M6-650/670/680/690/650DP/680DP/690DP

CHARACTERISTICS

Microprocessor	**M6-650, M6-650DP** (dual-processor): Pentium 100 (100 MHz - 66 MHz system) **M6-670:** Pentium 120 (120 MHz - 60 MHz system) **M6-680, M6-680DP**(dual-processor): Pentium 133 (133 MHz - 66 MHz system) **M6-690, M6-690DP** (dual-processor): Pentium 166 (166 MHz - 66 MHz system)
Architecture	ISA/PCI
Case	TIN BOX
Memory	Min. 8/16 MB, max. 128 MB at 8-16-32-64 MB increments. On the motherboard there are four sockets organized in two banks for the installation of the following SIMMs: **EXM 28-004** One 1 MBx36 (4 MB) SIMM **EXM 41-008** One 2 MBx36 (8 MB) SIMM **EXM 29-008/B** One 2 MBx32 (8MB) SIMM **EXM 28-016** One 4 MBx36 (16 MB) SIMM **EXM 29-032** One 8 MBx36 (32 MB) SIMM **EXM 40-032** One 8 MBx36 (32 MB) SIMM
Memory access rate	70 ns
Memory cache	1st level: integrated in the processor 2nd level: 256 KB on the M6-650 only 512 KB on all other models
Floppy Disk	**First floppy disk drive:** Panasonic JU-257A 1.44 MB Mitsubishi MF-355 1.44 MB Sony MP-F17W 1.44 MB Sony MPF420-1 1.44 MB Epson SMD 1040-418 1.44 MB Mitsumi D359T3 1.44 MB TEAC FD235HF 1.44 MB Y-E DATA YD-702B/YD-702D 1.44 MB **Second floppy disk drive (optional):** Toshiba ND08 DE 1.2 MB Panasonic JU 475-3/4/5 1.2 MB
Hard Disk	CONNER CFA 1275 A 1.2 GB SEAGATE ST 31230N (SCSI) 1 GB
CD-ROM	SONY CDU 76 E (IDE AT) 656 MB SONY CDU 76 S (SCSI) 650 MB* * (with AHA 2940 SCSI controller)

MOTHERBOARD

BA2189/BA2223/BA2269
Mono or dual-processor with integrated video controller.

BA2190/BA2224
Mono or dual-processor without video controller (the Matrox Impression Plus GO2062 board is used).

BIOS

The ROM BIOS is a FLASH EPROM.
The BIOS code can be updated from diskette
Supported features: Plug&Play, DMI, APM.

Last level:
Rev. 1.13

Streaming Tape	**Floppy disk interface:** IRWIN 31250A 80-120 MB CONNER CTM420 250-420 MB **SCSI interface** (AHA 2940 controller)**:** Wangtek 5150ES 150 MB Wangtek 5525ES/ES-ACA 320 MB Wangtek 51000HT 1-1.2 GB DAT HP35470A/HP35480A 1.3-2 GB
PCMCIA subsystem	Slots for PCMCIA cards and for a 3.5" floppy disk drive. The COMBO FD-PCMCIA controller needs to be installed on the bus.
Expansion slots on the Riser bus	1 PCI Full Size 1 shared PCI/ISA Half size 3 ISA Full Size
Video controller	**Integrated on the motherboard:** Trident TGUI9660/9680 component with 2 MB or 4 MB of video memory and the PMS, DDC1 features **On the Matrox Impression Plus GO2062 board:** 2 or 4 MB of video memory and the DPMS, DDC1 features
Audio subsystem	Mozart OTI 605 (MI2074), not present on the SCSI M6-650
LAN subsystem	Component AM79C970 for Ethernet 10BaseT control. The MI2075 adapter board needs to be installed for 10Base5 and 10Base2.
HDU controller and IDE CD-ROM	Component PC87415: 2 channels for a maximum of 4 IDE peripherals
FDU/parallel/serial controller	Component FDC 37C665: 2 floppy disks, 2 serial ports, 1 parallel port
Keyboard and mouse	Standard PS/2 interface
Keyboard	Compact 101/102-key keyboard: ANK 27-101/N, ANK 27-102/N Super compact 101/102-key keyboard: ANK 28-101, ANK 28-102

