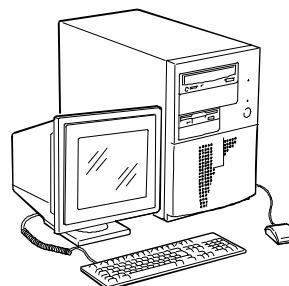


Modulo T Series - P133/166 T

CHARACTERISTICS

Microprocessor	Pentium 133 (133 MHz - 66 MHz system) Pentium 166 (166 MHz - 66 MHz system)
Processor socket	Pentium Universal Platform Socket 7 (OverDrive for Socket 5)
Architecture	ISA/PCI
Case	CED BOX
Memory	Min. 16 MB, max. 128 MB with 8 - 16 - 32 - 64 MB steps. On the motherboard there are four sockets arranged in two banks for the installation of EDO DRAM and Fast Page Mode SIMMs. The following SIMMs are listed in the P.d.G.: (EDO DRAM) EXM 56-008 Two 1 MBx32 (8 MB) SIMMs EXM 56-016 Two 2 MBx32 (16 MB) SIMMs EXM 56-032 Two 4 MBx32 (32 MB) SIMMs EXM 56-064 Two 8 MBx32 (64 MB) SIMMs EXM 56-6008 Two 1 MBx32 (8 MB) SIMMs EXM 56-6016 Two 2 MBx32 (16 MB) SIMMs EXM 56-6032 Two 4 MBx32 (32 MB) SIMMs EXM 56-6064 Two 8 MBx32 (64 MB) SIMMs
Memory access rate	EDO DRAM: 60 ns Fast Page Mode: 70 ns
Memory cache	1 st lev.: integrated in the processor 2 nd lev.: 256 KB, soldered on the motherboard
Floppy Disk	First floppy disk drive: SONY MPF420-1 1.44 MB EPSON SMD 1040-418/1040-419/ 1040-321 1.44 MB MITSUMI D359T3/D359T5 1.44 MB TEAC FD235HF 1.44 MB Y-E DATA YD-702B/YD-702D 1.44 MB Second floppy disk drive (optional): Panasonic JU 475-5 1.2 MB

CED BOB



HTD9A

MOTHERBOARD

ATX BA2293

BIOS

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

Last level:
1.00.01.DB0 Y

POWER SUPPLY

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

Hard Disk IDE	IDE HDUs: Fujitsu M1614TA 1 GB Conner LAPAZ CFS 1276 A 1.2 GB Quantum FR 1280 AT 1.2 GB IBM DJAA-31700 1.6 GB Seagate ST32140A 2 GB SCSI HDUs (with AHA2940 SCSI controller): Seagate ST31230N 1 GB IBM DPES 31080N 1 GB Seagate ST 32430N 2 GB
CD-ROM	IDE CD-ROM: GOLDSTAR GCD-R580B 650 MB SCSI CD-ROM: SONY CDU 76 S 650 MB (with the AHA2940 SCSI controller)
Streaming Tape	SCSI STU (with the AHA 2940 controller): Wangtek 51000HT 1-1.2 GB DAT HPC1536A 2-8 GB
Expansion slots on the Riser bus	3 PCI 1 ISA/PCI shared 2 ISA
Video controller	ATI 264-VT board installed on the bus, with 1 MB or 2 MB of video memory, Feature connector for the MPEG module and the DPMS, DDC-1/2B features
Floppy disk interface	Standard interface for the management of two drives with 1 Mbit/sec transfer rates
IDE PCI interface	Two on board IDE PCI interfaces (max PIO Mode 4) for the connection of up to four HDU and CD-ROM drives
SCSI interface	Controller board (AHA2940) installed on the PCI bus for the connection of SCSI HDUs and CD-ROMs
Keyboard and Mouse	Standard PS/2 interface
Keyboard	Compact 104/105-key Windows 95 keyboard: ANK 61-104, ANK 61-105

MOTHERBOARD

NAME	LEVEL	NOTES
BA2293	Lev. Nasc.	

