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User Manual

4:3 LCD Display - 15", 17", 19", 20" size



1U Display drawer :

LCD1U15-011 / 17-011 / 19-011 / 20-011

LCD1U15-014 / 17-013 / 19-012 (short-depth)



1U Display drawer :

LCD1U17-014 / 19-013 / 20-012

(designed for SUN solaris)

Options :

- BNC + S-Video
- DVI
- Audio
- Touchscreen
- DC power
- Quad Display

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4:3 LCD Display

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Please read all of these instructions carefully before you use the device. Save this manual for future reference.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
 - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
 - Repair or attempted repair by anyone not authorized by us.
 - Any damage of the product due to shipment.
 - Removal or installation of the product.
 - Causes external to the product, such as electric power fluctuation or failure.
 - Use of supplies or parts not meeting our specifications.
 - Normal wear and tear.
 - Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Legal Information

First English printing, October 2002

Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40° Celsius (104° Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the drawer is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labeled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-position 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.

- It is very important to locate the Rackmount LCD Drawer / Display in a suitable environment.
- The surface for placing and fixing the Rackmount LCD Drawer / Display should be stable and level or mounted into a suitable cabinet.
- Make sure the place has good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.
- Convenience for connecting the Rackmount LCD Drawer / Display to the related facilities should be well considered too.

1.4 Unpacking

The Rackmount LCD Drawer / Display comes with the standard parts shown on the package contents. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.

1.5 Optional Accessories

1. Power Cord

- 1.1 IEC power cord
- 1.2 NEMA 5-15 power cord (US)
- 1.3 BS 1363 power cord (UK)
- 1.4 CEE 7/4 power cord (German)
- 1.5 AS 3112 power cord (Australia)



Item	Model No.	Description
Matrix Cat6 KVM	LCDK2006-2 / 3 / 4	Matrix Cat6 16 port KVM
	LCDK2012-31 / 41 / 42	Matrix IP Cat6 16 port KVM
	LCDK2007-2 / 3 / 4	Matrix Cat6 32 port KVM
	LCDK2013-31 / 41 / 42	Matrix IP Cat6 32 port KVM
Matrix DB-15 KVM	LCDK2004- 2 / 3 / 4	Matrix DB-15 8 port KVM
	LCDK2010-31 / 41 / 42	Matrix IP DB-15 8 port KVM
	LCDK2005-2 / 3 / 4	Matrix DB-15 16 port KVM
	LCDK2011-31 / 41 / 42	Matrix IP DB-15 16 port KVM
Combo Cat6 KVM	LCDK2001 / 2002 / 2003	Combo Cat6 8 port KVM
	LCDK1043 / 1045 / 1047	Combo Cat6 16 port KVM
	LCDK1044 / 1046 / 1048	Combo Cat6 32 port KVM
Combo DB-15 KVM	LCDK1020 / 1024 / 1038	Combo DB-15 8 port KVM
	LCDK1021 / 1025 / 1039	Combo DB-15 16 port KVM
PS/2 DB-15 KVM	LCDK1009 / 1010 / 1011	4 / 8 / 16 port PS/2 DB-15 KVM
Keyboard Drawer	LCDK1002	Rackmount keyboard drawer (with KVM options)
	LCDK1016	Rackmount keyboard drawer (short depth version)

