

myprojectorlamps.com

**The most trusted, dependable name
in projector lamp sales.**



<http://www.myprojectorlamps.com>



<http://www.myprojectorlamps.ca>

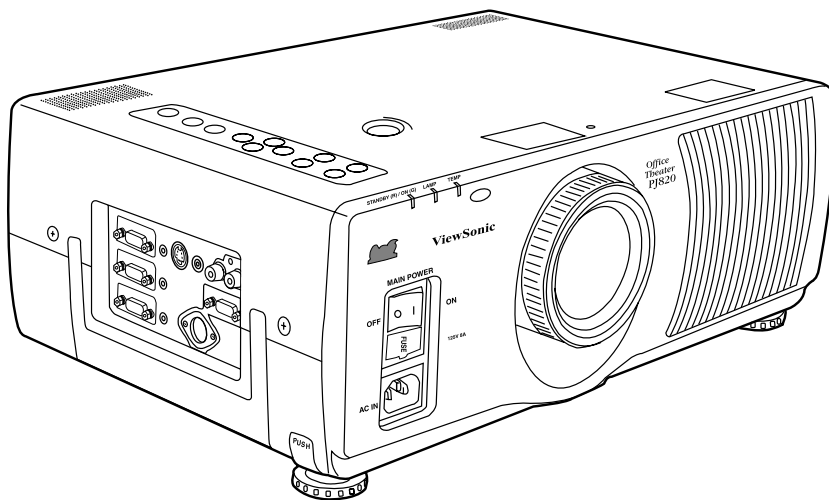


<http://www.myprojectorlamps.eu>

The following projector manual has not been modified or altered in any way.

ViewSonic®

PJ820 Office Theater™



30" to 300" (Viewable)
Super Bright SVGA LCD Projector

User's Guide

Guide de l'utilisateur

Bedienungsanleitung

Maual de instucciones

User's Guide

ViewSonic *PJ820* **Office Theater™**

Super Bright SVGA LCD Projector

30" to 300" (Viewable)

Super Bright SVGA LCD Projector

ViewSonic® Corporation

Copyright © ViewSonic Corporation, 1997. All rights reserved.

IBM XT, AT, 386, 486, and PS/2 are registered trademarks and/or trademarks of International Business Machines (IBM) Corporation.

PC-98 is a trademark of NEC Corporation.

Pentium is a registered trademark of Intel Corporation.

Macintosh II Family, LC, LCII, Quadra, Performa, and Power Mac are registered trademarks of Apple Computer, Inc.

Windows is a registered trademark of Microsoft Corporation.

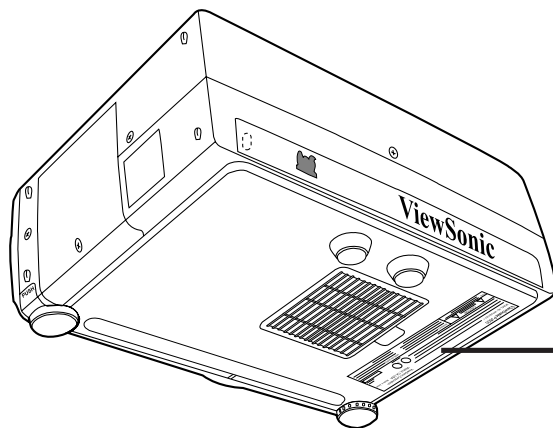
ViewSonic, OnView, and the three birds logo are registered trademarks of ViewSonic Corporation. Office Theater is a trademark of ViewSonic Corporation.

VESA and EDID are registered trademarks of the Video Electronics Standards Association. DDC is a trademark of VESA.

Disclaimer: ViewSonic Corporation shall not be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from furnishing this material, or the performance or use of this product.

In the interest of continuing product improvement, ViewSonic Corporation reserves the right to change product specifications without notice. Information in this document may change without notice.

No part of this document may be copied, reproduced, or transmitted by any means, for any purpose without prior written permission from ViewSonic Corporation.



The label on the bottom of the projector shows the model number and serial number. Write the serial number below.

For your records

The serial number of this product is on the bottom of the monitor. Write the serial number in the space below and keep this guide as a permanent record of your purchase to aid in identification in the event of theft or loss.

Model Name:	ViewSonic PJ820
Model Number:	VPRJ21357-2
Serial Number:	_____

Safety Guidelines

Caution: Use a power cable that is properly grounded. Always use the AC cords listed below for each area:

USA	UL
Canada	CSA
Germany	VDE
Switzerland	SEV
Britain	BASEC/BS
Japan	Electric Appliance Control Act

In other areas, use AC cord which meets local safety standards.

FOR EUROPEAN VERSION ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 13 amp fuse is fitted in this plug. Should the fuse need to be replaced, ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover, the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local **ViewSonic** dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME, THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below. If in any doubt, please consult a qualified electrician.

WARNING: THIS APPLIANCE MUST BE GROUNDED.

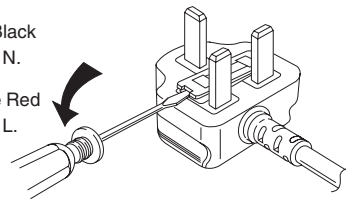
Important: The wires in the main leads are coloured in accordance with the following code:

Green-Yellow	Ground
Blue	Neutral
Brown	Live

The colors of the wires in the main leads of this appliance may not correspond with the colored markings identifying the terminals in your plug. Please comply with the following instructions:

- The Green-Yellow wire must be connected to the Green or Green-Yellow terminals in the plug marked with the letter E or with the ground symbol.
- The Blue wire must be connected to the Black terminal in the plug marked with the letter N.
- The Brown wire must be connected to the Red terminal in the plug marked with the letter L.

Note: To replace the fuse, open the fuse compartment with a screwdriver.



FCC Information

This equipment has been tested and found to comply with the limits for a Class A 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 unacceptable 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 on a circuit different from that to which the receiver is connected.
- Consult your dealer or an experienced radio/TV technician for help.

FCC Warning:

To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to this projector would void the user's authority to operate this device.

Power Supply Cord USA

For units with 100-120V input voltage in the USA, use the following:

UL Listed and CSA Certified Type SVT or SJT No. 18/3 AWG rated 125VAC 8A minimum. One end terminated in a molded on parallel blade, grounding attachment cap or hooded attachment cap (15A, 125V configuration), other end terminated in a molded on appliance coupler.

CE Certification



This device complies with the requirements of the EEC directive 89/336/EEC with regard to Electromagnetic compatibility.

Note when handling the power cord

Do not remove the ferrite core which is attached to the accessory power cord. If the ferrite core is removed, electromagnetic interference may result.

IMPORTANT SAFETY NOTICE

Warning

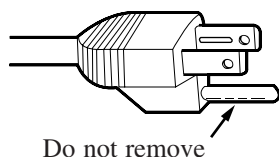
To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or moisture.



The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Caution



This equipment comes with a three-pin grounding-type power plug, which is a safety feature. Do not remove the grounding pin on the power plug. This plug will only fit a grounding-type power outlet. If you are unable to insert the plug into the outlet, contact an electrician. Do not defeat the purpose of the grounding plug by removing it.

For other important safety information, see Chapter 5 Care and Safety Tips.

CONTENTS

Safety Guidelines	iii
FCC Information	iv

1. Getting Started

Package Contents	1
Features	2
Quick Installation	3
Projector Views	4
Setting Up the Projector	5
Screen Requirements	6
Standard Setup Positions and Dimensions	7
System Configuration	8
Side Connector Panel	10
Inserting Batteries into the Remote Control Unit	11
Turning the Power On and Off	12

2. Operation

The Projector	15
The Remote Control Unit	16
Using the Remote Control Unit as a Wireless Mouse/Pointer	17
Operating Range of the Remote Control Unit	18
Changing the Input Source	19
System Format Selection for S-Video Input Signals	21
Switching the Signal Mode During RGB Signal Input	21
Displaying the On-Screen Menu	21
Resetting Adjustment Values to Factory Settings	21
Adjusting the Vertical Position of the Projected Picture	22
Adjusting the Lens	23
Changing the Projection Method	24
Adjusting the Picture Setting	25
Adjusting the White Balance	26
Adjusting the Picture Position	27
Adjusting the Blanking	28
Adjusting the Horizontal Size/Width	29
About Dot Clock Adjustment	30
Adjusting the Audio	31
Other Useful On-Screen Functions	33

3. Technical Data

Specifications	37
Timing Chart	39
Using the Serial Connector	40
Pin Configuration and Signal Names for RGB Input Connectors ..	42
Accessories	42
Parts	42
Dimensions	43

4. Troubleshooting

Problems, Causes and Solutions	45
--------------------------------------	----

5. Care and Safety Tips

Safety Precautions and Helpful Hints	47
Cleaning and Maintenance	49
Warranty	54
Index	55

GETTING STARTED

1

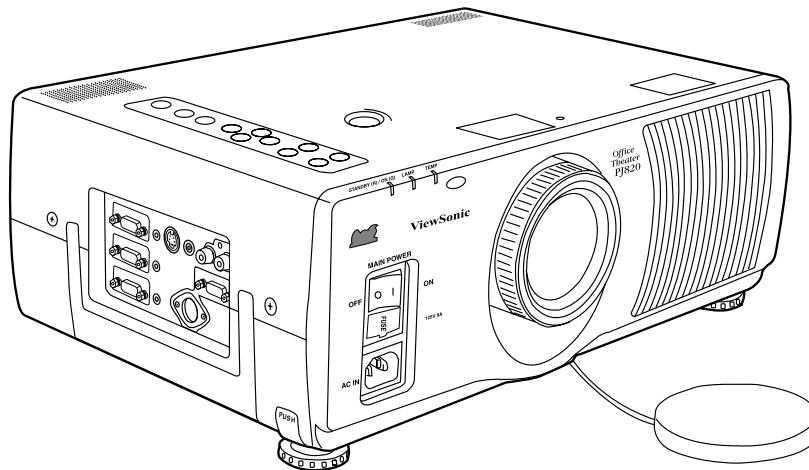
Package Contents

Congratulations on purchasing a **ViewSonic PJ820 Office Theater™** LCD projector! Your **ViewSonic PJ820** package includes:

- **ViewSonic PJ820 Office Theater™** LCD projector
- Video cable with 15-pin high density (HD) mini D-sub connector
- Remote control
- Two AA batteries
- PS/2 mouse cable with 13-pin round connector for PC
- 9-pin serial mouse cable with 13-pin round connector for PC
- AC power cable
- A/V cable
- Lens cap
- User's guide
- Software diskette or CD-ROM which includes ViewSonic® monitor installation file (*VS*.inf*) for Windows® 95 (required for *Plug & Play*).

Important!

Save the original box and all packing material for future shipping needs.



Features

Superior Image ...

- The **three-panel active matrix LCD** designed with 750 ANSI lumens* projects an exceptionally bright and sharp image with true 16.7 million colors, out-performing most one-panel LCD or one-chip DLP projectors.
- The **high contrast ratio** provides sharp, crisp images that are legible even in a well lit room.
- **Advanced video compression** ensures a sharp image with all the detail and lines present after compression.
- The **optical advanced prism uniformity system** ensures maximum brightness and sharpness throughout the screen without any dark corners or edges (by actively converting P-Polarized lights to S-Polarized light.)

System Flexibility ...

- Equipped with DDC1™ and DDC2B™ for **Plug & Play**† compatibility with both new and legacy computers, saving setup time.
- The **wireless pointer/remote control** maximizes the presenter's effectiveness by combining an infrared pointer with a wireless remote to adjust both projected image and audio, eliminating confusion caused by two handheld devices.
- Up to **three input sources** in a variety of formats are supported, including NTSC, PAL, SECAM, and S-Video.
- **Muting functions** can be accessed from the projector and from the remote control enabling the presenter to easily mute video and audio.
- **True SVGA resolution** ensures images from a wide variety of applications are projected with true fidelity, compatible with computers that support from VGA up to 1,024 x 768** resolution.

Ergonomic Design ...

- At 21.6 pounds (9.8 kg.) the projector is **lightweight and portable**.
- The contour of the **wireless pointer/remote control** fits comfortably in the hand.

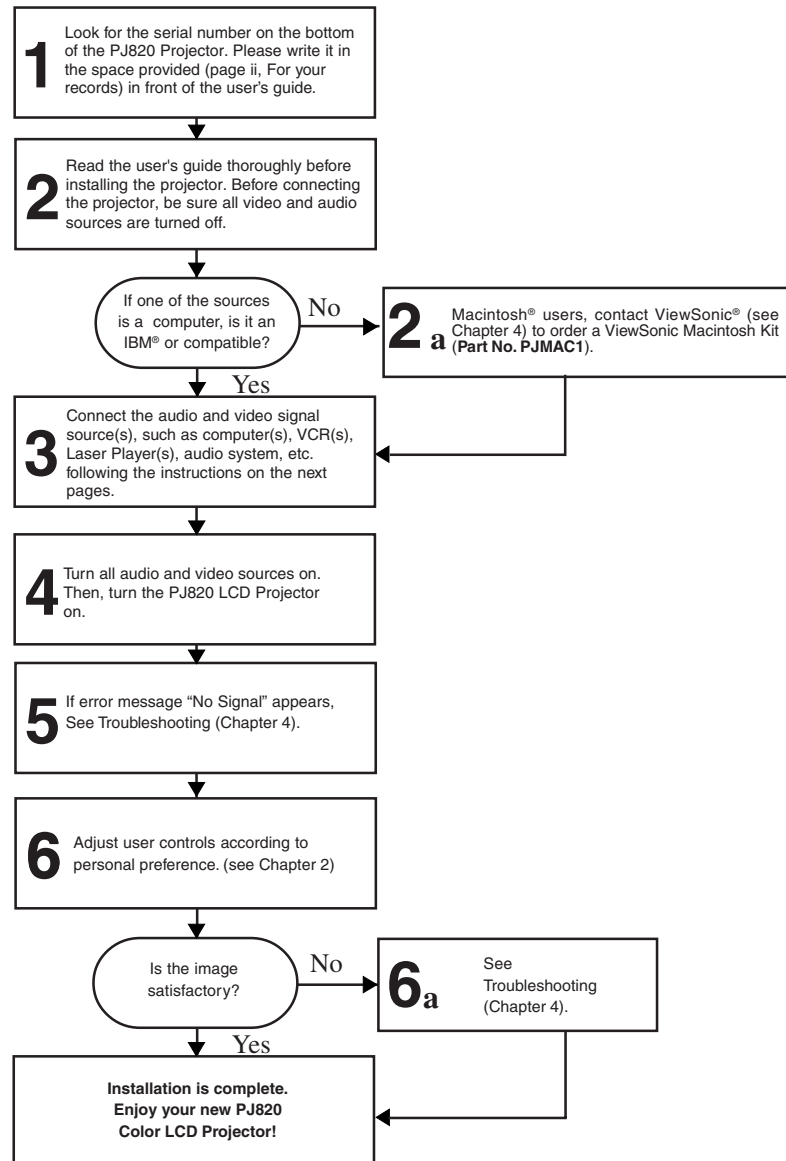
Environmentally Friendly ...

- All plastic parts are **recyclable**. All materials are strictly selected for ease of maintenance, inspection, and disposal.
- Our shipping cartons are made of **recyclable material**.

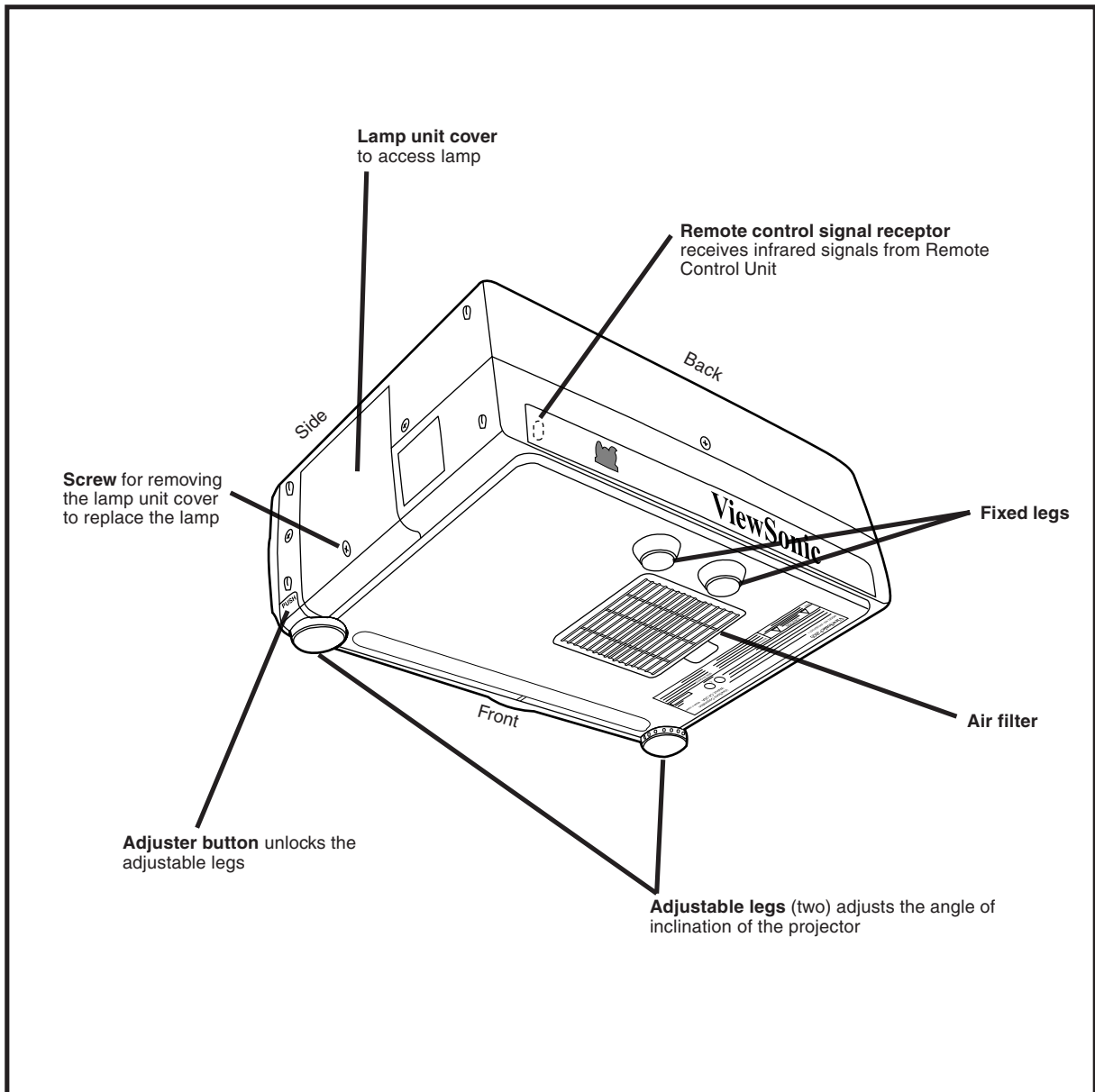
* Maximum brightness varies with lamp age and environmental conditions.

