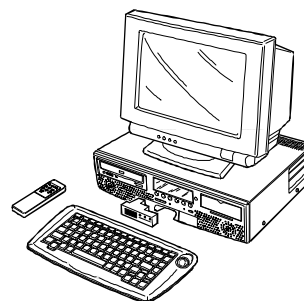


ENVISION 400/P75/P100

CHARACTERISTICS

Microprocessor	ENVISION 400: 486 DX4 (100 MHz-33 MHz system) ENVISION P75: Pentium 610\75 (75 MHz-50 MHz system) ENVISION P100: Pentium 815\100 (100 MHz-66 MHz system)	
Architecture	ENVISION 400: ISA/VESA ENVISION P75/P100: ISA/PCI	
Case	Piraña BOX	
Memory	ENVISION 400: Min. 8 MB, max. 24 MB with 4-8-16 MB increments. On the motherboard there is one socket for the installation of the following SIMMs: EXM 40-004 One 1 MBx32 (4 MB) SIMM EXM 40-008 One 2 MBx32 (8 MB) SIMM EXM 50-016 One 4 MBx32 (16MB) SIMM ENVISION P75/P100: (EDO RAM only) Min. 8 MB, max. 72 MB with 4-8-16-32 MB increments. On the motherboard there are two sockets for the installation of the following SIMMs: EXM 50-004 One 1 MBx32 (4 MB) SIMM EXM 51-008 One 2 MBx32 (8 MB) SIMM EXM 51-016 One 4 MBx32 (16MB) SIMM EXM 51-032 One 8 MBx32 (32MB) SIMM	
Memory access rate	ENVISION 400/P75: 70 ns ENVISION P100: 60 ns	
Memory cache	1 st level: integrated in the processor 2 nd level: 128 KB (not required for EDO RAM)	
Floppy Disk	Panasonic JU-257A Mitsubishi MF-355 Sony MP-F17W Sony MPF420-1 Epson SMD 1040-418 Mitsumi D359T3 TEAC FD235HF Y-E DATA YD-702B/YD-702D	1.44 MB 1.44 MB 1.44 MB 1.44 MB 1.44 MB 1.44 MB 1.44 MB 1.44 MB
IDE Hard Disk	ENVISION 400: CONNER CFS 425 A CONNER CFS 635 A ENVISION P75/P100: CONNER CFS 635 A CONNER CFS 850 A	420 MB 635 MB 635 MB 850 MB

Piraña Box



HKH7A

MOTHERBOARD

ENVISION 400:
BA2243/BA2252
 ISA/VESA architecture
 and 2nd level cache

ENVISION P75:
BA2247/BA2256/BA2264
 ISA/PCI architecture

ENVISION P100:
BA2273
 ISA/PCI architecture

BIOS

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

Last level:
 Rev. 2.06
 (ENVISION 400)

Rev. 3.01
 (ENVISION P75/P100)

CD-ROM	SONY CDU 76 E (IDE) 656 MB GOLDSTAR GCD R 540 656 MB PANASONIC CR 581 656 MB MITSUMI FX 400 D 656 MB
Expansion slot on the Riser bus	ENVISION 400: - 1 AT/VESA - 1 AT - 1 AT Full Size ENVISION P75/P100: - 1 AT/PCI - 1 PCI - 1 AT Half Size
Video controller	Enhanced VGA integrated on the motherboard: Trident TGV9470 component with 1 MB of video memory and capable of controlling a television set or a dedicated 14", 15" or 17" monitor
Audio subsystem	CS4231 Sound Port Codec component + Mozart OTI 605 component, compatible with the MPC2 multimedia standard
Modem/Fax board	Creatix, B&V, 3X, Dataflex
MPEG board	Optional, for Video CD management
Console	Equipped with buttons, LEDs, display and remote control sensor
I/O controller	ENVISION 400: Component PC87312: 2 floppy disks, 1 serial port, 1 parallel port, IDE peripherals (HDU and CD-ROM) ENVISION P75/P100: Component FDC 37C665: 2 floppy disks, 2 serial ports, 1 parallel port Component PC87415: IDE peripherals (2 channels for connecting up to four devices: HDUs and CD-ROMs)
Keyboard and mouse controller	Component 8742
Keyboard and Mouse	- Infrared keyboard with trackball - Standard 101/102-key keyboard and standard 2-button mouse

