



4K x 2K

OR-HD62CD

6 x 2 UHD HDMI Switch with Audio De-Embedding

OPERATION MANUAL

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE	SUMMARY OF CHANGE
v1.00	20/01/2014	First release






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1. INTRODUCTION

The OR-HD62CD allows HDMI signals to be routed from any of the six connected HDMI sources for display on two connected HDMI displays. With fast switching technology this device dramatically improves the sync time to the connected HDMI displays over traditional switchers. In Matrix Mode, this device allows any source to be routed independently to any output. An additional feature of this switcher is a cutting edge Picture in Picture (PIP) preview mode allowing the user to show 5 unselected HDMI sources in a row of small windows overlaid on top of the selected HDMI source video. In this preview mode, both HDMI outputs show identical feeds. Further features include the ability to de-embed Hi-Definition lossless audio via a dedicated Optical output for each HDMI output, 4K resolution support, and 3D signal support.

2. APPLICATIONS

-  Home Theater/Entertainment
-  Lecture Room/Hall Presentation
-  Show Room/Demo Room
-  Public Commercial Display
-  Information Board

3. PACKAGE CONTENTS

-  6 by 2 HDMI 4Kx2K Matrix
-  Remote Control with Battery
-  Left & Right Rack Ears
-  5V/2.6A DC Power Adaptor
-  IR Receiver Cable
-  Operation Manual

4. SYSTEM REQUIREMENTS

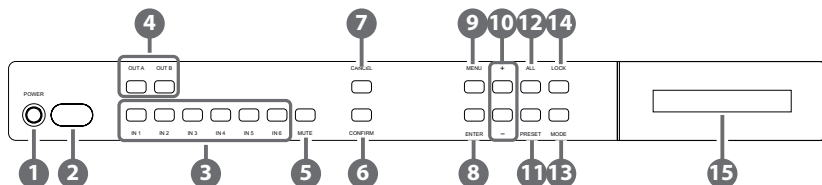
Input source equipments such as Blu-ray/DVD/PS3 player or Set-Top Box and output HDMI TV/Display and or audio amplifier with connection cables.

5. FEATURES

- /// HDMI, HDCP 1.1, DVI 1.0 compliant**
- /// Resolutions supported: HDTV - 480i to 1080p plus 1080p24fps, and 4K2K; PC - VGA to WUXGA;**
- /// High Definition audio supported: Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio + 7.1 Channel LPCM**
- /// RS-232, Telnet or IP Control, IR Remote Control (supplied), Web GUI Control**
- /// Supports audio extraction from HDMI input to Optical output, input audio sampling rate up to 192 kHz**
- /// Ability to switch between any two sources within 1 second**
- /// Supports 3D signals**
- /// Cutting edge Picture in Picture preview function**

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



- 1 POWER:** Press this button to turn ON the device and the LED will illuminated.
- 2 IR Window:** This IR Receiver receives the remote control signal from the package include remote control only.
- 3 IN 1~6:** Press these IN buttons to select an input from the 6 input sources.
- 4 OUT A/B:** Press these buttons once a time along with an IN buttons to select an input source for an output display. i.e. OUT A→ IN1→CONFIRM or OUT B→ IN6→CONFIRM.
- 5 MUTE:** Press this button to mute video and audio on OUT A or B.
- 6 CONFIRM:** Press this button to confirm the selection of an IN and an OUT button.
- 7 CANCEL:** Press this button to cancel the IN/OUT selection.
- 8 ENTER:** Press to confirm the selection.
- 9 MENU:** Press to enter into the menu.
- 10 +/-:** Press these buttons to move up/down under menu selection.
- 11 PRESET:** (PV MUTE: Preview ON/OFF)
 - When select the MODE in Preview mode, press the button to turn ON/OFF the Sub video windows.
 - When select the MODE in Matrix mode, press “PRESET” to switch between Normal and Preset mode.
 - ✓ Normal mode:
Press OUT A or OUT B or ALL and then press IN 1~6 or MUTE to select the input sources. After the selection, press “CONFIRM” to confirm the selection or press “CANCEL”

to cancel the selection.

