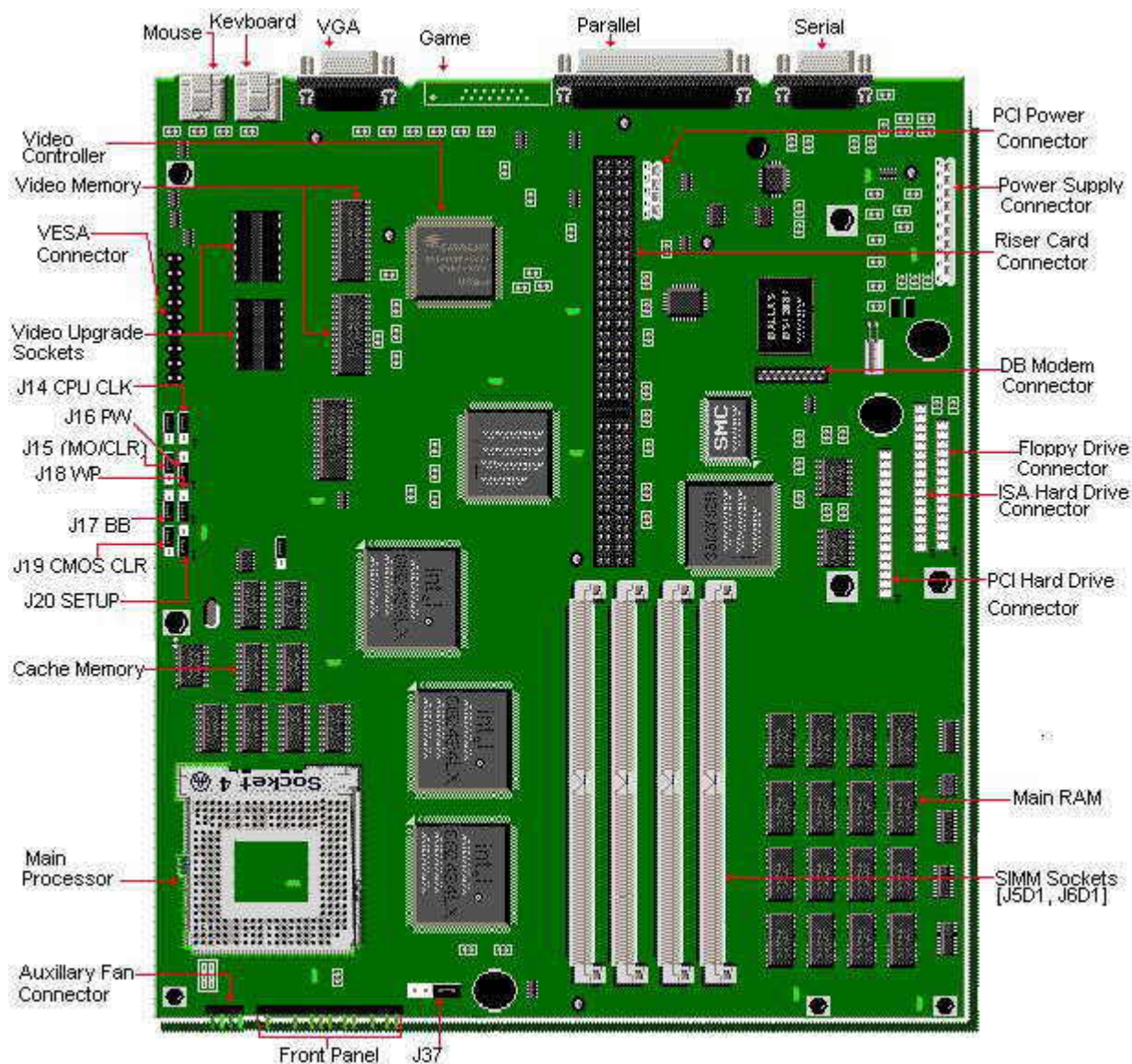


# Packard Bell 520r M/Board



The on-board video chip of your computer will automatically be disabled by the installation of a separate video card.

## Specification

- **Battery** : Integrated into the Real Time Clock (RTC)--Dallas® DS12887 chip. The internal battery in the DS12887 device has an estimated lifetime of ten years.
- **BIOS** : Phnx Ver 1.00.09 BCOR
- **Bus Architecture** : PCI 2.0/ISA based system bus. Intel Mercury PCI Chipset. 66MHz maximum bus speed.
- **Cache** : 16K level 1 cache. 256k level 2 cache.
- **Chipset** :
  - S82434LX PCI/Cache/Memory Controller.
  - S82378ZB System Controller.
  - PCI0640B PCI to IDE Controller.
  - S82433LX Local Bus Extension.
  - SMC S82091AA and L4242975L.

