M486 SCSI

CHARACTERISTICS

Microprocessor	INTEL 80486
Clock	25 MHz
Architecture	32-bit EISA
Memory	2, 4 or 8 MB on system board expandable up to 32 MB by: **EXM 26-482** 2 MB - 2 SIMM 1 Mb x 9 **EXM 26-484** 4 MB - 2 SIMM 512 Kb x 36 **EXM 6108** 8 MB - 2 SIMM 1 Mb x 36 System memory can be expanded up to 64 MB using 8 MB SIMM modules when available
Memory access	100 ns / 80 ns
Coprocessor	Integrated in the INTEL 80486, Weitek 4167
Optional processor	INTEL i860
Floppy Disk	1.2 MB 5.25" Panasonic JU 475-3 1.2 MB 5.25" Panasonic JU 475-4 1.2 MB 5.25" Toshiba ND 08 DE 1.44 MB 3.5" Panasonic J-257 1.44 MB 3.5" Sony MP-F17 1.44 MB Mitsubishi MF355C
Hard Disk	105 MB CONNER 30100 210 MB CONNER 3200 300 MB WREN IV 94171 320 MB SEAGATE ST2383 600 MB MAXTOR XT8760S
Streaming Tape	Wangtek 150 MB SCSI
EISA slots	8 Present - 6 Available
Video adapter	EISA EVC-1 board GO739
Hard disk and Floppy disk controller	EISA ESC-1 board GO740
Cache Controller	Integrated in microprocessor
Cache size	8 KB integrated in microprocessor
Mouse	PS/2- and AT-compatible
Keyboard	101/102-key ANK 26-101, ANK 26-102

SYSTEM BOARD

BA859 P1.25 2 MB

BA860 P1.25 4 MB

BA868 P1.7 2 MB

BA869 P1.7 4 MB

BA882 P1.7 8 MB

BIOS

Revision 2.03

VIDEO ADAPTER

GO734

GO739

HARD DISK - FLOPPY DISK CONTROLLER

GO738

GO740

POWER SUPPLY

PS20 A 220 V
Level: 01 MI

PS20 A 110 V
Level: 01 MI

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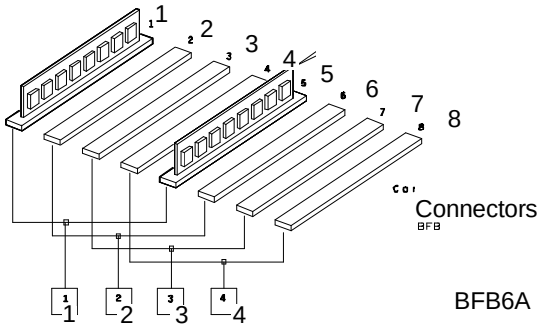
MEMORY EXPANSION

WARNING: It is not essential to fill all the memory banks available. Starting from the basic 4 MB, it is thus possible to obtain the following memory configurations: 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64 MB.

The SIMM modules installable are:
EXM 26-484 4 MB
EXM 26-482 2 MB
EXM 6108 8 MB



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SYSTEM BOARD

	LEVEL	D.R.S. CODE	ROM BIOS	INTEGRATED CONTROLLERS / NOTES
BA859	Lev. Nasc.	412930 P	ME8K 497450U Rev. 1.10.1	Board with 2 MB memory All the modifications are field only and are not implemented at the factory.
	Lev. 01 MI		PPJ5 Rev. 1.15 498060H	- New BIOS for installation of NETWARE/386 on the hard disk
	Lev. 02 MI		Rev. 1.15	- Two PALs replaced to solve the Parity Error problem in UNIX SCO
	Lev. 04 MI		Rev. 1.15	- Cuts and wirings made to solve system hang problems with some TORUS communication boards and the serial port problem
	Lev. 05 MI		PPJF Rev. 2.0 498124J	- New BIOS to implement new features: - support for more than two HDUs - support for several ESC-1 boards - support for PEM - support for telediagnostic board - support for ESDI HDU controller
	Lev. 06 MI		Rev. 2.0	Cuts and wirings made to solve the system lock problem in the P.O.D. with several EISA boards on the BUS
	Lev. 07 MI		PPJR Rev. 2.01	- New BIOS for management of the 300 MB ESDI Type 35 hard disk and to solve the following problems: - BOOT with unformatted ESDI HDU - BOOT from diskless system - Compatibility
	Lev. 08 MI		Rev. 2.01	- This change solves the interrupt noise problem of the serial port when a 486 microprocessor non-D0 is present.
	Lev. 09 MI		Rev. 2.01	Keyboard Controller Rel. 8.01 introduced to replace the 8.0 Keyboard Controller
	Lev. 10		PPJX Rev. 2.03	New BIOS to solve the problems of the previous release: - Memory above 16 MB - Boot from 720 KB floppy drives - ADAPTEC EISA Controller - MYLEX SCSI Controller
BA860		412932 D		Same as BA859 but with a different 4 MB memory slice

