

# User's Manual



**RH141**

**4-Port Quadview HDMI Switch**

Version : 1.21



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Thanks for purchasing RH141 4-Port Quadview HDMI Switch. With our highly reliable and quality product, you can enjoy countless benefits by using this device.

## Introduction

RH141, 4-Port Quadview HDMI Switch allows you to simultaneously monitor up to four HD HDMI multimedia sources on a single HDTV system. You can dynamically arrange four HDMI multimedia sources (scaling and positioning) and seamlessly exhibit them in various mode. Switching between various sources and modes do not have delays or black screen. It is the ideal solution for A/V Switching, Broadcasting, or Venue status tracking.

## Features

- 5 Video Mode selection with 4 Video Configuration programmable memory
- Select any of the 4 input to be dynamically and smoothly scale onto and up to the monitor
- Intuitive operation by front panel Push Buttons, OSD, RS232 Extension, IR Remote Control, or Keyboard/ Mouse
- Full HD Digital Video resolution can support up to 1080p
- Support Locking HDMI cables

## Specification

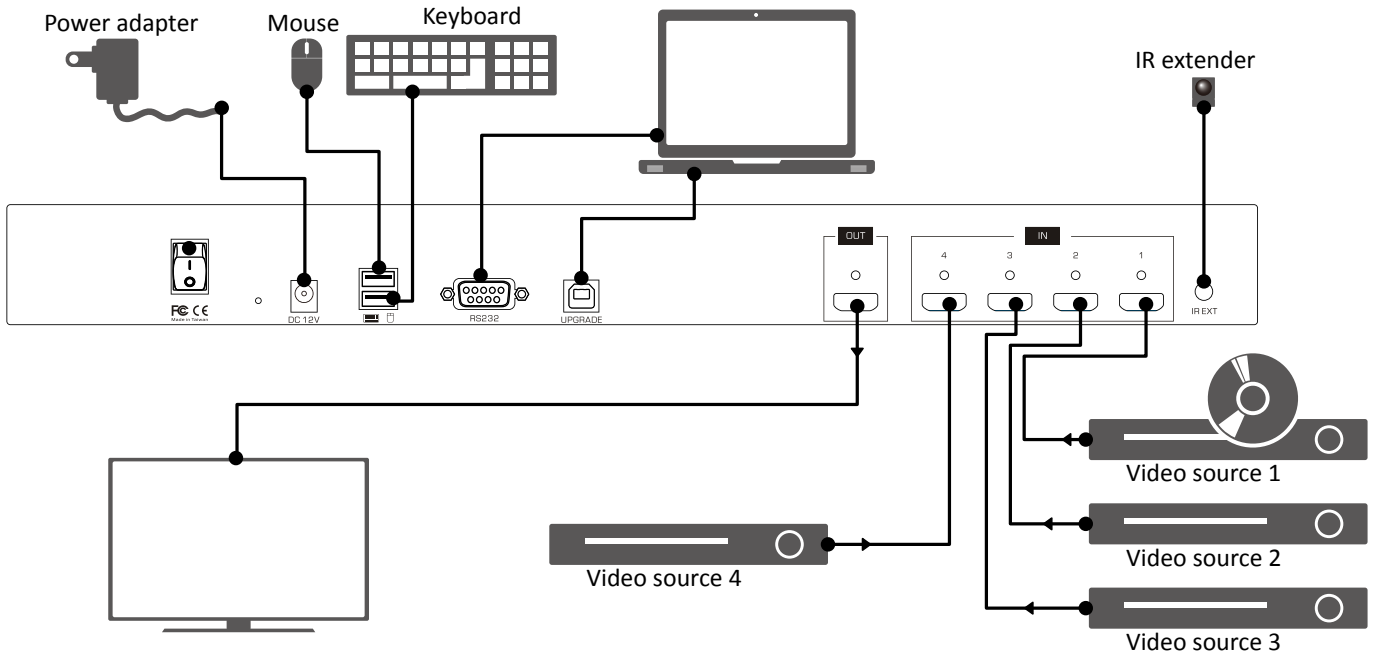
Model No.	RH141
Video In	4 x HDMI Type A Female (Lockable)
Video Out	1 x HDMI Type A Female (Lockable)
RS232	1 x DB9, Female
IR	1 x Receiver and 1 x IR Extender (3.5mm Earphone Jack)
USB Port	2 x USB Type A
LEDs	4 fixed + 16 switch
Switch/Button	16 x Momentary Switch 1 x Power Switch
Video Resolution	Full HD
Operation Temperature	0 ~ 40°C
Storage Temperature	-20 ~ 60°C
Humidity	0~90% RH, Non-condensing
Weight	2.1 Kg
Dimension(L x W x H)	438 x 200 x 44 mm
Housing	Metal enclosure
Power Adapter	DC 12V
Safety / Emission	FCC, CE