ONBOARD CONTROLLERS

MOTHERBOARD	INTEGRATED CONTROLLERS
BA2293	Socket 7 (ZIF): The following processors can be installed in this socket: - Pentium 133 @ 133/66 MHz - Pentium 166 @ 166/66 MHz. 2nd level cache Supported by chip set 82430HX. 82439HX Xcelerated Controller (TxC) Chip set component integrating the following functions: - CPU interface control - DRAM and cache control - Data path - PCI bus interfacel. 82371SB PCI ISA/IDE Xcelerator (PIIX3) Chip set component integrating the following functions: - Interface between the PCI and ISA buses - IDE PCI interface for connection of up to four IDE devices - Interrupt and DMA control - Timer - System Power Management Flash EEPROM The system BIOS is contained in a 128 KB 28F001BX Flash EEPROM. PC87306B Super I/O controller. This component integrates the following functions: - Floppy disk control - Interface for two serial ports (with FIFO) - Interface for a parallel port - Real Time Clock - Infrared interface support - 8042-compatible keyboard control.

POWER SUPPLY

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

BIOS

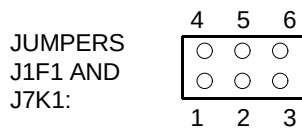
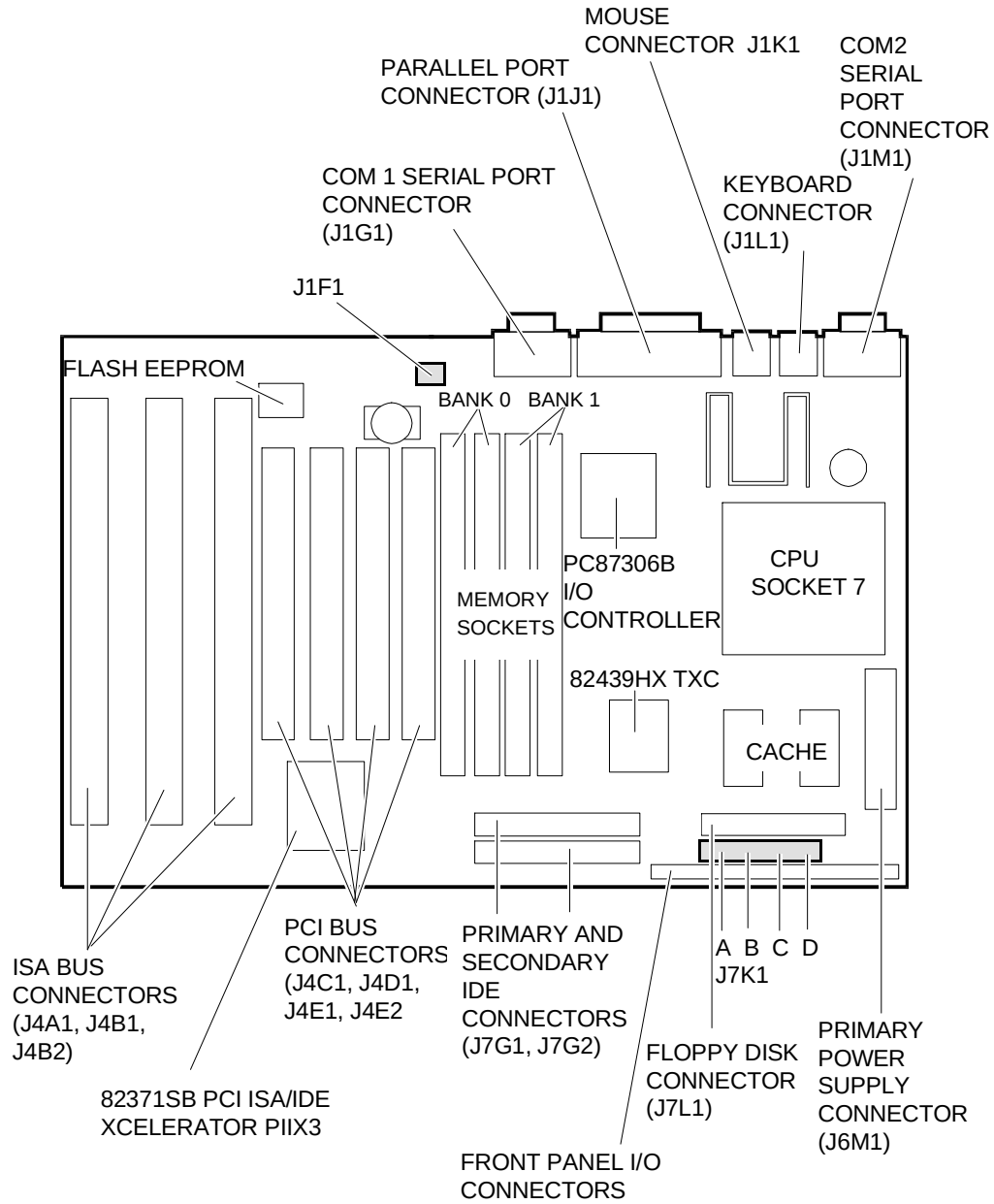
LEVEL	NOTES
1.00.01.DB0 Y	

