

ATTACHMENT E. USERS MANUAL

Packard Bell A520 Monitor



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ABOUT YOUR PACKARD BELL A520 MONITOR

Congratulations on purchasing a *Packard Bell 15" A520* monitor. One of the most versatile monitors available today, the A520 monitor automatically adjusts its vertical and horizontal scanning frequencies to those of your computer's graphic displays, when used with SUPER VGA compatible graphics adapters and video chip sets (see [Features](#)).



This manual gives you information about your *Packard Bell A520 Monitor*, such as the locations of controls, safety instructions and instructions of how to connect.

PACKARD BELL A520 MONITOR FEATURES

Performance

The A520 15" monitor features maximum resolutions of 1024 pixels (horizontal) and 768 lines (vertical) in non-interlaced or interlaced modes. The monitor automatically adapts to the vertical and horizontal frequencies of VGA, SVGA, 8514/A and compatible graphics adapters.

Plug & Play compatibility

The monitor's design allows you to use it with a variety of graphics adapters and supports DDC1/2B plug and play. When using Windows with a Packard Bell DDC1/2B compatible computer, the DDC1/2B feature in the monitor provides a standard means of communication between the monitor and the computer. As a result, DDC1/2B prevents the user from making incorrect display settings to ensure that there is an appropriate display on the monitor.

Power management

When used with a Packard Bell computer that features a power management system, the monitor's power consumption will automatically be reduced by the PC when the computer has not been used for a period of time. This monitor has a three level power-saving feature indicated by the changing colour of the power LED on the front panel.

When the power saving feature is initiated, the LED will change from green to amber and the monitor's power consumption will be reduced from approximately 75 watts to less than 15 watts or 8 watts in two stages. There will be no image on the monitor when power management is working. To display the image again, move the mouse or press a key on the keyboard. It may take up to 10 seconds for the image to

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**U.S.FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT
INFORMATION TO THE USER**

NOTE : This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet of a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Connecting of peripherals requires the use of grounded shielded signal cables.

reappear. This power-saving feature exceeds the Environmental Protection Agency (EPA) Energy Star requirements for Display Power Management Signals.

Monitor Speakers

Attaching the *Diamond Audio Technology* speakers to the monitor itself provides an optional, attractive and convenient way to house your speakers. After attaching the Diamond Audio Technology speakers to the monitor, connect the plug-end of the audio input jack to the sound card connection on the rear side of the computer.

Tilt and swivel operations

Swivel movement has a range of 135° right or left of the center position. Tilt movements are limited to angles of -5° forward and +15° backward. These ranges allow you to set the screen to the viewing position most comfortable for you.

PACKARD BELL A520 MONITOR SPECIFICATIONS

Specifications subject to change without notice. For a complete list of your system's specifications, see the appropriate Specifications section in each of the sections provided in the **Packard Bell Electronic Hardware Guide**.

Power source	AC 100-240V, 50/60Hz	
Power consumption	LED colour is green	Normal operation (75W)
	LED colour is Orange / Green blinking	Stand by/ Suspend Mode (max. 15W)
	LED colour is Orange	Off (max. 8W)
Internal audio power	Amplifier 2 x 5W	
Picture tube	15" (diagonal), non-glare, anti-static, 90° deflection, 0.28 mm dot pitch, Low Radiation	
Viewable image size	13.9" diagonal	
Maximum resolution	Horizontal	1024 pixels (Non-interlaced)
	Vertical	768 lines (Non-interlaced)
Input signals	Video	Analog 0.7 Vp-p / 75 ohm Positive
	Seperate sync	TTL Level Horizontal: Positive/Negative Vertical: Positive/Negative
Synchronisation	Horizontal	30 ~ 54 kHz continuous
	Vertical	50Hz ~ 130Hz continuous
Display colours	Analogue input	Unlimited colours
Active display area	Horizontal	260 mm typical
	Vertical	195 mm typical
Plug & Play	DDC1/2B	
Operating temperature	+0°C ~ +40°C	
Operating humidity	35% ~ 80% (non-condensing)	
Storage temperature	-20°C ~ +65°C	