	LEVEL	D.R.S. CODE	ROM BIOS	INTEGRATED CONTROLLERS / NOTES
BA867	Lev. Nasc.	612164 T	PPJ5 498060H Rev. 1.15	New layout level for recovering cutting and trimming and removal of previous board problems. Board with 4 MB of memory
	Lev. 01		PPJF 498124J Rev. 2.0	- New BIOS to implement new features: - support for more than two HDUs - support for several ESC-1 boards - support for PEM - support for telediagnostic board - support for ESDI HDU controller
	Lev. 02		Rev. 2.0	- Cuts and wirings made to solve the system lock problem in the P.O.D. with several EISA boards on the BUS
	Lev. 03		PPJR 498155Z Rev. 2.01	- New BIOS for management of the 300 MB ESDI Type 35 hard disk and to solve the following problems: - BOOT with unformatted ESDI HDU - BOOT from diskless system - Compatibility
	Lev. 04		Rev. 2.01	- This change solves the interrupt noise problem of the serial port when on mother-board a 486 microprocessor non step D is present. - Signal BCLK improved
	Lev. 06		Rev. 2.01	- Keyboard Controller Rel. 8.01 introduced - New 80486-25-D0 introduced to replace the current 804286-26-B6 WD 16C552 Mask D component used to replace the previous component
	Lev. 07		PPJX Rev. 2.03	- Allows introduction of step A2 of the EBC 82358 component to replace step A1 - EISA BUS BCLK and EBC HCLKCPU signals improved - New BIOS to solve the problems of the previous release: - Memory above 16 MB - Boot from 720 KB floppy drives - ADAPTEC EISA Controller - MYLEX SCSI Controller
BA868				Same as BA867 but with a different 2 MB memory slice

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	LEVEL	D.R.S. CODE	ROM BIOS	INTEGRATED CONTROLLERS / NOTES
BA882	Lev. Nasc.		PPJF 498124J Rev. 2.0	New board with 8 MB memory
	Lev. 01		Rev. 2.0	- Cuts and wirings made to solve the system lock problem in the P.O.D. with several EISA boards on the BUS
	Lev. 02		PPJR Rev. 2.01	- New BIOS for management of the 300 MB ESDI Type 35 hard disk and to solve the following problems: - BOOT with unformatted ESDI HDUs - BOOT from diskless system - Compatibility
	Lev. 03		Rev. 2.01	- This change solves the interrupt noise problem of the serial port
	Lev. 04		Rev. 2.01	- Keyboard Controller Rel. 8.01 introduced - New 80486-25-D0 introduced to replace the current 804286-26-B6 - WD 16C552 Mask D component used to replace the previous component
	Lev. 05		Rev. 2.01	- Introduction of step A2 of the EBC 82358 component to replace step A1 - EISA BUS BCLK and EBC HCLKCPU signals improved
	Lev. 06		PPJX Rev. 2.03	- New BIOS to solve the problems of the previous release: - Memory above 16 MB - Boot from 720 KB floppy drives - ADAPTEC EISA Controller - MYLEX SCSI Controller

INTEGRATED CONTROLLERS

CONTROLLER	FUNCTION
82357 ISP	DMA Controller Interupt Controller 5 Timers I/O Ports
XL2865	EEPROM configuration
DS1287	Real Time Clcok/Timer
8042/8742	Keyboard and Mouse Controller
WD16C552	Serial and Parallel Port Controller
82358 EBC	EISA Bus Controller

WARNING: If hardware or firmware changes should occur on system board, hardware and firmware for hard disk and video controller boards must also be changed if necessary. See table below.

