



# User Manual

## RN117 / RN119 - Series



- 1U keyboard drawer
- 17" / 19" Samsung LCD monitor
- Resolution up to 1280 x 1024
- Full range KVM options
- Combo interface PS/2 or USB input
- AV / DVI-D / Audio options
- DC power options
- Mini trackball or touchpad mouse options
- Keyboard available in 13 international languages
- Locking slide rail positions
- Two point lock system with latching front panel

# Contents

<b>Chapter 1 Getting Started</b> .....	<b>3</b>
<b>1.1 Important Safeguards</b> .....	<b>3</b>
<b>1.2 Regulatory Notice</b> .....	<b>4</b>
Legal Information .....	4
Safety Instructions .....	4
Regulatory Notices Federal Communications Commission (FCC) .....	4
<b>1.3 Package Contents</b> .....	<b>5</b>
<b>1.4 Before Installation</b> .....	<b>6</b>
<b>1.5 Unpacking</b> .....	<b>6</b>
<b>1.6 Optional Accessories</b> .....	<b>6</b>
<b>1.7 Peripheral Products</b> .....	<b>7</b>
<b>1.8 Structure Diagram</b> .....	<b>8</b>
<b>1.9 Installation</b> .....	<b>9-10</b>
<b>1.10 How to use the slides</b> .....	<b>11</b>
<b>1.11 How to use the LCD Keyboard Drawer</b> .....	<b>12</b>
<b>1.15 RN117/119 (Single console) – PS/2 KVM Connection</b> .....	<b>13</b>
<b>1.16 RN117/119 (Single console) – USB KVM Connection</b> .....	<b>14</b>
<b>Chapter 2 Operation</b> .....	<b>15</b>
<b>2.1 On-screen Display Operation</b> .....	<b>15</b>
<b>2.2 On-screen Menu</b> .....	<b>16</b>
<b>Chapter 3 Standard Specifications</b> .....	<b>17</b>
<b>3.1 Specifications</b> .....	<b>17</b>
<b>3.2 Keyboard &amp; Mouse</b> .....	<b>18</b>
<b>Chapter 4 Optional Specifications</b> .....	<b>19</b>
<b>4.1 KVM Options</b> .....	<b>19</b>
<b>4.2 DVI-D Option</b> .....	<b>19</b>
<b>4.3 BNC + S-Video Option</b> .....	<b>20</b>
<b>4.4 Audio Option</b> .....	<b>20</b>
<b>4.5 DC Power Options</b> .....	<b>21</b>
<b>Chapter 5 Troubleshooting</b> .....	<b>21</b>
<b>Chapter 6 Dimensions</b> .....	<b>22</b>

# 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.**

### **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

### 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.

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



### 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.

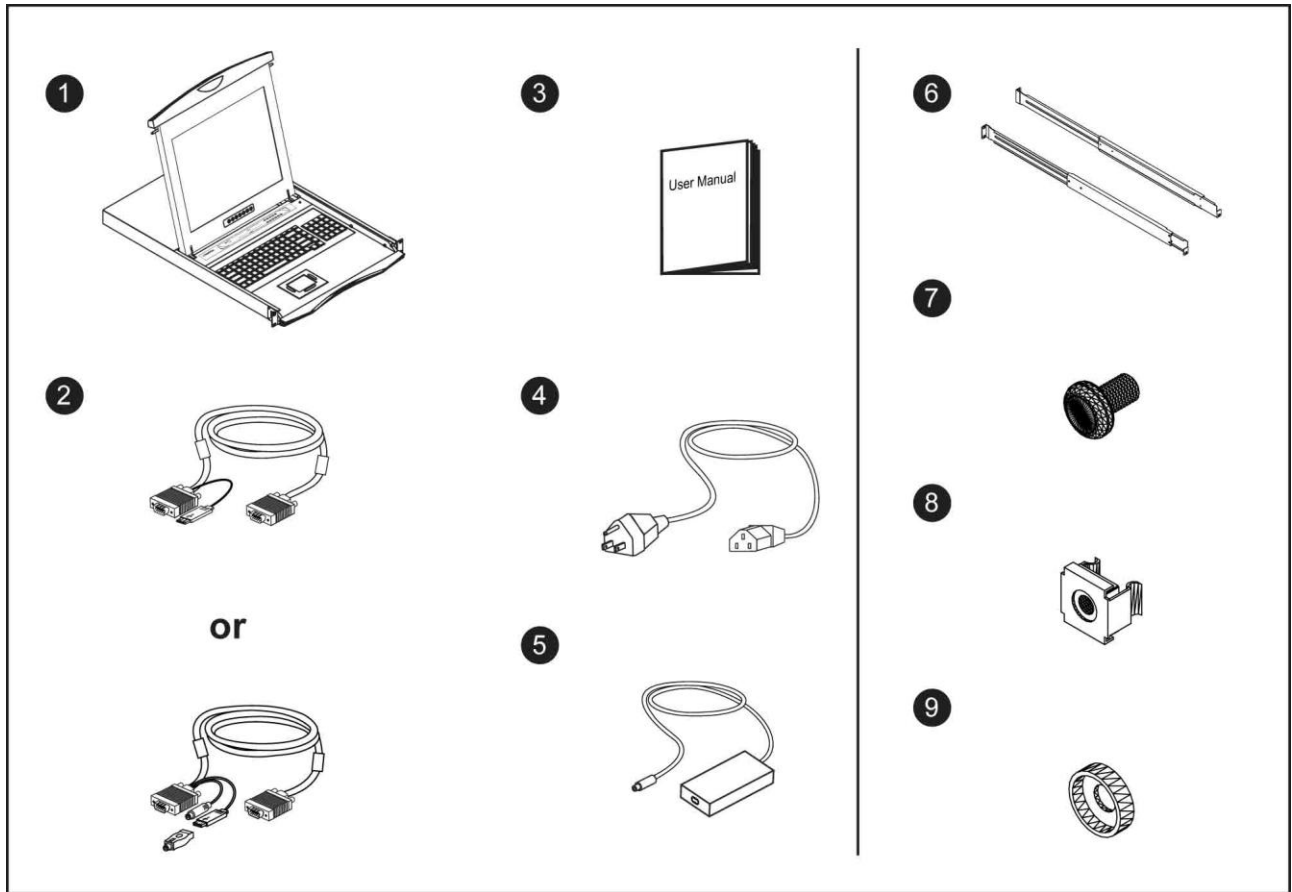
Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

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



- 1) LCD keyboard drawer x 1 pc
- 2) RCE-6 Combo 4-in-1 KVM cable x 1 pc
- 3) User manual x 1 pc
- 4) Power cord x 1 pc
- 5) Auto switch power adapter (for external power version) 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

## 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.
- Position LCD Keyboard Drawer with respect to related facilities.

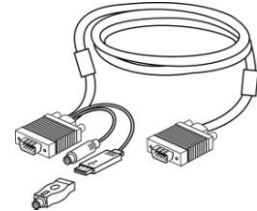
## 1.5 Unpacking

The LCD keyboard drawer comes with the standard parts as shown in the package contents. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.

## 1.6 Optional Accessories

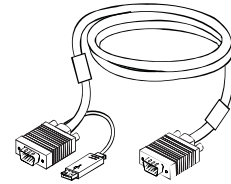
### 1. Combo 4-in-1 KVM cable

- 1.1 RCE-6 6 feet
- 1.2 RCE-10 10 feet
- 1.3 RCE-15 15 feet



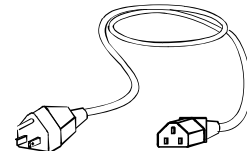
### 2. USB 2-in-1 KVM cable

- 2.1 RCB-10 10 feet
- 2.2 RCB-15 15 feet



### 3. Power Cord

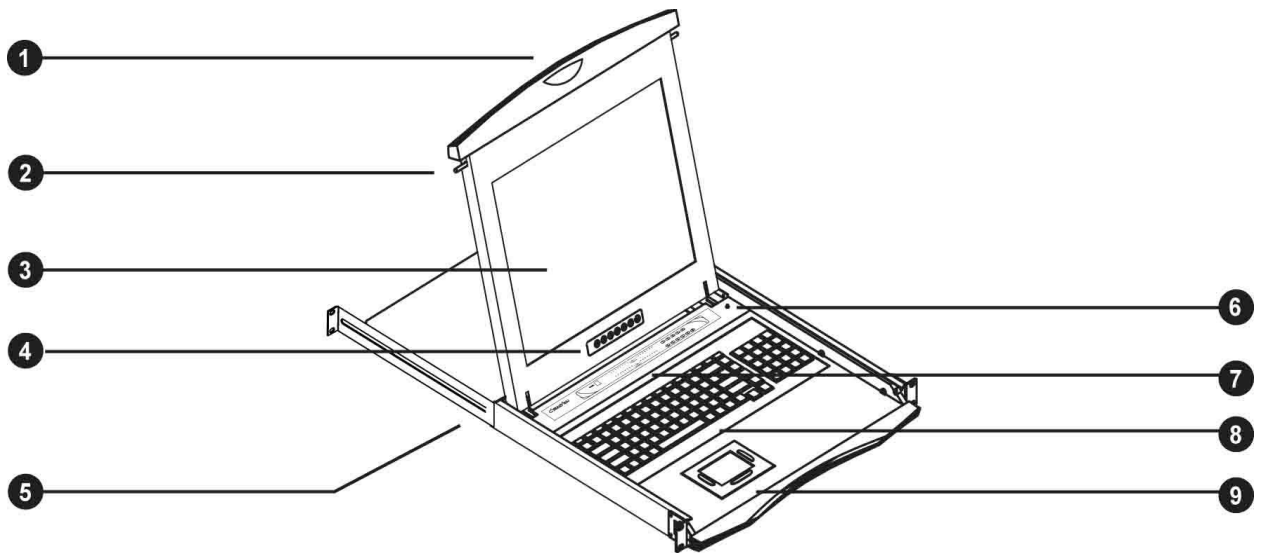
- 3.1 IEC power cord
- 3.2 REC-NEMA 5-15 power cord (US)
- 3.3 REC-BS 1363 power cord (UK)
- 3.4 REC-CEE 7/4 power cord (German)
- 3.5 REC-AS 3112 power cord (Australia)