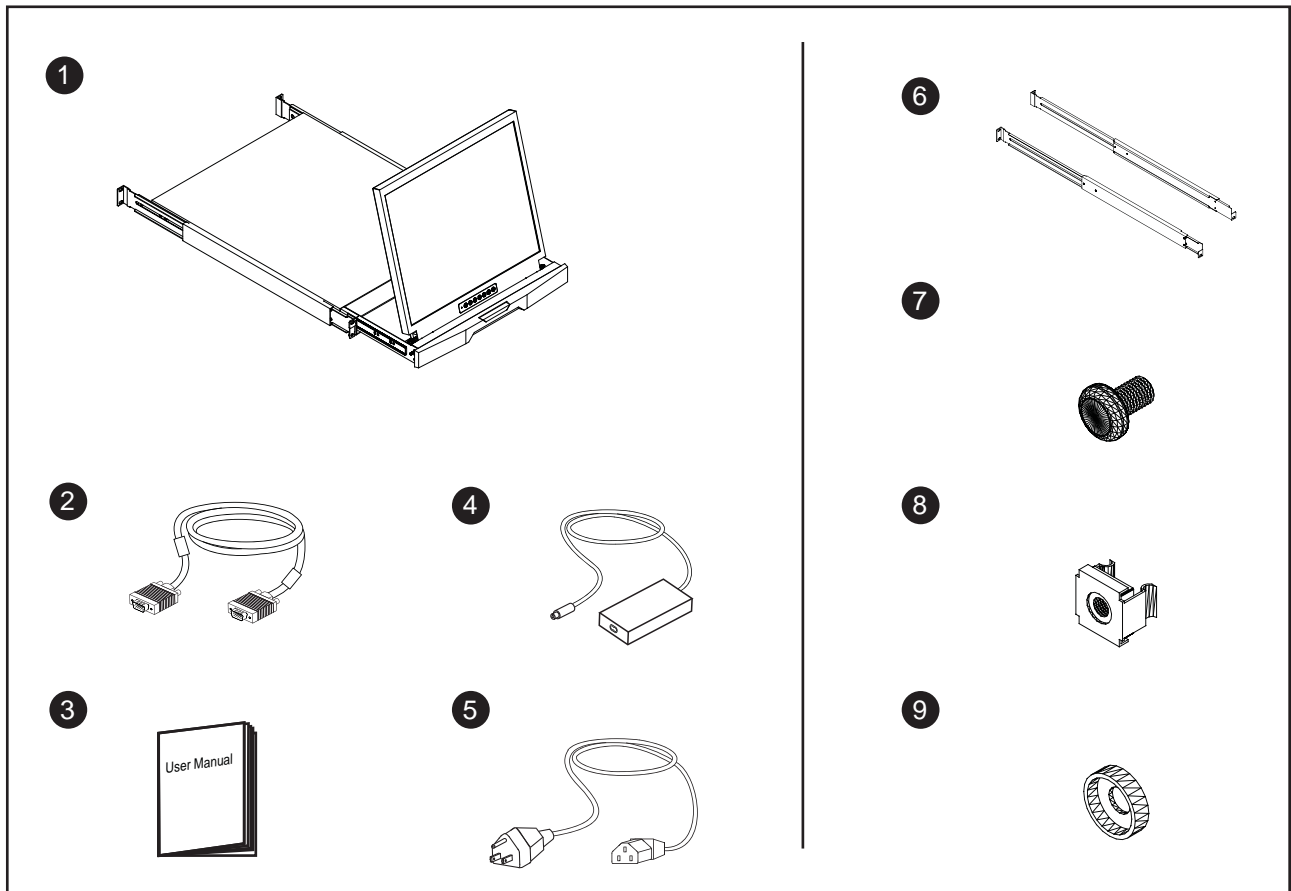
2.1 Package Contents

Chapter 2

LCD1U20-011 / 20-012

LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

LCD1U15-014 / 17-013 / 19-012



- ① LCD drawer x 1 pc
- ② 6' VGA cable (male to male) x 1 pc
- ③ User manual x 1 pc
- ④ Auto switch power adapter (for external power version) x 1 pc
- ⑤ Power cord x 1 pc
- ⑥ Mounting bracket x 2 pcs
- ⑦ M6*15mm screw x 8 pcs
- ⑧ M6 cage nut x 8 pcs
- ⑨ Cup washer x 8 pcs

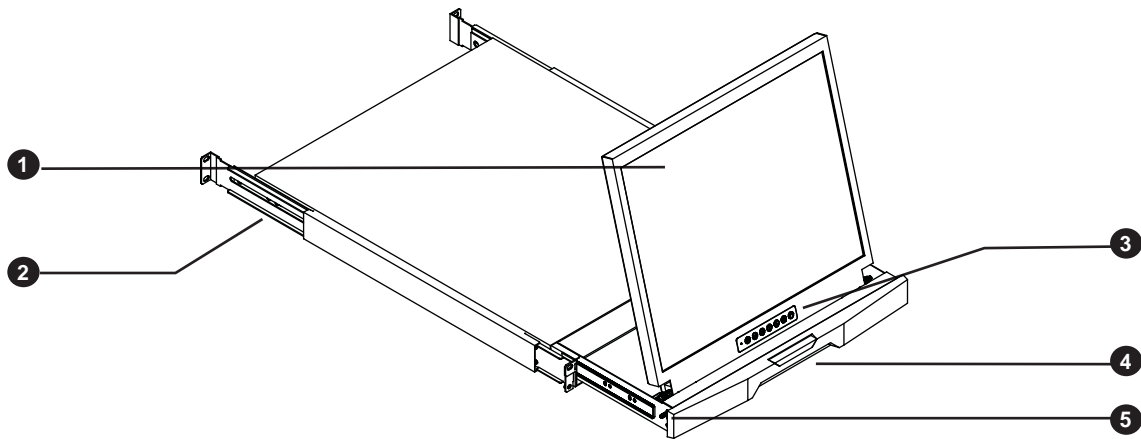
2.2 Structure Diagram

Chapter 2

LCD1U20-011 / 20-012

LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

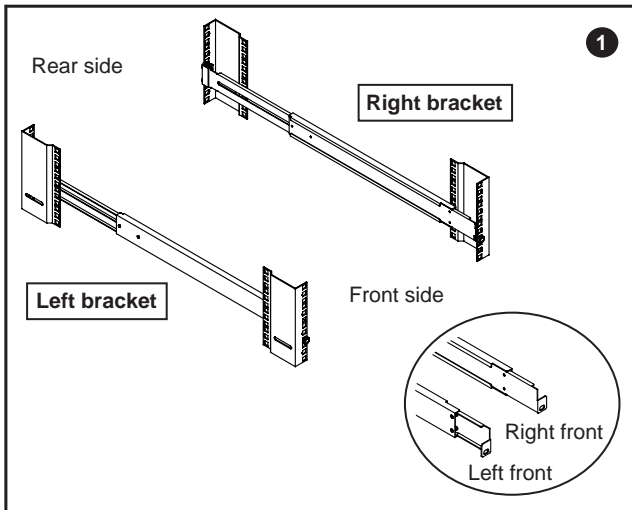
LCD1U15-014 / 17-013 / 19-012



- ① LCD interchangeable module kit
- ② "One Man" Installation Slide
- ③ LCD membrane

