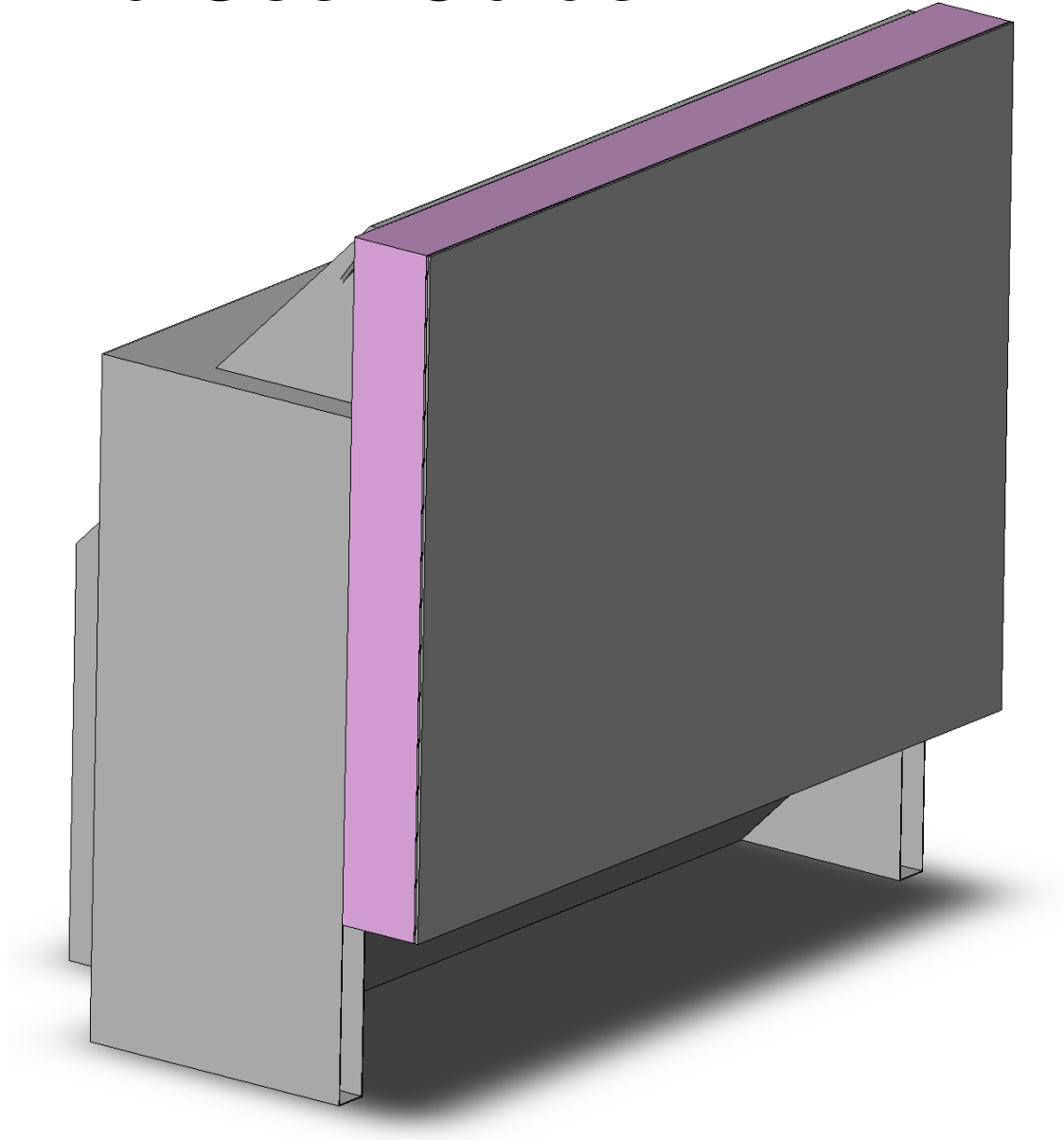


c50SP/c67SP/c70SPw
End User Guide



clarity
by PLANAR

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In this chapter...

