

c50RP/c67RP, c50RX/c67RX Quick Start Guide |

This guide walks you through the basic setup needed to get your new Planar displays up and running. Detailed information is contained in the Installation & Configuration Guide, which is in a CD-ROM on the back of this guide.

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Product and Safety Information

The c50RP/c67RP, c50RX/c67RX are a family of digital monitors with a 50" (c50RP or c50RX) or 67" (c67RP or c67RX) diagonal screen size. The c50RP/c67RP is an SXGA+ format, with a 1400 x 1050 resolution. The c50RX/c67RX is an XGA format, with a 1024 x 768 resolution. The displays can be configured in arrays up to two units high without additional support, and any number of units wide, which makes them ideal for many command/control room and digital signage applications.

Model	Depth in/mm	Aspect Ratio	Native Resolution
c50RP	27" / 686mm	1.33 (4:3)	1400 x 1050 pixels
c67RP	34" / 864mm		
c50RX	25" / 635mm	1.33 (4:3)	1024 x 768 pixels
c67RX	32" / 813mm		

Although the RP and RX versions of the 50" and 67" displays are very similar, there are differences. These will be noted when applicable. Unless there are specific differences to address, the displays will be referred to as the c50R/c67R throughout this guide.

The c50R/c67R accepts a wide range of input pictures from VGA to UXGA in either analog or digital (DVI). With the optional Video Input Module (VIM), the c50R/c67R accepts the following:

- Composite (NTSC, PAL or SECAM)
- S-Video (50Hz or 60 Hz)
- Component (480i, 480p, 576i, 576p, 720p, 1080i)
- SDI (Serial digital interface inputs from 480i to 1080p)

Safety Precautions

The c50R/c67R sometimes contains very high voltages. It produces UV (ultra-violet) radiation, and some parts are very hot. **Your physical health and safety are important.** Take a few minutes to read this section at least once.

Note: The plug on the power cord serves as the disconnect for this product. No user serviceable parts are inside. All parts replacement is done at the module level by a qualified service technician.

Fully assembled, the c50RP/c50RX display weighs about 85lbs. The c67RP/c67RX weighs about 124lbs. When assembling a wall, you will need two people.

- The lamps need very high voltages to ignite, around **15,000 volts**.
- The lamps produce lots of light and UV radiation. UV light can damage your retinas. After the light leaves the lamps and passes through the optical engine, there is no more UV.
- There are no electrical interlocks on the display. Opening the screen or removing the rear panel does *not* turn off the high voltage to the lamps.

RoHS Compliance

The c50R/c67R is fully RoHS compliant.

Disposal Information



Lamp(s) inside this product contain mercury. This product may contain other electronic waste that can be hazardous if not disposed of properly. Recycle or dispose in accordance with local, state, or federal Laws. For more information, contact the Electronic Industries Alliance at www.eiae.org. For lamp specific disposal information, check www.lamprecycle.org.

Planning for Your Installation

Before you unpack your displays, you should have a detailed plan of how the displays are to be configured. It should include the following calculations:

- Floor load
- If you have a wall of three or more high, plan to tie back upper units to a wall or other building structure to prevent tipping
- Power (maximum of 6 units per 20A circuit for 115V operation)
- Access to assembled units
- Space allowance behind units for rear service access (recommended but not required)
- Cable runs
- Ventilation and cooling requirements (this is very important)
- At least two people to help lift units into place
- There are motorized adjustments that need to be made to the optical engine. See the Installation & Configuration Guide CD.

Have the following tools available:

- String, to check the straightness across the fronts of the units
- Long carpenter's level; 48" or longer if possible
- Steel tape measure; to check the squareness of the wall
- #2 Phillips screwdriver with a long shaft, 8" (203mm) or more
- Utility knife to open box and display packaging
- Computer network LAN cables (straight through - no crossover) to interconnect multiple displays for RS232 control.
- #50 Glass Cleaner (www.clairemfg.com or www.sprayway-inc.com)

- Although a VGA cable is included with every unit, you may wish to obtain a long-run VGA, SDI or DVI cable if your source is located far away from the display(s).

Unpacking the c50R/c67R

Keep the screens in their separate boxes until needed.

All the c50R/c67R chassis are shipped on pallets by themselves, and screens are grouped together on one or more separate pallets.

Leave the screens in their cartons until they are needed.

Checking Accessories

Accessories With Each Display

Check for the following items included in your accessory box:

- This guide and the Installation & Configuration Guide CD on the back of this guide
- Remote control (with the batteries already installed)
- Power cord (for use in North America)
- VGA cable (15-pin cable for analog computer pictures)
- DVI-D cables
- Plastic spacers used for front access installations
- M8 x 8mm flathead Phillips screws (for screen brackets)
- Suction cup (used to open the screen after the wall is built)

Make sure you have the following customer-supplied items as needed to complete your installation:

- RJ45 to 9-pin adapter, if you will use RS232 commands to control the displays
- RJ45 cable, computer network type
- Component video cables
- S-video cables
- Shims to level the bottom of displays



Accessories With Each Order of Displays

The number of screen brackets included in an order of c50R/ c67Rs depends on the size and configuration of the proposed video wall. The number of brackets required for your planned wall are all packed in a separate accessory kit.