RISER BUS EXPANSION BOARD PCI: IN2044 VESA: IN2041
POWER SUPPLY SP 60 (DVE) 60 W / 120 - 240 V

MOTHERBOARD

NAME	LEVEL	NOTE
BA2243	Lev. Nasc	ISA/VESA motherboard for the ENVISION 400
	Lev. 01	Elimination of the resistor in position R162 which caused random PC resets
	Lev. 02	Due to finished stock, component AD1842 (in position U63) is used in place of component CS4231A
	Lev. 03	<ul style="list-style-type: none"> - Increased the MPEG channel audio level with the replacement of the two 22 KOhm resistors in position R417 and R403 with two 10 KOhm resistors - Solves the problem with the incorrect generation of interrupts from the console with the insertion of a 1000 pF mobile capacitor between U11 pin 7 and U11 pin 2
	Lev. 04	<ul style="list-style-type: none"> - Changes to the wirings to solve the problem with system crashes with the DX4 CPU and MPEG module - Addition of a mobile 4.7 KOhm resistor between U21 pin 20 and U10 pin 27 for power on problems caused by the video controller
	Lev. 05	Insertion of a 15-pin VGA connector (flash gold or 0.87 um gold) in position J8 in place of the 14-pin connector
BA2252	Lev. Nasc	Replaces BA2243.
BA2247	Lev. Nasc	ISA/PCI motherboard for the ENVISION P75.
	Lev. 01	<ul style="list-style-type: none"> - Replacement of the following components: C116, C204, C240, C284, C310, C312, C351, R166 - Elimination of component F244 - Addition of component ACT244
	Lev. 02	To avoid video blackouts at system power on, a 4.7 KOhm axial 1/8W pull-up is added between U11 pin 20 and U23 pin 27
	Lev. 03	To solve the problem with the incompatibility between the VGA video connector (14 pins out of 15) and some of the more common monitor connectors (15 pins out of 15), a 15-pin D-shell connector, one of which is plugged, is replaced by one of the same kind but 15-pin completely flash gold
	Lev. 04	To avoid random video black outs at power on: <ul style="list-style-type: none"> - Introduction of the PWRGOOD signal on the Flash EPROM PWD - Introduction of a wiring between test point TP340 (PWRGOOD signal, U57 pin 62) and the pin hole connected to U58 pin 30 (Flash EPROM) - Modification of R314 from 1 KOhm to 4.7 KOhm
BA2256	Lev. Nasc	Replaces BA2247.
	Lev. 01	To avoid random video blackouts at power on: <ul style="list-style-type: none"> - Introduction of the PWRGOOD signal on the Flash EPROM PWD - Introduction of a wiring between test point TP340 (PWRGOOD signal, U57 pin 62) and the pin hole connected to U58 pin 30 (Flash EPROM) - Modification of R314 from 1 KOhm to 4.7 KOhm
BA2264	Lev. Nasc	ISA/PCI motherboard for the ENVISION P75.
BA2273	Lev. Nasc	ISA/PCI motherboard for the ENVISION P100.

ONBOARD CONTROLLERS

MOTHERBOARD	INTEGRATED CONTROLLERS
BA2243 BA2252	<p>Processor soldered on the motherboard:</p> <ul style="list-style-type: none"> - Intel 486 DX4 @ 100/33 MHz - AMD 486 DX4 @ 100/33 MHz - ST 486 DX4 V 100 @ 100/33 MHz. <p>2nd level cache Soldered on the motherboard.</p> <p>82C465 MV/A (System Controller); Chip set component integrating the following functions:</p> <ul style="list-style-type: none"> - Cache and memory control - Data path unit - I/O interface control. <p>82C602A Chip set component integrating Real Time Clock functions.</p> <p>8742 Keyboard controller and mouse interface.</p> <p>Trident TGV9740 Keyboard controller capable of also managing a normal television.</p> <p>Flash EEPROM System BIOS contained in a 128 KB 28F001BX-T Flash EEPROM.</p> <p>PC87312 Peripheral controller integrating the following functions:</p> <ul style="list-style-type: none"> - Floppy disk control (two drives) - Interface for a serial port - Interface for a parallel port - IDE peripheral control.
BA2247 BA2256 BA2264 BA2273	<p>Intel OverDrive Ready Socket 7: This socket can accommodate the following processors:</p> <ul style="list-style-type: none"> - Pentium 75 @ 75/50 MHz - Pentium 90 @ 90/60 MHz - Pentium 100 @ 100/66 MHz (BA2273 only). <p>VL82C594 (Pentium Controller); Chip set component integrating the following functions:</p> <ul style="list-style-type: none"> - Cache control - Memory control. <p>VL82C595 (System Controller); Two chip set components integrating data path unit functions</p> <p>VL82C596 (PCI-ISA bridge); Chip set component integrating I/O interface control functions:</p> <ul style="list-style-type: none"> - DMA - Interrupt control - Real Time Clock - CMOS <p>8742 Keyboard controller and mouse interface.</p> <p>Trident TGV9740 Video controller capable of also managing a normal television.</p> <p>Flash EEPROM The system BIOS is contained in a 128 KB 28F001BX-T Flash EEPROM.</p> <p>FDC37C665 Super I/O controller integrating the following functions:</p> <ul style="list-style-type: none"> - Floppy disk control (two drives) - Interface for two serial ports - Interface for one parallel port. <p>PC87415 IDE peripheral controller (max. 4 peripherals between HDUs and CD-ROMs).</p>

RISER BUS EXPANSION BOARD

NAME	LEVEL	NOTES
PCI: IN2044	Lev. Nasc	Allows installation of optional AT or PCI boards
	Lev. 01	<ul style="list-style-type: none">- New printed circuit- Lower PCI connector (and terminators) moved due to mechanical problems when inserting PCI boards
VESA: IN2041	Lev. Nasc	Allows installation of optional AT or VESA boards

MPEG BOARD

NAME	LEVEL	NOTES
GO2086	Lev. Nasc	MPEG (Moving Picture Expert Group) board.
	Lev. 01	Due to insufficient DAC gain: <ul style="list-style-type: none">- The following components are replaced: R126, R127, R128, R129 (from 22 KOhm to 10 KOhm), C131, C132 (from 510 pF to 330 pF), C11, C12 (from 180 pF to 510 pF)- The following components are added: two 39 KOhm P300 axial resistors and two 47 KOhm SMD 0805 resistors
GO2090	Lev. Nasc	MPEG (Moving Picture Expert Group) board.