- Product Information
- Safety Information

The c50SP/c67SP/c70SPw is DLP™ digital monitor with input and output capabilities well beyond consumer-level products.

Product Information

The c50SP is a 50" (1270 mm) DLP display, the c67SP is a 67" (1700 mm), and the c70SPw is a 70" (1778 mm) DLP display; units can be configured as banners, towers, or walls, stacked up to two units high, without additional support. The table below contains some additional specifications for each product

Model	Depth in/mm	Aspect Ratio	Native Resolution
c50SP	24"	1.33 (4:3)	1400 x 1050
c67SP	31.5"	1.33 (4:3)	1400 x 1050
c70SPw	25.4"	1.77 (16:9)	1080p (1920 x 1080)

The c50SP/c67SP/c70SPw accepts a wide range of input pictures from VGA to UXGA in either analog or digital (DVI).

With the optional Video Input Module, the c50SP/c67SP/c70SPw accepts NTSC, PAL, and SECAM as composite, component, or S-Video and comes with an SDI input that can handle SDI and HD-SDI signals (NTSC, PAL, 720p, and 1080i). The c50SP/c67SP/c70SPw also accepts component HD 480p through 1080i video inputs through the component video connection.





With an Option Key installed, the c50SP/c67SP/c70SPw can also




- spread a single input picture over an entire wall of displays, a feature called Big Picture, or
- perform color balancing automatically, a feature called ACB, or
- both of the above, depending on which version of the Option Key is installed.




Most importantly, it is easy to set up and adjust.

Safety for you and the c50SP/c67SP/c70SPw

This display was designed with safety in mind. However, if you don't heed the safety warning and cautions, you could get hurt. The safety warnings are on stickers in various places in and on the display. They are reproduced on these pages so you can see them all at once.

 WARNING	 ATTENTION
	
<p>Hazardous voltage inside. Can shock, burn or cause death.</p> <p>Disconnect power cord before servicing this unit. Refer to service manual for details.</p> <p>No user serviceable parts inside. Refer all service to qualified serviceman.</p>	<p>Présence de hautes tensions à l'intérieur. Risques d'électrocution, de brûlure et de mort.</p> <p>Débranchez le câble d'alimentation secteur avant toute action de maintenance. Consultez le manuel utilisateur pour plus d'informations. N'ouvrez pas le châssis. Seul le personnel qualifié peut effectuer la maintenance de cet appareil.</p>
<small>h</small>	<small>334-0198-00</small>

  
<p>WARNING</p> <p>TURN OFF POWER SWITCH BEFORE OPENING COVER. HOT LAMP INSIDE. ALLOW AT LEAST 15 MINUTES FOR LAMP TO COOL BEFORE REPLACING. RISK OF EXPLOSION. HANDLE BULB WITH CARE. SEE USER'S MANUAL FOR LAMP REPLACEMENT.</p>
<p>AVERTISSEMENT</p> <p>COUPER L'ALIMENTATION ELECTRIQUE AVANT OUVERTURE DE LA FACE AVANT. ATTENTION, LA LAMPE EST CHAUDE. LAISSER REFROIDIR AU MOINS 15 MINUTES AVANT SON REMPLACEMENT. RISQUE D'EXPLOSION. MANIPULER L'AMPOULE AVEC PRECAUTION. SE REFERER AU MANUEL DE L'UTILISATEUR POUR TOUT REMPLACEMENT DE LA LAMPE.</p>
<p>WARNUNG</p> <p>DEM ÖFFNEN DES DENKELS-STROM ABSCHALTEN. VORSICHT-EXPLOSIONS GEFAHR-LAMPE IST HEIß. WARTEN WENIGSTENS 15 MIN. FÜR DIE LAMPE ZUM ABKÜHLEN. VORSICHT MIT DER LAMPE BEIM HANTIEREN. FOLGE ANWEISUNGEN FÜR DEN LAMPEN WECHSEL IM REPARATUR MANUAL.</p>
<small>334-0078-00</small>

 WARNING
<p>High intensity light. Do not look into the projection lens while unit is on.</p>
 WARNING
<p> Possible UV Exposure Use protective eye wear while operating with screen removed.</p>
<small>334-0077-00</small>

