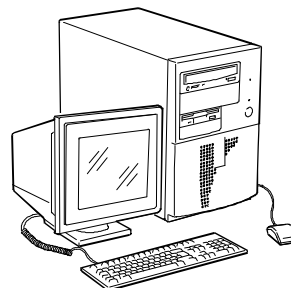


M6-950 / Modulo PRO 180 / M6-6200

CHARACTERISTICS

Microprocessor	M6-950: Pentium Pro 150 (150 MHz - 60 MHz system) Modulo PRO 180: Pentium Pro 180 (180 MHz - 60 MHz system) M6-6200: Pentium Pro 200 (200 MHz - 66 MHz system)
Processor socket	Pentium Universal Platform Socket 8
Architecture	ISA/PCI
Case	TABLE TOP TOWER BOX
Memory	Min. 16 MB, max. 128 MB with 16-32-64 MB increments. On the motherboard there are four sockets for the installation of the following SIMMs: EXM 53-016 Two 2 MBx36 (16 MB) SIMMs EXM 53-032 Two 4 MBx36 (32 MB) SIMMs EXM 53-064 Two 8 MBx36 (64MB) SIMMs
Memory access rate	60 ns
Memory cache	1 st lev.: integrated in the processor 2 nd lev.: integrated in the processor (256 KB)
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	M6-950: QUANTUM FR 1280AT (IDE) 1.2 GB Modulo PRO 180: QUANTUM FR 1280AT (IDE) 1.2 GB SEAGATE ST32140A 2 GB M6-6200: IBM DPES 31080N (SCSI) 1 GB* SEAGATE ST 31230N (SCSI) 1 GB* SEAGATE ST32430N (SCSI) 2 GB* * (with the AHA 2940 SCSI controller)

TABLE TOP TOWER BOX



HTD9A

MOTHERBOARD

BA2261
Performance/AU

BIOS

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

Last level:
Rev. 1.00.03.CG0

POWER SUPPLY

ATX 200-3505
(ASTEC)
200 W / 120 - 240 V

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CD-ROM	M6-950/Modulo PRO 180: SONY CDU 76 E (IDE) 656 MB M6-6200: SONY CDU 76 S (SCSI) 650 MB* * (with the AHA 2940 SCSI controller)
Streaming Tape	Floppy disk interface: IRWIN 31250A 80-120 MB CONNER CTM420 250-420 MB SCSI interface (AHA 2940 controller): Wangtek 51000HT 1 GB DAT HP C1533A (DDS-2) 4 GB
Expansion slots	3 PCI 1 PCI/ISA shared 2 ISA
Video controller	M6-950/M6-6200: Matrox Millennium (GO 2089), implemented on a PCI board installed on an expansion slot, with 2 or 6 MB of video memory and with the DPMS, DDC1 features Modulo PRO 180: ATI MACH64 VT board installed on the bus, with 1 or 2 MB of video memory and the DPMS, DDC-1/2B features
FDU interface	Standard interface for the management of two FDU drives
IDE interface	IDE CD-ROM and Fast IDE hard disk management interface
SCSI HDU interface	Interface provided by the SCSI controller (AHA 2940) on the PCI bus
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

MOTHERBOARD

NAME	LEVEL	NOTES
BA2261	Lev. Nasc	Motherboard with Pentium Pro processor.

ONBOARD CONTROLLERS

MOTHERBOARD	INTEGRATED CONTROLLERS
BA2261	<p>Socket 8 (ZIF): The following processors can be installed in this socket</p> <ul style="list-style-type: none"> - Pentium Pro 150 (P6) @ 150/60 MHz - Pentium Pro 200 (P6) @ 200/66 MHz. <p>These include 2nd level cache and the math coprocessor</p> <p>82450 (OPB) Chip set component integrating the following functions:</p> <ul style="list-style-type: none"> - Pentium Pro bus and system bus interface - PCI bus interface - CPU ECC and parity signals management. <p>82450 (OMC) Chip set component integrating memory control functions.</p> <p>82450 (MIC) Four chip set components integrating system RAM management.</p> <p>82371FB (PIIX) Component integrating the following functions:</p> <ul style="list-style-type: none"> - Bridge between PCI and ISA buses - Fast IDE interface for the connection of up to four IDE devices - Interrupt and DMA controller - Timer. <p>Flash EEPROM The system BIOS is contained in a 256 KB PA28FB200BX Flash EEPROM.</p> <p>PC87306B Super I/O controller. This component integrates the following functions:</p> <ul style="list-style-type: none"> - Floppy disk control - Interface for two serial ports - Interface for a parallel port - Real Time Clock - Keyboard and mouse control

