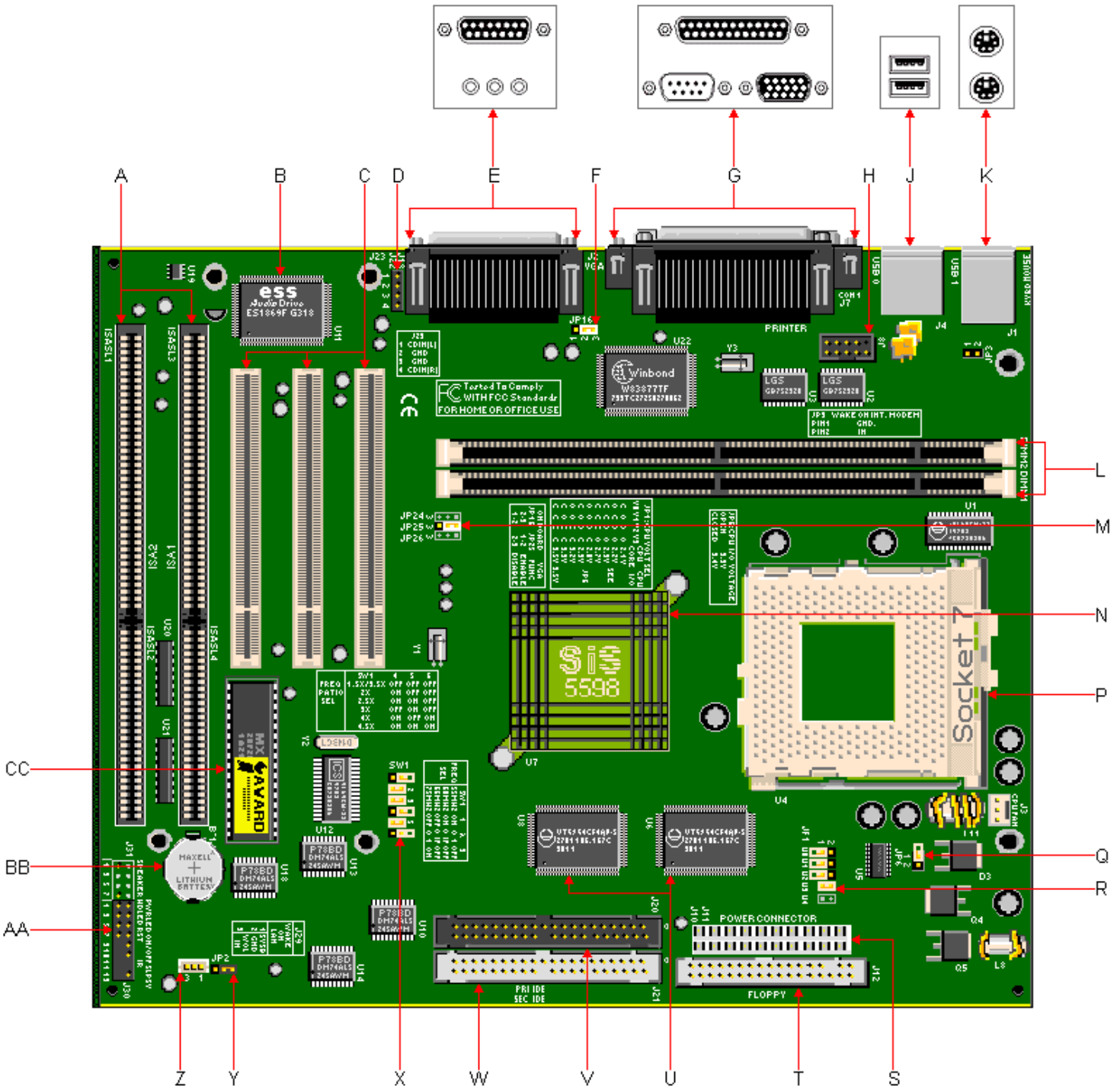
Packard Bell 992 M/Board



Item	Description	Item	Description
A	ISA Slots	Q	Jumper JP6 - CPU Voltage Selection
B	ESS 1869F Audio Controller Chipset	R	Jumper Block JP1 - CPU Voltage Selection
C	PCI Slots	S	Primary Power Connector
D	CD Audio-In Connector	T	FDD Connector
E	Rear Ports - MIDI/Game Port, Audio Jacks	U	SRAM Cache Chips
F	Jumper JP16 - On-Board VGA Function	V	Primary IDE Connector
G	Rear Ports - Parallel, Serial, VGA	W	Secondary IDE Connector

