

# HDMI 4 by 1 Switcher

- ID# 860



**Operation Manual**

## Introduction

This is a high performance four-input & one-output HDMI v1.4 switcher with digital audio inputs and outputs. It supports an HDCP repeater function and fast switching between any of the four HDMI input ports. The system supports all 3D TV formats in addition to all HDTV formats up to 1080p 12-bit Deep Color. Furthermore, the remote control allows every user to easily control selection of sources and its wall mounted design, the installation is an easy and pain free process.

## Features

- Support multiplexed HDMI 4-input and 1-output
- HDMI 1.4, HDCP 1.4 and CEC1.4 compliant
- HDMI 1.4 support:
  - ✓ Audio Return Channel (ARC)
  - ✓ 3D TV support
  - ✓ CEC1.4
- Fast switching on all HDMI input ports
- Character and icon based On-Screen Display (OSD)
  - ✓ System information for Software version
  - ✓ Sink EDID
  - ✓ Source infoframe
  - ✓ HDMI input Audio & Audio Return selection
- HDCP repeater support
- Deep Color support 36/30/24-bit, 1080p@60Hz
- HDMI cable distance tested with 1080p 8/12 bits resolution, the input & output distance can run up to 10 & 15 meters.
- Audio support:
  - ✓ HDMI 1.4 compatible audio interface
  - ✓ Dedicated, flexible audio input/output port
  - ✓ Dolby TrueHD
  - ✓ DTS-HD Master Audio 7.1CH
  - ✓ Full audio input and output support

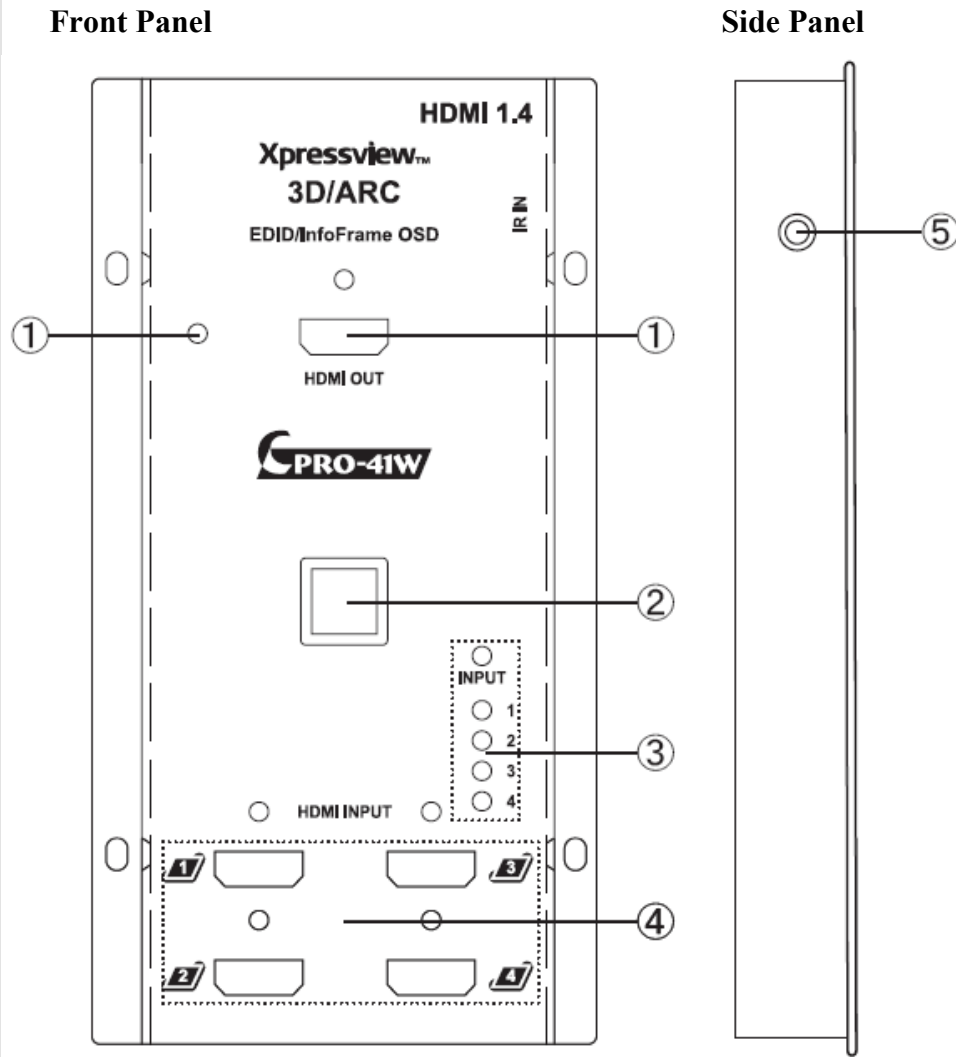
## Applications

- Display 3D content
- Display HDMI v1.4 content
- Electronic retail display

## System Requirements

Input source equipment with or without 3D content and HDMI connection cables. Output HDTV's with or without 3D support and HDMI connection cables.