RISER BUS EXPANSION BOARD

IN2048

POWER SUPPLY

SP 200 BA
(NMB AF000133)
200 W / 120 - 240 V

MOTHERBOARD

NAME	LEVEL	NOTES
BA2189	Lev. Nasc	Motherboard with one or two processors and integrated video controller
BA2223	Lev. Nasc	Replaces BA2189.
	Liv. 01	Introduction of the MI2107 termination board soldered on the pins of the primary CPU socket
	Lev. 02	- Replacement of component 74F244 with one similar provided by Texas Instruments to improve PCI clock quality on the expansion bus - Replacement of two ferrites (R321 and R304) with two 33 Ohm resistors - In the Pentium 100 or 133 version, jumper moved from position J45 to position J44 - Replacement of the 10 µF capacitor C337 with a 4.7 µF capacitor
	Lev. 03	Replacement of the Trident 9660 component (video controller) with the new Trident 9680.
	Lev. 04	- Replacement of the 14-pin J10T video connector with the 15-pin J15T connector - Replacement of the ICD2028 mask B31 clock generator with the Cypress CY2291-125 - Introduction of 4 10 KOhm resistors in positions R346, R347, R348, R349 - Changed resistor R300 from 22 Ohm to 0 Ohm
BA2269	Lev. Nasc	An alternative to BA2223.
	Lev. 01	- AMD 79C970 LAN controller replaced by the AMD79C970A controller - Resistor R345 (51 Ohm) replaced by resistor R303 (51 Ohm)
	Lev. 02	Replacement of the Trident 9660 component (video controller) with the new Trident 9680.
	Lev. 03	Introduction of BIOS 1.02/2.01
	Lev. 04	- Replacement of the 14-pin J10T video connector with the 15-pin J15T connector - Replacement of the ICD2028 mask B31 clock generator with the Cypress CY2291-125 - Introduction of four 10 KOhm resistors in positions R346, R347, R348, R349 - Changed resistor R300 from 22 Ohm to 0 Ohm
BA2190	Lev. Nasc	Motherboard with one or two processors and without integrated video controller

NAME	LEVEL	NOTES
BA2224	Lev. Nasc	Replaces the BA2190.
	Lev. 01	Introduction of the MI2107 termination board soldered on the pins of the primary CPU socket
	Lev. 02	- Replacement of component 74F244 with one similar provided by Texas Instruments to improve PCI clock quality on the expansion bus - Replacement of two ferrites (R321 and R304) with two 33 Ohm resistors - In the Pentium 100 or 133 version, jumper moved from position J45 to position J44 - Replacement of the 10 µF capacitor C337 with a 4.7 µF capacitor
	Lev. 03	- Replacement of the ICD2028 mask B31 clock generator with the Cypress CY2291-125 - Introduction of 4 10 KOhm resistors in positions R346, R347, R348, R349 - Changed resistor R300 from 22 Ohm to 0 Ohm

ONBOARD CONTROLLERS

MOTHERBOARD	INTEGRATED CONTROLLERS
BA2189 **BA2223** **BA2269**	**First OverDrive Ready Socket 7 (ZIF):** This socket has separate processor power supplies. It can accommodate either the standard processors (3.3 V) or the VRE processors (3.525 V). A VRM connector and a VRM module provide the power supplies required by the CPU. In dual processor configurations the CPUs must be of the same type and must require the same power supply: - Pentium 100 (P54C) @ 100/66 MHz - Pentium 120 (P54CQS) @ 120/60 MHz - Pentium 120 (P54CS) @ 120/60 MHz for DP versions - Pentium 133 @133/66 MHz. **Second OverDrive Ready Socket 7 (ZIF):** Identical to the first socket **IDT 6181/6182** 2nd level cache installed in the specific socket **VL82C591** This chip set component integrates the following functions: - Cache control up to 1 MB - Interface for the CPU and its memories - Interface for the CPU and PCI bus. **VL82C592** These two chip set components integrate the "data path unit" function **VL82C593** This chip set component integrates the following functions: - DMA, interrupt, timer management - Real Time Clock - Memory refresh - APIC I/O for dual processors - CMOS. **8042** Keyboard controller and mouse interface **Trident TGUI9660/9680** Video controller **Flash EEPROM** The system BIOS is contained in a 128 KB 28F001BX Flash EEPROM. **FDC 37C665** Super I/O controller. This component integrates the following functions: - Floppy disk control (two drives) - Interface for two serial ports - Interface for one parallel port. **PC87415** Dual-channel IDE peripheral controller (max. 4 IDE peripherals). **AMD79C970A** Ethernet 10BaseT LAN controller **SF1043** Telephone line isolation transformer
BA2190 **BA2224**	These boards do not have an integrated video controller.

RISER BUS EXPANSION BOARD

NAME	LEVEL	NOTES
IN2048	Lev. Nasc	Allows the installation of optional AT or PCI boards.

VIDEO CONTROLLER BOARD

NAME	LEVEL	NOTES
GO2062	Lev. Nasc	Impression Plus.

AUDIO BOARD

NAME	LEVEL	NOTES
MI2074	Lev. Nasc	Mozart (OTI605) audio board.

LAN BOARD

NAME	LEVEL	NOTES
MI2075	Lev. Nasc	Ethernet 10BaseT LAN board.

PCMCIA BOARD

NAME	LEVEL	NOTES
	Lev. Nasc	COMBO FD-PCMCIA board.

POWER SUPPLY

NAME	LEVEL	NOTES
SP 200 BA (NMB AF000133)	Lev. Nasc Lev. 01 Lev. 02	200 W power supply Addition of a toroid with two coils at the power supply line voltage input.

BIOS

LEVEL	NOTES
Rev. 1.03 Rev. 1.09 Rev. 1.09/1 Rev. 1.13	 - Support for PCs with 133 MHz CPUs - Solves the following problems: user and administrator passwords, black screen display when exiting Windows 95, access to the Suspend mode by pressing the CTRL-ALT-F4 key sequence.