CONSOLE BOARD

NAME	LEVEL	NOTES
CO2001	Lev. Nasc	System console board used for controlling the devices of the multimedia environment.
	Lev. 01	<ul style="list-style-type: none">- Component UPD 75268GF mounted in position U1- Elimination of the components in positions U2, R11, R30, R31, R32- Some of the tracks on the lower side are cut
CO2002	Lev. Nasc	System console board used for controlling the devices of the multimedia environment.
CO2003	Lev. Nasc	System console board used for controlling the devices of the multimedia environment.

15

POWER SUPPLY

NAME	LEVEL	NOTES
SP 60 (DVE)	Lev. Nasc	60 W power supply.
	Lev. 01	Modification to the steel cover in order to increase the area for peripherals and improve assembly operations.

MODEM/FAX BOARD

NAME	SUPPLIER	COUNTRY	LEVEL	NOTES
GO2099	Dataflex	U.K.	Lev. Nasc	Modem/fax board for telematic communication and data transmission
GO2100	B&V	Italy	Lev. Nasc	
GO2101	3X	France	Lev. Nasc	
GO2102	3X	Germany	Lev. Nasc	
GO2103	3X	Italy	Lev. Nasc	
GO2104	3X	Denmark	Lev. Nasc	
GO2105	3X	Holland	Lev. Nasc	
GO2106	3X	Finland	Lev. Nasc	
GO2107	3X	Sweden	Lev. Nasc	
GO2110	Creatix	Belgium	Lev. Nasc	
GO2111	3X	U.K.	Lev. Nasc	
GO2112	Dataflex	Germany	Lev. Nasc	
GO2113	Vayris	Spain	Lev. Nasc	
GO2119	Creatix	Finland	Lev. Nasc	
GO2120	Creatix	Sweden	Lev. Nasc	
MI2092	Creatix	Italy	Lev. Nasc	
MI2093	Creatix	U.K.	Lev. Nasc	
MI2094	Creatix	Norway	Lev. Nasc	
MI2095	Creatix	France	Lev. Nasc	
MI2096	Creatix	Spain	Lev. Nasc	
MI2101	Creatix	Denmark	Lev. Nasc	
MI2102	Creatix	Holland	Lev. Nasc	
MI2103	Creatix	Austria	Lev. Nasc	

BIOS

LEVEL	NOTES
Rev. 2.00	BIOS for the ENVISION 400/P75/P100.
Rev. 2.03	<ul style="list-style-type: none"> - Solves the concerning sound interruption during a DOS session within Windows 95 - Parallel port management independent from the I/O address during the POD.
Rev. 2.06	Solves the problem concerning the boot from floppy disk with the Modem/Fax board allowing also the insertion of the Dataflex version.
Rev. 2.02	BIOS for the ENVISION P75/P100.
Rev. 2.04	<ul style="list-style-type: none"> - Correct management of the Stand-by button. - Corrects the problems with the pending interrupt during System Test - New Trident video code.
Rev. 2.06	Solves some malfunctions and allows the insertion of the Dataflex version for the Modem/Fax board.
Rev. 3.00	<ul style="list-style-type: none"> - Modifications due to the Windows95 logo - Disabled automatic BIOS updates and NVRAM clearing by means of the HOME and INS keys (pressed at power on) <p>Corrects the problem detected by manufacturing when a soft reset is performed</p>
Rev. 3.01	Modification to the parallel port default configuration (I/O address 278h, IRQ5)

SOFTWARE DRIVERS

DRIVER	LEVEL	NOTE
EVD for Trident TGV 9470	Ver. 3.00	Video driver for Windows 95.

SOFTWARE COMPATIBILITY

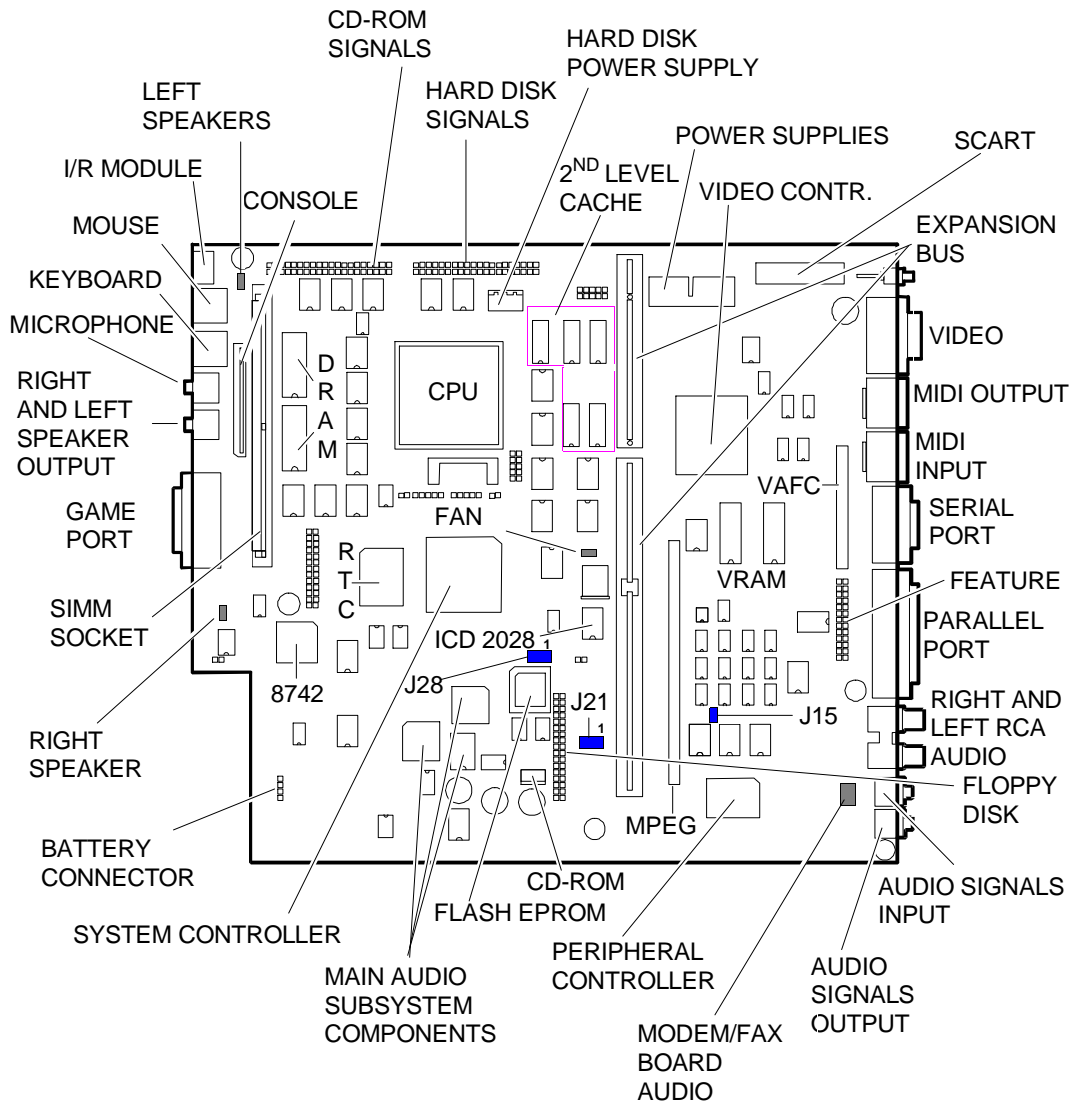
OPERATING SYSTEMS	GRAPHICS APPLICATIONS
MS-DOS, version 6.21	ADOBE PREMIERE for Windows, ver. 1.1
WINDOWS	COREL DRAW for Windows, version 5.0
MS-WINDOWS for WORKGROUPS, ver. 3.11	Harward Graphics for Windows, ver. 1.02
WINDOWS 95	LOTUS Freelance PLUS, version 4.0
WORD PROCESSORS	MICROGRAFX DESIGNER, version 4.1
CREATIVE WRITER	PC PAINTBRUSH 5+, version 1.0
WORD PERFECT, version 6.0a	
WORDSTAR Professional, version 7.0	

HARDWARE COMPATIBILITY

MODEMS	MOUSE
DIGICOM MODEM FAX Mod. SNM41PC	IBM PS/2 MOUSE
HAYES SMART MODEM 2400 B	LOGITECH RADIO MOUSE M-RB24
INTEL SatisFAXtion Modem/400	LAN
DIGICOM MODEM/FAX SNM46SR (external)	NOVELL NE2000 PLUS Ethernet Combo Adapt.
HAYES OPTIMA FAX/MODEM 288 (external)	OLICOM Ethernet OC2123 Adapter
GRAPHICS PRODUCTS	MULTIMEDIA DEVICES
Number Nine GXE Graphics Accelerator	PIONEER LASER DISC V4300D *
INFOTRONIC IPG 64 *	SONY LASER DISC PLAYER LDP3600D *
SPEA VIDEO 7 MERCURY	SONY SLV-E80IT/VP
DISPLAY UNITS	MPC BOARDS
NEC MULTISYNC 5FGE	ROLAND SCC-1
SONY Multiscan CPD 1730	SOUND BLASTER 16 APS

