User Manual

4K60 4x4 HDMI Matrix Switcher

Version: V2.0.1

1. Introduction

This is a 4K60 4x4 HDMI matrix switcher which supports 4 HDMI2.0 inputs and 4 HDMI2.0 outputs with COAX audio de-embedded function. The resolution can up to 4K@60Hz, and other resolutions which are down than this. It also can support 3D, HDR, HDCP compliant. The control ways can be remote control, front buttons and WEB GUI(IP) control. It has been popularly used in the control center, medical and so on applications.

2. Features

> Supports HDMI20, HDCP2.2 compliant, up to 4Kx2K@60 Hz 4: 4: 4
> Supports HDR
> Supports real-time monitoring with the LCD screen
> Supports remote control, RS232 and TCP/IP
> Supports powerful EDID management
> Supports USB firmware upgrade
> Fixed chassis with 19'' mountable design

3. Specification

Name	HDMI2.0 4K60 4x4 HDMI matrix switcher
Input	4*HDMI, 1*RS232,1*RJ45
Output	4*HDMI, 1*COAX
Protocol	Supports HDMI2.0, HDCP2.2, HDR and EDID management
Color Space	Supports RGB444, YUV444, YUV422. And x.v.Color standard
Resolution	640x480---1920x1200@60Hz(VESA), 480i---4K60Hz(HDTV)
Bandwidth	18Gbps
Control	Front buttons, remote, RS232, TCP/IP
Dimension	482x288x44(mm)
Weight	2kg
Power	AC:110V-240V 50/60Hz DC:12V 3A
Working Temp	-10℃ - 50℃
Storage Temp	-25℃ - 55℃

4. Panels
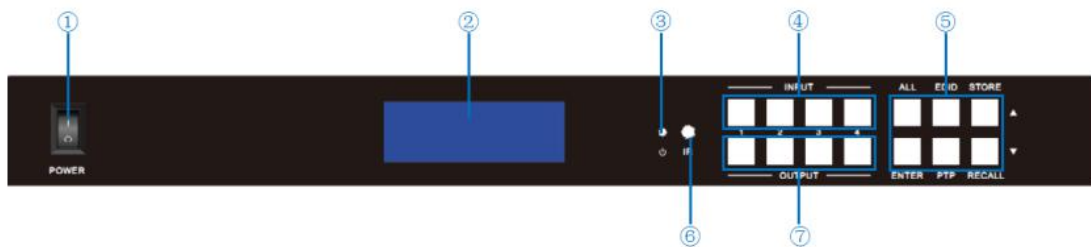
①Power Switch

②LCD Screen for real-time info monitoring

③Power indicator

④INPUT selection buttons

⑤CONTROL

  ALL: Switch to all button

  EDID: EDID selection/switching

  SAVE: User mode save

  ENTER: Confirm button

  RECALL: User mode recall button

⑥IR receiver

⑦OUTPUT selection buttons
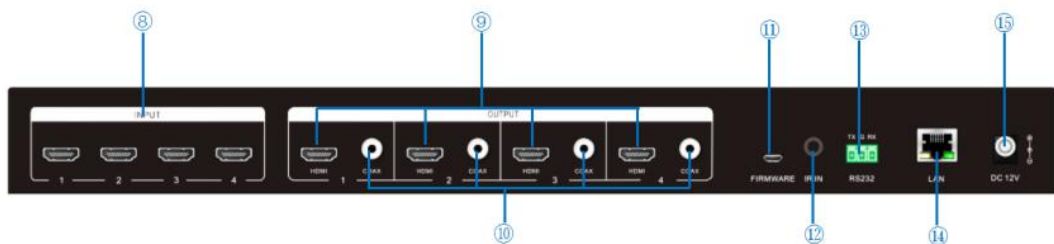
⑧HDMI input ports

