RALOY

User Manual
RF117HD - Series

Features & Benefits:

- 1U short depth design console, server rack or relay rack mounted
- Modular scalability: KVM Switch, Peripherals & More
- Combo interface w/ PS/2 or USB input w/ front USB port access
- 17" LED LCD w/ Full HD Hi-Resolution (1920 x 1080)
- PIP & Picture by Picture via green LED-backlit panel technology
- New easy maneuver front handle
- 6 foot Combo KVM cable included

Modular Scalability

- Multi-platform KVM switch capability: PS/2, USB or Sun
- Mouse: Touchpad(e) or Trackball(b)
- Keyboard available in 13 languages
- DC power options: 48V, 24V or 12V
- VGA or DVI Broadcast-grade input
    - or S-Video + Composite (BNC)
    - or HDMI with speaker or Audio

Contents

Chapter 1 Getting Started

1.1 Important Safeguards

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

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 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 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 onto 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.

CAUTION: Slide/rail mounted equipment is not to be used as a shelf or a work space.

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.

1.2 Regulatory Notice

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.

1.3 Package Contents

- RF117HD – 1 Unit
- 1 x CX-6 6ft DVI-D console cable (standard)
  (Alternative: CB-6 6ft VGA console cable - available on request)
- 1 x Power Cord
- 8 x M6 screw, cage nut & cup washer

Additional or fewer parts may be included depending on optional accessories such as integrated KVM, SDI capability, audio inputs and/or DC power options.

1.4 Before Installation

- It is very important to place the LCD Keyboard Drawer in a suitable environment.
- The surface for placing and fixing the LCD Keyboard Drawer should be stable and level or mounted into a suitable cabinet.
- Make sure the location is well ventilated, out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.

1.5 Unpacking & Cleaning the Monitor

The LCD keyboard drawer comes with the standard parts as listed in the package contents. 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 safely clean your LCD, please follow these steps:

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

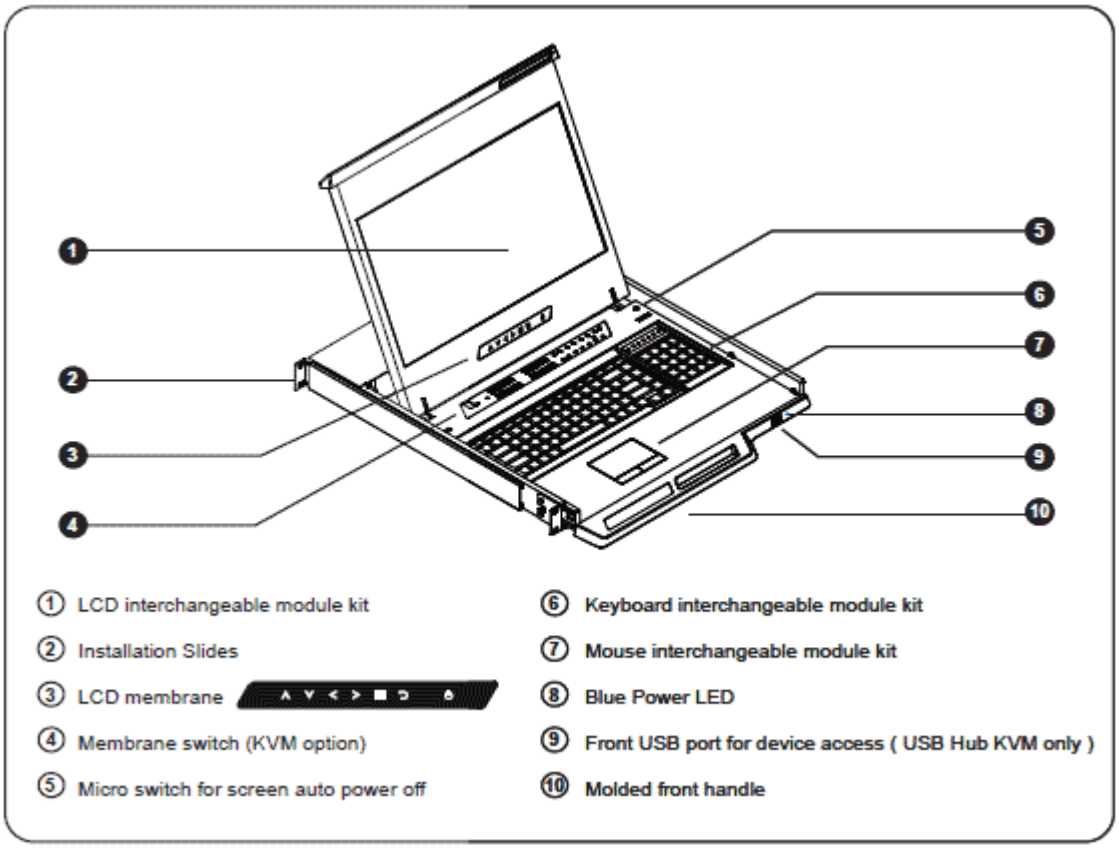
Cleaning Tough Marks and Smudges

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.
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.

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.

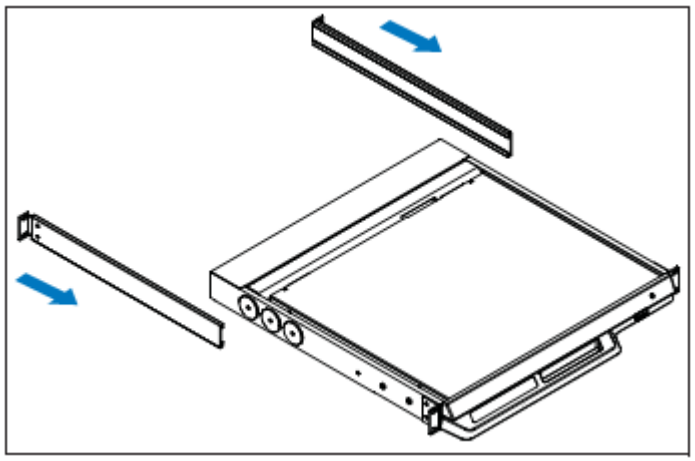
1.6 Structure Diagram



① LCD interchangeable module kit
② Installation Slides
③ LCD membrane
④ Membrane switch (KVM option)
⑤ Micro switch for screen auto power off
⑥ Keyboard interchangeable module kit
⑦ Mouse interchangeable module kit
⑧ Blue Power LED
⑨ Front USB port for device access (USB Hub KVM only)
⑩ Molded front handle

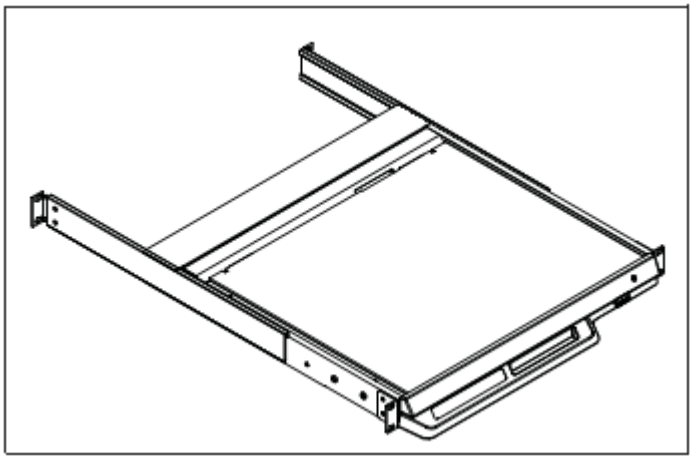
1.7 Installation

1



- Insert the left and right rear mounting brackets into the LCD console drawer.