## 1.7 Peripheral Products

Item	Model No.	Description
<b>Matrix Cat6 KVM</b>	RMU1602 / RMU1603 / RMU1604 RMUIP1613 / RMUIP1614 / RMUIP1624 RMU3202 / RMU3203 / RMU3204 RMUIP3213 / RMUIP3214 / RMUIP3224	Matrix Cat6 16 port KVM Matrix IP Cat6 16 port KVM Matrix Cat6 32 port KVM Matrix IP Cat6 32 port KVM
<b>Matrix DB-15 KVM</b>	RM802 / RM803 / RM804 RMIP813 / RMIP814 / RMIP824 RM1602 / RM1603 / RM1604 RMIP1613 / RMIP1614 / RMIP1624	Matrix DB-15 8 port KVM Matrix IP DB-15 8 port KVM Matrix DB-15 16 port KVM Matrix IP DB-15 16 port KVM
<b>Combo Cat6 KVM</b>	RU801 / RU802 / RUIP802 RU1601 / RU1602 / RUIP1602 RU3201 / RU3202 / RUIP3202	Combo Cat6 8 port KVM Combo Cat6 16 port KVM Combo Cat6 32 port KVM
<b>Combo DB-15 KVM</b>	RCVS801 / RCV802 / RIP802 RCVS1601 / RCV1602 / RIP1602	Combo DB-15 8 port KVM Combo DB-15 16 port KVM
<b>PS/2 DB-15 KVM</b>	RCV401 / RCV801 / RCV1601	4 / 8 / 16-port PS/2 DB-15 KVM

## 1.8 Structure Diagram

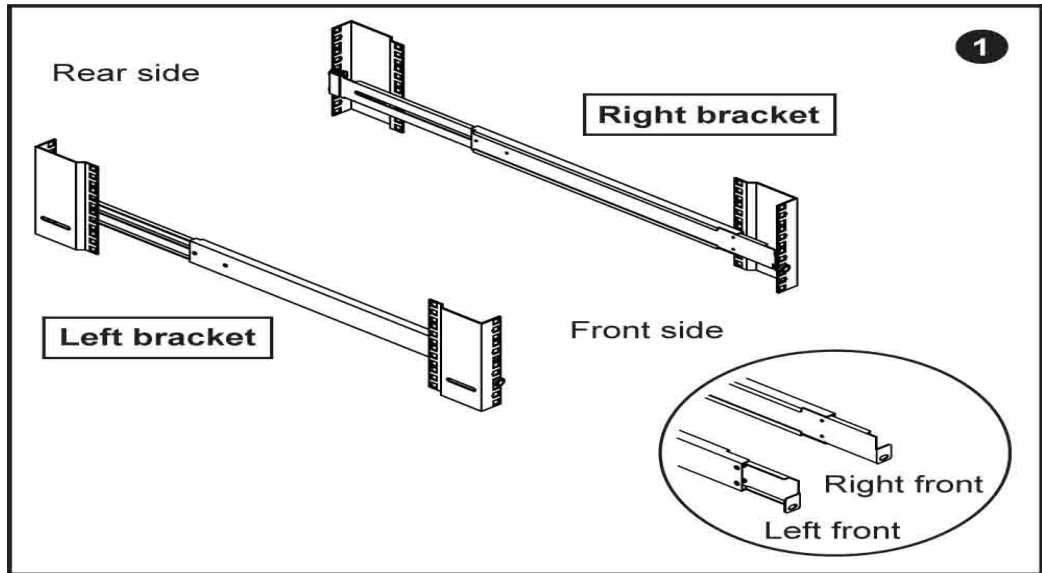


1. Carry handle to release the 2-pt lock
2. 2-point lock
3. LCD interchangeable module kit
4. LCD membrane
5. "One Man" Installation Slides
6. Micro switch for screen auto power off
7. Membrane switch (KVM option)
8. Keyboard interchangeable module kit
9. Mouse interchangeable module kit