Bottom Row Screen Support

If you have a wall higher than two units, this support provides additional wall stability.



Brackets

The following brackets are available:

- Center Screen Bracket
- Front or Rear Corner Screen Bracket
- Front or Rear Side Top-Bottom Screen Bracket



Center



Side Top-Bottom (front shown)



Corner (front shown)



Side Top-Bottom (rear shown)

Optional Accessories

Video Input Module (VIM)

Contains inputs for component, S-Video, composite and SDI sources. This ships separately and is installed on site.

Option Key

Contains Planar's Big Picture™ and/or Set it and Forget it™ (SiFi). The SiFi feature includes Auto Color Balance (ACB) and the dual lamp scheduling feature. The Big Picture lets you spread one picture over the whole wall, or over part of it. SiFi allows you to automatically adjust color balance over a whole wall of displays. It also allows you to configure settings for automatic lamp switching. The Option key ships separately and is installed on site.

WallNet

Is a system of hardware and software that displays information about a wall of displays on a network browser. It is primarily used for monitoring, reporting and some control (for example, manually powering displays on and off). WallNet is required for Auto Color Balance.

Installing the Option Key

The Option key for Planar's Big Picture™ and/or for SiFi is shipped separately and installed on site. The Option key can be installed without removing the control board.

- 1 Attach a ground strap to your wrist and the chassis.

WARNING! Failure to properly use a grounding strap can destroy sensitive electronic components in the control board.

- 2 Turn off the power on the c50R/c67R and remove the power cord.

WARNING! Always turn off power and remove the power cord when adding or removing an electronic part.

- 3 Remove the two screws and the small plate on the bottom of the control board.



- 4 Remove the Option key from its shipping pouch and anti-static bag.
- 5 The Option key has six pins. Plug the key into the socket on the control board. Be sure all six pins go in. If only one row of pins is connected, the whole display may not function.
- 6 The Option key is now installed.
- 7 Using the two screws you set aside earlier, reinstall the Option Key cover plate.



Installing the Video Input Module (VIM)

The optional VIM is shipped separately and installed on site.

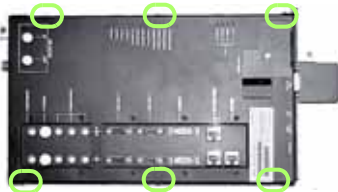
WARNING! Always turn off power and remove the power cord when adding or removing an electronic part.

Removing the Control Board

- 1 Attach a ground strap to your wrist and the chassis.

WARNING! Failure to properly use a grounding strap can destroy sensitive electronic components in the control board.

- 2 Loosen the screws on the back of the display that hold the control board in place.
- 3 Swing the control board to about 45° and lift it off its pin hinges. It will still be connected to two or more cables at the bottom.
- 4 Bring the control board partly out the opening and disconnect all the cables.
- 5 Remove six screws from the sides of the covers.

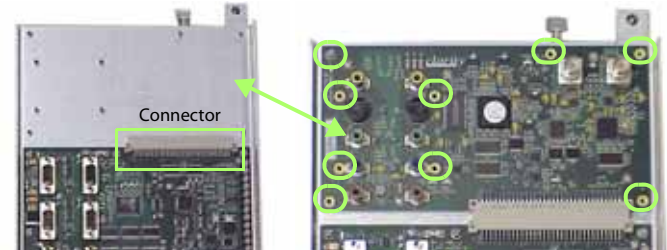


- 6 Remove the DVI connector EMI shield. Use a 3/16" nut driver. The EMI plate may be stuck to some EMI tape. Try not to tear the tape.

- 7 Remove the cover of the control board. It is a snug fit.

Installing the VIM

- 1 Slide the VIM in its space and press it into its connector on the main control board.



- 2 Install nine screws to secure the board.
- 3 Replace the control board cover. Check first to see that all the LEDs are straight and none are bent over. Carefully lay the cover all the way down over the control board, watching the LEDs to see that they are visible through their holes.
- 4 Press the cover onto the control board; it is a snug fit.
- 5 Attach the cover using the 6 screws at the sides.
- 6 Install the two nuts and washers in the top right corner.
- 7 Replace the EMI shield at the bottom with the 3/16" stand-off nuts.
- 8 Reconnect any cables you may have removed.
- 9 Replace the control board in the display. The hinge is two pins on the display chassis and two holes on the control board. Fit the top hole first. That pin is a little longer.
- 10 It is now safe to replace the power cord and turn on the power.