SOFTWARE DRIVERS

DRIVER	LEVEL	NOTES
EVD for Trident TGUI 9660/9680	Ver. 2.02	Video drivers for: Windows 3.1x, Windows NT 3.x, OS/2 2.1x & 3.0 Warp, WordPerfect 5.1-6.0, Ventura 2.x-3.x, Lotus 2.1-2.2, Word 5.0-5.5, AutoCAD 9-10-11-12, AutoSHADE 1.1-2.0 & 3D Studio, Microstation 5.0, GEM 3.xx
	Ver. 2.07-1	- Addition of the TMONITOR.X2M file which cancels the 1280x1024x16/256 color resolution interlaced by the DSM 28-144MS, DSM 27-615, DSM 40-151, DSM 50-144 monitors - Addition of the following monitors: DSM 50-148, DSM 50-149, DSM 50-151, DSM 51-151 - Addition of the TMONITOR.X1M file for EDO DRAM (1 MB) memory - Two new drivers: one for OS/2 and one for Windows, and modification of the driver version for Windows NT - Introduction of Windows 95 - Replacement of the TMONITOR.SYS file which, in the case of a DDC monitor, does not change the config.sys - New SMONITOR.EXE version - Reintroduction of Autocad 2.10T with some problems solved
Mozart OTI605 audio driver	Ver. 4.0	Audio drivers for: Windows 3.1x, Windows NT 3.1/3.5, Windows 95, OS/2 2.11 & 3.0 Warp, Win/OS2.

SOFTWARE COMPATIBILITY

OPERATING SYSTEMS	**NETWORKING & LAN PRODUCTS**
DR-DOS, version 7.00 IBM PC-DOS, version 6.1 IBM OS/2, version 2.1 IBM OS/2 SMP, version 2.11 * IBM OS/2 Warp, version 3.0 MS-DOS, versions 5.0 / 6.00 / 6.22 SOLARIS, version 2.4 SCO UNIX O.D.T., release 3.0	10NET PLUS, version 5.0 BANYAN VINES, version 5.53 IBM PC LAN PROGRAM, version 1.34 IBM PC LAN SUPPORT Program, ver. 1.2 IBM OS/2 LAN SERVER, versions 3.0 / 4.0 INTEL LANDESK MANAGER, version 1.5 INTEL NET SATSFAXTION, version 2.5 LOTUS CC: FAX (DOS), version 1.20 LOTUS CC: MAIL (DOS), version 4.02 LOTUS CC: MAIL ADE (DOS), version 4.0 LOTUS CC: MAIL Import/Export (DOS), ver. 3.32 MS-MAIL, version 3.2 Microsoft LAN MANAGER for OS/2, ver. 2.2 NOVELL NETWARE 386, versions 3.12 / 4.02 PERSONAL NETWARE, version 1.0 SUNSOFT PC-NFS, version 5.1 Microsoft Windows NT Advanced Server, ver. 3.5 VOCALCHAT LAN, version 2.02 VOCALCHAT GTI, version 2.2
WINDOWS	
MS-WINDOWS, version 3.1 MS-WINDOWS for workgroups, ver. 3.11 WINDOWS NT, multiprocessor version WINDOWS NT, version 3.5 WINDOWS 95	
WINDOWS APPLICATIONS	**GRAPHICS APPLICATIONS**
ALDUS PAGEMAKER, version 5.0 AMI PRO for Windows, version 3.01 COREL DRAW for Windows, version 5.0 COREL Ventura Publisher for Windows, ver. 4.2 FRAME MAKER 4 for Windows, version 4.02P2b LOTUS 1-2-3 for Windows, version 4.01 MICROSTATION for Windows NT, version 5 MS-EXCEL, version 5.0 MS-WORD for Windows, version 6.0 MS-WORKS for Windows, version 2.0 MS-POWERPOINT, versions 3.0 / 4.0 PHOTOMAGIC, version 1.0 * PHOTOSHOP, version 3.0 PREMIERE for Windows, version 1.1 WINDOWS DRAW, version 3.00 Xerox Ventura Publisher for Windows, ver. 4.1.1	AUTOCAD, version 12 AUTOCAD for Windows, version 12 CHARISMA for Windows, version 4.01 Harvard Graphics for Windows, ver. 1.02 LOTUS Freelance Graphics for OS/2, ver. 2.0 LOTUS Freelance PLUS, version 4.0 MICROGRAFX DESIGNER, version 4.1 PC PAINTBRUSH 5+, version 1.0
DESKTOP PUBLISHERS	**WORD PROCESSORS**
ALDUS PAGEMAKER for OS/2, ver. 3.01 GEM/3 DESKTOP PUBLISHER, ver. 2.0 XEROX Ventura Publisher for DOS/GEM edition, version 3.0	AMI PRO for OS/2, version 3.0A MS-WORD for DOS, version 6.0 MS-WORD for OS/2, version 5.5 WORD PERFECT, version 6.0a WORD PERFECT for OS/2, version 5.0 WORDSTAR Professional, version 7.0