- **CPU** : Type 4 CPU Zero Insertion Force (ZIF) CPU Socket.
- **Interfaces** :
  - 1 DB-9 Serial ports for COM1.
  - 1 DB-25 Parallel port.
  - 1 PS/2 Keyboard port.
  - 1 PS/2 Mouse port.
  - 1 15 pin VGA.
- **RAM** : 8MB standard/136MB maximum. Uses 4/8/16/32MB 72-pin SIMMs, @ 70ns.
- **Speaker** : On-board Piezo speaker.
- **UART** : 16C550A Compatible.
- **Video** : Built-in, Cirrus Logic® Alpine GD5434.
- **Video** : RAM upgradable to 2 MB.

## Jumpers

Jumper	Function	Pin/Setting	Description
J7	CPU Voltage (5.0V/5.25V)	1-2 2-3	5.00v (60Mhz) 5.25v (66Mhz)
J14	CPU Speed	1-2 2-3	66MHz 60MHz
J15	VGA Mode	1-2 2-3	MONO COLOR
J16	Password	1-2 2-3	Normal (Enabled) Clear (Disabled)
J17	Flash Boot Block	1-2 2-3	Recovery Mode Normal ode
J18	Flash Write	1-2 2-3	Enabled Protected
J19	CMOS Clear	1-2 2-3	Clear Normal
J20	CMOS Setup	1-2 2-3	Enable Disable
J37	On-Board Speaker	3-4 Open	Enable Disable

## Battery

The battery is a Dallas DS 12887 real time clock and CMOS battery integrated into the RTC chip. This chip is soldered onto the motherboard and is not replaceable.

## BIOS

The BIOS in the PB520 is contained in Flash EEPROM, and it can be updated via software. If the Flash BIOS is corrupted during an update, it is possible to recover it.

To run the BIOS update,

1. Insert the update diskette into drive A: and reboot the system.
2. When the opening dialogue appears, press (enter).
3. The Main Menu will appear on the screen.
4. Select "Update Flash Memory Area from a file" using the Down Arrow key.
5. Press (enter).
6. The UPDATE FLASH AREA dialog box appears on the screen.
7. Select "Update System Bios".
8. Press (enter).
9. Press the Down Arrow key to select 1009bc0r.bi0 file.
10. Press (enter).
11. Highlight the (continue with programming)option and press (enter).
12. Remove the disk from drive A and press (enter).

## BIOS Recovery

To recover from a corrupted BIOS, perform the following steps:

1. Turn off the system.
2. Remove the system's case and move the jumper block on J17 from pins 2-3 to pins 1-2.
3. Place the update diskette in drive A: and turn on the system.
4. There will be no video display during the BIOS recovery, this is due to the small amount of code available in the non-erasable boot block area.
5. After the system boots, it will beep once and the floppy drive light should light up. The system is copying the recovery code into the Flash EEPROM.
6. Just before the recovery completes, the system will beep twice. Once this occurs, watch the floppy drive light. When the light goes off, turn off the system.
7. Move the jumper block on J17 from pins 1-2 back to pins 2-3.
8. Turn the system on and repeat the steps for updating the BIOS.

## Cache Upgrade

The motherboard comes with 16KB of cache integrated in the processor ( CPU ). A secondary external cache level (write-back cache ) of 256KB is soldered on the motherboard. This cannot be upgraded.

## CPU Upgrades

This motherboard can accommodate any of the following CPUs.

- Intel Pentium 60 MHz
- Intel Pentium Overdrive Processor (P5T) 120 MHz.

The upgrade processor installs in the Zero Insertion Force (ZIF) socket location U2B1. Jumpers do not need to be changed.

## Memory Upgrades

- This motherboard does not accept EDO memory.
- SIMM speed must be 60 or 70ns.
- The SIMMS are 4/8/16/32MB 72-pin and can be x32 or x36 because the motherboard design does not require parity checking.
- Use silver plated SIMMS (Do not use gold plated SIMMS).

- The motherboard of this system comes in two different revisions. One contains 2 SIMM sockets (can max. be upgraded to 72MB), the other one contains 4 SIMM sockets (can max. be upgraded to 136MB).
- Upgrade in pairs. This means you have to fill a bank completely. E.g. when upgrading the system with 16MB, you have to use two 8MB SIMMS instead of one 16MB.
- This system already has 8MB of RAM memory soldered onto the motherboard, regardless the number of SIMM sockets.

## Video Memory Upgrade

The video memory on this system can be upgraded to 2MB, by using two 256Kx16-70ns SOJ DRAM chips.