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SOFTWARE DRIVERS

NAME	LEVEL	NOTES
EVD ATI 264-VT	Ver. 2.04	Video drivers for: Windows 3.11, Windows NT 3.51, Windows 95, OS/2 Warp.

COMPONENTS AND JUMPERS ON MOTHERBOARD BA2293



IAA4A

MOTHERBOARD JUMPERS

Jumpers J7K1-B, J7K1-C, J7K1-D - CPU and Bus Clocks

CPU CLOCK (MHZ)	HOST BUS CLOCK (MHZ)	JUMPER BLOCK J7K1-C: HOST BUS CLOCK		JUMPER BLOCK J4L1-D: CLK RATIO		CPU CLOCK MULT.	JUMPER BLOCK J7K1-B
		PINS 1 – 3	PINS 4 - 6	PINS 1 – 3	PINS 4 - 6		
166	66	1-2	5-6	2-3	5-6	2.5	The VR/OVD setting depends on the specific CPU: 5-6 for OVD, 4-5 for VR
150	60	2-3	4-5	2-3	5-6	2.5	
133	66	1-2	5-6	2-3	4-5	2.5	
120	60	2-3	4-5	2-3	4-5	2	
100	66	1-2	5-6	1-2	4-5	2	
90	60	2-3	4-5	1-2	4-5	1.5	
75	50	2-3	5-6	1-2	4-5	1.5	
Reserved	-	2-3	4-5	1-2	5-6		
Reserved	-	2-3	4-5	1-2	5-6		
Reserved	-	1-2	5-6	1-2	5-6		

Jumpers J7K1-A (Pins 1, 2, 3) - System Password Cancellation

Position 1-2 Normal operation (Default)
Position 2-3 System password cancellation

Jumpers J7K1-A (Pins 4, 5, 6) - CMOS RAM Reset

Position 4-5 Normal operation (Default)
Position 5-6 CMOS RAM reset.

Jumpers J7K1-B (Pins 1, 2, 3) - Setup Utility Enable/Disable

Position 1-2 Enables access to the Setup Utility (Default)
Position 2-3 Disables access to the Setup Utility

Jumpers J1F1

Position 1-2 Disables BIOS flash recovery (Default)
Position 2-3 Enables BIOS flash recovery
Position 4-5 Disables boot block (Default)
Position 5-6 Enables boot block.

INTERRUPT LEVELS

INTERRUPT	SYSTEM RESOURCE
NMI	I/O channel control
IRQ0	Reserved - Interval Timer
IRQ1	Reserved - Keyboard buffer full
IRQ2	Reserved - Cascade interrupt from the slave PIC
IRQ3	Serial port 2 (COM2)
IRQ4	Serial port 1 (COM1)
IRQ5	Parallel port 1 (PNP0 option)
IRQ6	Floppy
IRQ7	Parallel port 1 (LPT1)
IRQ8	Real Time Clock
IRQ9	Free
IRQ10	Free
IRQ11	Free
IRQ12	Onboard mouse port, if present, otherwise free
IRQ13	Reserved - Math coprocessor
IRQ14	Primary IDE controller, if present, otherwise free
IRQ15	Secondary IDE controller, if present, otherwise free

DMA CHANNELS

DMA CHANNEL	SYSTEM RESOURCE
0	
1	Parallel port
2	Floppy disk
3	Parallel port (in ECP/EPP configuration)
4	Reserved - Cascade channels
5	Free
6	Free
7	Free