- ✓ Preset mode:

Press "PRESET", the OLED menu will show Preset then select IN 1~6. Preset 1~6 after the selection, press "CONFIRM" to confirm the selection or press "CANCEL" to cancel the selection.

12 All: (SWAP)

Press this button to select all outputs to display with an input source. When in PIP mode, press to swap between Main video source and Sub video source.

13 MODE: Press to switch between Preview or Matrix mode.

- Preview mode: From MENU option select View All (1 Main video sources and 5 Sub video sources) or PIP mode (1 Main video sources and 1 Sub video sources).
 - ✓ View All: Press IN 1~6 or MUTE to select the Main channel. From OLED menu select "Preview Position" for Sub screens position.
 - ✓ PIP: Press OUT A (Main) or OUT B, then press IN1~6 or MUTE to select Main or Sub video source. Press "ALL" or Remote Control "SWAP" to exchange Main/Sub video source.

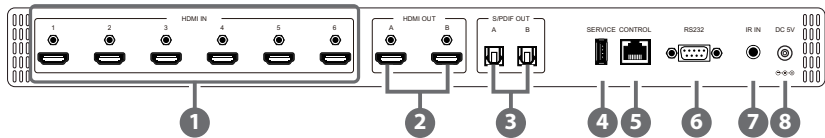
Note: When both Main and Sub select the same input source, Sub will be muted.

- Matrix mode: Press OUT A or OUT B or OUT A & B and then press IN 1~6 or MUTE to select the input sources. After the selection, press "CONFIRM" to confirm the selection or press "CANCEL" to cancel the selection.

14 LOCK: Press this button to lock all button functions on the panel. Press 3 seconds to relieve the lock function.

15 LCM: Displaying Input and Outputs selection and menu selection.

6.2 Rear Panel



- 1 HDMI IN:** Connect from source equipments such as Blu-ray/DVD/PS3 players, Set-Top-Box or any HDMI equipped source device for input signal sending.
- 2 HDMI OUT:** Connect to HDMI TV/display or HD Amplifier for output image and or audio display.
- 3 S/PDIF OUT:** Connect to audio sound system or Amplifier for digital output sound.
- 4 SERVICE:** This slot is reserved for firmware update use only.
- 5 CONTROL:** Connect from PC/Laptop with active internet service for Web GUI control with RJ-45 terminated cable.
- 6 RS232:** Connect from PC/Laptop for RS-232 command sending to control the device.
- 7 IR IN:** Connect the IR Receiver included in the package for IR signal receive from the included remote control.
- 8 DC 5V:** Connect the adaptor with power cord included in the package and connect to AC wall outlet for power supply.

6.3 OSD Menu

Main Menu	Sub Menu	Description	Default
EDID Mode	All	All Input port is using same EDID. In menu "EDID All", can select suitable EDID.	All
	Appoint	Each Input port can select individual EDID. In menu "EDID IN1~6" select suitable EDID.	
	Exit		

EDID All	Sink A	Copy Output A display EDID	8/2D/ PCM/1080p
	Sink B	Copy Output B display EDID	
	8/2D/PCM/720p	Standard EDID, Content: deep colour/2D3D/audio/ native resolution	
	8/2D/PCM/ AC3/720p	Standard EDID, Content: deep colour/2D3D/audio/ native resolution	
	8/2D/ PCM/1080p	Standard EDID, Content: deep colour/2D3D/audio/ native resolution	
	8/2D/PCM/ AC3/1080p	Standard EDID, Content: deep colour/2D3D/audio/ native resolution	
	8/2D/PCM/4K2K	Standard EDID, Content: deep colour/2D3D/audio/ native resolution	
	8/2D/PCM/ AC3/4K2K	Standard EDID, Content: deep colour/2D3D/audio/ native resolution	
	Exit		
EDID IN1	Same EDID All	Select Input 1's EDID	Same EDID All
EDID IN2	Same EDID All	Select Input 2's EDID	Same EDID All

