

iM44 HDMI Matrix

4x4 HDMI 1.4a Matrix Routing Switcher
Support Button/IR/UART Control
Full EDID Management/Learning





SAFETY INFORMATION



1. To ensure the best results from this product, please read this manual and all other documentation before operating your equipment. Retain all documentation for future reference.
2. Follow all instructions printed on unit chassis for proper operation.
3. To reduce the risk of fire, do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.
4. Make sure power outlets conform to the power requirements listed on the back of the unit. Keep unit protected from rain, water and excessive moisture.
5. Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Dust with a clean dry cloth.
6. Do not use the unit if the electrical power cord is frayed or broken. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
7. Do not force switched or external connections in any way. They should all connect easily, without needing to be forced.
8. Always operate the unit with the AC ground wire connected to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.
9. AC voltage must be correct and the same as that printed on the rear of the unit. Damage caused by connection to improper AC voltage is not covered by any warranty.
10. Turn power off and disconnect unit from AC current before making connections.
11. Never hold a power switch in the "ON" position
12. This unit should be installed in a cool dry place, away from sources of excessive heat, vibration, dust, moisture and cold. Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.
13. Do not block fan intake or exhaust ports. Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically "blown" free of foreign dust and matter.
14. To reduce the risk of electric shock, do not remove the cover. There are no user serviceable parts inside. Refer all servicing to qualified service personnel. There are no user serviceable parts inside.
15. When moving the unit, disconnect input ports first, then remove the power cable; finally, disconnect the interconnecting cables to other devices.
16. Do not drive the inputs with a signal level greater than that required to drive equipment to full output.
17. The equipment power cord should be unplugged from the outlet when left unused for a long period of time.
18. Save the carton and packing material even if the equipment has arrived in good condition. Should you ever need to ship the unit, use only the original factory packing.
19. Service Information Equipment should be serviced by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged.
 - B. Objects have fallen, or liquid has been spilled into the equipment.
 - C. The equipment has been exposed to rain
 - D. The equipment does not appear to operate normally, or exhibits a marked change in performance
 - E. The equipment has been dropped, or the enclosure damaged.

➤ TABLE OF CONTENTS

HDMI Matrix Switcher Series

Thank you for purchasing the iM44 HDMI Matrix Switcher. You will find this unit easy to install and highly reliable but it is essential that you read this manual thoroughly before attempting to use the 4x4 HDMI Matrix switcher.

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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 free, electrical shock and injury to persons.
- To prevent free 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.

DISCLAIMERS

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INTRODUCTION

The iM44 is our next-generation 4x4 HDMI Matrix Routing Switch, designed for multiple sources and displays. There are (4) HDMI connections for inputs and (4) HDMI connections for outputs located on the back panel. This unit has EDID management and EDID memory, including button/remote/UART/net/web control, easy and friendly to user.. The iM44 supports data rates up to of 6.75Gbps, enabling 4K/1080p HDMI formats and UXGA/WUXGA/ DVI 1920x1200 resolutions. The iM44 is based on HDMI standards and supports full resolution HDMI video with a signal bandwidth of 340Mhz so there is no signal degradation.

The iM44 control is provided via front panel push buttons, IR remote, RS-232. A RS-232 Windows GUI interface is provided for matrix routing control (Windows only). The RS-232 connection allows functions to be controlled by systems like Control (drivers included) or any computerized software/hardware control system. The switcher is certified as being fully HDMI, HDCP 1.4 compliant, with RoHS, CE, FCC certifications and full HD HDMI V1.4 formats.

When using the iM44 Matrix Routing Switch, one-to- many or many-to-one connections can be established. You can easily connect any input device to any output device. You can also establish a single input device to many output devices, eliminating the need to constantly re-route video input and output cables.

SAFETY PRECAUTIONS

FEATURES

FEATURES

- 4x HDMI with DVI-Audio source devices matrix switched to 4x HDMI output devices
- HDMI digital video embedded HDCP, DVI format and HDCP 1.4 compliant
- Worldwide control EDID modes for HD Video resolutions
- Link speeds of up to 6.75 Gbps (link clock rate of 340MHz), Supports HDMI 1.4 formats
- Wide range of HD resolutions from PC XGA to WUXGA 1920x1200 and HDTV/DTV HDMI resolutions 480i/480p, 576i/576p, 720p, 1080i & 1080p 4K 24/25/30
- Compatible with all HDMI source devices, PC monitors, Plasma HD displays, HDTV and audio receivers or audio amplifiers
- Digital Video TMDS formats for resolutions up to 1080p-60 with Deep color 36-bit
- Various User Interface control:
 - Windows based GUI control via RS-232 port
 - ◆ Front panel push button
 - ◆ IR wireless remote control
 - ◆ RS232 control
- Supports EDID modes :
 - ◆ AUTO
 - ◆ External modes : Learning mode
- Easy to install as either desktop or provided rack mount brackets

The switcher will remember that last state during a power cycle. When power is removed and resorted, the last configuration will be invoked.