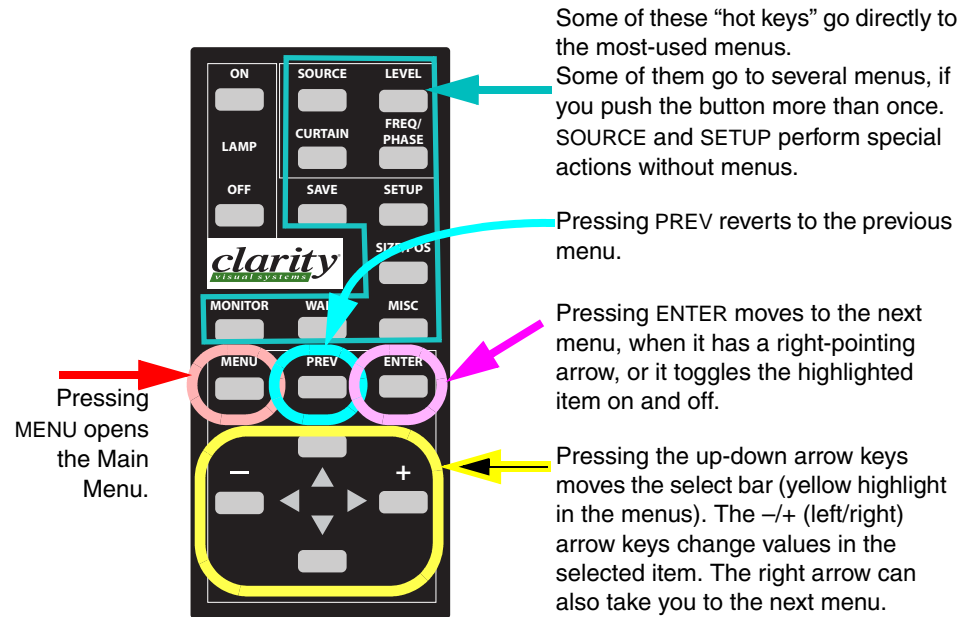
In this chapter...

- Using the remote control
- Accessing system menus
- Turning the unit on and off
- Selecting sources
- Optimizing the display

The c50SP/c67SP/c70SPw can be used in a broad range of applications, from broadcast monitors and network operations centers to digital signage and command/control centers.

Using the Remote Control

The **remote control** works much like a remote control for a TV or VCR, but it does more. It opens menus, changes values, moves the image, and more.

