

Modulo L Series - P100/120/133 L

CHARACTERISTICS

Microprocessor	Pentium 100 (100 MHz - 66 MHz system) Pentium 120 (120 MHz - 60 MHz system) Pentium 133 (133 MHz - 66 MHz system)
Processor socket	ZIF Processor Socket 7 (OverDrive for Socket 5)
Architecture	ISA/PCI
Case	TIN BOX
Memory	Min. 8/16 MB, max. 192 MB with 8 - 16 - 32 - 64 MB increments. On the motherboard there are six sockets 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 (on CELP socket)
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
IDE Hard Disk	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

MOTHERBOARD

LPX BA2292

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.CV2 Y

POWER SUPPLY

SA145-3490-200
(ASTEC)
145 W / 90 - 180 V

CD-ROM	CD-ROM IDE: GOLDSTAR GCD-R580B 650 MB CD-ROM SCSI: SONY CDU 76 S 650 MB (with AHA2940 SCSI controller)
Streaming Tape	Floppy disk interface: CONNER CTM420 208-420 MB SCSI interface (AHA 2940 controller): Wangtek 51000HT 1-1.2 GB DAT HP35470A/35480A 1.3-2 GB
Expansion slots on the Riser bus	2 PCI 1 PCI/ISA shared 2 ISA Full Size
Video controller	Integrated on the motherboard component ATI 264-VT with 1 MB or 2 MB of video memory and the DPMS, DDC features
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
Keyboard and mouse	Standard PS/2 interface
Keyboard	Compact 104/105-key keyboard for Windows 95: ANK 61-104, ANK 61-105

MOTHERBOARD

NAME	LEVEL	NOTES
BA2292	Lev. Nasc	Motherboard with a 2 nd level cache on the CELP socket and provided by the optional COAST module.

ONBOARD CONTROLLERS

MOTHERBOARD	INTEGRATED CONTROLLERS
BA2292	<p>Socket 7 (ZIF): The following processors can be installed in this socket</p> <ul style="list-style-type: none"> - Pentium 100 @ 100/66 MHz - Pentium 120 @ 120/60 MHz - Pentium 133 @ 133/66 MHz. <p>2nd level cache Implemented on the CELP socket for a COAST module.</p> <p>82439HX Chip set component integrating the following functions:</p> <ul style="list-style-type: none"> - Cache and DRAM control - Bridging between the CPU and PCI buses - Data Path. <p>82371SB (PIIX3) Chip set component integrating the following functions:</p> <ul style="list-style-type: none"> - Bridge between the PCI and ISA buses - IDE PCI interface for the connection of up to 4 IDE devices - Interrupt and DMA control - Timer - System Power Management. <p>Flash EEPROM The system BIOS is contained in a 128 KB 28F002BX 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 (with FIFO) - Interface for one parallel port - Real Time Clock - CMOS. <p>ATI 264-VT Video controller</p>

POWER SUPPLY

POWER SUPPLY	LEVEL	NOTES
SP 145 (ASTEC SA145-3490-200)	Lev. Nasc.	145 W SP 145 power supply.

BIOS

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LEVEL	NOTES
Rev. 1.00.03.CV2 Y	

