4 x 1 HDMI 4K2K Switcher
- ID# 15376

Operation Manual

Introduction

The 4 by 1 HDMI Switcher enables the switching of four HDMI sources to a single HDMI output, allowing a display or AV Receiver to select between four devices. With fast switching technology the device can greatly eliminate the time required by swapping or turning ON/OFF the connected displays. It supports 4K2K, 3D, 36-bit Deep Color, Hi-Def. lossless audio and other features defined by the latest HDMI specifications. The management of source/sink scenarios can be operated easily through on-panel buttons, IR remote control, RS-232, Telnet and WebGUI control

Features

- HDMI (with 3D & 4K2K supported) and HDCP compliant
- Select any one of four HDMI sources and display on a HDTV display with fast switching between sources
- Supports 3D signals pass-through
- Supports HDTV resolutions up to 4Kx2K (3840x2160@24/25/30, 50/60 YUV_420 & 4096x2160@24, 50/60 YUV_420)
- Supports HDMI data rate from 300Mbps to 3Gbps and 'Deep Color' up to 1080p/36-bit
- Supports selection of Standard (Fixed) or TV (Downstream) EDID settings
- Supports Audio pass-through of High-definition Audio formats (LPCM 2/5.1/7.1CH, Dolby Digital 2~5.1CH, DTS 2~5.1CH, Dolby TrueHD and DTS-HD Master Audio)
- HDMI inputs support ‘Standard’ and ‘Apple’ HDCP modes. Selecting ‘Apple’ mode guarantees the compatibility of Apple devices with this matrix
- Supports Telnet and WebGUI control

Applications

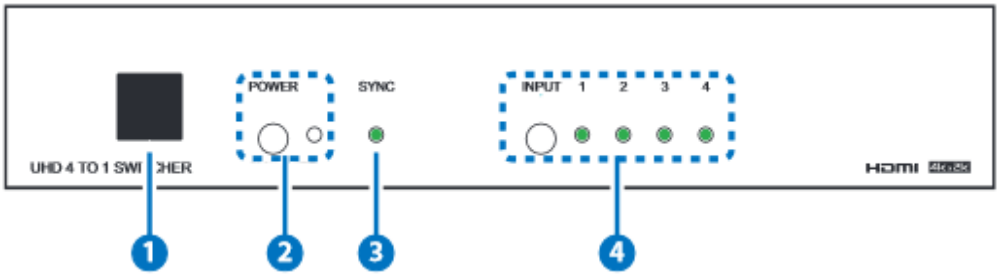
- Home Theater/Entertainment
- Lecture Room/Hall Presentation
- Show Room/Demo Room
- Public Commercial Display
- Information Board

System Requirements

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

Operation Controls and Functions

Front Panel



1. IR Window:
This IR Receiver receives the remote control signal from the packaged included remote control only with IR frequency at 38kHz.

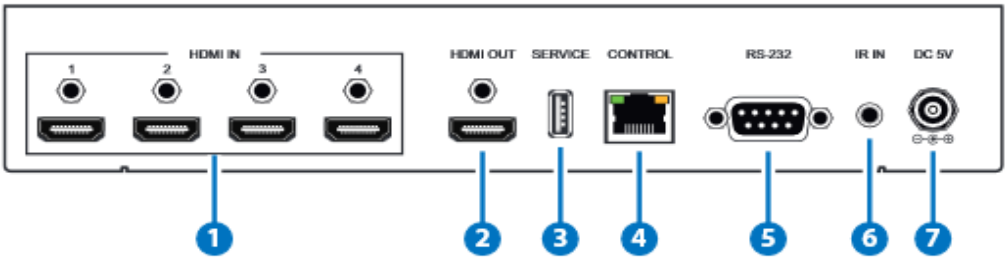
2. POWER & LED:
Press this button to turn ON the device or set the device to standby mode. The LED will illuminate in green when switch to ON. This device contains power last memory and therefore, when the power is connected the device will switch to ON/Standby according to the last status.