BOARDS, DIAGNOSTIC BIOS AND DRIVERS COMPATIBILITY

SYSTEM BOARD			HDU CTRL			VIDEO CTRL			DIAGNOSTIC		DRIVER	
BDS	BIOS	LEV.	ESC 1	FW	LEV.	EVC 1	FW	LEV.	S.T.	U.D.	OEM	EVC
859/ 860	1.10.1	Na	738	1.22	04/05	734	1.02	03	No drw	1.0 3	4.08 1.4 2	2.02 1
859/ 860	1.10.1	Na	738	1.22	08	734	1.02	03	No drw	1.0 3	4.08 1.4 2	2.02 1
859/ 860	1.10.1	Na	740	1.35	Na	734	1.02	03	1.50	1.0 3	4.08 1.4 2	2.02 1
868/ 867	1.15	Na	740	1.35	Na	739	1.03	Na	1.50	1.0 3	4.08 1.4 2	3.0
868/ 867	2.0	01	740	1.42	01	739	1.03	Na	1.50	1.30 1	4.08 1.4 2	4.0
868/ 867	2.0	02	740	1.42	01	739	1.03	Na	1.50	1.30 1	4.08 1.4 2	4.0
882	2.0	Na	740	1.42	01	739	1.03	Na	1.50	1.30 1	4.08 1.4 2	4.0
882	2.0	01	740	1.42	01	739	1.03	Na	1.50	1.30 1	4.08 1.4 2	4.0
882	2.01	02	740	1.43	02	739	1.03	Na	2.10	1.30 1	4.08 1.4 2	5.0
882	2.01	03	740	1.43	02	739	1.03	Na	2.10	1.30 1	4.08 1.4 2	5.0
882	2.01	04	740	1.43	03	739	1.03	Na	2.10	1.30 1	4.08 1.4 2	5.0
882	2.01	05	740	1.43	03	739	1.03	Na	2.10	1.30 1	4.08 1.4 2	5.0
882	2.03	06	740	1.43	03	739	1.03	Na	2.10	1.40 1	4.081.4 2	5.0

REFURBISHING KITS

These KITs allow system board BA859/60 to be increased to level 02, and hard disk controller board GO738 of M486 to be increased to level 08.

INITIAL LEVEL		KIT TO BE USED
SYSTEM BOARD	HDU CONTROLLER	
BA859/60 Lev. Nasc.	GO736 Lev. 05	**KIT003-03** code 977732 S **KIT003-05** code 977800 C Composition: Material for BA859/60 change Material for GO738 change

BOARDS

FUNCTION	DESCRIPTION	D.R.S. CODE	CHARACTERISTICS
CPU system board	BA859	412930 P	P1.25 2 MB
CPU system board	BA860	412932 D	P1.25 4 MB
CPU system board	BA868		P1.7 2 MB
CPU system board	BA867	612164 T	P1.7 4 MB
CPU system board	BA882		P1.7 8 MB
Power supply 220 V	PS20	412915 C	
Power supply 110 V	PS20	412914 B	
Console board	IF637	497112 D	

