
TI 990 Series Minicomputer

- 990/4 CPU [990/4 boot rom disassembly](#)
- 990/10 CPU [990/10 universal boot rom disassembly](#) [990/10 boot rom disassembly](#)
- 990/10A CPU
- 990/12 CPU [990/12 boot rom disassembly](#)



- DS990 Model 4 (DS10 disc), 6 (DS25 disc), 8 (DS50 disc)
- Business System 300, 600, 800

While on the road picking up Varian 620 parts, I bought a 990 minicomputer, built around 1981. This machine seems to be just below the web event horizon, with about as much info available as the other 'oddball' minicomputers that I have.

What I have been able to find out was TI sold their S1500 Unix workstation product to HP (the 9000/1500) in 1992. HP's support for 9000/1500's was dropped about 5 years ago.

The 900 series machines were not sold to HP, and no further development was done by TI.

990s were targeted as multi-user business systems, and either ran the DX10 or DNOS operating systems.

A company called TexX built a card called the BS100, which would run DX10 on a PC

DNOS (Distributed Network Operating System) was developed from DX10 to support larger configurations and Networks.

DX10 ran faster on small systems, DNOS was much bulkier and so should only be run on 990/12 CPUs with larger amounts of memory. DNOS was also

able to use the Writable Control Store (Microcode) this was used to speed up the some operations. The final release of DNOS was 1.3.0

990 systems are still in use running various applications (primarily written in COBOL)

A company called "Texas Computer Center" is still offering software support for these systems.

Here are a few places on the Web that may have 990 related items

[Texas Computer Center](#)

[Trident Computer](#) (960, 980, and 990 boards and service)

Here is a pointer to a TI S1500 [page in Germany](#)

Preferred Computer in Houston (800-225-1923 x848) still repairs 990 boards

30 Oct, 1999

I found a book published by TI called

Microprocessors / Microcomputers / System Design
(c)1980 ISBN 0-07-063758-X

Which is a description of the 9900 family. The 990 is mentioned as the high-end minicomputer member of the family.

990 Systems Mentioned:

CS990/4 - 990/4 minicomputer (9900 CPU), term, floppy. \$12,000 (cassette?)

FS990/10 - 990/10 minicomputer (TTL CPU), term, floppy. \$15,000

DS990/10 - 990/10 minicomputer (TTL CPU), term, 9.4Mb disc. \$25,000

Product Glossies

DX10 Operating System

1983 TI Users Group Handouts



Hardware Concepts [The Business System 300 Architecture](#) [The TI 990/10A](#)

System Performance & Analysis

p-System

PC Board Numbers

**Here is a list of the PC board assembly numbers
Please email me if you have additions/corrections**

96214-940065	DSK DS25/50 CTRL
96214-2261690	TFDC
944930	AU (990/10)
944950	SMI/M (990/10)
945075	EIA
945145	16TTL
946076	Dual 911 ctl
946105	COMM
948955	MEM (990/10)
2213060	Encoder/Decoder
2213065	Tape Control
2215705	Power Board
2215826	Processor
2218030	HS Digital
2218033	PIBUS Interface
2218090	HS Digital
2230350	4 Chan Async (CI403)
2230360	4 Chan Async (CI404)
2231546	Processor
2244780	WD900 WD/MT Ctrl
2245200	Disk IF
2261630	Tape Ctrl 800
2261635	Tape Ctrl 800/1600
2261980	MEMC (990/10)
2261990	990/10 Cache Ctrl
2262035	MEMA
2262100	DSK
2269405	ECDSK
2270820	TPBI
2275975	990/10A CPU
2303085	X.21 BCAIM
2303105	2 Chan Async
2308170	MT1600

2309085	Prog Intr Kit
2309155	Intr CRU Buffer
2309320	990/12 AU
2309325	990/12 SMI
2309335	990/12 Cache Ctl
2310380	Interrupt Module
2310945	Printronix LPT Ctl
2310970	EACUI
2311145	DS80/300 Ctlr

Manuals

**Here is a list of the manuals that I know about.
The manuals that I've been able to find are in bold type.
Scanned PDF files are linked to the part numbers**