** 1024 x 768 (advanced video compression).

Quick Installation



Projector views: back, bottom, side

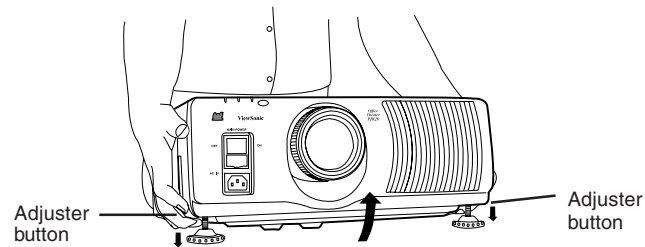


Setting up the projector

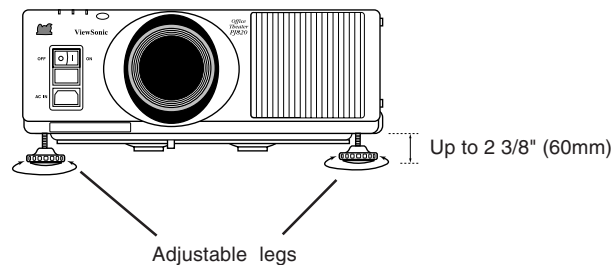
The projector must be horizontal to get a distortion-free picture. Place the projector on a tabletop or similar surface and follow the procedure below to ensure that no distortion of the picture occurs. Also see page 22.

- 1 Lift the front of the projector until the bottom of projector is a few inches above the tabletop. While holding it in this position, press the adjuster buttons under the sides of the projector (one at left and right corners). The left and right adjustable legs drop down until they reach the setup surface.

NOTE: Do not release the buttons until both legs have reached the setup surface.



- 2 Release the adjuster buttons. The adjustable legs lock into place as the buttons are released.



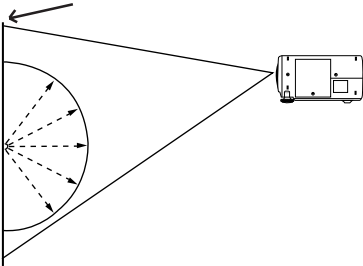
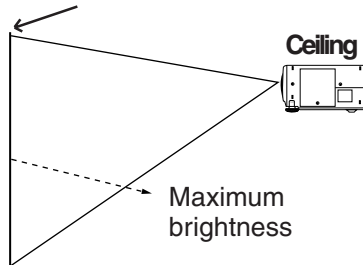
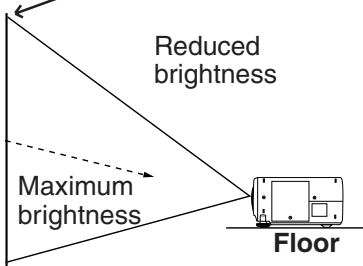
- 3 Turn the adjustable legs by hand in either direction to make fine adjustments to the level of the projector so that the projector is perfectly horizontal. The legs can be extended by up to 2 3/8" (60 mm). If you try to extend them any further than this, they spin freely.

To retract the legs:

- 1 Hold the projector firmly while lifting the front of the projector slightly.
- 2 Press and hold the adjuster buttons.
- 3 Gently lower the projector.

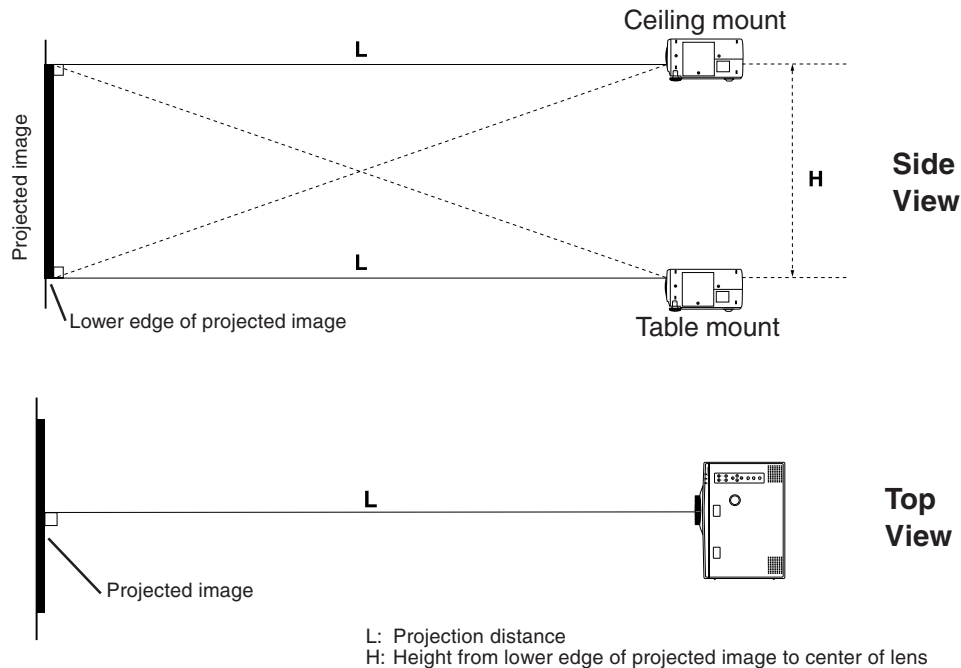
Screen requirements

The **ViewSonic PJ820** projects images onto flat screens. However, the brightness and viewable range varies with each type of screen. Selecting a screen with characteristics that are suitable for the intended use is important.

	Screen Type	Screen Characteristics
FRONT Reflective Screens	Polarized screen	Because the surface of the screen has been treated to make it polarized, it will only reflect light from a single direction. Consequently, if you use such a screen with an LCD projector, a clear image can be obtained even in bright rooms because the screen hardly reflects any extraneous light.
	White screen 	This type of screen can be seen from anywhere, so there are no limits on the viewing position. However, the surrounding walls should be darkened as in a movie theater, otherwise a clear picture cannot be obtained.
	Silver screen 	This type of screen is recommended when the projector is suspended from the ceiling. This type of screen gives a picture 2-4 times brighter than a white screen. A variety of types are available from different manufacturers, and each type has different brightness characteristics. Some also have restrictions on the possible range of viewing positions. Care should be taken with screens that have a high gain, as these types of screen can cause color distortion at the left and right edges.
	Beaded screen 	This type of screen is recommended when the projector is placed on the floor. This type of screen is similar to the silver screen, except that no color distortion occurs at the left and right edges. Moreover, most of the light is reflected at the same angle as the angle of incidence.
REAR Translucent Screens	Flexible translucent screen	This type of screen is made of PVC (polyvinyl chloride). It has the same characteristics as silver screens, but sometimes has hot spots.
	Rigid-type translucent screen	This type of screen is made of acrylic plastic. It is extremely durable and has excellent optical characteristics. It performs the same as silver screens.

Standard setup positions

The illustrations and standard setup dimensions below help you determine where to set up the projector. Distance L from the projector to the screen and the height H do not vary, regardless whether the floor, table or ceiling are used to set up the projector, or whether a front or rear projection screen is used.



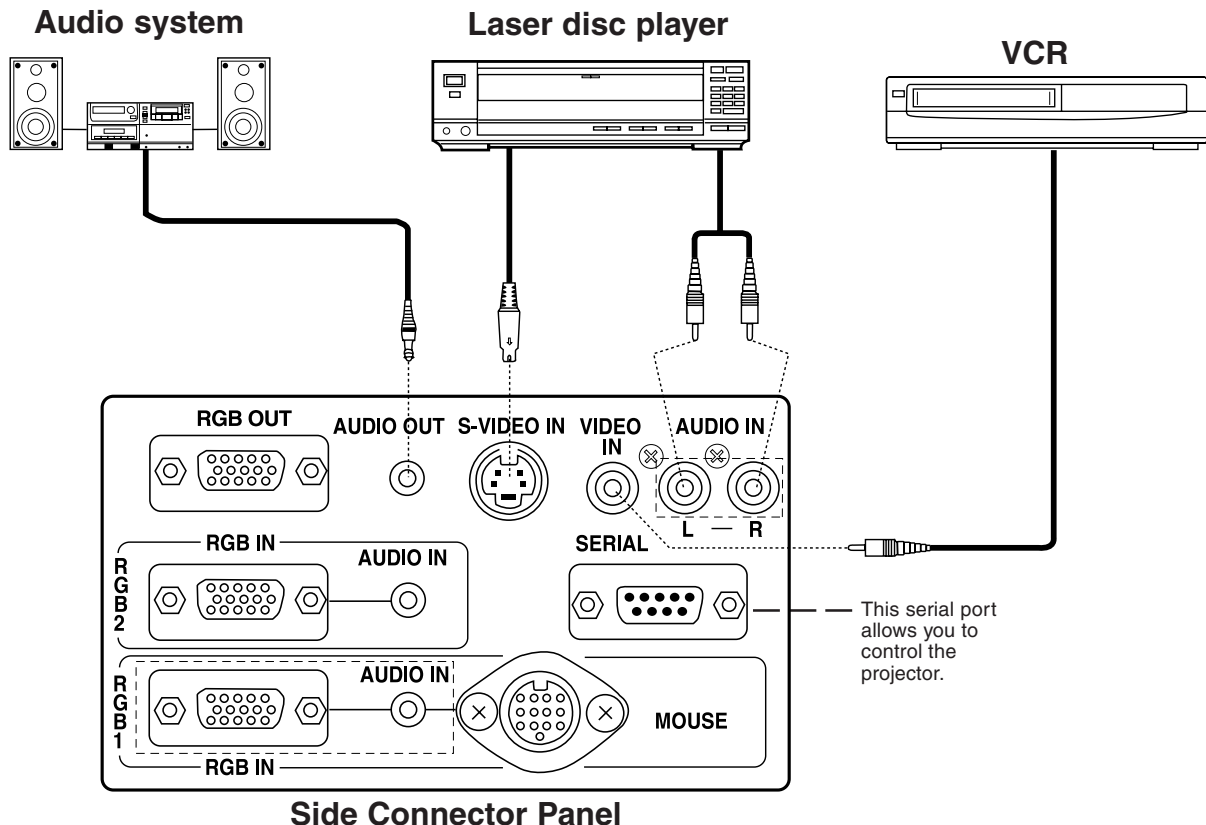
Standard setup dimensions

The further away the projector is from the screen, the bigger the picture is (image as shown in the table below). See also the table of screen requirements in this chapter with descriptions of various types of screens. These descriptions will help you determine whether to set up in front of or behind the screen and where to set up in the room. The projector uses a x 1.5 electronic zoom lens for adjusting the projection distance. You can also move the lens up or down. For instructions on adjusting the lens, the front of the projector, and focusing the image, see the Chapter 2 Operation. When the projector is not completely vertical with the screen and horizontal to the floor, the projected image distorts. The values in the table below are approximate.

Projection size	Projection distance (L)		Height from lower edge of projected image to center of lens (H)
	Minimum	Maximum	
30	3'3" (1.0m)	4'11" (1.5m)	0-18" (0-0.457m)
40	4'7" (1.4m)	6'6" (2.0m)	0-24" (0-0.610m)
60	6'10" (2.1m)	10'2" (3.1m)	0-36" (0-0.914m)
80	9'2" (2.8m)	13'9" (4.2m)	0-48" (0-1.219m)
100	11'9" (3.6m)	17'4" (5.3m)	0-60" (0-1.524m)
150	17'8" (5.4m)	26'2" (8.0m)	0-90" (0-2.286m)
200	23'7" (7.2m)	35'1" (10.7m)	0-120" (0-3.048m)
250	29'6" (9.0m)	43'11" (13.4m)	0-150" (0-3.810m)
300	35'5" (10.8m)	53'1" (16.2m)	0-180" (0-4.572m)

System configuration

- Turn off the power supply of each system component before connecting any of the components.
- Read the instruction manual for each system component before connecting it.
- If there is a lot of jitter in the video signal input from the video source, the picture on the screen may flicker. In such cases, it will be necessary to connect a TBC (time base corrector).
- The projector can be connected to video signal sources which output VIDEO, S-VIDEO and analog RGB signals (0.6-8.0 Vp-p synchronized signals).
- The projector has built-in speakers. However, you will need to connect a separate audio system to the AUDIO OUT terminal if your needs specify high sound volumes. No sound will come out of the projector's built-in speaker while the AUDIO OUT terminal is being used.



Connecting to audio-visual equipment

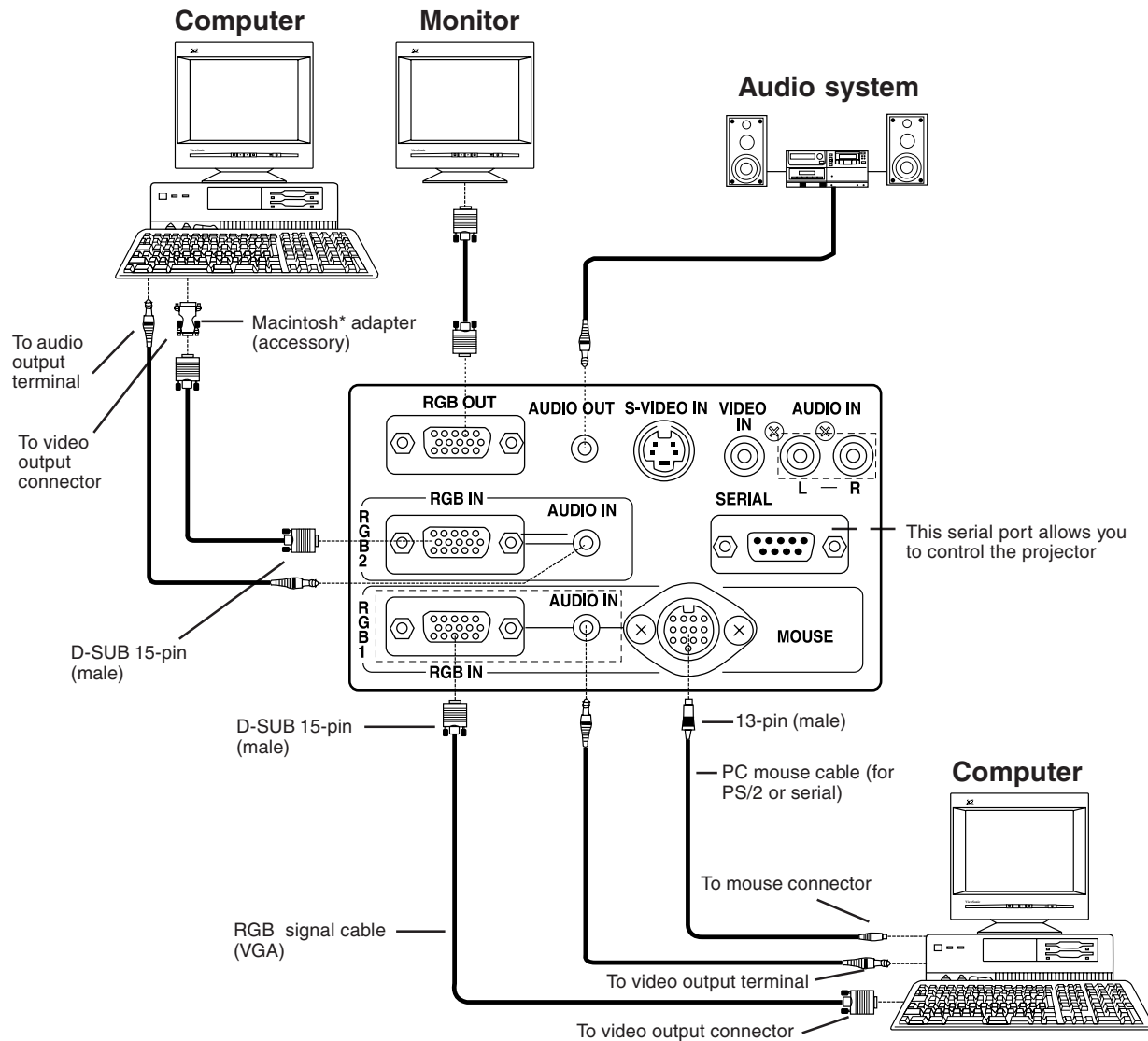
In the above diagram, if the S-VIDEO IN and VIDEO IN connectors are both used at the same time, the S-VIDEO IN signal input has priority. To view the signal being input to the VIDEO IN connector, disconnect the plug from the S-VIDEO IN connector.

Only one audio signal input is available for S-VIDEO or VIDEO signals. Select one or the other.

If the video signal source is connected using a cable with a BNC junction plug, use a BNC/RCA adapter to convert the pin jack.

If an audio system is connected to the AUDIO OUT connector, the sound volume balance and muting can be controlled by the Remote Control Unit which is supplied with the projector. However, if the volume is set to "0", no audio signal will be output from the AUDIO OUT connector.