VIDEO CONTROLLER BOARD

NAME	LEVEL	NOTES
GO2089	Lev. Nasc.	Matrox Millennium (on M6-950 and M6-6200 only).
GO2215	Lev. Nasc.	ATI MACH64 VT (on Modulo PRO 180 only).

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POWER SUPPLY

NAME	LEVEL	NOTES
ASTEC ATX 200-3505	Lev. Nasc.	200 W power supply.

BIOS

LEVEL	NOTES
1.00.03.CG0 Rel. 3.0	Standard Aurora BIOS.
1.00.06.CG0 Rel. 6.0	Standard Aurora BIOS.

DRIVER SOFTWARE

NAME	LEVEL	NOTES
EVD for Matrox Millennium	Ver. 1.0	Video driver (bus PCI) for: Windows 3.1x, Windows NT 3.51, Windows 95, ACAD, Microstation, OS/2 2.11 & 3.0 Warp.
EVD ATI Mach64-VT	Ver. 2.04	Video driver for: Windows 3.11, Windows NT 3.51, Windows 95, OS/2 Warp.

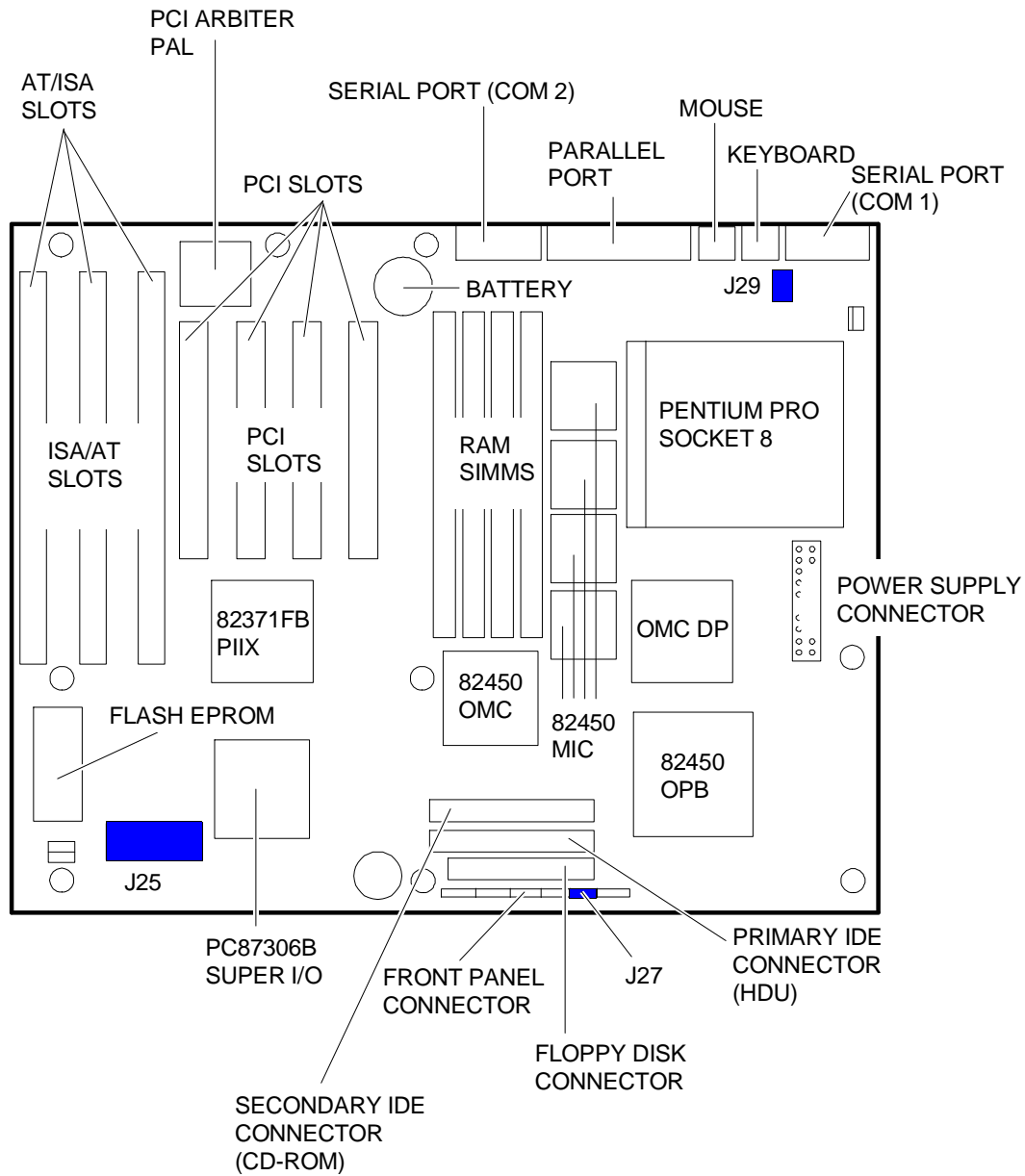
SOFTWARE COMPATIBILITY

OPERATING SYSTEMS	NETWORK & LAN
IBM OS/2, version 2.11GA IBM OS/2 WARP, version 3.0 IBM PC DOS, version 7.0 MS-DOS, versions 5.00A / 6.22 SCO UNIX, version 3.2 SUN OS, version 5.1 SUNSOFT