939152- 9701	Model 990 Computer DX10 Operating System Installation Guide	
939153- 9701	DX10 Operating System Release 3.4, System Design Document	
939417- 9701	Model 990 Computer DX10 Operating System Release 3 Programmer's Card	
939430- 9701	Model 990 Computer FORTRAN Installation Guide	
939431- 9701	Model 990 Computer COBOL Installation Guide	
939432- 9701	Model 990 Sort/Merge Installation for DX10 Release 3	
939460- 9701	Model 990 Computer Model 810 Printer Installation and Operation	15 May
939524- 9701	Model 990 Computer Report Program Generator (RPG II) Programmer's Guide	
943423- 9701	Model 990 Computer Model 911 Video Display Terminal Installation and Operation	
943440- 9701	Model 990 Computer Programming Card	
943441- 9701	Model 990 Computer TMS9900 Microprocessor Assembly Language Programmer's Guide	Rev. 1 J
943441- 9701	Model 990 Computer TMS 9900 Microprocessor Assembly Language Programmer's Guide	15 Dec
943457- 9701	Model 990 Computer Model 913 CRT Display Terminal Installation and Operation	
945250- 9701	990 Computer Family Systems Handbook	3rd Ed. I

945236-9701	Model 990 Computer Communications System Software	
945251-9701	Model 990/4 Computer System Hardware Reference Manual	
945253-9701	Model 990 Computer Model FD800 Floppy Disc System Installation and Operation	
945254-9701	990-733 ASR System Software Users Manual	
945258-9701	Model 990 Computer PROM Programming Module Installation and Operation	
945259-9701	Model 990 Computer Model 733 ASR/KSR Data Terminal Installation and Operation	
945260-9701	Model 990 Computer Moving Head Disc System Installation and Operation	
945261-9701	Model 990 Computer Model 306 and 588 Line Printers Installation and Operation	
945262-9701	Model 990 Computer Model 804 Card Reader Installation and Operation	
945400-9701	Model 990 Computer Diagnostics Handbook Volume 1	
945400-9702	Model 990 Computer Diagnostics Handbook Volume 2	
945400-9703	Model 990 Computer Diagnostics Handbook Volume 3	
945400-9704	Model 990 Computer Diagnostics Handbook Volume 4	
945400-9705	Model 990 Computer Diagnostics Handbook Volume 5	
945400-9706	Model 990 Computer Diagnostics Handbook Volume 6	
945400-9707	Model 990 Computer Diagnostics Handbook Volume 7	
945401-9701	Model 990/4 Computer System Field Maintenance Manual	1 Apr 19
945402-9701	Model 990/10 Computer System Field Maintenance Manual	
945403-9701	Model 990/4 Computer System Depot Maintenance Manual	15 May
945404-9701	Model 990/10 Computer System Depot Maintenance Manual	>>>WA
945405-9701	Model 990 Computer PROM Programming Module Depot Maintenance Manual	
945406-9701	Model 990 Computer Model 913 CRT Display Terminal Depot Maintenance Manual	

945407- 9701	Model 990 Computer 16 Input/Output TTL Data Module Depot Maintenance Manual	
945408- 9701	Model 990 Computer TTY/EIA Interface Module Depot Maintenance Manual	>>>WA
945409- 9701	Model 990 Computer Communications Systems Installation and Operation	
945410- 9701	Model 990 Computer Synchronous Modem System Depot Maintenance Manual	
945411- 9701	Model 990 Computer FORTRAN Programmer's Guide	
945412- 9701	Model 990 Computer COBOL Programmer's Guide	
945413- 9701	Model 990 Computer BASIC Programmer's Guide	
945414- 9701	Model 990 Computer Models DS31 and DS32 Disc Controller Depot Maintenance Manual	
945415- 9701	Model 990 Computer 16 Input/Output EIA Data Module Depot Maintenance Manual	
945416- 9701	Model 990 Computer TX990 Operating System Programmer's Guide	
945417- 9701	Model 990/10 Computer System Hardware Reference Manual	15 Nove A
945417- 9701	Model 990/10 Computer System Hardware Reference Manual	15 Nove B
945418- 9701	Model 990 Computer Floppy Disc Depot Maintenance Manual	
945419- 9701	Model 990 Computer Peripheral Equipment Field Maintenance Guide	
945419- 9706	Model CD1400 Disk System Field Maintenance Manual	
945421- 9701	Model 990 Computer Family Maintenance Drawings	>>>WA
945421- 9702	Processors and Memories Vol. II Maintenance Drawings	>>>WA
945423- 9701	Model 911 Video Display Terminal Installation and Operation	Rev. 15
945423- 9701	Model 990 Computer Model 911 Video Display Terminal Installation and Operation	15 Octob
945411- 9701	Model 990 Computer FORTRAN Programmer's Guide	
946229- 9701	Model 979A Magnetic Tape System Installation and Operation	
946231- 9701	Model DS25/DS50 Disk System Installation and Operation	

946236-9701	Model 990 Computer Communications System Software	
946250-9701	DX10 Operating System Concepts and Facilities Manual, Volume I	Rev B A
946250-9702	DX10 Operating System Production Operation Manual, Volume II	
946250-9703	DX10 Operating System Application Programming Guide, Volume III	
946250-9704	DX10 Operating System Developmental Operation Manual, Volume IV	Rev A D
946250-9705	DX10 Operating System Systems Programming Guide, Volume V	
946250-9705G	DX10 Operating System Systems Programming Guide, Volume V	Jan, 198
946250-9706	DX10 Operating System Error Reporting and Recovery Manual, Volume VI	
946251-9701	Model 990 Computer BASIC Programmer's Guide	
946252-9701	Model 990 Sort/Merge User's Guide	
946258-9701	Model 990 Computer Terminal Executive Development System (TXDS) Programmer's Guide	
946259-9701	Model 990 Computer TX990 Operating System Programmers Guide (Release 2)	Original 1977
946260-9701	Model 990 Computer FORTRAN Programmer's Reference Manual	
946261-9701	Model 990 Computer Model DS10 Cartridge Disk System Installation and Operation	15 Augu
946266-9701	DX10 Operating System - Release 3 COBOL Programmer's Guide	
946284-9701	Model 990 Computer DS990 System Installation and Operation Manual	1 April 1
946284-9701	DS990 Models 4, 6, and 8, Systems Installation and Operation Manual	15 Septe A
946289-9701	Model 990 Computer DX2780/2780 Emulator User's Guide	
946290-9701	Model 990 Computer TI Pascal User's Manual	
946294-9701	Model 990/5 Computer Hardware User's Manual	
949612-9701	Model 979A Tape Transport Installation and Operation	
949617-9701	Model 990 Computer Link Editor Reference Manual	

984030-9701	Model 743 KSR Data Terminal Operating Instructions	
2228263-9701	DX10 Micro User's Guide	
2229228-9701	Model 931 Video Display Terminal, General Description Rev A Dec, 1983	
2229229-0001	Model 931 Video Display Terminal Field Maintenance Manual	
2229230-0001	Model 931 Video Display Terminal Depot Maintenance Manual	>>>WA
2230312-9701	Four-Channel Communicaitons Kit, Installation Guide	
2234366-9901	DNOS Release and Update Information	
2234375-9701	DNOS COBOL Program Generator User's Guide	
2234391-9701	TIFORM Reference Manual	
2234392-9701	EI990 Installation and Operation	Dec 198
2234393-9701	EI990 Ethernet Interface Maintenance Manual	>>wante
2234394-9701	EI300/EI990 Ethernet Interface Programming Manual	>>wante
2234398-9701	WD900 Disc Drive / MT3200 Tape Drive General Description	Rev C Ju
2238775-9701	Model 990A13 Chassis Maintenacnce Manual, Field Theory and Maintenance	
2238776-9701	990 System 990A13 Chassis Depot Theory and Maintenance	
2240275-9701	Business System 300A Operator's Guide	Rev B Ju
2240276-9701	Business System 300A System Description Manual	
2246125-0001	CDC 138 MB Drive Vol 1	
2246125-0002	CDC 138 MB Drive Vol 2	
2246125-0003	CDC 138 MB Drive Vol 3	
2246125-0004	CDC 425 MB Drive Vol 1	
2246125-0005	CDC 425 MB Drive Vol 2	

2246125-0006	CDC 425 MB Drive Vol 3	
2246126-0001	Cipher Data Products Operation and Maintenance	
2246126-0002	Cipher Data Products Theory of Operation	
2246127-0001	Spectra Logic, Spectra 126 Product Reference	>>>WA
2246127-0002	Spectra Logic, Spectra 126 Schematics	>>>WA
2246127-0003	Spectra Logic, Spectra 126 Microcode	>>>WA
2246129-0001	CDC 138 MB Documentation Master Kit	
2246129-0002	CDC 425 MB Documentation Master Kit	
2246130-0001	Cipher Data Products Master Kit	
2246131-0001	Spectra Logic Documentation Master Kit	
2246134-9701	WD900/MT3200 General Description Manual	
2250077-9701	Model 990 Addendum to the TMS 9900 Microprocessor, Asm Lang Programmers's Guide for the Model 990/12 Computer	
2250304-9701	Model 990 Computer TI 990 BASIC Reference Manual	
2250356-9701	Model 990 Computer DX10 Remote Terminal Subsystem (RTS) for Model 915 Remote Terminal Installation and Operation Manual	
2250361-9701	DS990 Models 4 Through 9 Systems Site Preparation	1 May 1
2250374-9701	Model 990 Computer TIFORM User's Guide	
2250425-9701	Model 990 Computer Data Base Management System Programmer's Guide	
2250426-9701	Model 990 Computer Data Base Administrator User's Guide	
2250466-9701	Query-990 User's Guide	
2250697-9701	Model 990 Computer Model FD800 Floppy Disk System with International Chassis Installation and Operation	
2250698-9701	Model 990 Computer Model FD1000 Flexible Disk System with International Chassis Installation and Operation	
2250918-9701	DX10 3780/2780 Emulator Object Installation Manual	