***IP Reset:**
Press this button together with INPUT button for 3 second under power ON status, when the LED blink for once it means IP Reset complete.

3. SYNC:
This LED will illuminate when both input source and output display are linked with active signal.

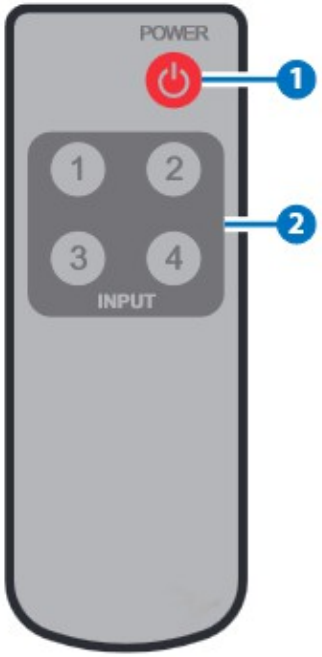
4. IN 1~4:
Press the INPUT button to select an input from the 4 input sources, LED will illuminated according to the selection

Back Panel



1. HDMI IN:
Connect from source equipment such as Blu-ray/DVD/PS3 players, Set-Top-Box or any HDMI equipped source device for input signal sending. The device obtain auto detection function and will detect the last plug-in source for display on output when it is unplugged, the device will detect rotationally from 1~4 input source for display on output.

2. HDMI OUT:
Connect to HDMI TV/display or HD Amplifier for output image and or audio display.
3. SERVICE:
This slot is reserved for firmware update use only.
4. CONTROL:
Connect from PC/Laptop with active internet service for Telnet or WebGUI control with RJ-45 terminated cable.
5. RS232:
Connect from PC/Laptop for RS-232 command sending to control the device.
6. IR IN:
Connect the IR Receiver included in the package for IR signal receive from the included remote control.
7. DC 5V:
Connect the adaptor with power cord included in the package and connect to AC wall outlet for power supply.



Remote Control

1. POWER:
Press this button to switch ON the device or to set it to standby mode.
2. INPUT:
Press 1~4 to select input source.

RS-232 Protocols

PIN	DEFINITION		PIN	DEFINITION
1	N/C		1	N/C
2	TxD		2	RxD
3	RxD	←	3	TxD
4	N/C		4	N/C
5	GND	→	5	GND
6	N/C		6	N/C
7	N/C		7	N/C
8	N/C		8	N/C
9	N/C		9	N/C

Baud Rate: 115200bps
Data Bit: 8 bits
Parity: None
Flow Control: None
Stop Bit: 1

RS-232 & Telnet Commands

Command Name	Description	Description of Parameter
P0	Power Off (Standby)	NONE
P1	Power On	NONE
A N	Select Input N	N=1-4
IPCONFIG	Display The Current IP Configure	NONE
SIPADDR XXX.XXX.XXX.XXX	Set Ethernet IP Address	XXX=0~255
SNETMASK XXX.XXX.XXX.XXX	Set Ethernet Net Mask	XXX=0~255
SGATEWAY XXX.XXX.XXX.XXX	Set Ethernet Gateway	XXX=0~255
HTTPPORT N	Set Http Port Number	N=0~65535
RSTIP	IP Configuration Reset To <DHCP>	NONE
EDIDMODE N	Show EDID Mode	N=0(Appoint), 1(All)
EDIDALL	Show EDID Mode Source For All	NONE
EDIDALL N	Set EDID Mode	Source For All N=1-9
EDIDIN	Show Input EDID Source	NONE
EDIDIN N1	Show Input N1 EDID Source	N1=1-4
EDIDIN N1 N2	Set Input N1 EDID Source	N1=1-4 N2=1-9
HDCPIN	Input HDCP Status	NONE
HDCPIN N1	Show Input N1 HDCP Status	N1=1-4
HDCPIN N1 N2	Set Input N1 HDCP On/Off*	N1=1-4 N2=0(OFF), 1(ON)
SOURCEDET	Show All Input Signal	NONE
SOURCEDET N1	Show Input N1 Signal	N1=1-4