EDID IN3	Same EDID All	Select Input 3's EDID	Same EDID All
EDID IN4	Same EDID All	Select Input 4's EDID	Same EDID All
EDID IN5	Same EDID All	Select Input 5's EDID	Same EDID All
EDID IN6	Same EDID All	Select Input 6's EDID	Same EDID All
Matrix Preset	Preset 1	IN/OUT default No.1	A=1 , B=2
	Preset 2	No.2	A=1 , B=2
	Preset 3	No.3	A=1 , B=2
	Preset 4	No.4	A=1 , B=2
	Preset 5	No.5	A=1 , B=2
	Preset 6	No.6	A=1 , B=2
	Exit		
HDCP Input	IN1 Standard / Apple	Set IN1 in Apple / Standard mode	Standard
	IN2 Standard / Apple	Set IN2 in Apple / Standard mode	Standard
	IN3 Standard / Apple	Set IN3 in Apple / Standard mode	Standard
	IN4 Standard / Apple	Set IN4 in Apple / Standard mode	Standard
	IN5 Standard / Apple	Set IN5 in Apple / Standard mode	Standard
	IN6 Standard / Apple	Set IN6 in Apple / Standard mode	Standard
	Exit		

Preview Mode	View All		1 Main video source and 5 Sub video source	View All
	PIP		1 Main video source and 1 Sub video source	
	Exit			
Preview Position	View ALL	Top	Preview 5 Sub screens position	Top
		Right	Preview 5 Sub screens position	
		Bottom	Preview 5 Sub screens position	
		Left	Preview 5 Sub screens position	
	PIP	Top Left	Preview Sub screen position	Top Left
		Top Right	Preview Sub screen position	
		Bottom Right	Preview Sub screen position	
		Bottom Left	Preview Sub screen position	
	Exit			
OSD Transparency	0~15		Preview OSD background transparency	6
	Exit			

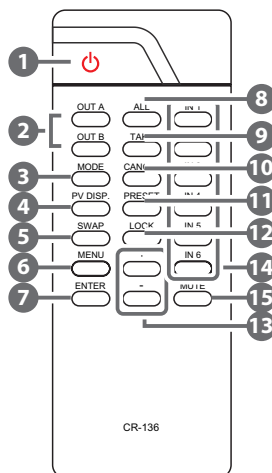
OSD Timeout	OSD Off	Preview without OSD Info	OSD Always On
	5~20	Preview with OSD Info 5~20 sec and disappear	
	OSD Always On	Preview with OSD Info remain ON	
	Exit		
Network Setup	IP Mode	DHCP , Static	DHCP
	IP	Setup Static IP	192.168.5.83
	Mask	Setup Static Netmask	255.255.255.0
	Gate	Setup Static Gateway	192.168.5.254
	Do Re-Link	Re-Link. After setup Network, the system need to re-link	---
	Exit		
Network Status	Link	Network status DHCP,Static or Not Linked	---
	IP	Get IP	---
	Mask	Get Netmask	---
	Gate	Get Gateway	---
	MAC	System MAC Address	---
	Exit		

Source Detection	IN1 On/Off , IN2 On/Off	IN1 , IN2 detect source with/without the signal	---
	IN3 On/Off , IN4 On/Off	IN3 , IN4 detect source with/without the signal	
	IN5 On/Off , IN6 On/Off	IN5 , IN6 detect source with/without the signal	
	Exit		
Sink A Info	Type, Manuf.	Detect and Analysis Output A display's EDID Content: type(HDMI/DVI/VGA), Manufactory/ Model number	---
	Native	Content: native resolution	
	Video Format	Content: deep colour, 2D or 3D, 4K2K	
	Audio Format	Content:PCM, BitStream, HBR	
	Exit		
Sink B Info	Same Sink A Info	Detect and Analysis Output B display's EDID	---
Firmware	FW Version	Display the model number and FW version	---
	Update	FW Update	
	Exit		