PACKAGE CONTENTS

Check that you have the following components;

- iM44 Matrix Switcher
- Master wireless IR Remote Control
- CD Contents: This manual, Windows GUI, RS-232 cable windows driver
- RS-232 Cable 3 feet (1M)
- Universal Power Supply: DC12V, 3A, Input: (100~230 VAC, AC 50/60Hz)

SPECIFICATIONS

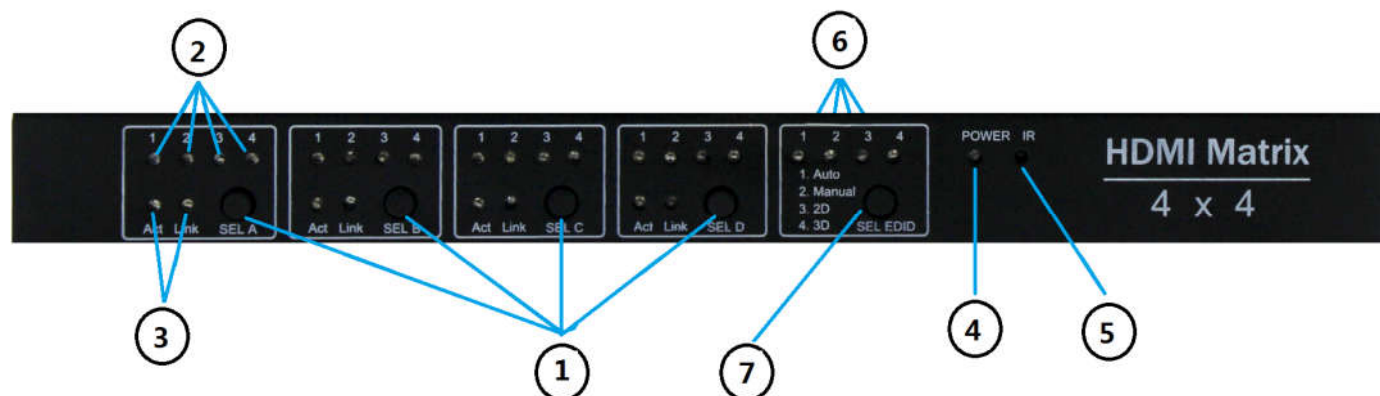
SPECIFICATIONS

- **Type of HDMI Switcher:** 4x HDMI Inputs to 4x HDMI Outputs Matrix Switcher
- **HDMI Support:** HD 1080p-@60Hz, H36-bit Deep color, 4K 24/25/30 HZ formats
- **HDCP Support:** HDCP 1.4 Compliant
- **Video Bandwidth:** Double Data Rates: 340Mhz, Total 6.75Gbps bandwidth
- **Digital Video Support:** Full HD Resolution: 480i / 480p / 720p / 1080i / 1080p 4K 24/25/30
- **Digital Audio Support:** Multi Audio Formats 5.1 / 7.1, MAT(MLP), Dolby Digital, Dolby TrueHD, Dolby Digital Plus, DTS, DTS-ES 6.1, DTS-HD, DTS-HD-HRA, DTS-HD Master, (PCM-2CH)
- **Controls:**
 - ◆ 1x IR Remote Controller (remote switcher)
 - ◆ 1x Select & Function buttons on front panel
 - ◆ 1x RS-232 series interface (switch control)
- **Infrared Frequency:** 38 KHz
- **RS-232 Cable:** Straight thru, 6 ft, 9D-M to 9D-F
- **HDMI I/O Connector:** HDMI Type A 19pin Female Type
- **Temperature:** 32°F - 100°F Operation (0°C - 38°C)
- **Dimensions (LxWxH):** 300(L)X130(W)X32(H)
- **Power Supply:** DC12V / 3A, Universal world wide Type 50/60Hz, 100~230 VAC
- **Power Consumption:** 3880 mA Maximum
- **Safety Approvals:** CE, FCC, RoHS (2002/95/EC)
- **Product Weight:** 1.4Kg

As product improvements are continuous, specifications are subject to change without notice.