⑨HDMI outputs ports

⑩COAX audio de-embedded port

⑪Upgrade port

⑫IR port

⑬RS232 control port

⑭RJ45 IP control

⑮12V power adapter connect port

5. Connection diagram
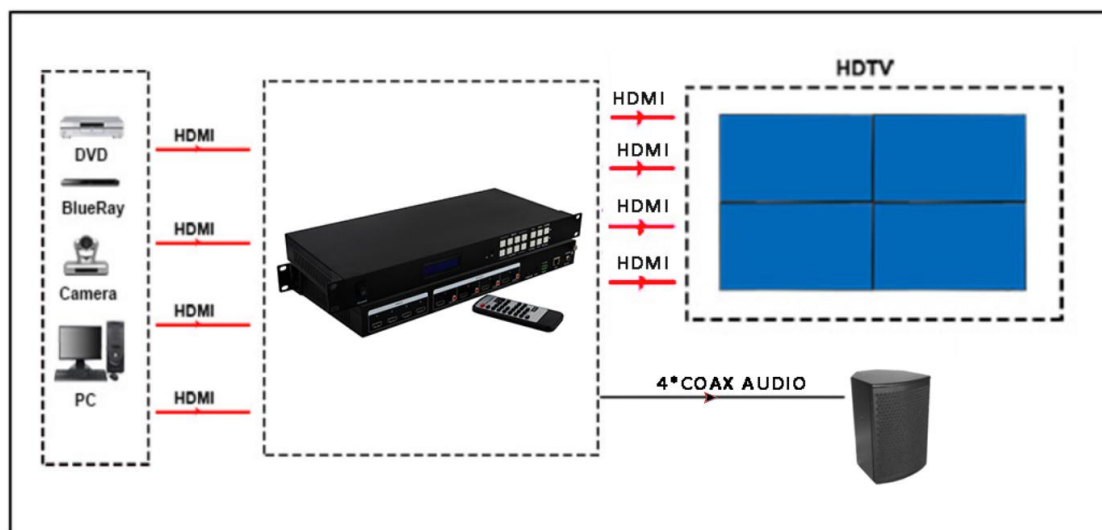
Note: the above image is only for this user manual, please refer to the real application or the equipment.

6. Packing details

4x4 HDMI matrix Switcher	1 Unit
Power adapter	1 unit
Remote control	1 Pcs

7. Operation Steps
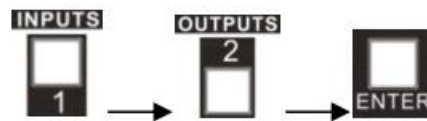
7.1 Front panel buttons

7.1.1 Switch Operation

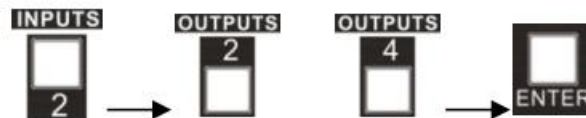A. Switch one input to one output:

Steps: "input" + "output" + "ENTER"

Eg: Switch input 1 to the output 2

B. Switch one input multiple outputs:

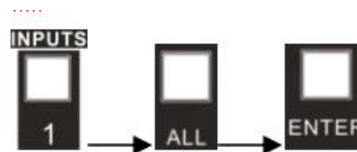Steps: "input" + "output" + "output" +··· + "ENTER"

Eg: Switch input 2 to output 2, 4

C. Switch one input to all the outputs

Steps: "input" + "ALL" + "ENTER"

Eg: Switch input 1 to all the outputs

Note: If switch success, the light will flash for 3 times;

7.1.2 EDID Management

A. EDID learning for the outputs

Steps: "EDID", "INPUTS" + "UP/DOWN" + "ENTER"

Eg: Input 2 learn the EDID from output 4

B. All inputs are learning the EDID from one output

Steps: "EDID", "ALL" + "UP/DOWN" + "ENTER"

Eg: All inputs learning EDID from output 4

7.1.3 Use Built in EDID

Press "UP/DOWN" button to select and use the internal EDID

Item number	Name	EDID Data function
1~4	Inport1~4	Input port Edid
5~9	USER1~5	Saved User Edid Data,user can save data to here.
10~13	OUT1~4	Read EDID from HDMI out port(HDMI displayer)
14	HD8Stereo	1080P 2CH
15	HD8DolbyDTS	1080P 2CH DTS/Dolby
16	HD8Lossless	1080P 2CH PCM
17	HD12Stereo3D	1080P 3D 12Bits
18	HD12DolbyDTS3D	1080P 3D 12Bits DTS/Dolby
19	HD12Lossless3D	1080P 3D 12Bits PCM
20	4K30P8Stereo	4K30 2CH
21	4K30P8Lossless	4K30 2CH PCM
22	4K60420StereoHDR	4K30 2CH HDR
23	4K60444Stereo	4K60 4:4:4 2CH

7.2 Look up

7.2.1 Look up the status

Press and hold "ENTER" for 5s, it will access to the look up menu, then press "UP/DOWN" button to check

Function Items	Example	Description
Switche Status	IN 1 2 3 4 OUT 1 2 3 4	Shows the correspondence between the 4 inputs and 4 outputs.
Check the connection status of inputs	IN 1 2 3 4 CON Y Y Y N	Y means the corresponding port is connected with input device, N means not.
Check Input have signal	IN 1 2 3 4 SGN Y Y Y N	Y means the corresponding port is have signal with input device, N means not.
Check Input hae HDCP	IN 1 2 3 4 HDCP Y Y Y N	Y means the input signal is with HDCP, N means not.