An Example of Computer Connections

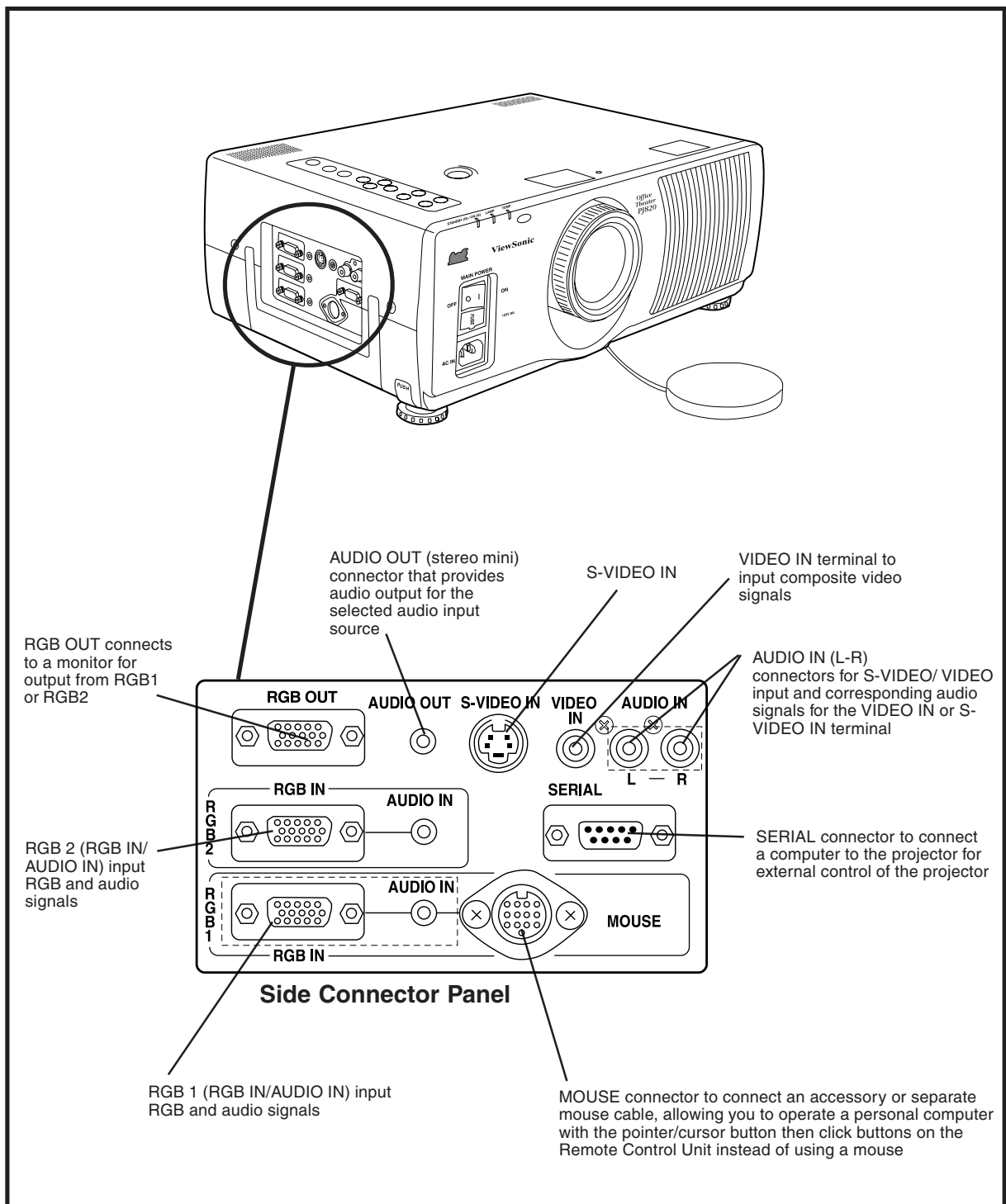


*Macintosh computers require a ViewSonic Macintosh Compatibility Kit. Contact ViewSonic (See Chapter 4 Troubleshooting for contact details) to obtain the kit.

NOTE: For instructions on using the Remote Control Unit in place of the computer's mouse see Operations Chapter 2. Make sure to turn on the main power to the projector before turning on the personal computer. If using a personal computer with a suspend/resume function, the infrared mouse function may not operate until the computer is restarted. This function operates only when input to the RGB 1 connector has been selected.

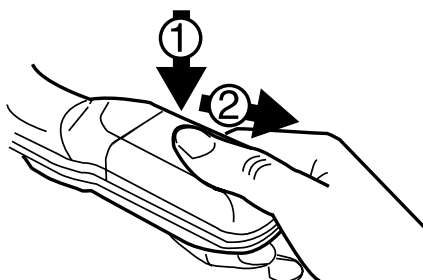
For details about the pin configuration for the RGB connector and what kinds of computers can be connected to the projector see Specifications Chapter 3.

Side Connector Panel

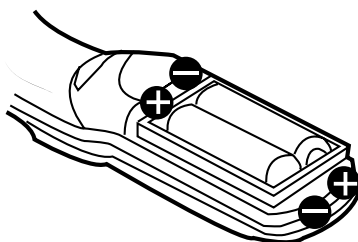


Insert batteries before using the Remote Control Unit

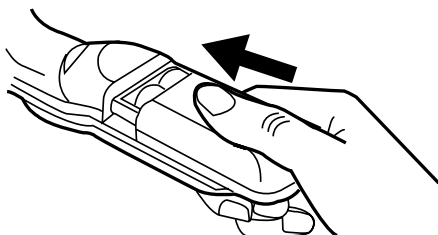
- 1 Open the battery compartment cover. Push the marked cover down firmly and pull toward you to remove it.



- 2 Insert two AA batteries so their direction matches the polarity markings inside the compartment. Do not use rechargeable (Ni-Cd) batteries.



- 3 Close the battery compartment cover.



More about the batteries

To prevent damage to or leaking of the batteries, follow these safeguards:

Replace both batteries at the same time.

Do not mix old and new batteries or batteries of different types (such as alkali and manganese batteries).

Do not burn spent batteries or put them in with combustible garbage.

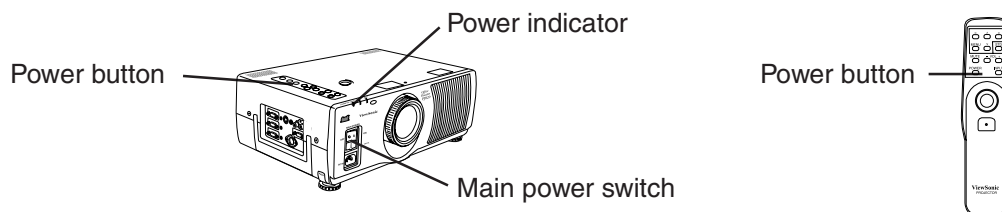
Do not short-circuit a battery (connecting positive to negative).

Do not open a battery (with a tool like a screwdriver).

Do not recharge disposable batteries.

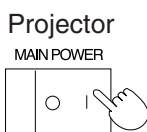
Turning the power On and Off

CAUTION: If the MAIN POWER switch on the projector is pressed while the cooling fan is still operating, the operating life of the projector lamp will be shortened. Be sure to follow the procedures given below when turning the projector power on and off.

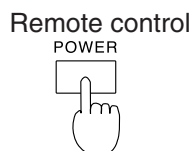
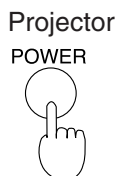


Turning the power On

- 1 Press the MAIN POWER switch on the projector to the ON (I) position. The power indicator turns red and the projector switches to Standby Mode.

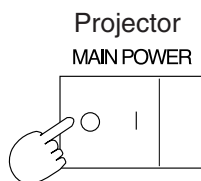


- 2 Press the POWER button on either the top of the projector or on the Remote Control Unit. The power indicator alternates between green and orange. When it stops at green, a picture is projected onto the screen after about 15 seconds.



Turning the power Off

- 1 Press the POWER button on either the top of the projector or on the Remote Control Unit. The power indicator turns red and the projector switches to Standby Mode.
- 2 Wait approximately 90 seconds until the cooling fan stops.
- 3 Press the MAIN POWER switch to the OFF (O) position. The power indicator switches off.



CAUTION: Do not turn the MAIN POWER switch to the OFF position, unplug the power cord from the wall socket, or shut off the main power supply until the cooling fan stops.

NOTE: If the power is turned off using the POWER button, the cooling fan continues to operate approximately 90 seconds while the inside of the projector is still at high temperature.

Continued

Turning the power On and Off (continued)

If not using the projector for long periods of time, turn the MAIN POWER switch at the front of the projector to the OFF position.

If you press the POWER switch accidentally while the projector is being used and then immediately turn the power back on, the picture may not appear.

The REMOTE POWER function may cause the operation of the POWER button on the Remote Control Unit to be disabled temporarily.

If you turn off the POWER button while leaving the MAIN POWER switch on, the projector still draws approximately 8 Watts of power, even though the fan has stopped.

If the lamp does not turn on right away, the power indicator flashes between green and orange for 30 seconds. Then the projector automatically attempts to turn on the lamp again.

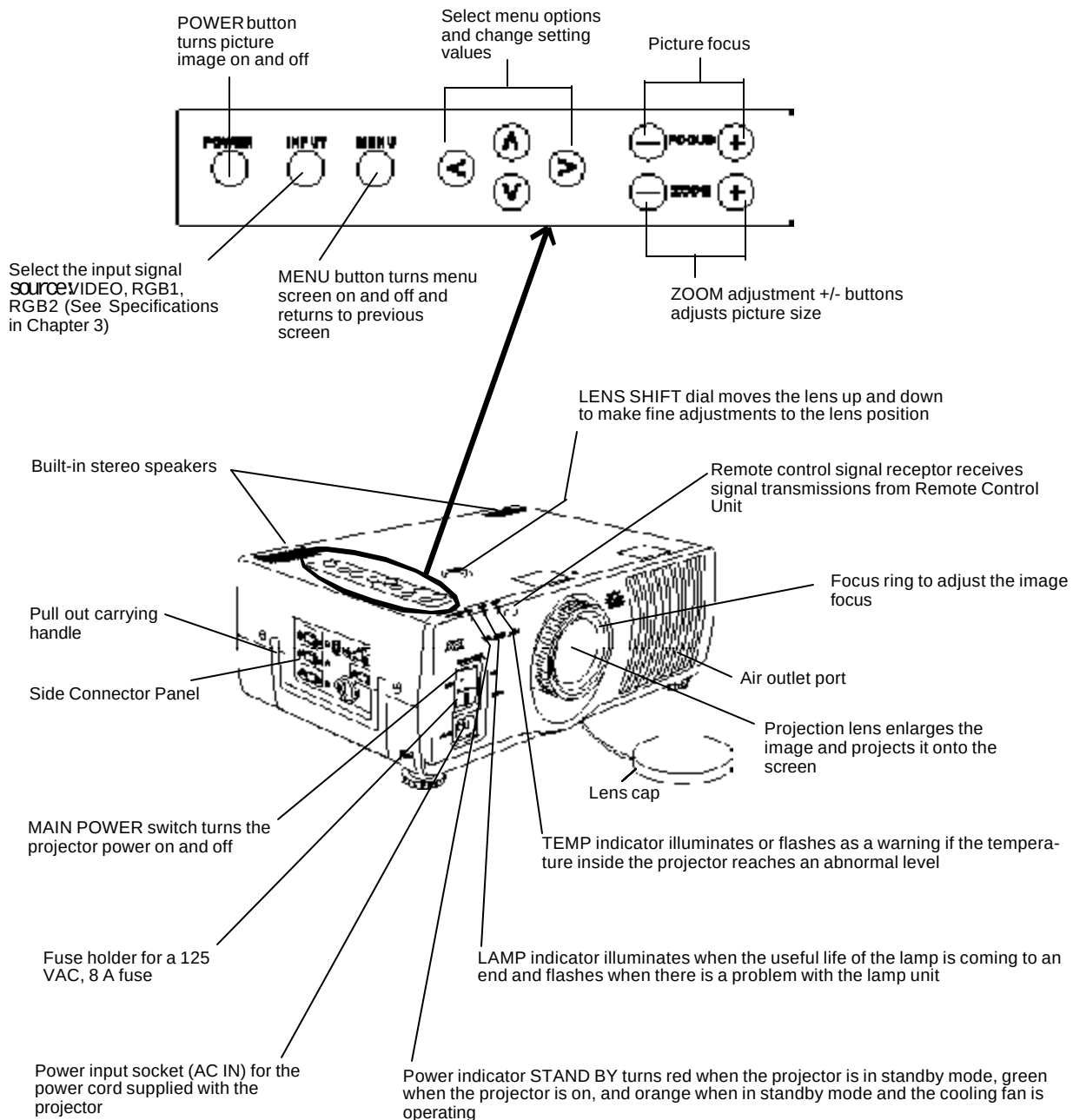
The projector is equipped with a lens retracting function which activates automatically when the power is turned off. However, the lens will not return to the previous position even if the power is turned back on again. To disable this function, see the section on “Using the lens retracting function.”

OPERATION

2

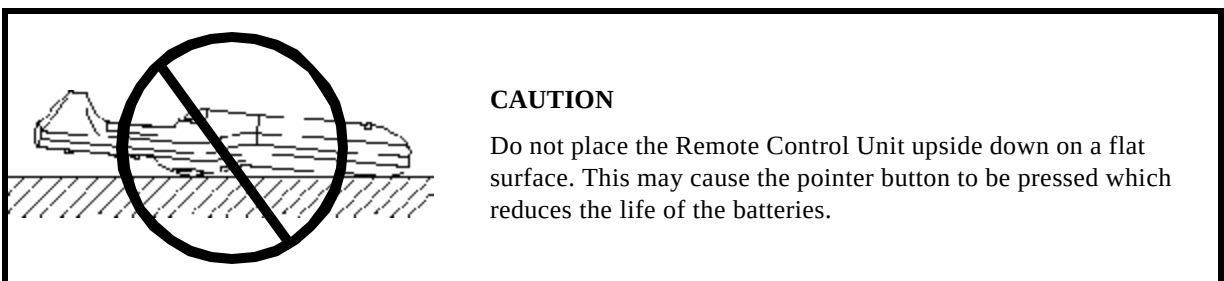
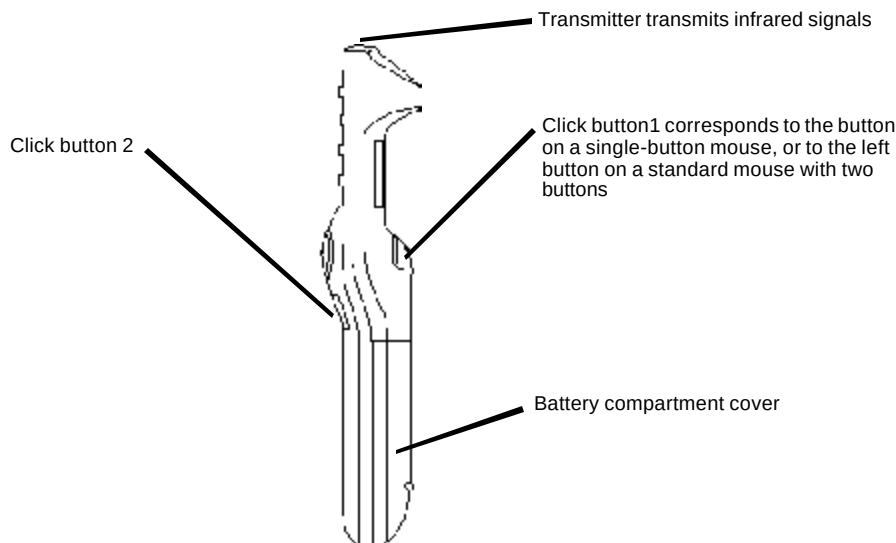
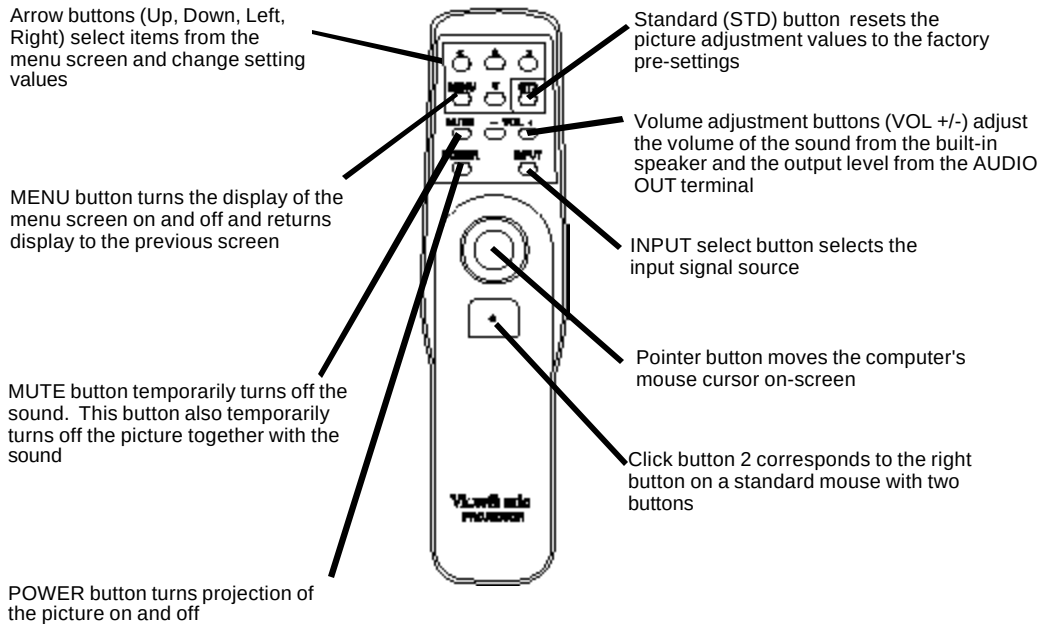
This chapter describes how to use the functions of the **ViewSonic PJ820 Office Theater™**. You can access various functions by using buttons on both the projector and the Remote Control Unit. Select functions also from the on-screen control menu projected on the screen. For instructions on setting up the projector, see Chapter 1 Getting Started.

The Projector



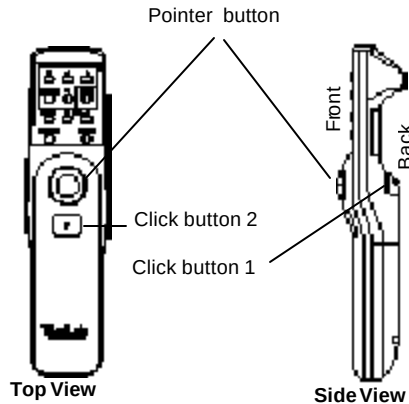
The Remote Control Unit

The Remote Control Unit has two main uses: a device to select projector functions (explained below) and a wireless mouse/pointer (explained on the next page).



Using the Remote Control Unit as a wireless mouse

You can also use the Remote Control Unit as a wireless mouse in place of a mouse connected to a personal computer. When you move the pointer button with your thumb, the cursor moves on the screen, also acting as a pointer. This is made possible by an infrared beam from the remote control unit that bounces off the screen, back to an infrared sensor on the projector.



To use this feature, connect the mouse port on the projector to the mouse port on the computer with the mouse cable supplied with the projector. See Chapter 1 for more information about connecting the mouse cable.

NOTE: The wireless mouse only operates when you use the RGB 1 connector on the projector.

This projector's mouse feature is compatible with the following types of mouse ports:

- PC Serial mouse port
- PS/2 mouse port
- Macintosh® mouse port

NOTE: If strong light shines onto the remote control signal receptor, or if there are any obstacles between the remote control signal receptor on the projector and the Remote Control Unit, correct remote control operation may not be possible. **Important!** The operating range of the Remote Control Unit is limited by the amount of light reflection loss caused by the characteristics of the screen.