H	Header J8 - Serial Interface Port-II	X	Jumper Block SW1 - CPU Clock Selection
J	Dual USB Port	Y	Jumper JP2 - CMOS Password Clear
K	PS/2 Keyboard & Mouse Ports	Z	Header J29 - Wake-On-LAN
L	DIMM Sockets	AA	Header J30 - Front Panel Connectors
M	Jumper JP25 - On-Board VGA Function	BB	Battery
N	SiS 5598 PCI/ISA/VGA Controller Chipset	CC	Flash BIOS
P	CPU ZIF Socket (Socket 7)		

Specification

- **Audio :** ESS 1869F 3D Audio Chipset
- **Battery :** Socketed 3 volt Lithium coin cell battery.
- **BIOS :** Flash EEPROM. System BIOS by Award.
- **Bus :** PCI 2.1/ISA based system bus. Supports CPU bus clock 55/60/66/75MHz. Supports 27.5/30/33MHz PCI bus speed
- **Cache :** 16K level 1 cache. 0, 256K or 512K level 2 cache, non-upgradeable.
- **Chipset :** SiS 5598 PCI/ISA/VGA Controller Chipset
- **CPU :** This motherboard utilizes a 321-pin ZIF socket (Socket 7) and supports the following CPUs:
  - Pentium P54C/CT/CS/CQS, MMX
  - Cyrix 6x86/6x86L/6x86MX
  - MII microprocessor
  - idt-C6 microprocessor
  - AMD-K5/K6/K6-2
- **Interfaces :**
  - 1 DB-9 Serial ports
  - 1 DB-25 Parallel port
  - 1 DB-15 VGA Video port
  - 1 PS/2 keyboard port
  - 1 PS/2 mouse port
  - 2 USB connector
  - 3 Stereo mini-jacks for Line In, Line Out & Mic
- **RAM :** 2 168-pin DIMM sockets, upgradeable to 256MB total. SDRAM Supports 3.3V Unbuffered Synchronous DRAM
- **Video :** Integrated in the SiS 5598 PCI/ISA/VGA Controller Chipset
- **Video Memory :** Shared system memory area: 0.5 to 4MB.

Jumpers

Jumper	Function	Configuration
JP2	CMOS Password Clear	1-2 - Normal Operation 2-3 - Clear CMOS Data No jumper - Onboard Battery Disabled
JP16	On-Board VGA Function	1-2 - Disabled 2-3 - Enabled
JP25	On-Board VGA Function	1-2 - Enabled 2-3 - Disabled

CPU Voltage Selection (JP1)

Single Voltage CPUs - (Intel P54C/CQS/CT, Cyrix 6x86, AMD K5,idt Win Chip)

Core Voltage	I/O Voltage	JP1	JP6
3.5V	3.5V	V0(1-2) closed	Open

		V1(3-4) closed V2(5-6) closed V3(7-8) closed	

Dual Voltage CPUs - (Intel P55C/MMX, Cyrix 6x86L/6x86MX/MIII, AMD K6/K6-2)

Core Voltage	I/O Voltage	JP1	JP6
2.1V	3.3V	V0(1-2) closed V1(3-4) open V2(5-6) open V3(7-8) open	Open
2.2V	3.3V	V0(1-2) open V1(3-4) closed V2(5-6) open V3(7-8) open	Open
2.3V	3.3V	V0(1-2) closed V1(3-4) closed V2(5-6) open V3(7-8) open	Open
2.8V	3.3V	V0(1-2) open V1(3-4) open V2(5-6) open V3(7-8) closed	Open
2.9V	3.3V	V0(1-2) closed V1(3-4) open V2(5-6) open V3(7-8) closed	Open
3.2V	3.3V	V0(1-2) open V1(3-4) open V2(5-6) closed V3(7-8) closed	Open
3.3V	3.3V	V0(1-2) closed V1(3-4) open V2(5-6) closed V3(7-8) closed	Open
2.2V	3.45V	V0(1-2) open V1(3-4) closed V2(5-6) open V3(7-8) open	Closed

CPU Clock Selection (SW1)