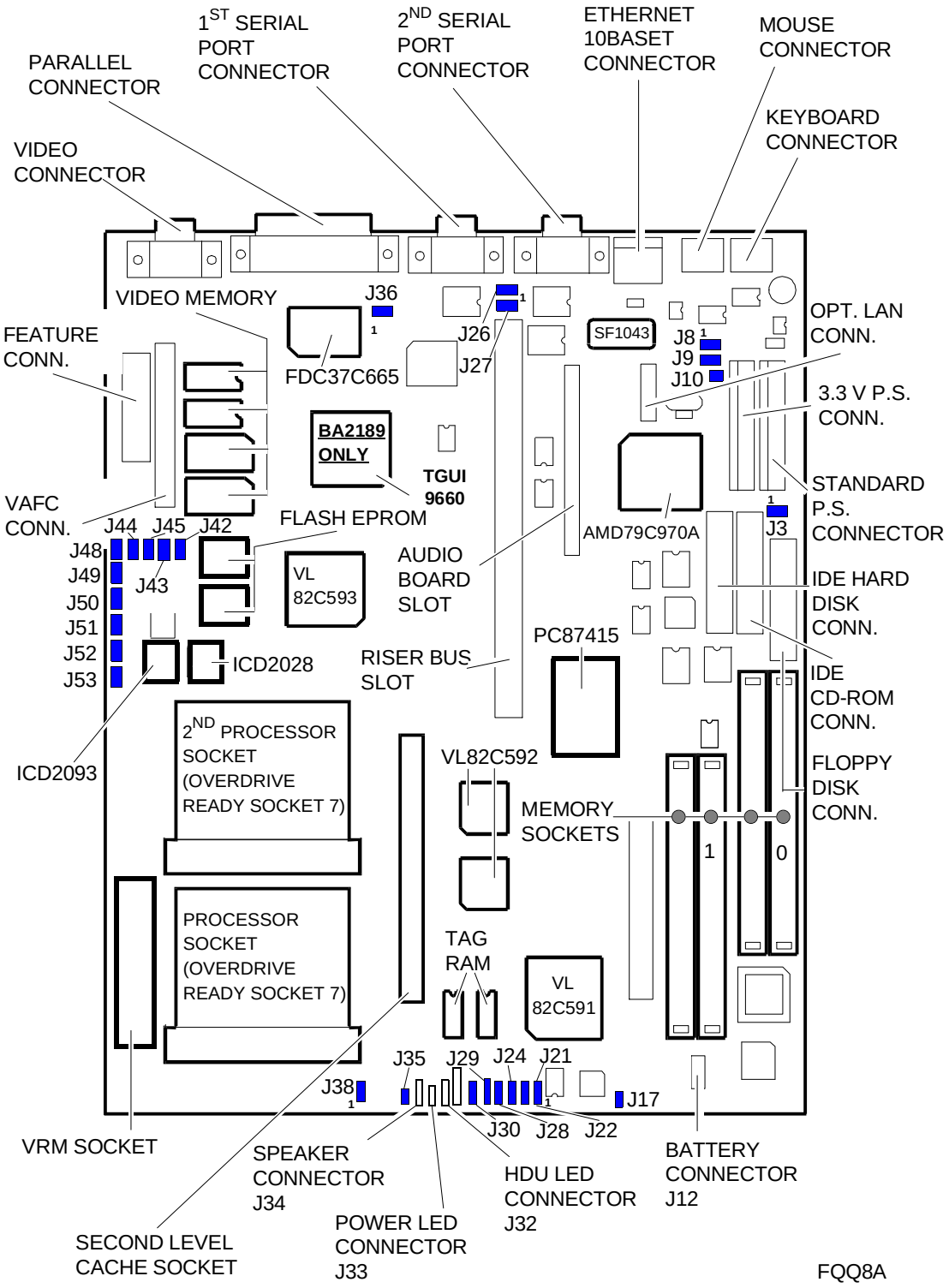
* Compatibility depends on whether specific operations have been carried out, as indicated in the related "Compatibility Guide".