Wall, Tower or Banner Installation

Installing the First or Bottom Row

Note: Detailed instructions for wall, tower or banner installation can be found on the Installation & Configuration Guide CD.

- 1 Unpack the displays for the bottom row only. Do NOT unpack screens yet. Check the contents. (page 3)
- 2 Make sure all VIMs and Option keys are installed on each display. If you are building a tall array, it is easier to install them while they are on the ground.
- 3 Release the optical engines from their shipping position.
- 4 For each unit, install a screen support.
- 5 Assemble the bottom row ONLY. Start by finding the highest part of the installation area. The easiest way to determine this is by placing shims with the bottom row of units in place and seeing which unit is highest.
- 6 For front access systems only, affix plastic spacers on the top of the chassis of the lower units before stacking. These give just enough space to allow units to be removed without scratching or damaging surrounding units.

As seen from top of unit



- 7 Check for plumb, aligned and square; adjust the bottom shims as needed.

Note: It is important to get the first row right. Any mistake made here will multiply as the wall goes up.

Installing the Second and Subsequent Rows

- 1 Unpack only the displays that will be in this row. (page 2)
- 2 Make sure all VIMs and Option keys are installed on each display.
- 3 Release the optical engines from their shipping position. (page 7)
- 4 For front access systems, put plastic spacers on the top of the units, before stacking more units.
- 5 Assemble the next row on top of the previous row, starting with the center unit and working out.
- 6 As each second-row unit is placed on the first row, tighten the bolt-through captive screws in the bottom row to hold the second row in place.
- 7 Confirm the units are still plumb, aligned and square. Adjust bottom row shims as needed.

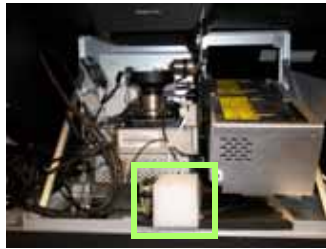
Note: For units in the same row, check that the fronts are in a straight line by pulling a piece of string tight across the row.

- 8 Install screen brackets as you go up. (page 3)
- 9 If you have a wall of three or higher, install tie backs to a wall or other building structure to prevent tipping. Leave them somewhat loose for now. For greater support, use with rear Side Top-Bottom brackets.
- 10 Install cables. See page 9 and page 10.
- 11 When the wall is complete - aligned and square, all screen brackets installed - install screens (page 8) starting with the center bottom row and working out in the row, Install screens on the next row up.

Releasing the Optical Engine

The c50R/c67R is shipped with the optical engine in a locked-down position. You must release it and put it in the operation position before you can align the image to the screen. You normally do this *before* you install the c50R/c67R in a wall.

- 1 From the rear, remove the back panel.
- 2 Remove the shipping foam from the back of the unit; the large piece first and then the small wedge.



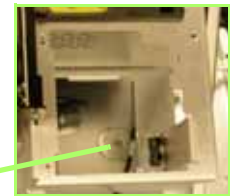
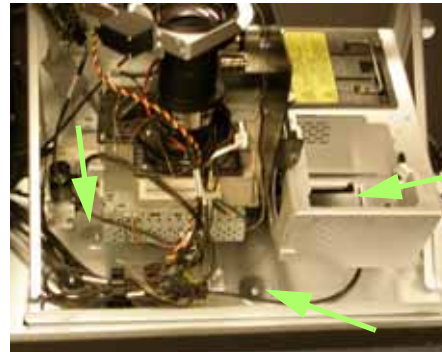
- 3 Using a Phillips #2 screwdriver, remove two M4 x 16mm keystone screws and washers.



- 4 To gain access to the area below the rear lamp, remove the lamp.



- 5 Remove three M4 x 8mm screws and fender washers.



- 6 Replace the rear lamp.
- 7 Replace the back panel.

Installing Screens

- 1 Using two people, remove the screen from the packing case. Grab near the corners as you lift the screen from the packing case.

Note: We suggest you save the screen packaging until the entire array is installed.

- 2 Cut open the protective envelope. Be careful not to scratch the screen or the frame.

Caution: The screen is heavy, delicate and expensive. Take care when handling.

- 3 Remove the screen from the envelope and carefully place it aside. Notice there are two slots in the back edge of the screen. The screen guide arms go into slots.

Note: There is a label on the bottom of the screen.

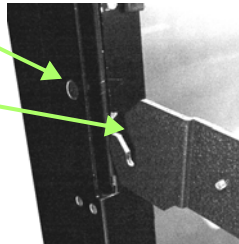
- 4 Prepare the center unit in the bottom row to receive a screen by pulling the support rails all the way out.