SINKINFO	Show All Output Information	NONE
INNAME	Show Input Name	NONE
INNAME N1 N2	Set Input N1 Name	N1=1-4 N2=ABCDEFGH(Max Length=8)
OUTNAME	Show Output Name	NONE
OUTNAME A N1	Set HDMI Output Name	N1=ABCDEFGH(Max Length=8)
VER	Show Unit Firmware Version	NONE
REBOOT	System Reboot	NONE
HELP (?)	Show Command List	NONE
HELP N	Show Descript Of Command	N : COMMAND NAME
FADEFAULT	All Configure Set To Factory Default	NONE
ETH_FADEFAULT	All Ethernet Configure Set To Factory Default	NONE

Note: 1.All the RS-232 command will be not executed unless followed
with a carriage return. Commands are case-sensitive.
2. *HDCP ON/OFF equivalent to HDCP standard and Apple mode.
3. IP address's default setting is on statics with 192.168.5.88
4. To find IP address in your zone an easy application is provided, please download it from http://zh-tw.cypress.com.tw/uploadfile/CDPS_20140806_v2000.zip

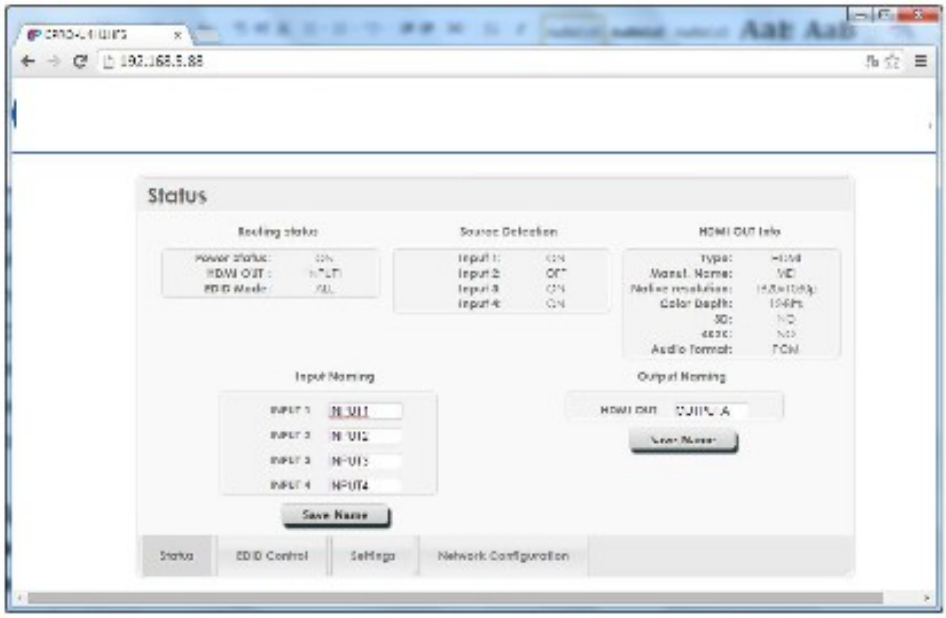
EDID Content

		HDMI Output(TV)	HDMI Output Display EDID
EDID Mode	EDID All	8/2D/PCM/720p	Build-In EDID, Deep color/2D3D/audio/native resolution
		8/2D/PCM/ AC3/720p	Same as above
		8/2D/PCM/1080p	Same as above
		8/2D/PCM/ AC3/1080p	Same as above
		8/2D/PCM/4K2K	Same as above
		8/2D/PCM/ AC3/4K2K	Same as above
		8/2D/PCM/Y420	Same as above
		8/2D/PCM/AC3/ Y420	Same as above
	EDID Appoint	EDID IN1	Input 1's EDID
		EDID IN2	Input 2's EDID
		EDID IN3	Input 3's EDID
		EDID IN4	Input 4's EDID