Intel CPU

CPU Speed	Bus Clock & Multiplier	SW1 (1)	SW1 (2)	SW1 (3)	SW1 (4)	SW1 (5)	SW1 (6
90MHz	60MHz x 1.5	Closed	Open	Open	Open	Open	Open
100MHz	66MHz x 1.5	Open	Open	Open	Open	Open	Open
120MHz	60MHz x 2	Closed	Open	Open	Closed	Open	Open
133MHz	66MHz x 2	Open	Open	Open	Closed	Open	Open
150MHz	60MHz x 2.5	Closed	Open	Open	Closed	Closed	Open
166MHz	66MHz x 2.5	Open	Open	Open	Closed	Closed	Open
200MHz	66MHz x 3	Open	Open	Open	Open	Closed	Open

233MHz	66MHz x 3.5	Open	Open	Open	Open	Open	Open

AMD-K5 CPU

CPU Speed	SW1 (1)	SW1 (2)	SW1 (3)	SW1 (4)	SW1 (5)	SW1 (6)
PR-90	Closed	Open	Open	Open	Open	Open
PR-100	Open	Open	Open	Open	Open	Open
PR-120	Closed	Open	Open	Closed	Open	Open
PR-133	Open	Open	Open	Closed	Open	Open
PR-166	Closed	Open	Open	Closed	Closed	Open
PR-200	Open	Open	Open	Open	Closed	Open

AMD-K6/K6-2 CPU

CPU Speed	Bus Clock & Multiplier	SW1 (1)	SW1 (2)	SW1 (3)	SW1 (4)	SW1 (5)	SW1 (6)
166MHz	66MHz x 2.5	Open	Open	Open	Closed	Closed	Open
200MHz	66MHz x 3	Open	Open	Open	Open	Closed	Open
233MHz	66MHz x 3.5	Open	Open	Open	Open	Open	Open
266MHz	66MHz x 4	Open	Open	Open	Closed	Open	Closed
300MHz	66MHz x 4.5	Open	Open	Open	Closed	Closed	Closed
333MHz	66MHz x 5	Open	Open	Open	Open	Closed	Closed

Cyrix 6x86/6x86L CPU

Cyrix rates the speed of their processors as a megahertz-equivalent performance level based upon industry-standard benchmark comparisons to the Pentium? II processor when tested in equivalently configured computer systems. In the table below, the Cyrix CPU designation is followed by the internal CPU clock speed. For example, the PR-150+ has an internal CPU clock speed of 120 MHz.

CPU Speed	Bus Clock & Multiplier	SW1 (1)	SW1 (2)	SW1 (3)	SW1 (4)	SW1 (5)	SW1 (6)
PR-150+ 120MHz	60MHz x 2	Closed	Open	Open	Closed	Open	Open
PR-166+ 133MHz	66MHz x 2	Open	Open	Open	Closed	Open	Open
PR-200+ 150MHz	75MHz x 2	Open	Closed	Closed	Closed	Open	Open

Cyrix 6x86MX/MII CPU

CPU Speed	Bus Clock & Multiplier	SW1 (1)	SW1 (2)	SW1 (3)	SW1 (4)	SW1 (5)	SW1 (6)
PR-150+ 120MHz	60MHz x 2	Closed	Open	Open	Closed	Open	Open
PR-166+ 133MHz	66MHz x 2	Open	Open	Open	Closed	Open	Open
PR-166+ 150MHz	60MHz x 2.5	Closed	Open	Open	Closed	Closed	Open
PR-200+ 150MHz	75MHz x 2	Open	Closed	Closed	Closed	Open	Open
PR-200+ 166MHz	66MHz x 2.5	Open	Open	Open	Closed	Closed	Open
PR-200+ 180MHz	60MHz x 3	Closed	Open	Open	Open	Closed	Open
PR-233+ 188MHz	75MHz x 2.5	Open	Closed	Closed	Closed	Closed	Open
PR-233+ 200MHz	66MHz x 3	Open	Open	Open	Open	Closed	Open
PR-300+ 233MHz	66MHz x 3.5	Open	Open	Open	Open	Open	Open

PR-300+ 225MHz	75MHz x 3	Open	Closed	Closed	Open	Closed	Open
PR-333+ 263MHz	75MHz x 3.5	Open	Closed	Closed	Open	Open	Open

idt-Win Chip CPU

CPU Speed	Bus Clock & Multiplier	SW1 (1)	SW1 (2)	SW1 (3)	SW1 (4)	SW1 (5)	SW1 (6)
180MHz	60MHz x 3	Closed	Open	Open	Open	Closed	Open
200MHz	60MHz x 3	Open	Open	Open	Open	Closed	Open

Upgrades

- **Cache Upgrade**. The 992 motherboard comes with 0, 256k or 512K Level 2 cache. The cache is not upgradeable.

- **CPU Upgrade**. This motherboard can accommodate the following CPUs:
  - Intel Pentium P54C/CT/CS/CQS, MMX
  - Cyrix 6x86/6x86L/6x86MX
  - MII microprocessor
  - idt-C6 microprocessor
  - AMD-K5/K6/K6-2
  - Zero Insertion Force (ZIF) socket. Uses the 321-pin Type 7 CPU Socket. Not keyboard switchable. Disable cache to slow down the system.

- **RAM Upgrade**.
  - Maximum on Motherboard: 256MB
  - Uses 8/16/32/64/128 MB DIMMs, 60ns or faster EDO SDRAM DIMMs
  - Supports only non-parity DIMM modules.

  Notes - The 168-pin DIMM sockets will accept 3.3V 1MBx64 (8MB), 2MBx64 (16MB), 4MBx64 (32MB), and 8MBx64 (64MB) and 16MBx64 (128MB) DIMMs. Bank 1 will be populated as the default from the factory. No configuration jumpers: BIOS detects memory size, and memory type. This motherboard will not accept 36-bit DIMM modules (parity).

ESS 1869 Audio

- **Bits per channel :** 16 bits per channel
- **BUS type :** Integrated
- **Device Manager Name :** ES1869 Plug and Play AudioDrive
- **Driver Files :**
  - ES1869.VXD
  - MMDEVLDR.VXD
  - ESSDC.EXE
  - ESSMPU.DRV
  - ESFM.DRV
  - ES1869.DRV
- **Midi Interface :** Yes
- **PnP Compatibility :** Yes
- **Ports :**
  - MIDI/Game Port
  - Line-In
  - Line-Out
- **Default Settings :**
  - Port Address 220
  - IRQ Setting 5
- **Audio Chipset :** ESS 1869

- **Sample Rate :** 4Khz to 48Khz
- **Compatibility :**
  - Sound Blaster
  - Sound Blaster Pro
  - Microsoft Sound System.
- Meets PC 97/PC 98 and WHQL Specifications.

SiS 5598 Video Chipset

- **Memory :** Shared System Memory Area 0.5MB, 1MB, 1.5MB, 2MB, 2.5MB, 3MB, 3.5MB, 4MB
- **Acceleration :** The Hardware Command Queue is a 32 doublewords queue built in front of the graphics engine.
- **Chipset :** SiS 5598. The VGA controller, Keyboard controller, USB controller, RTC are integrated.
- **Compatibility :** 32 bit/64 bit mixed mode configuration
- **Bus :**
  - Integrated on Motherboard.
  - Supports tightly coupled host interface to VGA to speed up GUI performance and the video playback frame rate.
  - Supports 32-bit PCI local bus standard revision 2.1
- **RAMDAC :** Built-in programmable 24-bit true-color RAMDAC with reference-voltage generator
- **Driver :** SIS597.DRV
- **Device Manager Name :** SiS 5597/5598
- **Standards Supported :**
  - Page Flipping - Supports Concurrent Write Back
  - Support CAS before RAS Refresh
  - Support 32-bit PCI local bus standard revision 2.1
  - Built-in an enhanced 64-bit BITBLT graphics engine
  - Support tightly coupled host interface to VGA to speed up GUI performance and the video playback frame rate
  - Support direct access to video memory to speed up GUI performance and the video playback frame rate
- **Hardware Interfaces :** Phillips SAA7110/SAA7111 Brooktree Bt815/817/819A (8-bit SPI mode 1,2) video decoder interface. Standard feature connector logic support.
- **Refresh Rates :**

Resolution	Refresh Rates	Colours Supported
640x480	60,72,75,85 256/32K/64K/16M	colours NI
800x600	56,60,72,75,85 16/256/32K/64K/16M	colours NI
1024x768	60,70,75,85 16/256/32K/64K/16M	colours NI
1280x1024	60,75 16/256	colours NI, 32K/64K colours interlace only

- **Virtual Screen :** Support virtual screen up to 2048x2048