A3524 - 4x4 HDMI MATRIX SWITCHER / SPLITTER
Via Cat5e with IR Extenders

USER MANUAL

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Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

1.0 INTRODUCTION

This 4X4 HDMI MATRIX SWITCHER / SPLITTER offers unprecedented flexibility and convenience by routing high definition audio/video from any of four HDMI video sources, to any of four TVs over HDMI cable, or four remote displays over inexpensive, standard CAT5e/6 cable. It eliminates the need to disconnect and reconnect sources to a display equipped with one input.

The four receivers work with the Matrix device as a fully integrate modular system. High-Definition TV signals are supported up to a resolution of 1080p over HDMI cable of length 15m, or at a maximum distance of 40m over two strands of Cat5e/6 cable. The 4X4 Matrix HDMI SWITCHER / SPLITTER works with Blu-ray and DVD players, TiVo systems, PCs, satellite set-top boxes, and gaming consoles which can connect to an HDMI display. Every source and display is controllable at all times by selecting it with an IR remote or through RS232 port.

1.1 Feature:

- Allows any HDMI display to view any connected source at any time – Switcher.
- Allows any source to be displayed on multiple displays at the same time – Splitter.
- HDMI or DVI to HDMI cables are used to connect the inputs and the Matrix output.
- Each output section includes one HDMI output and one UTP output over Cat5e/6. Only one output method can be used for each output at a given time.
- Each UTP output is connected to a Receiver module via two strands of Cat5e/6.
- UTP output extends signal up to 40m for 1080p by CAT-6 cable.
- Each source input includes an infrared emitter, which can be used to control source device over a long distance by a Remote Control.
- Each display's inputs can be switched with the IR remote control or through RS232.
- Supports highest video resolution 1080p.
- Supports 225MHz/2.25Gbps per channel (6.75Gbps all channel) bandwidth.
- Supports 12-bit per channel (36-bit all channel) deep color.
- Supports HDCP.
- Supports uncompressed audio such as LPCM.
- Supports compressed audio such as DTS Digital, Dolby Digital（including DTS-HD and Dolby True HD）.
- Support 3D all formats, including 1080p@23.98/24Hz, 720p@59.94/60Hz/50Hz, and bandwidth up to 225MHz.

1.2 Package Contents:

Before attempting to use this unit, please check the packaging and make sure the following items are contained in the shipping carton:

Packaging of Main Unit – Box 1

1. HDMI 4X4 Switch Splitter
2. Remote Control
3. Infrared Receiver Extender. (IR Ext)
4. 5.5V@4A DC Power Supply
5. User Manual

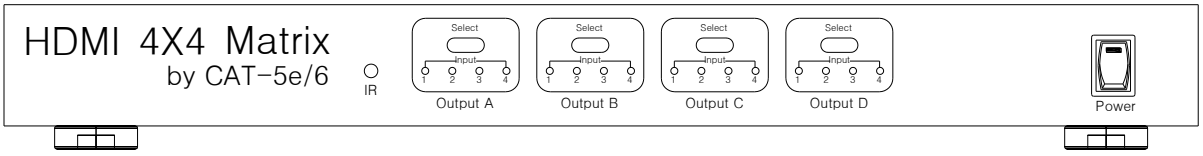
Packaging of Accessories – Box 2

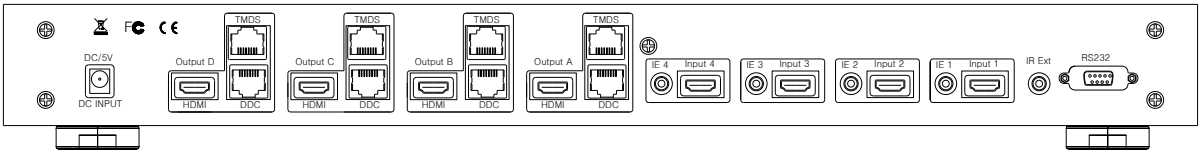
1. Four Receiver modules
2. Four Remote Controls for Receivers
3. Four External Infrared Emitters (IE)
4. Four 5Vd.c. @2A Power Supplies

2.0 PANEL DESCRIPTIONS

Please study the panel drawings below and become familiar with the layout and structure.