BA859/60 I/O DEVICES

DEVICE	TYPE	LOCATION
Asynchronous communication element	WD16C552	U10
Keyboard and mouse controller	8742AH	U13
Flash EPROM	28F010	U14
Configuration EEPROM	XL2865A	U15
Real time clock	DS1287	U16
PAL CPU reset counter	16R6	U17
I/O controller 3	20L8	U24
PAL keyboard intercept	22V10	U25
I/O controller 2	EP1800	U26
I/O controller 1	EP1800	U27
EISA BUS controller	82358-25	U35
EISA integrated system peripherals		U36
Address decode PAL	20L8	U37
Even RAS driver	16L8	U39
Odd RAS driver	16L8	U40
PAL, Address translation	16L8	U44
PAL, RAM map control	16L8	U46
PAL, AEN(x) generation	22V10	U47
PAL, parity error control	20V8	U69
PAL, Snoop Stroke control	16R4	U70
PAL, Burst address generation	20R4	U74
Odd CAS driver	16L8	U75
Even CAS driver	16L8	U76
PAL, Byte-enable control	16L8	U80
PAL, EISA buffer control	16L8	U81
PAL, host access control	20R6	U82
PAL, latch address control	16L8	U83
PAL, system reset control	16R8	U84
PAL, Burst control	16R4	U85
PAL, CAS control	16R4	U87
PAL, EISA access control	20L8	U96
PAL, RAS control	16R4	U97
PAL, CPU control	20R6	U203
PAL, numeric coprocessor address control	20L8	U204
PAL, numeric coprocessor control	16R8	U205
PAL, BUS arbitration	16R6	U206
PAL, BUS control	20R6	U207
PAL, parity error detection	20L8	U208
PAL2, numeric coprocessor addresses	20L8	U218
PAL3, numeric coprocessor addresses	20L8	U219
PAL1, numeric coprocessor addresses	20L8	U220
WEITEK coprocessor	WTL4167	U232
Microprocessor	i486	U233
Optional microprocessor	i860	U241

BA867/68 I/O DEVICES

DEVICE	TYPE	LOCATION
Asynchronous communication element	WD16C552	U10
Keyboard and mouse controller	8742AH	U13
Flash EPROM	28F010	U14
Configuration EEPROM	XL2865A	U15
Real time clock	DS1287	U16
PAL CPU reset counter	16R6	U17
I/O controller 3	20L8	U24
PAL keyboard intercept	22V10	U25
I/O controller 2	EP1800	U26
I/O controller 1	EP1800	U27
EISA BUS controller	82358-33	U35
EISA integrated system peripherals		U36
Address decode PAL	20L8	U37
Even RAS driver	16L8	U39
Odd RAS driver	16L8	U40
PAL, address translation	16L8	U44
PAL, RAM map control	16L8	U46
PAL, AEN(x) generation	22V10	U47
PAL, ISA Master Buffer-Swap	16L8	U56
PAL, parity error control	20V8	U70
PAL, EISA access control	20L8	U71
PAL, Burst address generation	20R4	U72
Odd CAS driver	16L8	U73
Even CAS driver	16L8	U74
PAL, CAS-enable control	20V10	U77
PAL, EISA buffer control	16V8	U78
PAL, host access control	20R8	U79
PAL, latch address control	16L8	U80
PAL, system reset control	16R8	U81
PAL, Snoop control	16R4	U82
PAL, RAS control	16R4	U83
PAL, CAS control	16R4	U84
PAL, CPU control	20R6	U203
PAL, numeric coprocessor address control	20V8	U204
PAL, numeric coprocessor control	16R8	U205
PAL, BUS arbitration	16R6	U206
PAL, BUS control	20R4	U207
PAL, parity error detection	20L8	U208
PAL2, numeric coprocessor addresses	20L8	U218
PAL3, numeric coprocessor addresses	20L8	U219
PAL1, numeric coprocessor addresses	20L8	U220
WEITEK coprocessor	WTL4167	U232
Microprocessor	i486	U233
Optional microprocessor	i860	U241

VIDEO ADAPTER BOARD

	LEVEL	D.R.S. CODE	ROM BIOS	INTEGRATED CONTROLLERS / NOTES
GO734	Lev. Nasc.	412783 Q	PBZ2 Rev. 1.01 497534C	**82C452** super VGA **RAM Video** - VRAM 100 ns 256 Kx4 Dual-ported
	Lev. 01 MI		PPVC Rev. 1.02 497346X	- New firmware to solve problem of error on EVC DAM test - Cuts and wirings made to solve problems of overheating and VDE FCC/B emission out of range
	Lev. 02 MI		Rev. 1.02	- Performance improvement - Solved problem of missing 1023 pixel
	Lev. 03 MI		Rev. 1.02	- Replaced component 174F374 in U36 to improve clock frequency circuit
	Lev. 04 MI		PBZV Rev. 1.03 497461K	- New firmware to support the 79H mode function This change is implemented at field level, not at factory level
GO739	Lev. Nasc.		PBZV Rev. 1.03 497461K	New printed circuit to absorb cuts and wirings of the previous one

