User Manual   20" 1600 x 1200 LCD

LCD1U20-02
1U LCD Console Drawer

Options :
- AV / DVI-D / HDMI
- DC power

FC CE RoHS REACH

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

- 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 40º Celsius (104º 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 equipment 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.

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.

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.

Contents

Before Installation

■ It is very important to mount the equipment in a suitable cabinet or on a stable surface.

■ Make sure the place has a good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.

Unpacking

The equipment comes with the standard parts shown in package content. Check and make sure they are included and in good condition. If anything is missing, or damaged, contact the supplier immediately.

How To Clean Your LCD Monitor

⚠️ Caution :

■ To avoid the risk of electric shock, make sure your hands are dry before unplugging your monitor from or plugging your monitor into an electrical outlet.

■ When you clean your monitor, do not press down on the LCD screen. Pressing down on the screen can scratch or damage your display. Pressure damage is not covered under warranty.

■ Use only cleansers made specifically for cleaning monitors and monitor screens. Cleansers not made to clean monitors and monitor screens can scratch the LCD display or strip off the finish.

■ Do not spray any kind of liquid directly onto the screen or case of your monitor. Spraying liquids directly onto the screen or case can cause damage which is not covered under warranty.

■ Do not use paper towels or abrasive pads to clean your monitor. Using an abrasive pad or any wood based paper product such as paper towels can scratch your LCD screen.

Cleaning Your Monitor

To clean your LCD safely, please follow these steps :

① Disconnect the power cord.

② Gently wipe the surface using a clean, dry microfiber cloth. Use as little pressure as possible.

Cleaning Tough Marks and Smudges

To remove tough marks and smudges, please follow these steps :

① Disconnect the power cord.

② Spray a small amount of non-abrasive cleanser on a microfiber cloth.

⚠️ **Caution : Do not spray or apply any liquids directly onto the monitor. Always apply the solution to your microfiber cloth first, not directly on the parts you are cleaning.**

③ Gently wipe the surface. Use as little pressure as possible.

④ Wait until your monitor is completely dry before plugging it in and powering it up.
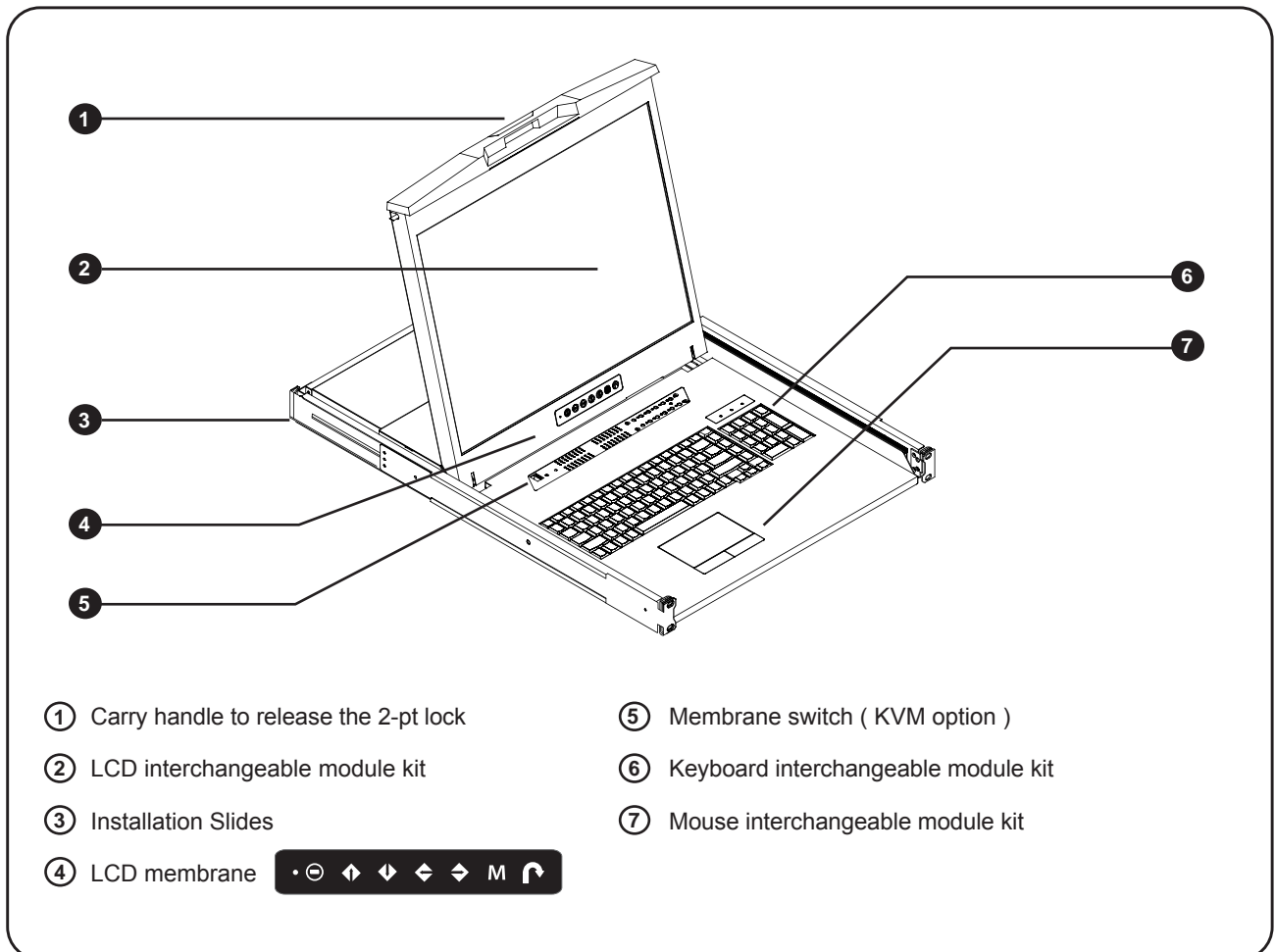
< Part 1 >
< 1.1 > Package Content