## Package contents

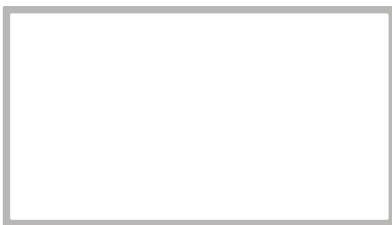
- RH141 unit x1
- Power adapter x1
- User manual x1
- IR extender x1
- RS-232 cable x1
- Remote control x1

## Connection diagram

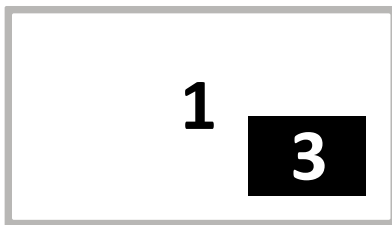
The diagram illustrated here is an example, the actual application may vary. All illustrated computer, accessories and monitors are not included in the package, it is for reference only. Make sure all the devices and peripherals are connected appropriately before using this unit.



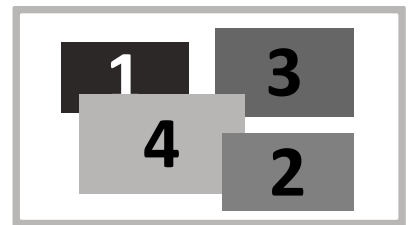
## 5 modes diagram



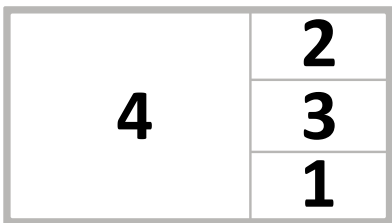
Full screen mode



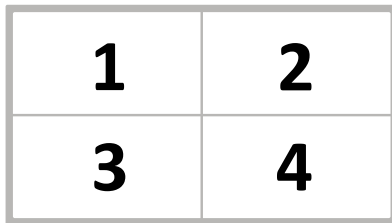
PIP mode



Windows mode



PAP mode



Quadview mode

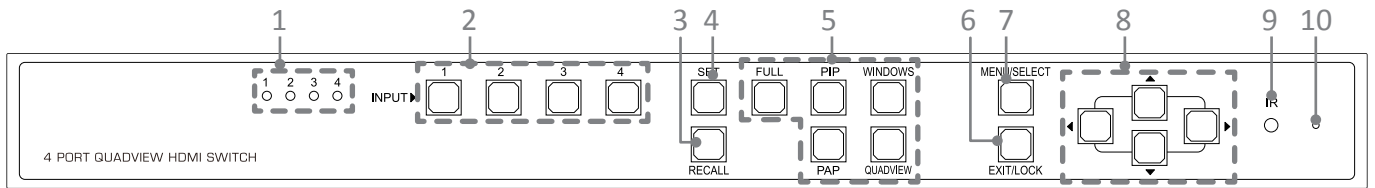
# Operation

Various operations are available from this unit, select your preferred operation as follows:

1. Push buttons.
2. Display mode menu.
3. Keyboard.
4. IR remote control.
5. RS-232 control.

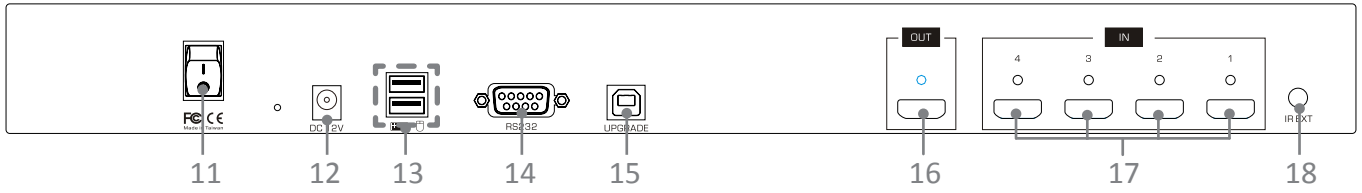
## 1. Parts and push buttons

### Front panel



No.	Item	Description
1	<b>LED indicators</b>	Indicate the status of display.
2	<b>INPUT</b>	Choose the desired source from 1~4, and then press the corresponding button. For more details, refer to the chapter of Mode descriptions.
3	<b>Recall</b>	Recall the customized setting configured from <b>SET</b> button. Press to light up the buttons (1~4), and then select the desired setting to recall.
4	<b>SET*</b>	Save the customized input and output up to 4 settings. 1. Select a desired mode by pressing <b>PIP/WINDOWS/PAP/QUADVIEW</b> button. 2. Set a preferred input source(1~4). 3. Press <b>SET</b> button, then all the buttons of input(1~4) will be flashed. 4. Press a preferred button(1~4) to save the setting to the memory of unit.
5	<b>FULL/PIP/WINDOWS/PAP/QUADVIEW</b>	Select the desired mode you wish to display, and the pressed button will be illuminated.
6	<b>Exit/ Lock</b>	<ul style="list-style-type: none"> <li>■ Press to exit the OSD menu.</li> <li>■ Press to lock all the buttons on the unit, or press it again to unlock</li> <li>■ Press and hold this button, then turn on the power of switch to restore the default resolution (1024x768).</li> </ul>
7	<b>Menu/ Select</b>	<ul style="list-style-type: none"> <li>■ Press to bring up the OSD menu.</li> <li>■ Select a desired option on the menu.</li> <li>■ Press and hold this button, then turn on the power of switch to restore the system to factory default settings.</li> </ul>
8	<b>▲ ▼ ◀ ▶ (Cursor buttons)</b>	Press to navigate the OSD menu.
9	<b>IR receiver</b>	Receive the signals from bundled remote control.
10	<b>Pin hole</b>	Use a paperclip to reset this unit if necessary.

**Rear panel**



No.	Item	Description
11	<b>Power switch</b>	Press to power on/off the unit.
12	<b>Power jack</b>	Connect to the power adapter (DC 12V).
13	<b>USB Type A receptacles</b>	Connect to USB keyboard and mouse.
14	<b>RS-232 connector</b>	Connect to a computer or RS-232 device.
15	<b>USB Type B receptacles</b>	Connect to a computer for updating firmware*.
16	<b>HDMI OUT</b>	Connect to a HDMI display.
17	<b>HDMI IN 1~4</b>	Connect to HDMI source devices.
18	<b>IR EXT</b>	Extend ability of remote control using 3.5mm jack extension cable.

**\* Firmware update**

To update the firmware, please follow the steps below:

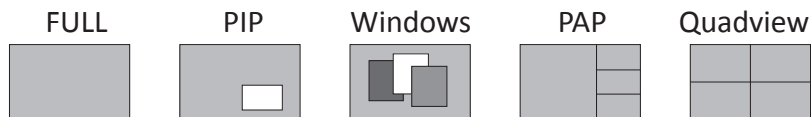
1. Press the power switch to turn off the power.
2. Press and hold the **SET** button, then turn the power switch to on. The **SET** button will be blinked rapidly.
3. Plug the USB cable into the USB Type B receptacles. The procedure of updating will be started.
4. Once the procedure of updating has been completed, a reminder message will be appeared on the screen and the blinking of **SET** button will be stopped.

Please contact local dealer or distributor if you have trouble updating the firmware.

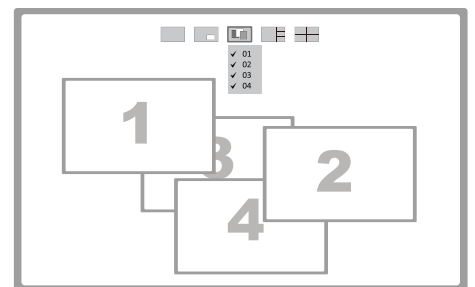
**2. Display mode menu**

The display mode menu is a way of control using mouse. Please follow the steps below to select a desired mode, input and output.