SOLARIS, version 2.4 UNIX, version 4.2	LOTUS CC: FAX (DOS), version 1.20 LOTUS CC: MAIL ADE (DOS), version 1.0 LOTUS CC: MAIL (DOS), version 4.02 LOTUS CC: MAIL Import/Export (DOS), ver. 3.32 LOTUS CC: MAIL ROUTER (DOS), ver. 4.0 NOVELL NETWARE 386, version 4.1 Microsoft Windows NT Advanced Server, ver. 3.51
WINDOWS APPLICATIONS	WINDOWS
ALDUS PAGEMAKER, versions 4.0 / 5.0 COREL DRAW for Windows, version 4.0 EXCEL for Windows, versions 4.0 / 5.0 Grammatik for Windows, version 5.0 LOTUS 1-2-3 for Windows, version 4.0 MICROSTATION for Windows NT, ver. 5.00.00.22 MS-OFFICE for Windows NT, version Beta MS-WORD for Windows, versions 2.0 / 6.0 MS-POWERPOINT, version 4.0 WORD PERFECT for Windows, version 5.1	MS-WINDOWS, version 3.11 MS-WINDOWS for workgroups, ver. 3.11 WINDOWS 95
	GRAPHICS APPLICATIONS
	AUTOCAD, versions 11 / 12 AUTOCAD for Windows, version 12 Harward Graphics, ver. 2.12
	WORD PROCESSOR
	WORD PERFECT, versions 5.0 / 5.1 / 6.1