HARDWARE COMPATIBILITY

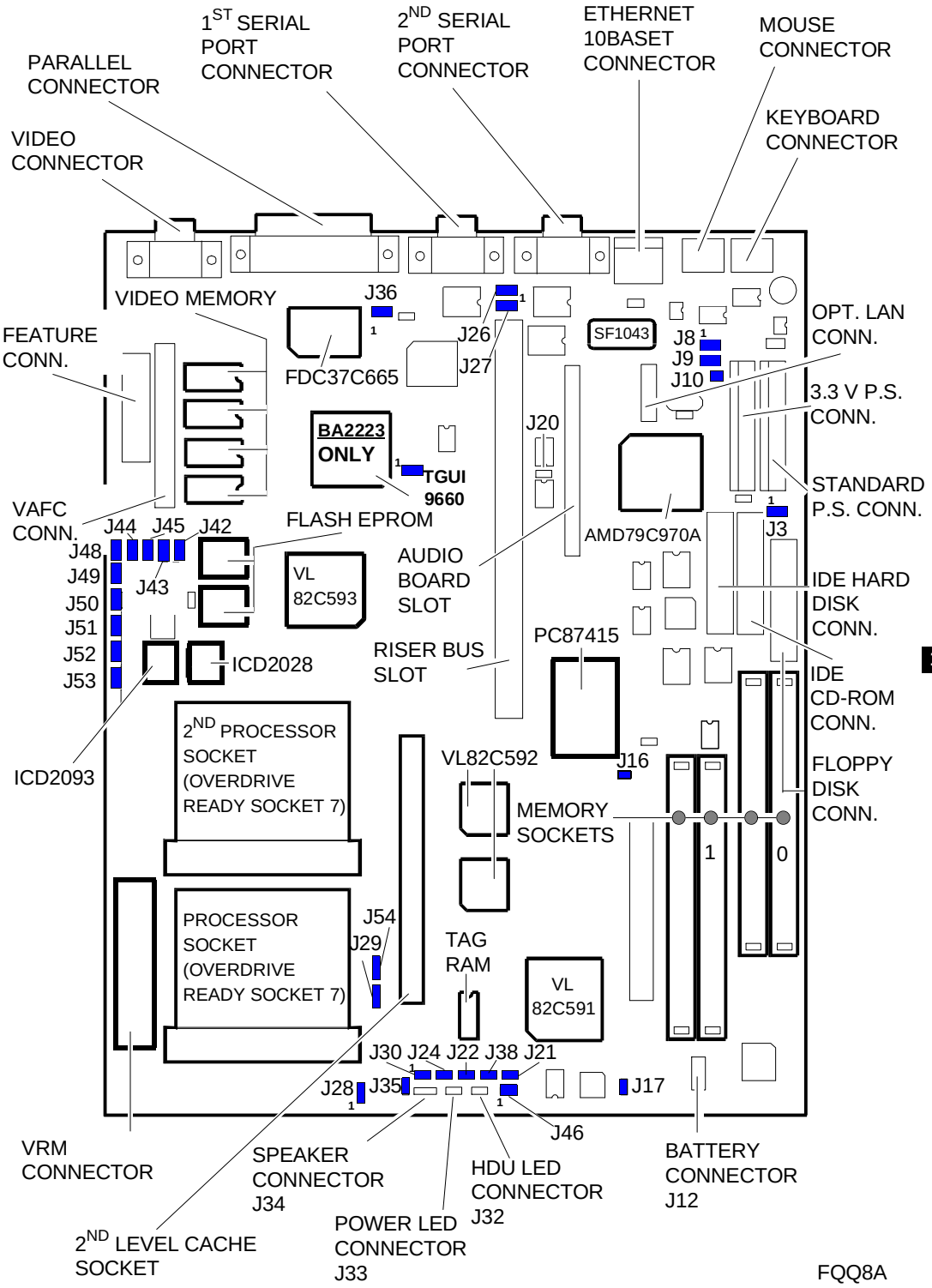
MODEMS	**MOUSE**
AT&T Modem/Fax Dataport 14,4 W/Fax HAYES SMART MODEM 2400 B INTEL SatisFAXtion Modem/400 DIGICOM MODEM FAX Mod. SNM41PC HAYES OPTIMA FAX/MODEM 288 (external)	IBM PS/2 MOUSE LOGITECH RADIO MOUSE MS BALL POINT MOUSE MS SERIAL MOUSE (PS/2)
INTELLIGENT MULTIPORTS	**NETWORKING & LAN (ISA) PRODUCTS**
CHASE AT 16+ Serial I/O Controller CHASE AT IO LITE COMPUTONE 16 Multiport Serial I/O Controller CHASE AT I/O PRO DIGIBOARD MULTIPORT PC/8 SPECIALIX SI/8	ACCTON ETHERCOAX 16 Adapter ACCTON ETHERPOCKET EN211 Adapter * 3COM ETHERLINK II Adapter (3C503) 3COM ETHERLINK 16 Adapter (3C507) 3COM ETHERLINK III Adapter (3C509) Combo 3COM TOKENLINK III Adapter (3C619) * 3COM TOKENLINK PLUS Adapter (3C603) DEC Etherworks III Thinwire Adapter DE203 D-LINK TOKEN RING DT-220 Adapter * IBM TOKEN RING 16/4 Adapter IBM TOKEN RING PC Adapter II INTEL Etherexpress 16 Ethernet Adapter INTEL Etherexpress 16 TP Ethernet Adapt. INTEL Etherexpress 16 Flash C Ethernet Adapt. INTEL TOKEN EXPRESS ISA/16S Adapter MADGE 16/4 AT RING NODE Adapter NOVELL NE2000 PLUS Ethernet Combo Adapt. OLICOM Ethernet OC2121/2122/2123 Adapter OLICOM TOKEN RING OC3118/3121 Adapter IBM ETHERNET Adapter (PnP) CX INTEL ETHEREXPRESS 16 (ISA PnP)
GRAPHICS PRODUCTS	
NUMBER NINE GXE Graphics Accelerator (ISA) MATROX MGA IMPRESSION 3Z/A (ISA) THUNDER/24 for Windows (ISA) ATI Mach 64 V Graphics Accelerator (PCI) MATROX MGA 2 + PCI (PCI) MATROX MGA IMPRESSION PLUS (PCI) NUMBER NINE GXE64 Graphics Accel. (PCI) ORCHID KELVIN 64 (PCI)	
DISPLAY UNITS	
NEC MULTISYNC 4FG / 5FG / 6FG SONY Multiscan CPD 1430 / 1730 SONY Multiscan GDM 2036	
MPC BOARDS	**NETWORKING & LAN (PCI) PRODUCTS**
LOGITECH AUDIOMAN ORCHID SOUND WAVE 32 PRO AUDIO SPECTRUM 16 SDLC PRO AUDIO SPECTRUM PAS 16 basic PRO AUDIO FUSION DOUBLE CD 16 Kit SOUND BLASTER PRO 2 SOUND BLASTER 16 APS SOUND BLASTER 16 SCSI 2	3COM Etherlink III 3C590-TP0 Parallel Tasking DEC TULIP PCI Ethernet 21040-AA Adapter INTEL Etherexpress PRO/100 PCI Adapter * OLICOM OC3136 PCI 16/4 Token Ring Adapter SMC ETHERPOWER 10/100 PCI Z'NYX 32 Bit LAN Ethernet ZX312 Combo Ad.
MULTIMEDIA DEVICES (DVO/DVI)	
ACTIONMEDIA II CAPTURE MODULE * SCREEN MACHINE (ISA) Mod 1 / Mod 2 * INTEL SMART VIDEO RECORDER LIFE VIEW VIDEO (Video II Capture Board) * PRO MOVIE STUDIO	REEL MAGIC SCSI * REEL MAGIC TBA SONY * VIDEO BLASTER VIDEOLOGIC DVA 4000/ISA WIN/TV