- 5 Using two people, lift the screen at the sides. Hang the screen on the screen guide hooks. It is easier to do this one side at a time, with one person holding still, and the other person hanging the screen on the hook.

Pin in the slot in screen

Hook in screen arm



- 6 Press the heel of your hand against all four corners of the screen until the spring-loaded latches click into place.

Note: You may have to lift the screen a little to get guide pins on the screen brackets to fit into the holes in the back of the screen.

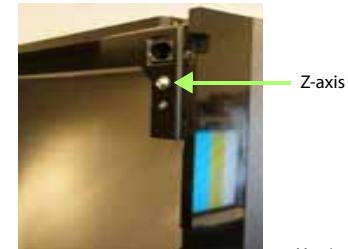
Caution: Don't hit the screen hard; it can break.

- 7 Continue installing screens from the center out until you have installed screens for an entire row.
- 8 Move to the next row up, and install a screen on the center unit.
- 9 Repeat steps 1 through 8 until all screens have been installed.

Fine Adjustment

If the screens are not flat with each other, there is a z-axis adjustment screw at the top and bottom of the inside edge of the screen. You must open the screen to make this adjustment.

You can also make x-axis (left or right) and y-axis (up or down) adjustments at the top corners on both sides of the screen. These can be adjusted without opening the screen.



Z-axis



Y-axis

X-axis

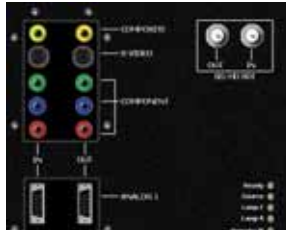
Connecting Source Cables

All cabling for the c50R/c67R must be run through the rear of the display. You can run cables as the rows go up or when the installation is complete.

Connecting Sources

The three types of picture sources are:

- Analog computer (from UXGA down to VGA)
- Digital computer (Digital Video Interface, or DVI, digitally connects computers to their monitors or interconnects to any display)
- Video (optional with VIM)
 - Composite (NTSC, PAL or SECAM)
 - S-Video (NTSC and PAL - 50Hz or 60 Hz)
 - Component (480i, 480p, 576i, 576p, 720p, 1080i)
 - SDI (Serial Digital Interface inputs from 480i to 1080p)



Each of these inputs have a separate loop-through output.

Loop-Through

For all the loop-throughs except digital, what goes in is what comes out. Switching which connector is used for the displayed picture *does not* change what comes from their output connectors. Whatever goes in Analog 1 In comes out Analog 1 Out; it is not changed in any way, but it is buffered.

Digital Out is different. For the Digital Out connector, switching inputs *does* change what comes out of it. The selected picture from either Analog In or Digital In *always* comes out the Digital Out connector in digital form.

Note: The Digital Out signal does not strictly conform to the DVI standard. Non-Planar units will not be able to display this signal.

The advantages of DVI are:

- DVI is less subject to picture degradation than analog methods of loop-through. (Even with DVI, loop-through is not infinite.)
- DVI inputs require much less setup and adjustment. You adjust the picture in the first unit only, the unit with the analog input.

Selecting the Correct Input

The following table gives you common examples of which devices have which inputs. In terms of input quality, the table is ordered from the most desirable input to the least desirable input.

Input	Found on the Following Devices
DVI	Computers with digital out capability
SDI	Studio quality video equipment
Analog	Computers, laptops RGB and RGBS from video processors or other professional equipment (may need BNC to DB15 adapter cable). These may have separate sync, composite or sync on green.
Component	DVD players Set top boxes (e.g. for cable TV or satellite TV) Any YPbPr signal
S-Video	DVD players Set top boxes VCRs
Composite	TV tuners VCRs Set top boxes

Connecting Power, Turning It On/Off

Each display may draw up to 2.0A at 115V or 1.0A at 230V. For countries outside of North America, it is the responsibility of the installer to provide the power supply cord certified for use in the destination country.

The power switch and power receptacle are located at the left rear of the display.

Connect a power cable to the power supply. The power supply is auto-ranging, so it works with any source from 100 to 240 VAC, 50 to 60 Hz.

About UPS Supplies

Some installations use a UPS - Uninterruptible Power Supply. Most UPS devices will work with the c50R/c67R. Review the power specifications of your UPS device to make sure it is compatible with the c50R/c67R.



Turning Power On/Off

- 1 With the power cord attached, turn on the power switch located on the back of the unit.
- 2 Wait a few seconds and make sure that the green LED Ready light is on.
- 3 Turn on the c50R/c67R by aiming the remote at the screen and pressing the ON button.

Note: It is normal to leave the power connected and the power switch on all the time and turn the lamps on and off as desired.

- 4 To turn off the c50R/c67R, press the OFF button.

Note: You cannot turn off the lamps and then immediately turn them on again. The lamps will not light until the mandatory cool-down period of a minute has elapsed.