LCD1U20-02 unit X 1

- 6ft VGA-USB console cable X 1

(Alternative for PS/2 KB / MS : 6ft Combo KVM cable)

- Power cord X 1

- M6 screw, cage nut & cup washer X 8

⚠️

The above package content is only for the single console models. It varies with options such as KVM, HDMI, DVI-D, AV & DC power.

< 1.2 > Structure Diagram

① Carry handle to release the 2-pt lock

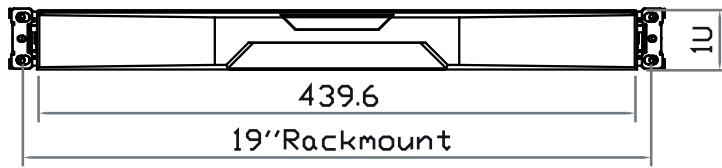② LCD interchangeable module kit

③ Installation Slides

④ LCD membrane `· ⊖ ◆ ◆ ◆ ◆ M ↵`

⑤ Membrane switch (KVM option)

⑥ Keyboard interchangeable module kit
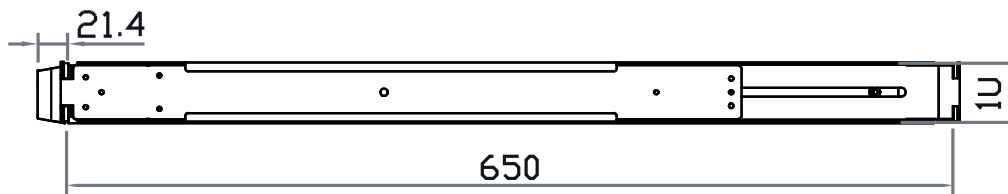
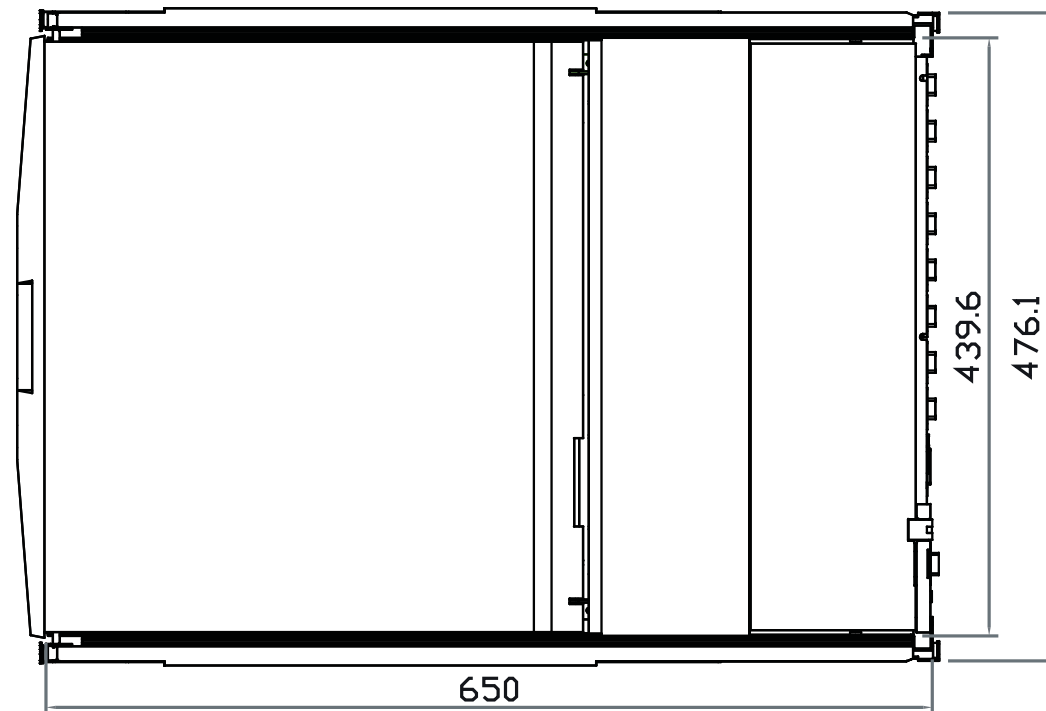⑦ Mouse interchangeable module kit