➤ FRONT PANEL

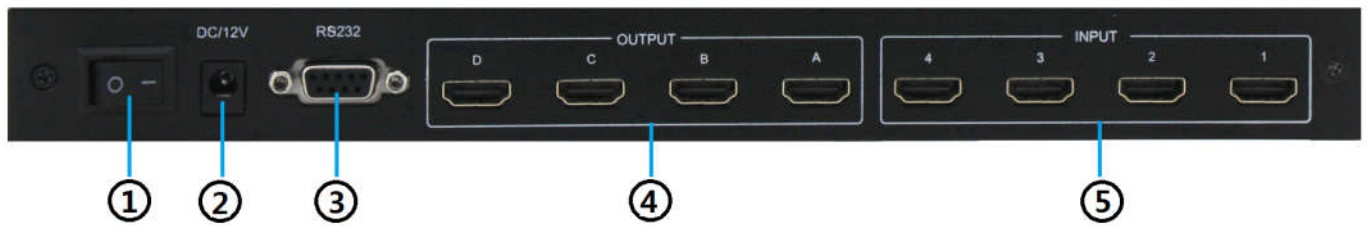
FRONT PANEL



- 1. OUTPUT SELECT BUTTONS:** Separate 4 buttons SELA/SELB/SEL C/SEL D for output A/B/C/D input select. SELA/SELB/SEL C/SEL D select buttons are provided for each destination assignment. Routing can be Source to Destination.
Example: Press SELA button to select the input source for output A.
- 2. Output input source indication LED:** Four LED(1/2/3/4) for each output, to show the output port current input source.
 - ◆ 1: Input 1, when this LED on, then the output current input source is input 1;
 - ◆ 2: Input 2, when this LED on, then the output current input source is input 2;
 - ◆ 3: Input 3, when this LED on, then the output current input source is input 3;
 - ◆ 4: Input 4, when this LED on, then the output current input source is input 4;
- 3. Input/Output Status LED:** Two LED(Act/Link) for each output port's to show the output's input/output signal status
 - ◆ Act: On: The input for the output signal is stable; Off: The input for the output has no signal;
 - ◆ Link: On: The output signal for the output is stable; Off: The output signal for the output has no signal;
- 4. Power Status LED:**
 - ◆ On: Power supply is ok;
 - ◆ Off: No power supply;
- 5. IR receive sensor:** The IR receive sensor.
- 6. EDID Mode LED:**
 - ◆ 1: Auto: On: EDID mode is Auto mode, System will according to EDID of the display that connect to the Output, and auto set the input EDID;
 - ◆ 2: Manual: On: EDID mode is Manual mode, all the input EDID is the set by the user;
 - ◆ 3: 2D: On: EDID mode is 2D; All the inputs use the default 2D EDID;
 - ◆ 4: 3D: On: EDID mode is 3D; All the inputs use the default 3D EDID;
- 7. EDID mode Select Button:** Press this button to set the EDID mode;

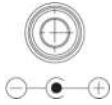
➤ BACK PANEL

BACK PANEL



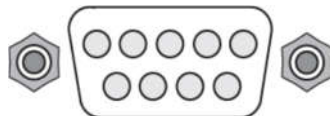
1. POWER SWITCH: The power switch to turns the unit on or off.
 -: ON: The Power LED on, indicate that the matrix is on;
 O: Off: The Power LED off, indicate that the matrix is off;
 Matrix will remember that last state during a power cycle. When power is removed and resorted, the last configuration will be evoked.

2. DC POWER INLET: The switcher is fitted with a DC power plug input connector. Be sure it is an approved type and is of sufficient current carrying connector capacity with the correct voltage and connector polarity. 12Volt DC power supply 3A Max (Center pin positive).



Power Jack:
 Inner OD Ø 2.1mm (+)
 Outside OD Ø 5.5mm (GND)
 Power input - 12VDC, 3A

3. RS-232 CONNECTION: RS-232 control port allows for interfacing to a PC, such as a computer or touch panel control, to the switcher via this DB-9pin female connector for serial RS-232 control.

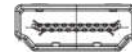


4. OUTPUTS-A,B,C,D HDMI: Connect HDMI digital video/ audio direct to the female HDMI connector. This connector supports HDMI digital video/audio and DVI digital video sources. HDMI Digital Video/Audio, Connector Outputs A ~ D;



HDMI Digital Video/Audio Connector: HDMI female connector.

5. INPUTS-A,B,C,D HDMI: Connect HDMI digital video/audio direct to the female HDMI connector. This connector supports HDMI digital video/audio and DVI digital video sources. HDMI Digital Video/Audio.



HDMI Digital Video/Audio Connector: HDMI female connector.

➤ REMOTE CONTROL

Before making any connections to the switcher, observe the following:

- Ensure the mains voltage supply matches the label on the supplied plug- Pack (+/- 10%).
- Ensure that the power switch is OFF.
- Ensure that all system grounds (earth) are connected to a common point.
- Avoid powering equipment within a system from multiple power sources that may be separated by large distances.
- Connect all audio video sources and destination equipment.
- Power up all source and destination audio-visual sources.
- Upon power up the switcher will return to its last used setting before Powered down.