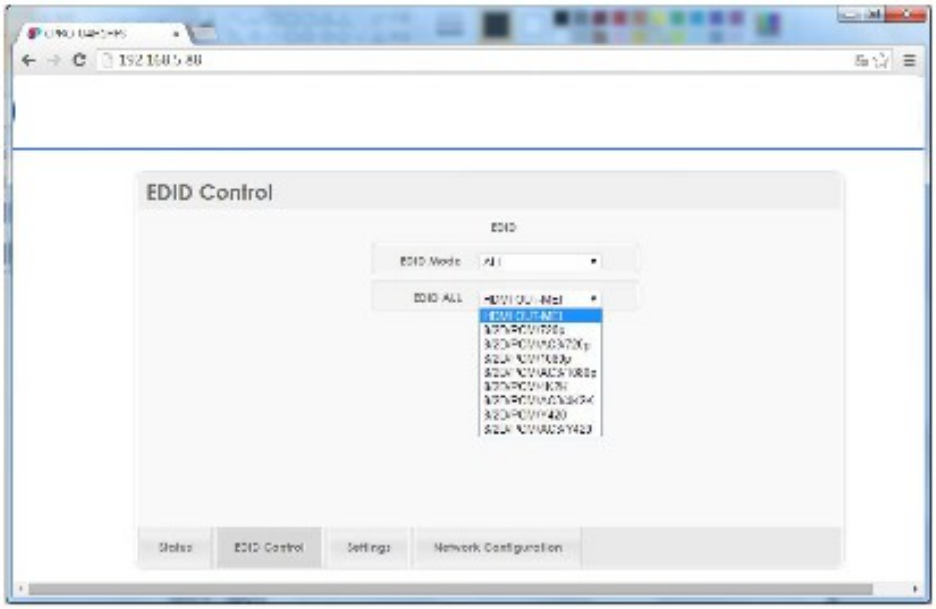
Note:
1. EDID function only selectable under RS-232 and WebGUI control.
2. When power supply is re-plugged from the device the EDID mode will switch to EDID All- HDMI OUTPUT.

Web GUI

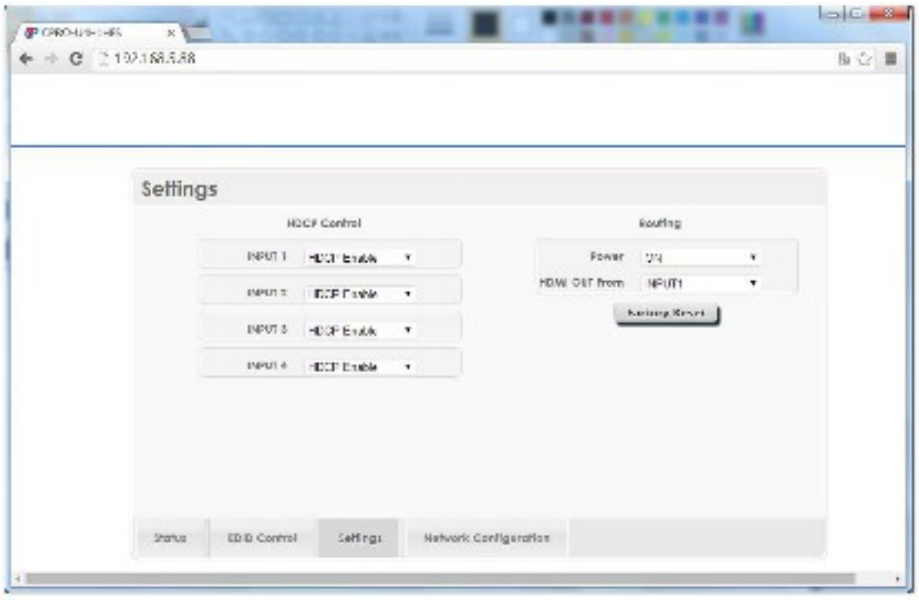
On a PC/Laptop that is connected to an active network system, open a web browser and type device's IP address (the default statics IP is 192.168.5.88 or available from RS-232 or use the link application from note 4 in section 6.5 to find) on the web address entry bar. The browser will display the device's Status, IO Status, Matrix Control, Settings and Network Configuration control pages for users to control