Factory Reset	Do Reset	Do system Reset	---
	Exit		
Exit			


6.4 Remote Control

- ❶ **POWER:** Press this button to switch the system ON/OFF.
- ❷ **OUT A/B:** Press these buttons once a time along with an IN buttons to select an input source for an output display.
- ❸ **MODE:** Press to switch between Preview or Matrix mode.
 - Preview mode: From MENU option select View All (1 Main video sources and 5 Sub video sources) or PIP mode (1 Main video sources and 1 Sub video sources).
 - ✓ View All: Press IN 1~6 or MUTE to select the Main channel. From OLED menu select "Preview Position" for Sub screens position.
 - ✓ PIP: Press OUT A (Main) or OUT B, then press IN1~6 or MUTE to select Main or Sub video source. Press "ALL" or Remote Control "SWAP" to change Main/Sub video source.
 - Matrix mode: Press OUT A or OUT B or OUT A & B and then press IN 1~6 or MUTE to select the input sources. After the selection, press "CONFIRM" to confirm the selection or press "CANCEL" to cancel the selection.
- ❹ **PV DISP:** Press to set ON/OFF the Preview Display.
- ❺ **SWAP:** In PIP mode, press to swap Main/Sub video source.
- ❻ **MENU:** Press to enter into the menu.
- ❼ **ENTER:** Press to confirm the selection.
- ❽ **ALL:** Press this button to select all outputs to display with an input source.



- 9 **CONFIRM:** Press this button to confirm the selection of an IN and an OUT button.
- 10 **CANCEL:** Press this button to cancel the IN/OUT selection.
- 11 **PRESET:**
 - When select the MODE in Matrix mode, press “PRESET” to switch between Normal and Preset mode.
 - ✓ Normal mode:
Press OUT A or OUT B or ALL and then press IN 1~6 or MUTE to select the input sources. After the selection, press “CONFIRM” to confirm the selection or press “CANCEL” to cancel the selection.
 - ✓ Preset mode:
Press “PRESET”, the OLED menu will showing Preset and select IN 1~6. After preset 1~6, press “CONFIRM” to confirm the selection or press “CANCEL” to cancel the selection.
- 12 **LOCK:** Press this button to lock all button functions on the panel. Press 3 seconds to relieve the lock function.
- 13 **+/-:** Press these buttons to move up/down under menu selection.
- 14 **IN1~6:** Press the IN buttons to select an input from the 6 input sources.
- 15 **MUTE:** Press this button to mute video and audio that OUTA/B selected.

6.5 RS-232 Protocols

OR-HD62CD			Remote Control	
PIN	Assignment		PIN	Assignment
1	NC		1	NC
2	Tx		2	Rx
3	Rx		3	Tx
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: 115200bps
Data bit: 8 bits
Parity: None
Flow Control: None
Stop Bit: 1

6.6 RS-232 Commands

Command Name	Description	Description of parameter
P0	POWER OFF	NONE
P1	POWER ON	NONE
IPCONFIG	DISPLAY THE CURRENT IPCONFIG	NONE
SIPADDR XXX.XXX.XXX.XXX	SET ETHERNET IP ADDRESS	XXX=0~255
SNETMASK XXX.XXX.XXX.XXX	SET ETHERNET NETMASK	XXX=0~255
SGATEWAY XXX.XXX.XXX.XXX	SET ETHERNET GATEWAY	XXX=0~255
HTTPPORT N	SET ETHERNET PORT NUMBER	N=0~65535
RSTIP	IP CONFIGURATION RESET TO <DHCP>	NONE
A N	SET OUTPUT A SOURCE	N=1-6
B N	SET OUTPUT B SOURCE	N=1-6
I N	SET ALL OUTPUTS SOURCE	N=1-6
EDIDMODE N	SHOW EDID MODE	N=(0)All (1)Appoint
EDIDALL	SHOW EDID MODE SOURCE FOR ALL	NONE
EDIDALL N	SET EDID CONTENT FOR ALL	N=0-7
EDIDIN	SHOW ALL INPUT EDID SOURCE	NONE
EDIDIN N1	SHOW INPUT N1 EDID SOURCE	N1=1-6