I/O ADDRESSES

I/O PORT (h)	DEVICE OR FUNCTION
0000 - 000F	PIIX3 - DMA controller 1
0020 - 0021	PIIX3 - Interrupt controller 1
002E - 002F	87306B basic configuration
0040 - 0043	PIIX3 - System Timer 1
0060	Keyboard controller - Reset IRQ Byte
0061	PIIX3 - NMI, speaker controller
0064	Keyboard controller - CMD/STAT Byte
0070, bit 7	PIIX3 - NMI enable
0070 bit 6-0	PIIX3 - Real Time Clock, Address
0071	PIIX3 - Real Time Clock, Data
0078	Reserved - Board configuration
0079	Reserved - Board configuration
0080 - 008F	PIIX3 - DMA page registers
00A0 - 00A1	PIIX3 - Interrupt controller 2
00B2	APM control port
00B3	APM status port
00C0 - 00DE	PIIX3 - DMA controller 2
00F0	Reset for numeric errors
0170 - 0177	Secondary IDE channel
01F0 - 01F7	Primary IDE channel
0278 - 027B	Secondary LPT2 parallel port
02F8 - 02FF	Secondary COM2 serial port
0376	Secondary IDE channel command port
0377	Secondary IDE channel status port
0378 - 037F	Primary LPT1 parallel port
03BC - 03BF	Alternative LPT3 parallel port
03E8 - 03EF	Alternative COM3 serial port
03F0 - 03F5	Channel 1 floppy disk controller
03F6	Primary IDE channel command port
03F7 (write only)	Channel 1 floppy disk commands
03F7 bit 7	Channel 1 floppy disk Chg
03F7 bit 6-0	Primary IDE channel status port
03F8 - 03FF	Primary COM1 serial port
04D0 - 04D1	Edge/Level triggered
LPT + 400h	ECP, LPT + 400h port
0CF8 - 0CFB*	PCI configuration address register
0CFC - 0CFF*	PCI configuration data register
0FF00 - FF07	IDE bus master register

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(*): Accessible through DWORD accesses only.

SYSTEM MEMORY MAP

The ESCD area within the FD000-FDFFF range cannot be used by the memory managers as Upper Memory Block (UMB). The area within the E0000-FBFFF range is used by the AMI system BIOS.

ADDRESS RANGE		SIZE	DESCRIPTION
Decimal	Hexadecimal		
960K-131072K	100000-8000000	127.25 MB	Extended memory
944K-959K	FE000-FFFFFF	8 KB	Boot Block (can only be cancelled if jumpered)
936K-943K	FD000-FDFFF	4 KB	ESCD (Plug and Play configuration area)
928K-935K	FC000-FCFFF	4 KB	OEM Logo & Vital Product data area
896K-927K	E0000-FBFFF	112 KB	AMI system BIOS
800K-895K	C8000-DFFFF	96 KB	High DOS memory available (open to the PCI and ISA buses)
640K-799K	A0000-C7FFF	160 KB	Offboard video memory and BIOS
639K	9FC00-9FFFF	1 KB	BIOS data extended memory (transferred from QEMM, 386MAX)
512K-638K	80000-9FBFF	127 KB	Conventional extended memory
0K-511K	00000-7FFFF	512 KB	Conventional memory

PCI CONFIGURATION AREA MAP

The PCI 82430HX chip set uses the configuration 1 mechanism to access the PCI configuration area. The PCI configuration address register is a 32-bit register allocated at CF8h, while the PCI configuration data register is a 32-bit register allocated at CFCh. These registers can only be accessed through DWORD accesses.

BUS N° (HEX)	DEVICE N° (HEX)	FUNCTION N° (HEX)	DESCRIPTION
00	00	00	Intel 82437HX (TXC)
00	07	00	Intel 82371FB (PIIX3) - PCI/ISA bridge
00	07	01	Intel 82371FB (PIIX3) - IDE Bus Master
00	0D	00	PCI expansion slot
00	0E	00	PCI expansion slot
00	0F	00	PCI expansion slot
00	10	00	PCI expansion slot