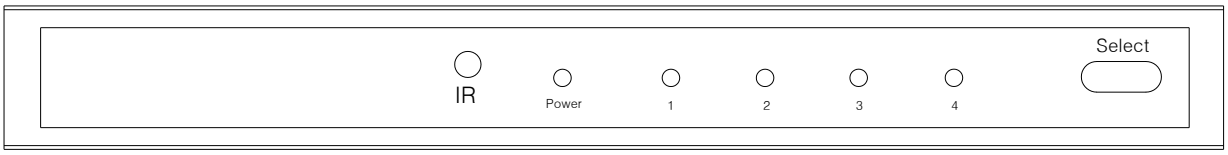
HDMI 4X4 Matrix Switcher / Splitter - Front

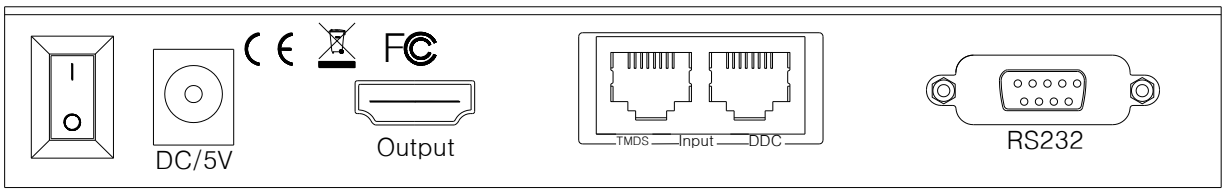




HDMI 4X4 Matrix Switch Splitter - Rear

Receiver Module - Front





Receiver Module - Rear

3.0 Connection and Operation

3.1 Connections:

1. Connect all source devices to the HDMI inputs on the Switch Splitter.
2. Either HDMI or UTP can be selected as signal output for Output A/B/C/D. When choosing the HDMI as a signal output, connect displays and main unit directly over HDMI cable. When choosing UTP as signal output, connect receivers and main unit over Cat5e/6 cable, and then connect output of receivers to displays. (ATTENTION: HDMI and UTP of each output cannot be connected simultaneously! But one output (A) can be HDMI only while the other (C) is UTP only.)
3. Connect the 5.5V@4A power supply to the Switch Splitter, and 5V@2A power supply to each receiver.

Note: 1) Please make sure to cut off the power before insert IR Extender into the Converter.
2) Please make sure to insert the plug of IR Extender into the Converter completely.

Note: It is generally considered best practice to avoid 'Hot Swapping' HDMI cables i.e. do not remove or plug in HDMI cables when input sources or output devices are turned on. Attention: Insert / Extract HDMI cables gently.

3.2 Operation:

1) Automatic Connections -
The available outputs will automatically connect to the available inputs according to their sequence number. Meanwhile, the redundant available ports (input or output) or unavailable ports will not be connected.

For example:

1. If outputs A, B, D are connected to three power-on TVs separately, and the four inputs all have their own source devices (work-on mode), then the power-on Switcher / Splitter will make a connection as follows:
   1→A 2→B 3→D
   (Output C and Input 4 are not connected)
2. If outputs A, C, D are connected to three power-on TVs separately, and only three inputs have source devices connected (work-on mode), then the power-on Switcher / Splitter will make a connection as follows:
   1→A 3→C 4→D
   (Output B and Input 2 are not connected)

2) Selecting source devices by buttons –
Four buttons on the Switcher / Splitter are used to select source devices inputs A, B, C, and D. Once you press the button, it will select next available source device.

3) Selecting source devices by IR remote –

1. Power button
2. The power button of the IR remote can control the power of the Switcher / Splitter. By pressing this button, the power-on unit will be turned off. If you press it again, the unit will be turned on.

4) Other buttons -
Depending on outputs A, B, C, D, the other buttons of the IR remote can be divided into four groups. Each group has five buttons: 'off'— turn off its outputs. 1, 2, 3, 4 are used to select input port accordingly.