Click button 1

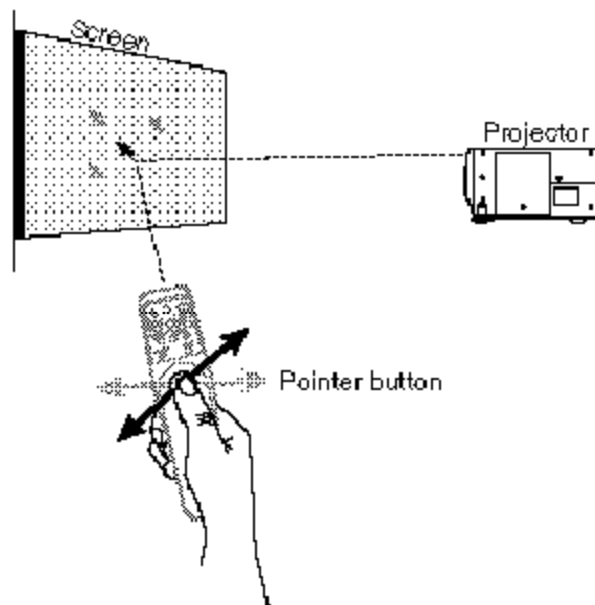
Button 1 shown above acts like a mouse button on a one button mouse or the left button on a standard mouse with two buttons.

Click button 2

Button 2 shown above corresponds to the right button on a standard mouse with two buttons.

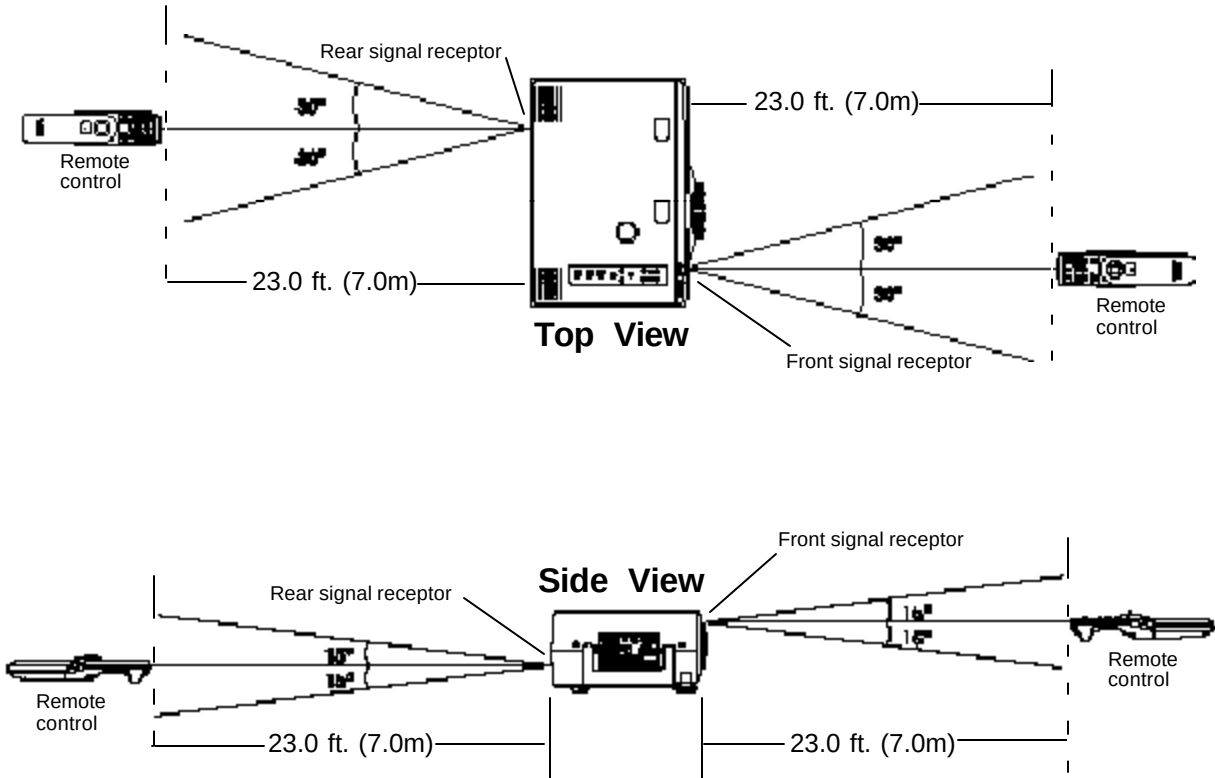
Pointer button

Point the Remote Control Unit at the center of screen. As you move your thumb on the pointer button the mouse cursor moves on the screen accordingly (shown below).



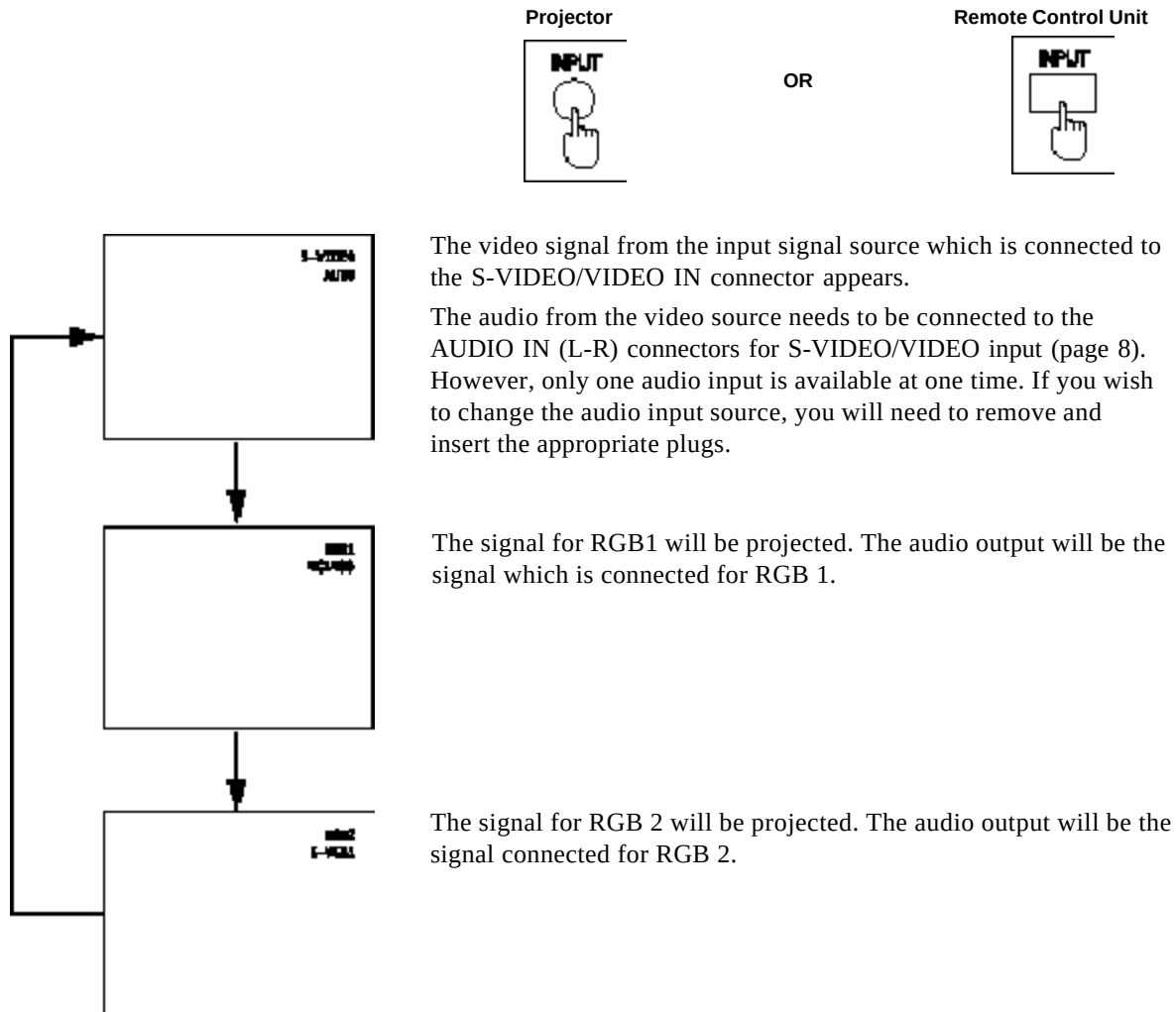
Operating range of the Remote Control Unit

Point the Remote Control Unit toward the receptor on the front or the rear of the projector. Refer to the illustrations below for the operating range of the Remote Control Unit.



Changing the input source

You can select both the video and the corresponding audio signal input sources by pressing the **INPUT** button on the projector or the Remote Control Unit. The input source you select appears on the screen for approximately five seconds.



NOTE: The mode name for the currently-selected signal or the name of the signal format will be displayed directly underneath the on-screen display of the input signal source

The on-screen display of the selected input source normally appears when projection starts, and also when the input source is being switched. However, if the input display setting (INPUT DISP) has been turned off, this on-screen display will not appear.

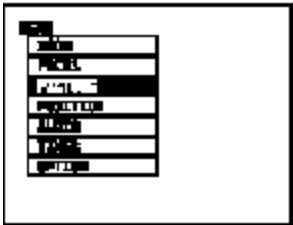
If the S-VIDEO IN and VIDEO IN connectors are both connected, the S-VIDEO input will automatically be given priority. If you wish to view the signal being input to the VIDEO IN connector, disconnect the plug from the S-VIDEO IN connector.

If the picture is not projected normally when an RGB signal is being input, you will need to switch the signal mode to match the input signal.

If S-VIDEO or VIDEO has been selected as the input signal source, it may be necessary to select the correct format which corresponds to the input signal.

System format selection for S-VIDEO input signals

If S-VIDEO or VIDEO has been selected as the input signal source, there may be times where the signal format is not selected correctly resulting in an unclear projected picture. If this happens, select the correct signal format as follows: (the default setting is AUTO)



- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select PICTURE.



- 3 Press the $<$ or $>$ button to display the PICTURE screen.
- 4 Press the $\wedge$ or $\vee$ button to select TV-SYSTEM.
- 5 Press the $<$ or $>$ button to select either AUTO, NTSC, PAL, SECAM, or NTSC 4.43.

Select the appropriate signal from the table below.

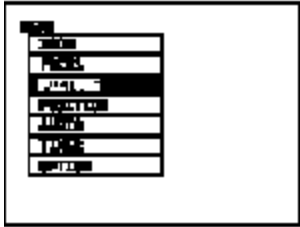
	Horizontal scanning frequency [kHz]	Vertical scanning frequency [Hz]	Color subcarrier frequency [MHz]
AUTO	Automatically selects NTSC, PAL, SECAM or NTSC 4.43.		
NTSC	15.7	60.00	3.58
NTSC 4.43			4.43
PAL	15.63	50.00	4.43
SECAM			4.25 or 4.41

NOTE: The correct signal format may not be selected if, for instance, you are using a poor-quality signal source, such as a dubbed video tape. Switching the signal format may give better results in such cases. The setting screen and the MENU screen can both be cleared by pressing the MENU button.

Switching the signal mode during RGB signal input

If the picture is not projected normally when the selected input source is RGB 1 or RGB 2, then select the correct signal mode by the procedure below.

NOTE: The factory setting is AUTO, so the projector can usually be used without the need to change this setting.

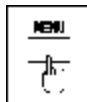


- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select PICTURE.

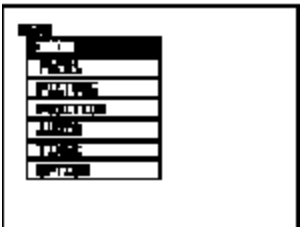


- 3 Press the $<$ or $>$ button to display the PICTURE screen.
- 4 Press the $\wedge$ or $\vee$ button to select "SIGNAL MODE".
- 5 Press the $<$ or $>$ button to switch the signal name.

Displaying the on-screen menu

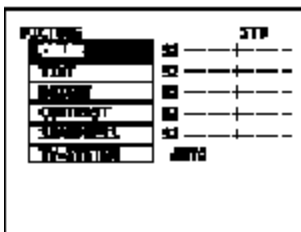


To display the menu screen press the MENU button on the projector or the Remote Control Unit. The MENU screen shown on the left appears.



NOTE: If the MENU button is pressed while an on-screen display is already appearing, the on-screen display will return to the previously-displayed screen each time the MENU button is pressed. If it is pressed while the MENU screen shown at left is being displayed, the MENU screen will be cleared.

Resetting adjustment values to the factory settings (standard values)



If you press the STD (Standard) button on the Remote Control Unit while the PICTURE screen, POSITION screen, AUDIO screen or one of the adjustment screens is displayed, the adjustment settings will reset to the factory settings.

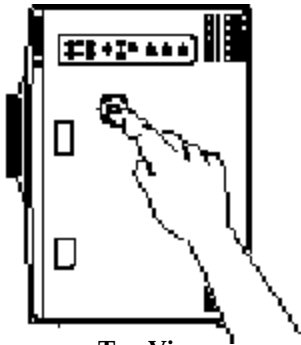
If the STD (Standard) button on the Remote Control Unit is pressed while the PICTURE screen, POSITION screen or AUDIO screen is being displayed, the letters STD will be displayed in yellow in the top-right corner of the screen and all items displayed will be reset to the factory settings.

NOTE: However, the TV-SYSTEM and SIGNAL MODE settings in the PICTURE screen and the VOLUME setting in the AUDIO screen will not return to the factory settings.

If the STD (Standard) button on the Remote Control Unit is pressed while one of the individual adjustment screens is being displayed, the value and the bar display will appear yellow and only the item displayed will be reset to the factory setting.

Adjusting the vertical position of the projected picture

You can adjust the position of the projected picture vertically by turning the LENS SHIFT dial on top of the projector. Turning the dial clockwise shifts the projected picture higher on the screen; turning it counterclockwise shifts it lower. To adjust the vertical position of the projected picture:



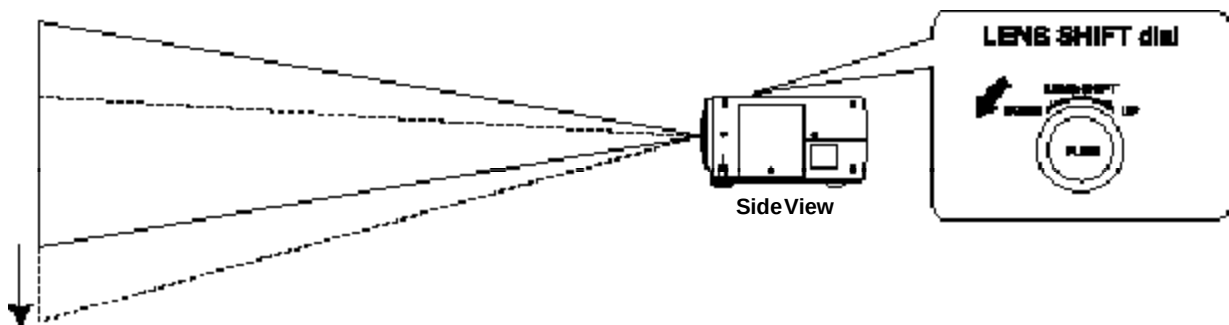
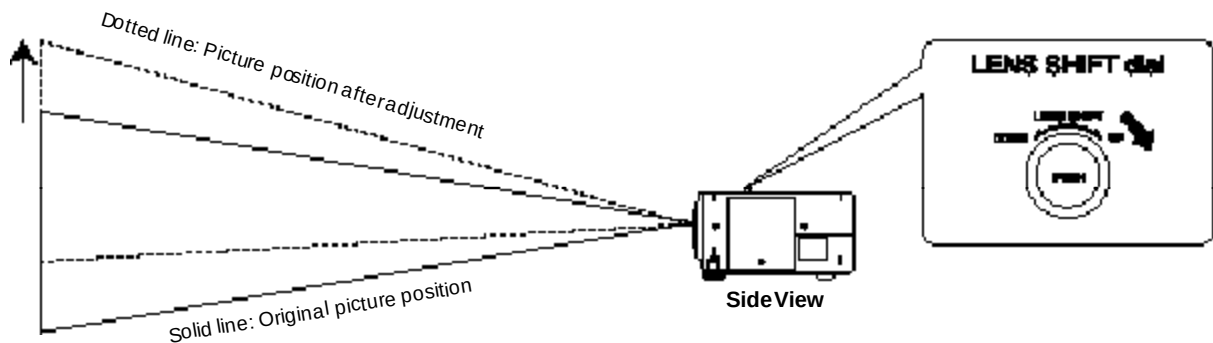
Top View

After determining the distance and the setting-up position, adjust the vertical position of the projected picture by carrying out the following procedure.

- 1 Press the LENS SHIFT dial on top of the projector. The dial pops up so you can turn it to make adjustments.
 - clockwise raises projected picture
 - counterclockwise lowers projected picture
- 2 Press the LENS SHIFT dial down. The dial pops back in again and adjustment is disabled.

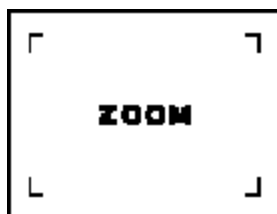
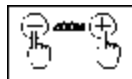
NOTE: The height of the projection lens can be adjusted within a range of $\pm 25/64$ inches (± 10.1 mm). However, the adjustment range for the position of the picture will vary depending on its size.

For more information on Front and Rear Screen Requirements, see Chapter 3 Technical Data.



Adjusting the lens

An electronic zoom and focusing mechanism allow you to zoom and focus easily by pressing the ZOOM (+/-) and FOCUS (+/-) buttons on top of the projector or using the on-screen display. Another way to adjust the focus is by physically turning the lens. If you press both +/- buttons while the on-screen display for other functions are displayed, the buttons pressed will operate. However, the on-screen display does not switch to the ZOOM or FOCUS adjustment screen. As a result, operation and display may not match.



To adjust the lens directly

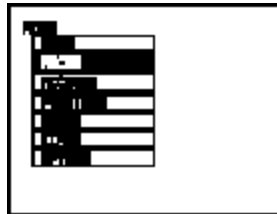
- 1 Press the ZOOM (+/-) buttons on the top of the projector to adjust the size of the picture.
 - + enlarges the picture
 - condenses the picture



- 2 Press the FOCUS (+/-) buttons on top of the projector to focus the picture.

NOTE: If approximately five seconds pass without any buttons being pressed, the adjustment screen will clear.

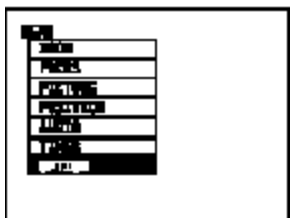
To adjust the lens using the on-screen display:

- 1 Press the MENU button to display the MENU screen.
 - 2 Press the $\wedge$ or $\vee$ button to select ZOOM on the menu.
- 
- 3 Press the < or > button to display the ZOOM adjustment screen.
 - 4 Press the < or > button to adjust the picture size.
 - + enlarges the picture
 - condenses the picture
- 
- 5 Press the MENU button, or wait approximately five seconds without pressing any button. The display returns to the MENU screen.
 - 6 Press the $\wedge$ or $\vee$ button to select FOCUS.
- 
- 7 Press the < or > button to display the FOCUS adjustment screen.
 - 8 Press the < or > button to adjust the picture focus.
 - + enlarges the picture
 - condenses the picture
- 

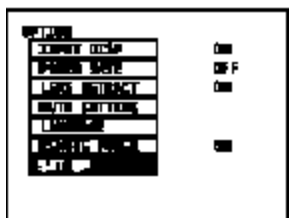
NOTE: After approximately five seconds without pressing any buttons, the display returns to the MENU screen. The projector retracts automatically when the power is turned off. However, the lens will not return to the previously adjusted position even if the power is turned back on again. To disable this function refer to “Using the lens retracting function” in this chapter.

Changing the projection method

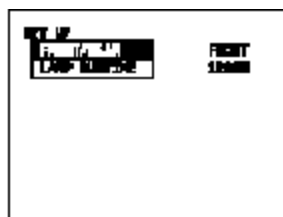
You have the option of setting up the projector either for front or rear screen projection. To do this you must select either FRONT or REAR “projection method” from the on-screen display. At the time of shipment from the factory, the projector was set to the FRONT projection method. To change the projection method:



- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select OPTION.



- 3 Press the $<$ or $>$ button to display the SET UP screen.
- 4 Press the $\wedge$ or $\vee$ button to select SET UP.



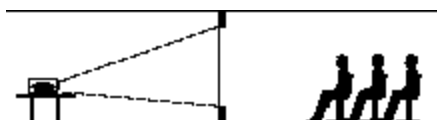
- 5 Press the $<$ or $>$ button to display the SET UP screen.
- 6 Press the $\wedge$ or $\vee$ button to select FRONT/REAR.
- 7 Press the $<$ or $>$ button to select FRONT or REAR.

NOTE: If approximately five seconds pass without any buttons being pressed, the display will return to the MENU screen. The adjustment screen and the MENU screen can both be cleared by pressing the MENU button.



FRONT mounting

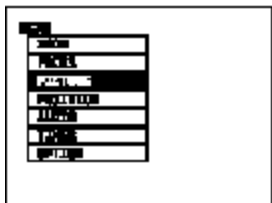
(Pre-set condition from the factory)



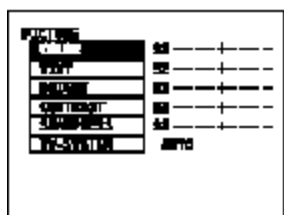
REAR mounting

Adjusting the picture setting

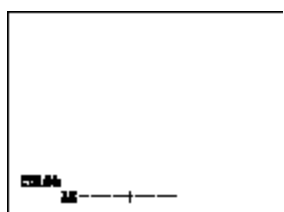
You can adjust the picture settings for any of the selected input signal sources. The items which can be adjusted vary depending on the type of input signal. The adjustment procedure below describes the on-screen displays when a signal is being input to the S-VIDEO IN or the VIDEO IN connectors. To make color adjustments:



- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select PICTURE.



- 3 Press the $<$ or $>$ button to display the PICTURE screen.
- 4 Press the $\wedge$ or $\vee$ button to select COLOR. If the STD (Standard) button is pressed while the PICTURE screen shown on the left appears, the letters STD turn yellow in the top-right corner of the screen and all settings other than the TV-SYSTEM setting reset to the factory settings. The values and bar displays for items which have returned to the factory settings turn yellow.



- 5 Press the $<$ or $>$ button to display the COLOR individual adjustment screen.
- 6 Continue pressing the $<$ or $>$ button to adjust the color. The current setting will be displayed on the screen by numerals and a bar. The adjustment operation and the changes made will vary depending on which adjustment item is selected. Refer to the table below for details.

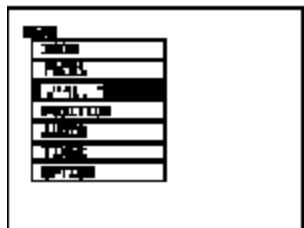
Adjustment Item	Button	Adjustment Details	Adjustment Range	Remarks
COLOR	Press the $>$ button	The color becomes darker	Max. value 63	S-VIDEO/VIDEO only
	Press the $<$ button	The color becomes lighter	Min. value 0	
TINT	Press the $>$ button	Flesh tones become greenish	Max. value 63	NTSC, NTSC 4.43 (S-VIDEO/VIDEO) only
	Press the $<$ button	Flesh tones become reddish	Min. value 0	
BRIGHTNESS	Press the $>$ button	The screen becomes brighter	Max. value 63	
	Press the $<$ button	The screen becomes darker	Min. value 0	
CONTRAST	Press the $>$ button	The screen becomes brighter and the picture becomes darker	Max. value 63	
	Press the $<$ button	The screen becomes darker and the picture becomes lighter	Min. value 0	
SHARPNESS	Press the $>$ button	The picture quality becomes sharper	Max. value 63	S-VIDEO/VIDEO only
	Press the $<$ button	The picture quality becomes softer	Min. value 0	

NOTE: Approximately five seconds after pressing a button while an individual adjustment screen is displayed, the display returns to the PICTURE screen. Press the MENU button to return the PICTURE screen.

If the STD (Standard) button is pressed while one of the individual adjustment screens is displayed, the value and the bar display will appear in yellow. Only the displayed item will be reset to the factory setting. If a PAL or SECAM signal is being input, the TINT item will not appear on the screen.

Adjusting the white balance

When RGB signals from a personal computer or other signal source are being projected, the picture may become over-saturated with red or blue color, and the white color may not be at the desired degree of whiteness. In such cases, adjust the white balance by the following procedure. (Only effective during RGB signal input)



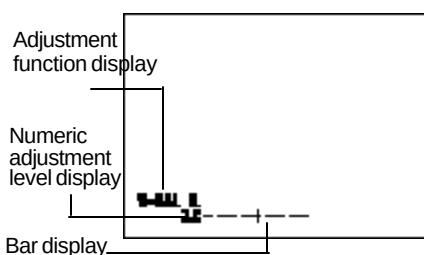
To adjust the red component:

- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select PICTURE.



- 3 Press the $<$ or $>$ button to display the PICTURE screen.
- 4 Press the $\wedge$ or $\vee$ button to select W-BAL R.

NOTE: If the STD (Standard) button is pressed while the PICTURE screen on the left is displayed, the letters “STD” will turn yellow in the top-right corner of the screen and all settings other than SIGNAL MODE will reset to the factory settings. All the values and bar displays for items that returned to the factory pre-settings will be displayed in yellow.



- 5 Press the $<$ or $>$ button to display the W-BAL R individual adjustment screen.
- 6 Continue pressing the $<$ or $>$ button to adjust the W-BAL R setting. The current setting will be displayed on the screen by numerals and a bar. The color being adjusted can be changed by pressing the $\wedge$ or $\vee$ button while the individual adjustment screen is being displayed.

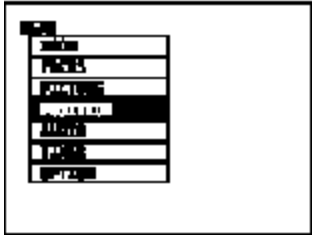
Adjustment Item	Button	Adjustment Details
W-BAL R	Press the $>$ button	The red component becomes stronger
	Press the $<$ button	The red component becomes weaker
W-BAL G	Press the $>$ button	The green component becomes stronger
	Press the $<$ button	The green component becomes weaker
W-BAL B	Press the $>$ button	The blue component becomes stronger
	Press the $<$ button	The blue component becomes weaker

NOTE: If these are not adjusted correctly, colors may reproduce incorrectly. Press the STD (Standard) button while one of the individual adjustment screens is displayed. The value and the bar display appears in yellow and only the item being displayed will reset to the factory setting.

Press the MENU button to return to the PICTURE screen or to clear the MENU screen. Also see SIGNAL MODE setting.

Adjusting the picture position

If the edge of the picture goes off the screen, adjust the horizontal or vertical position of the picture.



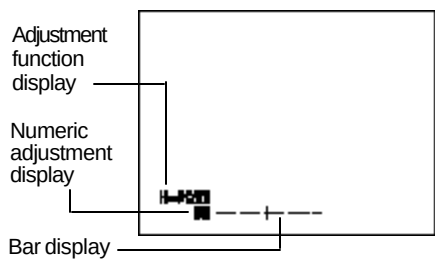
Adjusting horizontal and vertical positions

- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select POSITION.

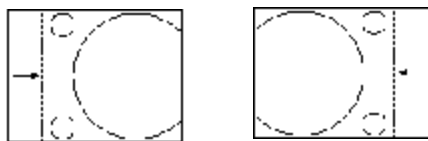


- 3 Press the $<$ or $>$ button to display the POSITION screen.

NOTE: If the STD (Standard) button is pressed while the POSITION screen on the left is being displayed, the letters STD will be displayed in yellow in the top-right corner of the screen and all items displayed will be reset to the factory pre-settings. Furthermore, the values and bar displays for items which have returned to the factory pre-settings will be displayed in yellow.



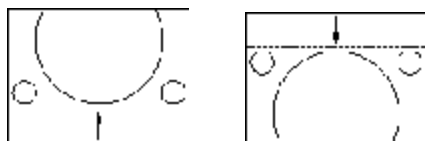
- 4 Press the $\wedge$ or $\vee$ button to select H-POSI. To adjust the vertical position of the picture, select V-POSI instead.
- 5 Press the $<$ or $>$ button to display the H-POSI individual adjustment screen.
- 6 Continue pressing the $<$ or $>$ button to adjust the H-POSI setting. The current setting will be displayed on the screen by numerals and a bar.



When adjusting the horizontal position (H-POSI)

The $>$ button moves the picture to the right.

The $<$ button moves the picture to the left.



When adjusting the vertical position (V-POSI)

The $>$ button moves the picture up.

The $<$ button moves the picture down.

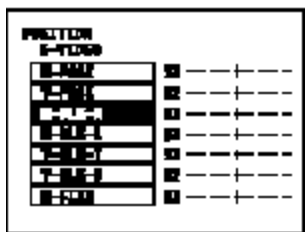
If approximately five seconds pass without any buttons being pressed while an individual adjustment screen is being displayed, the display will return to the POSITION screen.

Press the MENU button to return to the POSITION screen or to clear the MENU screen.

NOTE: If the STD (Standard) button is pressed while one of the adjustment screens is displayed, the value and the bar display will appear in yellow and only the item displayed will be reset to the factory pre-setting.

Adjusting the blanking

Blanking is as if the side of picture has been cropped. The blanking adjustments described below apply to input signals going to the S-VIDEO IN or the VIDEO IN connector.



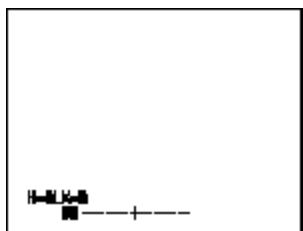
To correct the blanking at the right edge of the picture

The procedure below starts from the POSITION screen.

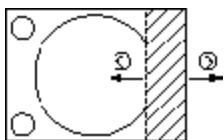
- 1 Press the $\wedge$ or $\vee$ button to select H-BLK-R.

For blanking correction of the left edge of the picture, select H-BLK-L. For blanking correction of the top of the picture, select V-BLK-T. For blanking correction of the bottom of the picture, select V-BLK-B.

NOTE: If the STD (Standard) button is pressed while the POSITION screen shown on the left is displayed, the letters STD appear in yellow in the top-right corner of the screen. All items reset to the factory pre-settings, including the values and bar displays which will display in yellow.

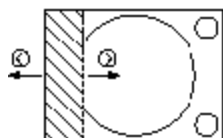


- 2 Press the $<$ or $>$ button to display the H-BLK-R adjustment screen.
- 3 Continue pressing the $<$ or $>$ button to adjust the H-BLK-R setting. Numbers and a bar displayed on the screen indicate the current setting. The adjustment range is between 0 and 63.



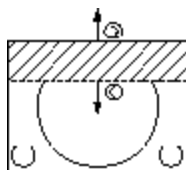
Right-side blanking correction (for the H-BLK-R)

- $>$ button moves blanking edge right - picture area gets wider
- $<$ button moves the blanking edge left - picture area gets narrower



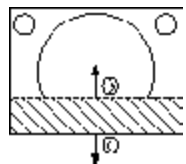
Left-side blanking correction (for the H-BLK-L)

- $>$ button moves the blanking edge right - picture area gets narrower
- $<$ button moves the blanking edge left - picture area gets wider



Top blanking correction (for the V-BLK-T)

- $>$ button moves the blanking edge up - picture area gets wider
- $<$ button moves the blanking edge down - picture area gets narrower



Bottom blanking correction (for the V-BLK-B)

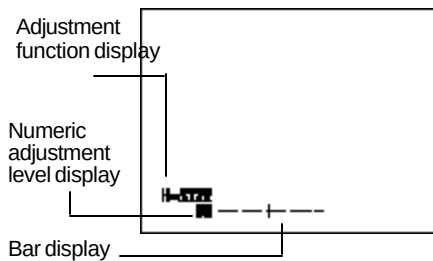
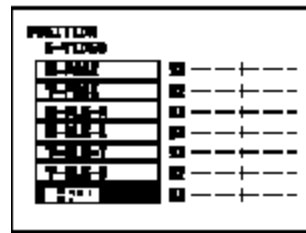
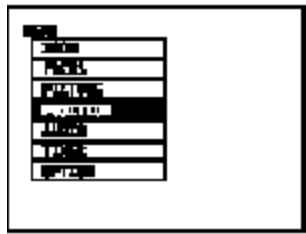
- $>$ button moves blanking edge up - picture area gets shorter
- $<$ button moves blanking edge down - picture area gets taller

NOTE: Approximately five seconds after the most recent time a button is pressed, the POSITION screen will be displayed. Press the MENU button to return to the POSITION screen or to clear the MENU screen.

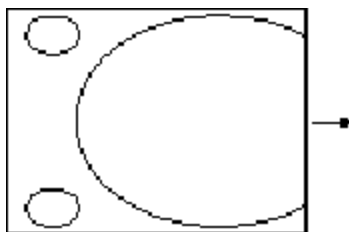
If the STD (Standard) button is pressed while one of the individual adjustment screens is being displayed, the value and the bar display will appear yellow. Only the displayed item will be reset to the factory setting.

Adjusting the horizontal size/width

The horizontal size/width of the signals from S-VIDEO or VIDEO can be “squeezed” or “stretched” as follows:

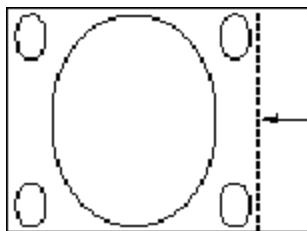


- 1 Press the MENU button to display the menu screen.
- 2 Press the $\wedge$ or $\vee$ button to select POSITION.
- 3 Press the $<$ or $>$ button to display the POSITION screen.
If the STD (Standards) button is pressed while the POSITION screen on the left is being displayed, the letters STD will be displayed in yellow in the top-right corner of the screen and all items displayed will be reset to the factory pre-settings. The values and bar displays for items which have returned to the factory pre-settings will be displayed in yellow.
- 4 Press the $\wedge$ or $\vee$ button to select H-SIZE.
- 5 Press the $<$ or $>$ button to display the H-SIZE individual adjustment screen.
- 6 Continue pressing the $<$ or $>$ button to adjust the H-SIZE setting. The current setting will be displayed on the screen by numerals and a bar. The adjustment range is between 0 and 63.



To increase the horizontal size/width

To “stretch” the picture, press the $>$ button. The picture will become wider.



To decrease the horizontal size/width

To “squeeze” the picture, press the $<$ button. The picture area will become narrower.

NOTE: Approximately five seconds after the most recent time a button is pressed, the POSITION screen will be displayed. Press the MENU button to return to the POSITION screen or to clear the MENU screen.

If the STD (Standard) button is pressed while one of the individual adjustment screens is being displayed, the value and the bar display appear yellow. Only the displayed item will be reset to the factory setting.

About dot clock adjustment

When RGB signals are being input, you can make fine adjustments to the dot clock frequency and also adjust the clock phase. Adjustments are made by the following procedure while viewing the picture. (This is only effective for RGB signals.)

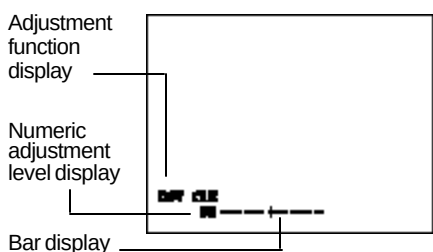
Adjusting the dot clock frequency

When RGB signals are being input, you can adjust the display area of pictures sent from a computer.

The procedure below starts from the POSITION screen.

- 1 Press the $\wedge$ or $\vee$ button to select DOT CLK.

If the STD (Standard) button is pressed while the POSITION screen shown on the left is displayed, the letters STD appear in yellow in the top-right corner of the screen. All displayed items reset to the factory settings including the values and bar displays which appear yellow.



- 2 Press the $<$ or $>$ button to display the DOT CLK adjustment screen.
- 3 Continue pressing the $<$ or $>$ button to adjust the DOT CLK setting. The current setting will be displayed on the screen by numerals and a bar. The adjustment range is between 0 and 63.

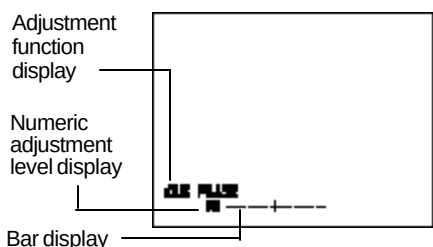
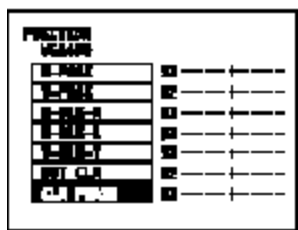
Adjusting the clock phase

You can use this adjustment to eliminate the flicker (localized noise) that appears on computer screen when RGB signals are input.

The procedure below starts from the POSITION screen.

- 1 Press the $\wedge$ or $\vee$ button to select CLK PHASE.

If the STD (Standard) button is pressed while the POSITION screen shown on the left is displayed, the letters STD turn yellow in the top-right corner of the screen and all items displayed will be reset to the factory pre-settings. The values and bar shows items returned to the factory pre-settings in yellow.



- 2 Press the $<$ or $>$ button to display the CLK PHASE individual adjustment screen.
- 3 Continue pressing the $<$ or $>$ button to adjust the CLK PHASE setting. The current setting will display on the screen by numerals and a bar. The adjustment range is between 0 and 63.

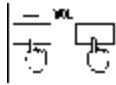
NOTE: Approximately five seconds after the most recent time a button is pressed, the POSITION screen will be displayed. Press the MENU button to return to the POSITION screen or to clear the MENU screen.

If the STD (Standard) button is pressed while one of the individual adjustment screens is displayed, the value and the bar display will appear yellow. Only the displayed item will reset to the factory pre-setting.

Adjusting the audio

The audio can be adjusted using buttons on the projector and buttons on the remote control. Also, you can use the Remote Control Unit to make additional audio adjustments.

Remote Control Unit



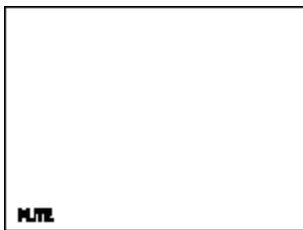
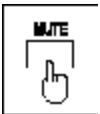
Adjusting the volume with the Remote Control Unit

The volume can be adjusted by pressing the VOL (+/-) buttons on the Remote Control Unit.

- + increases volume
- decreases volume

NOTE: If these buttons are pressed while another function is currently displayed on the screen, the volume will still be adjusted but the current volume setting and the volume bar display will not appear. The volume can also be adjusted from an on-screen display menu. The volume output level remains on the screen for approximately three seconds.

Remote Control Unit



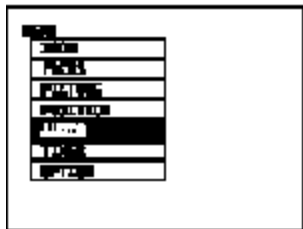
Muting the sound with the Remote Control Unit

If the MUTE button on the Remote Control Unit is pressed, MUTE will be displayed on the screen shown on the left and the sound will be muted. If the MUTE button is pressed again, the on-screen display will be cleared and the normal sound volume will be restored. The volume output level will remain displayed on the screen for approximately three seconds.

NOTE: If the MUTE button is pressed while the on-screen display for another function is currently on the screen, the volume will still be muted but the MUTE on-screen display will not appear.

If the power supply is turned off or either of the VOL (+/-) buttons is pressed, the mute setting will be canceled.

You can also mute the picture together with the sound by pressing the MUTE button. For details of this process see the following page. When the picture has been turned off in this way, PICTURE MUTE will be displayed on the screen.



To adjust the volume using the on-screen display

- 1 Press the MENU button on the projector or the remote control to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select AUDIO.



- 3 Press the < or > button to display the AUDIO screen. If the STD (Standard) button is pressed while the AUDIO screen shown on the left is displayed, STD turns yellow in the top-right corner of the screen, and only the BALANCE setting resets to the factory setting showing the value and bar displays in yellow.
- 4 Press the $\wedge$ or $\vee$ button to select VOLUME.

To adjust the balance, select BALANCE instead.

Continued

To adjust the volume using the on-screen display (continued)



- 5 Press the < or > button to display the VOLUME individual adjustment screen.
- 6 Continue pressing the < or > button to adjust the volume setting. The current setting will be displayed on the screen by numerals and a bar.

The adjustment range is between 0 and 63. However, the adjustment range for the balance setting is -32 to +31.

While VOLUME is selected, the volume of the sound coming from the built-in speakers and the output level of the signal from the AUDIO OUT terminal will change.

While BALANCE is selected, the left and right balance of the sound coming from the built-in speaker and the output level of the signal from the AUDIO OUT terminal will change.

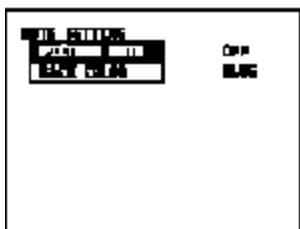
NOTE: Approximately five seconds after the most recent time a button is pressed, the AUDIO screen will be displayed. Press the MENU button to return to the AUDIO screen or to clear the MENU screen.

If the STD (Standard) button is pressed while one of the individual adjustment screens is being displayed, the value and the bar display will appear in yellow. Only the displayed item will be reset to the factory setting.

The VOLUME adjustment made from the AUDIO screen has the same effect as pressing the volume adjustment buttons (VOL +/-) on the Remote Control Unit. If the volume level is set to zero, no sound will be output from the AUDIO OUT terminal.

Using the MUTE button on the Remote Control Unit to turn off both sound and picture

At the time of shipment from the factory, the MUTE button on the Remote Control Unit is set with the sound muted when the button is pressed.



If you want the picture to be muted (temporarily turned off visually) along with the sound, set the PICTURE MUTE function to ON as follows:

The procedure below starts from the MUTE SETTING screen.

- 1 Press the ^ or v button to select PICTURE MUTE.
- 2 Press the < or > button to change the setting to ON.

If the function is set to ON, the picture will be muted along with the sound when the MUTE button is pressed.

If the function is set to OFF, only the sound will be muted when the MUTE button is pressed. (Factory setting)

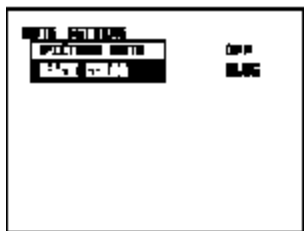
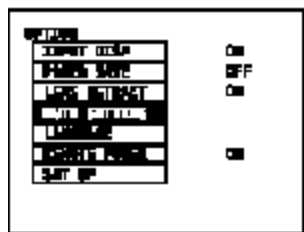
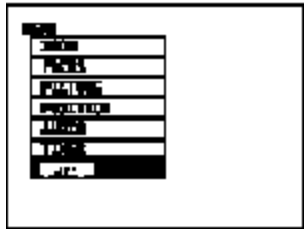
NOTE: Press the MENU button to clear the setting screen and the MENU screen. When PICTURE MUTE is on, the color projected will be the same color as the BACK COLOR setting.

Other useful on-screen functions

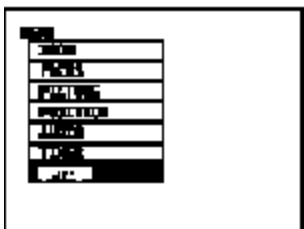
Setting the screen color during picture muting and when no signal is input

The projector can be set to project a solid blue image or a solid black image onto the screen if there is no signal from the input connectors or the signal is not recognized.

This setting is also effective when picture muting is active and when the countdown timer is running. At the time of shipment from the factory, the color is set to BLUE.



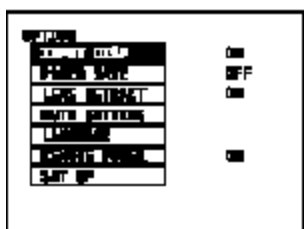
- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select OPTION shown on the left.
- 3 Press the $<$ or $>$ button to display the OPTION screen.
- 4 Press the $\wedge$ or $\vee$ button to select MUTE SETTING.
- 5 Press the $<$ or $>$ button to display the MUTE SETTING screen.
- 6 Press the $\wedge$ or $\vee$ button to select BACK COLOR.
- 7 Press the $<$ or $>$ button to change the setting to BLUE or BLACK. Press the MENU button to clear the setting screen and the MENU screen.



Turning off the on-screen display of input signal information

To display the currently-selected input signal onto the screen when the input source is changed

- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select OPTION.

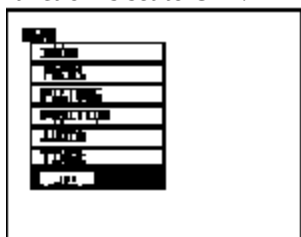


- 3 Press the $<$ or $>$ button to display the OPTION screen.
- 4 Press the $\wedge$ or $\vee$ button to select INPUT DISP.
- 5 Press the $<$ or $>$ button to select OFF.

If this is set to ON when the input source is changed, its name will be displayed on the screen. (Factory setting) Press the MENU button to clear the setting screen and the MENU screen.

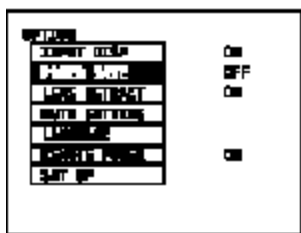
Using the power save function

In order to conserve power, the projector is equipped with a power save function. If no signal is input for ten minutes or more, the projector automatically switches to Standby Mode. At the time of shipment from the factory this function is set to OFF.



To activate this function:

- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select OPTION.



- 3 Press the $<$ or $>$ button to display the OPTION screen.
- 4 Press the $\wedge$ or $\vee$ button to select POWER SAVE.
- 5 Press the $<$ or $>$ button to change the setting to ON.

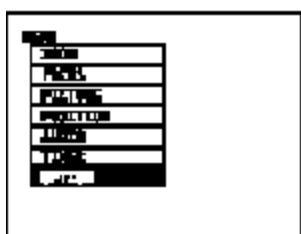
If you change the setting to OFF, the power save function will be disabled. To clear the setting screen and the MENU screen, press the MENU button.

NOTE: If both this function and the lens retracting function described below are set to ON, the lens will be automatically retracted when the projector switches to Standby Mode. If this happens, you will need to readjust the zoom and focus of the lens after starting the projector again.

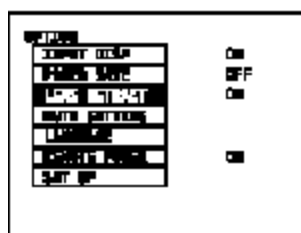
Using the lens retracting function

When the projector switches to Standby Mode the projector lens automatically retracts, and extends again when the projector starts back up. Having this function set to ON is useful if the projector will not be used for an extended period of time or when the projector is to be transported.

However, once the lens has retracted and the projector has started up again, make sure to readjust the zoom and focus. At the time of shipment from the factory this function is set to ON.



- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select OPTION.



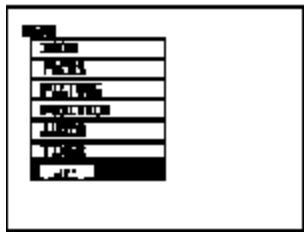
- 3 Press the $<$ or $>$ button to display the OPTION screen.
- 4 Press the $\wedge$ or $\vee$ button to select LENS RETRACT.
- 5 Press the $<$ or $>$ button to change the setting to ON.

If you set this function to ON, the lens extends and retracts each time the power is turned on and off.

NOTE: If this function is set to OFF, the lens remains extended at all times. To clear the setting screen and the MENU screen, press the MENU button.

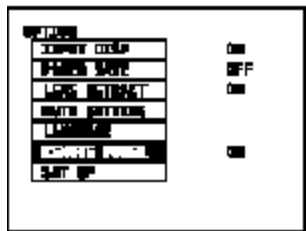
Disabling the POWER button of the Remote Control Unit

The POWER button on the Remote Control Unit can be disabled to prevent the chance of turning the power off by mistake when using the Remote Control Unit.



This setting can be made by following the procedure given below.

- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select OPTION.



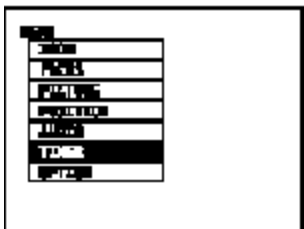
- 3 Press the $<$ or $>$ button to display the OPTION screen.
- 4 Press the $\wedge$ or $\vee$ button to select REMOTE POWER.
- 5 Press the $<$ or $>$ button to select OFF.

If this is set to ON, the POWER button on the Remote Control Unit can be used to turn the power on and off. (Factory pre-setting)

NOTE: Press the MENU button to clear the setting screen and the MENU screen.

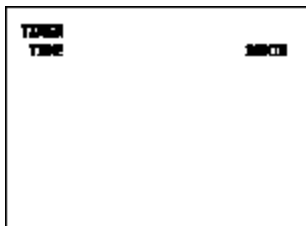
Using the countdown timer

The countdown timer can be used at times such as during breaks in meetings by displaying the amount of time remaining for something on the screen. The countdown time can be set to a maximum of 60 minutes in units of one minute.



To set the countdown timer:

- 1 Press the MENU button to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select TIMER.

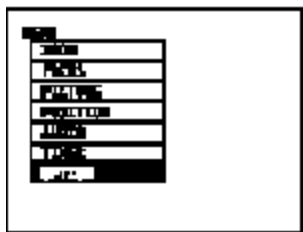


- 3 Press the $<$ or $>$ button to display the TIMER screen.
- 4 Continue pressing the $<$ or $>$ button to set the time. This function can be disabled by setting the time to 0.
- 5 Press the MENU button to clear the menu screen. The countdown will then start.

NOTE: During the countdown, the screen switches to the color specified by the BACK COLOR setting. If you would like to turn off the countdown timer, go back to the TIMER screen and set the time to 0 minutes. Press the MENU button.

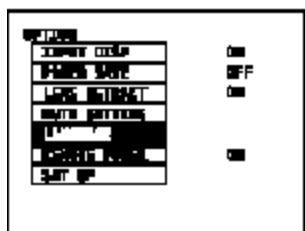
Changing the on-screen display to another language

At the time of shipment, the on-screen displays is set to English. You have the option of changing it to other languages.

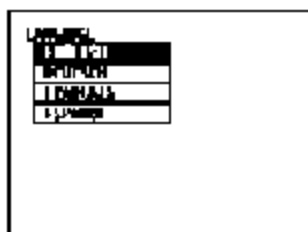


For example, to change the language to German (DEUTSCH), do the following:

- 1 Press the MENU button on the remote to display the MENU screen.
- 2 Press the $\wedge$ or $\vee$ button to select OPTION.



- 3 Press the $<$ or $>$ button to display the OPTION screen.
- 4 Press the $\wedge$ or $\vee$ button to select LANGUAGE.



- 5 Press the $<$ or $>$ button to display the LANGUAGE screen.
- 6 Press the $\wedge$ or $\vee$ button to select DEUTSCH. The languages that can be selected include English (ENGLISH), German (DEUTSCH), French (FRANCAIS), and Spanish (ESPANOL).

NOTE: Press the MENU button to clear the setting screen and the MENU screen.

TECHNICAL DATA

This chapter consists of the following information:

- Specifications
- Using the serial connector
- Pin configuration and signal names for RGB input connectors
- Accessories
- Parts
- Dimension drawings

Specifications

LCD	Type Pixels	1.3" Polysilicon (x3) pitch 1,440,000 (800 x 600 x 3)
Lens	Type	Retractable Power Focus Lens (1:1.5) F 2.5 ~ 3.1, f = 48 - 72mm
Display	Size Projection Distance Brightness Contrast Ratio Aspect Ratio Lamp	30" - 300" 39" - 638" (53.1ft.) [1.0m - 16.2m] 750 ANSI Lumens* 200 : 1 4 : 3 DC Type 280W Metal Halide
Audio	Speaker Power	4cm x 2.85 (elliptical) x 2 2W (1W + 1W) 10%THD
Input Signal	Video Sync Frequency	RGB Analog (75 ohms, 0.7 Vp-p), NTSC / M-NTSC / PAL / SECAM / S-VIDEO H/V separated (TTL), Composite NTSC f _h : 15.6 - 69kHz f _v : 50~85Hz
Compatibility	PC Macintosh® ** Video	IBM® XT, AT, 386, 486, Pentium® or PS/2 and compatibles (VGA up to 1024x768*** non-interlaced) Power Mac® (up to 1024 x 768***) Requires Macintosh Compatibility Kit NTSC / M-NTSC / PAL / SECAM / S-VIDEO
Resolution	Maximum	1024 x 768 @ 85Hz (Compressed) 800 x 600 @ 85 Hz 640 x 480 @ 85Hz
Connectors	RGB Video S-Video Audio Mouse RS232	15 pin mini D-sub (x2) [Input] 15 pin mini D-sub (x1) [Output] RCA (x1) Mini DIN 4-pin (x1) RCA jack (L/R) for Video, Stereo Mini (x2) for RGB, Stereo Mini (x1) for Audio-out Round 13-pin (x1) D-sub 9-pin (x1)

* Maximum brightness varies with lamp age and environmental conditions

** Macintosh computers require a ViewSonic Macintosh Kit. Contact ViewSonic (see Chapter 4 Troubleshooting for a Macintosh Kit).

*** 1024 x 768 (advanced video compression)

Continued...

Specifications (continued)

Power	Voltage	AC 100-120 / 220 - 240 VAC 50 / 60 Hz (Automatic)
	Consumption	390 Watts
User Controls/ Functions	Physical	Power, Menu, Arrows, Focus, Zoom, Input, Lens Shift, Adjustable Legs
	On-Screen	Power, Focus, Brightness, Contrast, W-Balance (R,G,B), Color,Tint, Sharpness, Volume, Balance, Horizontal Blank-Right, Horizontal Blank-Left, Horizontal Position, Zoom, Vertical Position, Vertical Size, Vertical Blank-Top, Vertical Blank-Bottom, Display, Power Save, (Audio) Mute, Language, Remote Power, Timer, Lens Retract, Picture Mute, Background Color
Video	Pixel Clock	89 MHz
Operating Conditions	Temperature	32°F to 104°F (0°C to 40°C)
	Humidity	20 to 80% (no condensation)
Storage Conditions	Temperature	-4°F to +140°F (-20°C to +60°C)
	Humidity	5% to 80% (no condensation)
Dimensions	Physical	421mm (W) x 163mm (H) x 300mm (D) 16.6" (W) x 6.4" (H) x 11.8" (D)
		Packing 530mm (W) x 420mm (H) x 330mm (D) 20.9" (W) x 16.5" (H) x 13.0" (D)
Weight	Net	9.8kg (21.6lb)
	Gross	12.5kg (27.5lb)
Regulatory Agencies		UL1950, C-UL, FCC-A, EN60950, CE
MTBF		10,000 hours excluding lamp Lamp Life 3000 hrs. (maximum)
Power savings	"On"	Green 390 W
	"Stand By"	Amber < 8 W
Other Features		Compatible with the display data channel standards DDC1™ and DDC2B™. 16.7 million colors, Powered Zoom Lens, 4 Languages, Exclusive Polarization Converter, Exclusive Compression Technology, IR Remote (PS/2 Serial Mouse compatible), Front/Rear Projection Compatibility.

All products and trademarks are brand names of their respective companies. Specifications are subject to change without notice.

Timing Chart

User Definable Timings

Resolution	Maximum Refresh Rate
pixels x lines	Hz
640 x 480	75
800 x 600	75
1024 x 768	75 compressed
All resolutions are non-interlaced.	

The **ViewSonic PJ820 Office Theater™** projector can run at an extensive range of resolutions and refresh rates. Certain standard resolutions are factory preset. There are also six timings which are user definable. For example, if your video card is set up to run 1024 pixels x 768 lines at a 75 Hz refresh rate, once you have adjusted the projector size and position to your preferences, the **PJ820** saves this information to memory. Every time you run this resolution at this refresh rate, the projector recalls your adjustments.

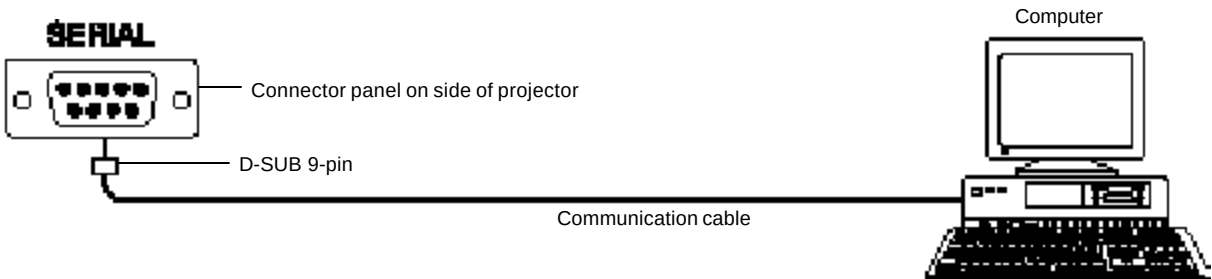
The following table lists the maximum refresh rates that the **ViewSonic PJ820** will operate at a number of standard resolutions. While the **PJ820** is capable of this level of performance, not all video cards are capable of running at these refresh rates. See your video card user's guide to ensure compatibility.

Display mode name	Signal data		
	No. of dots	Horizontal scanning frequency (kHz)	Vertical scanning frequency (Hz)
AUTO	Automatically switches to whichever of the following signal modes best matches the input signal.		
VGA 400	640 x 400	31.5	70.0
VGA 480	640 x 480	31.5	60.0
MAC 13	640 x 480	35.0	66.7
PC-98™	640 x 400	24.8	56.4
VESA	640 x 480	37.9	72.8
S-VGA 1	800 x 600	35.2	56.3
S-VGA 2	800 x 600	37.9	60.4
S-VGA	800 x 600	46.9	75.0
S-VGA 4	800 x 600	48.1	72.0
S-VGA 5	800 x 600	32.1	51.0
MAC 16	832 x 624	49.7	74.6
XGA 1	1024 x 768	48.4	60.0
XGA 2	1024 x 768	56.4	70.0
XGA 3	1024 x 768	68.7	85.0
MAC 19	1024 x 768	60.2	75.0

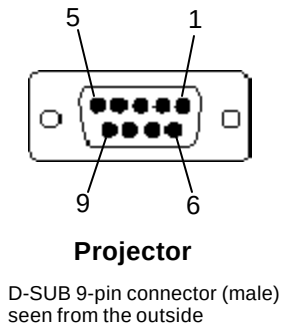
NOTE: The display resolution for the **ViewSonic PJ820** projector is 800 x 600 dots. If any of the above signals which have resolutions greater than this are input, the resolution will be converted to 800 x 600 dots using the advanced compress technology. The setting screen and the MENU screen can both be cleared by pressing the MENU button.

Using the serial connector

The serial connector on the connector panel on the side of the projector conforms to the RS-232C interface specification so the projector can be controlled by a personal computer. Be sure to use a proper communication cable to connect the projector with your personal computer.



Pin layout and signal names for serial connector



Pin No.	Signal Name	Contents
(1)		NC
(2)	RXD	Received data
(3)	TXD	Transmitted data
(4)		NC
(5)	GND	GND
(6)		NC
(7)	RTS	Connected internally
(8)	CTS	Connected internally
(9)		NC

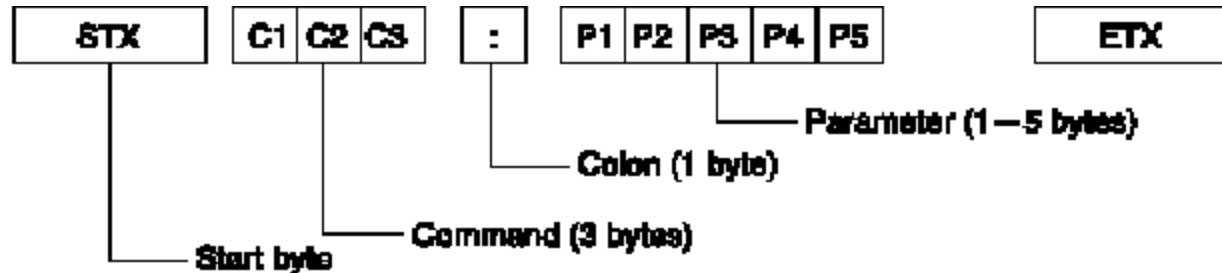
Communication Settings

Signal level	Determined by the RS-232C interface
Synchronizing method	Asynchronous
Baud rate	9600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
xparameter	None
S parameter	None

Using the serial connector (continued)

Basic format

Each packet which is sent from the computer starts with STX. Following this is the command itself and the parameters for that command (if any), and the packet then ends with ETX. Add parameters when necessary according to the control contents.



NOTE: If sending multiple commands, check that a response has been received from the projector for one command before sending the next command. If an incorrect command is sent from the personal computer, the “ER401” command will be sent from the projector to the personal computer.

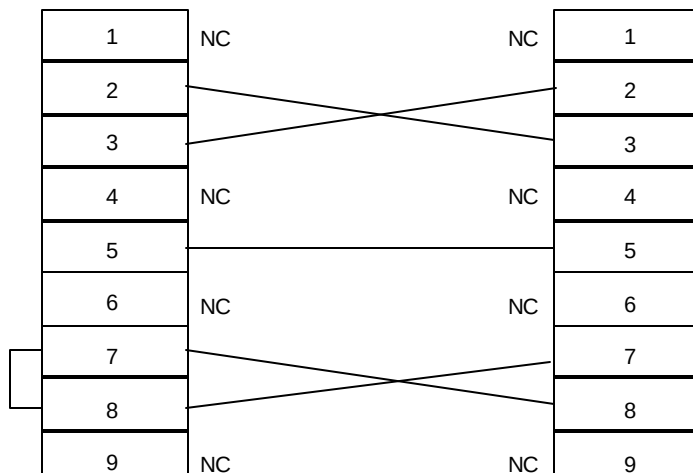
Control Commands

Command	Control Contents	Remarks
PON	Power ON	In standby mode, all commands other than the
POF	Power OFF	PON command are ignored
AVL	Volume	Parameter 000 = Adjustment value 0 : 063 = Adjustment value 63
AMT	Mute	Parameter 0 = MUTE OFF 1 = MUTE ON
IIS	Inputsignal	Parameter VID = VIDEO RG1 = RGB1 RG2 = RGB2

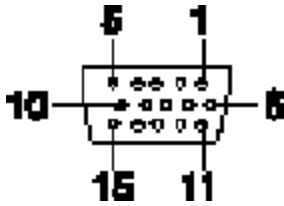
Cable Specifications

At the projector

At the computer
(DTE specifications)



Pin configuration and signal names for RGB input connectors



NOTE: Pin No. 12 and pin No. 15 on 15-pin connectors will only work if the computer supports them.

Pin No.	Signal name
1	R
2	G/G•SYNC
3	B
9	NC
12	SDA
13	HD/SYNC
14	VD
15	SCL
4–8, 10, and 11	GND

Accessories

Contact ViewSonic (see Chapter 4 Troubleshooting for contact details) for the following accessories:

- Ceiling Mount Kit Name: CMK800
- Macintosh Kit Name: PJMAC1
- Replacement Lamp: RLU820

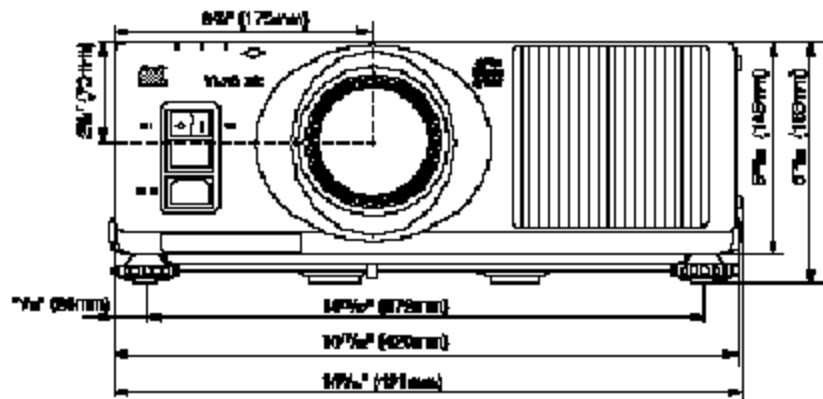
Parts

Contact ViewSonic (see Chapter 4 Troubleshooting) for an Air Filter Kit.

Dimensions

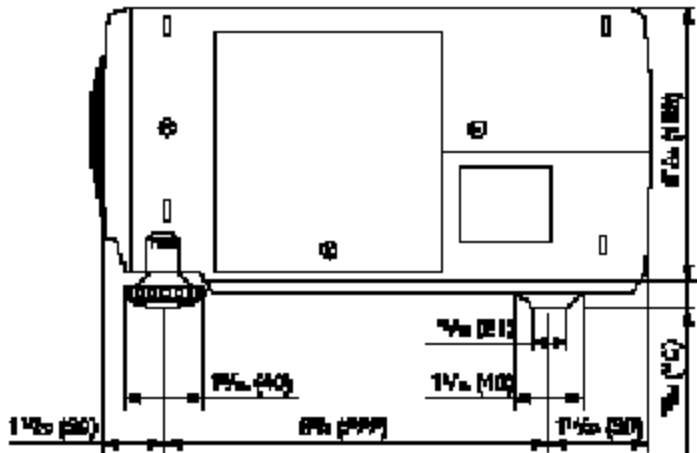
Front View

Width 421mm (16.6")
Height 163mm (6.4")

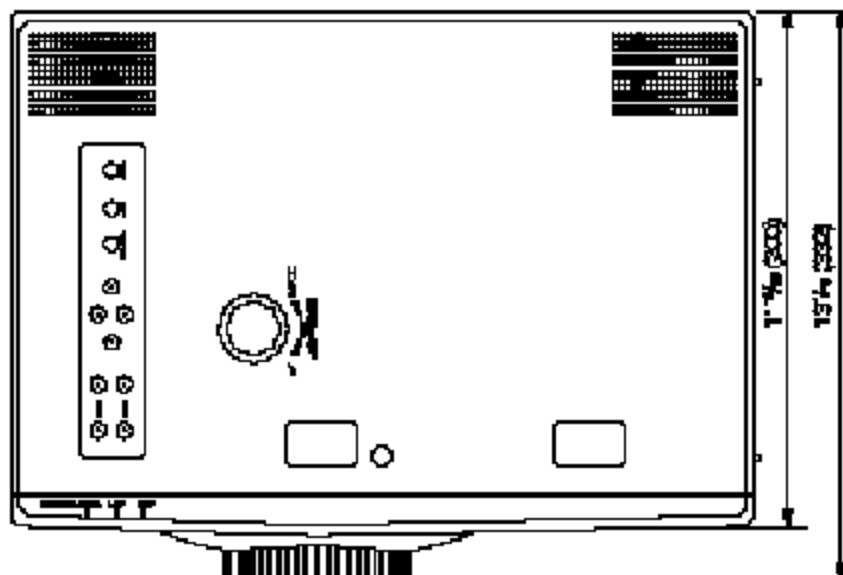


Side View

Depth 300mm (11.8")



Top View



TROUBLESHOOTING

If your **ViewSonic® PJ820 Projector** is not performing properly, use this troubleshooting chart for quick solutions to common problems. If the problem persists, call your dealer. For further support contact **ViewSonic®** Customer Support in your area:

U.S. and Canada only:	1-800-688-6688
From outside U.S. and Canada:	909-869-7976
From Europe:	44 (1293) 643-900
From Asian/Pacific Rim countries:	886 (2) 248-4072
Internet E-Mail:	vstech@viewsonic.com
World Wide Web:	http://www.viewsonic.com

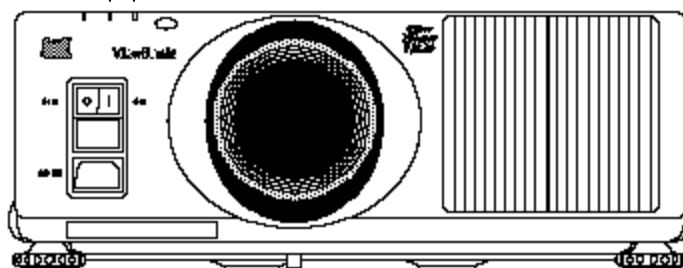
Before asking for service, check the following:

Problem	Possible Cause
Power does not turn on	• The power cord is not connected. • The main power switch on the projector is turned off. • Power is not being supplied to the wall outlet. • TEMP indicator is illuminated or flashing. • LAMP indicator is illuminated or flashing. • The lamp unit cover has not been correctly installed. • The REMOTE POWER function has been set to "OFF".
No picture appears	• The lens cap may still be attached to the lens. • The video signal input source may not be connected properly. • The input selection setting may not be correct. • The BRIGHT adjustment setting may be at the minimum possible setting. • The PICTURE MUTE function has been set to "ON".
The picture is fuzzy	• The projector may not be focused correctly, or the projector may not be positioned the correct distance from screen. • The lens may be dirty. • The projector may not be set up so that it is perpendicular to the screen.
COLOR is too light TINT is poor	• COLOR or TINT setting may be incorrect. • The input source connected to the projector may not be set correctly.
No sound can be heard	• The audio signal source may not be connected properly. • The volume adjustment may be at the lowest possible setting. • The MUTE function may be active.
Remote control unit does not operate	• The batteries may be spent, or they may be inserted incorrectly. • There may be an object between the remote control unit and the projector which is blocking the infrared signals. • The remote control unit may be out of the operation range.
The picture does not display correctly	• The correct input signal may not be selected. • The input signal setting mode (TV-SYSTEM/SIGNAL MODE) may not be set correctly. • There may be a problem with the VCR tape or other signal source.

Indicators

There are two indicators on the front of the projector which give information about the operating condition of the projector. These indicators illuminate or flash to warn you about problems that have occurred inside the projector so you can turn off the power and check the table below for the cause.

LAMP indicator — | — TEMP indicator



Indicator name	Indicator display	Problem	Possible cause	Remedy
TEMP indicator	Illuminated (red)	The internal projector temperature is too high.	The ventilation holes may be covered.	Uncover the ventilation holes. Set up the projector in a place where the temperature is between 32°F (0°C) and 104°F (40°C) and the humidity is between 40% and 75% (with no condensation).
			The ambient temperature in the place of use may be too high.	
TEMP	Flashing (red)	The metal halide lamp has turned off automatically because the internal temperature has risen to an abnormally high level.	The air filter may be blocked.	Turn off the main power supply by, and then clean the air filter.
LAMP indicator	Illuminated (red)	It is nearly time to replace the lamp unit.	Does "LAMP" appear on the screen after the projector is turned on?	This occurs when the operation time for the lamp unit is nearing 2,800 hours. Contact ViewSonic Customer Support or an Authorized Service Center.
	Flashing (red)	The metal halide lamp switches off automatically.	The power may have been turned on immediately after it was turned off.	Wait for a while until the lamp unit cools down before turning the power back on again.
			There may be an abnormality in the lamp circuit.	Turn off the main power supply and then contact an Authorized Service Center.

IMPORTANT:

Before carrying out any of the procedures in the "Remedy" column above, be sure to turn off the main power. If the main power turns off after the TEMP indicator starts flashing, STOP and call ViewSonic Customer Support or an Authorized Service Center for further instructions. (See Chapter 4 Troubleshooting for contact numbers.)

CARE AND SAFETY TIPS

CAUTION

- If smoke, abnormal noise, or strange odor is present, immediately switch the projector off and call your dealer or **ViewSonic®**. It is dangerous to continue using the projector. Doing so in this condition could result in fire and/or electric shock.
- Never unscrew and remove the top cover of the projector. However, to remove the small cover over the cable connections, see Chapter 1 on Getting Started. The projector contains high-voltage parts. You may receive an electric shock if you touch these parts. For assistance call your dealer or **ViewSonic®** Customer Support.

Safety Precautions and Helpful Tips

Setting-up the projector

- Place the projector in a well-ventilated area so heat from the projector will adequately dissipate.
- Do not place anything on top of the projector.
- Place the projector on a flat surface strong enough to support the projector's weight. Failing to do so could result in severe injury and/or damage to the projector.
- Do not set up the projector directly on top of a plastic sheet or carpet. Plastic sheets can stick to the air filter, which can cause the inside of the projector to overheat and the power supply to switch off.
- Do not cover the air filter or the air outlet, and do not put foreign objects into the projector. Doing so may cause the projector to overheat, which can cause fire, electric shock, and/ or damage to the projector.
- Avoid setting up the projector in places which are subject to vibration or shocks. Strong motor vibration will damage internal parts and may result in malfunctions or injury.
- Avoid setting up the projector near high-voltage power lines or motors, which can cause electromagnetic interference.
- If mounting the projector, ask a qualified technician to do it. Improper installation can result in injury and/ or electric shock. To mount the projector on the ceiling, contact **ViewSonic®** Customer Support to order a Ceiling Mounting Kit, Model No. **CMK800**.

Power cord safety tips

- Do not handle the power cord plug with wet hands. Doing so may cause electric shock.
- Plug the power cord securely into the wall socket. Failing to do so may generate enough heat to cause a fire. If the plug is damaged or the wall socket plate is loose, do not use them.
- Do not do anything that might damage the power cable, such as twisting or pulling it excessively, placing heavy objects on top of it, placing it near any source of heat, or by making modifications to it. If the power cable becomes damaged, have it repaired at an Authorized Service Center.
- Be sure to unplug all cables before moving the projector.
- When unplugging the power cable, hold the plug, not the cable.

Using the projector safely

- Do not look into the lens while the projector is being used. The strong light emitted from the projector's lens can damage your eyes.
- Do not put your hands, face or any objects close to the air outlet port. Doing so can result in burns and/or damage to objects.
- Avoid exposing the projector to direct sunlight or other heat source.
- Ensure the area around the projector is clean free of moisture, dust and oil fumes. Failing to do so can result in fire or electric shock.
- Do not put objects on top of the projector. If an object gets inside the projector, call **ViewSonic®** Customer Support or an Authorized Service Center.
- Do not remove the cover or modify it in any way. High voltages inside the projector can cause severe electric shock. For any inspection, adjustment or repair work, contact **ViewSonic®** Customer Support or an Authorized Service Center.
- Always handle the projector with care when moving it.

To get the best picture quality

- Do not touch the surface of the lens with your bare hands. Dirt from fingerprints or anything else will be magnified and projected onto the screen.
- When not using the projector, retract the lens and cover it with the lens cap. This prevents scratches on the lens which will lessen picture quality.
- To ensure that the projected picture has good contrast, draw curtains or blinds over any windows, turn off any fluorescent lights near the screen, and cover floor or walls that have highly-reflective surfaces.