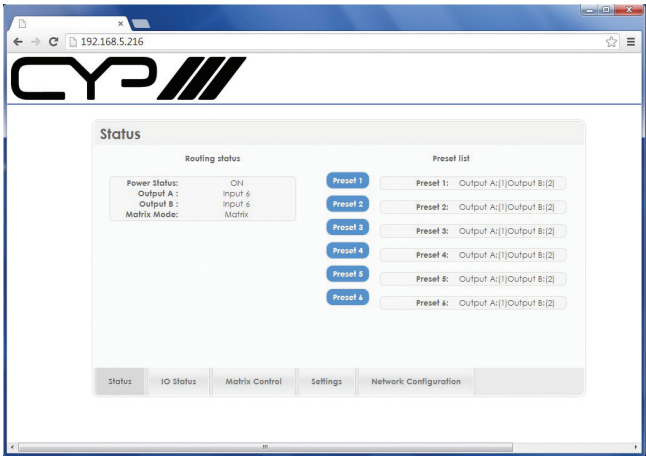
EDIDIN N1 N2	SET INPUT N1 EDID SOURCE	N1=1-6 N2=0-7
HDCPIN	SHOW ALL INPUT HDCP STATUS	NONE
HDCPIN N1	SHOW INPUT N1 HDCP STATUS	N1=1-6
HDCPIN N1 N2	SET INPUT N1 HDCP ON/OFF	N1=1-6 N2=(0)OFF (ON)
PRESET	SHOW ALL PRESET CONFIG	NONE
PRESET N1	SHOW PRESET N1 CONFIG	N1=1-6
PRESET N1 N2	SET PRESET N1 CONFIGURE	N1=1-6 N2=AXBX (X=1-6,M)
PVMODE	SHOW PREVIEW MODE	NONE
PVMODE N1	SET PREVIEW MODE	N1=0-1
PVPOS	SHOW PREVIEW POSITION	NONE
PVPOS N1	SET PREVIEW POSITION	N1=0-3
OSDTRANS	SHOW OSD Transparency	NONE
OSDTRANS N1	SET OSD Transparency	N1=0-15
OSDTO	SHOW OSD TIME OUT	NONE
OSDTO N1	SET OST TIME OUT	N1=0-17
SOURCEDET	SHOW ALL INPUT SIGNAL	NONE
SOURCEDET N1	SHOW INPUT N1 SIGNAL	N1=1-6
SINKINFO	SHOW ALL OUTPUT INFORMATION	NONE

SINKINFO N1	SHOW OUTPUT N1 INFORMATION	N1=A-B
INNAME	SHOW ALL INPUT NAME	NONE
INNAME N1	SHOW INPUT N1 NAME	N1=1-6
INNAME N1 N2	SET INPUT N1 NAME	N1=1-6 N2=ABCDEFGH
OUTNAME	SHOW ALL OUTPUT NAME	NONE
OUTNAME N1	SHOW OUTPUT N1 NAME	N1=A-B
OUTNAME N1 N2	SET OUTPUT N1 NAME	N1=A-B N2=ABCDEFGH
MATRIXMODE	SHOW MATRIX CURRENT MODE	NONE
MATRIXMODE N1	SET MATRIX MODE	N1=0-1
VER	SHOW DESCRIPT OF UNIT	NONE
REBOOT	SYSTEM REBOOT	NONE
HELP	SHOW COMMAND LIST	NONE
HELP N	SHOW DESCRIPT OF COMMAND	N : command name

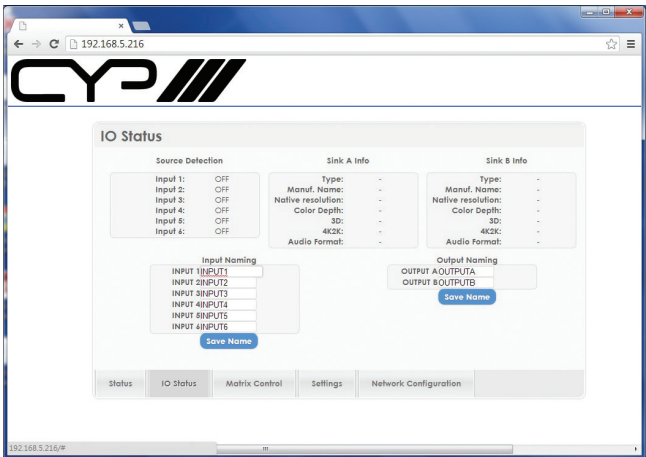
Note: All RS-232 commands will not execute unless followed by a carriage return. All commands are case-sensitive.

6.7 Web GUI Control

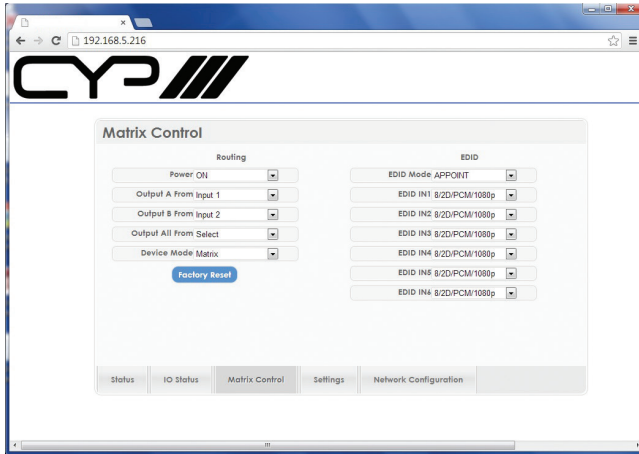
On a PC/Laptop that is connected to an active network system, open a web browser and type device's IP address (available from LCM monitor or OSD menu) on the web address entry bar. The browser will display the device's Status, IO Status, Matrix Control, Settings and Network Configuration control pages for users to control.



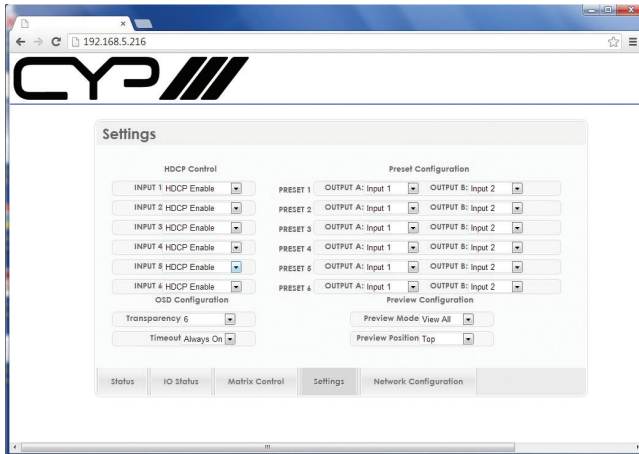
Click on IO Status for input and output selection.



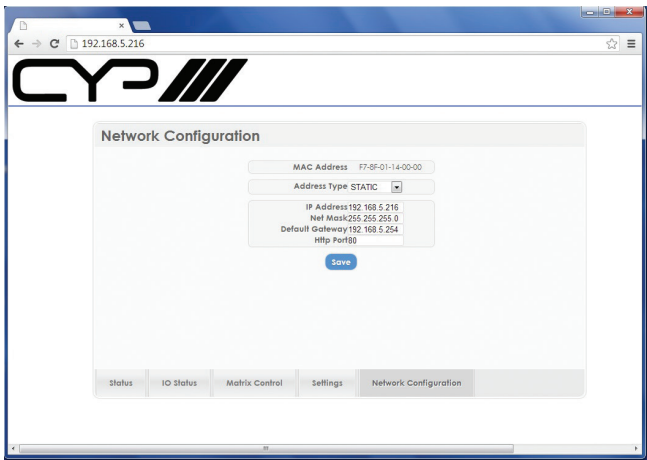
Click on Matrix Control for outputs and EIDID selections.



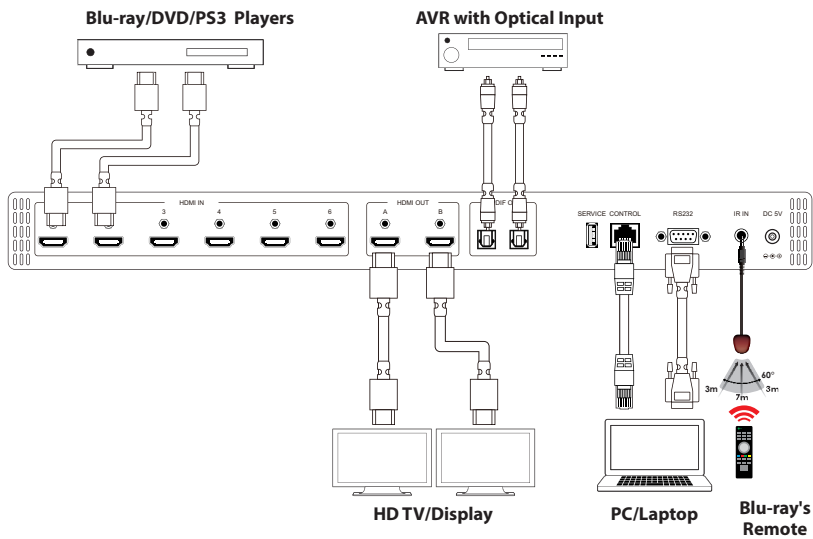
Click on Settings to set each input's HDCP Control and Preset Configuration.