< 1.2 > Dimension

Front View

439.6

19"Rackmount

1U

Rear View

Power

VGA

Side View

21.4

650

1U

UNIT : mm
1mm = 0.03937 inch

Top View

439.6

476.1

650

Model	Product Dimension (W x D x H)	Net Weight
LCD1U20-02	439.6 x 650 x 44 mm 17.3 x 25.6 x 1.73"	14.5 kg 31.9 lb

⚠️ **The weight is only for the single console models. It varies with accessories & options such as KVM, HDMI, DVI-D & DC power.**

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< 1.3 > Installation - How to install 1U 20" LCD Tray

Rear side

Right bracket
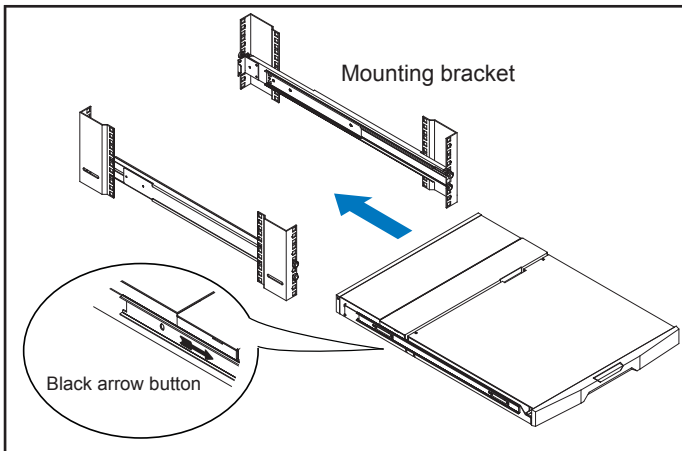
Left bracket

Front side
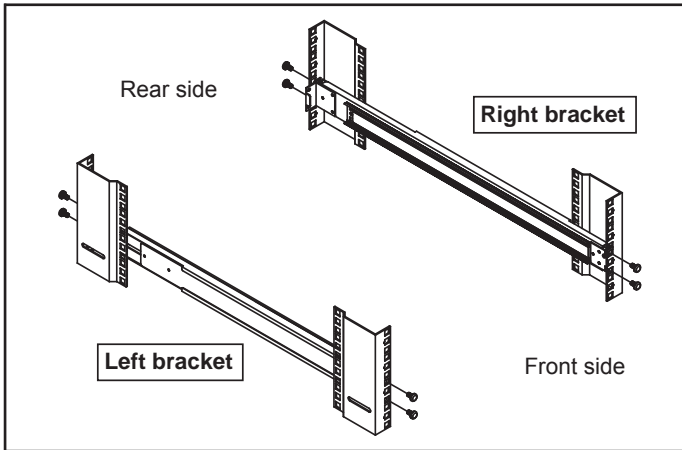
Step 1

- ■ Attach the left and right mounting bracket to rack 19" mounting rails.
- ■ Adjust the mounting bracket to fit your rack.
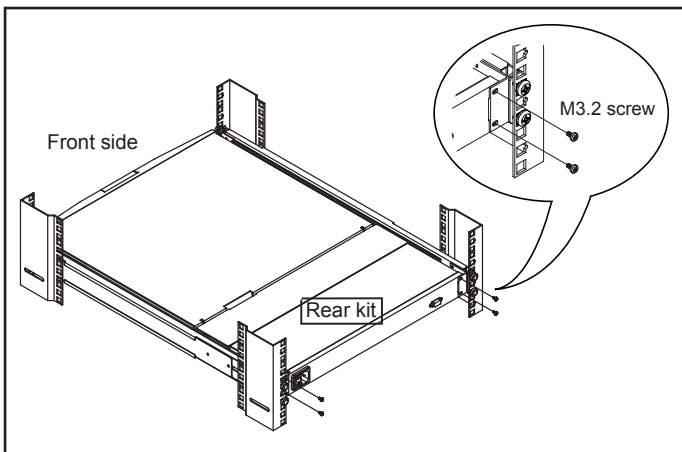- ■ M6 screw x 8 pcs included.

⚠ **Leave all M6 screws slightly loose, until you complete the installation in step 3**

Mounting bracket

Black arrow button

Step 2

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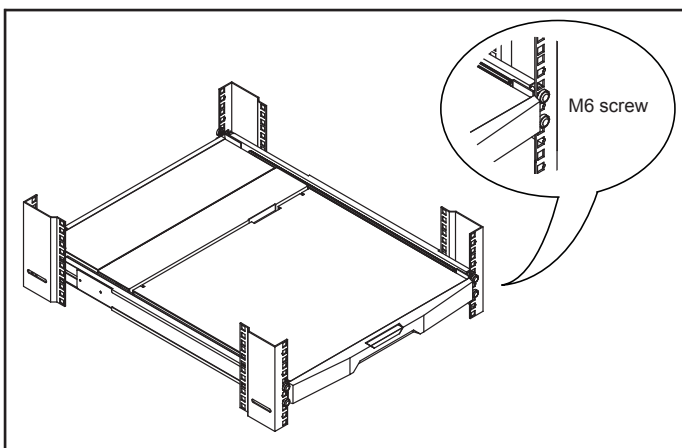

Front side

M3.2 screw

Rear kit

Step 3

- ■ Fix the rear kit to the mounting bracket with M3.2 screw x 4 pcs included.

⚠ **This step is necessary. Failure to complete this will cause damage.**

M6 screw

Step 4

Complete the installation

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

< 1.3 > Installation- How to use the drawer
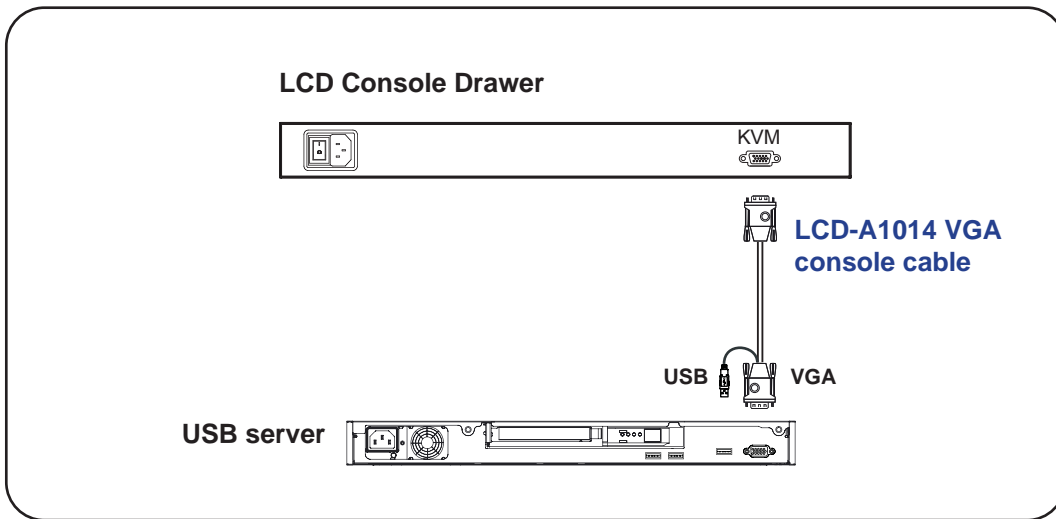

■ Press the handle button and slide out the drawer.
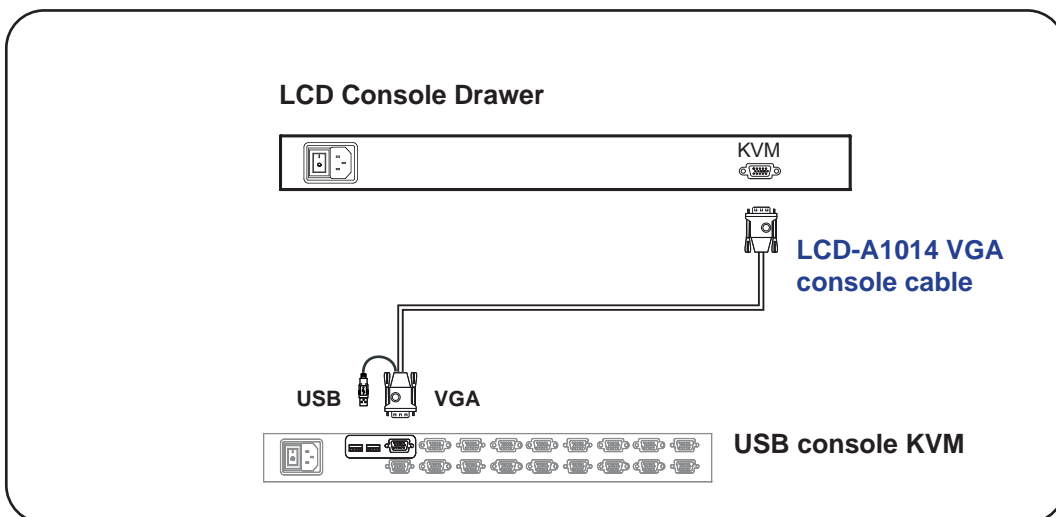

■ Flip up the LCD to a suitable angle.

■ Operate the LCD console drawer.

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< 1.4 > Connection to │ USB Server │ via USB cable

LCD Console Drawer

KVM

LCD-A1014 VGA console cable

USB   VGA

USB server

< 1.4 > Connection to │ external KVM │ via USB cable

LCD Console Drawer

KVM

LCD-A1014 VGA console cable

USB   VGA

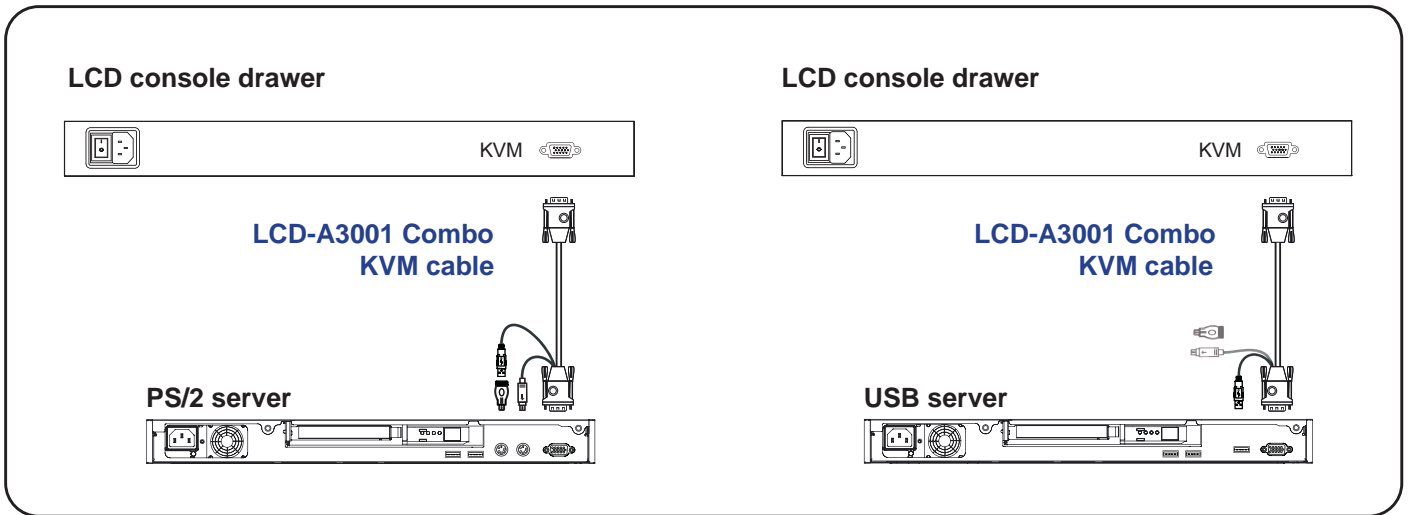**USB console KVM**

Caution : The LCD console drawer is 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 to the servers, KVM and LCD console drawer. Before attempting to connect anything to the LCD console drawer, we suggest turning off the power to all devices. Apply power to connected devices again only after the LCD console drawer is receiving power. The company is not responsible for damage caused in this way.