* Compatibility depends on whether specific operations have been carried out, as indicated in the related "Compatibility Guide".

COMPONENTS AND JUMPERS ON MOTHERBOARD BA2189/BA2190/BA2269



COMPONENTS AND JUMPERS ON MOTHERBOARD BA2223/BA2224



MOTHERBOARD JUMPERS

Jumper J28 - APIC Enable/Disable

Position 1-2 Disables the APIC (Default)
Position 2-3 Enables the APIC (two processors installed)

Jumpers J53, J52, J51 and J54 - CPU Clock

J53	J52	J51	J29	J54 *	BUS CLOCK	CPU CLOCK
IN	OUT	OUT	OUT	OUT	50 MHz	75 MHz
OUT	IN	OUT	OUT	OUT	60 MHz	90 MHz
IN	OUT	IN	OUT	OUT	66 MHz	100 MHz
OUT	IN	OUT	1-2	OUT	60 MHz	120 MHz
IN	OUT	IN	1-2	OUT	66 MHz	133 MHz
IN	OUT	IN	1-2	1-2	66 MHz	166 MHz

* = jumper not present on BA2189 and BA2190.

Jumpers J50, J48, J49, J45 and J44 - PCI Bus Frequency and Selection of PCI Bus Clock

J50	J48	J49	PCI BUS FREQUENCY	J45	J44	PCI BUS CLOCK
IN	OUT	OUT	25 MHz	IN	OUT	Asynchronous PCI bus clock (Default)
OUT	IN	OUT	30 MHz	IN	OUT	
IN	OUT	IN	33 MHz	IN	OUT	
IN	OUT	IN		OUT	IN	Synchronous PCI bus clock (CPU/2 bus frequency)

Jumper J3 - Floppy Disk Write Protection

Position 1-2 Floppy disk not write protected (Default)
Position 2-3 Floppy disk write protected

Jumper J43 - Flash EPROM Write Enable/Disable

IN Enables writes to Flash EPROM (Default)
OUT Disables writes to Flash EPROM

Jumper J10 - Setup Utility Enable/Disable

IN Denies access to the Setup Utilities
OUT Grants access to the Setup Utilities (Default)

Jumpers J8 and J27 - Serial Port Disable

J8: Position 1-2 Disables the serial ports
J27: Position 1-2

J8: Position 2-3 Enables the serial ports (Default)
J27: Position 2-3

Jumpers J9 and J26 - DMA Channel (DRQ and DACK) and Parallel Port Selection

J9: Position 1-2 DMA channel DRQ1 in use (Default) e DMA acknowledge channel J26 in use:
Position 1-2 DACK 1 (Default)

J9: Position 2-3 DMA channel DRQ3 in use and DMA acknowledge channel DACK3 in use
J26: Position 2-3

Jumper J36 - Onboard Video Controller Enable/Disable

Position 1-2 Disables the onboard video controller
Position 2-3 Enables the onboard video controller (Default)

Jumper J17 - CMOS RAM Reset

IN Resets the CMOS RAM
OUT Normal operation (Default)

Jumper J35 - System Reset

IN Resets the system
OUT Normal operation (Default)

Jumpers J21, J22, J24, J30 and J38 - Second Level Cache Configuration

J21	J22 *	J24 *	J30 *	J38	FUNCTION	CACHE MODULE INSTALLED
2-3	2-3	2-3	2-3	2-3	8-bit, Single, 8K8 TAG	IDT 6182 512 KB Burst
1-2	2-3	2-3	2-3	1-2	9-bit, Single, 8K8 TAG	IDT 6181 256 KB Burst
1-2	2-3	2-3	2-3	1-2	9-bit, Single, 8K8 TAG	IDT 6182 512 KB Burst

* = Jumpers not present on the BA2223 and BA2224.