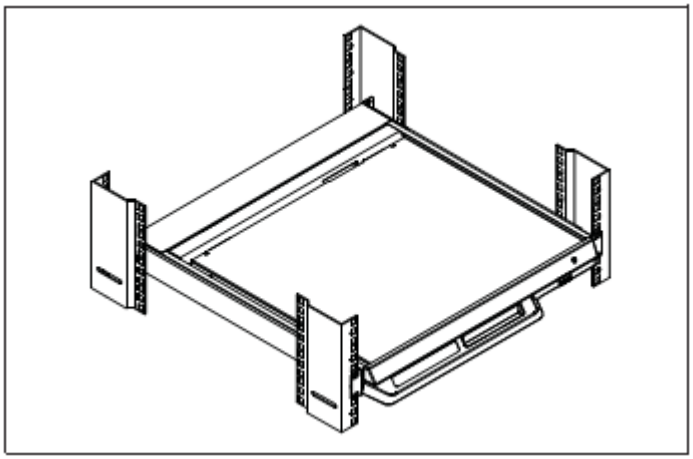
2



- Measure the depth of the front and rear mounting rails.
- Align each rear mounting bracket to a suitable length.

Complete the installation

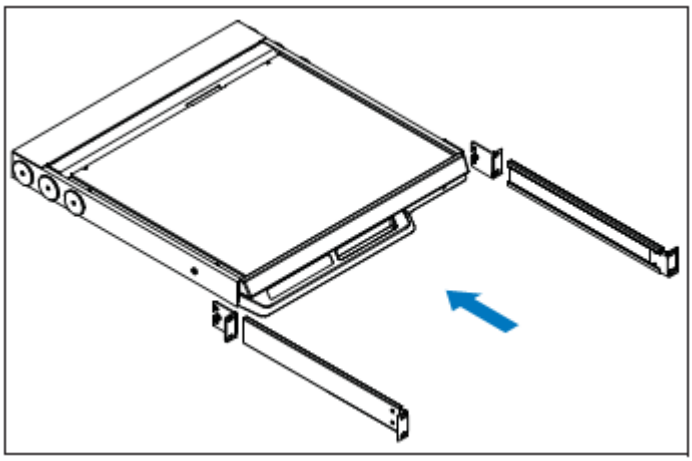
3



- Fix the LCD console drawer into the rack with the 8 supplied M6 screws, cage nuts & cup washers.

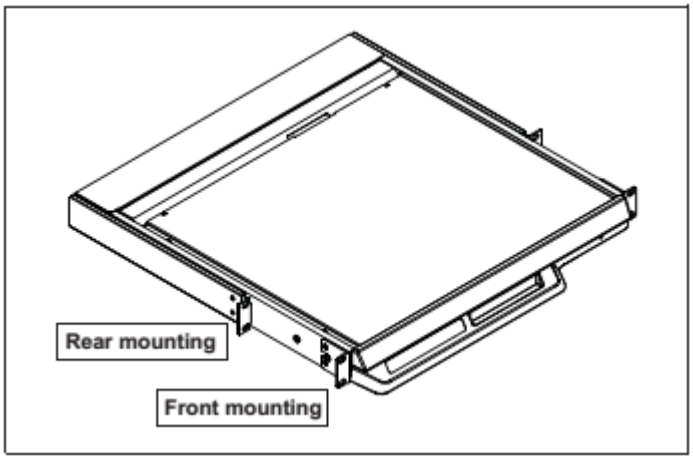
1.7a Alternative Installation w/ Optional 2 post rack brackets (Part Number: MB-751-12)

1



- Release front mounting ears before applying 2 post rack brackets.
- Insert rear mounting brackets into the LCD console drawer.

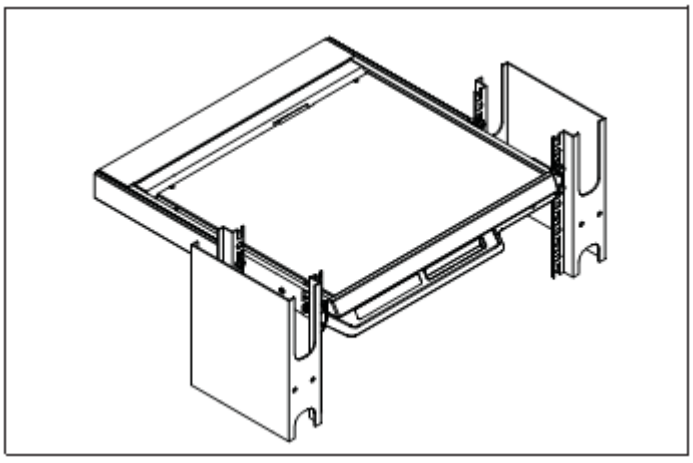
2



- Align each rear mounting bracket to a suitable length.

3

Complete the installation



- Fix the LCD console drawer into the 2 post rack with 8 x M6 screws, cage nuts & cup washers (not provided).

1.8 How to Use the Slides

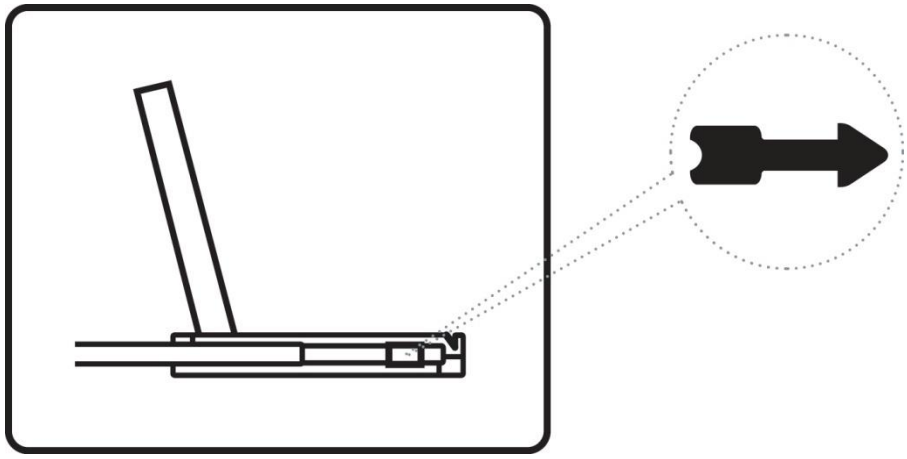


Figure 1.

- A black arrow release button is located on the outside of each slide. (Shown in **Figure 1**).

