

M6-640 / M6-640 DP

CHARACTERISTICS

Microprocessor	<p>M6-640 Pentium 90 MHz internal clock 60 MHz system clock Pentium 100 MHz internal clock 66 MHz system clock</p> <p>M6-640 DP 2 Pentiums 90 MHz internal clock 60 MHz system clock The two processors work in parallel</p>																																
Architecture	ISA / PCI																																
Memory	<p>Memory: minimum 8 MB, maximum 128 MB. The motherboard has four sockets arranged in two banks into which the following SIMMs can be installed:</p> <p>EXM 28-004 One 1MB x 36 (4 MB) SIMM EXM 28-008 One 2MB x 36 (8 MB) SIMM EXM 28-016 One 4MB x 36 (16 MB) SIMM EXM 29-032 One 8MB x 36 (32 MB) SIMM</p> <ul style="list-style-type: none"> - Two kits are always required - 8, 16, 32 or 64 MB banks can be configured. Mixed configurations can be used. - Different SIMMs cannot coexist in the same bank. 																																
Memory access	70 ns																																
Cache	<ul style="list-style-type: none"> - 8 KB of primary cache integrated in the microprocessor - 256 KB or 512 KB of secondary cache available in a chip to be installed in the appropriate socket on the motherboard. 																																
Floppy Disk	<p>M6-640 Personal Computer</p> <table> <tr><td>Sony MP-F40W</td><td>2.88 MB</td></tr> <tr><td>Toshiba ND08 DE</td><td>1.2 MB</td></tr> <tr><td>Panasonic JU 475-3 / JU 475-4</td><td></td></tr> <tr><td>JU 475-5</td><td>1.2 MB</td></tr> </table> <p>M6-640 DP Personal Computer</p> <table> <tr><td>Panasonic JU 257 A</td><td>1.44 MB</td></tr> <tr><td>Sony MP-F17 W</td><td>1.44 MB</td></tr> <tr><td>Sony MPP420-1</td><td>1.44 MB</td></tr> <tr><td>Mitsubishi MF 355</td><td>1.44 MB</td></tr> <tr><td>EPSON SMD 1040-418</td><td>1.44 MB</td></tr> <tr><td>Mitsumi D359T3</td><td>1.44 MB</td></tr> <tr><td>TEAC FD235HF</td><td>1.44 MB</td></tr> <tr><td>Y-E DATA YD-702B</td><td></td></tr> <tr><td>Y-E DATA YD-702D</td><td>1.44 MB</td></tr> <tr><td>Toshiba ND08 DE</td><td>1.2 MB</td></tr> <tr><td>Panasonic JU 475-3 / JU 475-4</td><td></td></tr> <tr><td>JU 475-5</td><td>1.2 MB</td></tr> </table> <p style="text-align: right;">Continues</p>	Sony MP-F40W	2.88 MB	Toshiba ND08 DE	1.2 MB	Panasonic JU 475-3 / JU 475-4		JU 475-5	1.2 MB	Panasonic JU 257 A	1.44 MB	Sony MP-F17 W	1.44 MB	Sony MPP420-1	1.44 MB	Mitsubishi MF 355	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		Y-E DATA YD-702D	1.44 MB	Toshiba ND08 DE	1.2 MB	Panasonic JU 475-3 / JU 475-4		JU 475-5	1.2 MB
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MOTHERBOARD

BA2139 - M6-640
Single processor with integrated video controller

BA2144 - M6-640
Single processor without integrated video controller

BA2149 - M6-640
Single processor with integrated video controller

BA2151 - M6-640
Single processor without integrated video controller

BA2173 - M6-640 DP
Dual processors without integrated video controller

BIOS

The ROM BIOS is a Flash EPROM. The BIOS code is supplied on diskettes and must be copied into Flash EPROM.