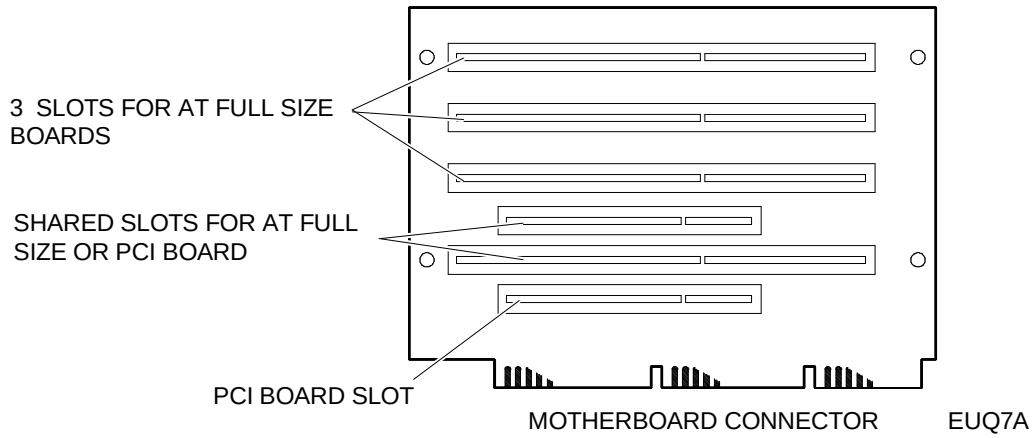
J21: Position 1-2 9-bit TAG
Position 2-3 8-bit TAG

J22: Position 1-2 Dual TAG
Position 2-3 Single TAG

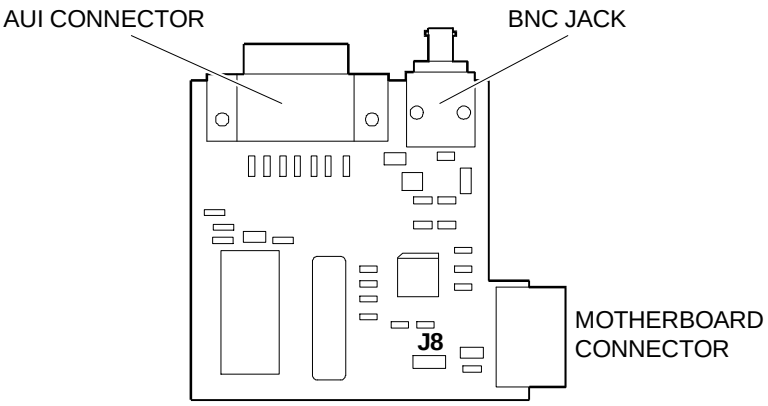
J24 e J30: Position 1-2 8K9 single TAG
Position 2-3 8K8 dual TAG

J38: Position 1-2 32-byte line (for IDT 6181 256 KB Burst, IDT 6186 256 KB asynchronous cache module)
Position 2-3 64-byte line (for IDT 6182 512 KB Burst cache module)

RISER (IN2048) BUS EXPANSION BOARD



LAN BOARD MI2075



FQG8A

This optional board implements:

- Ethernet 10BASE-2 network transceivers
- BNC jack
- 15-pin D-shell AUI connector.

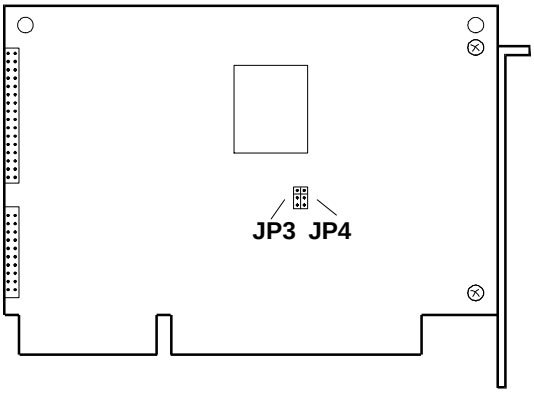
It allows to connect personal computers to Ethernet networks based on the 10BASE-2 or 10BASE-5 standard.

This board is equipped with jumper J8 which is used to select the type of connection to use.

J8 in Position 1-2 BNC jack (Default)

J8 in Position 2-3 AUI connector.

COMBO FD-PCMCIA BOARD



FQQ9A

Jumpers JP3 and JP4 - I/O Addressing and Device Index

INSTALLED BOARDS	JP3	JP4	DESCRIPTION
First board installed	2 - 3	2 - 3	Default: do not change if only one board is installed. I/O address = 3E0h/3E1h and device index = 00h
Second board installed	2 - 3	1 - 2	I/O address = 3E0h/3E1h and device index = 80h
Third board installed	1 - 2	2 - 3	I/O address = 3E2h/3E3h and device index = 00h
Fourth board installed	1 - 2	1 - 2	I/O address = 3E2h/3E3h and device index = 80h

NOTE: The COM2 serial port must be disabled in order for the PCMCIA subsystem to be able to work.