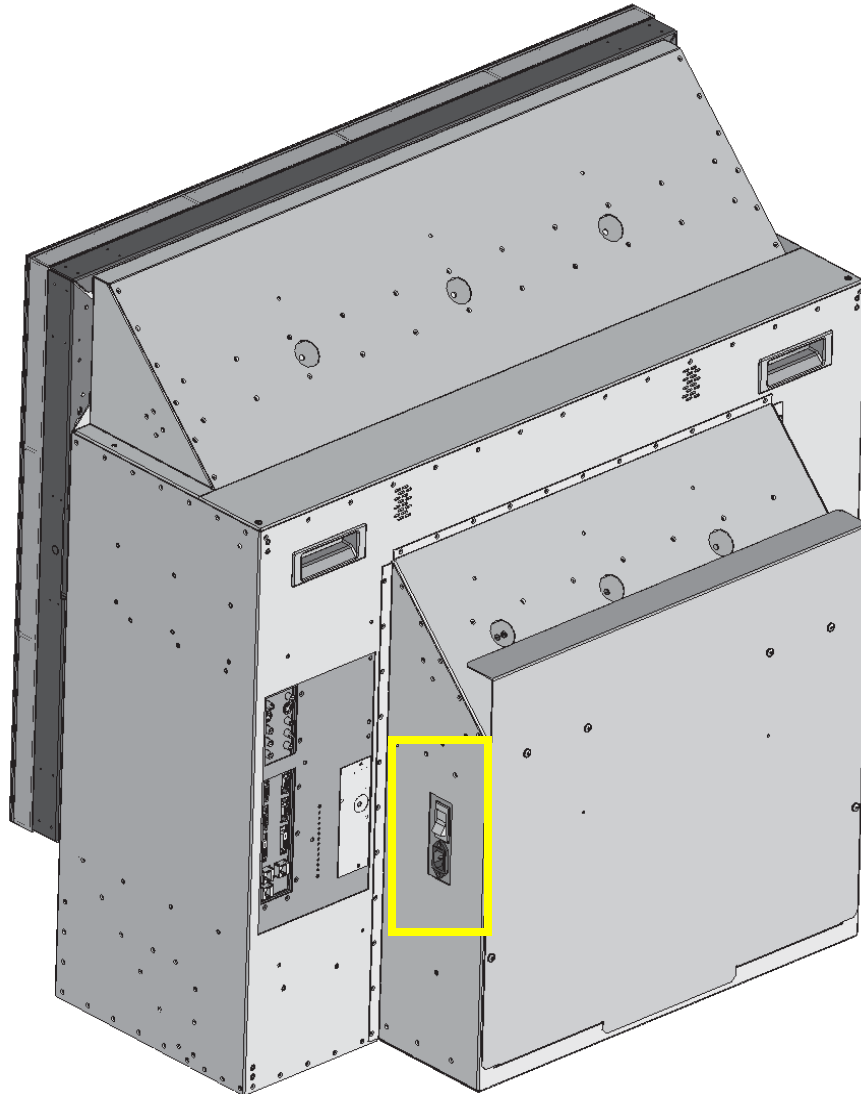


The remote control operates with IR (infra-red) signals going to the IR receiver, which is located behind the screen.

To open menus on the c50SP/c67SP/c70SPw, aim the remote at the screen and press the desired button(s).

Turning the c50SP/c67SP/c70SPw On and Off

- 1 With the power cord attached, turn on the power switch located on the left rear of the unit.



Power receptacle and power switch location

- 2 On the remote, turn on the c50SP/c67SP/c70SPw 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.

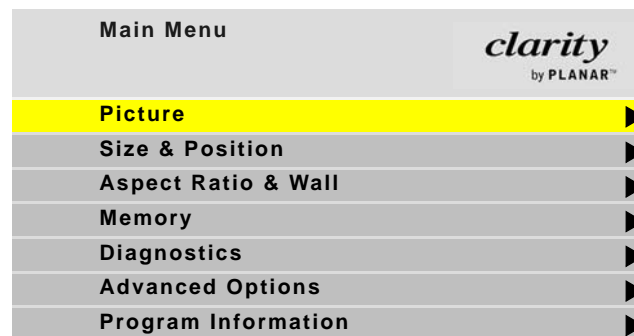
- 3 To turn off the c50SP/c67SP/c70SPw, on the remote, press the OFF button.

Note: If you turn off the lamps and then immediately try to turn them on again, the lamps will not light until the mandatory cool-down period of a minute has elapsed.

Menus

The c50SP/c67SP/c70SPw's menus and functions are arranged in groups and can be accessed through grouped functions or using direct access keys. The starting point for accessing menus is the MENU button on the remote.

- 1 On the remote, press MENU.
The c50SP/c67SP/c70SPw displays the Main Menu.



The menus needed for daily operation are explained later on in this manual.

Selecting a Source

What is a Source?

In this User 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.

To Select the Source Automatically

- 1 Press the SOURCE button on the remote.



The c50SP/c67SP/c70SPw goes to the next input that has a valid picture on it and displays that picture.

- 2 Pressing SOURCE button again selects the next input (that has a valid picture on it) and displays the picture.