3.3 Selecting source devices by RS232:

RS232 remote operation is mainly based on the "super terminal" of Windows operation system. Its parameter should be: **ANSI 4800 8-N-1-non.**

Operation -

1. Connect the switch splitter to the COM port of the PC with a RS232 cable.
2. Choose the right COM when you open 'SUPER TERMINAL' and then set the parameter as follows (you can use another RS-232 controller software program):
   1. Baud frequency：4800
   2. Data bit: 8
   3. Parity bit: N
   4. Stop bit: 1
   5. Data stream: NON

3. Inputting your instruction –
   - The instruction should be two or three letters, and finish with the **ENTER** button (In some programs, click SEND).
   - Please input next instruction in three seconds or a message '**OVERTIME INSTRUCTION**' will appear.
   - The input instruction should be correct, or you will be rejected with a message '**WRONG INSTRUCTION**'.
   - If the input or output that you choose is not connected to devices or not in power-on mode, an error message 'I**NEFFECTIVE INSTRUCTION**' will be displayed on screen.
   - If your instruction is performed correctly, you can see the message on screen '**SUCCESSFUL OPERATION**'.

Instruction input method -

A. Selecting source device:

Sequence number of output (A/B/C/D) + input sequence number (1/2/3/4) + ENTER >>

For example: If you want TV display B to view source 3, then you can input B3 and hit ENTER.

B. Turning off an output:

C + Sequence number of the output that you want to turn off (A/B/C/D) + ENTER

For example: If you want to turn off output B, then you can input CB, and finish with **ENTER**.