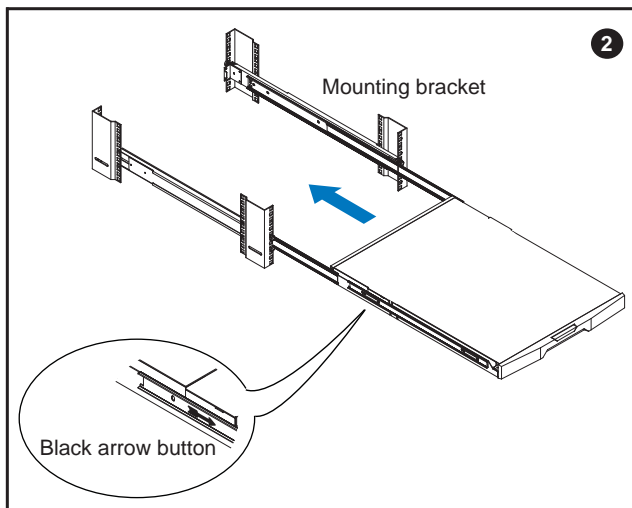
- ④ Carry handle to release the 2-pt lock
- ⑤ 2-point lock

Install into rack

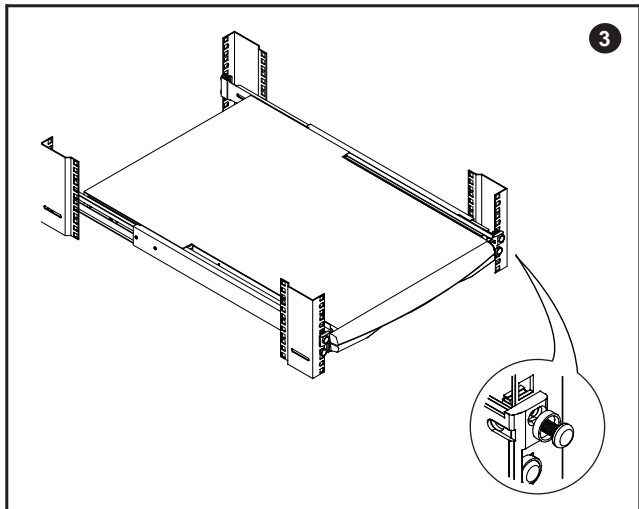


- Attach the left and right mounting bracket to rack 19" mounting rails.
- Adjust the rear mounting bracket to fit your rack.
- M6 screw and cup washer x 6 pcs included.

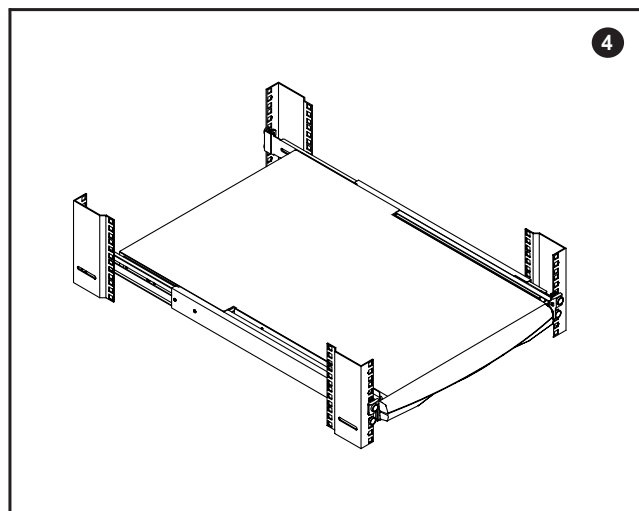
Caution : Leaving the screws slightly loose, until you complete the installation in step 4



- Pick up the LCD drawer.
- Insert the LCD drawer into the mounting bracket.
- Pull and hold the left & right black arrow buttons on the rails.
- Return the LCD drawer to park position.



- Attach front left and right mounting ears of the LCD keyboard drawer to vertical mounting rails.
- M6 screw and cup washer x 2 pcs included.



Complete the installation

- Tighten all 8 pcs of M6 screw to complete the installation.