REMOTE CONTROL

IR REMOTE CONTROL KEY:

- 1. Output A Input Select Button :** Button 1/2/3/4 for input 1/2/3/4, Button Left to select previous input source, Button Right to select next input source;
- 2. Output B Input Select Button :** Button 1/2/3/4 for input 1/2/3/4, Button Left to select previous input source, Button Right to select next input source;
- 3. Output C Input Select Button :** Button 1/2/3/4 for input 1/2/3/4, Button Left to select previous input source, Button Right to select next input source;
- 4. Output D Input Select Button :** Button 1/2/3/4 for input 1/2/3/4, Button Left to select previous input source, Button Right to select next input source;



➤ REMOTE PROTOCOL COMMANDS

HOW TO SETUP IR CODES:

CUSTOM CODE: 00FF

Output A:

#1: 00FF 09F6
#2: 00FF 12ED
#3: 00FF 1FE0
#4: 00FF 0Df2
#<: 00FF 14EB
#>: 00FF 46B9

Output B:

#1: 00FF 17E8
#2: 00FF 12ED
#3: 00FF 59A6
#4: 00FF 08F7
#<: 00FF 19E6
#>: 00FF 15EA

Output C:

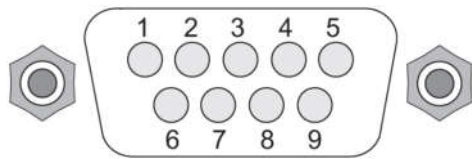
#1: 00FF 47B8
#2: 00FF 07F8
#3: 00FF 40BF
#4: 00FF 02FD
#<: 00FF 5EA1
#>: 00FF 03FC

Output D:

#1: 00FF 0AF5
#2: 00FF 1EE1
#3: 00FF 0EF1
#4: 00FF 1AE5
#<: 00FF 18E7
#>: 00FF 51AE

➤ RS-232 SERIAL INTERFACE

RS-232 SERIAL INTERFACE CONNECT A PC OR CONTROL SYSTEM. VERSION -2.0 COMPATIBLE



RS-232 SERIAL INTERFACE

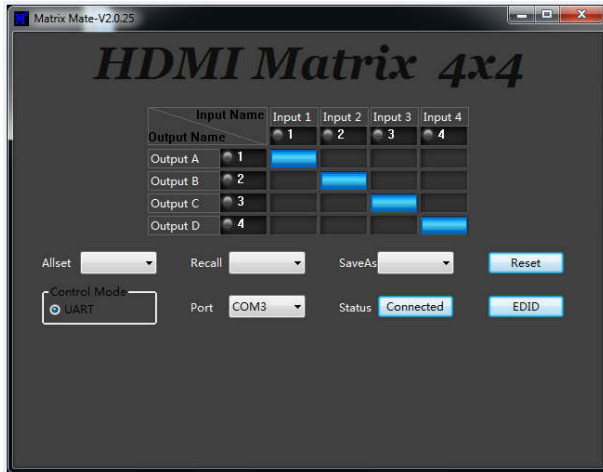
Pin	RS-232	Definition
1	-----	Not used
2	TX	Transmitter
3	RX	Receiver
4	-----	Not used
5	GND	Ground
6	-----	Not used
7	-----	Not used
8	-----	Not used
9	-----	Not used

The iM44 switcher can be controlled via the RS-232 serial control port to allow for interfacing to a PC, or similar third party control system.

The serial communication parameters are 9600 baud, 8 bit, No Parity and 1 stop bit - this is often referred to as 9600 8N1. When the unit recognizes a complete command it will perform the requested action - there is no delimiter character required.

➤ PC Tool Matrix Mate User Guide

Matrix Mate GUI:



- ✧ **Matrix Mate** is non installation, double click the **Matrix Mate.exe**, then will run the PC tool;
- ✧ User can use this tool to control iM44 via RS-232, or Network;

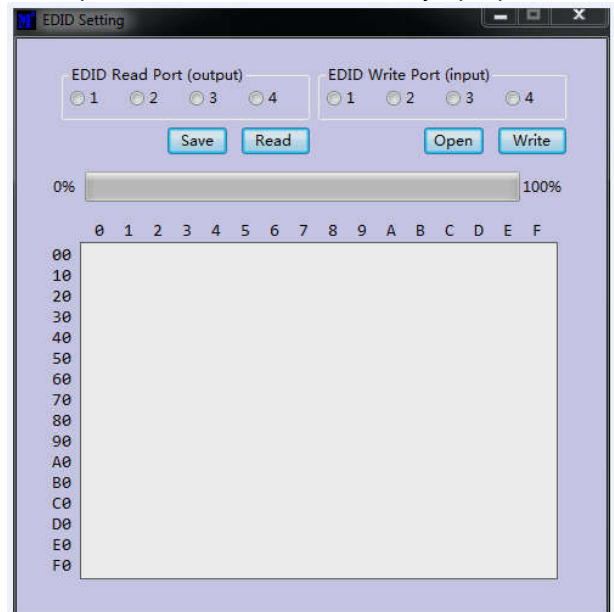
How to use the Matrix Mate to control the iM44 via RS-232:

1. Use the RS-232 cable that packaged together with the iM44, all RS-232 cable that fulfill with the RS-232 SERIAL INTERFACE that list in RS-232 SERIAL INTERFACE to connect with the computer and the iM44;*(If first use the RS-232 cable, please first install the RS-232 cable driver, the drive is in the CD, which is packaged)*
2. Double click the **Matrix Mate.exe**.
3. Select the right COM port, and select UART, then press the status button, if connected successful, then the Connected will show on the button, and the route information will show.
4. Click the block to switch the input, if switch success, the block will filled with blue;
5. Troubleshoot : If can't connect the iM44 via RS-232, please check as follows:
 - (1) Check COM port selected is right or not;(Matrix Mate will auto detect the COM port, if only one RS-232 cable connected to the computer, the COM port show in the tool is the right COM port)
 - (2) Make sure the RS-232 cable is Direct serial

port line;

What functions Matrix Mate has:

- **Switch:** Single click the block, then if switch success, the block will show in blue;
- **Mode Save/Recall:**
- **Reset:**
- **EDID read/write:** Click the EDID button, then will show the EDID control GUI.
 1. Read the EDID from every output, and can save the EDID data;
 2. Open a EDID file, and write to every input port



- Rename the Input/Output, Be more memorable, and friendly;

➤ Appendix 1: RS232 communication protocol

Serial communication protocol format:

Baud Rate: 9600

Data bits: 8

Parity: None

Stop bits: 1

Command head (2 byte)	Command index (1 byte)	Command length (1 byte)	Command body (CMD_LENGTH bytes)	Check-sum (1 byte)	Command tail (2 byte)
CMD_HEAD	CMD_INDEX	CMD_LENGTH	CMD_BODY	CMD_CHECKSUM	CMD_TAIL
{{					}}
7b 7b					7d 7d

Note:

- Check-sum is the low 8bits of the sum of CMD_HEAD,CMD_INDEX,CMD_LENGTH,CMD_BODY and CMD_TAI
- The length of all the command is CMD_LENGTH+7;
- All command data is in hex mode;
-

Example: 7B 7B 01 02 01 01 F5 7D 7D

7b 7b: Command head

01: Command index (Change routing command)

02: Command length: the length of the command body

01 01: Command body

F5: Check-sum: $7b+7b+01+02+01+01+7d+7d=1F5$, so Checksum is F5

7d 7d: Command tail

Serial communication protocol list:

(01)Switching (01) :

Command head (2byte)	Command index (1byte)	Command length (1byte)	Command body (CMD_LENGTH byte)		Check-sum (1byte)	Command tail (2byte)
{{	01	02	Input	Outputs		}}
7b 7b	01	02				7d 7d

Note:

(1) Every bit of the “Outputs” byte means whether to switch the input to this output port. 1: switch the input to the output port. 0: Do nothing

(2) Bit 0~Bit7 of the “Outputs” byte represent HDMI output port 1~8;

(3) The “input” byte represent the input port index, 0~7 represent HDMI input port 1~8

Example:

Switch the input 2 to output 1	Switch the input 4 to all the Output ports(Output port 1~8)
Command: 7B 7B 01 02 01 01 F5 7D 7D	Command: 7B 7B 01 02 03 FF F5 7D 7D
7b 7b: Command head 0: Command index 02: Command length 02 01: Command body F5: Check-sum 7d 7d: Command Tail	7b 7b: Command head 01: Command index 02: Command length 03 ff: Command body F5: Check-sum 7d 7d: Command Tail
Return: 7B 7B 01 02 01 01 F5 7D 7D	Return: 7B 7B 01 02 03 FF F5 7D 7D

After the devices received the command successfully, will send back the whole command back..

(02)Routing configuration save: Save the current routing configuration

Command head (2byte)	Command index (1byte)	Command length (1byte)	Command body (CMD_LENGTH byte)	Check-sum (1byte)	Command tail (2byte)
{{	02	01	Routing configuration Index		}}
7b 7b	02	01			7d 7d

Note :

(1) The device supports store 8 different routing configuration. From 0~7, represent Routing configuration index 1~8

Example:

Save the current routing configuration to index 1	Save the current routing configuration to index 8
Command: 7B 7B 02 01 00 F3 7D 7D	Command: 7B 7B 02 01 07 FA 7D 7D
7b 7b: Command head 02: Command index 01: Command length 00: Command body ,00 means Routing configuration index 1; (0~7 represent Routing configuration index 1~8) F3: Check-sum 7d 7d: Command tail	7b 7b: Command head 01: Command index 01: Command length 07: Command body ,07 means Routing configuration index 8; (0~7 represent Routing configuration index 1~8) FA: Check-sum 7d 7d: Command tail
Return: Don't return any command	Return: Don't return any command