INTERRUPT LEVELS

INTERRUPT	ONBOARD DEVICE	AUDIO BOARD		PCI
		DOS	WINDOWS	
INIT	CPU reset, shutdown 286	(1)	(1)	(1)
SMI	Reserved - System management interrupt	(1)	(1)	(1)
NMI	Reserved - Parity error	(1)	(1)	(1)
IRQ0	Reserved - System timer	(1)	(1)	(1)
IRQ1	Reserved - Keyboard	(1)	(1)	(1)
IRQ2	Reserved - Interruption from the 2nd cascade PIC	(1)	(1)	(1)
IRQ3	* Serial port 2 (COM2)			
IRQ4	* Serial port 1 (COM1)			
IRQ5	* Parallel port 2 (if present) (2)	Sound Blaster	MIDI port	
IRQ6	* Floppy disk drive controller			
IRQ7	* Parallel port 1	Sound Blaster (2)	MIDI port (2)	
IRQ8	Reserved - Real Time Clock	(1)	(1)	(1)
IRQ9		MIDI port (2)	Windows sound system (2)	PCI video contr.
IRQ10		MIDI port	Windows sound system	
IRQ11	* PCI LAN controller	MIDI port (2)	Windows sound system (2)	
IRQ12	* PS/2-compatible mouse - Can be disabled by means of the Setup utility			
IRQ13	Reserved - Integrated math processor	(1)	(1)	(1)
IRQ14	* 1st IDE controller (hard disk)			
IRQ15	* 2nd IDE controller (CD-ROM)			

* = Onboard devices that can be disabled and therefore their interrupt can be made available for other devices.
(1) = Onboard devices that cannot be disabled and therefore their interrupt can never be used.
(2) = Devices that can use different interrupts, therefore it is suggested to assign the free interrupt.

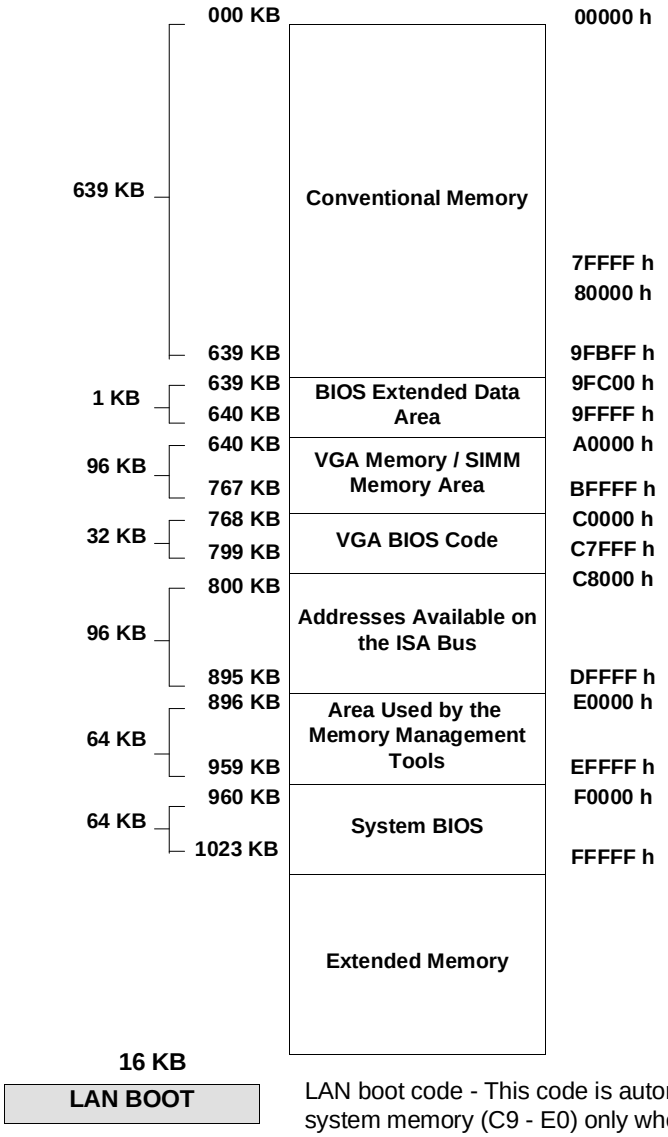
DMA CHANNELS

DMA CHANNEL	DEVICE OR FUNCTION
0	Free
1	Free / Parallel port in Enhanced Mode
2	Floppy disk
3	Free / Parallel port in Enhanced Mode
4	Reserved
5	Free
6	Free
7	Free

I/O ADDRESSES

I/O PORT (h)	DEVICE OR FUNCTION
000 - 00F	DMA controller
020 - 03F	Interrupt controller
040 - 043	System timer
048 - 04B	System timer
060	Keyboard controller
061	NMI controller, speaker controller
064	Keyboard controller
070 bit 7	NMI enable
070 bit 6-0	Clock-calendar
071	Clock-calendar
080 - 08F	DMA page registers
090	Proprietary register
092	Port A
0A0 - 0BF	Interrupt controller
0C0 - 0DE	DMA controller
0F0 - 0F1	RESET for numeric errors
170 - 177	Secondary IDE channel
1F0 - 1F7	Primary IDE channel
278 - 27B	Secondary LPT2 parallel port
2F8 - 2FF	Primary COM2 serial port
376	Secondary IDE channel command port
378 - 37F	Primary LPT1 parallel port
3BC - 3BF	Alternative LPT3 parallel port
3E8 - 3EF	Alternative COM3 serial port
3F0 - 3F5	Floppy disk controller
3F6	Primary IDE channel command port
3F7 (write only)	Floppy disk controller
3F7 bit 7	Floppy disk controller
3F7 bit 6-0	Primary IDE channel status port
F8 - 3FF	Primary COM1 serial port

SYSTEM MEMORY MAP



16 KB

LAN BOOT

LAN boot code - This code is automatically allocated in system memory (C9 - E0) only when the LAN Boot option is enabled from the configuration program advanced menu.

14

■