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Storage humidity	5% ~ 85%	
High voltage	23 KV	
Dimensions	Width	372 mm
	Height	380.0 mm (with base)
	Depth	392.0 mm
Weight	12.5 Kg (Without speaker Ass'y)	

Timing chart

Mode	Resolution	H-Freq.	V-Freq.	HS. pol	VS.pol
1	720 x 400	31.47 kHz	70.08 Hz	Negative (-)	Positive (+)
2	640 x 480	31.47 kHz	59.95 Hz	Negative (-)	Negative (-)
3	640 x 480	37.50 kHz	75.00 Hz	Negative (-)	Negative (-)
4	640 x 480	43.30 kHz	85.00 Hz	Negative (-)	Negative (-)
5	640 x 480	50.90 kHz (Voodoo3) or 52.90 kHz (ATI, Intel)	100.00 Hz	Negative (-)	Negative (-)
6	800 x 600	37.88 kHz	60.32 Hz	Positive (+)	Positive (+)
7	800 x 600	46.88 kHz	75.00 Hz	Positive (+)	Positive (+)
8	800 x 600	53.67 kHz	85.00 Hz	Positive (+)	Positive (+)
9	1024 x 768	48.36 kHz	60.00 Hz	Negative (-)	Negative (-)

INSTALLING YOUR MONITOR

While reading this document, your monitor is already connected to the computer and should function well. However, it is recommended to read this part to see if all connections have been made properly, if you can improve the placement of your computer, and to see what you should do the next time you (dis-) connect your monitor.

Choose the Right Environment

Set up your computer system in a dry, cool, properly-ventilated area away from direct sunlight. (Direct sunlight could cause system overheating or damage to the system case and monitor.)

The monitor should be about **45-70 cm** from your eyes, and the top of your screen should be at eye level, or lower. The ideal position of your monitor is perpendicular to and at least **1.5 m** from a window or another light source, so that your monitor does not reflect glare and you do not get blinded by the light. If your monitor has a tilt/swivel base, you can tilt it slightly downward to minimise reflected light. If you cannot adjust your monitor's angle or the lighting in your work area, try adding an anti-glare screen. Contact your Packard Bell dealer for further information.



Caution: Before connecting your monitor and system's components, make sure all devices are turned OFF! Connecting devices with the system power on could damage your equipment. Position the monitor and the computer so that you can easily get to the rear panel of each unit.

Attaching your Packard Bell speakers

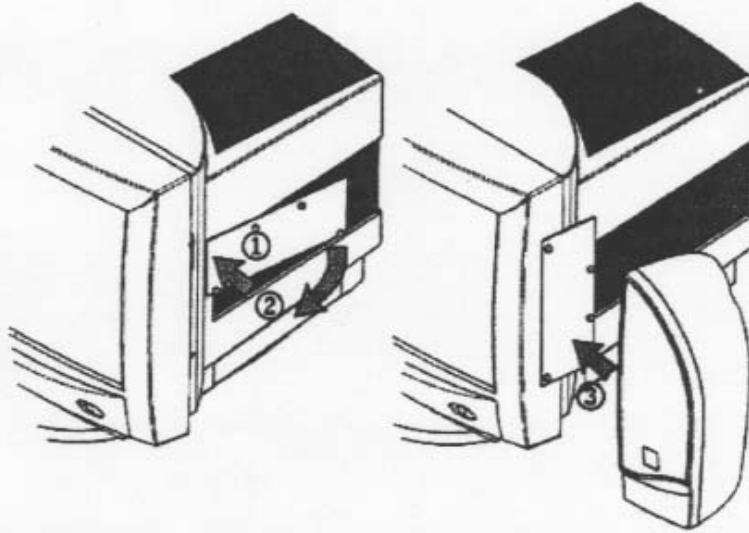
Your new computer includes Packard Bell's exclusive side-mount speakers. These speakers have been designed to attach easily to your Packard Bell monitor, providing optimal listening enjoyment and save desk space.