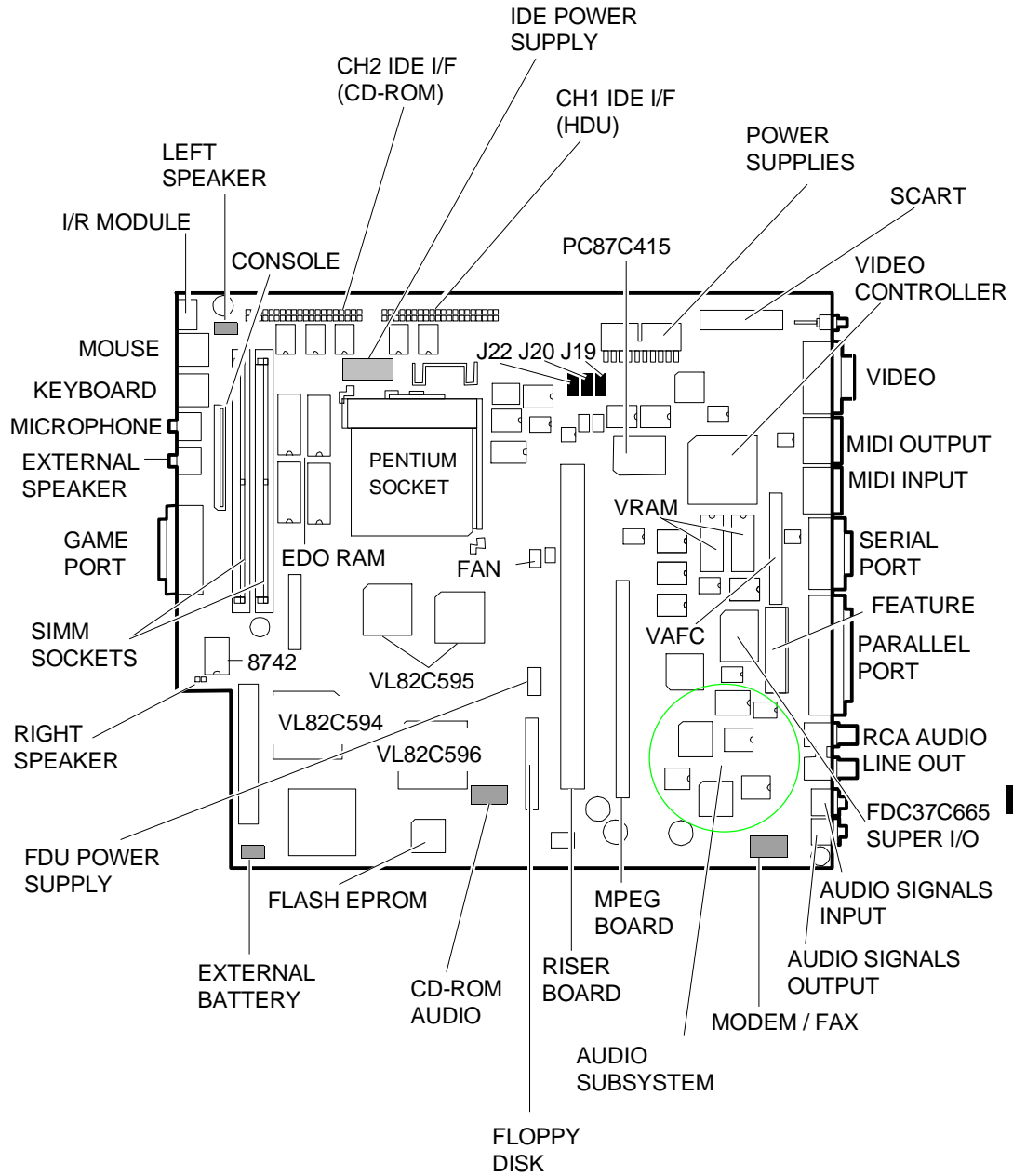
* Compatibility depends on whether specific operations have been carried out, as indicated in the related "Compatibility Guide".

COMPONENTS AND JUMPERS ON MOTHERBOARD BA2243/BA2252



HKC6A

COMPONENTS AND JUMPERS ON MOTHERBOARD BA2247/BA2256/BA2264/BA2273



HKJ6A

JUMPERS ON MOTHERBOARD BA2243/BA2252

Jumper J15 - Setup Enable/Disable

IN Enables Setup (Default)
OUT Disables Setup

Jumper J21 - FDU Write Protect Enable/Disable

Position 1-2 Activates write protection
Position 2-3 Deactivates write protection (Default).

Jumper J28 - Flash EPROM Write Enable/Disable

Position 1-2 Enables writes to Flash EPROM (Default)
Position 2-3 Disables writes to Flash EPROM

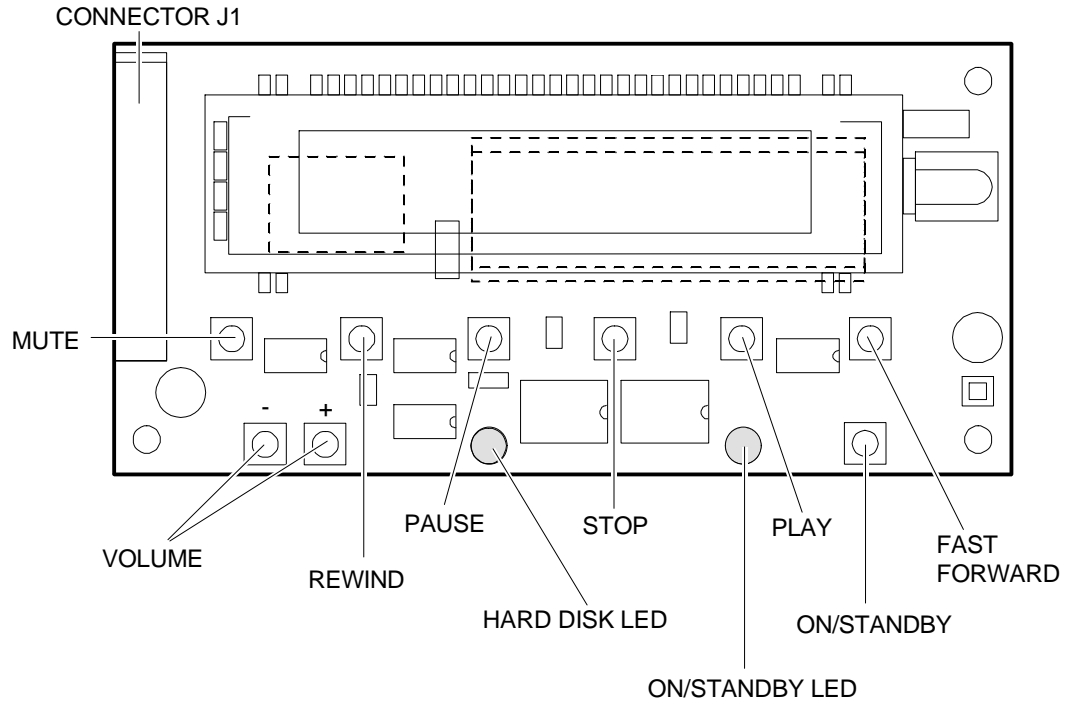
JUMPERS ON MOTHERBOARD BA2247/BA2256/BA2264/BA2273

Jumpers J19, J20 and J22 - System Clock Selection

J19	J20	J22 *	TYPE OF PROCESSOR	PROCESSOR CLOCK	SYSTEM CLOCK
IN	OUT	OUT	Pentium 75	75 MHz	50 MHz
OUT	IN	OUT	Pentium 90	90 MHz	60 MHz
IN	OUT	IN	Pentium 100	100 MHz	66.6 MHz

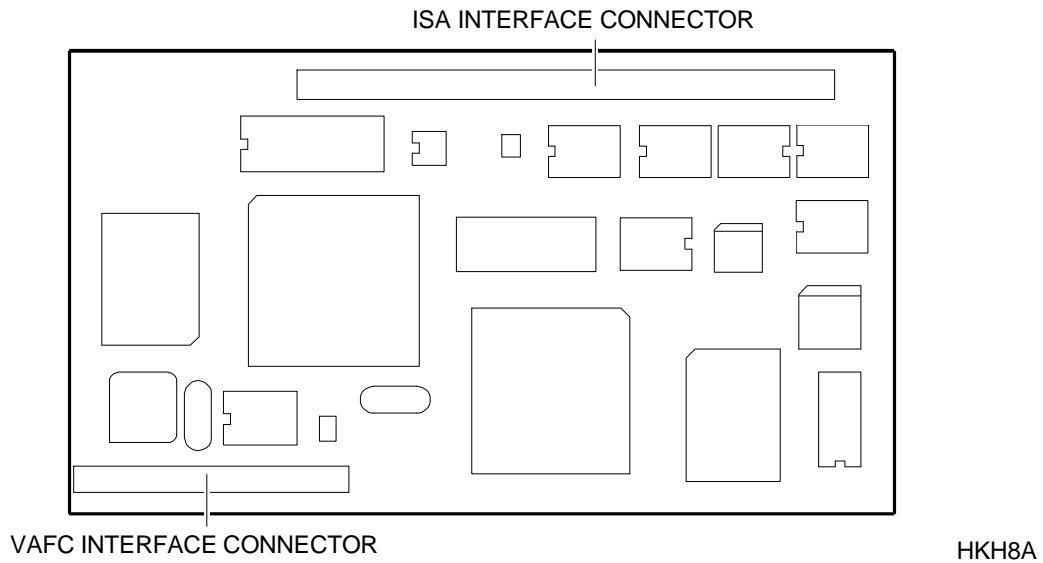
* = Jumper not present on the ENVISION P75 (the Pentium 100 processor cannot be installed).