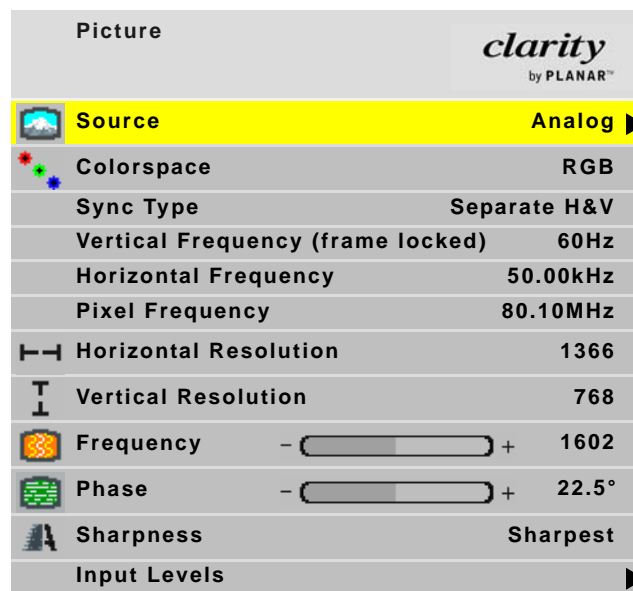
Note: If an input does not have a valid source, the c50SP/c67SP/c70SPw briefly displays that it has scanned that input and then proceeds to the next input.

To Select the Source Manually

- 1 Press the **FREQ/PHASE** button on the remote.



The c50SP/c67SP/c70SPw displays the **Picture** menu for the current source. (The illustration below is for an Analog picture source.)










- 2 With the selector on **Source**, press the **+** button to open the source submenu. (Your menu may look different if an optional VIM is installed.)








Note: The Source submenu displays to the right of the Picture menu. (To save space, only the Source submenu is shown.)

- 3 In the Source submenu, use the up/down arrows to select the desired source.
- 4 When the selector is on the desired source, press ENTER.
The Picture menu changes to display the settings for that source.
Examples of seven five different Picture menus are shown below.

Analog 1 and Analog 2

Picture		<i>clarity</i> by PLANAR™
 Source	Analog ▶	
 Colorspace	YPbPr	
Sync Type	Separate H&V	
Vertical Frequency (frame locked)	60Hz	
Horizontal Frequency	50.00kHz	
Pixel Frequency	80.10MHz	
 Horizontal Resolution	1366	
 Vertical Resolution	768	
 Frequency	- <input type="text"/> +	1602
 Phase	- <input type="text"/> +	22.5°
 Sharpness	Sharpest	
Input Levels	▶	



Digital (and SDI)

Picture		<i>clarity</i> by PLANAR™
 Source	Digital ▶	
 Colorspace	RGB	
Vertical Frequency (frame locked)	60Hz	
Horizontal Frequency	50.00kHz	
 Horizontal Resolution	1366	
 Vertical Resolution	768	
 Sharpness	Normal	
Input Levels	▶	

Note: The SDI and Digital menus have similar settings and options.



Component

This menu is available only when the optional VIM is installed.

Picture		<i>clarity</i> by PLANAR™
 Source	Component (YPbPr)	
Video Standard	NTSC 60 Hz/3.58 MHz	
Vertical Frequency (frame locked)	60Hz	
 Sharpness	Sharpest	
Input Levels		



S-Video

This menu is available only when the optional VIM is installed.

Picture		<i>clarity</i> by PLANAR™
 Source	S-Video ▶	
Video Standard	NTSC 60 Hz/3.58 MHz	
Vertical Frequency (frame locked)	60Hz	
 Sharpness	Normal	
Input Levels ▶		

Composite

This menu is available only when the optional VIM is installed.

Picture		<i>clarity</i> by PLANAR™
 Source	Composite ▶	
Video Standard	NTSC 60 Hz/3.58 MHz	
Vertical Frequency (frame locked)	60Hz	
 Sharpness	Sharpest	
Input Levels ▶		

When the Source is Similar

When a “new” source is selected, the c50SP/c67SP/c70SPw 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 c50SP/c67SP/c70SPw 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.

The Best Way to Change the Source

The best way to select a source is to recall a configuration your service provider has created for you.







Recalling a stored configuration

- 1 On the remote, press SAVE.
The RECALL menu displays.