2.4 How to Use the Slides

LCD1U20-011 / 20-012

LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

LCD1U15-014 / 17-013 / 19-012

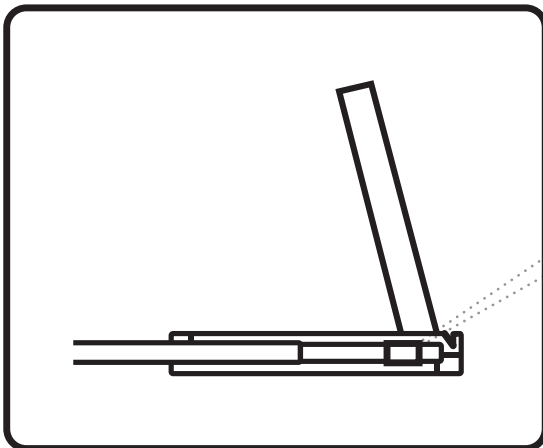


Figure 14.

- A black arrow release button is located on the outside of each slide. (shown in **Figure 14**).

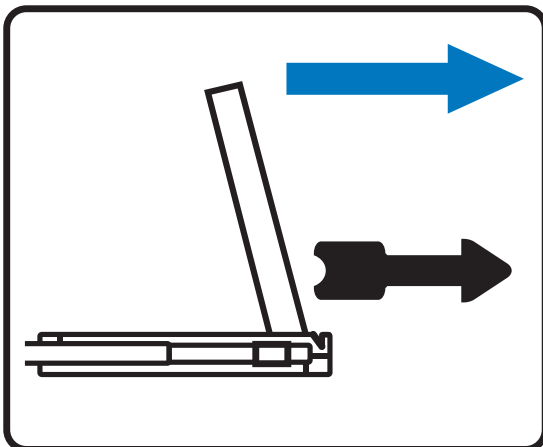


Figure 15.

- Pull and hold the black arrow button on either side of the LCD drawer to unlock. (shown in **Figure 15**).

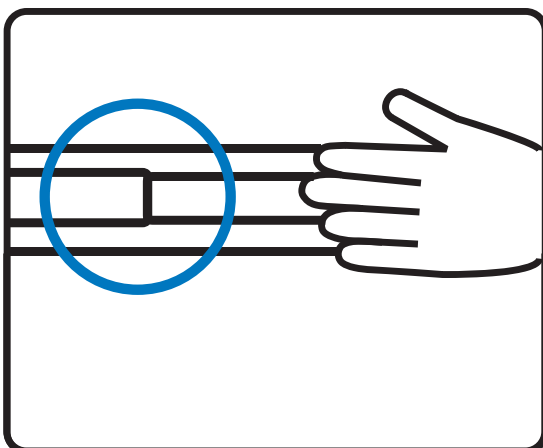



Figure 16.

- Push the LCD drawer into the rack. (shown in **Figure 16**).

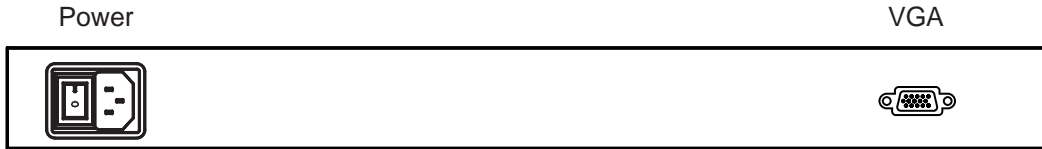
 **Caution :** Keep your fingers away from the slide stop

LCD1U20-011 / 20-012

LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

LCD1U15-014 / 17-013 / 19-012

Internal power version



External power version (For short depth version - LCD1U15-014 / 17-013 / 19-012)

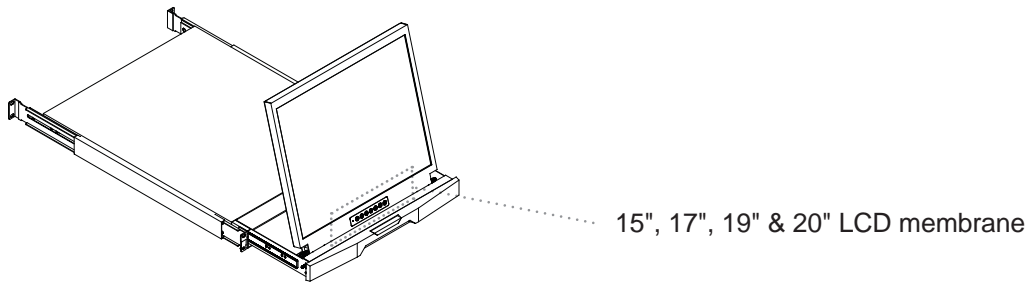


Caution : The Rackmount LCD Drawer & Display are hot-pluggable, but components of connected devices, such as the servers and KVM switch, may not be hot-pluggable. Plugging and unplugging cables while servers and KVM are powered on may cause irreversible damage of the servers, KVM and Rackmount LCD Drawer. Before attempting to connect anything to the Rackmount LCD Drawer, we suggest that turn off power to all devices before connecting them. Apply power to connected devices again only after the Rackmount LCD Drawer receiving power. The company is not responsible for damage caused in this way.