	OUT 1 2 3 4 CON Y Y Y N	Y means the corresponding port is connected with output device, N means not.
Check output have connection	OUT 1 2 3 4 CON Y Y Y N	Y means the corresponding port is connected with output device, N means not.
Check output have signal	OUT 1 2 3 4 SGN Y Y Y N	Y means the corresponding port is have signal with output device, N means not.
Check output have HDCP	OUT 1 2 3 4 HDCP Y Y Y N	Y means the output signal is with HDCP, N means not.
Check the output resolution	RESOLUTION OUT 1 0000*0000	Press OUTPUT Keys direction button to check all the 4 output resolutions.
IP Address	IP ADDRESS 192.168.1.121	Machine IP address

7.2.2 Remote Control

Power: Press to enter into sleep mode

Input: valid range are from 1~4

Output: valid range are from 1~4

PTP: Switch to one to one, 1->1，2->2，3->3，4->4

Enter: Confirm button

7.2.3 RS232 control

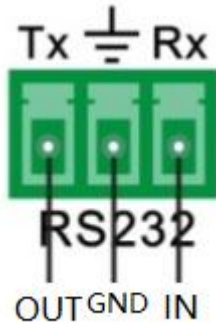Use the straight connection RS232 cable(USB-RS232 cable can be used directly)

Baud rate: 115200

Data Bit: 8

Stop bit: 1

Parity Bit: None

RS232 connection, pin definition:

RS232 Control commands

Command	Function	Feedback Example
Switch	SW [x] [y] [y] [y]	x: Inport number y: outport number SW 1 1 2 3 4: switch input 1 to output 1,2,3,4. Return: SWS 1 1 1 1 SW 2 2: switch input 2 to output 2 Return: SWS 1 2 1 1
Get Switcher	GetSW	Return :SWS 1 1 1 1
Get FW version	GetMCUFWVer	Return: MCUVer 01.01.00
Select Edid	SetEDID [x] [y]	x: Inport number y: Edid selected, reference to Table1: Item number value. Eg. SetEdid 1 10 ：Set Outport1 Edid to Inport 1,
Set Edid Data	SetEDIDData [x] [y]	x: Edid select: Refet table1 item number The Value is 1~9, y: Edid Data Eg.SetEDIDData 1 00 FF FF FF FF FF FF....
Get Edid Data	GetEDIDData x	x: Edid select: Refet table1 item number The Value is 1~9, Eg. GetEDIDData 1 Return: EDIDData 1 00 ff ff ff ff ff ff 00....
Set Output HDCP	SetOutPortHDCP [x] [y]	x: output port y: 0 is Off 1: Is On 2:is following input

Command	Function	Feedback Example
Get Output HDCP Setting	GetOutPortHDCP	Return: OutPortHDCPS 2 2 2 2 Return four out port HDCP status
Get HDCP Status	GetInPortHDCPS	InPortHDCPS 0 0 0 0 0: no HDCP 1: is HDCP 1.4 2: is HDCP 2.2
Set logo	SetServiceType	Set LCD line 1 display content Eg. SetServiceType HDMI4X4
Set Module	SetServiceNum	Set LCD line 2 display content Eg. SetServiceNum H2M44
Set IP	SetIP x.x.x.x	Set IP address Eg. SetIP 192.168.1.121 Return: IP 192.168.1.121 This command is avalid for static ip mode And need powr on again
Get IP	GetIP	Return: IP 192.168.1.121
Set IP mask	SetIPMask x.x.x.x	Eg. SetIPMask 255.255.255.0 Return: IPMask 255.255.255.0
Scence Save	ScenceSave x	Save current switcher to scence x: 0~9
Scence call	ScenceCall x	Recall the scence saving X: 0~9
Power on	PWRON	Pown on when in power saving
Power off	PowerOff	Eneter Power saving
Lock keypad	SetKeyLock x	X: 0 set keypad unlock 1 set keypad lock
Keypad status	GetKeyLock	Return : KeyLockStatus 0
Reset	ResetMCUModule	Reset MCU to factory setting

7.3 WEB Control

Type the IP address 192.168.1.215 into a browser, and it will show the log in interface:

The default password for Administrator is admin, and the password for user is 1234566.

After log in, it will show below interface for the input and output switching:

Users Setting:

Name setting:

HDCP and EDID Management:

IP address setting: