

Description	Specifications
Model	HDHC48MX-V1.3
HDMI Inputs	4
HDMI Outputs *	2
RJ-45 CAT 5/6 output *	8
* Outputs A and B are user configurable as either 1) HDMI out or 2) CAT 5/6 Ethernet cable output	
Version	1.3
HDCP	Yes
IN/Out Connectors	19 pin HDMI female type-A
RS-232 control port	1
Display Selection	Remote, Manual, Smart Scan,RS-232
Video Resolution	480 P, 720 I/P, 1080 I/P
Video Data Rate	6.75 Gbps
Deep Color Support	Yes
Vertical Frequency Scan Rate	24 / 50 / 60 Hz
Dimension	16.85 x 11.98 x 1.67 inch (427.9x 304.2 x 42.3 mm)
DC adapter (included)	9VDC, 2.6A
Rackmount capable	1RU, Rack mounts included
Remote control (IR)	Infrared, Discrete code



PRO HD HOME THEATER SERIES



V 1.3
Deep Color

Installation Guide

For Questions and support:

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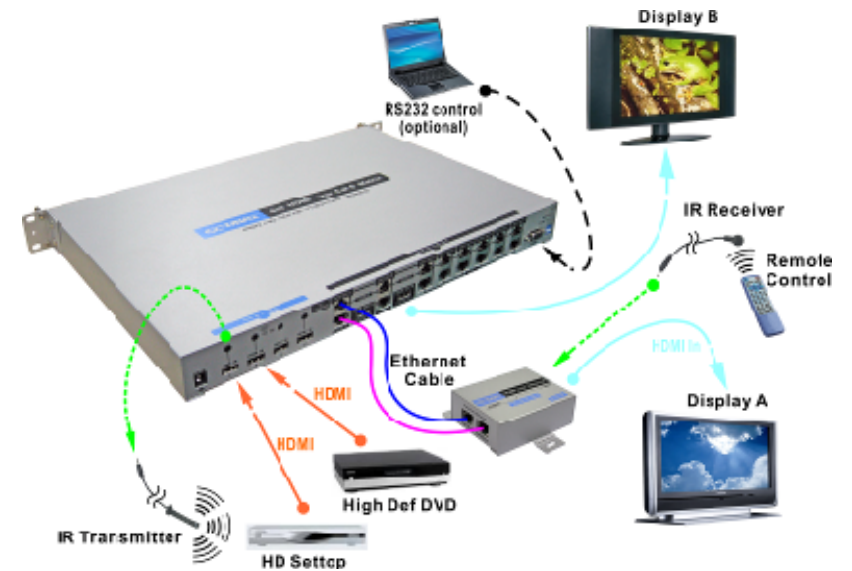
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Rev.A

Table of contents

- 1. Application Diagram**
- 2. Features**
- 3. Configuring Smart Scan™**
- 4. Installation**
- 5. Connecting Using CAT 5/6 outputs**
- 6. Front Panel Control**
- 7. Remote Control Guide**
- 8. EDID Configuration**
- 9. Changing EDID mode**
- 10. RS232 Controls**
- 11. Configuring Outputs for HDMI or RJ-45**
- 12. Source Display Switching**
- 13. Disabling / Enabling IR Remote Control Receiver**
- 14. I.R. Remote Control over CAT 5/6**



Application Diagram

Features:

- Watch ANY 4 HD programs simultaneously on 8 Displays!
- **V1.3, 1080P**
- 4 HDMI inputs
- 8 CAT 5/6 Outputs. 2 configurable to HDMI
- Matrix allows 65,356 viewing combinations
- 1 RU mountable
- RS-232 control
- Works with HDMI or DVI-D, HDCP-enabled HDTV
- Supports high resolution video 480P, 720I/P, 1080I/P
- **Clear EYE™** design optimizes HDMI signal transmission
- Easy to switch 4 HDMI or DVI-D sources to 8 displays.
- Remote Control (IR) included. Discrete Code allows direct channel control.
- External IR Jack for extension

Configuring Smart Scan™:

The Smart Scan is disabled before shipment. It is recommended to leave Smart Scan disabled in most applications.

To enable the **Smart Scan™**

- 1) Set the Configuration switch #1 to the up position.
- 2) Re-power the matrix.

To disable **Smart Scan™**

- 1) Set the Configuration switch #1 to the down position.
- 2) Re-power the matrix.

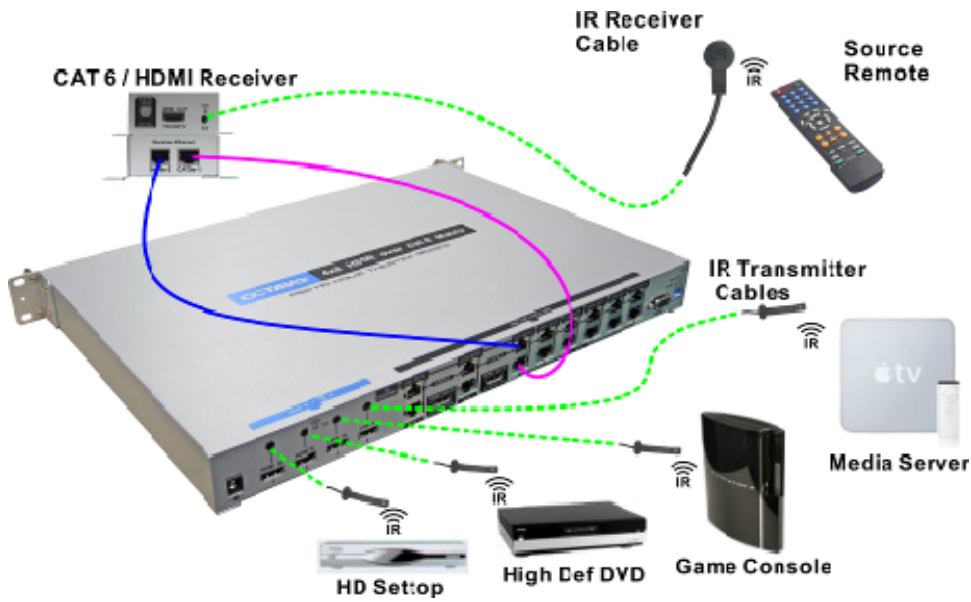


SCAN=ON



SCAN=OFF

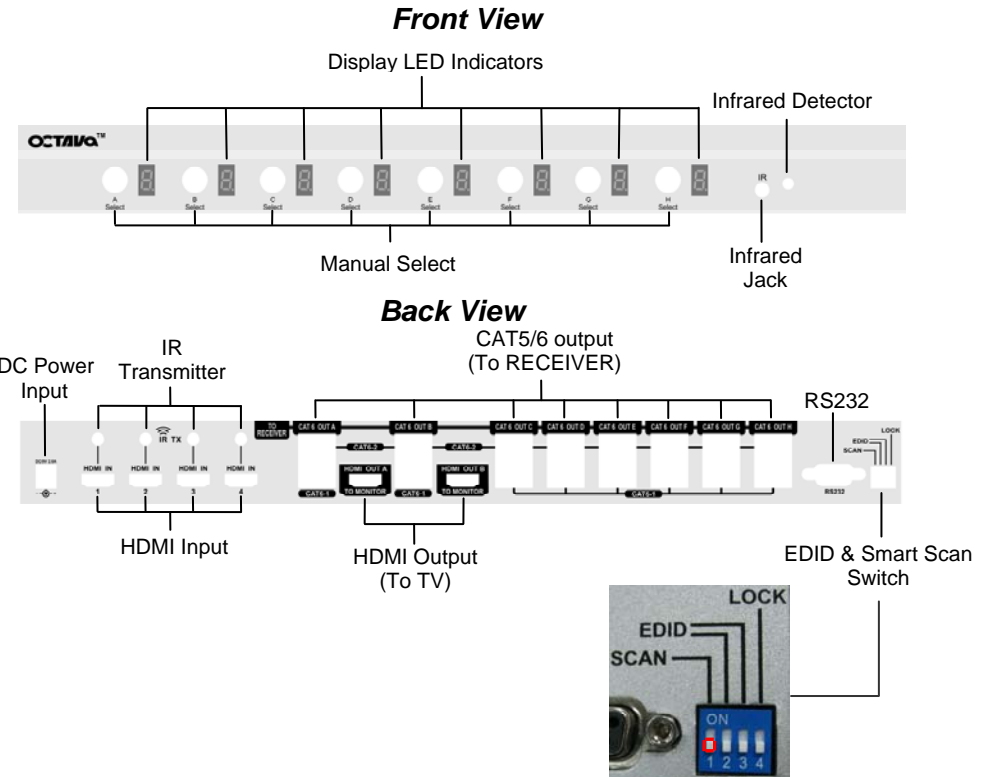
I.R. Remote Control over CAT 5/6:



IR remote signals can be carried over the CAT 5/6 cables to control the 1) matrix and 2) video sources.

- 1) Connect the IR receiver cable to the CAT 5/6 HDMI receiver as shown above
- 2) Connect the IR transmitter cables to the matrix IR TX 1-4 as shown above.
- 3) Place and point a IR Transmitter to each video source as shown above.