1. Simply click the mouse wheel anywhere on the screen to bring up the display mode menu.



2. Point the preferred mode to bring up the drop down menu. The selected mode will be highlighted by red color, and the corresponding options will be shown on the drop down menu.
3. Left click to tick the desired option or left click again to cancel. In Windows mode, left click to turn on or off the windows.
4. To exit the display mode menu, press mouse wheel again.



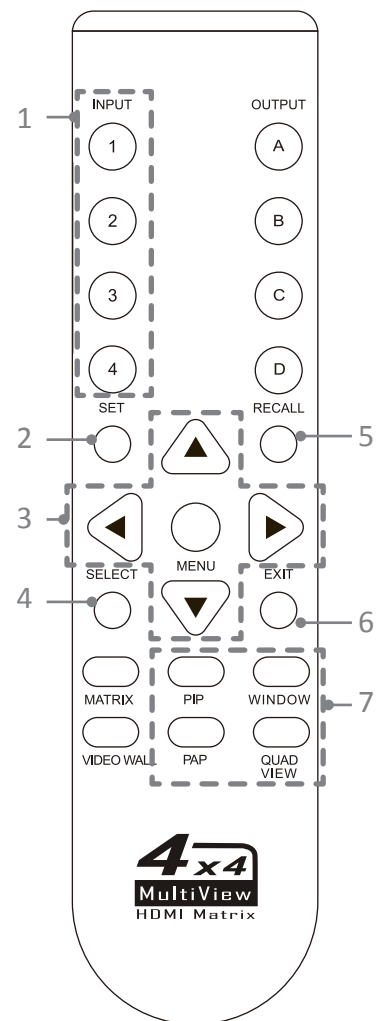
Example: Windows mode

### 3. Keyboard hotkeys

Command	Hotkeys	Description
Menu/Select	<b>Enter</b>	<ul style="list-style-type: none"> <li>■ Press to bring up the OSD menu.</li> <li>■ Select a desired option on the menu.</li> </ul>
Up/Down/Left/Right	↑ / ↓ / ← / → <b>(Cursor buttons)</b>	Press to move the cursor up, down, left and right on the menu.
Exit	<b>Esc</b>	Press to exit the OSD menu.
Mode selection	<b>F1~F5</b>	Press to switch a preferred mode. <b>F2: FULL F2: PIP F3: WINDOW F4: PAP F5: QUAD</b>
PIP mode port selection	<b>1~4/ALT</b>	<ul style="list-style-type: none"> <li>■ Press to switch between different source on the main display.</li> <li>■ To switch between different subordinate display, press ALT+1~4.</li> </ul>
Windows mode port selection	<b>1~4/ALT</b>	<ul style="list-style-type: none"> <li>■ Press to display the source on top layer.</li> <li>■ To turn on/off the source display, press ALT+1~4.</li> </ul>
PAP mode port selection	<b>1~4</b>	Select the source to playback on the main display.
Quadview mode port selection	<b>1~4</b>	Select the desired source.

### 4. IR remote control

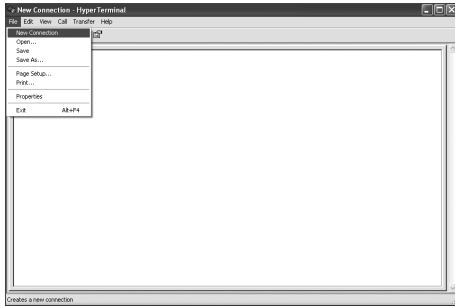
No.	Item	Description
1	<b>INPUT</b>	Press to select the desired source.
2	<b>Set</b>	Save the customized input and output up to 8 settings. 1. Select a desired mode by pressing <b>PIP/WINDOWS/PAP/QUADVIEW</b> button. 2. Set a preferred input source(1~4 ). 3. Press <b>SET</b> button, then all the buttons of input(1~4) on the unit will be flashed. 4. Press a preferred button(1~4) to save the setting to the memory of unit.
3	▲ / ▼ / ◀ / ▶ <b>(Cursor buttons)</b>	Press to move the cursor up, down, left and right on the menu.
4	<b>Select</b>	Select a desired option on the menu.
5	<b>Recall</b>	Recall the customized setting. Press to light up the buttons (1~4) of unit, and then select the preferred mode to recall.
6	<b>Exit</b>	Press to exit the OSD menu.
7	<b>PIP/WINDOWS/PAP/QUADVIEW</b>	Select the desired mode you wish to display.