POWER SUPPLY UNIT

MODEL	LEVEL	NOTES
PS20A	Lev. Nasc.	
	01	Solves problem of insulation safety standards Solves problem of fan minimum speed too slow

SCSI CONTROLLER BOARD

	LEVEL	D.R.S. CODE	ROM BIOS	INTEGRATED CONTROLLERS / NOTES
GO738	Lev. Nasc.		PPUA 497327L PPUB 497328V Rev. 1.10	**Processor 80186** - Local CPU **BIMIC 82355** - EISA Bus Master Controller **82077** - Floppy disk controller
	Lev. 01 MI		PPUD 497366T PPUE 497367U Rev. 1.13	- New firmware to improve performance - Chip 82355 A1 replaced by chip 82355 A2 - FDU controller 82077 C3 replaced by FDU controller 82077 C4
	Lev. 03 MI		Rev. 1.13	- New 82355 chip to solve timing problems
	Lev. 04 MI		PPKB 497486D PPKC 497487E Rev. 1.22	- New firmware to support CONNER hard disks - Two PALs replaced for noise problem on signals of two components implemented on board with 32 MHz BIMIC. This allows the 40 MHz oscillator to be used instead of 32 MHz oscillator
	Lev. 05 MI		Rev. 1.22	- New firmware to support CONNER hard disks Two PALs replaced for noise problem on signals of two components implemented on board with BIMIC and the 40 MHz oscillator.
	Lev. 08 MI		Rev. 1.22	- Changes to components, wirings and cuts to solve Data compare error problem during HDU test.
	Lev. 09 MI		PPKD 497488P PPKE 497489Q Rev. 1.35	- New firmware for management of Olivetti and DEC identifiers
	Lev. 10		PPJD 498122Q PPJE 498123R Rev. 1.42	- New firmware to solve the problems: - NOVELL DOS driver in AT mode - Problems on 200 MB CONNER and 600 MB MAXTOR hard disks - Support for PEM in AT mode
	Lev. 11		PPJP PPJQ Rev. 1.43	- New firmware to solve the CONNER hard disk problems
	Lev. 12			New floppy disk controller 82077 CSFM replaces 82077 step C4

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	LEVEL	D.R.S. CODE	ROM BIOS	INTEGRATED CONTROLLERS / NOTES
GO740	Lev. Nasc.		PPKD 497488P PPKE 497489Q Rev. 1.35	New printed circuit to absorb cuts and wirings on previous one.
	Lev. 01		PPJD 498122Q PPJE 498123R Rev. 1.42	New firmware to solve the problems: - NOVELL DOS driver in AT mode - Problems on 200 MB CONNER and 600 MB MAXTOR hard disks - Support for PEM in AT mode
	Lev. 02		PPJP PPJQ Rev. 1.43	New firmware to solve the CONNER hard disk problems
	Lev. 03		PPJP PPJQ Rev. 1.43	Introduced new 82355-B0 (BMIC) component to replace 82355-A2. This component can also be installed on the GO738 board.
	Lev. 04		PZDS PZDT Rev. 1.45	Solves some of the problems experienced with the previous version
	Lev. 05			New floppy disk controller 82077 CSFM replaces 82077 step C4

USER DISKETTE

LEVEL	COMPATIBILITY
1.00 upd 2	
1.00 upd 3	Solved hard disk problem that can be damaged by the test contained in the previous diskette version.
1.1 upd 1	Includes BA868/69
1.2	
1.10 upd 1	Supports Weitek diagnostics
1.20	ESDI HDU management
1.30 upd 1	Recovers correct capacity of 320 MB hard disk
1.40 upd 1	Introduced in the hard disk table, the specific TYPE for 320 MB ESDI hard disk Corrected error messages for German version