## 1.9 Installation

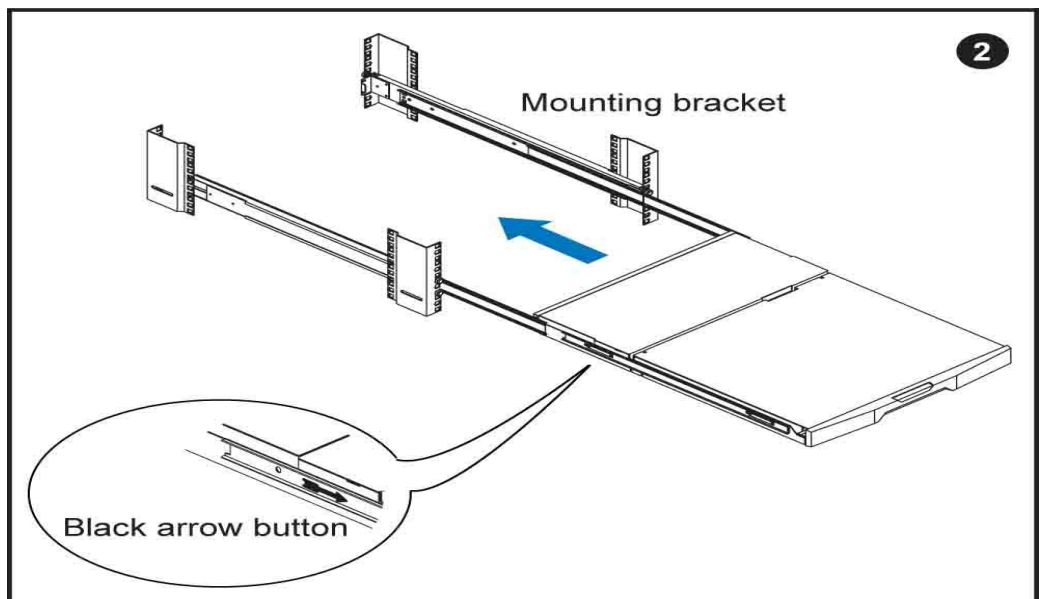
1



- 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 all M6 screw slightly loose, until you complete the installation in 3

2



- Pull out left & right inner slide members
- 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.

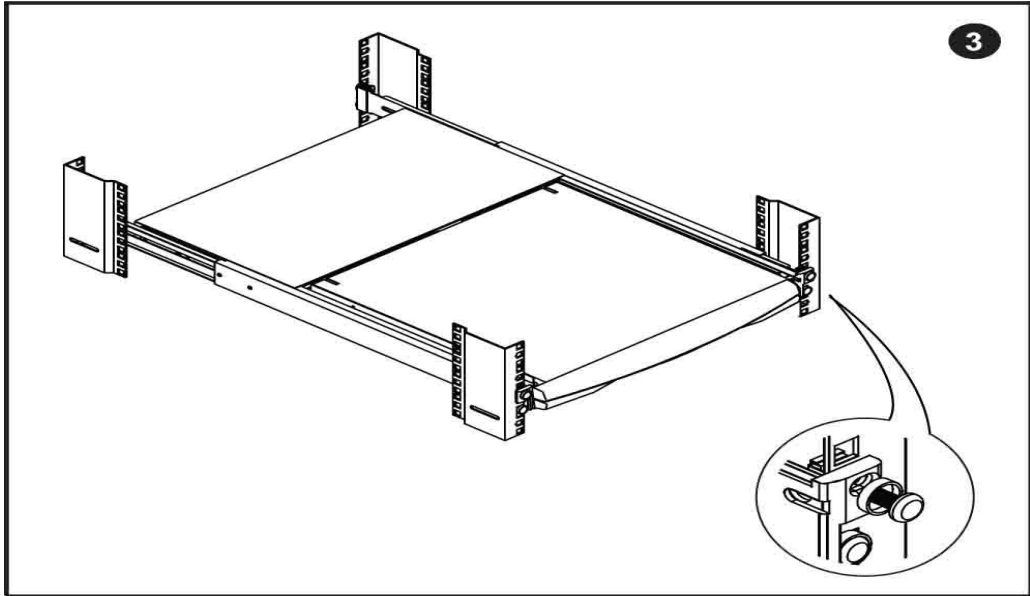
## 1.9 Installation (continued)

3

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

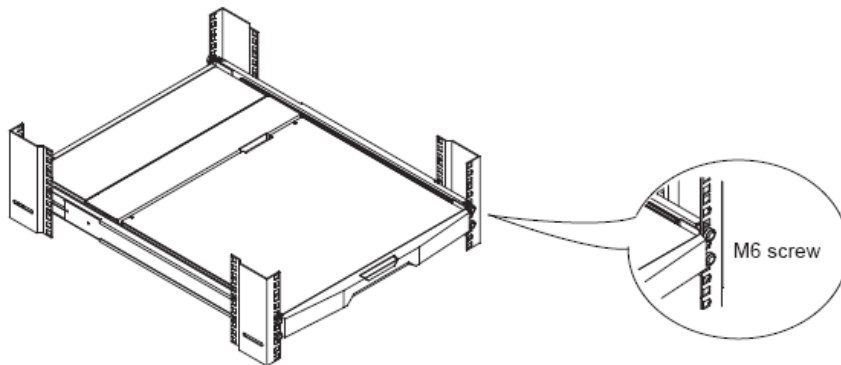


**Caution:** This step is necessary. Failure to complete this will cause damage.



## 4 Complete the installation

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



### Remarks:

- RNBK-01 is for RN117 / 119 series only.

## 1.10 How to use the slides

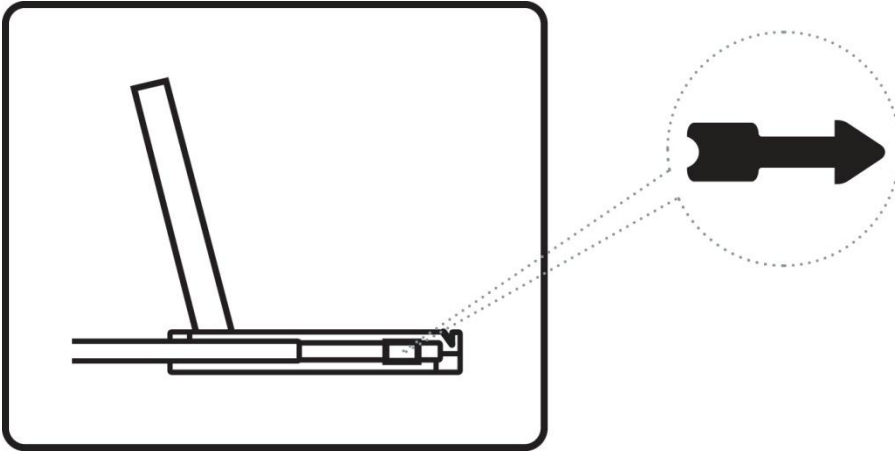


Figure 1.

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

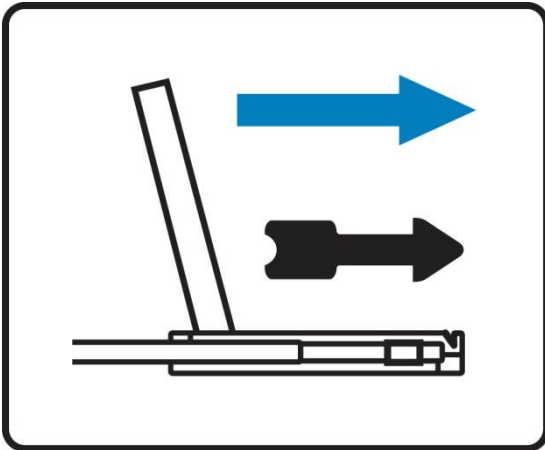


Figure 2.

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

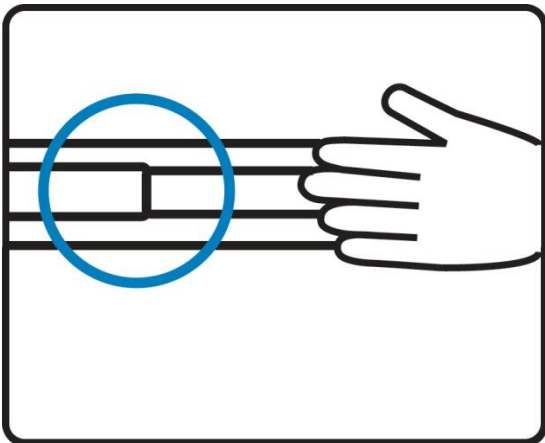



Figure 3.