< 1.4 > Connection to PS/2 or USB Server via Combo cable

LCD console drawer

KVM

LCD-A3001 Combo KVM cable

PS/2 server

LCD console drawer

KVM

LCD-A3001 Combo KVM cable

USB server

< 1.4 > Connection to external KVM via Combo cable

LCD console drawer

KVM

LCD-A3001 Combo KVM cable

PS/2 console KVM

LCD console drawer

KVM

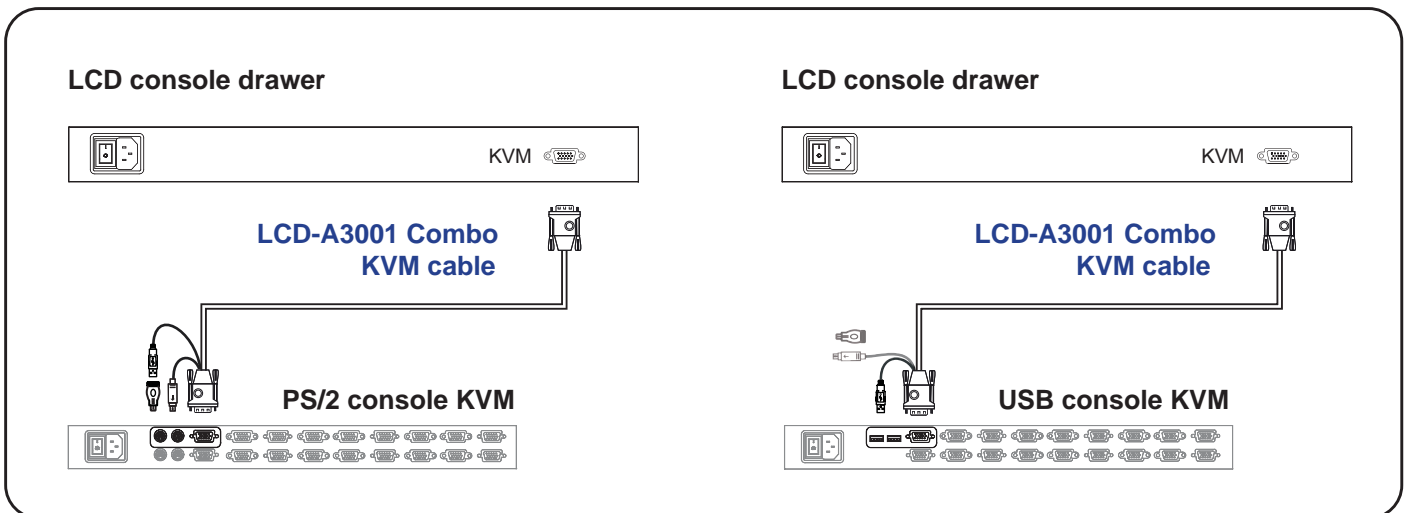**LCD-A3001 Combo KVM cable**

USB console KVM

⚠

Caution : The LCD console drawer is 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 to the servers, KVM and LCD console drawer. Before attempting to connect anything to the LCD console drawer, we suggest turning off the power to all devices. Apply power to connected devices again only after the LCD console drawer is receiving power. The company is not responsible for damage caused in this way.

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< 2.1 > Product Specifications

LCD Panel		
Manufacturer		**LG**
Panel Size (diagonal)		20-inch TFT color LCD
Display pixel (dots x lines)		1600 x 1200
Brightness (typ.)		300
Contrast Ratio (typ.)		800:1
Color		16.7 M
Viewing Angle (L/R/U/D)		89/89/89/89
Response Time (ms)		16
Dot pitch (mm)		0.255
Display Area (mm)		408.00H x 306.00V
Surface treatment		Anti-glare, Hard-coating
Surface hardness		3H
Backlight Type		CCFL
MTBF (hrs)		45,000

Video Connectivity			
Digital	HDMI	HDMI 1.2, CEA-861-D
	DVI	DVI-D, TMDS single link
Analog	VGA	Analog 0.7Vp-p
	Composite (BNC)	NTSC & PAL
	S-Video (4-pin)	NTSC & PAL
Plug & Play	DVI / VGA	VESA EDID structure 1.3
Synchronization	VGA	Separate, Composite & SOG