CONSOLE BOARD (CO2001)



HK11A

MPEG BOARD (GO2090)

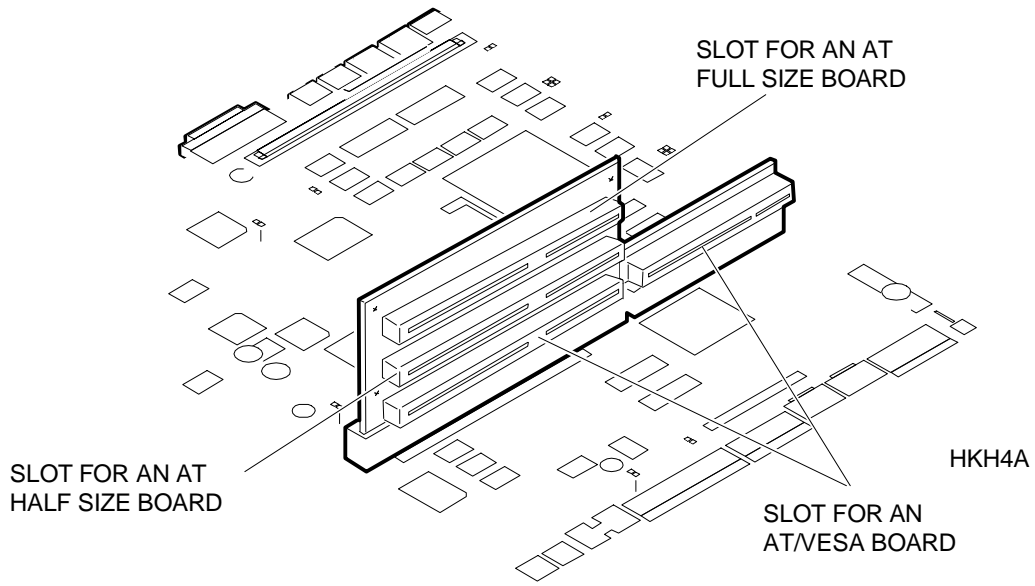


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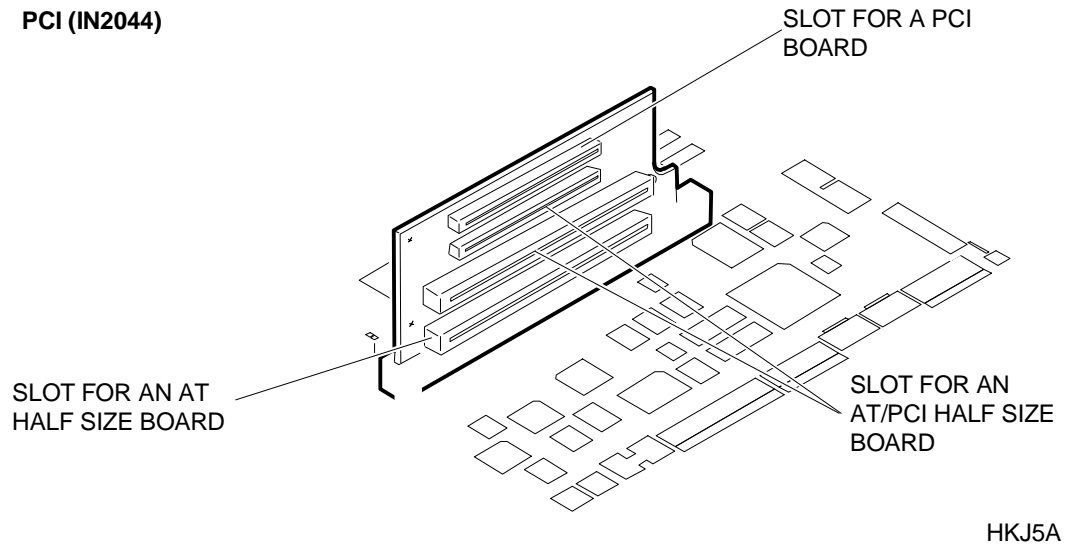
NOTE: Following are the values for the MPEG board logic resources:

Direct Memory Access	06
Input/Output Range	0280 -0298
Interrupt Request	11

**VESA (IN2041)
RISER BUS EXPANSION BOARDS**



PCI (IN2044)



INTERRUPT LEVELS

INTERRUPT	ENVISION 400 DEVICE OR FUNCTION	ENVISION P75/P100 DEVICE OR FUNCTION
IRQ0	Timer Output 0	Reserved
IRQ1	Keyboard	Keyboard
IRQ2	Reserved	Reserved
IRQ3	Modem/FAX	Modem/FAX
IRQ4	Serial port (moveable to IRQ3)	Serial port (moveable to IRQ3)
IRQ5	Audio controller (in Sound Blaster emulation) or MIDI (in Windows Sound System emulation)	Audio controller (in Sound Blaster emulation) or MIDI (in Windows Sound System emulation)
IRQ6	Floppy disk controller	Floppy disk controller
IRQ7	Parallel port	Parallel port (movable to IRQ5)
IRQ8	Clock-calendar	Clock-calendar
IRQ9	MIDI (in Sound Blaster emulation) or audio subsystem (in Windows Sound System emulation)	MIDI (in Sound Blaster emulation) or audio subsystem (in Windows Sound System emulation)
IRQ10	MPEG A Grabber	MPEG A Grabber
IRQ11	MPEG B Play	MPEG B Play
IRQ12	Mouse (PS/2-compatible)	Mouse (PS/2-compatible)
IRQ13	Integrated math coprocessor	Integrated math coprocessor
IRQ14	Primary IDE interface (hard disk and CD-ROM drives)	Primary IDE interface (hard disk and CD-ROM drives)
IRQ15	Console	Console