SYSTEM TEST

LEVEL	COMPATIBILITY
1.50 upd 1	1.15

COMPATIBILITY NOTES

BOARD OR HW/SW DEVICE	DESCRIPTION
OEMM386	Level 4.06 does not acknowledge this Personal Computer. For M486 use version 4.08 rev. 1.40
ROM BIOS 1.06	Solves: 300 MB hard disk problems NVRAM SETUP problem 1.2 and 1.44 MB floppy disk problem
ROM BIOS 1.08.2	Solves: 600 MB hard disk problem
Board GO734 (EVC - 1)	When the EVC-1 board operates with direct video access, a VGA compatible controller can be installed on the BUS.
Board GO738 (ESC - 1)	Can work with a 40 or 32 MHz oscillator.
User Diskette 1.30 upd 1	Recovers correct capacity of 320 MB hard disk (1.2 version recovered 304 MB)
EVC driver 4.0 1.3	Driver to support ACAD10 and ACAD11, changed DAM driver for OS/2 P.M.
i860 coprocessor	Can be installed on BA867/BA868 boards only.
EVD Version 5.0	Version 5.0 of EVD allows supporting in DAM mode (1024 x 768 x 256) Windows 3.0, AutoCAD 386 Rev. 10.0 and AutoCAD 386 Rev. 11.0.
GO738	On hard disk and floppy disk controller, component 82355A2 (BMIC) is replaced with component 82355B0 that is functionally compatible with it. This operation is only to be made in case of malfunctioning in field.
486 microprocessor	486 B6 microprocessor is no longer produced. It is replaced by 486 D0 microprocessor that has the same functionalities. On BA859 and BA860 motherboards, use of a microprocessor different from version D0 causes problems on the parallel port that were solved with level 08.
Component WD16C552 step D	It is possible to introduce step D of the WD 16C552 component on the BA859 and BA860 boards. Board level does not change.
Component 82358 EBC	It is possible to introduce step A2 of the 82358 EBC component on the BA859 and BA860 boards to replace step A1. Board level does not change.
Component 82355	Component 82355-A2 is replaced by component 82355B1.