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

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

## 1.11 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**).

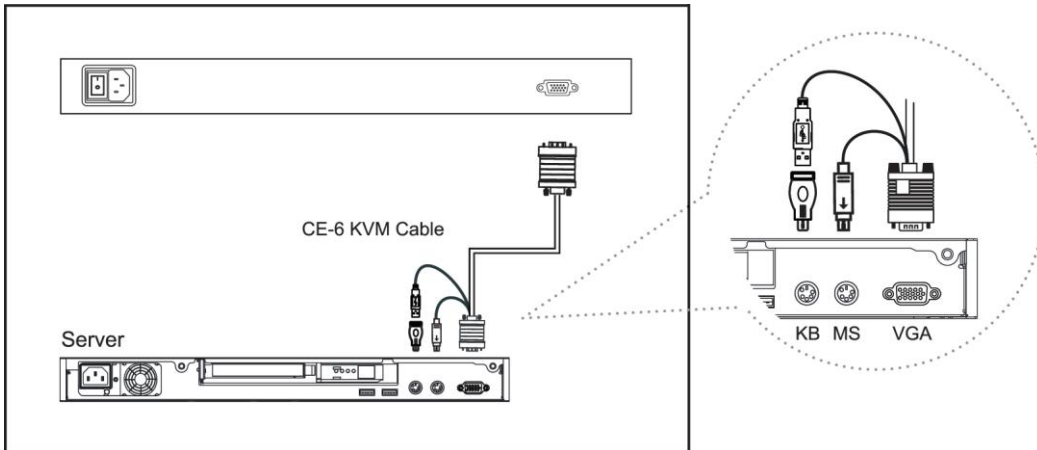


**Figure 6.** Operating the LCD keyboard drawer

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

## 1.14 RN117 / 119 (Single console)

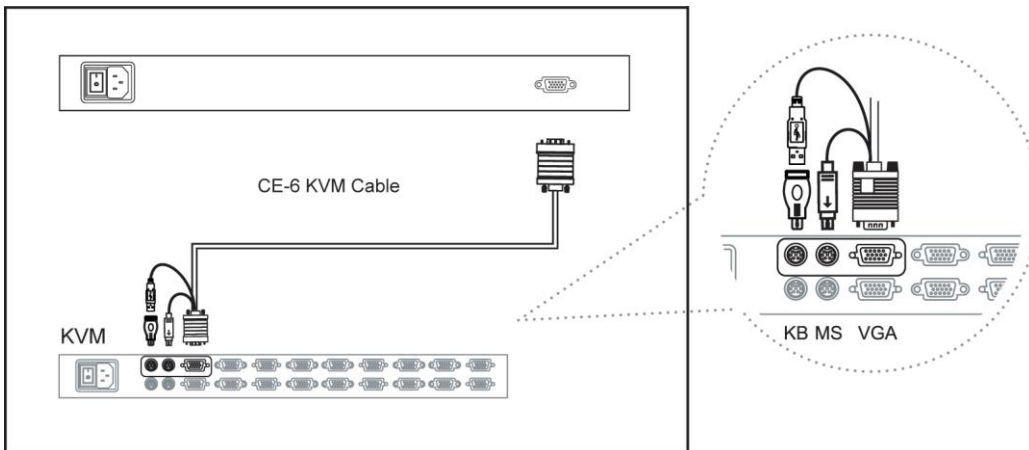
- Use RCE-6 to connect to server via PS/2 interface



**Figure 9.** Example of connecting RCE-6 4-in-1 Combo KVM cable to server via PS/2 interface

## 1.15 RN117 / 119 (Single console)

- Use RCE-6 to connect to KVM via PS/2 interface



**Figure 10.** Example of connecting RCE-6 4-in-1 Combo KVM cable to KVM via PS/2 interface

### Remarks:

- The above connection is only for the LCD keyboard without KVM switch built-in.
- For the LCD keyboard drawer with KVM switch built-in, please refer to attached 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 is not responsible for damage caused in this way.

## 1.16 RN117 / 119 (Single console)

- Use RCE-6 to connect to server via USB interface

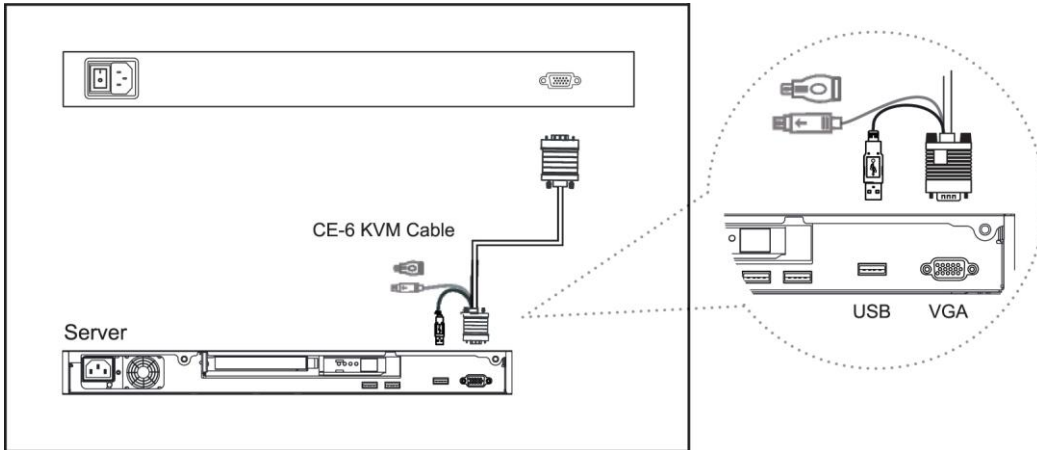


Figure 11. Example of connecting RCE-6 4-in-1 Combo KVM cable to server via USB interface

## 1.17 RN117 / 119 (Single console)

- Use RCE-6 to connect to KVM via USB interface

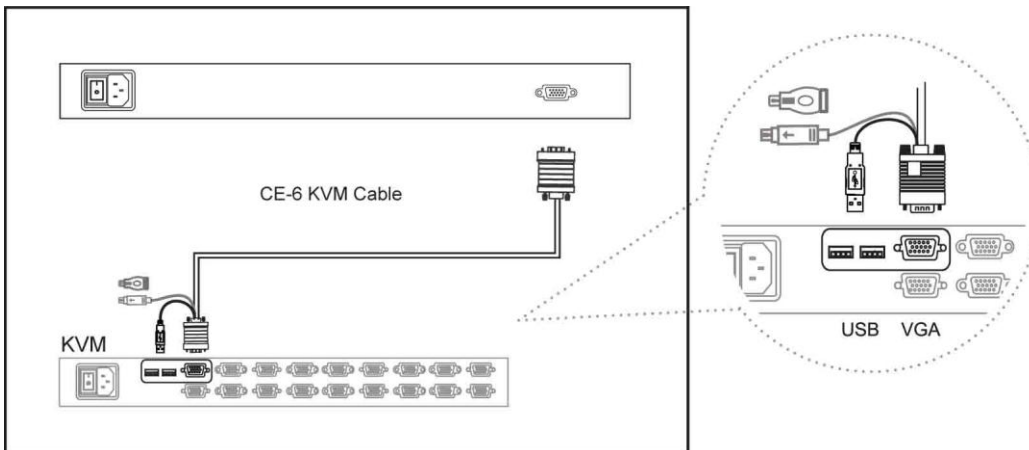


Figure 12. Example of connecting RCE-6 4-in-1 Combo KVM cable to KVM via USB interface