LCD1U20-011 / 20-012

LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

LCD1U15-014 / 17-013 / 19-012

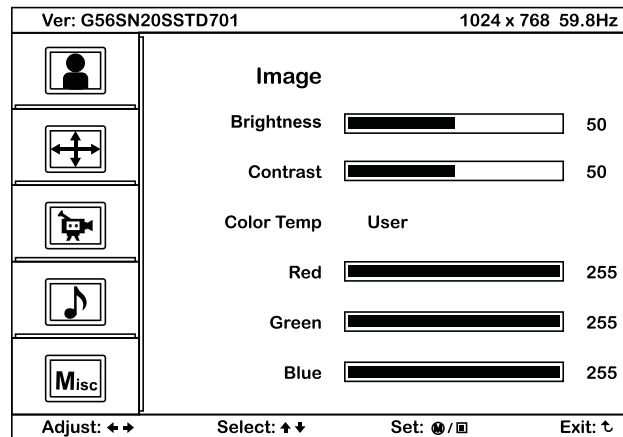


Membrane Switch	Function
<ul style="list-style-type: none"> ○ ● ● 	Power light Green = On Orange = Power saving
	Power on / off LCD
	Display the OSD menu
	Scrolls through menu options and adjusts the displayed control (To auto adjustment by pressing the button for 5 seconds)
	Exit the OSD screen Toggle analog, digital & video connection (DVI-D and video options only)

LCD1U20-011 / 20-012

LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

LCD1U15-014 / 17-013 / 19-012

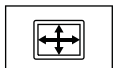


OSD Configuration Page



Image:

To enter into the brightness, contrast, color temp, red, green, and blue



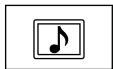
Geometry:

To enter into the auto adjust, H position, V position, phase and clock



Video:

To enter into the colour, tint, sharpness, noise reduction, DCDi and TV Setup



Audio:

To enter into volume, bass, treble, balance, AVL and mute



Misc:

To enter into the language, OSD position, graphic mode, ratio, reset and timer

4.1 DVI-D Option

Chapter 4

LCD1U20-011 / 20-012

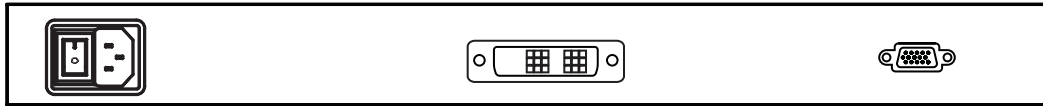
LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

LCD1U15-014 / 17-013 / 19-012

Internal power version

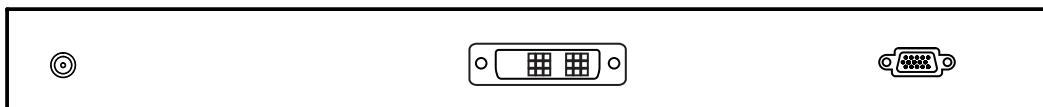
DVI-D

VGA



External power version

(For short depth version - LCD1U15-014 / 17-013 / 19-012)



Remarks

- Package includes 1 x 6ft DVI-D cable
- The depth of LCD1U15-014 / 17-013 / 19-012 will be extended from 480mm (18.9") to 530mm (20.9")

4.2 BNC + S-Video Option

Chapter 4

LCD1U20-011

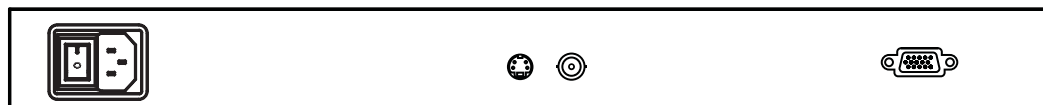
LCD1U15-011 / 17-011 / 19-011

LCD1U15-014 / 17-013 / 19-012

Internal power version

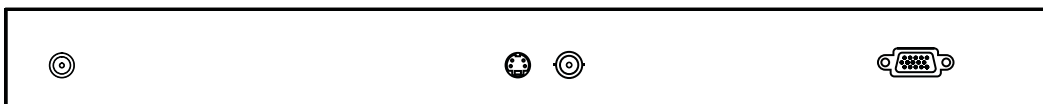
S-Video BNC

VGA



External power version

(For short depth version - LCD1U15-014 / 17-013 / 19-012)



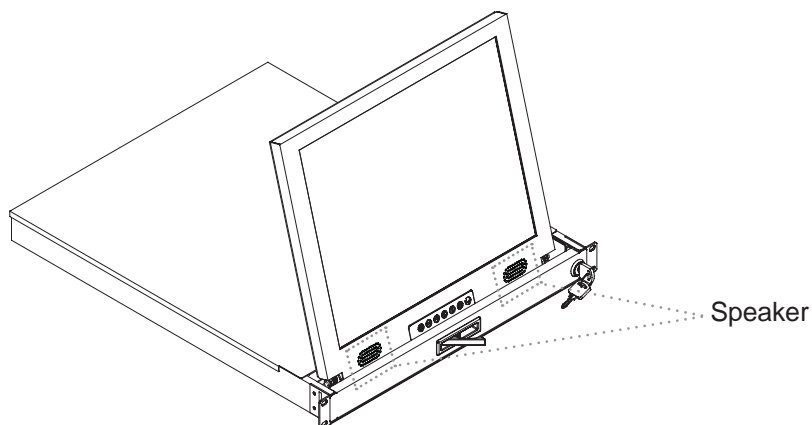
Remarks

- Package includes 1 x 6ft S-Video cable

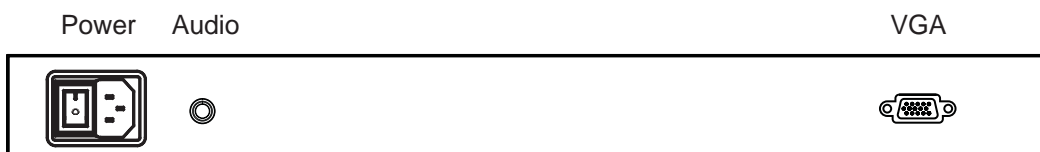
LCD1U20-011

LCD1U15-011 / 17-011 / 19-011

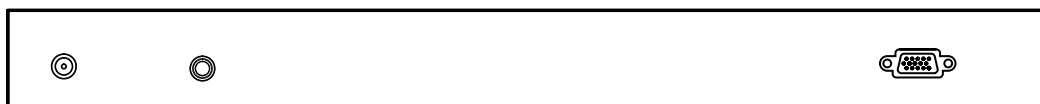
LCD1U15-014 / 17-013 / 19-012



Internal power version



External power version (For short depth version - LCD1U15-014 / 17-013 / 19-012)

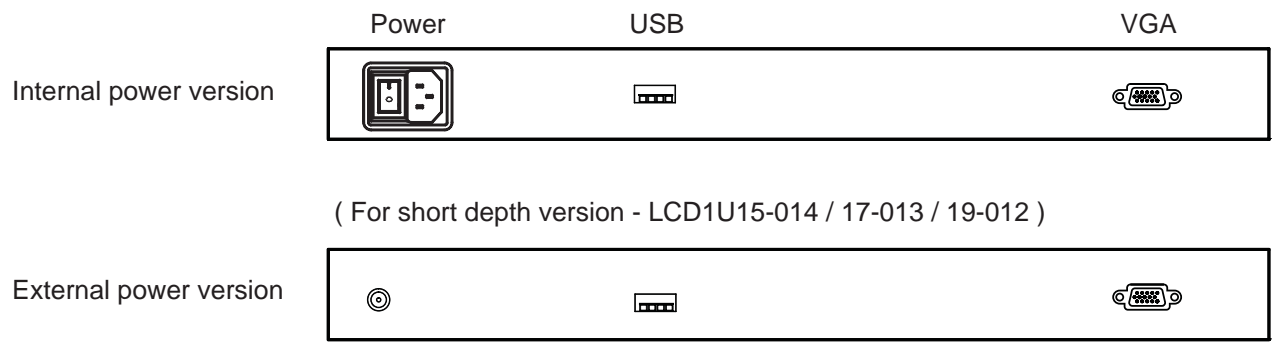


Remarks:

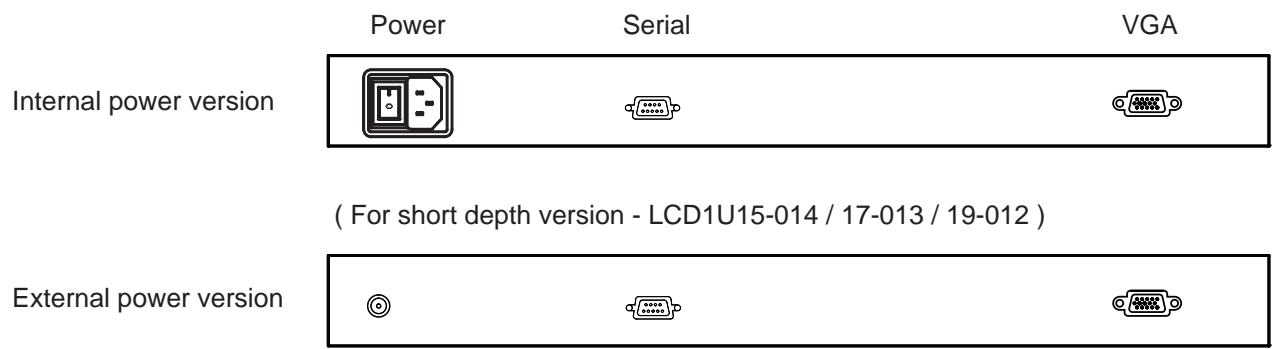
- Audio input is 35mm audio plug
- The speaker is sharing the same power with LCD.

LCD1U20-011
 LCD1U15-011 / 17-011 / 19-011
 LCD1U15-014 / 17-013 / 19-012

USB interface



Serial interface



e-Resistive

Model	-15TRB / -15TRS	-17TRB / -17TRS	-19TRB / -19TRS	-20TRB / -20TRS
Screen size	15"	17"	19"	20"
Interface	USB / serial			
Optical transmittance	80% ± 3%			
Surface hardness	≥3H (JIS K5400)			
Operating system	Windows 98 / 2000 / ME / XP / NT / CE, DOS, Linux			

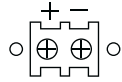
e-Capacitive

Model	-15TCB / -15TCS	-17TCB / -17TCS	-19TCB / -19TCS	-20TCB / -20TCS
Screen size	15"	17"	19"	22"
Interface	USB / serial			
Optical transmittance	93% ± 2%			
Surface hardness	>9H Surface hardness, withstand over 300 million touches			
Operating system	Windows 98 / 2000 / ME / XP / NT / CE, DOS, Linux			

Remarks

- USB touchscreen package includes 1 x 6ft USB cable, quick reference guideline and CD disc
- Serial touchscreen package includes 1 x 6ft serial cable, quick reference guideline and CD disc
- For detailed information, please refer to the attached CD disc
- As the touchscreen unit is not made of toughened glass, please handle it carefully
- Touchscreen in other brands are available on request

4.6 DC Power Options



Chapter 4

LCD1U20-011 / 20-012

LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

LCD1U15-014 / 17-013 / 19-012

DC Power input VGA



Model	12V	24V	48V
Input rating			
Input voltage:	12-Volt	24-Volt	48-Volt
Input range:	9 ~ 18V	18 ~ 36V	36 ~ 75V
Input current			
- No load	50 mA	50 mA	50 mA
- Full load	4950 mA	2450 mA	1220 mA
Output rating			
Output voltage:	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A
Efficiency	84%	85%	85%

Remarks

- Package does not include power cord and AC power adapter
- The depth of LCD1U15-014 / 17-013 / 19-012 will be extended from 480mm (18.9") to 530mm (20.9")


5.1 LCD Specification

Chapter 5

LCD1U20-011

LCD1U15-011 / 17-011 / 19-011

LCD1U15-014 / 17-013 / 19-012

Item	Description			
LCD Manufacturer				LG
Diagonal Size	15" TFT	17" TFT	19" TFT	20" TFT
Max. Resolution	1024 x 768	1280 x 1024	1280 x 1024	1600 x 1200
Brightness (cd/m ²)	250	300	300	300
Color Support	16.2 M	16.7 M	16.7 M	16.7 M
Contrast Ratio (typ.)	700:1	1000:1	1000:1	800:1
Viewing Angle (H/V)	150° x 135°	160° x 160°	160° x 160°	160° x 160°
Display Area (mm)	304 x 228	338 x 270	376 x 301	408 x 306
Tr Response Time (ms)	2	1.3	1.3	1
LCD Panel MTBF (hrs)	50,000	50,000	50,000	50,000
VGA Signal Input	Analog RGB, 0.7Vp-p			
Sync. Type	Separate H/V, Composite, SOG			
Resolution	640 x 400, 70 Hz	-		
		720 x 400, 70 Hz		
		640 x 480, 60/ 70/ 72/ 75 Hz		
		800 x 600, 60/ 70/ 72/ 75 Hz		
	1024 x 768, 60/ 70/ 72/ 75 Hz	1024 x 768, 60/ 70/ 75 Hz		
	-	1152 x 864, 60/ 70/ 75 Hz		
	-	1280 x 720, 60/ 70/ 75 Hz	1280 x 720, 60/ 75 Hz	
	-	1280 x 1024, 60/ 70/ 72/ 75 Hz	1280 x 1024, 60/ 70/ 75 Hz	
		-	1400 x 1050, 60 Hz	
	-	1600 x 1200, 60 Hz		
Plug & Play DDC	EDID 1.3			
Connector	DB-15 connector			
Power Input	Auto-sensing 100 to 240VAC, 50 / 60Hz			
Power Consumption	Max. 48 Watt, Standby 5 Watt			
Compatibility	Multi-platform - Mix PCs, SUNs, IBMs, HPs & DELLs.			
Regulation Approval	FCC, CE			

Options

Graphic Input	DVI-D, BNC, S-Video & Quad display input
DC Power	DC power input with 12V, 24V, 48V selection
Touchscreen	Resistive & capacitive
AU	35mm audio plug
NEMA 4 / IP65	4mm thickness of protective glass

Environmental

Operation	0° to 50°C Degree
Storage	-5° to 60°C Degree
Relative Humidity	5~90%, non-condensing
Shock	10G acceleration (11ms duration)
Vibration	5~500Hz 1G RMS random vibration