Power			
Power Supply	Range	Auto-sensing 100 to 240VAC, 50 / 60Hz
Power Consumption for Single Console	Screen ON	Max. 48W
	Power saving mode	Max. 4W
	Power button OFF	Max. 1W
Power Consumption with KVM integration	Screen ON	Max. 78W
	Power saving mode	Max. 34W

*For details, please refer to our KVM rear kit user manuals

Regulatory		
Safety	FCC & CE certified
Environmental	RoHS2 & REACH compliant

Environmental Conditions	Operating	Temperature	0 to 55°C degree
		Humidity	20~90%, non-condensing
		Altitude	16,000 ft
	Storage / Non-operating	Temperature	-20 to 60°C degree
		Humidity	5~90%, non-condensing
		Altitude	40,000 ft
		Shock	10G acceleration (11ms duration)
		Vibration	5~500Hz 1G RMS random

Physical Specification	Product (W x D x H)	439.5 x 650 x 44 mm 17.3 x 25.6 x 1.73 inch
	Net Weight	14.5 kgs / 31.9 lbs

Applicable Format	VGA Input	PC Signal	1600 x 1200 x 60Hz
			1400 x 1050 x 60Hz
			1440 x 900 x 60Hz
			1360 x 768 x 60Hz
			1280 x 1024 x 60 / 75Hz
			1280 x 960 x 60Hz
			1280 x 768 x 60 / 75Hz
			1152 x 864 x 75Hz
			1024 x 768 x 60 / 70 / 75Hz
			848 x 480 x 60Hz
			800 x 600 x 60 / 72 / 75Hz
			720 x 400 x 70Hz
			640 x 480 x 60 / 72 / 75Hz
			640 x 400 x 70Hz
			640 x 350 x 70Hz
	HDMI Input	PC Signal	Same as VGA
		Video Signal	720p : 50 / 60Hz
			480p : 60Hz
			576p : 50Hz
		Audio Signal	2ch Linear PCM (32 / 44.1 / 48 KHz)
		Speaker	Dual Stereo Speaker, 2 x 2W

< 2.2 > Keyboard / Mouse Specifications

N   keyboard integrated with touchpad
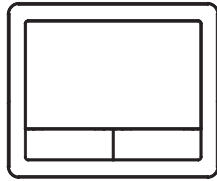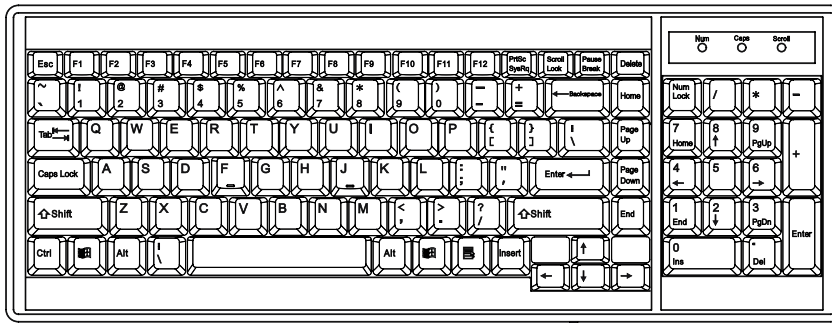
Key force	55 ± 5g
Travelling distance	3 ± 0.3mm
Switch life	> 10 million life cycle time
OS support	Windows / Linux / Unix / Mac OS

Supporting layouts

America	United States				

EMEA	United Kingdom	Germany	France	Spain	Norway
	Italy	Russia	Switzerland	Netherlands	Portugal

Asia	China	Japan	Korea	Arabia	Turkey

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< 2.3 > On-screen Display Operation (OSD)

- ○ Power light
- ● Green = On
- ● Orange = Power saving
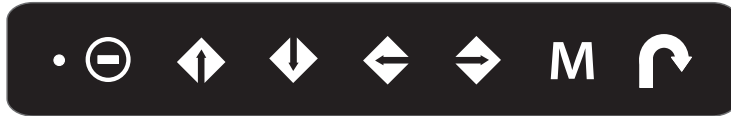
Membrane Switch	Function
⊖	Power on / off LCD
M	Display the OSD menu
⇕ ⇕ ⇔ ⇔	Scrolls through menu options and adjusts the displayed control (To auto adjustment by pressing the button ⇕ for 5 seconds)
↰	Exit the OSD screen Toggle analog, digital & video connection (DVI-D and video options only)