### Remarks:

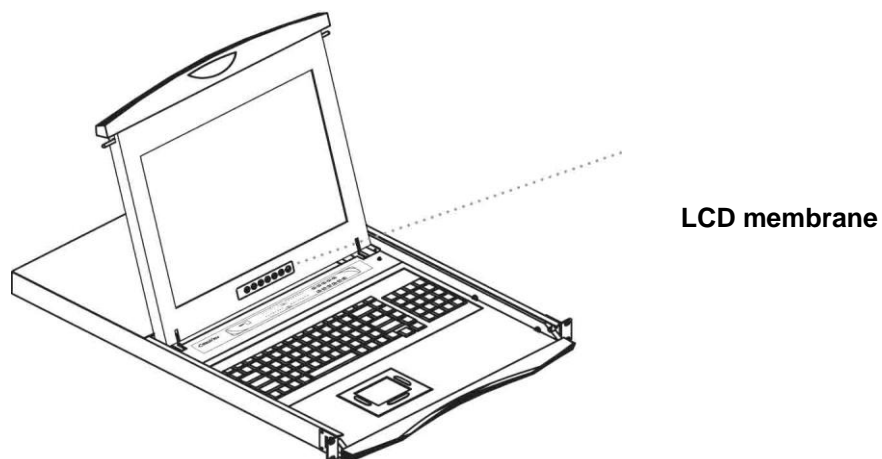
- The above connection is only for the LCD keyboard without KVM switch built-in.
- For the LCD keyboard drawer with KVM switch built-in, please refer to attached KVM switch user manual.



**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 is not responsible for damage caused in this way.

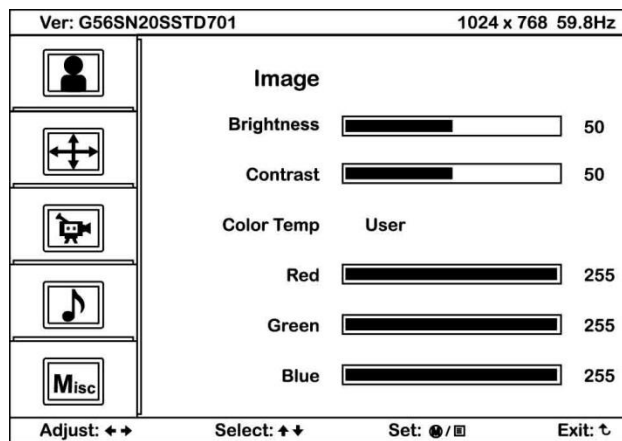
# Chapter 2 Operation

## 2.1 On-screen Display Operation



Membrane Switch	Function
	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)

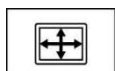
## 2.2 On-screen Menu



### OSD Configuration Page

**Image:**

To enter into the brightness, contrast, colour 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, OSD time, ratio, reset and timer



# Chapter 3 Standard Specifications

## 3.1 Specifications

Item	Description	
Form Factor	1U rack mounting on slide-out rails	
LCD Manufacturer		
Series	RN	
Diagonal Size	17" TFT	19" TFT
Max. Resolution	1280 x 1024	1280 x 1024
Brightness (cd/m <sup>2</sup> )	300	300
Color Support	16.7 M	16.7 M
Contrast Ratio (typ.)	1000:1	1000:1
Viewing Angle (H/V)	160° x 160°	160° x 160°
Display Area (mm)	338 x 270	376 x 301
Tr Response Time (ms)	1.3	1.3
LCD Panel MTBF (hrs)	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 1024, 60 / 70 / 72 / 75 Hz	
Plug & Play DDC	EDID 1.3	
Console Port (Combo)	DB-15 connector for VGA / keyboard / mouse (Combo interface)	
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

KVM Integration	Matrix & combo KVM with IP console and 2-console selection
Keyboard & mouse	Full size keyboard built-in touch-pad / trackball
Graphic Input	DVI-D, S-Video & BNC input
DC Power	DC power input with 12V, 24V, 48V selection

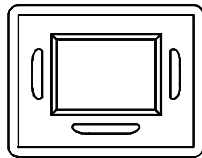
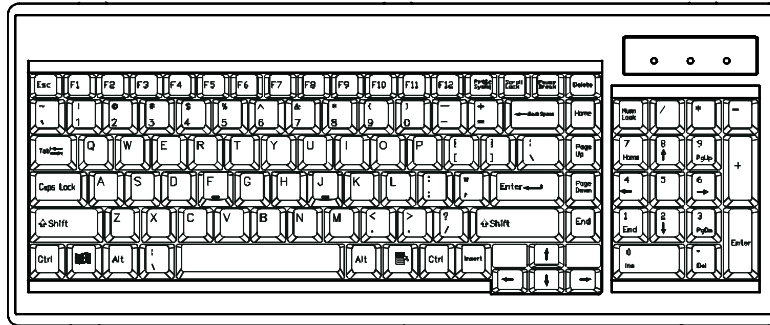
### Environmental