HARDWARE COMPATIBILITY

MODEMS	MOUSE
AT&T Modem/Fax Dataport 14,4 W/Fax HAYES SMART MODEM 2400 B INTEL SATSFAXTION Modem/400 PACKARD BELL ROCKY FAX/MODEM PENRIL 2332-01 SUPRAFAXMODEM 288I (internal) HAYES OPTIMA FAX/MODEM 288 (PCMCIA) SUPRAFAXMODEM 288I (external)	IBM PS/2 mouse LOGITECH BUS MOUSE LOGITECH PS/2 Cordless mouse LOGITECH PS/2 Ergo mouse LOGITECH PS/2 SERIAL mouse LOGITECH PS/2 STANDARD mouse LOGITECH PS/2 Trackball MICROSOFT PS/2 mouse MICROSOFT Ergo PS/2 mouse MICROSOFT Home Serial mouse MICROSOFT Serial mouse MITSUMI PS/2
INTELLIGENT MULTIPORTS	
COMPUTONE 16 Multiport Serial I/O Controller	
GRAPHICS PRODUCTS	NETWORKING & LAN (ISA) PRODUCTS
ATI Graphics Xpression (PCI) ATI PRO TURBO (PCI) ATI ULTRAPRO (PCI) ATRON VGA DIAMOND SPEEDSTAR PRO DIAMOND SPEEDSTAR PRO SE (PCI) MATROX MGA 2 + PCI (PCI)	3COM ETHERLINK III Adapter (3C509 / 3C509B) Combo 3COM 3C619B Adapter IBM TOKEN RING 16/4 Adapter IBM TOKEN RING 16/4 16-bit Adapter INTEL Etherexpress PRO 10 Adapter INTEL Etherexpress PRO (ISA PnP) Adapter INTEL TOKEN EXPRESS 16/4S Adapter NOVELL EAGLE NE2000plus Adapter NOVELL NW2000 WAN Card OLICOM ETHERNET OC2122/2123/2125/2173 Adapter OLICOM PCI 16/4 Adapter OLICOM TOKEN RING OC3118 Adapter PROTEON 1392 / 1392plus Adapter SMC ETHEREZ Adapter SMC ULTRA ELITE Combo SMC TOKENCARD ELITE THOMAS-CONRAD TC4045 / TC 4145 INTEL ETHEREXPRESS 16
MPC BOARDS	
GRAVIS ULTRASOUND GRAVIS ULTRASOUND MAX LOGITECH SOUNDMAN WAVE PRO AUDIOSTUDIO 16 SOUND BLASTER AWE 32 SOUND BLASTER 16 Multi-CD SOUND BLASTER PRO II SOUND BLASTER 16 Value SOUND BLASTER 16 Vibra TURTLE BEACH MONTEREY	
MULTIMEDIA DEVICES (DVO/DVI)	NETWORKING & LAN (PCI) PRODUCTS
PROSHARE VC200, version 1.6 SMART VIDEO RECORDER VIDEO BLASTER WIN/TV XPB TV4	3COM Etherlink III 3C590-TP0 Parallel Tasking 3COM Etherlink III 3C595 Parallel Tasking COGENT EMMASTER+ EM960 Adapter COMPEX ENET32-PCI Adapter DEC ETHERWORKS Adapter INTEL ETHEREXPRESS PRO 100 THOMAS-CONRAD TC5048-T/2 Adapter
DISPLAY UNITS	
CTX 6468GM MAG DX15F MAG MX15H NANA0 FLEXSCAN F550i W NEC MULTISYNC 2A NEC MULTISYNC 3D NEC MULTISYNC 5FGP SONY MULTISCAN CPD 1730 VIEWSONIC 6E	

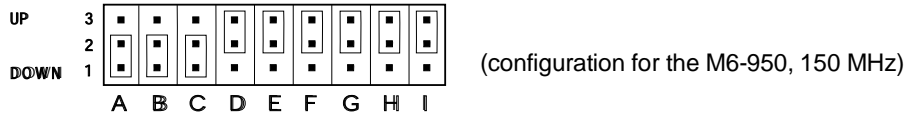
COMPONENTS AND JUMPERS ON MOTHERBOARD BA2261



HTC8A

MOTHERBOARD JUMPERS

Jumper J25 - CPU and System Clock Configuration



SYSTEM	SETTING				CPU CLOCK	CPU BUS CLOCK	PCI BUS CLOCK	ISA BUS CLOCK
	A	B	C	D				
M6-950	down	down	down	up	150 MHz	60.14 MHz	30 MHz	7.51 MHz
Modulo PRO 180	down	down	up	down	180 MHz	60.14 MHz	30 MHz	7.51 MHz
M6-6200	up	up	up	down	200 MHz	66.48 MHz	33 MHz	8.31 MHz

Jumper J25 (Position E) - System Password Enable/Disable

DOWN Disables/cancels the password
 UP Enables the password (Default)

Jumper J25 (Position F) - CMOS RAM Reset Enable/Disable

DOWN Enables reset
 UP Disables reset - normal operation (Default)

Jumper J25 (Position G) - Setup Utility Enable/Disable

DOWN Enables access to the Setup Utilities (Default)
 UP Disables access to the Setup Utilities

Jumper J25 (Position H) - Flash EEPROM Boot Block

DOWN Recovery mode
 UP Normal mode (Default)

Jumper J25 (Position I) - RAM SIMM Access Rate

DOWN 70 ns SIMM (not used)
 UP 60 ns SIMM (Default)

Jumper J29 - VID Enable/Disable

This jumper, present on first series M6-950 motherboards only, **must only be inserted when a Pentium PRO processor without VID is present**, otherwise the processor could be damaged.