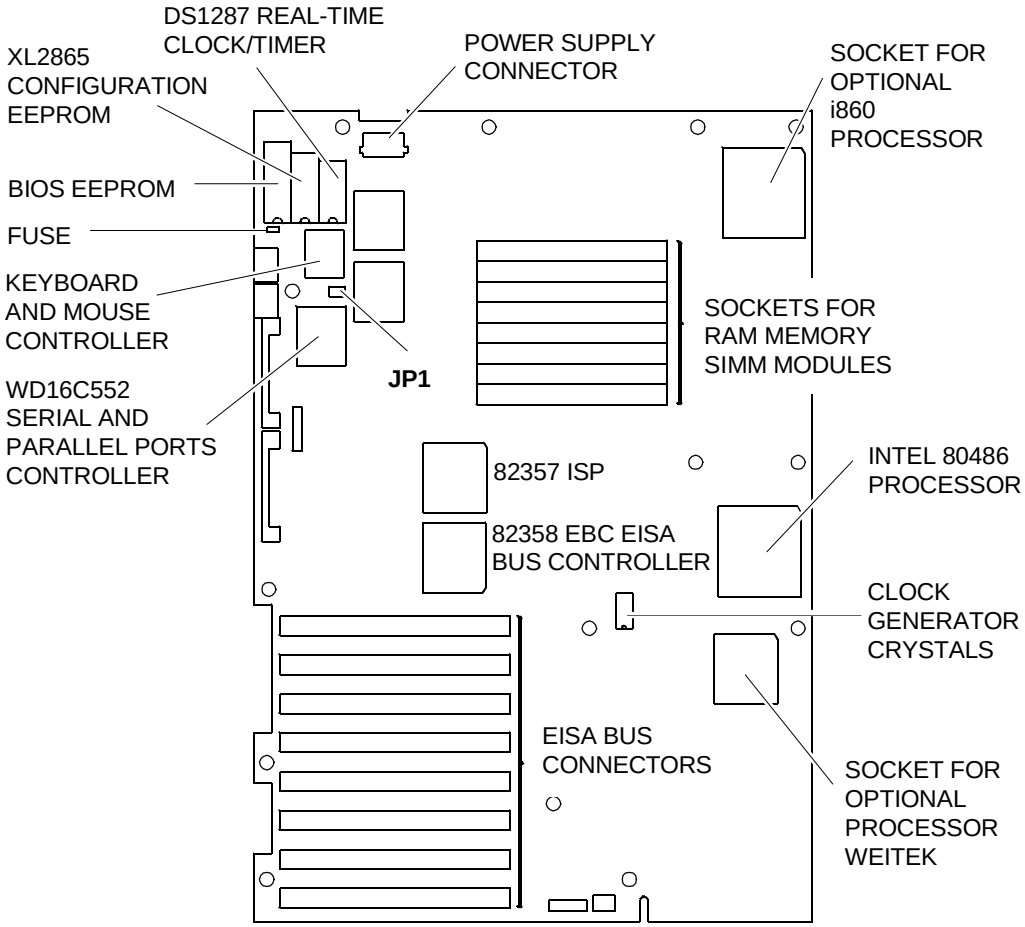
SOFTWARE COMPATIBILITY

OPERATING SYSTEMS	NOTES
IBM DISK Operating System, Ver. 3.30	
IBM DISK Operating System, Ver. 4.01	During installation on hard disk, a formatted DSDD disk is required.
IBM Operating System/2, Ver. 1.10 e 1.20	PS/2 type mouse not recognised
IBM Operating System/2 Extended Edition, Ver. 1.10	PS/2 type mouse not recognised
INTERACTIVE 386/ix, Ver. 2.02	
Olivetti's Microsoft Disk Operating System, Ver. 3.30a	
Olivetti's Microsoft Disk Operating System, Ver. 4.01	
Olivetti's Microsoft OS/2, Ver. 1.10 and 1.20	
SCO UNIX System V/386, Rev. 3.2	
SCO XENIX 386, Rev. 2.3	

HARDWARE COMPATIBILITY

MODEMS	I/O INTERFACE PRODUCTS
Hayes Smartmodem 1200B	FUTURE DOMAIN HOST ADAPTER (TMC-830)
Hayes Smartmodem 2400B	IBM Asynchronous COM. CARD (1502074)
Telenetics Expressdata 24i (24i-12i)	IBM PRINTER ADAPTER (1505200)
Ven-tel PC Modem Half-Card (PCM-XT)	IBM SERIAL/PARALLEL
Hayes Smartmodem 1200	
MULTIPORT	**MOUSE**
Anvil Stallion Intelligent 16 Port Controller	IBM PS/2 Mouse (6450350)
Chase MSC Connect/AT8 Intelligent 8 Port	Logitech Bus Mouse (PF-3F)
Computone System Intelliport 16 Port AT16	Microsoft Bus Mouse, Rev. C
Computone System Intelliport 16 Port EISA ECC	Microsoft Serial-PS2 Mouse
Consensys Powerports 8 Port Intelligent Ctr.	Microsoft Serial Mouse
Digiboard Digichannel COM/xi Intelligent 8 Port	MSC PC Mouse PS/2
Specialix Si Intelligent I/O Controller	Olivetti Bus Mouse (GRD 25-019)
	Olivetti New Advanced Mouse (GRD 25-025)
GRAPHICS PRODUCTS	**NETWORKS & LAN PRODUCTS**
AST RESEARCH AST - 3G PLUS	CARD (6450215)
AST RESEARCH AST - VGA PLUS	AT&T Starlan Network
ATI EGA WONDER	IBM OS/2 Lan Server/Requester
HERCULES GRAPHICS CARD (GB102)	IBM PC Network
HERCULES INCOLOR CARD (GB222)	IBM Token Ring Network
IBM MONO Display/Printer Adapter (1504900)	MADGE Token-Ring Network
MATROX PG - 1281	MS OS/2 Lan Manager
ORCHID PRODESIGNER VGA PLUS	Novell Advanced netware Ver.2.15
PARADISE EGA 480	Novell Netware 386 with ISA Adapter
PARADISE VGA PRO CARD	Novell Netware 386 with EISA Adapter
QUADRAM QUAD EGA PLUS (QC 8601)	PROTEON Token Ring Network
TECMAR VGA AD	3COM 3 + Network /Ethernet)
VIDEO - 7 VEGA DELUXE	3COM 3 + Open Lan Manager
	IONET Network
DISPLAY UNITS	**OTHER PRODUCTS**
JVC QUAD-SYNC Color (GD-H6116VFW)	OLIVETTI OD-810 WORM (WRM 25-810)
NEC Multisync Monitor (APC-H431)	PLUS Development 20MB Hardcard
OLIVETTI HIRES Color (DSM 26-115)	SOFTWARE SECURITY Parallel Port Block
PRINCETON RGB Monitor (HX-12)	WELCH-ALLYN Barcode Reader
ZENITH RGB/COMPOSITE Monitor (ZVM-135)	(HBD-100, R. A)