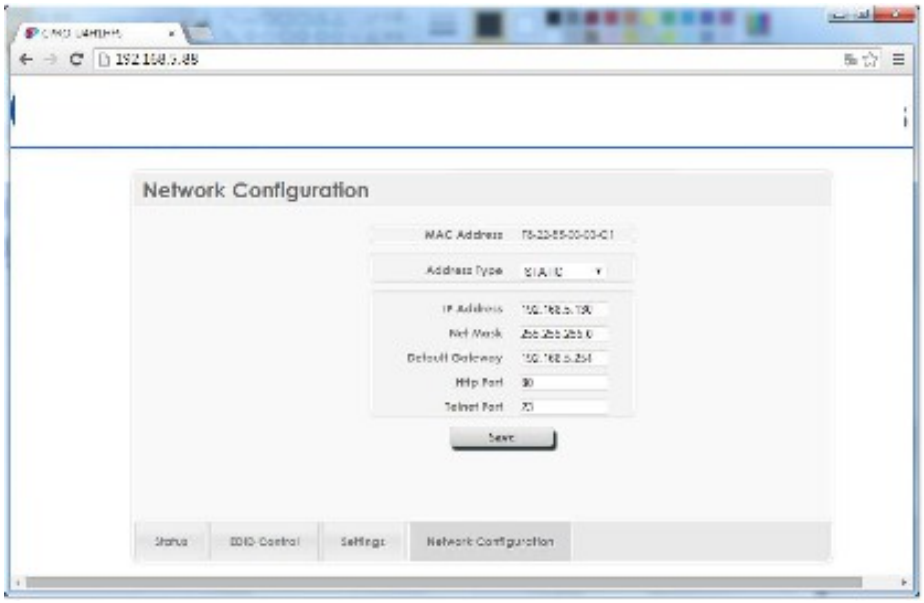
Click on EDID Control for EIDID selections.



Click on Settings to set each input's HDCP Control and Preset Configuration. HDCP Enable and Disable equivalence to HDCP standard and Apple mode



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 WebGUI function



Specifications

Frequency bandwidth	300Mbps to 3Gbps
Input Ports	4 x HDMI 1 x USB (Service only) 1 x RJ45 (Control) 1 x RS-232 1 x IR Extender
Output ports	1 x HDMI
Resolution	480i~1080p@50/60, 1080p@24, 4K2K (3840x2160@24/25/30, 50/60 YUV_420 & 4096x2160@24, 50/60YUV_420Hz)
HDMI I/O Cable Distance	15M@8/12bit, 5M@4Kx2K
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	240mm (W) x 104mm (D) x 43mm (H)/ Jacks Excluded 240mm (W) x 111.2mm (D) x 48mm (H)/ Jacks Included
Weight	798g
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0℃~40℃ / 32℉ ~ 104℉
Storage temperature	-20℃~60℃ / -4℉ ~ 140℉
Relative Humidity	20~90% RH (no condensation)
Power Consumption (W)	4W

Audio Sampling Rate Up to 192 kHz

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

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
LPCM 2CH	V
LPCM 5.1CH	V
LPCM 7.1CH	V
Dolby Digital 2~5.1CH/ DTS 2~5.1CH	V
Dolby TrueHD/ DTS-HD Master Audio	V

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@24/25/30, 50/60 Y420	V	V
4096x2160@24/,50/60 Y420	V	V

Connection Diagram