Click on Network Configuration to set the device's IP configuration. Once the changes is saved the system will reset the IP address on the device automatically and user will need to re-enter the IP address to continue the Web GUI function.



7. CONNECTION DIAGRAM



8. SPECIFICATIONS

Frequency Bandwidth	300Mbps to 3Gbps
Input Ports	6 x HDMI 1 x USB (Service only) 1 x Control 1 x RS-232 1 x IR
Output ports	2 x HDMI 2 x Optical (S/PDIF)
Resolution	480i~1080p@50/60, 1080p@24, 4K x 2K (3840x2160/4096x2160@30Hz)
Output Level	VGA~WUXGA
IR Frequency	30~50kHz
Power Supply	5VDC/2.6A (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Dimensions	438mm (W) x 269mm (D) x 44mm (H) /Jacks Excluded 482mm (W) x 278mm (D) x 53mm (H) /Jacks & Rack Ears Included
Weight	3042 g
Chassis Material	Metal
Colour	Black
Operating Temperature	0°C~40°C / 32°F ~ 104°F
Storage Temperature	-20°C~60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (no condensation)
Power Consumption (W)	4.7

DVI and HDMI Supported Resolutions	Input	Output
640x480@60	V	V
640x480@72	V	V
640x480@75	V	V
720x480@60	V	V
720x576p@50	V	V
800x600@60	V	V
800x600@72	V	V
800x600@75	V	V
1024x768@60	V	V
1024x768@70	V	V
1024x768@75	V	V
1280x720@50	V	V
1280x720@60	V	V
1280x720p@60	V	V
1280x768@60	V	V
1280x800@60	V	V
1280x1024@60	V	V
1360x768@60	V	V
1600x1200@60	V	V
1920x1080i@50	V	V
1920x1080i@60	V	V
1920x1080p@24	V	V
1920x1080p@25	V	V
1920x1080p@30	V	V
1920x1080p@50	V	V
1920x1080p@60	V	V
1920x1200@60(RB)	V	V
3840x2160@30	V	V
4096x2160@24	V	V

Audio Sampling Rate Up to 192 kHz

HDMI input (Up to 192kHz)	HDMI output	Optical output
LPCM 2CH	V	N/A
LPCM 5.1CH	V	X
LPCM 7.1CH	V	X
Dolby Digital 2~5.1CH/ DTS 2~5.1CH	V	N/A
Dolby TrueHD/ DTS-HD Master Audio	V	X

Audio Format LPCM 2/5.1/7.1CH, Dolby Digital 2~5.1CH, DTS 2~5.1CH (Pass through), Dolby TrueHD and DTS-HD Master Audio

HDMI input	HDMI output	Optical output
LPCM 2CH	V	V
LPCM 5.1CH	V	X
LPCM 7.1CH	V	X
Dolby Digital 2~5.1CH/ DTS 2~5.1CH	V	V
Dolby TrueHD/ DTS-HD Master Audio	V	X

9. ACRONYMS

ACRONYM	COMPLETE TERM
CAT5e	Category 5 Cable
CAT6	Category 6 Cable
CAT7	Category 7 Cable
CEC	Consumer Electronic Control
DVI	Digital Visual Interface
HDCP	High-bandwidth Digital Content Protection
HDMI	High Definition Multimedia Interface
PoE	Power over Ethernet
4Kx2K	3840x2160/ 4096x2160



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