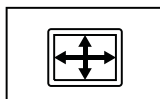| Ver: G56SN20SSTD701		1024 x 768 59.8Hz
	Image	
	Brightness	50
	Contrast	50
	Color Temp	User
	Red	255
	Green	255
	Blue	255
Adjust: ← →	Select: ↑ ↓	Set: ● / ■ Exit: ↰

OSD Configuration Page

Image:
for the brightness, contrast, color temp, red, green, and blue

Geometry:
for the auto adjust, H position, V position, phase and clock

Video:
for the colour, tint, sharpness, noise reduction, DCDi and TV Setup

Audio:
for volume, bass, treble, balance, AVL and mute

Misc:
for the language, OSD position, graphic mode, ratio, reset and timer

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< Part 3 >
< 3.1 > Options :

- **HDMI** (HDMI 1.2, CEA-861-D   )
- **DVI-D** (DVI-D TMDS single link   )
- **AV**   (S-Video + Composite, BNC)

⚠️

(1) Either HDMI or DVI-D can be selected.

(2) In some circumstances, if the user connects the LCD to PC via HDMI port for video and audio signals, the LCD may display incorrectly on a full screen. If so, please adjust the display card setting on display size to fix the issue.
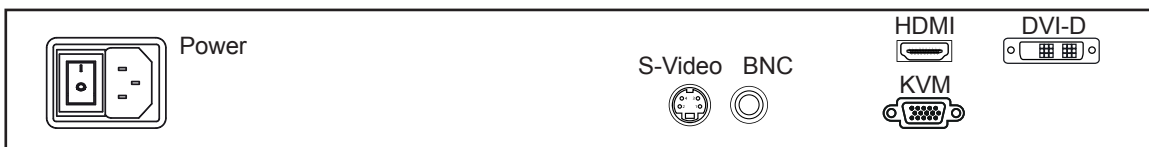
< 3.2 > Options : DC Power

Model	12V	24V	48V	125V	250V
Input rating					
Input voltage:	12-Volt	24-Volt	48-Volt	110-Volt	300-Volt
Input range:	9 ~ 18V	18 ~ 36V	36 ~ 75V	66 ~ 160V	180 ~ 425V
Input current					
- No load	50 mA	50 mA	50 mA	35 mA	10 mA
- Full load	4950 mA	2450 mA	1220 mA	749 mA	600 mA
Output rating					
Output voltage:	12-Volt	12-Volt	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A	6.25A	12.5A
Efficiency	84%	85%	85%	91%	86%

DC power

***   For DC power option :

(1) If the unit with LCD, earthing may be required ⚠️

(2) DC option excludes AC power adapter and power cord.

< Part. 4 > KVM Integration

Matrix Cat6 KVM		Local	Remote	*IP*	8-port	16-port	32-port
		1	1	1	-	-MU163IP	-MU323IP
		1	1	2	-	-MU164IP2	-MU324IP2
		1	1	0	-	-MU162	-MU322
		1	2	0	-	-MU163	-MU323
		1	3	0	-	-MU164	-MU324

Combo Cat6 KVM		Local	Remote	*IP*	8-port	16-port	32-port
		1	0	1	-U8KVM2IP	-U16KVM2IP	-U32KVM2IP
		1	1	0	-U8KVM2	-U16KVM2	-U32KVM2
		1	0	0	-U8KVM	-U16KVM	-U32KVM

Matrix DB-15 KVM		Local	Remote	*IP*	8-port	16-port	32-port
		1	1	1	-M83IP	-M163IP	-
		1	1	2	-M84IP2	-M164IP2	-
		1	1	0	-M82	-M162	-
		1	2	0	-M83	-M163	-
		1	3	0	-M84	-M164	-

Combo DB-15 KVM		Local	Remote	*IP*	8-port	16-port	32-port
		1	0	1	-8KVM2IP	-16KVM2IP	-
		1	1	0	-8KVM2	-16KVM2	-
		1	0	0	-8KVM-u	-16KVM-u	-

DVI-D KVM		Local	Remote	*IP*	12-port	-	-
		1	0	0	-12DVI	-	-

Model	Product Dimension (W x D x H)	Net Weight
LCD1U20-02 w/ KVM	439.6 x 650 x 44 mm 17.3 x 25.6 x 1.73"	15.5 kg 34.1 lb

The company reserves the right to modify product specifications without prior notice and assumes no responsibility for any error which may appear in this publication.

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