SYSTEM BOARD COMPONENTS, JUMPERS



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JUMPER JP1

only for boards
BA859
BA860

- Disables the system password
- Cancels the configuration

If the system is badly configured take the following action:
1) Switch off the PC.
2) Move jumper JP1.
3) Switch PC on again. This is the default configuration.
4) Switch off the PC.
5) Put jumper JP1 back to its initial position.
6) Switch the system on and reconfigure with the User Diskette.

FUSE F1 Keyboard and Mouse Fuse 2 A 5 V.

INTERRUPT LEVELS

LEV.	NAME	CTRL	FUNCTION
1	IRQ0	1	Channel 0 timer OUT
2	IRQ1	1	Keyboard
3 -10	IRQ2	1	Interrupt to Controller 1 from Controller 2
3	IRQ8	2	Real time clock
4	IRQ9	2	Available
5	IRQ10	2	Available
6	IRQ11	2	Available
7	IRQ12	2	Available
8	IRQ13	2	Coprocessor
9	IRQ14	2	Hard Disk controller
10	IRQ15	2	Available
11	IRQ3	1	Serial port 2
12	IRQ4	1	Serial port 1
13	IRQ5	1	Parallel port 2
14	IRQ6	1	Floppy Disk Controller
15	IRQ7	1	Parallel port 1

I/O ADDRESS MAP

ADDRESS	FUNCTION	ADDRESS	FUNCTION
60 h	Keyboard	03F8 - 03FF	COM1 Serial port
70 h	Real time clock. Bit 7 of the real time clock is in the 82357 for NMI	02F8 - 02FF	COM2 Serial port
		0C00 - 0C05	Configuration registers
71 h	Real time clock read/write register		
92 h	Port A20	0C20 - 0C3F	EEPROM addressing
278 - 2FF	LPT3 Parallel port	0C80 - 0C84	System ID codes
378 - 3FF	LPT2 Parallel port	0CF8 - 0CFF	Console interface
3BC - 3BF	LPT1 Parallel port	0100 - 03FF	Address space for ISA expansion boards

SYSTEM MEMORY MAP

ADDRESS	SIZE	FUNCTION	CACHE
0000 0000 - 000A 0000	640 KB	System RAM	YES
0000 000A - 000C 0000	128 KB	Video memory	NO
000C 0000 - 000E 0000	128 KB	EISA/ISA BUS ROM	YES
000E 0000 - 0010 0000	128 KB	ROM BIOS (copied into shadow RAM)	YES
00E0 0000 - 0100 0000	13 MB	System RAM	YES
0010 0000 - 00E0 0000	2 MB	Direct video buffer access (location 2)	NO
0100 0000 - 0400 0000	48 MB	System RAM (Maximum memory on system board)	YES
0400 0000 - 1000 0000	192 MB	System RAM (Maximum memory that can be fitted in cache)	YES
1000 0000 - C000 0000	32 MB	System RAM	YES
C000 0000 - C200 0000	32 MB	Weitek Coprocessor	NO
C200 0000 - D000 0000	224 MB	System RAM	YES
D000 0000 - E000 0000	256 MB	Direct video buffer access (location 1)	NO
E000 0000 - F000 0000	286 MB	SRAM	NO
F000 0000 - FFFE 0000	268 MB	System RAM	YES
FFFE 0000 - 10000 0000	128 KB	ROM BIOS	YES

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