Last level:
Rev. 1.16

Hard Disk	420 MB W.D. AC 2420 F 420 MB SEAGATE ST 3491 420 MB CONNER CFS 420 A 540 MB CONNER CFA 540 A 1 GB MICROPOLIS 4110 A
Streaming Tape	Irwin 31250A 80/120 MB Floppy interface Wangtek 5159ES 150 MB SCSI interface Wangtek 5525ES - 5525ES-ACA 320 MB SCSI interface CONNER 2525 320 MB SCSI interface. All STUs with SCSI interface require the ASC-2 or ASC-2F controller.
Expansion slots	<ul style="list-style-type: none"> - Expansion slots on the CARD RISER expansion board". - Three full-size AT ISA slots - One half-size PCI slot - One shared ISA AT/PCI slot - Expansion slots on the motherboard <ul style="list-style-type: none"> - One AT slot M6-640 - An audio board is installed M6-640 DP - The ASC-2F SCSI controller is installed - One PCI slot A video controller board is installed in systems whose motherboard does not have an integrated video controller.
Video controller	<ul style="list-style-type: none"> - CL-GD5434 (Smarty) integrated on the motherboard - On the BA2139, BA2149 motherboards - GO2027, GO2049 (REALITY-40 MATROX) PCI video controller board installed in the motherboard PCI slot. On the BA2144, BA2151, BA2173.
Audio subsystem	This board is installed in a motherboard AT slot. <ul style="list-style-type: none"> - MOZART AUDIO BOARD - MPC MOZART AUDIO BOARD - MODEM / FAX / AUDIO (MI2047) BOARD
HDU and FDU controllers	Floppy disk controller: FDC37C665 Super I/O controller PCI IDE local bus HDU controller: SL82C101P
Mouse	PS/2- and AT-compatible
Keyboard	101/102-key ANK 27-101/N, ANK 27-102/N Compact keyboard 101/102-key ANK 28-101, ANK 28-102 Super compact keyboard

EXPANSION BUS
POWER SUPPLY
ASTEC (SP 200BC) SP 210 B AA19100-200 200 W / 120 - 240 V

MOTHERBOARD

	LEVEL	D.R.S. CODE	ROM BIOS	NOTES
BA2139	Nasc.		The ROM BIOS is a Flash EPROM. The BIOS code is supplied on diskettes and must be copied into Flash EPROM.	M6-640 motherboard - Single processor, with an integrated video controller.
BA2144	Nasc.			M6-640 motherboard - Single processor, without an integrated video controller.
BA2149	Nasc.			M6-640 motherboard - Single processor, with an integrated video controller. Replaces BQ2139.
BA2151	Nasc.			M6-640 motherboard - Single processor, without an integrated video controller. Replaces BA 2144.
	Lev. 01			A 10 KOhm pull-up resistor has been added between pins 13 and 20 of the component at location U8 to correct the misacknowledgement of the asynchronous 256 KB cache chip.
	Lev. 02			New 90 MHz Pentium P54C processor mask. This new Step B3 mask replaces the earlier Step B1 mask.
BA2173	Nasc.			M6-640 DP motherboard - Dual processor, without an integrated video controller.

MOTHERBOARD INTEGRATED COMPONENTS

MOTHERBOARD	INTEGRATED CONTROLLERS
<p>BA2139 BA2149</p>	<p>90 or 100 MHz Pentium P54C processor</p> <p>VL82C591 This chip set component offers the following functions:</p> <ul style="list-style-type: none"> - System processor control - Interfaces the processor with other motherboard components - Interfaces the processor with the PCI local bus - Interfaces the processor with the cache controller - System memory control - Secondary cache memory control. <p>Socket for the secondary level cache chip</p> <p>VL82C592 This chip set component offers data buffering functions. Two VL82C592 components are used in this system.</p> <p>VL82593 This chip set component offers the following functions:</p> <ul style="list-style-type: none"> - Bridging between the PCI local bus and ISA bus - Math coprocessor - CPU reset support - System timing control - PCI bus control - ISA bus control - DMA request - memory refresh management - Interrupt - timer / counter control - Interface with the keyboard controller - Real Time Clock - System Power Management for ecological performance - 178 bytes of CMOS RAM powered by a lithium battery. <p>FDC37C665 Super I/O controller offering the following functions:</p> <ul style="list-style-type: none"> - Floppy disk control - interface for the two serial ports. - Multi-mode, bidirectional parallel port interface - Interface for intelligent hard disks (IDE AT). <p>SL82C101P This component provides an IDE PCI hard disk interface which allows the connection of fast local bus hard disks</p> <p>8742 Keyboard controller and mouse interface</p> <p>Flash EEPROM The system BIOS is contained in a 128 KB 28F001BX Flash EEPROM.</p> <p>ICD2093 Oscillator with clock generation functions. This component offers the following functions:</p> <ul style="list-style-type: none"> - Selectable output frequency depending on the type of CPU - System CPU clock which can vary within the 10 MHz to 100 MHz range. - Four fixed frequency outputs for the management of the other system clocks. The output values are: Two at 14,318 MHz, one at 16 MHz and one at 24 or 32 MHz <p>ICD2028 Oscillator with clock generation functions. This component offers the following functions:</p> <ul style="list-style-type: none"> - Eight independent outputs to manage the different motherboard clocks - CPU clock which can vary within the 10 MHz to 100 MHz range when the component is powered by 5 V, or which varies within the 10 MHz to 80 Mhz range when powered by 3.3 V - Battery power supply input to keep the system clock active even when the system is powered off <p>CL-GD5434 Video controller</p>
<p>BA2144 BA2151</p>	<p>These boards are not equipped with an integrated video controller.</p>
<p>BA2173</p>	<p>This board has a ZIF (Zero Insertion Force) socket into which the second Pentium processor is installed. <i>Dual Processor</i> solution for the M6-640 DP</p>

AUDIO BOARD

BOARD	LEVEL	NOTES
Mozart Audio Board	Nasc.	Audio board
MPC Mozart Audio Board	Nasc.	Audio board with joystick interface
Audio / Modem / Fax Board (MI2047)	Nasc. Lev. 01	To avoid noise disturbance, the connectors on the DAA adapter on the modem/fax board have been replaced.

VIDEO CONTROLLER BOARD

BOARD	LEVEL	NOTES
REALITY-40 (GO2049)	Nasc. Lev. 01	This board replaces GO 2027. To correct the crosstalking between the ADBUS and DBUS in VGA mode, and the problems concerning the hardware Setup of the 50 MHz clock, the following modifications are made: <ul style="list-style-type: none">- The following resistors are moved: R70 to R69; R50 to R49- The following capacitors are added: 33 pF capacitor between pins 17 and 20 of the component at location A25; 33 pF capacitor between pins 1 and 16 of the component at location A25; 33 pF capacitor between pins 13 and 20 of the component at location A23.

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USER DISKETTE

LEVEL	NOTES
Rev. 1.00	This version requires BIOS 1.06, at least.
Rev. 1.01	This version includes the following modifications: <ul style="list-style-type: none">- All tests are linked with the new System Test Library 4.11 which implements the Fast Mode option for factory use.- The memory test has been modified.

SYSTEM TEST

LEVEL	NOTES
Rev. 1.01	This version requires BIOS 1.06, at least.
Rev. 1.02	This version includes the following modifications: <ul style="list-style-type: none">- All tests are linked with the new System Test Library 4.11 which implements the Fast Mode option for factory use.- The memory test has been modified. Cache subtest also modified.

POWER SUPPLY

POWER SUPPLY	LEVEL	DESCRIPTION
ASTECC (SP 200BC) SP 210 B AA19100-200	Nasc. Lev. 01	200 W power supply for TIN BOX cases. <ul style="list-style-type: none">- To correct the power supply from not powering off when short circuits on the 3.3 V occur, the value of resistor R229 has been changed from 3.3 KOhm to 6.8 KOhm.- The following modifications have been made to improve the fan speed regulation circuitry and reduce the fan's operating noise:<ul style="list-style-type: none">- The thermistor has been moved from the board to the side of the fan box near the air flow window opening.- The fan speed regulation circuitry has been modified by the addition of components R307 - R309 - R310 - Q302 and by the variation of the value of resistors R311 - R312 - R308 (the printed circuit was already preset for these modifications).

SOFTWARE DRIVERS

DRIVER	NOTES
EVD Driver Ver. 1.01	
EVD Driver Ver. 1.02	

BIOS

LEVEL	NOTES
Rev. 1.06	BIOS for single processor M6-640 systems.
Rev. 1.11	BIOS for single processor M6-640 systems. Corrects some of the problems with the previous version, in addition to solving different compatibility problems.
Rev. 1.13	Corrects some of the problems with the Plug and Play Utility
Rev. 1.16	

BUS EXPANSION BOARD

NAME	LEVEL	NOTES

SOFTWARE COMPATIBILITY

OPERATING SYSTEMS	DTP PRODUCTS
DR-DOS, Version 7.00 IBM PC-DOS, Version 5.0 IBM PC-DOS, Version 6.1 OLIVETTI MS-DOS, Version 3.30 Rev. 1.03 ** OLIVETTI MS-DOS, Version 4.01 Rev. 1.06 ** ** Require the floppy disk be set as a 3.5", 1.44 MB drive using the Configuration Utilities	ALDUS PAGEMAKER for Windows, V. 4.0 ALDUS PAGEMAKER for OS/2, V. 3.01 GEM/3 DESKTOP PUBLISHER, V. 2.0 VENTURA PUBLISHER DOS/GEM Edition, Version 3.0
WINDOWS APPLICATIONS	
ALDUS PAGEMAKER, Version 5.0 ** AMI PRO for Windows, Version 3.0 COROPERATING SYSTEM ELDRAW for Windows, Version 4.0 LOTUS 1-2-3 for Windows, Version 4.01 LOTUS FREELANCE GRAPH for Win, V. 2.01 MS-EXCEL, Version 5.0 MS-WINDOWS, Version 3.1	MS-WINDOWS for WORKGROU, V. 3.11 MS-WORD for Windows, Version 6.0 MS-WORKS for Windows, Version 2.0 MS-POWERPOINT for Windows, Version 3.0 WORD PERFECT for Windows, Version 5.1 XEROX VENTURA PUBLISHER for Windows V. 4.1.1 ** Modifies the autoexec.bat file by adding the Aldus directory to the path
GRAPHICS	WORD PROCESSING
AUTOCAD, Version 11 ** AUTOCAD, Version 12 AUTODESK 3D STUDIO, Version 3.0 CHARISMA for Windows, Version 2.1 LOTUS FREELANCE GRAP for OS/2, Ver. 2.0 LOTUS FREELANCE PLUS, Version 4.0 MICROGRAFX DESIGNER, Version 4.0 MS-CHART, Version 3.0 PC PAINTBRUSH 5+, Version 1.0 ** Remove the Himem.sys string from the config.sys file	LOTUS AMI PRO for OS/2, Version 3.0 MS-WORD for DOS, Version 6.0 MS-WORD for OS/2, Version 5.5 WORD PERFECT for DOS, Version 6.0a WORD PERFECT for OS/2, Version 5.0 WORDSTAR PROFESSIONAL, Ver. 7.0

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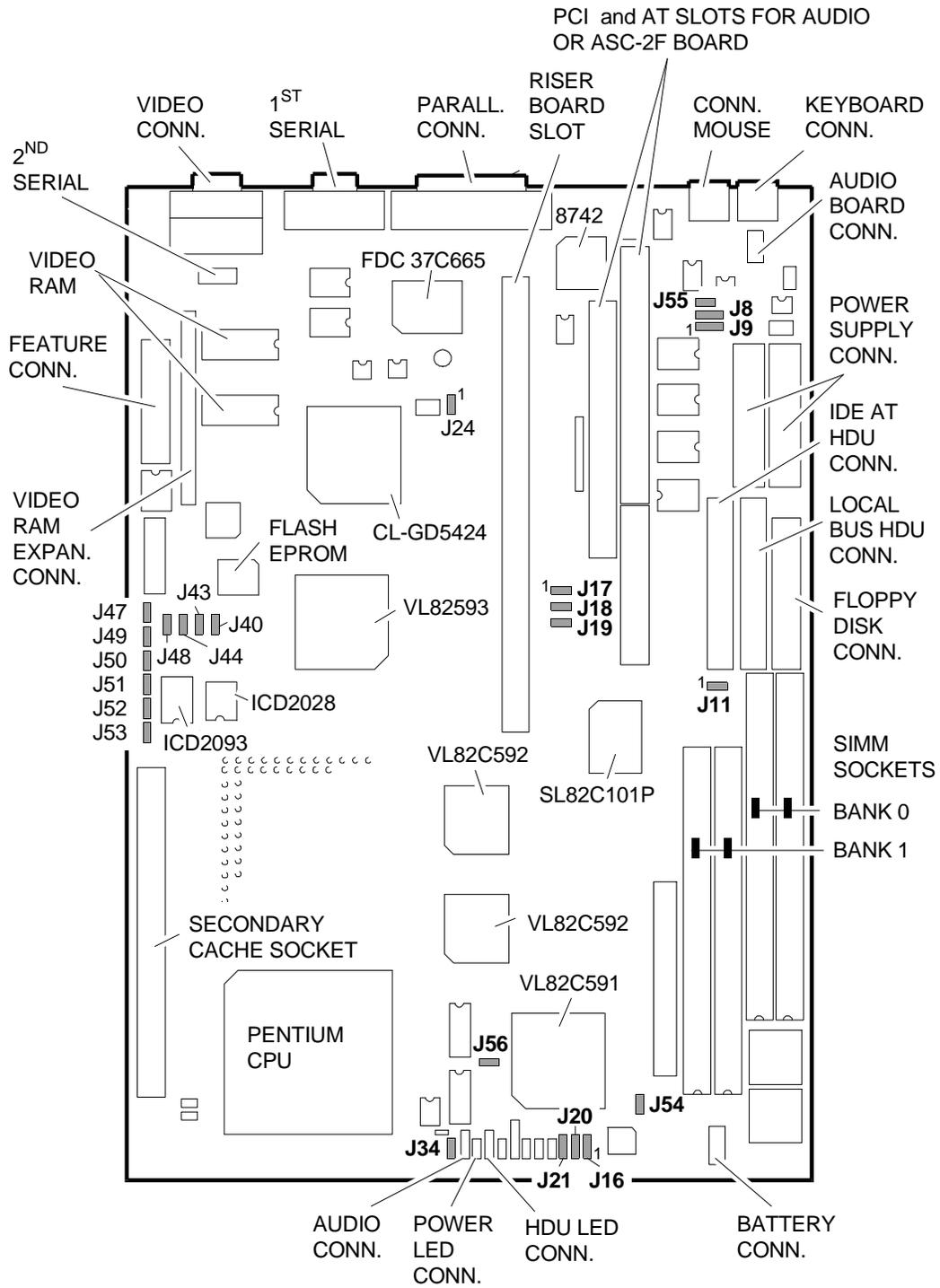
HARDWARE COMPATIBILITY