## Operation Controls and Functions



**1 POWER LED:** The LED will turn on when the power device is plugged in with power.

**1 HDMI OUTPUT:** This slot is where you connect an HDTV or HD display that supports or doesn't support 3D signals for displaying an input signal with a HDMI cable.

**2 IR sensor:** This is an IR receiver window that receives IR signals from the remote control included in the package.

**3 INPUT & LED:** Press this button to select the desired input source, the LED will switch on according to the selection.

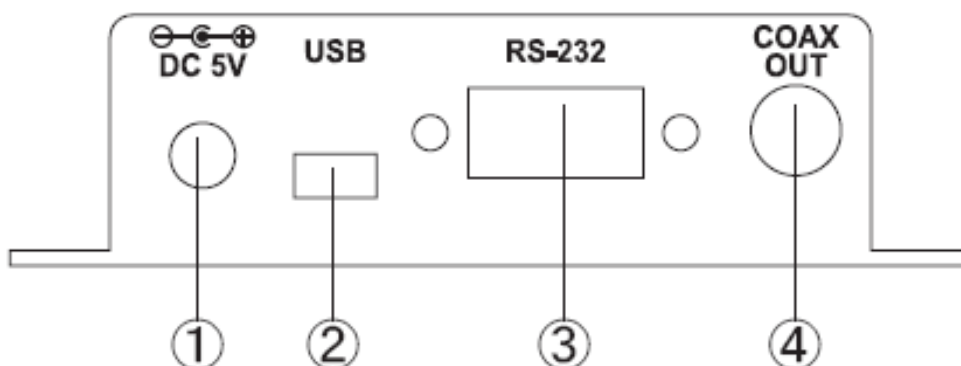
**4 HDMI INPUT 1~3 & 4:** These slots are where you connect the input source devices for sending an input signal with HDMI cables.

**5. IR IN:** This slot connects with the IR extender included in the package for receiving an IR signal from the remote control of this unit.

### Note

- A. This system was tested with 24AWG cables if using cables of another type, the performance of this system may vary.
- B. Cable distance tested with a PS3 & 40" Samsung LED LCD TV.
- C. Figures provided in this manual are for reference only, actual figures may depend on the source and display used along with the cables specifications.

### Top Panel



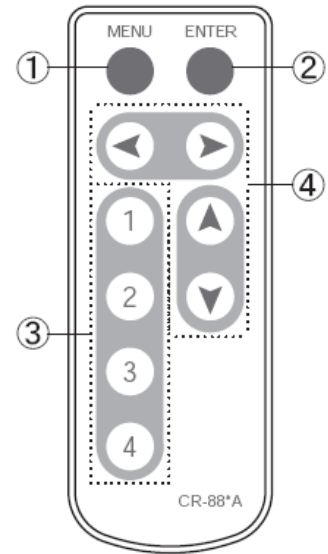
- 1. DC 5V:** Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet. The LED will switch on when the power cable is plugged in.
- 2 USB 5V:** This slot is where you can connect the mini USB cable from your PC to supply power.
- 3 RS-232:** This slot is to connect with a PC or control system with D-Sub 9pin cable for RS-232 control. For detailed RS-232 commands please refer to section 9.
- 4. COAX OUT:** This slot is where you connect an amplifier for sending an audio signal with coaxial cables. When audio return function is on the audio signal will be received from the output end and when the audio return function is OFF the audio signal will be received from the input source. This device only supports PCM 2CH.

### Note

- A. The display TV or monitor must support an audio return function and the function be must turned on in order to perform properly.
- B. The display TV or monitor's HDMI input jack must connected to the one with an audio return function.

## Remote Control

- ① MENU: Press to enter into menu selection, an OSD will appear from the display.
- ② Enter: Press to confirm the selection.
- ③ 1, 2, 3, 4: Press to select input port.
- ④ ▲▼◀▶: Use these buttons to select/adjust OSD menu's object.



## RS32 Commands Pin assignment

The connection between Switcher and remote controller with RS-232C modem cable.

Switcher			Remote Controller	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	TxD		2	RxD
3	RxD	→	3	TxD
4	NC		4	NC
5	GND		5	GND
6	NC	←	6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 115200 bps

Data bit: 8 Bits

Parity: None

Stop Bit: 1 bit

Flow Control: None

## Commands

Command Code	Response	Description
s port 1	>Select Input Port1	Select Input Port1
s port 2	>Select Input Port2	Select Input Port2
s port 3	>Select Input Port3	Select Input Port3
s port 4	>Select Input Port4	Select Input Port4
s menu 0	>OSD MENU Off	OFF : No Display On-Screen MENU
s menu 1	>OSD MENU On	ON : Display On-Screen MENU
s info 0	>OSD System Information Off	OFF : No Display On-Screen System Information
s info 1	>OSD System Information On	ON : Display On-Screen System Information
s menuct u	>MENU Cursor Up Move	MENU Project Up Move
s menuct d	>MENU Cursor Down Move	MENU Project Down Move
s menuct l	>MENU Cursor Left Move	MENU Project Left Move
s menuct r	>MENU Cursor Right Move	MENU Project Right Move
s menuct e	>MENU Cursor Enter	MENU Project Enter
s arctx 1	>ARC mode is on	ARC Mode Is On
s arctx 0	>ARC mode is off	ARC Mode Is Off
s reset	>System Reset	System Reset

Command Code	Response	Description
r port	>Select port ?	Show Select Input Port Status
r arctx	>ARC mode is ?	Show ARC Mode Status
r fwver	>FW Version : Vx.xx	Show Firmware Version

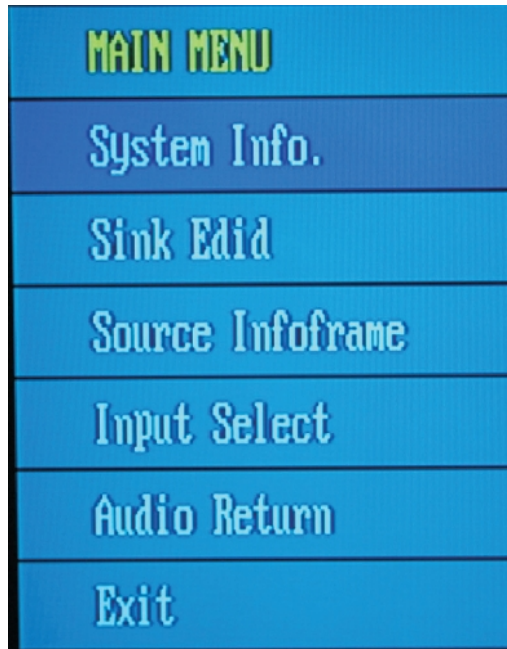
### OSD Menu

Press the OSD button from the device or MENU button from the remote control to bring up the OSD on the display.

Press [▲/▼] to highlight an option

Press [◀/▶] to select the option

Press [Enter] to confirm/exit the selection



### System Info

Press [▲/▼] to highlight an option  
 Press [Enter] to check the input/output device information and software version.  
 Press [MENU] to exit menu  
 Press [Enter] to confirm/exit the selection

### Sink Edid

Press [▲/▼] to highlight an option  
 Press [◀/▶] to select the option  
 Press [Enter] to confirm/exit the selection  
 Press [MENU] to exit menu

Option	Description
Block Data	To check the sink Block0 and Block1's table of EDID
Description	To check the sink description of EDID

### Source Infoframe

Press [▲/▼] to highlight an option  
 Press [◀/▶] to select the option  
 Press [Enter] to confirm/exit the selection  
 Press [MENU] to exit menu

Option	Description
AVI (AVI infoframe data)	To check the source video infoFrame Packet
AUD (Audio infoframe data)	To check the source audio infoFrame Packet

### Input Select

Press [▲/▼] to highlight an option  
Press [◀/▶] to select the option  
Press [Enter] to confirm the selection  
Press [MENU] to exit menu

### Audio Return

Press [▲/▼] to highlight an option  
Press [◀/▶] to select the option  
Press [Enter] to confirm the selection  
Press [MENU] to exit menu

Option	Description
Audio Return	On/Off

### Exit

Press [↑/↓] to highlight an option  
Press [Enter] to confirm/exit the selection

## Specifications

<b>Frequency Bandwidth</b>	2.25Gbps
<b>Input Ports</b>	4 x HDMI Female ports
<b>Output port</b>	1 x HDMI Female port
<b>HDMI Output Resolution</b>	480i ~1080p 50/60, 1080p24, VGA~WUXGA
<b>HDMI Audio Output</b>	PCM2, 5.1, 7.1CH, Dolby 5.1, DTS5.1, DD+, D-TrueHD, DTS-HD
<b>HDMI Cable In</b>	1080p 8-bit (10M), 12-bit (10M)
<b>HDMI Cable Out</b>	1080p 8-bit (15M), 12-bit (15M)
<b>Coaxial Audio Output</b>	PCM2CH
<b>Power Supply</b>	5V/1A DC (US/EU standards, CE/FCC/UL certified)
<b>ESD Protection</b>	Human Body Model: ± 8kV (air-gap discharge) ± 4kV (contact discharge)
<b>Dimensions (mm)</b>	100 (W) x 70 (D) x 20 (H)
<b>Weight (g)</b>	90
<b>Chassis Material</b>	Plastic
<b>Silkscreen Color</b>	White
<b>Power Consumption</b>	4W
<b>Operating Temperature</b>	0°C ~ 40°C / 32°F ~ 104°F
<b>Storage Temperature</b>	-20°C ~ 60°C / -4°F ~ 140°F
<b>Relative Humidity</b>	20~60% RH (non-condensing)



# Connection