DMA CHANNELS

DMA CHANNEL	ENVISION 400 DEVICE OR FUNCTION	ENVISION P75/P100 DEVICE OR FUNCTION
0	Free	Riser, audio
1	Audio subsystem	Riser, audio, parallel port
2	Floppy disk drive	Riser, floppy disk
3	Free	Riser, audio, parallel port
4	Reserved	Reserved
5	Free	Riser
6	MPEG module	Riser, MPEG
7	Free	Riser, MPEG

I/O ADDRESSES - ENVISION 400

I/O PORT (HEXADECIMAL)	DEVICE OR FUNCTION
22	Chip set configuration address
24	Chip set configuration data
92	PS/2-compatible port
94-97	Console/Display
98	MPEG register
9A	Motherboard configuration
1F0-1F7	Hard disk
200-201	Game port
220-22F	Audio (Sound Blaster)
330-331	MIDI interface
3F6-3F7	CD-ROM and hard disk
378-37F	Parallel port
388-38B	Free
398-399	PC87312 configuration registers
3B4-3B5	Video
3C0-3CF	Video
3D4-3D5	Video
3D8-3DB	Video
3F0-3F7	Floppy disk drive
3F8-3FF	Serial port
530-537	Audio (WSS)
F8C-F96	Audio subsystem configuration registers
43C6-43C9	Video
83C6-83C9	Video
C3C6-C3C9	Video
218	MPEG module
280-282	MPEG module
290-298	MPEG module

I/O ADDRESS - ENVISION P75/P100

I/O PORT (HEX)	DEVICE OR FUNCTION	LOCATION
0000 - 001F	DMA Controller #1	VL82C596
0020 - 003F	Interrupt Controller #1	VL82C596
0040 - 0043	Counter /Timer	VL82C596
0044 - 005F	General I/O Locations	PCI/ISA Bus
0060	Keyboard Controller	CSROM_KBD# Data on XD Bus
0061	Port B	VL82C596
0062-0063	General I/O Locations	PCI/ISA Bus
0064	Keyboard Controller	CSROM_KBD# Data on XD Bus
0065 - 006F	General I/O Locations	PCI/ISA Bus
0070	0071	NMI Enable
0080-008F &	DMA Page Registers	VL82C596
0090	Sys. Config. Register #1	On Board Register
0091	Sys. Config. Register #2	On Board Register
0092	Port A	VL82C596
0093	General I/O Locations	PCI/ISA Bus
0094 - 0097	Console Registers	Console
0098	Sys. Config. Register #3	On Board Register
009A	Sys. Status Register #1	On Board Register
009B - 009F	General I/O Locations	PCI/ISA Bus
00A0 - 00BF	Interrupt Controller #2	VL82C596
00C0 - 00DF	DMA Controller #2	VL82C596
00E0 - 00ED	General I/O Locations	PCI/ISA Bus
00EE * +	Fast A20	VL82C596
00EF * +	Fast Reset	VL82C596
00F0 **	Coprocessor Busy Clear	VL82C596
00F1 **	Coprocessor Reset	VL82C596
00F2-00F3	General I/O Locations	PCI/ISA Bus
00F4 +	Slow Cpu	VL82C596
00F5 +	Fast Cpu	VL82C596
0170-0177	Secondary IDE Command Block Registers	PC87415
01F0-01F7	Primary IDE Command Block Registers	PC87415
200 - 207	Game Port	OTI605
0220	Sound System	OTI605
0240	Sound System	OTI605
0278 - 027A	Parallel Port	FDC37C665GT
02F8 - 02FF	Serial Port COM2	
0300	MIDI Port	OTI605
0310	MIDI Port	OTI605
0320	MIDI Port	OTI605
0330	MIDI Port	OTI605
0376	Secondary IDE Control Block Registers	PC87415
0378 - 037B	Parallel Port 2	

I/O PORT (HEX)	DEVICE OR FUNCTION	LOCATION
0388	Sound System	OTI605
03B4 - 03B5	Video Subsystem	TVG9470
03BC - 03BF	Parallel Port 1	
03C0 - 03C9	Video Subsystem	TVG9470
03CC - 03CF	Video Subsystem	TVG9470
03D4 - 03D5	Video Subsystem	TVG9470
03D8 - 03D9	Video Subsystem	TVG9470
03DB	Video Subsystem	TVG9470
03F0 - 03F5	Diskette Drive Controller	FDC37C665GT
03F6	Primary IDE Control Block Registers	PC87415
03F7	Diskette Drive Controller	FDC37C665GT
03F8 - 03FF	Serial Port COM1	FDC37C665GT
0530	Sound System	OTI605
0CF8	CONFIG_ADDRESS reg.	VL82C594
0CF9-0CFB	General I/O Locations	PCI/ISA Bus
0CFC	CONFIG_DATA register	VL82C594
0F40	Sound System	OTI605
43C6 - 43C9	Video Subsystem	TVG9470
46E8	Video Subsystem	TVG9470
83C6	Video Subsystem	TVG9470

* Can also be activated through Port A.

** For compatibility, used only to set IGNNE#

+ Can be disabled by means of the VSF# bit of the BUSCTL register.

& The *612 memory mappers* are not disabled when the internal DMA is disabled.

SYSTEM MEMORY MAP