LCD1U20-012

LCD1U17-014 / 19-013

Item	Description		
Form Factor	1U rack mounting on slide-out rails		
Diagonal Size	17" TFT	19" TFT	20" TFT
Resolution	1152 x 900 (Direct)	1152 x 900 (Direct)	1152 x 900 (Direct)
	1280 x 1024 (Native)	1280 x 1024 (Native)	1600 x 1200 (Native)
Brightness (cd/m ²)	300	300	300
Color Support	16.7 M	16.7 M	16.7 M
Contrast Ratio (typ.)	1000:1	1000:1	800:1
Viewing Angle (H/V)	160° x 160°	160° x 160°	160° x 160°
Display Area (mm)	338 x 270	376 x 301	408 x 306
Tr Response Time (ms)	1.3	1.3	1
LCD Panel MTBF (hrs)	50,000	50,000	50,000
VGA Signal Input	Analog RGB, 0.7Vp-p		
Sync. Type	Separate H/V, Composite, SOG		
Resolution	720 x 400, 70 Hz		
	640 x 480, 60 /70 /72 /75 Hz		
	800 x 600, 60 /70 /72 /75 Hz		
	1024 x 768, 60 /70 /75 Hz		
	1152 x 864, 60 /70 /75 Hz		
	1280 x 720, 60 /70 /75 Hz		1280 x 720, 60 /75 Hz
	1280 x 1024, 60 /70 /72 /75 Hz		1280 x 1024, 60 /70 /75 Hz
	-		1400 x 1050, 60 Hz
	-		1600 x 1200, 60 Hz
Plug & Play DDC	EDID 1.3		
Connector	DB-15 connector		
Power Input	Auto-sensing 100 to 240VAC, 50 / 60Hz		
Power Consumption	Max. 48 Watt, Standby 5 Watt		
Compatibility	Multi-platform - Mix PCs, SUNs, IBMs, HPs & DELLs.		
Regulation Approval	FCC, CE		

Options

Graphic Input	DVI-D input
DC Power	DC power input with 12V, 24V, 48V selection

Environmental

Operation	0° to 50°C Degree
Storage	-5° to 60°C Degree
Relative Humidity	5~90%, non-condensing
Shock	10G acceleration (11ms duration)
Vibration	5~500Hz 1G RMS random vibration

1. How do I adjust the resolution?

To change monitor resolution, click Start -> Control Panel -> Display. Select Setting tab to adjust the monitor resolution in Desktop Area. The available resolutions, "640 x 480", "800 x 600", "1024 x 768", "1152 x 864", "1280 x 1024", are determined by the display card in your computer.


2. Is interference signal appeared on LCD normal when shutting down the computer ?

In rare cases, interference may appear on the monitor. This may be caused by signal rate of VGA card and is considered normal. The image quality can be improved by adjusting the phase or pixel rate automatically or manually.

3. The membrane power light is not ON

Press the power On / Off on LCD membrane to check if the monitor is in the ON mode.
Check the power cord is properly connected to the LCD keyboard drawer and power outlet.

4. Screen image is not centered or sized properly

Press the  button for two seconds to automatically adjust the image.
Adjust the H-position and V-position settings via On-screen menu.

For SUN series LCD Drawer

1. How can I adjust the monitor resolution to 1152 x 900 for SUN Micro system ?

The S solution LCD drawer will automatically detect the 1152 x 900 resolution, so no user configuration should be necessary.

2. How do I adjust the resolution in MS Windows operation system?

To change monitor resolution, click Start -> Control Panel -> Display. Select Setting tab to adjust the monitor resolution in Desktop Area. The available resolutions, "640 x 480", "800 x 600", "1024 x 768", "1152 x 864", "1280 x 1024", are determined by the display card in your computer.

6. Is the LCD drawer hot-pluggable ?

The LCD drawer is hot-pluggable, but components of connected devices, such as the servers and KVMs, may not be hot-pluggable. We suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD receives power.

LCD1U20-011 / 20-012

LCD1U15-011 / 17-011 / 19-011 / 17-014 / 19-013

LCD1U15-014 / 17-013 / 19-012

Model	Product Dimension (W x D x H)	Net Weight
LCD1U20-011	442 x 650 x 44 mm 17.4 x 25.6 x 1.73"	14 kg 31 lb
LCD1U20-012	442 x 650 x 44 mm 17.4 x 25.6 x 1.73"	14 kg 31 lb
LCD1U15-011	442 x 550 x 44 mm 17.4 x 21.6 x 1.73"	10 kg 22 lb
LCD1U17-011	446 x 600 x 44 mm 17.6 x 23.6 x 1.73"	12 kg 26 lb
LCD1U19-011	446 x 600 x 44 mm 17.6 x 23.6 x 1.73"	13 kg 29 lb
LCD1U17-014	446 x 600 x 44 mm 17.6 x 23.6 x 1.73"	12 kg 26 lb
LCD1U19-013	442 x 600 x 44 mm 17.4 x 23.6 x 1.73"	13 kg 29 lb
LCD1U15-014	442 x 440 x 44 mm 17.4 x 17.3 x 1.73"	10 kg 22 lb
LCD1U17-013	446 x 480 x 44 mm 17.6 x 18.9 x 1.73"	12 kg 26 lb
LCD1U19-012	446 x 480 x 44 mm 17.6 x 18.9 x 1.73"	13 kg 29 lb

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