C. Turning off the Switcher / Splitter:

OFF + ENTER

D. Turning on the Switcher / Splitter:

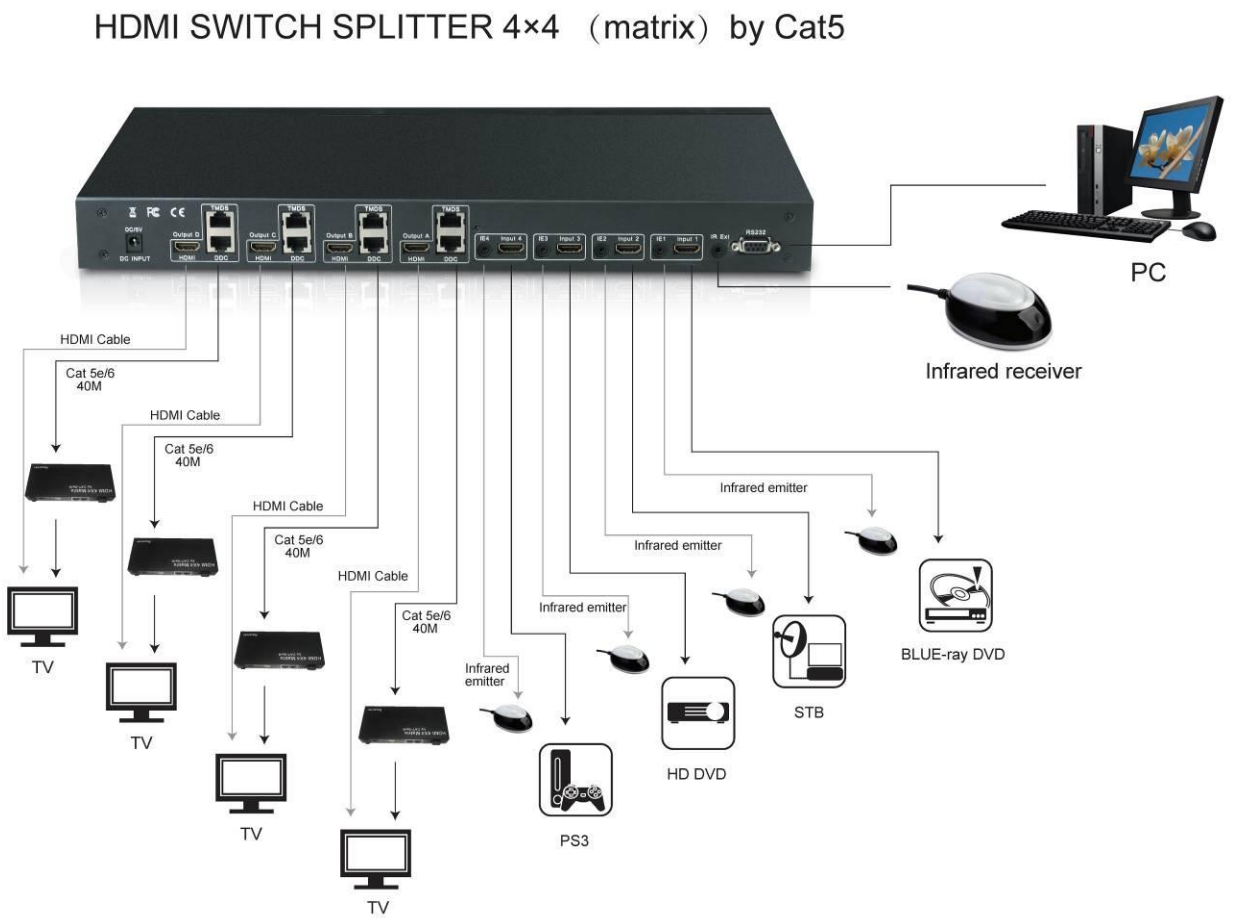
ON + ENTER

E. Inquiry:

QS + ENTER

This order enables you know which input and output are available and the connections of input and output.

4.0 Connection Diagram



Note: The IR control signal operates at 38kHz. It allows a source device's remote control to point at the receiver located beside a TV monitor, press a button to activate a command for the source device, and then carry that signal back down the cable to the receiver and out via the emitter connection located near the source device's IR lens. The IR Receiver is used to control the TVs at the other end of the Matrix system.

<u>IMPORTANT:</u> Please follow these connections closely. It is not advisable to put another device between the Matrix hub and the TV displays, such as a 5.1 surround sound amplifier. There is a possibility that the HDCP and/or EDID protocols with which the Matrix is programmed may not complement those programmed into the said amplifier. To get 5.1 surround sound from your Matrix system connections, it is suggested that the digital audio output from the TV display, whether SPDIF or Coaxial, be used to connect to such an amplifier.

The reason is that the signals from the source through Matrix should reach the TV without confusion or mismatching protocols that could be introduced if the signal does not follow the most direct connection path, such as is outlined above. The audio from the source can then be extracted from the TV(s) to drive the surround sound amplifier. However, if your input source is a 5.1 surround sound amplifier, then the HDMI output from that entering the Matrix should work satisfactorily.

5.0 SPECIFICATIONS

Signal Inputs/Output	
HDMI Connector	Type A 19 pin female
Input DDC Signal	5 volts p-p (TTL)
Control Port	RS-232 Female, Mini-Stereo
Output Signal	High Speed HDMI output, UTP output
Operating Frequency	
Vertical Frequency Range	50/60Hz
Video Amplifier Bandwidth	2.25Gbps/225MHz
Resolutions(HDTV)	
Interlaced(50&60Hz)	480i, 576i, 1080i
Progressive(50&60Hz)	480p, 576p, 720p, 1080p
Environmental	
Operating Temperature	0℃ to +70℃
Operating Humidity	10% to 85 % RH (no condensation)
Storage Temperature	-10℃ to +80℃
Storage Humidity	5% to 90 % RH (no condensation)
Power Requirements	
Power Supply for HDMI switch splitter	5.5Vd.c @4A; 20W
Power Supply for Receiver	5Vd.c @2A; 5W
Regulatory Approvals	
Converter Unit	FCC,CE,UL
Power Supply	UL,CE,FCC
Mechanical	
Size of HDMI Switch Splitter (L-W-H)	441×202×45MM
Weight of HDMI Switch Splitter (Net)	2218g

Note: Specifications are subject to change without notice. Weight and dimensions are approximate.
**Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner. Keep away from moisture, naked flames and other heat sources.

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