2250924-0001	DX10/DS990 Operating System Release 3 (Object) Product Doc Pkg 1978	
2250954-9701	Model 990/10 DX10/3270 Information Display System Emulator Operator's Manual	
2250967-9901	Release Information, DX10/DS990 Operating System Rel 3.2-990	
2261885-9702	Model 990 Computer Model FD1000 Flexible Disk System Depot Maint Vol II	15 Jan 1
2262325-9701	DS990 Model 1 Site Preparation and Installation	
2263354-9701	TIBOL Programmer's Guide	
2263895-9701	Two-Channel Asynchronous Communications Interfaces (CI402)	15 Dec 1
2263897-9701	Four-Channel Asynchronous Communications Interfaces (CI403 and CI404)	
2263898-9701	Four-Channel Asynchronous Communications Interfaces (CI403 and CI404) Maintenance Manual	
2264446-9701	Model 990/12 Computer Hardware User's Guide	
2268237-0001	990/12 Computer Manual Kit	
2268239-9701	Model 990/12 Computer Maintenance Manual, General Description	
2268240-9701	Model 990/12 Field Technical Manual	
2268241-9701	Model 990/12 Computer Depot Theory and Maintenance	>>>WA
2268678-9701	DS990 Systems Field Engineering Reference Handbook	
2268680-9701	DNOS FORTRAN-78 Programmer's Guide	
2268681-9701	FORTRAN-78 Reference Manual	
2268687-9701	MATHSTAT-78 Programmer's Reference Manual	
2268688-9701	Model 990 Computer TILINE Coupler User's Guide	
2268696-9701	FORTRAN-78 ISA Extensions Manual	
2268698-9701	DS990 Models 4,6, and 8 Systems Unpacking and Inventory Guide	
2270500-9701	DNOS Master Index to Operating Systems Manuals	

2270501-9701 DNOS Concepts and Facilities

2270502-9701 DNOS Operations Guide

2270503-9701 **DNOS System Command Interpreter (SCI) Reference Manual** Mar 1985

2270504-9701 DNOS Text Editor Reference Manual

2270505-9701 DNOS Reference Handbook

2270506-9701 DNOS Messages and Codes Reference Manual

2270507-9701 DNOS Supervisor Call (SVC) Reference Manual

2270508-9701 DNOS Assembly Language Programmer's Guide

[2270509-9701](#) **990/99000 Assembly Language Reference Manual** Nov, 1982

2270509-9701 Model 990 Computer System 990/10 and /12 Assembly Language Reference Manual

2270510-9701 DNOS Systems Programmer's Guide

2270511-9701 DNOS System Generation Reference Manual

2270512-9701B **DNOS System Design Document** Nov, 1983

2270513-9701 DNOS SCI and Utilities Design Document

2270514-9701C **DNOS Object Installation** Nov, 1983 (Ver 1.2.0)

[2270514-9701D](#) **DNOS Object Installation** Mar, 1985

2270515-9701 DNOS Source Installation Guide

2270516-9701 DNOS COBOL Programmer's Guide

2270518-9701 COBOL Reference Manual

2270519-9701 TI Pascal Reference Manual

2270520-9701 DNOS 3780/2780 Emulator User's Guide

2270522-9701 DNOS Link Editor Reference Manual

2270533-9701 DS990 Models 4 through 30 Systems Operator's Service Guide

[2270534-9701](#) **Model 990 Computer Universal ROM Loader User's Guide** 15 April 1980

[2270534-9701](#) **ROM Loader User's Guide** Rev B August, 1984

2272034-9701 Model 990 Computer DX10 Remote Terminal Subsystem (RTS) System Generation and Programmer's Reference Manual