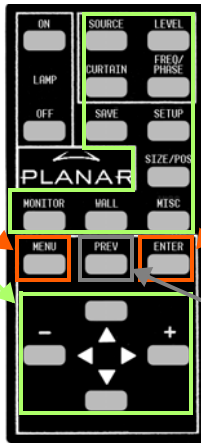


Using the Remote and Menus

Using the Remote Control

The remote control works much like a remote control for a TV or DVD player, but it does more. Among other things, it opens menus, changes values and moves the image.

The remote control operates with IR (infrared) signals going to the IR receiver, which is located behind the lower center of the screen.



Pressing MENU opens the MAIN MENU.
Pressing the up/down arrow keys moves the select bar (yellow highlight in the menus). The -/+ (left/right) arrow keys change values in the selected item. The right arrow can also take you to the next menu.

Some of these "hot keys" go directly to the most-used menus. Some of them go to several menus, if you push the button more than once. SOURCE, SETUP and CURTAIN perform special actions without menus.

Pressing ENTER moves to the next menu, when it has a right-pointing arrow, or it toggles the highlighted item on and off.

Pressing PREV reverts to the previous menu.

To open menus on the c50R/c67R, aim the remote at the screen and press the desired button(s).

Using the Menu

The c50R/c67R's menus and functions are arranged in groups and can be accessed through grouped functions or by using direct access keys. The starting point for accessing menus is the MENU button on the remote.

- 1 Press MENU on the remote to display the MAIN MENU.

Main Menu	PLANAR
Picture	▶
Size & Position	▶
Aspect Ratio & Wall	▶
Memory	▶
Diagnostics	▶
Advanced Options	▶
Program Information	▶

- 2 Use the up/down arrow keys to move through menu options. See explanations next to the remote control picture on this page for additional navigation information.

Some of the setups described in this Quick Start Guide will explain how to navigate through specific menus. Most of the menus are explained in detail in the Installation & Configuration Guide CD.

Selecting a Source

In this guide, a source is any type of picture. It might be an analog computer image, a video processor, a VCR or DVD, or it might be a DVI picture from a computer.

Selecting the Source Automatically








- 1 Press SOURCE on the remote. The c50R/c67R goes to the next connector that has a valid picture on it and displays that picture.
- 2 If you want to select a different source, press SOURCE again to select the next connector (that has a valid picture on it) and display the picture.



Note: If a connector does not have a valid source, the c50R/c67R briefly displays that it has scanned that connector and then proceeds to the next connector.

Selecting the Source Manually

- 1 Press FREQ/PHASE on the remote. The c50R/c67R displays the PICTURE menu for the current source.

Picture	PLANAR
 Source	Digital ▶
 Colorspace	RGB
 Vertical Frequency (frame locked)	60Hz
 Horizontal Frequency	50.00kHz
 Horizontal Resolution	1366
 Vertical Resolution	768
 Sharpness	4

- 2 With SOURCE highlighted, press the + button to open the SOURCE submenu.

Note: The SOURCE submenu displays to the right of the PICTURE menu.

- 3 In the SOURCE submenu, use the up/down arrow keys to select the desired source.
- 4 When the desired source is selected, press ENTER. The PICTURE menu changes to display the settings for that source.

When the Source is Familiar to c50R/c67R

When a “new” source is selected, the c50R/c67R looks through a list of the last 10 picture types it used. If the “new” source is like a previous one in this list (resolution, number of active lines, etc.), the c50R/c67R uses the stored data and does not do anything in the AUTO SETUP OPTIONS menu. This saves time, and the picture is displayed faster without going through adjustments, which are visible on the screen.

Best Way to Change a Source

The best way to select a source is to recall a configuration your installer has created for you. See the Installation & Configuration Guide CD for more detailed information.

- 1 On the remote, press SAVE. The RECALL menu displays.
- 2 Using the arrow keys, scroll to one of the numbered configurations your installer has created for you.
- 3 Press ENTER to show the RECALL SLOT menu.
- 4 With the RECALL NOW line selected, press ENTER. If the top of the menu displays “Current,” the source is identical to the settings stored in the memory slot.

Adjusting Levels for Analog Sources

This page applies to analog RGB (computer) pictures only. The levels are best adjusted semi-automatically.

For analog RGB pictures, the levels for black and white vary from one computer to another, or from one video processor to another. They even vary between video outputs from a multiple-output video card in a computer.

Your pictures will not look their best on the c50R/c67R until you adjust for these differences. This is *not* about adjusting color or contrast. It's about telling the c50R/c67R what the computer or processor means by black and by white.

Semi-Automatic Level Adjustment

- 1 Select a source in the PICTURE menu. Display an all-black picture from the source computer. *This must come from the computer source that will be used for the program.*

Note: We suggest displaying a black screen using Windows® Paint.





- 2 To access the INPUT LEVELS menu, press LEVEL.
- 3 Select AUTO BLACK LEVEL and press ENTER. This menu line says "Working..." until the process is complete.

Note: When doing Auto Black and Auto White with an interlaced analog input, the color of the picture will change while it is working, then it will change back to normal.

- 4 Display an all-white picture from the source computer.
- 5 In the INPUT LEVELS menu, select AUTO WHITE LEVEL and press ENTER. Wait for "Working..." to disappear.
- 6 The c50R/c67R is now adjusted to the black and white levels of this computer using this video card. If you change computers or video output cards in the computer, you must do this again.

Manual Level Adjustment

- 1 Select a source in the PICTURE menu. Display an all-black picture from the source computer.
- 2 INPUT LEVELS menu, Press LEVEL on the remote.
- 3 Select BLACK LEVEL and adjust it up and down with the -/+ keys to make the three center point values go to zero. Once any value reaches zero, use the individual colors under black level to adjust the other two values to zero.

Input Levels		PLANAR		
	Auto Black Level (offset)			
	Auto White Level (gain)			
	Center Point	64	124	99
	Black Level (offset)-All	-		79
	Red	-		89
	Green	-		67
	Blue	-		83
	White Level (gain)-All	-		99
	Red	-		99
	Green	-		99
	Blue	-		99

Note: Do not go beyond the point where the minimum just goes to zero. The idea is to just touch the zero level.

- 4 Display an all-white picture from the source computer.
- 5 Adjust WHITE LEVEL until the image maximums just go to 255. Once any value reaches 255, use the individual colors under white level to adjust the other two values to 255.
- 6 Although it's not required, it is recommended that you save the configuration to a memory slot. See the Installation & Configuration Guide CD for more information.

Adjusting Input Levels and Position






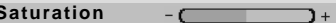

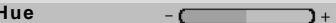
Adjusting Levels for Video Sources

Video sources are adjusted best if a color bar test pattern is available from the video source: the DVD or VCR player. If not, you will have to adjust by eye and the “feel” of the picture.

Note: When a video source is selected, Auto Setup Options are not available. Adjustments must be made manually.

Adjusting the Picture

- 1 Select a video source in the PICTURE menu.
- 2 Press LEVEL on the remote to open INPUT LEVELS.

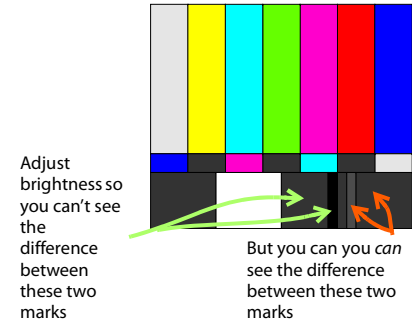
Input Levels		PLANAR	
 Brightness	-  +	140	
 Contrast	-  +	165	
 Saturation	-  +	150	
 Hue	-  +	128	
<input type="checkbox"/> Blue Only			

- 3 Adjust one of the following:
 - Any picture from the video source.
 - Using a standard SMPTE color bar pattern from the source.

Adjusting With Color Bars

- 1 If possible, use a SMPTE color bar pattern from the video source you will use for the program material.
- 2 In the INPUT LEVELS menu, check BLUE ONLY. You should see the alternate color bars, all of them blue.
- 3 Adjust SATURATION to make the outer two color bars match. Match them in brightness; they will already match in color.
- 4 Adjust HUE to make the inner two color bars match.
- 5 Uncheck BLUE ONLY.

- 6 If the color bar pattern has a pluge (Picture Line-Up Generation Equipment), you can use it to adjust brightness. Pluge is used to calibrate the black level on a video monitor.
- 7 Although it's not required, it is recommended that you save the configuration to a memory slot. See the Installation & Configuration Guide for more information about saving memory slots.



Adjusting Position

Position moves the picture on the screen but does not move the menus. Press SIZE/POS on the remote once to open the PICTURE POSITION menu. The four arrow keys move the picture on the screen.

The numbers for Horizontal and Vertical Position refer to the number of pixels from sync to the first displayed pixel. These numbers get smaller as the picture moves up and to the left.

The Horizontal Position number shows the number of pixels from the beginning of H sync to the first active pixel. Because there are many black pixels after H sync, this number will not be zero when the picture is at the left border of the screen.

The Vertical Position number is the number of lines from V sync to the first active line, so it will not be zero when the picture is at the top of the screen.

Color Balancing for Multiple Displays

Color balancing makes the individual displays in an array show the same colors. Colors vary slightly from one display to the next, because of slight variations in the lamps and DLP engines. Color balancing can compensate for this.

There are two methods to color balance a wall:

- Manual color balance
- Auto color balance (ACB)

Manual Color Balancing

To color balance, you only have to match whites and grays. When you make all the displays look the same with white and gray, all the other colors will look the same.

Caution: Do not match the colors of the displays with the Black and White Level controls or with the video controls.

Caution: If you are color blind, even a little bit, do not manually color balance your array. Have someone else color balance the wall.

- 1 Turn on all the displays in the array and let them warm up for at least five minutes. The lamps must be thoroughly warm before you color balance.
- 2 On each display, open the COLOR BALANCE menu by pressing MISC once on the remote.

Note: If the array has never been color balanced, make sure you start with the Native color temperature option on each display. If you don't need a specific color temperature, use Native, which is the brightest.

- 3 On each display, highlight TEST PATTERN and use the left/right arrow keys until the menu displays WHITE.

Note: Always use the internal Test Patterns for color balancing, not an external pattern.

- 4 When all displays are white, find the *least bright* display in the array. This will be the “baseline” display, and you will *not* adjust it. All other displays will be adjusted to this baseline display.
- 5 Choose a display next to the baseline display and adjust its white values (red, green, and blue) to make it match the baseline display. Concentrate on the center of the displays, not the adjacent edges.
- 6 Continue with other adjacent displays until all the displays have the same appearance when white. Be careful not to change the values of displays once you are satisfied with them.
- 7 When all displays look the same when showing the White test pattern, select the Gray test pattern in all displays.
- 8 Choose any display as the new baseline display. It does not need to be the baseline display you used for white.
- 9 Adjust gray for all the displays until they match the baseline display. Do one display at a time. Again, match the center part of the picture, not the edges.
- 10 When all displays match in gray, close all the menus. The test pattern automatically turns off.

Auto Color Balancing (ACB)

ACB automatically determines the display's brightness of the maximum range of colors (also called “color gamut”) that can be created on all the displays in the array. Then ACB matches the light output on all the displays and adjusts the color outputs. You must have the optional WallNet device and optional Option key with ACB. For more information about ACB and WallNet installation, see the WallNet manual.

Troubleshooting

Use the following troubleshooting tables to diagnose and resolve common problems.

If your screen shows black or a test pattern

Do This	Result	Explanation/Further Action
1 On the remote, press MONITOR.	No menu appears, but I see flashing lights	The lamps may not be lit. On the remote, press ON. If the screen is still black, see this page for help interpreting the meaning of the flashing lights.
	A menu appears	Did the "Curtain or Test Pattern is displayed" message (in red) appear on the menu? If it does not appear, go to 3. If the message does appear, go to 2.
2 On the remote, press CURTAIN once. If the message does not disappear, press CURTAIN again.	The message has not disappeared The message has disappeared	Check the remote control. If the correct source does not appear, go to 3.
3 On the remote, press MENU until the MAIN MENU appears.	The "source absent" pane is visible The source absent pane is not visible	Make sure the correct source is selected by pressing SOURCE. If necessary, change to a different source. Make sure the source is on. Make sure the cable between the source and display is correctly connected at both ends. Make sure the green LEDs on the control board are lit. If the screen is still a solid color, contact Planar's Technical Support Department.
4 Ensure the power cable is connected and the switch is ON.		Reconnect cable or turn on unit. If none of the previous steps have resolved the problem, contact Planar's Technical Support Department.

c50R/c67R doesn't respond to remote control

Possible Cause	Possible Resolution
Power is not on.	Confirm that the power cable is connected and the power switch is on.
Remote batteries are dead or improperly installed.	Replace or reinstall batteries.
Your installer or service provider has disabled the remote control.	Contact your installer or service provider.

Common On-Screen Codes

Condition	Priority	Each block represents 0.2 seconds									
Fan failed	1	R	Amber								
Lamp switcher failed	2	R	Amber		R						
HV power supply fan failed	3	R	R	Amber							
Optical engine failed	4	R	R	Amber		R					
Lamp failed ¹	5	R	R								
Wait On (after cooling time elapsed)	6	R	R	Amber			Amber				
Wait (lamp cooling)	7	R	R	R	R						
One lamp failed ²	8		Amber	R		Amber					
Lamp off (Auto Off)	9		Amber	Amber		R					
Lamp off (Ready) ³	10		Amber	Amber							
Lamp striking (starting)	11		Amber	Amber		Amber					
Lamp on and all OK	12	Amber on continuously									

R = Red To show the code press MONITOR once on the remote.
 1 If system is dual lamp, both lamps failed.
 2 One lamp failed, or partial lamp switcher failure.
 3 The lamp is off because of lamp timeout, or because the lamp switcher is moving.

Changing a Lamp

- 1 Using the remote, turn off the lamp and allow the cooling fans to stop (about one minute) before proceeding.

WARNING! Never remove a lamp that is still lit.

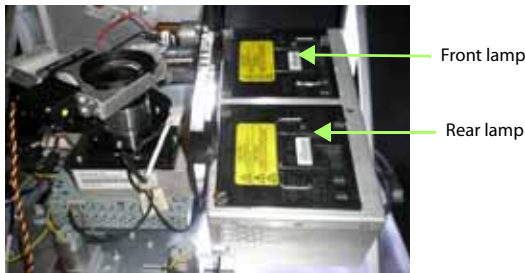
Caution: In the dual-lamp system, it is possible to remove and replace the lamp that is not being used while the other lamp is on. Be careful. Use UV protective eye wear. Also, be aware that lamps are very hot and can stay hot for some time after they are turned off.

- 2 Do one of the following:
 - For front access units, open the screen.
 - For rear access units, remove the rear panel.
- 3 Turn off the power switch and remove the power cord. (For front access units, reach through the opening next to the control board).
- 4 Lift the light shield.
- 5 If you have a dual lamp system and want to change the front lamp, remove the three thumb screws and bracket above the lamps.
- 6 Loosen the three captive thumb screws on top of the lamp.

- 7 Lift the wire handle and pull the lamp straight up and out.
- 8 The picture (see below) shows a dual lamp system viewed from the back. In this picture the front lamp is in the correct position for use, so you would probably want to replace the rear lamp in this case.
- 9 Remove the new lamp from its packaging and plug it into this space. Push it all the way down. Tighten the three screws finger tight.

Note: If the lamp is not pushed all the way down, the light path will not be correct. This may cause a poor picture.

- 10 Close the light shield.
- 11 Reinstall the power cord and turn the unit on.
- 12 Do one of the following:
 - For front access units, close the screen.
 - For rear access units, replace the rear panel.
- 13 Reset the lamp hours (MAIN MENU > DIAGNOSTICS > HOURS).
- 14 Color balance the wall (page 15).



This picture shows two lamps in a dual-lamp system

Changing an Air Filter

Changing an Air Filter (Rear Access)

The air filter is in the back of the unit below the power cord.

- 1 Using the remote, turn off the lamp and allow the cooling fans to stop (about one minute) before proceeding.
- 2 Power down the unit and remove the power cord.
- 3 If necessary, lift up the cables so they are not in the way of the air filter.
- 4 Pull straight up on the air filter to remove it.



- 5 Insert the new air filter. Arrows on the air filter should indicate air flow direction, which is into the unit.

Changing an Air Filter (Front Access)

The air filter is in the rear of the unit below the power cord.

- 1 Using the remote, turn off the lamp and allow the cooling fans to stop (about one minute) before proceeding.
- 2 Remove the front screen.
- 3 Loosen the captive screws at the top and bottom of the control board.
- 4 If necessary, lift up and remove the control board from its pin hinges.
- 5 Reach through to the front of the unit to power down the unit and remove the power cord.
- 6 If necessary, lift up the cables so they are not in the way of the air filter.
- 7 Reach through to the front of the unit and pull straight up on the air filter to remove it. From the front, it might be hard to see.
- 8 Insert the new air filter. Arrows on the air filter should indicate air flow direction, which is into the unit.
- 9 Reposition the control board on its pin hinges.
- 10 Tighten the captive screws at the top and bottom of the control board.
- 11 Reinstall the front screen.

Declaration of Conformity

Manufacturer's Name: Planar Systems, Inc.
Manufacturer's Address: 1195 NW Compton Drive
Beaverton, OR 97006

declares that the products
Model Numbers: c50RP/c67RP, c50RX/c67RX (DLP projection display)
conforms with the provisions of:

Council Directive 89/336/EEC and amended by 92/31/EEC and 93/68/EEC on Electromagnetic Compatibility;

EN55022:1998 Radiated and Conducted Emissions from IT Equipment

EN55024:1998 Immunity of IT Equipment

Including:	EN61000-4-2	Electrostatic Discharge
	EN61000-4-3	Radiated Immunity
	EN61000-4-4	Electrical Fast Transients
	EN61000-4-5	Line Surge
	EN61000-4-6	RF Conducted Susceptibility
	EN61000-4-8	Magnetic Field Immunity
	EN61000-4-11	Voltage Dips and Interrupts

And:	EN61000-3-2	Harmonic Current Emissions
	EN61000-3-3	Voltage fluctuations and Flicker

Council Directive 73/23/EEC and amended by M1 and C1 on Low Voltage Equipment Safety:

EN60950:2001 Safety of IT Equipment

The Technical Construction File required by this Directive is maintained at the corporate headquarters of Planar Systems, Inc., 1195 NW Compton Drive, Beaverton, OR 97006.

Note: 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Industry Canada (ICES-003): This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Any changes or modifications to the display not expressly approved by Planar could void the user's authority to operate this equipment.

Other Certifications: CE