Recall			clarity by PLANAR™						
<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	9	<input checked="" type="checkbox"/>	17	<input type="checkbox"/>	25	<input type="checkbox"/>	33
<input checked="" type="checkbox"/>	2	<input checked="" type="checkbox"/>	10	<input type="checkbox"/>	18	<input type="checkbox"/>	26	<input type="checkbox"/>	34
<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	11	<input type="checkbox"/>	19	<input type="checkbox"/>	27	<input type="checkbox"/>	35
<input type="checkbox"/>	4	<input type="checkbox"/>	12	<input type="checkbox"/>	20	<input type="checkbox"/>	28	<input type="checkbox"/>	36
<input type="checkbox"/>	5	<input type="checkbox"/>	13	<input type="checkbox"/>	21	<input type="checkbox"/>	29	<input type="checkbox"/>	37
<input type="checkbox"/>	6	<input type="checkbox"/>	14	<input type="checkbox"/>	22	<input type="checkbox"/>	30	<input type="checkbox"/>	38
<input type="checkbox"/>	7	<input type="checkbox"/>	15	<input type="checkbox"/>	23	<input type="checkbox"/>	31	<input type="checkbox"/>	39
<input type="checkbox"/>	8	<input type="checkbox"/>	16	<input type="checkbox"/>	24	<input type="checkbox"/>	32	<input type="checkbox"/>	40

- 2 Using the arrow keys, scroll to the numbered configuration your service provider has created for you.

- 3 Press ENTER.
The Recall Slot menu displays.

Recall		<i>clarity</i> by PLANAR™	
Slot to Recall	17		
Recall Now			
Name	AN 1366x768		
 Source	Analog		
 Colorspace	RGB		
 Resolution	1366 x 768		
Wall	2 x 2	1:1	
Scale/Justify	One to One / Center		
Position/Overscan	168,19 / 0%		
Zoom UL/ LR	+0,+0 /	+0,+0	
Viewport UL/LR	+0,+0 /	+0,+0	
 Frequency/Phase	1602 / 22.5°		
 Sharpness	Normal		
 Black Level	63	55	57
 White Level	166	170	169

- 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.

Stored Configurations

Have your service provider list the configurations for your installation.

Slot #	Name	Description
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

Operation

Slot #	Name	Description
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

In this chapter...

- Cleaning the screen

The c50SP/c67SP/c70SPw is a low-maintenance electronic component with no user-serviceable parts inside.

Cleaning the Screen

WARNING! Clean the screen with a soft cloth or lint-free paper towel and a mild cleaning solution.

Dirt is everywhere, and unless the displays you service are in a super-clean room, from time to time you will have to clean the screens, mirrors, and lenses of displays.

Cleaning products and how to use them

For screens, a foam spray cleaner seems to work well. It is sold under different names in different parts of the world. It is available from many janitor supply companies or building maintenance supply companies. Ask for one of the following:

- Claire #50 glass cleaner, or (www.clairemfg.com)
- Sprayway #50 glass cleaner (www.spraywayinc.com)

It is probably sold under a local name, but it all comes from one company. If you ask for either of the two names above (it is sold under both), you will get this cleaner under the local name.

This cleaner is good on glass lenses and acrylic screens.

Do not spray cleaner directly on the screen. Instead, spray the cleaner on the cloth, then wipe the screen.

Caution: DO NOT spray liquid of any kind on the screen. It can drip down the screen and wick up between the layers. When liquid gets between the screen layers, it is impossible to remove, and the screen is ruined!

Caution: Whether the screen is glass or acrylic, don't lean on it. Don't let it get scratched. Protect it.

Wipe the screen gently with a lint-free cloth or lint-free paper (see Cloth below). Turn the cloth over to the dry side and continue wiping to take up the haze.

Other Cleaning Product Recommendations

You may use any foaming glass cleaner that does not contain alcohol or ammonia.

Cloth to use

White cotton cloth is better for cleaning than colored cloth. The dyes in some colored cloth tend to make it less absorbent.

Paper towels tend to leave lint. A better paper towel for cleaning are shop towels. These lint free paper towels are generally available at electronic parts stores.

Cheesecloth is another good choice. This open-weave cotton material is light and absorbent.

Removing dry dust

Often the cleaning problem is just dust, not fingerprints or other oily dirt. If it's just dust, wiping with a dry cheesecloth or a dry shop towel will usually do the job.