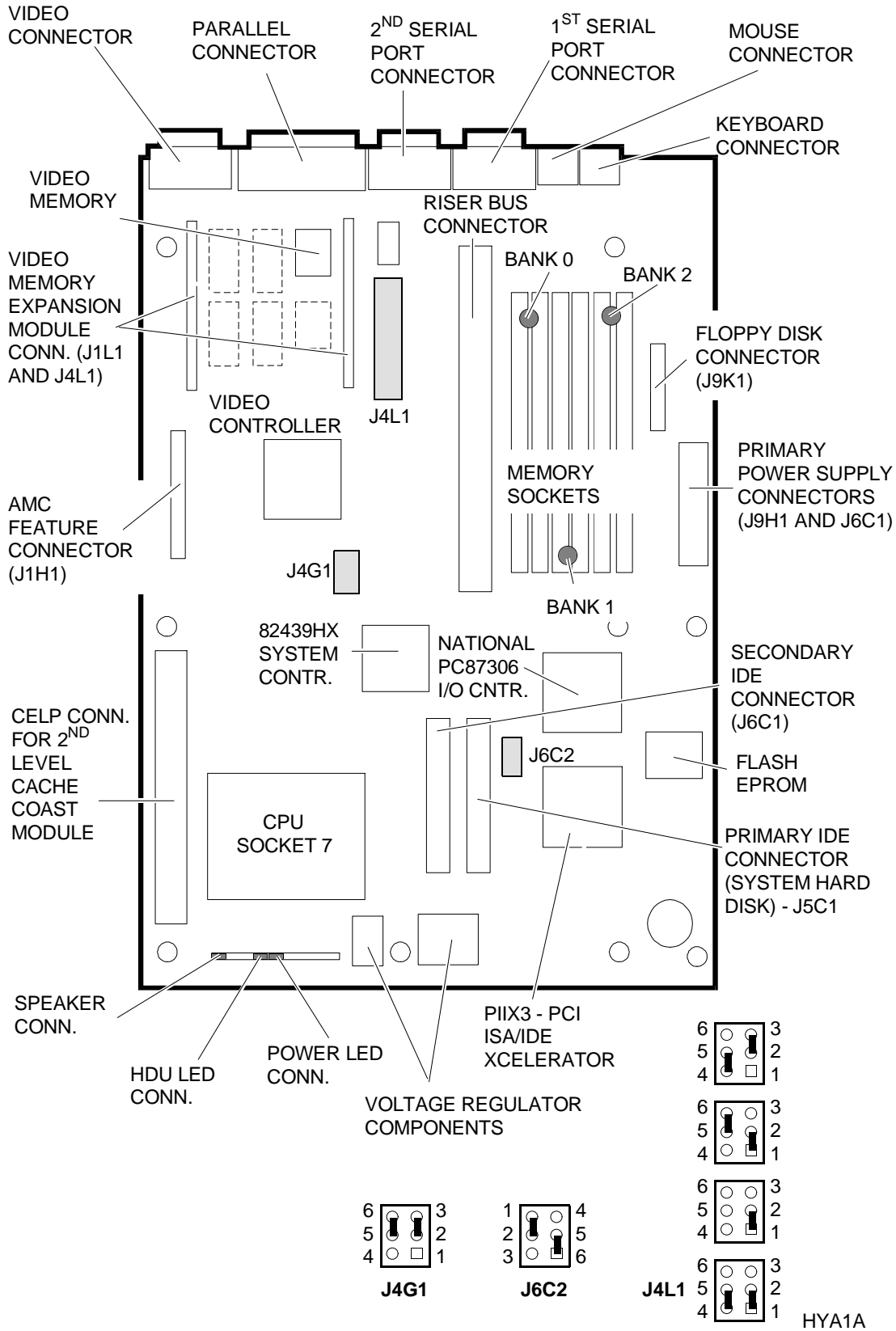
SOFTWARE DRIVERS

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

RISER BUS EXPANSION BOARD

NOME	LEVEL	NOTES
IN2054	Lev. Nasc.	Allows the installation of optional AT or PCI boards.

COMPONENTS AND JUMPERS ON MOTHERBOARD BA2292



MOTHERBOARD JUMPERS

Jumpers J4L1C and J4L1D - CPU and System Bus Clocks

CPU CLOCK (MHz)	HOST BUS CLOCK (MHz)	JUMPER BLOCK J4L1C: HOST BUS CLOCK		CPU CLOCK AND HOST BUS CLOCK RATIO (CLK RATIO)	JUMPER BLOCK J4L1D: CLK RATIO		PCI BUS CLK (MHz)
		PINS 1 – 3	PINS 4 – 6		PINS 1 – 3	PINS 4 – 6	
166	66	1-2	5-6	5/2	2-3	5-6	33
150	60	2-3	4-5	5/2	2-3	5-6	30
133	66	1-2	5-6	2	2-3	4-5	33
120	60	2-3	4-5	2	2-3	4-5	30
100	66	1-2	5-6	3/2	1-2	4-5	33
90	60	2-3	4-5	3/2	1-2	4-5	30
75	50	2-3	5-6	3/2	1-2	4-5	25
Reserved	-	1-2	4-5	-	X	X	-

The ISA bus clock is equivalent to 1/4 the PCI bus clock and is automatically determined by the system BIOS.

Jumper J4L1A (Pins 1, 2, 3) - System Password Cancellation

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

Jumper J4L1A (Pins 4, 5, 6) - CMOS RAM Reset

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

Jumper J4L1B (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.

Jumper J6C2 (Pins 1, 2, 3) - System BIOS Recovery

Position 1-2 Normal operation (Default)
 Position 2-3 Enables the BIOS recovery procedure.

Jumper J6C2 (Pins 4, 5, 6) - Processor Power Supply Voltage

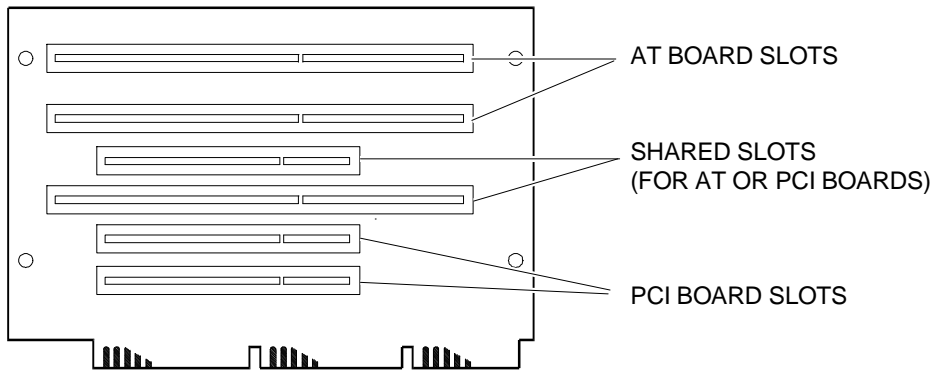
Position 4-5 3.3 V - Standard voltage
 Position 5-6 3.6 V - Non-standard voltage (Default).