2272053-9701 Model 990 Remote Terminal Subsystem (RTS) Hardware Installation Manual

2272058-9701 DNOS Data Base Management System Programmer's Guide

2272059-9701 DNOS Data Base Administrator User's Guide

2272060-9701 DNOS Sort/Merge User's Guide

2272055-9701 Model 990 Computer DX10 Remote Terminal Subsystem (RTS) Operator's Guide

2272064-9701 DX10 Operating System Reference Card

2272075-9701 990 CRU/TILINE Expansion Maintenance Manual, General Description

2272109-9701 DNOS Performance Package Documentation

2276554-9701 DNOS Query-990 User's Guide

2276579-9701 990 Family Communications Systems Field Reference Manual

2276582-9701 Data Dictionary User's Guide

2302629-9701 Model DS80 Disk System Installation and Operation

2302631-9701 Model DS300 Disk System Installation and Operation

[2302633-9701](#) **Model 990/10A Computer Maintenance Manual, General Descripton** Feb, 1984

2302634-9701 Model 990/10A Computer Maintenance Manual - Field Theory and Maintenance

2302635-9701 Model 990/10A Computer Maintenance Manual - Depot Theory and Maintenance

2302640-9701 DNOS DNCS X.25 Remote File Transfer (RFT) User's Guide

2302642-9701 Model MT1600 Magnetic Tape System Installation and Operation

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2302648-9701 DNOS DNCS System Generaton Reference Manual

2302662-9701 DNOS DNCS Operations Guide

2302663-9701 DNOS DNCS/SNA User's Guide

2302664-9701 DNOS DNCS Operations Guide

2302670-9701 DNOS 3270 Interactive Communications Software (ICS) User's Guide

2302676-9701 DNOS Remote Terminal Subsystem (RTS) User's Guide

2302683-9701 DX10 3780/2780 Emulator, Release 4, User's Guide

2302688-9701 Model 990 Computer WD800 Mass Storage System Installation and Operation Manual

2305790-9701 TI BASIC, A Tutorial Approach to Programming

2306140-9701 WD800/WD800A Mass Storage System Installation and Operation

2306142-9701 WD800/WD800A Mass Storage System Field Maintanance Manual

2308769-9701 **TI BASIC Reference Manual**

2308772-0001 Model 990A Chassis Manual Kit

2308774-9701 **Model 990A13 Chassis General Description**

2308777-0001 990 Memory Manual Kit

2308779-9701 **Model 990 Computer Memory General Description**

2308780-9701 **Model 990 Computer Memory Field Technical Manual**

2308781-9701 Model 990 Computer Memory, Depot Theory and Maintenance

2308783-9701 DNOS Common Communications Utilities

2308789-9701 990A13 Programmer Panel, Operation and Maintenance Manual

2308793-9701 DNOS Distributed Network I/O (DNIO) User's Guide

2308868-9701 DNOS TIPE Reference Manual Kit

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2308868-9701 DNOS TIPE Exercise Guide Kit

2308954-9701 DNOS Security Manager's Guide

2308789-9701 Model 990A13 Programmers Panel, Operation and Maintenance

2311340-9701 **Business Systems 600/800 Site Preparation Manual**

2311341-9701 **Business Systems 600/800 Installation Manual**

2311342-9701 Business Systems 600/800 Unpacking and Inventory Guide

2311343-9701 Business Systems 600/800 Operator's Guide

2311344-9701 Business Systems 600/800 Field Engineering Reference Handbook

2311345-9701 Business Systems 600/800 Field Maintenance Manual

2533262-9701 DX10 Micro Operating System Handbook

2533266-9701 Business System 200 Operator's Guide

2533308-9701 Business System 300 System Description Manual

2533313-9701 Two-Channel Communications Kit, Installation Guide

2533318-9701 Business System 300 Operator's Guide

2533319-9701 Operator's Guide, WD800 Disk Unit

2533322-9701 DX10 Micro Messages and Codes

2533269-9701 Operator's Guide, WD500/WD500A Disk Unit

2540219-0001 990/SCSI Mass Storage Subsystem General Description

2540724-0001 Model 924 VDT Maintenance Drawing

2544365-0001 Model 924 Video Display Terminal User's Guide

2547176-0001 945 Workstation User's Guide

2549488-0001 Mass Storage Unit (MSU II) General Description

2557935-
0001

Mass Storage Unit (MSU IIA) Installation and Operation

Rev B O