About condensation

- Condensation is formation of water droplets on surfaces, such as on the cold windows that are warmed suddenly in winter. Condensation that occurs on the surfaces of lenses or the the mirror inside the projector may cause the picture to appear out of focus or may not be visible.
- Excessive condensation causes the projector to stop functioning. Common causes of condensation are high humidity or the result of moving the projector suddenly from a cold environment into a warm one. In such cases, the projector normally resumes functioning as it becomes conditioned to the temperature of the new environment.

Cleaning and Maintenance

Be sure to unplug the power cord from the wall outlet before doing any cleaning or maintenance.

Cleaning the projector

- To clean the projector housing, wipe it with a soft, dry cloth. If the housing is particularly dirty, wet the cloth in water mixed with a small amount of non-abrasive cleaner, squeeze the cloth thoroughly, and then wipe the projector housing. Then wipe the housing dry with a dry cloth.
- To clean the lens use a photography lens blower/brush or a chamois cloth to wipe off any dust or lint.

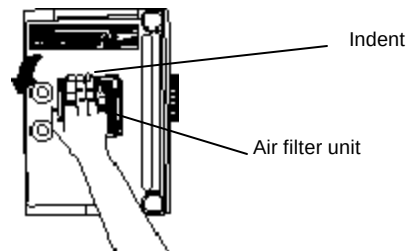
Do not wipe the lenses with a cloth that produces lint or is covered with dust.

- Wipe the power cable regularly with a dry cloth to prevent it from becoming covered with dust. Accumulated dust attracts humidity which could result in fire.
- Ask an Authorized Service Center to clean inside the projector at least once a year. If dust is left to build up inside the projector without being cleaned out, fire or problems with operation can occur.

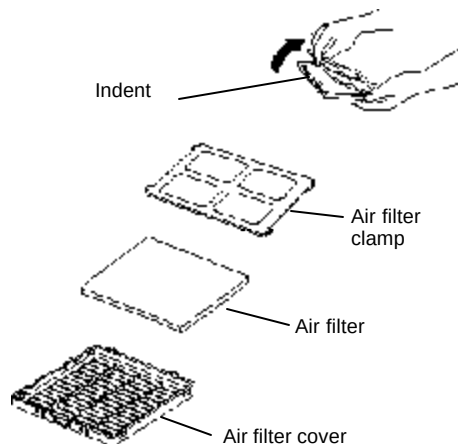
Cleaning the air filter

If the air filter becomes clogged, the internal temperature of the projector will rise. Then the TEMP indicator will flash and the projector will switch automatically to Standby Mode. If this occurs do the following:

- 1 Turn off the main power supply and unplug the power cord from the wall outlet. Turn off the main power supply before unplugging the cord from the wall outlet.
- 2 Gently turn the projector upside down.
- 3 Remove the air filter cover. Hold the indents on the air filter cover with your hands and pull the air filter unit out of the projector.



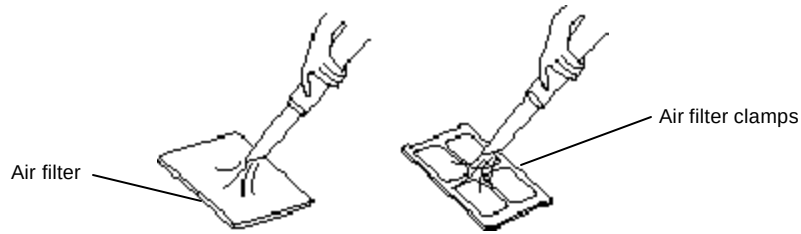
- 4 Remove the air filter clamp and then take out the air filter. Insert your finger into the indent in the air filter cover, bend the air filter clamp slightly inward, and then lift the air filter clamp upward to remove it.



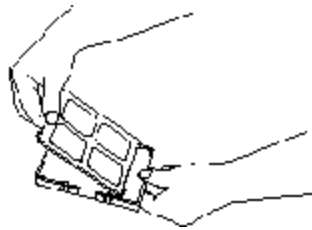
Continued...

Cleaning the air filter (continued)

- 5 Clean the air filter and the air filter clamps. Use a vacuum cleaner to clean off any accumulated dust.



- 6 Install the air filter and the air filter clamp onto the air filter cover. Place the air filter inside the air filter cover, and then return the air filter clamps to their original position as shown below.



- 7 Replace the air filter cover. Slide the air filter cover into the projector until the clamps on the air filter cover are aligned with the clamp holes in the projector.

NOTE

Be sure to install the air filter cover before using the projector. If the projector is used without the air filter, dust and other foreign particles will be drawn into the projector, resulting in malfunctions.

If the dust cannot be removed by cleaning, it is time to replace the air filter. Contact ViewSonic® Customer Support and order a replacement air filter.

Replacing the lamp unit

CAUTION

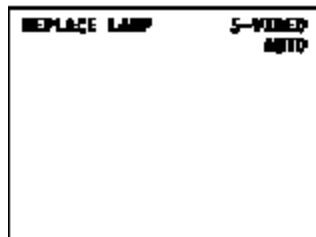
- **Never touch the lamp inside the lamp unit at any time.** Oils on the skin can make the lamp unsafe and reduce its life expectancy.
- **After turning off the MAIN POWER switch and disconnecting the power cord from the wall socket, let the lamp unit cool down before removing it.** Failure to do so could result in severe burns. Wait for the lamp to cool down before replacing the lamp unit.
- **Handle the lamp unit very carefully.** The metal halide lamp inside the lamp unit contains gas under high pressure. If it is dropped or hits other objects it may break, which could cause injury or problems with operation. Ask an authorized waste disposal agency to dispose of the old lamp unit.

Lamp unit replacement period

The lamp used as the light source must be replaced after approximately 2,800 hours of use. If the lamp is not replaced after the cumulative usage time has passed 3,000 hours, the projector will automatically switch to Standby Mode after approximately ten minutes of operation. Make sure you complete Steps 7 to 11 starting on the next page within ten minutes (before Standby Mode is initiated).

Screen display after 2,800 hours (cumulative)

If you continue to use the lamp unit after 2,800 hours of total usage, the on-screen display shown below will appear as a reminder each time the projector is turned on. This display will continue to appear until you press any button.

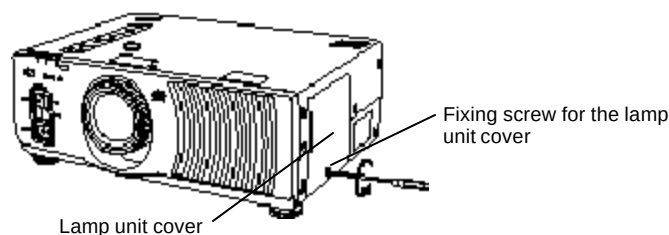


Replacing the lamp unit

In order to replace the halide lamp, the entire lamp unit must be replaced. To do this contact **ViewSonic®** Customer Support and order Lamp Replacement Unit (See Chapter 4 Troubleshooting for contact details).

- 1 Disconnect the power cord plug from the wall outlet and check that the area around the lamp unit has cooled down.
- 2 Use a Phillips screwdriver to remove the screw which is securing the lamp unit cover on the right side of the projector and then remove the lamp unit cover.

Read the CAUTION on the lamp unit cover before continuing.



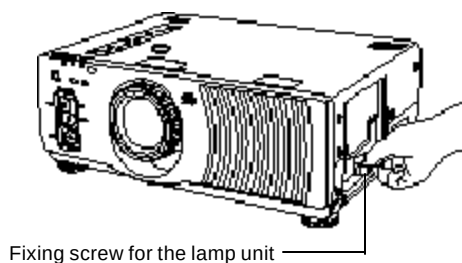
Continued...

Replacing the lamp unit (continued)

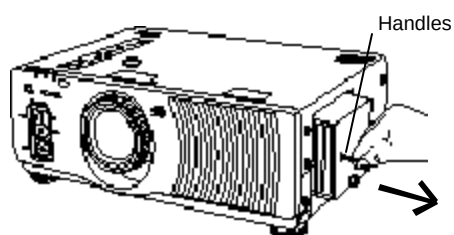
- 3 Turn the fixing screw for the lamp unit by hand until it turns freely.

CAUTION:

The lamp unit will be hot after the projector has been recently used. To prevent being burned, do not let it touch your skin directly.



- 4 Hold the handle which is attached to the lamp unit and gently pull the lamp unit out from the projector.



- 5 Insert the new lamp unit making sure it is positioned correctly (the fixing screw is on the bottom). Then turn the fixing screw on the lamp unit by hand until it is securely tightened.
- 6 Securely install the lamp unit cover, and then use a Phillips screwdriver to securely tighten the fixing screw for the lamp unit cover.



NOTE

Be sure to install the lamp unit and the lamp unit cover securely. If they are not securely installed, the protection circuit may be activated, which prevents the projector from being turned on.

- 7 Insert the power cord plug into the wall outlet and then press the MAIN POWER switch on the front of the projector to turn on the power.

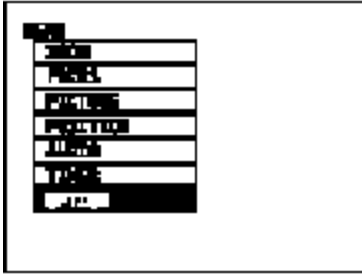
NOTE:

If the power does not turn on when the MAIN POWER switch is pressed, turn the MAIN POWER switch off again and check that the lamp unit and the lamp unit cover are securely installed. Then turn the MAIN POWER switch back on.

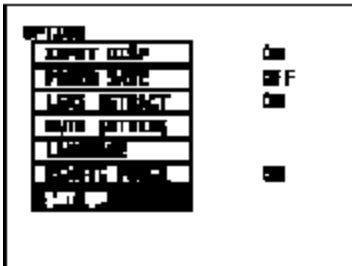
- 8 Press the POWER button on the projector or remote control unit so a picture appears on the screen.

Continued...

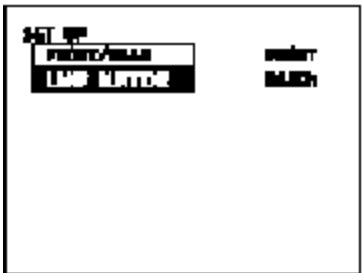
Replacing the lamp unit (continued)



- 9 Press the MENU button to display the MENU screen.
Press the $\wedge$ and $\vee$ buttons to select OPTION.



- 10 Press the $<$ and $>$ buttons to display the OPTION screen.
Press the $\wedge$ and $\vee$ buttons to select SET UP.



- 11 Press the $<$ and $>$ buttons to display the SET UP screen.
Press the $\wedge$ and $\vee$ buttons to select LAMP RUNTIME.

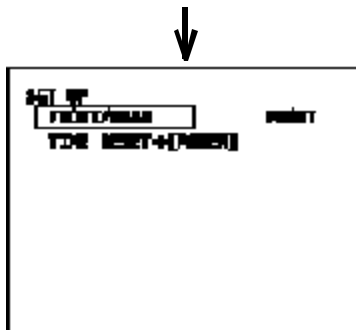
The cumulative usage time of the current lamp unit will be displayed on the screen.

Press the $<$ or $>$ button on the projector control panel continuously for three seconds or more.

The $<$ and $>$ buttons on the remote control unit cannot be used at this time.

Turn off the power while the SET UP screen is being displayed (the screen showing TIME RESET). This will reset the cumulative usage time for the lamp unit.

If any other buttons are pressed while TIME RESET is displayed, the display will return to LAMP RUNTIME and the button pressed will take effect.



LIMITED WARRANTY

VIEWSONIC PJ820 PROJECTOR

What the warranty covers:

ViewSonic® warrants its products to be free from defects in material and workmanship during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, **ViewSonic** will at its sole option repair or replace the product with a like product. Replacement product or parts may include remanufactured or refurbished parts or components.

How long the warranty is effective:

The **ViewSonic PJ820** projector is warranted for three (3) years for all parts excluding the lamp, three (3) years for all labor, and ninety (90) days for the lamp from the date of the first consumer purchase.

Who the warranty protects:

This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:

1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
 - a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
 - b. Repair or attempted repair by anyone not authorized by **ViewSonic**.
 - c. Any damage of the product due to shipment.
 - d. Removal or installation of the product.
 - e. Causes external to the product, such as electric power fluctuations or failure.
 - f. Use of supplies or parts not meeting **ViewSonic**'s specifications.
 - g. Normal wear and tear.
 - h. Any other cause which does not relate to a product defect.
3. Removal, installation, and set-up service charges.

How to get service:

1. For information on obtaining warranty service, call **ViewSonic**. The customer support telephone numbers are: U.S. and Canada 1-800-688-6688; from outside the U.S. and Canada 909-869-7976; from Europe +44(1293)-643-900; from Asian /Pacific Rim countries 886 (2) 248-4072. Internet E-Mail address: vstech@viewsonic.com or World Wide Web: <http://www.viewsonic.com>
2. To obtain warranty service, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address, (d) a description of the problem, and (e) the serial number of the product.
3. Take or ship the product prepaid in the original container to your **ViewSonic** dealer, any **ViewSonic** service center or **ViewSonic**.
4. For additional information or the name of the nearest **ViewSonic** service center, contact your **ViewSonic** dealer or **ViewSonic**.

Limitation of implied warranties:

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of damages:

VIEWSONIC'S LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. **VIEWSONIC** SHALL NOT BE LIABLE FOR:

1. DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE WITH BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
2. ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE.
3. ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY.

Effect of state law:

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Sales outside the U.S.A.:

For **ViewSonic** products sold outside of the U.S.A., contact your **ViewSonic** dealer for warranty information and service.

REV 3/13/97

Index

Symbols

13-pin **9**

A

Accessories **42**
Adjustable legs **4, 5**
Adjuster button **4, 5**
Advanced video compression **2**
Air filter **49**
Another language **36**
Audio **31, 37**
Audio In **10, 19**
Audio Out **10**
Audio-visual equipment **8**

B

Back color **35**
Batteries **1, 11**
Battery compartment cover **16**
Beaded screen **6**
Blanking **28**
Blue component **26**
Bottom blanking **28**
Brightness **2, 25**

C

Cable specifications **41**
Care **47**
Caution **v**
CD-ROM **1**
CE certification **iv**
Ceiling mount **7**
Ceiling mounting kit **47**
Cleaning **49**
Click button 1 **17**
Click button 2 **17**
Clock adjustment **30**
Clock frequency **30**
Clock phase **30**
Color **25**
Color subcarrier frequency **20**
Communication settings **40**
Compatibility **37**
Computer connections **9**
Condensation **48**
Connectors **37**
Contrast **25**
Contrast ratio **2**

Control commands **41**
Countdown timer **35**
Cropped **28**
Customer support **45, 54**

D

D-SUB 15-pin **9**
Deutsch **36**
Dimensions **38, 43**
Display **37**

E

English **36**
Español **36**

F

Factory settings **21**
FCC information **iv**
Flexible translucent screen **6**
Focus **15, 23**
Français **36**
French **36**
Front mounting **24**
Front reflective screens **6**
Fuse holder **15**

G

German **36**
Green component **26**

H

Helpful tips **47**
Horizontal positions **27**
Horizontal scanning frequency **20**
Horizontal size/width **29**

I

Important safety notice **v**
Indicators **46**
Input signal **37**
Input source **19**

L

Lamp **46**
LAMP indicator **15, 46**
Lamp life **38**
Lamp unit **51**
Lamp unit cover **4**

LCD **2, 37**
Left-side blanking **28**
Lens **23, 37, 49**
Lens retracting function **34**
Lens shift **15**
Lens shift dial **22**

M

Macintosh® mouse port **17**
Main power switch **12, 15**
Maintenance **49**
Menu button **15, 16**
Model name *ii*
Model number *ii*
Mouse **10**
MTBF **38**
Mute button **16, 32**
Muting **2**
Muting the sound **31**

N

NTSC **20, 25**

O

On-screen display of input signal information **33**
Operating Conditions **38**
Operation **15**

P

Packing material **1**
PAL **20, 25**
Parts **42**
PC Serial mouse port **17**
Picture **45**
Picture position **27**
Picture quality **48**
Picture setting **25**
Pin configuration **42**
Pin layout **40**
Plug & Play **2**
Pointer button **16, 17**
Polarized screen **6**
Position screen **30**
Power **38**
Power button **12, 15, 16, 35**
Power cord safety tips **47**
Power indicator **12**
Power Off **12**
Power On **12**
Power on and off **13**
Power save function **34**

Power savings **38**
Power supply cord *iv*
Problems **45**
Projection method **24**
PS/2 mouse port **17**

R

Rear mounting **24**
Rear translucent screens **6**
Red component **26**
Refresh rate **39**
Regulatory agencies **38**
Remote control **2, 18, 45**
Remote control signal receptor **4, 15**
Remote control unit **11, 16, 17, 31, 35**
Reset **21**
Resolution **37, 39**
RGB 1 **19**
RGB 2 **10, 19**
RGB signal input **21, 26**
Right-side blanking **28**
Rigid-type translucent screen **6**

S

S-Video In **10, 19**
S-Video input signals **20**
S-Video/Video In **19**
Safety precautions **47**
Safety tips **47**
Screen color during picture muting and when no signal is input **33**
Screen requirements **6**
SECAM **20, 25**
Serial **10**
Serial connector **40**
Serial number *ii*
Serial port **9**
Setting up the projector **5, 47**
Setup dimensions **7**
Setup positions **7**
Sharpness **25**
Side connector panel **10**
Signal data **39**
Signal mode **21**
Signal names **40, 42**
Signal receptor **18**
Silver screen **6**
Sound **45**
Sound and picture **32**
Spanish **36**
Speakers **15**

Standard (STD) button **16**
Storage conditions **38**
System configuration **8**

T

Table mount **7**
Technical data **37**
TEMP **46**
TEMP indicator **15, 46**
Timer screen **35**
Timing chart **39**
Tint **25**
Top blanking **28**
Troubleshooting **45**

U

User Controls/Functions **38**
User definable timings **39**

V

Vertical position **22**
Vertical positions **27**
Vertical scanning frequency **20**
Video **38**
Video In **10, 19**
Volume **31, 32**
Volume adjustment **16**

W

Warning **v**
Warranty **54**
Weight **38**
White balance **26**
White screen **6**
Wireless mouse/pointer **17**
Wireless pointer **2**

Z

Zoom **23**

For Customer Support contact **ViewSonic®** at:

U.S. and Canada only
1-800-688-6688

From outside U.S. and Canada
909-869-7976

From Europe
44 (1293) 643-900

From Asian/Pacific Rim countries
886 (2) 248-4072

Internet E-Mail:
vstech@viewsonic.com

World Wide Web:
<http://www.viewsonic.com>

V801068201

ViewSonic® Corporation
381 Brea Canyon Road
Walnut, CA 91789
Tel (909) 869-7976
Tel (800) 688-6688
Fax (909) 468-1202