MODEM	CD - ROM
IBM PS/2 MOUSE LOGITECH MOUSEMAN BUS MOUSE LOGITECH RADIO MOUSE MS BALL POINTER MOUSE MS-BUS MOUSE MS P/S2 Serial Mouse	PHILIPS CD-RECORDER CDD521 CD-WRITER 521 ** SONY CD ROM DRIVER, Version CDU 33A SONY CD ROM DRIVER, Version CDU 561 SONY CD ROM DRIVER, Version CDU 7305 SONY CD ROM DRIVER, Version CDU 7811 ** The Mozart board drivers must only be disabled in Windows
INTELLIGENT MULTIPOINT	GRAPHICS PRODUCTS
MULTIPOINT PRODUCTS CHASE AT 16+ Serial I/O Controller DIGIBOARD MULTIPOINT PC/8 SPECIALIX SI/8	ATI Mach 64 V Graphics Accelerator DIAMOND VIPER PCI / INFOTRONIC XGC NUMBER NINE GXE Graphics Accelerator NUMBER NINE GXE64 PCI Graphics Accel. MATROX MGA IMPRESSION 3Z/A ORCHID KELVIN 64 / SPEA VIDEO 7 MERC.

NETWORK and LAN PRODUCT SOFTWARE	
10NET PLUS, Version 5.0 BANYAN VINES, Version 5.53 DEC PATHWORKS FOR OS/2, Version 2.0 IBM PC LAN PROGRAM, Version 1.30 IBM PC LAN SUPPORT PROGRAM, V. 1.2 IBM OS/2 LAN SERVER, Version 3.0 ** INTEL LANDESK MANAGER, Version 1.5 MS LAN MANAGER for OS/2, Version 2.1	NOVELL NETWARE 386, Version 3.12 NOVELL NETWARE 386, Version 4.01 NOVELL NETWARE Lite, Version 1.1 PERSONAL NETWARE, Version 1.0 PROLOGUE 5, Version 5.1B10 NET ** ** When using the DOS client configuration, cache disabled must be set by means of the Configuration Utilities
NETWORK and LAN PRODUCT HARDWARE	
COM ETHERLINK II ADAPTER 3C503 **1 3COM ETHERLINK PLUS ADAPTER 3C505 **2 3COM ETHERLINK 16 ADAPTER (3C507) 3COM ETHERLINK III ADAPTER (3C509) 3COM TOKENLINK III ADAPTER (3C619) 3COM TOKENLINK PLUS ADAP. 3C603 **3 DEC ETHERWORKS TURBO TP ADAPTER DEC ETHERWORKS TURBO ADAP DE203 DEC ETHERWORKS TURBO ADAP DE200 D-LINK DT-220 ADAPTER IBM ISA ETHERNET CX ADAPTER **3 IBM ISA ETHERNET TP ADAPTER IBM TOKEN RING 16/4 ADAPTER IBM TOKEN RING PC ADAPTER II **3 INTEL ETHEREXPRESS 16 ETHERNET ADAP INTEL ETHEREXPRESS 16 FLASH TP	INTEL TOKEN EXPRESS ISA 16TP FLASH TOKEN RING ADAPTER MADGE 16/4 AT RING NODE ADAPTER NOVELL NE1000 LAN ADAPTER NOVELL NE2000 PLUS ETHERNET ADAPTER **1 Cache must be disabled when using the IBM OS/2 LAN Server SW Kit Ver. 3.0 in DOS client configurations. **2 For correct operation under DOS Windows, the parameter "DATATRANSFER=PIO_WORD" must be added to the protocol.ini file and cache disabled must be set during setup. **3 Cache disabled must be set during setup.
MULTIMEDIA ENVIRONMENT SOFTWARE	
AIMTECH ICON AUTHOR, Version 5.0 PHOTO STYLER, Version 1.1 ASYMETRIX TOOLBOOK Version 1.53 AUTHOWARE STAR, Version 1.0A DRAGON'S LAIR for Reel Magic IM-AGE, Version 3.0 ** MPC SAMPLER	MS VIDEO for Windows Version 1.0 MS WINDOWS SOUND SYSTEM, Version 1.0 MS WINDOWS SOUND SYSTEM, Version 2.0 ** Incompatibility problems arise when using the Reality-40 video controller.
MULTIMEDIA ENVIRONMENT HARDWARE (DVO/DVI)	
ACTIONMEDIA II CAPTURE MODULE **1 INTEL SMART VIDEO RECORDER LIFE VIEW VIDEO (Video II Capture Board) PRO MOVIE STUDIO FAST SCREEN MACHINE (ISA) Mod 1 REEL MAGIC SCSI	REEL MAGIC SONY **2 SUPER VIDEO Windows & Super Motion Compression CM Ver.1.3B (ISA) VIDEO BLASTER VIDEOLOGIC DVA 4000/ISA **3 WIN/TV 02 **4
**1 The background color and character set color are identical when using the Reality-40 video controller board with the ActionMedia board installed. This problem is corrected by using the Smarty video controller and enabling the "VGAPaletteSnooping" parameter in the Advanced Setup program. **2 Using the Reality video controller and the feature connector with the "VGAPaletteSnooping" parameter enabled, the colors change randomly when switching from DOS to Windows. **3 The background color and character set color change randomly when using the Reality video controller. This problem is corrected by using the Smarty video controller and enabling the "VGAPaletteSnooping" parameter in the Advanced Setup program. **4 When launching the Win/TV program, a purple frame is displayed. When exiting the "Video for Windows" environment the following message is displayed: "Application Error, call to undefined dynalink". The Win/TV program will not work with the Matrox EVD256 colors.	