Jumper J4G1 - Number of Riser PCI Slots Managed by the System

This setting of this factory installed jumper ***must never be changed.***

Position 1-2 and 4-5 The system manages two Riser bus PCI slots
 Position 2-3 and 5-6 The system manages three Riser bus PCI slots (Default).

RISER BUS EXPANSION BOARD (IN2054)



HPA3A

INTERRUPT LEVELS

INTERRUPT	SYSTEM RESOURCE
NMI	I/O Channel Check
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	Free
IRQ6	Floppy
IRQ7	Parallel port 1 (LPT1)
IRQ8	Real Time Clock
IRQ9	Free
IRQ10	Free
IRQ11	Free
IRQ12	Onboard mouse port
IRQ13	Reserved - Math coprocessor
IRQ14	Primary IDE controller
IRQ15	Secondary IDE controller

DMA CHANNELS

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

I/O ADDRESSES

I/O PORT (h)	DEVICE OR FUNCTION
000 - 00F	PIIX - DMA controller 1
020 - 021	PIIX - Interrupt controller
02E - 02F	Ultra I/O configuration
040 - 043	PIIX - System Timer 1
048 - 04B	PIIX - System Timer 2
060	Keyboard controller
061	PIIX - NMI controller, speaker controller
064	Keyboard controller
070 bit 7	PIIX - NMI enable
070 bit 6-0	PIIX - Clock-calendar
071	PIIX - Clock-calendar
080 - 08F	PIIX - DMA page registers
0A0 - 0A1	PIIX - Interrupt controller
0C0 - 0DE	PIIX - 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 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
3F8 - 3FF	Primary COM1 serial port
LPT + 400h	ECP, LPT port
4D0 - 4D1	Edge/Level
CF8*	PCI configuration
CF9	Turbo & Reset
CFC - CFF*	PCI configuration data
FF00 - FF07	Bus Master IDE
FFA0 - FFA7	Primary IDE
FFA8 - FFAF	Secondary IDE

(*): Accessible through DWORD accesses only.

I/O port 78 reserved for the BIOS.

Port 79 is read-only and has the following bit definitions:

BIT NO	DESCRIPTION	BIT=1	BIT=0
0	Reserved		
1	Power supply with deinsertion via software	No	Yes
2	Onboard audio present	Yes	No
3	CPU external clock		
4	CPU external clock		
5	SETUP disable	Enables access	Disables access
6	CMOS cancellation	Keeps values	Clears values
7	Password cancellation	Keeps password	Clears password

SYSTEM MEMORY MAP

The ECSD area in the EA000-EBFFF range cannot be used by the memory managers as Upper Memory Block (UMB). The E0000-E7FFF is currently not used but can be used as UBM by the memory managers. Some parts of this area can be used by future BIOS versions to enhance system performance.

ADDRESS RANGE		SIZE	DESCRIPTION
Decimal	Hexadecimal		
1024K-512M	100000-20000000	511 MB	Extended memory
960K-1023K	F0000-FFFFF	64 KB	AMI system BIOS
944K-959K	EC000-EFFFF	16 KB	Main BIOS recovery code
936K-943K	EA000-EBFFF	8 KB	ESCD (Plug & Play configuration area)
928-935K	E8000-E9FFF	8 KB	OEM Logo (available as UBM)
896K-927K	E0000-E7FFF	32 KB	Reserved for the BIOS (Currently available as UBM)
800-895K	C8000-DFFFF	96 KB	High DOS memory available (open to the ISA and PCI buses)
640K-799K	A0000-C7FFF	160 KB	<i>Off-board</i> 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 Triton II PCI chip set uses mechanism 1 to access the PCI configuration area. The PCI configuration address register is a 32-bit register allocated in CF8h, while the PCI configuration data register is a 32-bit register allocated in CFCh. These registers can only be accessed through DWORD accesses.

BUS N° (HEX)	DEVICE N° (HEX)	FUNCTION N° (HEX)	DESCRIPTION
00	00	00	Intel 82439HX (TXC)
00	07	00	Intel 82371SB (PIIX3) - PCI/ISA bridge
00	07	01	Intel 82371SB (PIIX3) - IDE bus master
00	0B	00	PCI expansion slot
00	11	00	PCI expansion slot
00	13	00	PCI expansion slot