

Packard Bell 300/320 M/Board

Specification

This motherboard's built-in video card does not have a 132-column mode as stated in the manual. Systems with "PB320" on the back stickers are 20MHz PB300 series computers.

- **Battery** : 3.6V DC NiCad soldered on motherboard
- **BIOS** :
 - 2 X 64K Phoenix BIOS Chip at U40: Phoenix 1.10.1110
 - No chip at U40: Phoenix 1.10.1111
 - No chip at U40 and ACC micro chip with SC01 at the end: Phoenix 1.10.1114
 - To access Setup : Ctrl-Alt-S
- **Bus Architecture** : ISA based system bus
- **Cache** : N/A
- **CPU** : 80386SX-16 MHz, 80386SX-20 MHz. Keyboard Switchable (Ctrl)-(Alt)-(-) = 8 MHz, (Ctrl)-(Alt)-(+)= 16/20 MHz.
- **Interfaces** :
 - 1 DB-25 Parallel Port
 - 1 DB-9 Serial ports
 - 1 15 pin VGA port
 - 1 Proprietary modem connector
 - 1 15 pin game port
 - 1 PS/2 Keyboard port
 - 1 PS/2 Mouse port
- **RAM** : 1MB standard, Maximum on Motherboard 16 MB
- **Speaker** : Piezoelectric, soldered on motherboard
- **Video** : Paradise built into motherboard
- **Video RAM** : 256K

Jumpers

Notes -

When replacing the motherboard and installing or removing a modem, ensure that the JMOD connector is configured properly.

There are about 100 motherboards, similar to Motherboard A, that have 8 SIMM sockets; only four are enabled.

There are three revisions to this motherboard.

- Motherboard A - has 1MB surface mount DRAMs upgradable to 5MB.
- Motherboard B -
 - Does not have surface mount DRAMs upgradable to 16MB.
 - There are 4 sets of traces for SIMM sockets in front of bank 0 and bank 1 labelled sim5,sim6,sim7 and sim8. Additional SIMM sockets cannot be installed.
 - U40 is only present on 20MHz system.
- Motherboard C -
 - Has 2MB surface mount DRAMs; CPU is 16, 20 or 25MHz.
 - A 301-252 (256K video memory) on-board video disabled and a 512K OAK video card.
 - A 301-V252 has 512K of video memory in addition to a 25 MHz CPU.

Some computers have the game port jumpers reversed (1-2 Enabled 2-3 Disabled).

JLPS, JC24, JHDC, JFDC and JC13 will be obstructed by the internal modem connected to JMOD (if installed).

Function	Jumper	Description
Jfdc (FDC)	1-2 2-3	Enabled Disabled
Jhdc (IDE)	1-2 2-3	Enabled Disabled
Jc13 (COM1/COM3)	1-2 2-3	Proprietary Modem in COM1 Proprietary Modem in COM3
Jc24 (COM2/COM4)	1-2 2-3	Serial Port is COM2 Serial Port is COM4
Jlps (LPT PORT)	1-2 2-3	Select LPT1 Select LPT2
Jlrq (LPT INT)	1-2 2-3	LPT uses IRQ5 LPT uses IRQ7
Jvrq (VGA INT)	IN OUT	Video uses IRQ9 None
Jmrq (MOUSE INT)	IN OUT	Mouse Port uses IRQ12 None
Jvgas (VGA PORT)	1-2 2-3	Built-in VGA Enabled Built-in VGA Disabled
Jgams (GAME PORT)	1-2 2-3	Disabled Enabled
Jvd (DISPLAY)	1-2 2-3	Mono Mode Colour Mode
Jpip (PIPELINE)	IN OUT	Pipelined 80386 Non-pipelined 80386

Upgrades

- **Battery** : 3.6V DC NiCad soldered onto motherboard.
- **Maths Co-Processor** : An 80387SX Co-processor can be installed in socket U41, no jumpers need to be changed. Co-processor speed must match system speed.
- **RAM** :
 - When upgrading any one of these systems, use SIMMs that have 9 chips on them rather than the ones with 3 chips.
 - There are 2 variations of motherboard for this system, each one with different memory configuration, see tables below.
 - SHADOW BIOS and SHADOW VIDEO take 128k off Extended Memory if either or both enabled.
 - No Jumper setting required.
 - Recommended SIMM speed is 80 ns.

Motherboard A - RAM Upgrade

System with surface mount DRAMs (44256s and 41256s) totaling 1MB, and 4 SIMM sockets. (Supports 256Kb and 1MB SIMMs only).

Total Memory	Dram Bank 0	Dram Bank 1	Simm Bank 2	Simm Bank 3	Extended Memory
1MB	(8)44256	(4)41256	NONE	NONE	384
2MB	(8)44256	(4)41256	(2)256K X 9	(2)256K X 9	1408
3MB	(8)44256	(4)41256	(2) 1MB X 9	NONE	2432
5MB	(8)44256	(4)41256	(2) 1MB X 9	(2) 1MB X 9	4480

Motherboard B - RAM Upgrade

System with NO surface mount DRAMs, and 4 SIMM sockets. (Supports 256Kb, 1MB and 4MB SIMMs).

Total Memory	Simm Bank 0	Simm Bank 1	Extended Memory
1MB	(2)256K X 9	(2)256K X 9	384
2MB	(2) 1MB X 9	NONE	1408
4MB	(2) 1MB X 9	(2) 1MB X 9	3456
8MB	(2) 4MB X 9	NONE	7552
16MB	(2) 4MB X 9	(2) 4MB X 9	15744