Cleaning lenses

Clean lenses as you would the any high-quality optical glass, such as camera lenses. However, because the lens is small, it is easier to spray the cleaner, if you use one, on the cloth, not the lens itself. For best results, you may choose to use a cleaning product designed specifically for cleaning optical glass.

Where is the dirt?

When you see dirt in the picture, you can sometimes tell where it is by its focus. Use a white test pattern to see the dirt most easily.

Small specs of dirt or dust that are in **very sharp focus** are on the screen itself.

If the dirt is in **soft focus**, it is probably a smudge on the large mirror.

Dirt on the output lens cannot be seen in the picture. However, that does not mean you should not clean this lens. Dirt here will reduce the brightness of the picture, but it won't show up as specs in the picture.

In this chapter...

- Basic troubleshooting steps
- Obtaining unit status
- Where to go from here

The c50SP/c67SP/c70SPw is simple to troubleshoot because there is little that can malfunction.

Basic Troubleshooting Steps

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


If your screen is black

Do This	Result	Explanation / Further Action
1 On the remote, press MONITOR	A menu appears	The source is black. On the remote press SOURCE to change to different source If you know the source is not black, go to 2
	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, turn to the outside back cover of this manual for help interpreting the meaning of the flashing lights or go to 2
2 On the remote, press CURTAIN.	The correct source appears	If the correct source did not appear, go to 3
3 On the remote, press MONITOR twice.	The Test Patterns menu appears	Check that no test patterns are selected. If a test pattern is selected, move the selector to None and press ENTER. If the screen is still black, go to 4
4 Check Power cable is connected and power rocker switch is ON and is illuminated.	Reconnect cable or turn on unit.	If none of these steps have resolved the problem, see "Where to Go from Here" on page 25

If your screen is a solid color, but not black

Do This	Result	Explanation / Further Action
1 On the remote, press CURTAIN.	The correct source appears	If the correct source did not appear, go to 2
2 On the remote, press MONITOR twice.	The Test Patterns menu appears	Check that no test patterns are selected. If a test pattern is selected, move the selector to None and press ENTER. If no test pattern was selected, go to 3

If your screen is a solid color, but not black

Do This	Result	Explanation / Further Action
		
<p>3 Check to see if the source is a solid color.</p>		<p>If the source is not a solid color and none of these steps have resolved the problem, see “Where to Go from Here” on page 25</p>

c50SP/c67SP/c70SPw doesn't respond to remote control

Possible Cause	Possible Resolution
<p>Confirm that the power cable is connected and the power switch is on and the switch is illuminated</p>	
<p>Remote batteries are dead or improperly installed</p>	<p>Replace or reinstall batteries</p>
<p>Your installer or service provider has disabled the remote control</p>	<p>Contact your installer or service provider</p>

Checking Unit Status

- 1 On the remote, press MONITOR.

Unit Status		<i>clarity</i> by PLANAR™	
c50X	1024 x 768		
c70SPw	1920 x 1080		
573-25003000	Rev 1.0		
Asset Tag:			
Mode ID: 114	HPer: 1490	VLines: 1118	
Fault Override is On			
Last Fault: DMD Fan Fault		00002:40	
Fans		Temperatures	
PS:	On	Board:	28°C
Lamp:	On	Lamp:	41°C
Ballast:	On		
DMD:	On		
Intake:	On		

The Unit Status menu displays (the illustration is for an c70SPw; c50SP and c67SP are similar).

Where to Go from Here

If none of the suggestions offered thus far have solved your problem, contact your reseller or service provider for further assistance.

Contact Planar Systems, Inc. customer support

Planar Systems, Inc.
Control Room and Digital Signage

via e-mail: Service@ClarityVisual.com

via phone: +1 503 570 4634

via fax: +1 503 570 4657

Declaration of Conformity

Manufacturer's Name: Planar Systems, Inc.
Manufacturer's Address: 27350 SW 95th Avenue, Suite 3038
Wilsonville, OR 97070

declares that the products

Model Numbers: c50SP, c67SP, and c70SPw (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., 27350 SW 95th Ave., Wilsonville, Oregon

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.

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

Other Certifications

UL, CUL, CE

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