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

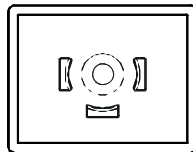
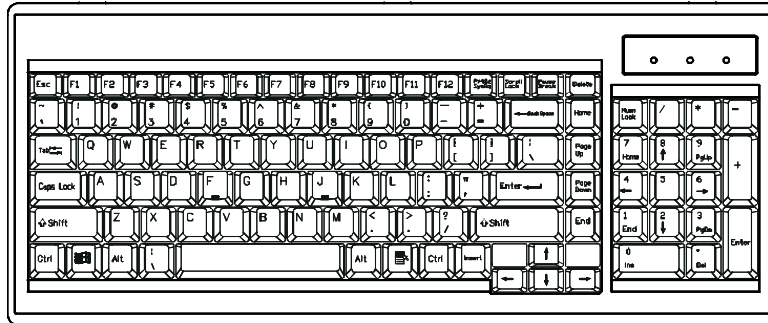
## 3.2 Keyboard & Mouse

### For RN117 / 119 series

Supporting layouts



**Ne** N keyboard integrated with



**Nb** N keyboard integrated with  
trackball

## Chapter 4 Optional Specifications

### 4.1 KVM 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 KVM user manual
- Option with Multiple consoles Matrix KVM
- Option with high density & cost efficient Combo KVM integration with either 8 / 16 / 32 ports
- Option with low cost PS/2 KVM
- Please ask your supplier for full KVM details

### 4.2 DVI-D Option

3-in-1  
VGA KB  
mouse  
console port

Internal power version

DVI-D



External power version

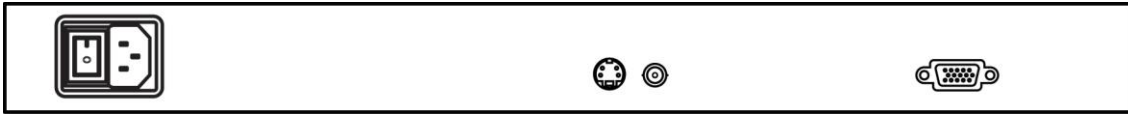


#### Remarks:

- Package includes 1 x 6ft DVI-D cable

### 4.3 BNC + S-Video Option

Internal power version                      S-Video    BNC                      3-in-1  
 VGA KB mouse  
 console port



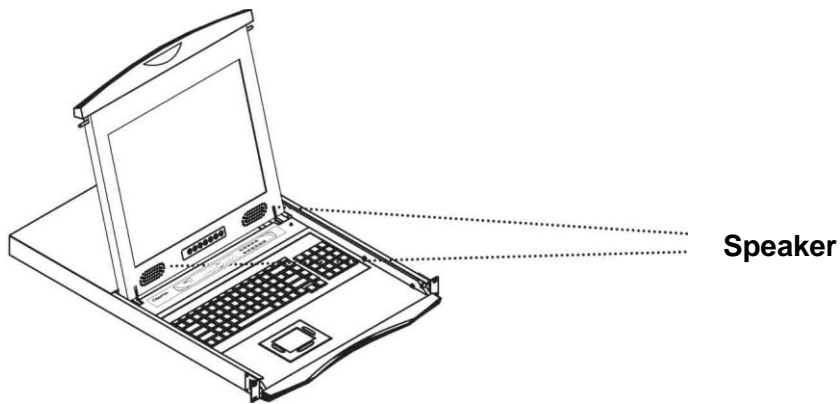
External power version



**Remarks:**

- Package includes 1 x 6ft S-Video cable

### 4.4 Audio Option



**Speaker**

3-in-1  
 VGA KB  
 mouse  
 console port

Power

Audio

Internal power version



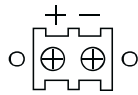
External power version



**Remarks:**

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

## 4.5 DC Power Options



Model	12V	24V	48V
<b>Input rating</b>			
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
<b>Output rating</b>			
Output voltage:	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A
<b>Efficiency</b>			
	84%	85%	85%

### Remarks:

- Package does not include power cord and AC power adapter

## Chapter 5 Troubleshooting


### 1. 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.

### 2. 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.

### 3. 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.

### 4. Is the LCD keyboard drawer hot-pluggable?

The LCD keyboard 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 keyboard receives power.

### 5. 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.

## Chapter 6 Dimensions

<b>Model</b>	<b>Product Dimension (W x D x H)</b>	<b>Packing Dimension (W x D x H)</b>	<b>Net Weight</b>	<b>Gross Weight</b>
<b>RN117 series</b>	442 x 650 x 44 mm 17.4 x 25.6 x 1.73"	589 x 856 x 168 mm 23.2 x 33.7 x 6.6"	16 kg 35 lb	22 kg 48 lb
<b>RN119 series</b>	442 x 650 x 44 mm 17.4 x 25.6 x 1.73"	589 x 856 x 168 mm 23.2 x 33.7 x 6.6"	17 kg 37 lb	23 kg 51 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.

All brand names, logo and registered trademarks are properties of their respective owners.

**Copyright 2012 Raloy All rights reserved.**