(03)Recall the routing configuration that saved before (03): To set the current routing configuration the same as the routing configuration index xx that saved before

Command head (2byte)	Command index (1byte)	Command length (1byte)	Command body (CMD_LENGTH byte)	Check-sum (1byte)	Command tail (2byte)
{{	03	01	Routing configuration Index		}}
7b 7b	03	01			7d 7d

Note:

(1) The device support 8 different Routing configuration

Example:

Recall the routing configuration index 1	Recall the routing configuration index 8
Command: 7B 7B 03 01 00 F4 7D 7D	Command: 7B 7B 03 01 07 FB 7D 7D
7b 7b: Command head 03: Command index 01: Command length 00: Command body, 00: Means 1 routing configuration index 1 (0~7 represent routing configuration index 1~8) F4: Check-sum 7d 7d: Command tail	7b 7b: Command head 03: Command index 01: Command length 07: Command body, 07: Means 1 routing configuration index 8 (0~7 represent routing configuration index 1~8) FB: Check-sum 7d 7d: Command tail
Return: 7B 7B 11 04 00 01 02 03 0B 7D 7D (Please refer to command index 11)	Return: 7B 7B 11 04 00 01 02 03 0B 7D 7D (Please refer to command index 11)

(11) The routing configuration information (11)

Command head (2byte)	Command Index (1byte)	Command length (1byte)	Command body (CMD_LENGTH byte)					Check-sum (1byte)	Command tail (2byte)
{{	11		The input port index of the output 1	The input port index of the output 2	The input port index of the output 3	The input port index of the output 4		}}
7b 7b	11		0~7 means Input 1~8	0~7 means Input 1~8	0~7 means Input 1~8	0~7 means Input 1~8		7d 7d

Note:

(1) The Command length is determined by the HDMI device outputs port counter;

Example:

HDMI 4x4 Matrix: The current routing information is 1-1,2-2,3-3,4-4	HDMI 4x4 Matrix: The current routing information is 1-1,1-2,1-3,1-4
Command: 7B 7B 11 04 00 01 02 03 0B 7D 7D	Command: 7B 7B 11 04 00 00 00 00 05 7D 7D
7b 7b: Command head 11: Command index 04: Command length 00 01 02 03: Command body, Means input 1 to output 1, input 2 to output 2, input 3to output 3, input 4 to output 4, 0B: Check-sum 7d 7d: Command tail	7b 7b: Command head 11: Command index 04: Command length 00 00 00 00: Command body. Means input 1 to output 1, input 1 to output 2, input 1 to output 3, input 1 to output 4, 05: Check-sum 7d 7d: Command tail
Return: Don't return any command	Return: Don't return any command

(15)EDID Read Command (15): Read the EDID data of the device that connect to the HDMI output
Need to read 16 times, due to each time will return only 16 bytes EDID data.

Command head (2byte)	Command Index (1byte)	Command length (1byte)	Command body (CMD_LENGTH byte)		Check-sum (1byte)	Command tail (2byte)
{{	15	2	Output port index, 0~7 means port 1~8	The beginning of the EDID index to read from		}}
7b 7b	15	2				7d 7d

Note: After device received this command, will return 16 bytes EDID data, from the EDID data index that set by the command. If failed, then the device will return read failed command, please refer to command index 16.

Please make sure that the port which to read EDID data from, do have picture display well, otherwise, will failed;