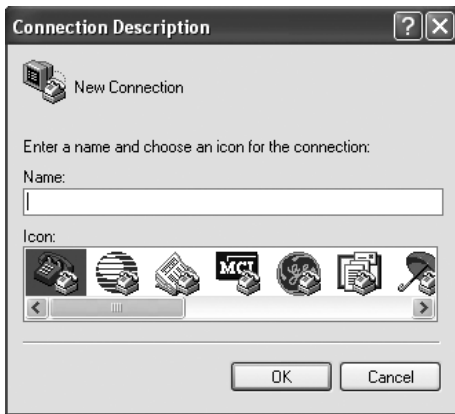


## 5. RS232 Control

1. Connect RH141 to a PC using RS232 cable.
2. Open **Hyper Terminal** and create a new connection.  
**Program > Accessories > Communications > Hyper Terminal > New Connection**



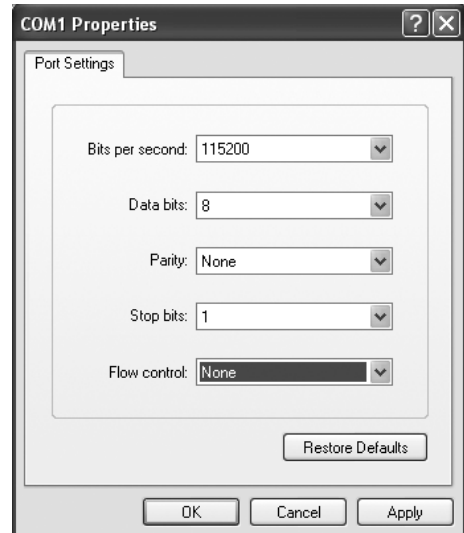
3. Enter a preferred name, and then click **OK**.



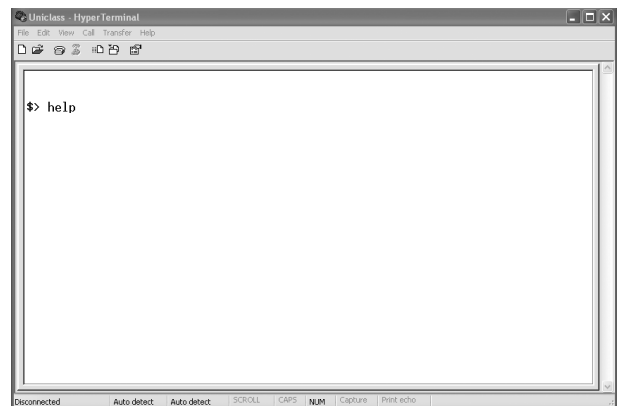
4. Select **Connect using** to COM+X (X is the port which connected to RH141).



5. Enter the following data to each option, then press **Apply > OK**.  
**Bits per second: 115200**  
**Date bits: 8**  
**Parity: None**  
**Stop bits: 1**  
**Flow control: None**

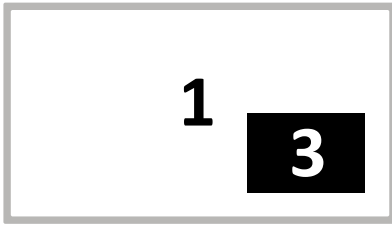


6. The window of Hyper Terminal will appear after completing the settings. To enter commands, press **Enter**. For more command details, refer to the list next page or type **help** and then press **Enter** in Hyper Terminal for reference.



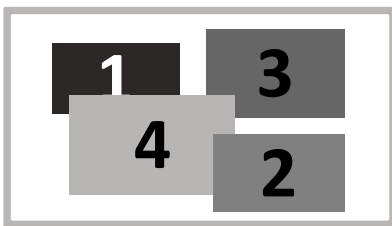
Command	Description	Parameter
sw [n]	Switch active port	n: source 1~4
mode [n]	Switch video display mode	n: (1) FULL (2) PIP (3) Windows (4) PAP (5) Quad
as [n]	Change video aspect ratio	n: (1) Fill Screen (2) Keep Ratio
output [n]	Set output resolution	n: (1)Auto (2) 1920x1080 (3) 1280x720
pip [n]	Switch to PIP mode	n: source 1~4
psize [w] [h]	Set size of PIP sub display	w: width of sub display (unit: pixel) h: height of sub display (unit: pixel)
ppos [x] [y]	Set position of PIP sub display	x: x-axis of sub display (unit: pixel) y: y-axis of sub display (unit: pixel)
win [n]	Move the window "n" to top	n: source 1~4
winoff [n]	Disable the window "n"	n: source 1~4
winon [n]	Enable the window "n"	n: source 1~4
winfull [n]	Display the window "n" in full screen	n: source 1~4
winsize [src] [w] [h]	Set the size of window "n"	Src: source 1~4 w: width of window "n" (unit: pixel) h: height of window "n" (unit: pixel)
winpos [src] [x] [y]	Set position of window	Src: source 1~4 x: x-axis of window (unit: pixel) y: y-axis of window (unit: pixel)
pap [n]	Switch to PAP mode	n: source 1~4
paplayout [n]	Set layout of PAP	n: 1~4 n: (1) Right (2) Left (3) Top (4) Bottom
quad [n]	Switch to quadview mode	n: source 1~4
default	Restore to the factory default	
edid [src] [n]	Config EDID of input source	src: 1~4 n: 1~8, (1) Auto (2) Monitor A (3) Monitor B (4) Monitor C (5) Monitor D (6) 1920x1080 (7) 1280x720 (8) Custom
edidupload	Upload customized EDID	
titletime [n]	Set timeout of title bar	n: 1~8, (1) 05 (2) 10 (3) 15 (4) 20 (5) 25 (6) 30 (7) off (8) 00
preset [n]	Config customized settings of video	n: settings 1~4
recall [n]	Load the settings from preset	n: settings 1~4
status	Display the status of video	
setname [ch] [name]	Set channel name of input	ch: source 1~4 name: 1~16 ascii text

## Mode descriptions



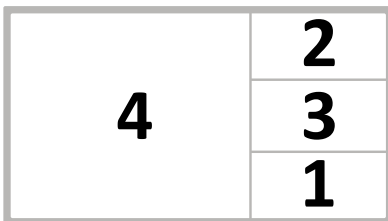
**PIP mode:** Viewing main image with 1 subordinate image in smaller window.

- Press 1~4 to select the video source of main image.
- Flexible local the subordinate image and zoom control features are available in this mode. The subordinate image can be positioned anywhere using mouse to drag and drop. To enlarge/reduce the subordinate image, drag the subordinate near a corner using mouse.
- Double click the subordinate image to swap between main and subordinate image.



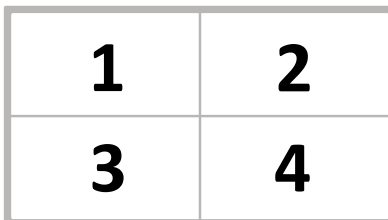
**Windows mode:** All video sources can be viewed simultaneously with various window sizes and positions.

- Press 1~4 to select the audio source and locate the window to the top.
- Click the preferred windows to overlap other windows by mouse.
- All windows can be positioned anywhere using mouse to drag and drop. Windows size can be changed as well, drag the preferred window near a corner using mouse.
- Double click left button of mouse to display the desired window in full screen. To exit the full screen display, double click left button of mouse again. Note that other windows still remain at same position, which is normal.



**PAP mode:** Viewing main image with 3 subordinate images in smaller windows.

- Press 1~4 to select the video source of main image.

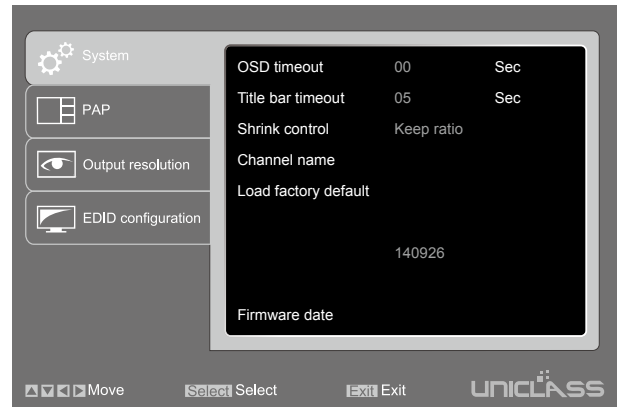


**Quadview mode:** Viewing video sources in a display.

- Press 1~4 to switch audio channel.

## Settings

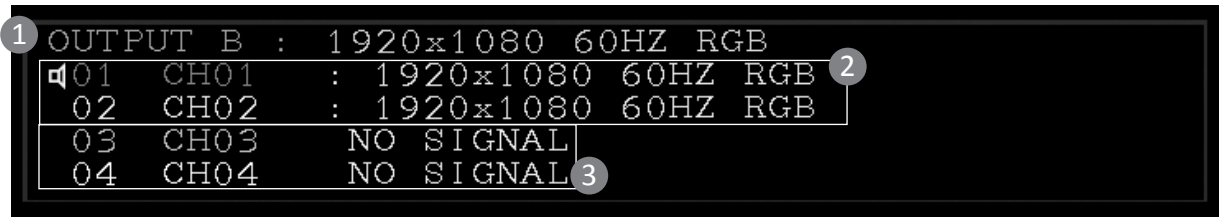
1. To bring up the setting menu, press **Enter** button on the keyboard or **MENU/SELECT** button on the front panel of unit or remote control.
2. Press **▲/▼** button to move the cursor, press **◀/▶** to select the desired option, and then press **MENU/SELECT** to confirm the selection.




Item	Options	Description
System	OSD timeout	Setup the timeout of OSD.
	Title bar timeout	Setup the timeout of title bar.
	Shrink control	Select <b>Full screen</b> to fill the entire screen. The screen may be stretched. Select <b>Keep ratio</b> to remain the original aspect ratios. The black bars may appear on top-bottom or left-right sides of screen.
	Channel name	Change the name of video source using uppercase, lowercase or digits up to 16 characters.
	Load factory default	Restore to the factory default.
	Firmware date	Display the version of firmware.
PAP	Layout	Select a preferred PAP layout.
Output resolution	Output A	Set the resolution of output. By default, the resolution will be set to the best resolution of connected monitor automatically.
EDID Configuration		Select a preferred EDID of display for input source.

## Title bar information

Once the display title bar function has been enabled (refer to **Setting** page), the related information will be listed on the upper left of screen. The image below is an example for explanation; the actual application is depending on your connection.



- ① The monitor is showing the image from Output B, and the output resolution is 1920x1080 @60Hz.
- ② Image sources have been connected to channel 1 and 2 respectively, and both inputted resolutions are 1920x1080 @60Hz. The icon of  indicates the audio is outputted from this channel.
- ③ There is no source connected to this input.

## Resolution

The tables below show the input and output resolutions of RH141, if there is a problem of abnormal display or no video, suggest using a more standard display mode from the list.

Input Resolution	Refresh rates (HZ)
640x480	50/59/60/72/75
720x480 (720P)	56/59/60/72/75
720x576 (576P)	50/60/70/72/75
800X600	56/60/70/72/75
1024X768	60/70/72/75
1152X864	50/69/60/75
1280x600	50/59/60
1280X720 (720P)	50/59/60/75
1280X768	50/59/60/75
1280X800	50/59/60/75
1280X960	50/59/60
1280X1024	50/59/60/75
1360x768	50/59/60/75
1366x768	50/59/60/75
1440X1050	50/59/60
1440X900	50/59/60/70/75
1600x900	50/59/60
1600x1024	59/60
1600X1200	50/60
1680x1050	59/60
1920X1080i	25/29/30
1920X1080 (1080P)	50/59/60
1920X1200	50/60

Output Resolution	Refresh rates (HZ)
1024X768	60
1280X800	60
1280X1024	60
1360x768	60
1600X1200	60
1680x1050	60
1920X1200	60
720P	50/60
1080P	24/30/50/60





## Technical support

Please contact with your local distributor for more information or technical support.

## FCC / CE Statements

**FCC Statement** : This equipment has been tested and found to comply with the regulations 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this User Guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case, the user will be required to correct the interference at his/her own expense.

**CE Statement** : This is a Class B product in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



**RoHS Compliant**