The side-mount speakers are designed for use only with matching Packard Bell monitors. To attach the

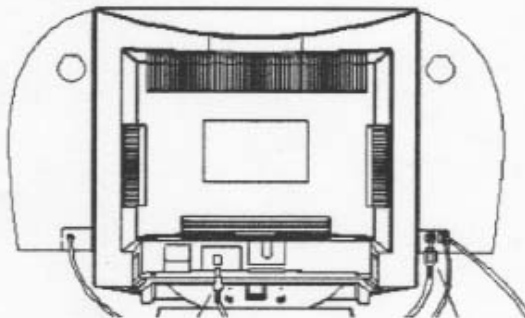
speakers, follow these steps:

The procedure of attaching your speakers may have changed after release of this manual. We apologise for any inconvenience this may cause.

1. Place your monitor, speakers and adapter plates on a table that is well lit with plenty of room to work.
2. Slide the top location peg on the appropriately marked adapter plate into the top slot on the side of the monitor (1).
Rotate the adapter plate until the lower peg on the adapter plate locates into the other slot on the side of the monitor (2).
Push the adapter plate down firmly into place (see illustration below) (3).

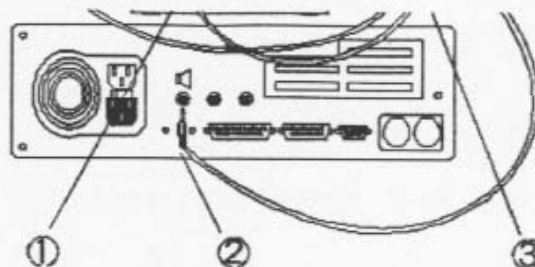


3. Repeat Step 2 with the second adapter plate.
4. Place each speaker onto their corresponding adapter plate and push the four clips into the recessed bushes to secure each speaker in position.
5. Connect the Left-Side speaker **mist-white** coloured DC power cord to the DC power jack on the back of your monitor.
6. Connect the 3.5mm **lime** coloured stereo mini-plug audio cable from the Left-Side speaker to the LINE OUT jack on your computer's sound card.
7. Connect the **brown** coloured RCA audio cable from the Right-Side speaker to the Left-Side speaker rear panel RCA audio output socket.



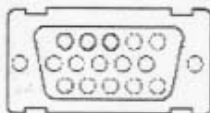
1: DC Power Cord

2: Stereo mini-plug
audio cable

3: RCA audio cable**Connecting the VGA signal cable to the computer**

To make it easier to connect the right plug into the right connector, Packard Bell has introduced *Colour Coding*. Each connector has its own icon with its own colour. The industry has followed, but only recently the colours and icons have been standardised to meet PC99 requirements. Packard Bell is currently in the process of changing its own colour codes into the standardised colours. Therefore, your computer's connectors may have colours that don't match. If that's the case, then please refer to the icon only and ignore the colour.

Make sure your system and monitor power is OFF. Carefully connect your VGA monitor cable's connector to the video (VGA) display port on your system's rear panel. According to PC99 requirements, the VGA plug and connector should be **blue-labelled**. However, during this transition period, you may have an **orange-labelled** connector or a colourless connector with the VGA icon. Please find the following icon on the rear end of your computer and carefully connect the plug of the VGA cable to this connector:



Please tighten the screws on the VGA signal cable to keep it from coming loose, and to prevent radio and TV interference.

Connect Your Power Cord

Caution: Before connecting the power cord of your monitor, make sure that the speakers and the VGA cable have been correctly connected.

Make sure your system's and monitor's power is OFF. Find your monitor's power cord in the accessory kit in your computer's box. Connect your monitor's AC power cord to the AC Power Connector on the rear panel. Then plug the power cord into a surge protector (power strip) or grounded AC electrical outlet.

We recommend you switch on the monitor first, before switching on the computer!

Screen resolution and colours

Many VGA display systems can be configured to use different resolutions, with 640 x 480, 800 x 600 and 1024 x 768 pixels being the most common. While higher resolutions offer more information on a given screen, they also reduce the size of the image, which makes most on-screen text harder to see from a comfortable distance.

Which resolution is right for you? This depends on the kind of work you do with your computer. If your work involves word processing, spreadsheets, data entry, and other "text-heavy" tasks, you may want to use a resolution such as 640 x 480. While higher resolutions are recommended if you use software for drawing, painting, desktop publishing, or computer aided design (CAD), the ideal resolution really depends

on what suits you best.

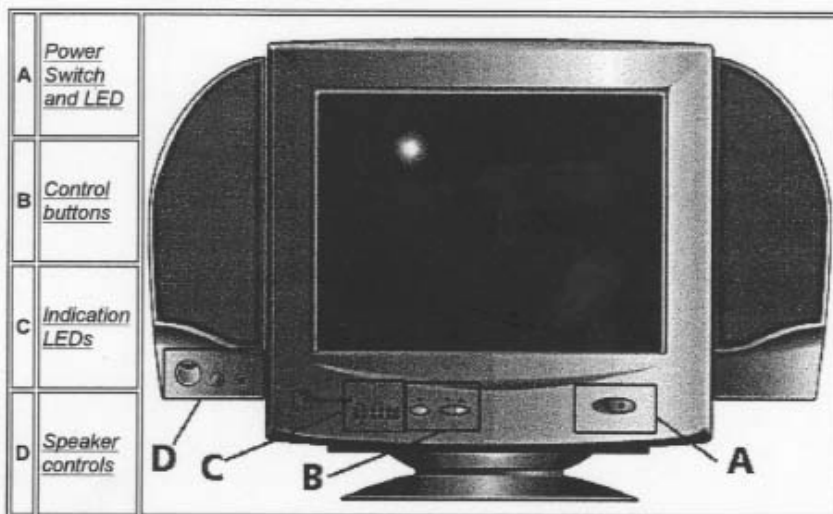
The number of colours you can use depends on the selected resolution and the available video memory. Most common are 16 colours, 256 colours, 65536 colours (high colour) and 16.7 million colours (true colour). By default, Packard Bell computers are configured in high colour. To change display settings, close all programs, with the exception of Windows 98, first. Then right-click with your mouse on an empty spot on the Windows 98 desktop, click on **Properties** and select the **Settings** tab. Please make a note of the original settings before you make any change. This helps you to restore the original settings, should something go wrong.



Packard Bell has configured your software for optimum performance in the pre-selected screen resolution and number of colours. Changing the screen resolution or the number of colours may cause some programs to malfunction. If you wish to use these programs, please select the original settings.

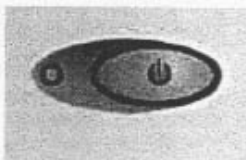
YOUR MONITOR'S CONTROLS

Your Packard Bell A520 monitor includes the following controls on the front panel:



Power Switch and LED

The Power Switch turns the monitor's power ON or OFF. The Indicator LED left from it is lit when the power is ON.



We recommend you switch on the monitor first, before switching on the computer!

Control buttons

The **Select Button** (the left button) selects a digital control. The selected control is indicated by the corresponding **Indication LED**. The **Down** (down arrow) and **Up** (Up arrow) buttons allow you to decrease or increase the value of the selected control.

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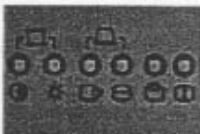
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By pressing the **Down** and **Up** button simultaneously, you will restore the original factory settings.

Indication LEDs

When one of the digital controls is selected, the corresponding LED is lit.



From left to right, the LEDs indicate: **Contrast**, **Brightness**, **Horizontal position**, **Horizontal width**, **Vertical position**, **Vertical height**. When the first two LEDs are both lit, **Pincushion** is selected and when the third and fourth LEDs are both lit, **Trapezoid** is selected.

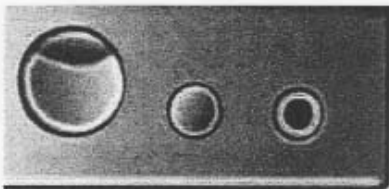
Speaker controls

The speakers can be controlled by the buttons on the left speaker. From left to right you will find:

Volume knob: Controls the output volume of your speakers. Please beware that Windows is also able to control the volume. Read more about this feature in the Windows documentation.

3D button: Push to switch 3D sound effects on or off.

Headphones connectors: Connect your headphones to mute the speakers and listen to your computer's sounds through your headphones.



SAFETY INSTRUCTIONS

Please follow the safety instructions outlined below, to benefit from your new monitor for a long time.

Placing your monitor

To reduce the risk of fire or electric shock, do not expose this monitor to rain or moisture.

To reduce eye fatigue, avoid using the display in direct sunlight or under bright lights.

Electric shock prevention

To prevent electric shock do not remove screws or cover. There are no user-serviceable parts inside the monitor. Service should be done only by a qualified service person.

Input power source: In many European countries, the wall outlets are 230V, in a range from 200 to 240V. Please check if your monitor supports your country's voltage.

A three core mains cord is supplied with the PC which should be connected between the monitor power input socket and either the PC power output feed or a grounded wall outlet or surge protector.

Do not place anything heavy on the cord. A Damaged power cord may cause fire or electric shock. If your power cord is damaged, do not use it. A replacement can be purchased at your local computer or electronics store.

Keep children and pets away from the monitor. Also, do not insert objects into the monitor's cabinets. They may touch dangerous voltage points, which can be harmful or fatal, or cause electric shock, fire or equipment failure.

Do not allow liquids to spill into the cabinet.

Do not operate the monitor beyond the specified temperature and humidity range (see Specifications).

For proper operation, keep the monitor adequately ventilated.

Keep the monitor away from strong magnetic fields produced by transformers, motors, fans, or other devices.

When an irregular AC Voltage is supplied, a protective circuit may turn off the monitor (the power indicator will also go off). If this happens, turn off the power switch and wait at least 30 seconds before turning it on again.

Radio frequency energy

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Only shielded power and signal cables may be used with your system. The use of a non-shielded interface cable is prohibited. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment.

Trouble shooting

Before you call a Packard Bell Authorised Service Provider, please check the following:

I have no picture and the power indicator is not lit

Check if the AC Power Cord is plugged in and the power switch is on.

I have no picture and the power indicator is lit

Your computer may be in *Power Down* or *Sleep* mode. This is a temporary status in which your computer and monitor reduce power consumption. Try moving the mouse a little bit, or press the space key on your keyboard and wait for a few second.

It is also possible that the *Contrast* or *Brightness* of your monitor have been set too high or too low. Also

check the VGA Signal Cable Connector.

The Image is not centred

The vertical and horizontal position of the image can be controlled with the control buttons on the front end of your monitor.

The image is distorted

The settings for Pincushion and Trapezoid may be wrong. Adjust these using the control buttons on the front end of your monitor.

I use a Non-PC type computer

If a non-PC type personal computer or graphics adapter is being used, make sure the pin assignments of its signal input connector and the signal timing meet the specifications indicated in the Timing Charts section.

Self Test

Whenever there seems to be a problem with the monitor's performance, you can let the monitor perform a self test. This feature will help diagnose if the problem comes from the monitor or the computer. To do so, please do the following:

- Switch off the computer and the monitor.
- Disconnect the VGA signal cable from the computer.
- Wait for at least 10 seconds before switching the monitor on again.
- After a few seconds, a pattern of Crosshatch should appear on the screen. If these crosshatch appear correctly, then your monitor is functioning well. You can correct the image by adjusting the crosshatch monitors brightness and contrast. Please click [here](#) if you want to know how to do this.
- Switch off the monitor and make sure that the computer is still off, before reconnecting the VGA signal cable to the computer. Wait for at least 10 seconds, then switch on the monitor, followed by the computer.

If the test pattern did not appear during this procedure and the monitor screen is still blank, then the problem is most likely caused by the monitor. Please turn off the power to your computer and the monitor, and unplug the monitor.