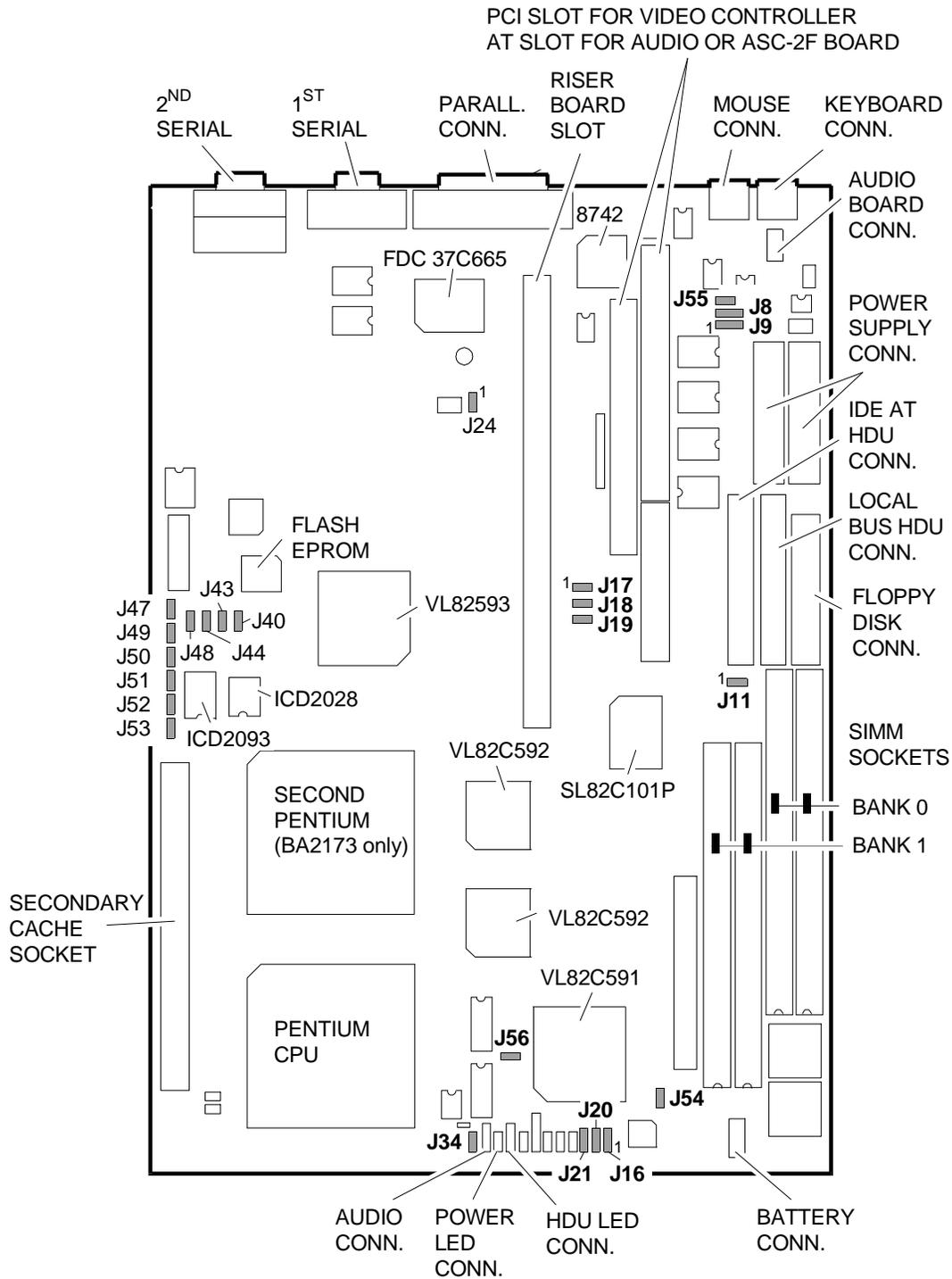
<p>DISPLAY</p> <p>NEC MULTISYNC 4 FGE NEC MULTISYNC 5 FGE NEC MULTISYNC 6 FGE SONY CPD-1430 SONY CPD-1730 SONY GDM-2038</p>	<p>CONTROLLER DEVICE</p> <p>ADAPTEC 1540C SCSI HOST ADAPTER ADAPTEC 1540CF SCSI HOST ADAPTER ADAPTEC 1542B SCSI HOST ADAPTER ADAPTEC 2940 SCSI HOST ADAPTER FUTURE DOMAIN SCSI / PCI Controller QLOGIC Fast SCSI IQ-PCI SONY COR-334 KIT SONY OPA-474 KIT MINISCSI PLUS HIGH PERFORMANCE Parallel to SCSI Adapter</p>
<p>MPC BOARDS</p> <p>LOGITECH AUDIOMAN ORCHID SOUND WAVE 32 PRO AUDIO SPECTRUM 16-SDLC PRO AUDIO SPECTRUM 16 BASIC **1 PRO AUDIO FUSION DOUBLE CD 16 Kit SOUND BLASTER PRO 2 SOUND BLASTER 16 APS SOUND BLASTER 16 SCSI II SOUND MIDAS CONTROLLER 16 Pro PnP</p> <p>**1 Before installing the board management software the following parameters must be disabled in the Advanced Setup program:</p> <ul style="list-style-type: none"> - Ide 32-bit transfer mode - Ide Block mode - Ide Master LBA Mode - Ide Slave LBA mode - Ide PIO Mode 3 <p>The default values can be restored once the board is installed.</p>	<p>ACOUSTIC DEVICE</p> <p>SRS 170 ACTIVE SPEAKER SYSTEM SONY SRS 77G ACTIVE SPEAKERS SYSTEM</p> <p>VIDEO DEVICE</p> <p>PIONEER LASER DISC CLD-V2300D PIONEER LASER DISC V4300D</p>

COMPONENTS AND JUMPERS ON MOTHERBOARD BA2139 - BA2149



GQE4A

COMPONENTS AND JUMPERS ON MOTHERBOARD BA2144 - BA2151 - BA2173



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GQE4A

MOTHERBOARD JUMPERS

Jumpers J16, J20, J21, J56 - Cache memory type

JUMPERS				CACHE MODULE	TAG CONFIGURATION	TYPE OF TAG
J16	J20	J21	J56			
2-3	1-2	2-3	2-3	512 KB BURST	DUAL	8 K x 8
1-2	2-3	1-2	1-2	256 KB BURST*	SINGLE	8 K x 9
1-2	2-3	1-2	1-2	256 KB ASYNC	SINGLE	8 K x 9

NOTE: A single TAG configuration consists of two parallel TAGs.