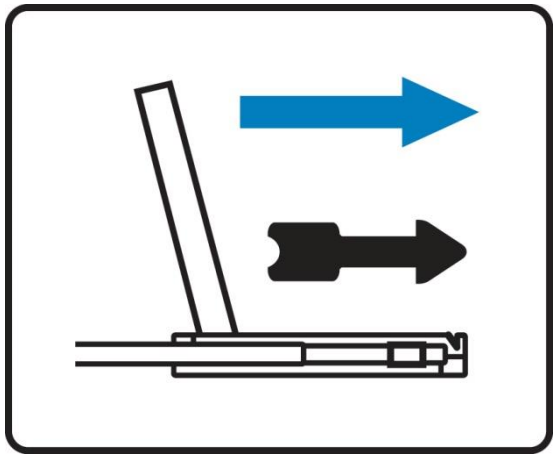


Figure 2.

- Pull and hold the black arrow button on either side of the LCD keyboard drawer to unlock. (Shown in **Figure 2**).

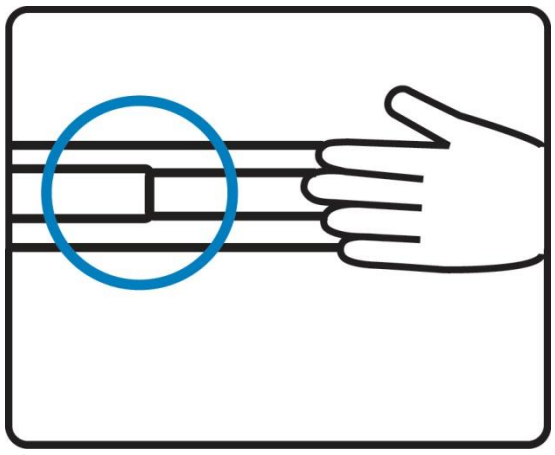


Figure 3.

- Push the LCD keyboard drawer into the rack. (Shown in **Figure 3**).

Caution : Keep your fingers away from the slide stop

1.9 How to Use the LCD Keyboard Drawer

Figure 4. Sliding out the LCD keyboard drawer by pulling the tab toward the front of LCD.

- Gently pull the tab toward the front of the LCD.
  (Shown in **Figure 4**)

Figure 5. Flipping up the LCD to a suitable angle.

- Flip up the LCD to a suitable angle.
  (Shown in **Figure 5)**

Figure 6. Operating the LCD keyboard drawer

- Operate the LCD keyboard drawer.
  (Shown in **Figure 6**)

1.10 Connecting the RF117HD to Your Server

1.10.1 RF117HD Connection to USB/DVI-D server via RCX-6 Cable (included with console)

Use RCX-6 to connect to a USB/DVI-D server

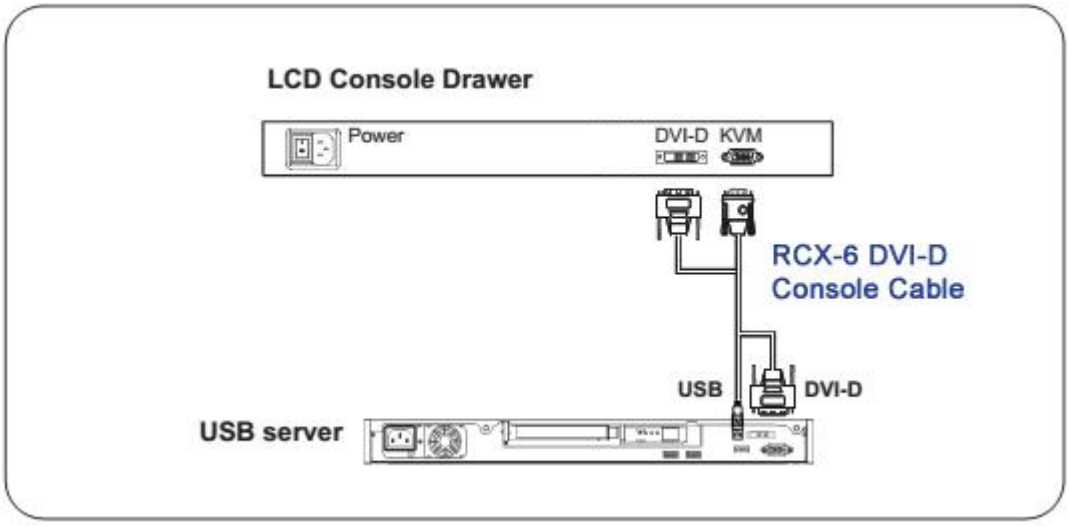


Figure 7. Example of connecting RCX-6 DVI console cable to server via USB/DVI-D interface

1.10.2 RF117HD Connection to External USB/DVI-D KVM via RCX-6 Cable (included with console)

Use RCX-6 to connect to an external USB/DVI-D KVM

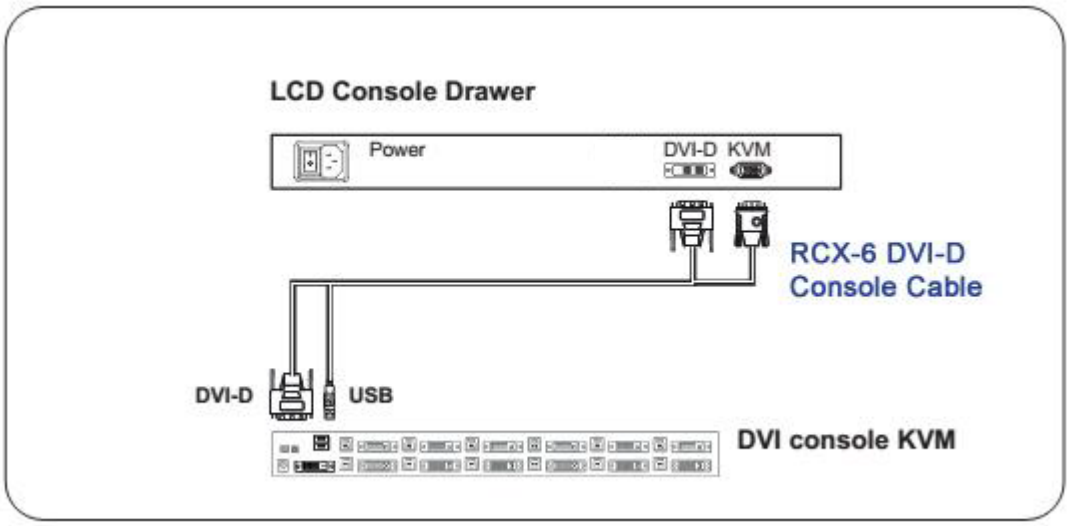


Figure 8. Example of connecting RCX-6 DVI console cable to external KVM via USB/DVI-D interface

Remarks:

The above connections are for the LCD keyboard only, without the integrated KVM switch.

For the LCD keyboard drawer with built-in KVM switch, please refer to the accompanying KVM switch user manual.

Caution: The LCD keyboard 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 keyboard drawer. Before attempting to connect anything to the LCD keyboard drawer, we suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD keyboard is receiving power. The company, supplier and/or manufacturer is not responsible for damages caused in this way.

1.10.3 RF117HD Connection to USB/VGA server via RCB-6 cable (available on request)

Use RCB-6 to connect to USB/VGA server

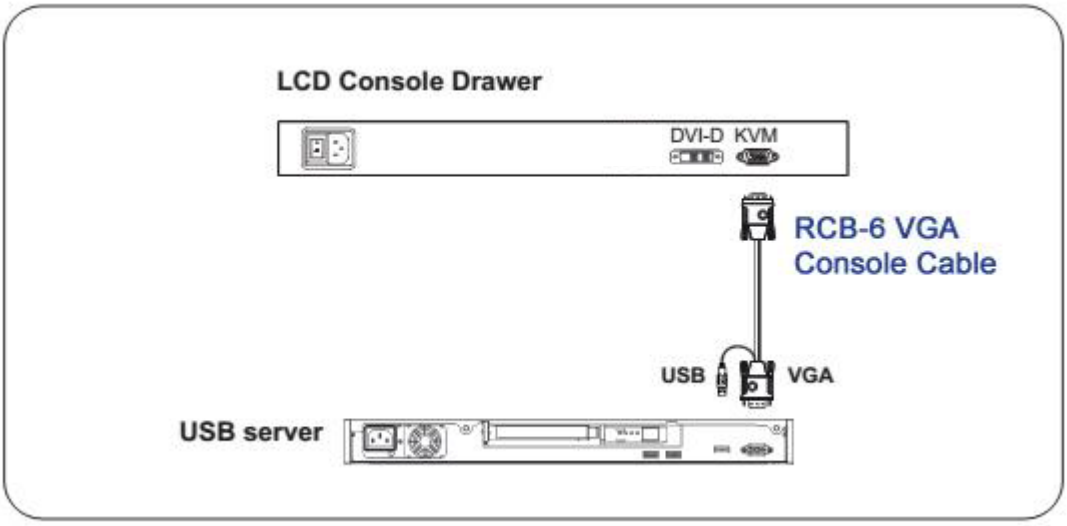


Figure 9. Example of connecting RCB-6 2-in-1 USB KVM cable to server via USB/VGA interface

1.10.4 RF117HD Connection to external USB/VGA KVM via RCB-6 cable (available on request)

Use RCB-6 to connect to external USB/VGA KVM

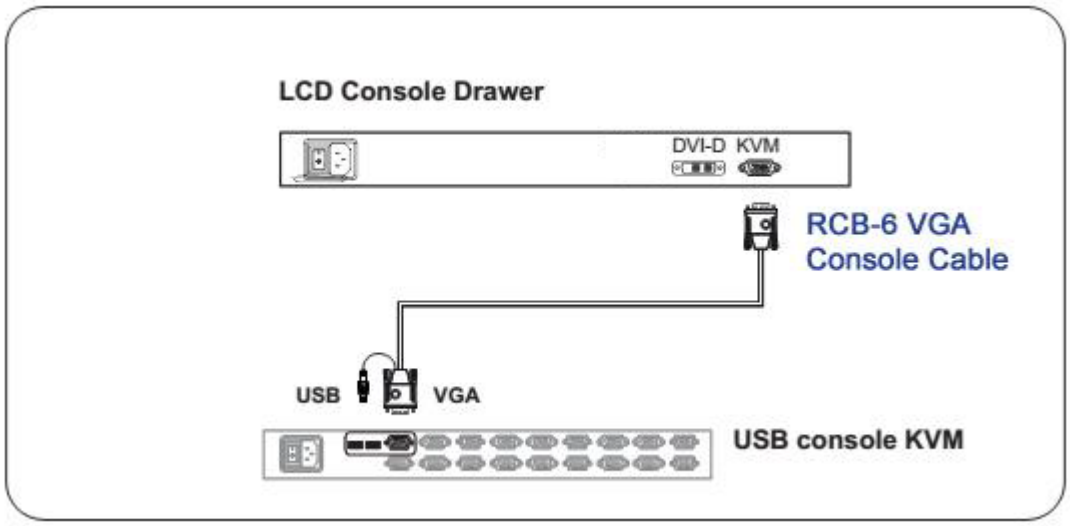


Figure 10. Example of connecting RCB-6 2-in-1 USB KVM cable to external KVM via USB/VGA interface

Remarks:

The above connections are for the LCD keyboard only, without the integrated KVM switch.

For the LCD keyboard drawer with built-in KVM switch, please refer to the accompanying KVM switch user manual.

Caution: The LCD keyboard 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 keyboard drawer. Before attempting to connect anything to the LCD keyboard drawer, we suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD keyboard is receiving power. The company, supplier and/or manufacturer is not responsible for damages caused in this way.

1.10.5 RF117HD Connection to HDMI Device via HDMI cable*

- **Use an HDMI Cable to connect to an HDMI device**

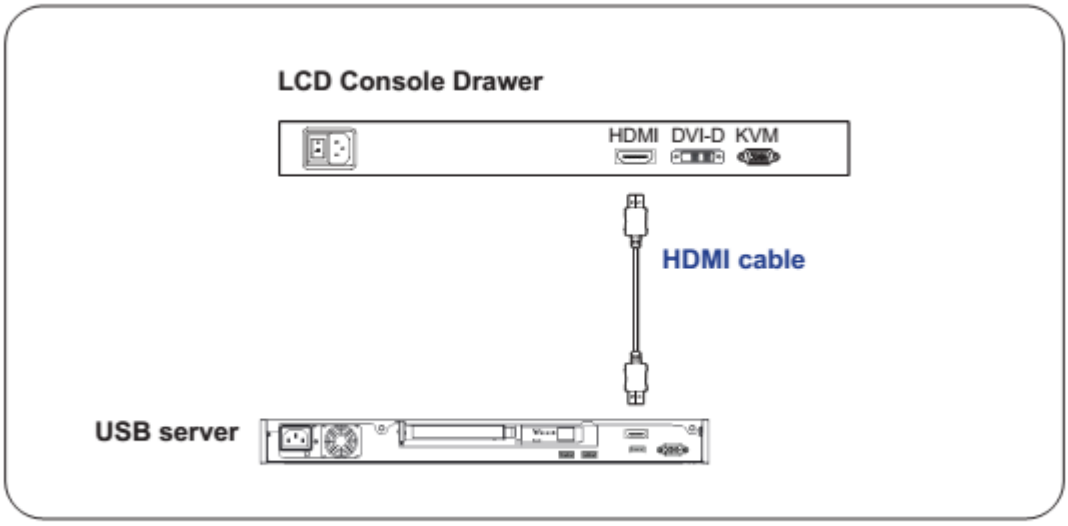


Figure 11. Example of connecting an HDMI cable to a device via the HDMI interface

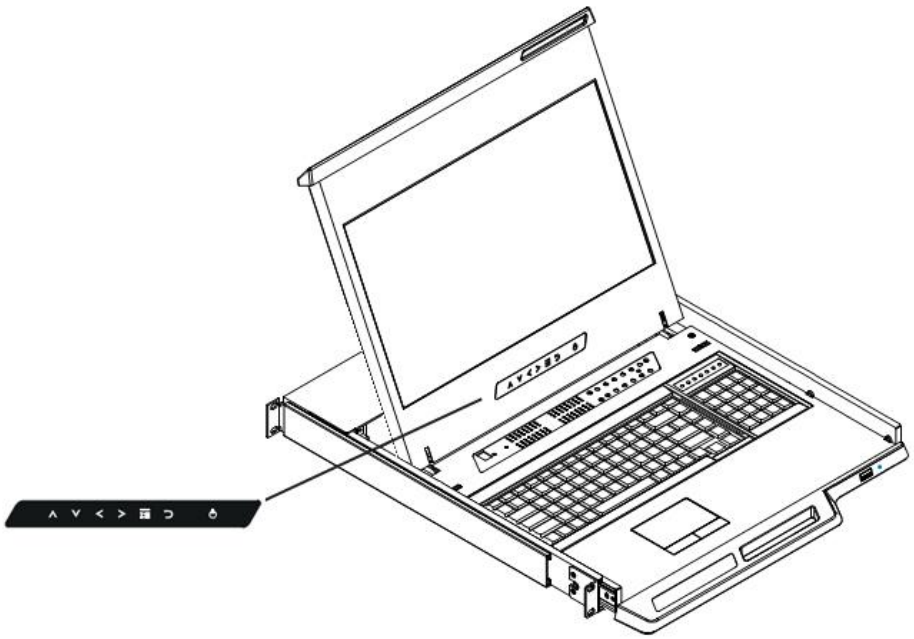
Remarks:

- Without optional Audio input/output module, audio input is only available through HDMI interface.
- The above connections are for the LCD keyboard only, without the integrated KVM switch.
- For the LCD keyboard drawer with built-in KVM switch, please refer to the accompanying KVM switch user manual.

Caution: The LCD keyboard 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 keyboard drawer. Before attempting to connect anything to the LCD keyboard drawer, we suggest turning off the power to all devices before connecting them. Apply power to connected devices again only after the LCD keyboard is receiving power. The company, supplier and/or manufacturer is not responsible for damages caused in this way.

Chapter 2 Operation

2.1 On-screen Display Operation



LCD membrane

Membrane Switch	Function
	Turn monitor on or off
	Display the OSD Menu Enter key for making OSD menu selections
	Scroll through options and adjust the displayed control
	Exit the OSD menu Go back to previous on-screen menu or submenu

Notes: All LED Touch Buttons appear in **white** light.

All LED Touch Buttons (except power) will shut off automatically after 10 minutes of inactivity.

To light up all Touch Buttons, press any button (except power) for 1-2 seconds.

The Power LED touch button will flash continuously when there is no signal input to indicate a problem.

2.2 On-screen Menus

OSD Menu 1 - Picture

Picture mode: Standard / Vivid / Soft / User mode Select

Brightness: Adjust background black level of the screen image

Contrast: Adjust the difference between the image contrast

Hue: Adjust the screen hue value

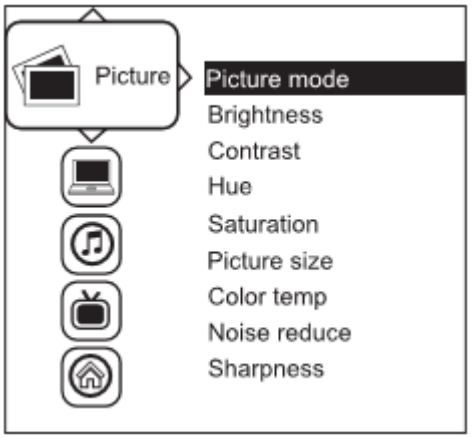
Saturation: Adjust the saturation of the image color

Picture size: Adjust the image size

Color temp: Standard / Cool / Warm / User Select

Noise reduce: Reduce the noise of the image

Sharpness: Adjust the image from weak to sharp



OSD Menu 2 - PC

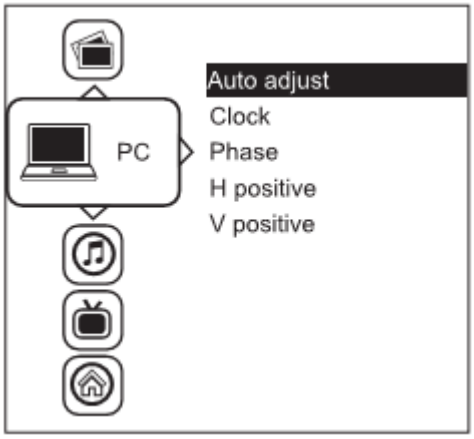
Auto adjust: Automatically center align, adjust size and fine tune the video signal to eliminate waviness and distortion

Clock: Adjust the clock value

Phase: Adjust the phase value

H. Position: Align the screen image left or right

V. Position: Align the screen image up or down



OSD Menu 3 - Audio

Audio mode: Movie / Voice / Normal / Music mode select

Volume: Adjust the volume of sound

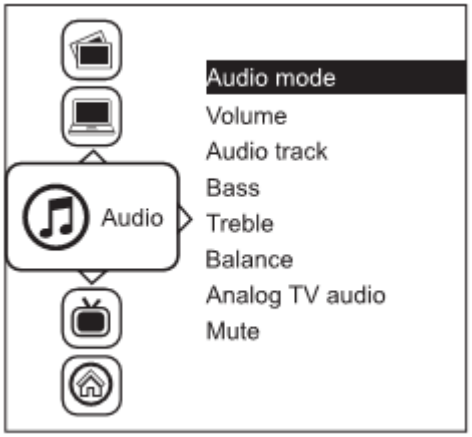
Bass: Set the value of bass sound

Treble: Set the value of treble sound

Balance: Set the left/right balance of sound

Analog TV audio: Set the value of analog TV audio sound

Mute: Turn sound off



OSD Menu 4 - Misc

Language: Select the language in which the OSD menu is displayed

Sleep timer: Set the shut-off timer

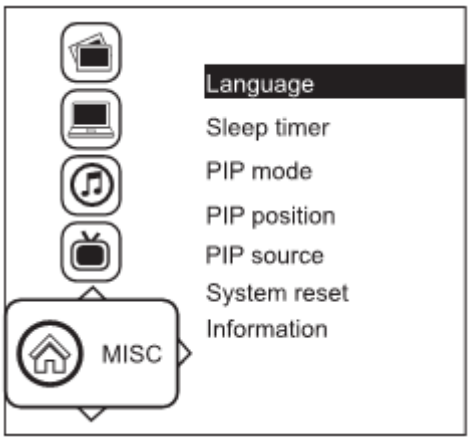
PIP mode: Adjust Picture in Picture (PIP) setting

PIP position: Change the PIP positions

PIP source: Select secondary picture and sound source

System reset: Return all selections to factory default settings

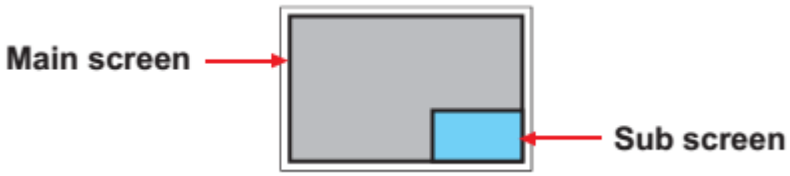
Information: Select for additional help



2.3 How to Use Picture-in-Picture (PIP) / Picture-by-Picture (PBP) Functionality

2.3.1 Picture-in-Picture (PIP) Operation

PIP mode allows a smaller sub-screen to be displayed within the main screen.



Position

Adjust the position of the Sub screen (top left, bottom left, top right, bottom right)
OSD Menu → MISC → PIP Position → top left / top right / bottom left / bottom right

Size

Adjust the size of the Sub screen (Large / Small)
OSD Menu →MISC →PIP Mode → Large / Small

Main Screen Resolution	Large Sub Screen	Small Sub Screen
1920 x 1200	552 x 414	480 x 360
1920 x 1080	552 x 414	480 x 360
1440 x 900	414 x 310	360 x 270
1366 x 768	392 x 294	340 x 254
1280 x 1024	368 x 276	320 x 240

2.3.2 Picture-by-Picture (PBP) Operation

PBP mode allows the sub-screen to be displayed next to the main screen

Size

Adjust the size of the Sub screen (Large / Small)

OSD Menu →MISC →PIP Mode → Large / Small

Selected LCD Resolution	Main/Sub Screens
1920 x 1200	955 x 716
1920 x 1080	955 x 716
1440 x 900	715 x 536
1366 x 768	678 x 508
1280 x 1024	635 x 476

2.3.3 PIP/PBP Sources *

To select an input signal for PIP / PBP Sub screen

OSD Menu → MISC → PIP Source → VGA / S-Video / Composite / DVI / HDMI / SDI / YPbPr / TV

Main \ Sub	VGA	S-Video	Composite	DVI-D	HDMI	SDI	YPbPr	TV
VGA	X	O	O	O	O	O	O	O
S-Video	O	X	X	O	O	O	O	X
Composite	O	X	X	O	O	O	O	X
DVI-D	O	O	O	X	X	O	O	O
HDMI	O	O	O	X	X	O	O	O
SDI	O	O	O	O	O	X	X	O
YpbPr	O	O	O	O	O	X	X	O
TV	O	X	X	O	O	O	O	X

*** Please note:** Not all inputs may be available, depending on options selected.

Chapter 3 Standard Specifications

3.1 Specifications (Console Unit Only – additional options may change some specs)

LCD Panel	**Panel Size (diagonal)**	17.3-inch Widescreen TFT color LCD
	Display pixel (dots x lines)	1920 x 1080
	Brightness (typ.)	300
	Contrast Ratio (typ.)	600:1
	Color	1.07 billion, 10-bit
	Viewing Angle (L/R/U/D)	178° x 178°
	Response Time (ms)	35
	Dot pitch (mm)	0.199
	Display Area (mm)	381.9H x 214.8V
	Surface treatment	Anti-glare, Hard-coating
	Surface hardness	3H
	Backlight Type	LED
	MTBF (hrs)	50,000

Video Connectivity	**Digital**	HDMI	HDMI 1.1, CEA-861-D
		DVI	DVI-D, TMDS single link
	Analog	VGA	Analog 0.7Vp-p
	Plug & Play	DVI / VGA	VESA EDID structure 1.3
	Synchronization	VGA	Separate, Composite & SOG

Video Formats	**DVI-D / VGA Input**	PC Signal	1920 x 1080 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	1080p : 60Hz
			720p : 50 / 60Hz
			480p : 60Hz
			576p : 50Hz
		Audio Signal	2ch Linear PCM (32/44.1/48 KHz)

3.1 Specifications (cont.)

Audio Connectivity	**Audio Input (requires –Audio option)**	Connector	3.5mm stereo jack
		Impedance / Power level	30kΩ/ 750mV
	Audio Output (requires –Audio option)	Connector	3.5mm stereo jack
		Resistance / Power level	30kΩ/ 2.8V
	Speaker Output (requires use of HDMI input or –Audio option)	Power	2 x 2W

*****When the audio output is connected, speaker output is OFF**

Power	**Power Supply**	Range	Auto-sensing 100 to 240VAC, 50 / 60Hz
	Power Consumption	Screen display ON	34W or less
		Power saving mode	4W or less
		Power button OFF	1W or less

Regulatory	**Safety Approval & Environmental**	FCC & CE, RoHS2 & REACH compliant

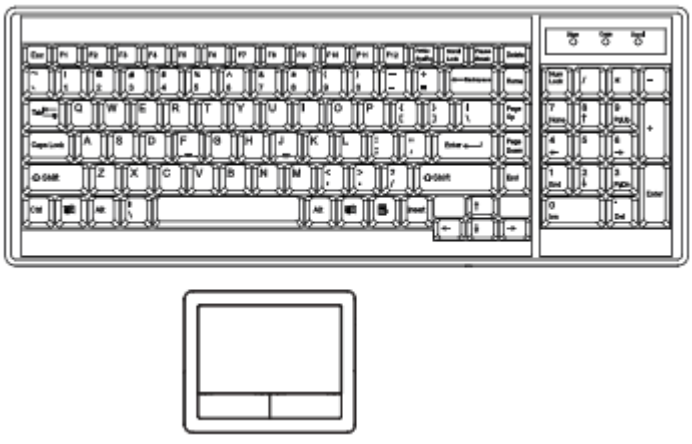
Environmental Conditions	**Operating**	Temperature	0 to 50°C degree
		Humidity	20~90%, non-condensing
	Storage	Temperature	-5 to 60°C degree
		Humidity	5~90%, non-condensing
		Shock	10G acceleration (11ms duration)
		Vibration	5~500Hz 1G RMS random

Physical Specification* **(additional options may increase weight and/or size)**	**Product (W x D x H)**	17.4 x 18.9 x 1.73 inch 442 x 480 x 44 mm
	Max. Mounting Depth	Console unit only 29.5 inch (749.3 mm) w/ integrated KVM 34.5 inch (876.3 mm)
	Packing (W x D x H)	23.2 x 31.8 x 5.5 inch 590 x 808 x 140 mm
	Net Weight	24 lbs / 10.8 kgs
	Gross Weight	34.8 lbs / 15.8 kgs

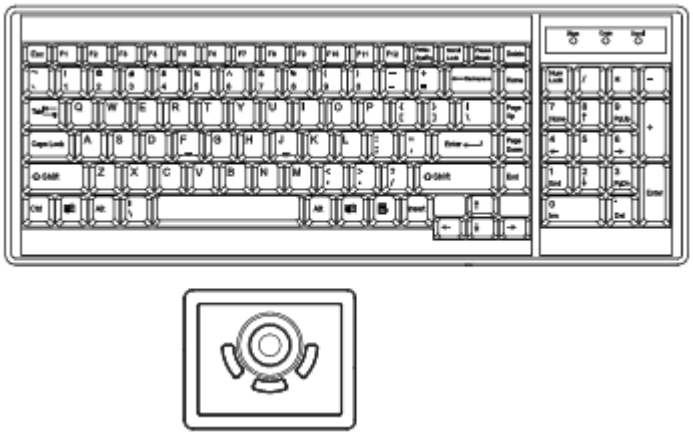
3.2 Keyboard & Mouse Layouts

Standard Keyboard / Mouse Specifications

Supported layouts:



N: keyboard with Touchpad



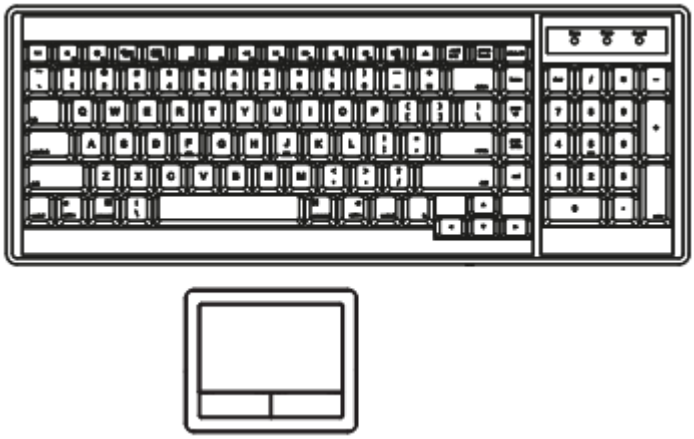
E: keyboard with Trackball

Key force	55 ± 5g
Travelling distance	3 ± 0.3mm
Switch life	> 10 million life cycle time
Software support	MS Windows 7 / 2008 / 2003 / 2000 / XP / ME / 98 / DOC / Linux / Mac

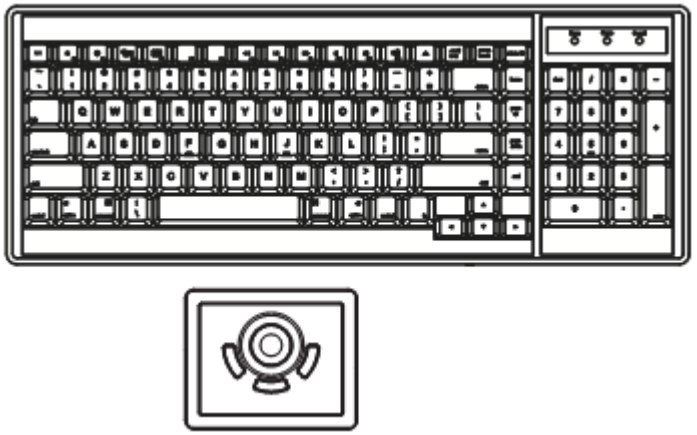
3.2 Keyboard & Mouse (Cont.)

MAC Style Keyboard / Mouse Specifications

Supported layouts:



Me MAC keyboard with Touchpad



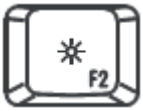
Mb MAC keyboard with Trackball

- USA layout only

MAC keyboard specific Keys

F1
Decrease display brightness

F9
Fast-forward



F2
Increase display brightness

F10
Mute sound

F3
Mission control
* Only works with OS X Lion default Keyboard Shortcuts.

F11
Decrease volume

F4
Dashboard

F12
Increase volume

F7
Rewind

Eject disc

F8
Play / Pause

Command

3.2 Keyboard & Mouse (Cont.)

SUN Style Keyboard / Mouse Specifications

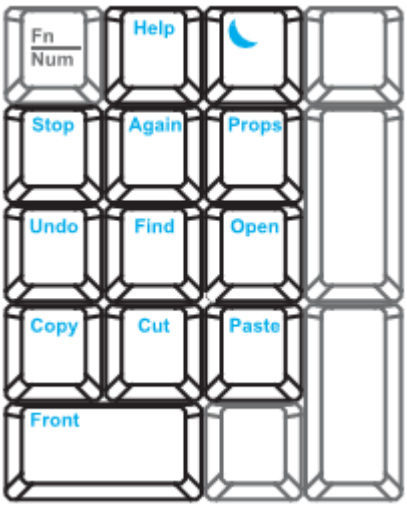
Supported layouts:

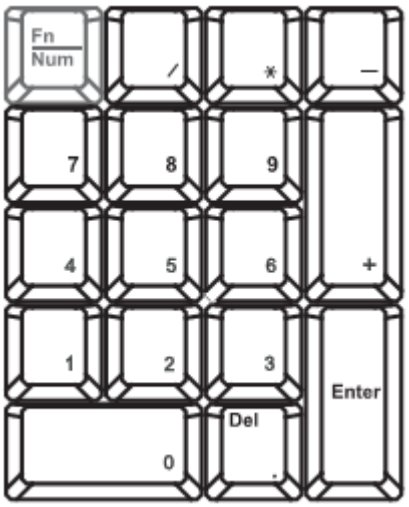
Se SUN keyboard with Touchpad

Sb SUN keyboard with Trackball

S keyboard integrated with touchpad / trackball

- Incorporates SUN keys, including Stop, Cut, Paste, Compose, Copy and Help
- 104 key notepad keyboard with full numerical pad and SUN function
- USB interface
- USA layout only





Num LED in Off mode

Key pad behaves as a SUN Solar system administration command mode

Num LED in Green mode

Key pad behaves as a normal key pad mode

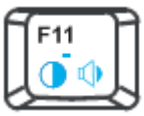
Additional SUN specific Keys

F9

Audio : Mute
Display : Degauss

F12

Audio : Increase volume
Display : Increase contrast



F11

Audio : Decrease volume
Display : Decrease contrast

Chapter 4 Optional Specifications

4.1 KVM Integration Options

Our KVM is designed to seamlessly integrate into the rear of our full range of LCD drawer solutions:

- For KVM operation, please refer to the KVM user manual

Matrix DB-15 KVM	Local	Remote	IP	8-port	16-port	32-port
	1	1	1	RF117HD - KVM31108	RF117HD - KVM31116	-
	1	1	2	RF117HD - KVM41208	RF117HD - KVM41216	-
	1	1	0	RF117HD - KVM21008	RF117HD - KVM21016	-
	1	2	0	RF117HD - KVM32008	RF117HD - KVM32016	-
	1	3	0	RF117HD - KVM43008	RF117HD - KVM43016	-

Combo DB-15 KVM	Local	Remote	IP	8-port	16-port	32-port
	1	0	1	RF117HD - KVM10108	RF117HD - KVM10116	-
	1	1	0	RF117HD - KVM11008	RF117HD - KVM11016	-
	1	0	0	RF117HD - KVM10008	RF117HD - KVM10016	-

Combo DB-15 KVM Cable : RCE-6/10/15 (6, 10 or 15 ft.)

DVI-D KVM	Local	Remote	IP	12-port	-	-
	1	0	0	RF117HD - DVIKVM112	-	-

DVI-D KVM Cable : RCI-6/15 (6 or 15 ft.)

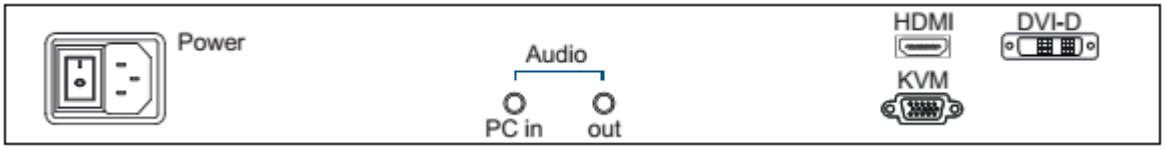
USB Hub DB-15 KVM	Local	Remote	IP	8-port	16-port	32-port
	1	0	1	RF117HD - HKVM10108	RF117HD - HKVM10116	-
	1	1	0	RF117HD - HKVM11008	RF117HD - HKVM11016	-
	1	0	0	RF117HD - HKVM10008	RF117HD - HKVM10016	-

USB KVM Cable : RCB-6/10/15 (6, 10 or 15 ft.)

4.2 Audio Input Option

3.5mm audio jacks for audio in & out, and 2W + 2W speakers

For audio option, casing depth will be changed from 480mm (18.9") to 530mm (20.9")



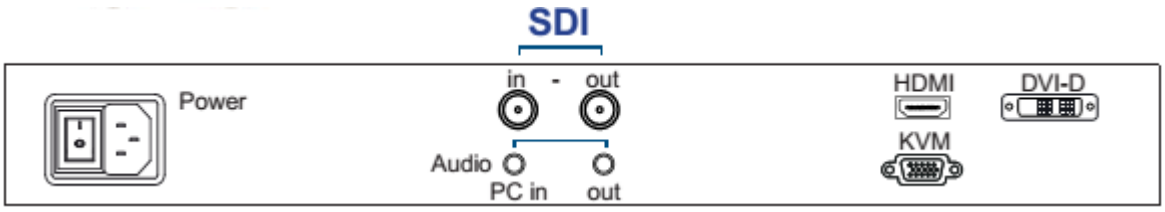
Remarks:

- Audio input is 3.5mm audio plug.
- The speaker shares power with the LCD.
- Internal speakers are not available when integrated KVM options are added.
- For KVM + Audio support, select the **RF117HD-1201D** DVI-D KVM w/audio option (requires external speakers)

4.3 3G / HD / SD-SDI input

Raloy's SDI input is an ideal solution for the broadcast grade video and high resolution CCTV market.

Designed for use with Raloy's Full HD 1080p and ultra-high resolution 1920 x 1200 LCD displays, the optional SDI input module provides superior, broadcast quality video without using additional power. The SDI module comes standard with Raloy's 2-year warranty.



For SDI option, casing depth will be changed from 480mm (18.9") to 530mm (20.9")

Input	**3G-SDI IN**	BNC x 1 / 0.8Vp-p (75 ohm)
	3G-SDI OUT	BNC x 1 / Active through, equalized & relocked

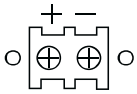
Standard Compliance	**Video**	SMPTE 425M / 274M / 296M / 125M ITU-R BT.656
	Audio	SMPTE 299M / 272M-C

Compatible Video Format	**3G-SDI**	1080p @60 / 50Hz, 4:2:2 1080p @30 / 25 / 24Hz, 4:4:4 1080i @60 / 50Hz, 4:4:4 720p @60 / 50Hz, 4:2:2
	HD-SDI	1080p @30 / 25 / 24Hz, 4:2:2 1080i @60 / 50Hz, 4:2:2 720p @60 / 50Hz, 4:2:2
	SD-SDI	480i @60 / 50Hz, 4:2:2
	ITU-R BT.656	576i @50Hz, 4:2:2

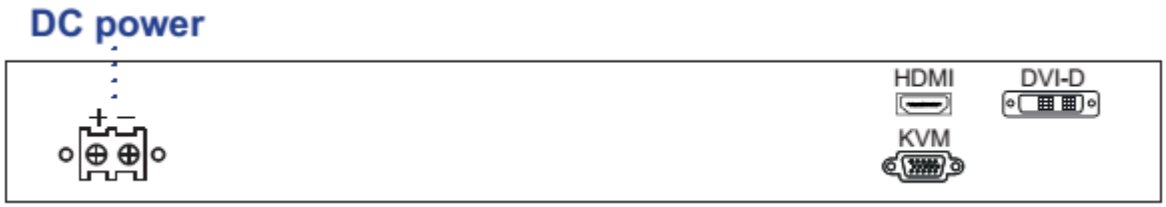
Compatible Audio Format	**3G-SDI**	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	HD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	SD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized / Asynchronized Video

Max. Transmission Distance 75 ohm coaxial cable	**3G-SDI**	150m at 2.97Gb/s
	HD-SDI	250m at 1.485Gb/s
	SD-SDI	480m at 270Mb/s

4.4 DC Power Options



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
- Casing depth will be extended from 480mm (18.9") to 530mm (20.9")

Chapter 5 Dimensions

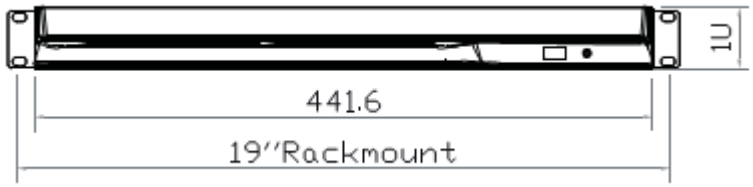
Model	Product Dimension (W x D x H)	Packing Dimension (W x D x H)	Net Weight	Gross Weight
RF117HD	441.6 x 480 x 44 mm 17.4 x 18.9 x 1.73"	590 x 708 x 140 mm 23.2 x 31.8 x 5.5"	10.8 kg 23.8 lb	15.8 kg 34.8 lb

1. **The weight is only for the single console models and will vary with accessories & options such as integrated KVM, SDI, audio input and DC power options.**

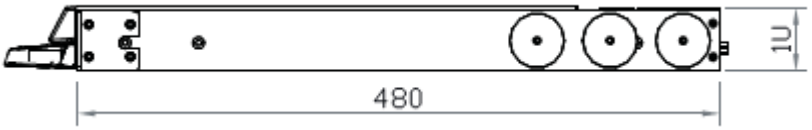
2. **The depth may also change when additional options are added to the unit such as integrated KVM, SDI and audio input**

Front View:

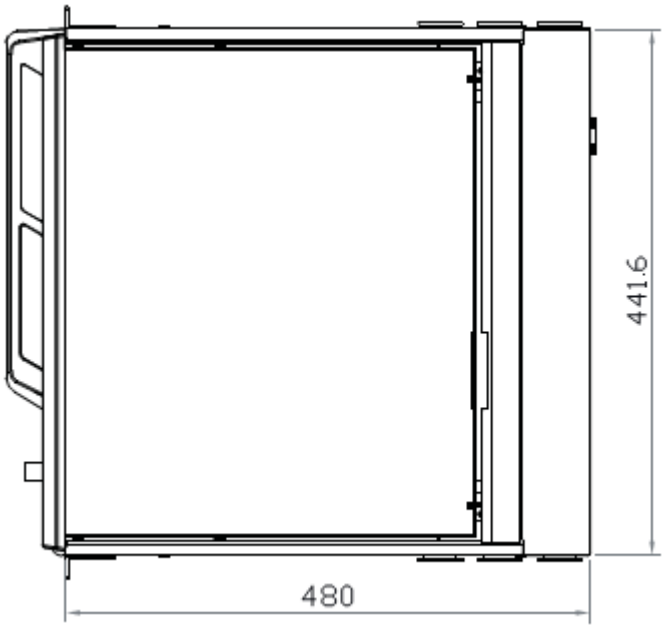
UNIT : mm
1mm = 0.03937 inch



Side View:



Top View:



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