Example: Read the EDID data from the device that connected to HDMI output 1

Receive (With respect to the HDMI device)	Send (With respect to the HDMI device)
7B 7B 15 02 00 00 07 7D 7D	7B 7B 15 12 00 00 00 FF FF FF FF FF FF 00 4D 77 01 00 01 00 00 00 D7 7D 7D
7B 7B 15 02 00 10 07 7D 7D	7B 7B 15 12 00 10 1C 16 01 03 80 3C 22 78 0A 0D C9 A0 57 47 98 27 90 7D 7D
7B 7B 15 02 00 20 07 7D 7D	7B 7B 15 12 00 20 12 48 4C BF EF 00 01 01 01 01 01 01 01 01 95 7D 7D
7B 7B 15 02 00 30 07 7D 7D	7B 7B 15 12 00 30 01 01 01 01 01 01 01 1D 00 72 51 D0 1E 20 6E 28 D2 7D 7D
7B 7B 15 02 00 40 07 7D 7D	7B 7B 15 12 00 40 55 00 C4 8E 21 00 00 1E 01 1D 80 18 71 1C 16 20 B6 7D 7D
7B 7B 15 02 00 50 07 7D 7D	7B 7B 15 12 00 50 58 2C 25 00 C4 8E 21 00 00 9E 00 00 00 FC 00 53 70 7D 7D
7B 7B 15 02 00 60 07 7D 7D	7B 7B 15 12 00 60 6B 79 77 6F 72 74 68 20 55 48 44 0A 00 00 00 FD 97 7D 7D
7B 7B 15 02 00 70 07 7D 7D	7B 7B 15 12 00 70 00 31 4C 0F 50 0E 00 0A 20 20 20 20 20 01 B1 ED 7D 7D
7B 7B 15 02 00 80 07 7D 7D	7B 7B 15 12 00 80 02 03 29 74 4B 84 10 1F 05 13 14 01 02 11 06 15 92 7D 7D
7B 7B 15 02 00 90 07 7D 7D	7B 7B 15 12 00 90 26 09 7F 03 11 7F 18 83 01 00 00 6D 03 0C 00 10 10 7D 7D
7B 7B 15 02 00 A0 07 7D 7D	7B 7B 15 12 00 A0 00 B8 3C 2F 80 60 01 02 03 01 1D 00 BC 52 D0 1E DA 7D 7D
7B 7B 15 02 00 B0 07 7D 7D	7B 7B 15 12 00 B0 20 B8 28 55 40 C4 8E 21 00 00 1E 01 1D 80 D0 72 CD 7D 7D
7B 7B 15 02 00 C0 07 7D 7D	7B 7B 15 12 00 C0 1C 16 20 10 2C 25 80 C4 8E 21 00 00 9E 8C 0A D0 81 7D 7D
7B 7B 15 02 00 D0 07 7D 7D	7B 7B 15 12 00 D0 8A 20 E0 2D 10 10 3E 96 00 13 8E 21 00 00 18 8C F8 7D 7D
7B 7B 15 02 00 E0 07 7D 7D	7B 7B 15 12 00 E0 0A D0 90 20 40 31 20 0C 40 55 00 13 8E 21 00 00 75 7D 7D
7B 7B 15 02 00 F0 07 7D 7D	7B 7B 15 12 00 F0 18 00 00 00 00 00 00 00 00 00 00 00 00 00 00 22 41 7D 7D

(16)EDID Read failed return command (16):

Command head (2byte)	Command Index (1byte)	Command length (1byte)	Command body (CMD_LENGTH byte)		Check-sum (1byte)	Command tail (2byte)
{{	16	2	Output port 0~7 represent 1~8	The beginning of the EDID index to read from		}}
7b 7b	16	2				7d 7d

Example: Read from EDID data index 60 failed, the device will Return:7B 7B 16 02 00 60 68 7D 7D

(18)Write EDID (18):

Command head (2byte)	Command Index (1byte)	Command length (1byte)	Command body (CMD_LENGTH byte)			Check-sum (1byte)	Command tail (2byte)
{{	18	12	0~7 represent HDMI input 1~8	The beginning of the EDID index to write to	16 bytes data that to write		}}
7b 7b	18	12					7d 7d
Return	If write successes, will return the same command as that the device received						

Note: After device received this command, will write the 16 bytes EDID data, from the EDID data index that set by the command. If write successes, will return the same command as that the device received. Please make sure that the port which to write EDID data to be normal, otherwise, will fail;

Example:

Receive (With respect to the HDMI device)	Send (With respect to the HDMI device)
7B 7B 18 12 00 00 00 FF FF FF FF FF 00 4D 77 01 00 01 00 00 00 DA 7D 7D	7B 7B 18 12 00 00 00 FF FF FF FF FF 00 4D 77 01 00 01 00 00 00 DA 7D 7D
7B 7B 18 12 00 10 1C 16 01 03 80 3C 22 78 0A 0D C9 A0 57 47 98 27 93 7D 7D	7B 7B 18 12 00 10 1C 16 01 03 80 3C 22 78 0A 0D C9 A0 57 47 98 27 93 7D 7D
7B 7B 18 12 00 20 12 48 4C BF EF 00 01 01 01 01 01 01 01 01 01 98 7D 7D	7B 7B 18 12 00 20 12 48 4C BF EF 00 01 01 01 01 01 01 01 01 01 98 7D 7D
7B 7B 18 12 00 30 01 01 01 01 01 01 01 01 01 01 01 01 01 01 98 7D 7D	7B 7B 18 12 00 30 01 01 01 01 01 01 01 01 01 01 01 01 01 01 98 7D 7D
7B 7B 18 12 00 40 55 00 C4 8E 21 00 00 1E 01 1D 80 18 71 1C 16 20 B9 7D 7D	7B 7B 18 12 00 40 55 00 C4 8E 21 00 00 1E 01 1D 80 18 71 1C 16 20 B9 7D 7D
7B 7B 18 12 00 50 58 2C 25 00 C4 8E 21 00 00 9E 00 00 00 FC 00 53 73 7D 7D	7B 7B 18 12 00 50 58 2C 25 00 C4 8E 21 00 00 9E 00 00 00 FC 00 53 73 7D 7D
7B 7B 18 12 00 60 6B 79 77 6F 72 74 68 20 55 48 44 0A 00 00 00 FD 9A 7D 7D	7B 7B 18 12 00 60 6B 79 77 6F 72 74 68 20 55 48 44 0A 00 00 00 FD 9A 7D 7D
7B 7B 18 12 00 70 00 31 4C 0F 50 0E 00 0A 20 20 20 20 20 20 01 B1 F0 7D 7D	7B 7B 18 12 00 70 00 31 4C 0F 50 0E 00 0A 20 20 20 20 20 20 01 B1 F0 7D 7D
7B 7B 18 12 00 80 02 03 29 74 4B 84 10 1F 05 13 14 01 02 11 06 15 95 7D 7D	7B 7B 18 12 00 80 02 03 29 74 4B 84 10 1F 05 13 14 01 02 11 06 15 95 7D 7D
7B 7B 18 12 00 90 26 09 7F 03 11 7F 18 83 01 00 00 6D 03 0C 00 10 13 7D 7D	7B 7B 18 12 00 90 26 09 7F 03 11 7F 18 83 01 00 00 6D 03 0C 00 10 13 7D 7D
7B 7B 18 12 00 A0 00 B8 3C 2F 80 60 01 02 03 01 1D 00 BC 52 D0 1E DD 7D 7D	7B 7B 18 12 00 A0 00 B8 3C 2F 80 60 01 02 03 01 1D 00 BC 52 D0 1E DD 7D 7D
7B 7B 18 12 00 B0 20 B8 28 55 40 C4 8E 21 00 00 1E 01 1D 80 D0 72 D0 7D 7D	7B 7B 18 12 00 B0 20 B8 28 55 40 C4 8E 21 00 00 1E 01 1D 80 D0 72 D0 7D 7D
7B 7B 18 12 00 C0 1C 16 20 10 2C 25 80 C4 8E 21 00 00 9E 8C 0A D0 84 7D 7D	7B 7B 18 12 00 C0 1C 16 20 10 2C 25 80 C4 8E 21 00 00 9E 8C 0A D0 84 7D 7D
7B 7B 18 12 00 D0 8A 20 E0 2D 10 10 3E 96 00 13 8E 21 00 00 18 8C FB 7D 7D	7B 7B 18 12 00 D0 8A 20 E0 2D 10 10 3E 96 00 13 8E 21 00 00 18 8C FB 7D 7D
7B 7B 18 12 00 E0 0A D0 90 20 40 31 20 0C 40 55 00 13 8E 21 00 00 78 7D 7D	7B 7B 18 12 00 E0 0A D0 90 20 40 31 20 0C 40 55 00 13 8E 21 00 00 78 7D 7D
7B 7B 18 12 00 F0 18 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 22 44 7D 7D	7B 7B 18 12 00 F0 18 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 22 44 7D 7D

(AA) Restore to factory default setting:

Command head (2byte)	Command Index (1byte)	Command length (1byte)	Command body (CMD_LENGTH byte)		Check-sum (1byte)	Command tail (2byte)
{{	AA	02	01	01	9c	}}
7b 7b	AA	02	01	01	9c	7d 7d

After the device received this command, will restore to the factory default setting, and will return the routing configuration information by command 11

➤Appendix 2: Route command

Matrix Routing command

Input \ Output	A	B	C	D
1	7B 7B 01 02 00 01 F4 7D 7D	7B 7B 01 02 00 02 F5 7D 7D	7B 7B 01 02 00 04 F7 7D 7D	7B 7B 01 02 00 08 FB 7D 7D
2	7B 7B 01 02 01 01 F5 7D 7D	7B 7B 01 02 01 02 F6 7D 7D	7B 7B 01 02 01 04 F8 7D 7D	7B 7B 01 02 01 08 FC 7D 7D
3	7B 7B 01 02 02 01 F6 7D 7D	7B 7B 01 02 02 02 F7 7D 7D	7B 7B 01 02 02 04 F9 7D 7D	7B 7B 01 02 02 08 FD 7D 7D
4	7B 7B 01 02 03 01 F7 7D 7D	7B 7B 01 02 03 02 F8 7D 7D	7B 7B 01 02 03 04 FA 7D 7D	7B 7B 01 02 03 08 FE 7D 7D

INPUT1 To All	7B 7B 01 02 00 FF F2 7D 7D
INPUT2 To All	7B 7B 01 02 01 FF F3 7D 7D
INPUT3 To All	7B 7B 01 02 02 FF F4 7D 7D
INPUT4 To All	7B 7B 01 02 03 FF F5 7D 7D