Jumper J9 - Parallel port DMA channel selection

Position 1-2 The DRQ1 DMA channel is used (Default)

Position 2-3 The DRQ3 DMA channel is used

Jumper J18 - Parallel port DMA channel acknowledge selection

Jumper J19 - Parallel port interrupt channel selection

Position 1-2 The DACK1 DMA channel is used (Default)

Position 2-3 The DACK3 DMA channel is used

Position 1-2 The IRQ5 interrupt channel is used

Position 2-3 The IRQ7 interrupt channel is used (Default)

Jumper J11 - Floppy disk write protection

Position 1-2 Disables floppy disk write protection (Default)

Position 2-3 Enables floppy disk write protection

Jumpers J8 & J17 - Serial port enable/disable

Position 1-2 Disables the serial ports

Position 2-3 Enables the serial ports (Default)

Jumper J34 - System RESET connector

Short circuiting this connector resets the system.

Jumpers J51, J52, J53 - CPU clock selection

J53	J52	J51	CPU CLOCK
IN	OUT	OUT	50 MHz
OUT	IN	OUT	60 MHz Default - This value must not be changed
IN	OUT	IN	66 MHz

Jumper J31 - CPU internal clock selection

Do not change the position of this jumper.

Jumpers J47, J49, J50 - PCI bus clock selection

J50	J49	J47	PCI BUS CLOCK
IN	OUT	OUT	25 MHz
OUT	OUT	IN	30 MHz Default - This value must not be changed
IN	IN	OUT	33 MHz

Jumpers J44 & J48 - PCI clock configuration

J44	J48	PI CLOCK
IN	OUT	Asynchronous PCI clock - The PCI bus clock is half the CPU clock. Jumpers J47, J49 and J90 (PCI bus clock selection) are insignificant.
OUT	IN	Asynchronous PCI clock - The PCI bus clock is set by means of jumpers J47, J49 and J50.

Jumper J24 - On-board video controller enable/disable

Position 1-2 Disables the motherboard video controller

Position 2-3 Enables the motherboard video controller (this is the default setting for the systems with an integrated video controller)

Jumper J55 - Access to the configuration utilities

IN Disables access to the configuration utilities

OUT Enables access to the configuration utilities (Default)

Jumper J54 - CMOS RAM cancellation

IN Cancels the contents of the CMOS RAM

OUT Normal operation (Default)

Jumper J43 - Primary Flash EPROM write enable

IN Enables writes to the primary Flash EPROM (Default)

OUT Disables writes to the primary Flash EPROM

Jumper J40 - Secondary Flash EPROM write enable

IN Enables writes to the secondary Flash EPROM

OUT Disables writes to the secondary Flash EPROM (Default)

Jumper J30 - Dual processor configuration (for BA2149, BA2151 and BA2173 only)

OUT Only one processor installed (default for BA2149, BA2151)

IN on 2-3 Two processors installed (default for BA2173)

Jumper J29 - APIC enable/disable

IN on 1-2 APIC disabled (M6-640)

IN on 2-3 APIC enabled (M6-640 DP)

INTERRUPT LEVELS

INTERRUPT	FUNCTION
IRQ0	Timer
IRQ1	Keyboard
IRQ2	Reserved
IRQ3	Serial port 2
IRQ4	Serial port 1
IRQ5	Free (or parallel port 2, if selected)
IRQ6	Floppy disk controller
IRQ7	Parallel port 1
IRQ8	Clock - Calendar
IRQ9	Free *
IRQ10	Free *
IRQ11	Free *
IRQ12	Mouse (PS/2-compatible)
IRQ13	Integrated math processor
IRQ14	Hard disk interface on the PCI local bus
IRQ15	Free *

* The available interrupts are automatically assigned to any PCI board installed starting from IRQ10. IRQ9 is always assigned to the REALITY-40 video controller.

NOTE: The mouse cannot be used if IRQ12 must be assigned to an optional device. To set this choice, change the Mouse Support option of the configuration program's Advanced Menu.

DMA CHANNELS

DMA CHANNEL	DEVICE OR FUNCTION
0	Free
1	Reserved for use in the port's Enhanced Mode
2	Parallel
3	Floppy disk transfers
4	Free
5	Reserved
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
1F0 - 1F7	Primary IDE channel
278 - 27B	Secondary LPT2 parallel port
2F8 - 2FF	Primary COM2 serial 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 commands 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