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Jumper J27 - Connection of an External Speaker or Buzzer on the Motherboard

Pins 24-26 of the front panel connector (J27) are used for the connection of the external speaker. Removing this connector and inserting a jumper on pins 25-26 disables the external speaker and enables the buzzer mounted on the motherboard.

INTERRUPT LEVELS

INTERRUPT	ONBOARD DEVICE
NMI	Reserved - Parity error, check on the I/O channels
IRQ0	Reserved - System timer
IRQ1	Reserved - Keyboard
IRQ2	Reserved - Interruption from the second PIC in cascade
IRQ3	Serial port 2 (COM2)
IRQ4	Serial port 1 (COM1)
IRQ5	Free or parallel port 2
IRQ6	Floppy disk controller
IRQ7	Parallel port 1
IRQ8	Reserved - Real Time Clock
IRQ9	Free
IRQ10	Free
IRQ11	Free
IRQ12	PS/2-compatible mouse
IRQ13	Reserved - integrated math coprocessor
IRQ14	1 st IDE controller (hard disk)
IRQ15	2 nd IDE controller (CD-ROM)

DMA CHANNELS

DMA CHANNEL	DEVICE OR FUNCTION
0	Free
1	Free
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 1
020 - 021	Interrupt controller 1
02E - 02F	Ultra I/O configuration registers
040 - 043	System timer 1
048 - 04B	System timer 2
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
078	Reserved - Board configuration
079	Reserved - Board configuration
080 - 08F	DMA page registers
0A0 - 0BF	Interrupt controller 2
0C0 - 0DE	DMA controller 2
0F0	RESET for numeric errors
170 - 177	Secondary IDE channel
1F0 - 1F7	Primary IDE channel
278 - 27B*	Secondary LPT2 parallel port
2F8 - 2FF	Onboard COM2 serial port
376	Secondary IDE channel command port
377	Secondary IDE channel status port
378 - 37F	Primary LPT1 parallel port
3BC - 3BF*	Alternative LPTX parallel port
3E8 - 3EF	Alternative COM3 serial port
3F0 - 3F5	Floppy disk controller - channel 1
3F6	Primary IDE channel commands port
3F7 (write only)	Floppy disk controller - commands channel 1
3F7 bit 7	Floppy disk controller - change disk channel 1
3F7 bit 6-0	Primary IDE channel status port
3F8 - 3FF	Onboard COM1 serial port
LPT + 400h	ECP port, LPT + 400h
4D0 - 4D1	Edge/level interrupt control register
0CF8**	PCI config address register
0CF9	Turbo and reset control register
0CFC - 0CFF	PCI config data register
FF00 - FF07	IDE bus master register
03B4 - 03BC	This I/O address and the following are allocated for the video controller
03BA	
03C0 - 03CA	
03CC	
03CE - 03CF	
03D4 - 03D5	
03DA	

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(*) This address range is associated to the function when the system is reconfigured, otherwise the range is available.

(**) Can be accessed only with DWORD accesses

The other I/O addresses are dynamically allocated by the BIOS. Use the ICU to reassign them.

SYSTEM MEMORY MAP

ADDRESS RANGE		SIZE	DESCRIPTION
Decimal	Hexadecimal		
0K - 511K	0000 - 7FFFF	512K	Conventional memory
512K - 638K	80000 - 9FBFF	127K	Conventional extended memory
639K	9FC00 - 9FFFF	1K	BIOS data extended memory (can be moved by QEMM,386MAX)
640K - 799K	A0000 - C7FFF	160K	Offboard video memory and BIOS
800K - 895K	C80000 - DFFFF	96K	Free HI DOS memory (accessible from the PCI and ISA buses)
896K - 943K	E0000 - E7FFF	32K	Memory area reserved for the BIOS (available as UMB)
944K - 947K	E8000 - E9FFF	8K	Logo (available as UMB)
948K - 951K	EA000 - EBFFF	8K	ECSD (Plug and Play configuration area)
952K - 959K	EC000 - EFFFF	16K	FLASH boot block (available as UMB)
960K - 1023K	F0000 - FFFFF	64K	AMI system BIOS
1024K -131072K	100000- 800000	127 MB	Extended memory (according to RAM size)

