk5.25   Required for 5.25" drives.
      UniDisk3.5 Required for UniDisk 3.5 drives.
      SCSI.Manager   Required for SCSI devices.
      SCSIHD.Driver   Required for SCSI hard disks.
      SCSICD.Driver   Required for AppleCD SC drives.
      Console.Driver
      ATalk   Required for AppleTalk (including AppleShare).
      ATP1.ATROM   Required for AppleTalk (including AppleShare).
      ATP2.ATRAM   Required for AppleTalk (including AppleShare).
      SCC.Manager   Required for AppleTalk (including AppleShare).
System.Setup
      CDev.INIT Required for the Control Panel NDA.
      Tool.Setup
      TS2
      TS3
      Resource.Mgr
      Sys.Resources
CDevs
      Alphabet*
      AppleShare*   Required for selecting AppleShare file servers.
      ATIWriter* Required for choosing printers.
      ATLQIWriter*   Required for choosing printers.

ATLWriter* Required for choosing printers.

DirectConnect* Required for choosing printers.

General*

Keyboard*

Modem*

Monitor*

Mouse*

Printer*

RAM* Should **always** be included if space allows. Provides the only way to set the size of the GS/OS Disk Cache.

Slots*

Sound*

Time*

CDev.Data* Only required if using the same CDevs that ship on System.Disk.

Desk.Accs* Required for desk accessories; any desk accessories should be installed in this directory.

CtlPanel.NDA*

ExpressLoad* The only reason not to ship ExpressLoad is a lack of disk space; it is not loaded in 512K systems.

Start Must be present for GS/OS to boot or some other file that GS/OS can boot into must be present in its place.

Tools Required for any of the RAM-based tools; any RAM-based tools should be installed in this directory.

Fonts Required for the Font Manager.

FastFont* This makes Shaston 8 text drawing much faster and should be included unless absolutely impossible.

P8 Required for ProDOS 8.

BASIC.System Required for AppleSoft BASIC.

BASIC.Launcher Required for AppleSoft BASIC if the user is allowed to open these programs from the Finder.

Further Reference

- *GS/OS Reference*
- Apple IIGS Technical Note #100, VersionVille

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PostScript is a registered trademark of Adobe Systems, Incorporated.