Note: No IR transmitter cable needed to control the 4x8 Matrix. The 4x8 Matrix IR control signals are carried directly over CAT 5/6 cables and will control the matrix internally.



Switch Number	1	2	3	4
Name	Smart Scan Switch	EDID switch	EDID switch	Programming/LOCK switch
Function	Enable/disable Smart Scan	EDID MODE select	EDID MODE select	Programming/LOCK.
	Down = Smart Scan Off Up= Smart Scan ON			Down= EDID Programming mode Up= Locked

Installation:

1) Verify that the Configuration Switch is in the factory default mode.



2) Connect the DC power adapter

3) Configure output A and B to either 1) HDMI OR 2) RJ-45 CAT 5/6 output.

The default from factory is RJ-45 CAT5/6 mode.

To configure each output, please follow these instructions.

Output Mode	Action	Indicator
RJ-45 CAT 5/6 mode	Press the front panel button for the desired output for ~ 10 seconds. The LED will indicate a "c" for Cat 5/6 mode.	
HDMI Mode	Press the front panel button for the desired output for ~ 10 seconds. The LED will indicate a "0" for HDMI mode.	
quick configure To quickly change ALL outputs to CAT 5/6 or HDMI	Press and HOLD the front panel A and B button for 10 seconds. -The LED will indicate a "c" for Cat 5/6 mode. -The LED will indicate a "0" for HDMI mode.	

4) Connect the Monitors.

HDMI-If you are connecting HDTV with HDMI, simply connect the HDMI cable CAT5/6 -If you are connecting using the RJ-45 CAT 5/6 output, you must use a HDMI-CAT 5/6 Receiver. (see page 5 "Connecting Using CAT 5/6 outputs")

5) Connect the HDMI sources to the HDMI INPUTS

6) Turn On your HDTV and at least 1 HD source

Configuring Outputs for HDMI or RJ-45 :

Output	ASCII Command	Mode
A	<STX>911<ETX>	HDMI mode
A	<STX>912<ETX>	RJ-45 CAT 5/6 mode
B	<STX>921<ETX>	HDMI mode
B	<STX>922<ETX>	RJ-45 CAT 5/6 mode

Disabling /Enabling Front Panel IR Remote Receiver:

To disable the front panel IR remote receiver-insert the plastic plug into the IR jack as shown.



Front panel
IR receiver -disabled



Front panel
IR receiver -enabled

Source Display Switching:

Output-Input	ASCII Command	Function Selection
A-1	<STX>211<ETX>	Select OUT A to Input port 1
A-2	<STX>212<ETX>	Select OUT A to Input port 2
A-3	<STX>213<ETX>	Select OUT A to Input port 3
A-4	<STX>214<ETX>	Select OUT A to Input port 4
B-1	<STX>221<ETX>	Select OUT B to Input port 1
B-2	<STX>222<ETX>	Select OUT B to Input port 2
B-3	<STX>223<ETX>	Select OUT B to Input port 3
B-4	<STX>224<ETX>	Select OUT B to Input port 4
C-1	<STX>231<ETX>	Select OUT C to Input port 1
C-2	<STX>232<ETX>	Select OUT C to Input port 2
C-3	<STX>233<ETX>	Select OUT C to Input port 3
C-4	<STX>234<ETX>	Select OUT C to Input port 4
D-1	<STX>241<ETX>	Select OUT D to Input port 1
D-2	<STX>242<ETX>	Select OUT D to Input port 2
D-3	<STX>243<ETX>	Select OUT D to Input port 3
D-4	<STX>244<ETX>	Select OUT D to Input port 4
E-1	<STX>251<ETX>	Select OUT E to Input port 1
E-2	<STX>252<ETX>	Select OUT E to Input port 2
E-3	<STX>253<ETX>	Select OUT E to Input port 3
E-4	<STX>254<ETX>	Select OUT E to Input port 4
F-1	<STX>261<ETX>	Select OUT F to Input port 1
F-2	<STX>262<ETX>	Select OUT F to Input port 2
F-3	<STX>263<ETX>	Select OUT F to Input port 3
F-4	<STX>264<ETX>	Select OUT F to Input port 4
G-4	<STX>271<ETX>	Select OUT G to Input port 1
G-4	<STX>272<ETX>	Select OUT G to Input port 2
G-4	<STX>273<ETX>	Select OUT G to Input port 3
G-4	<STX>274<ETX>	Select OUT G to Input port 4
H-4	<STX>281<ETX>	Select OUT H to Input port 1
H-4	<STX>282<ETX>	Select OUT H to Input port 2
H-4	<STX>283<ETX>	Select OUT H to Input port 3
H-4	<STX>284<ETX>	Select OUT H to Input port 4

Note:

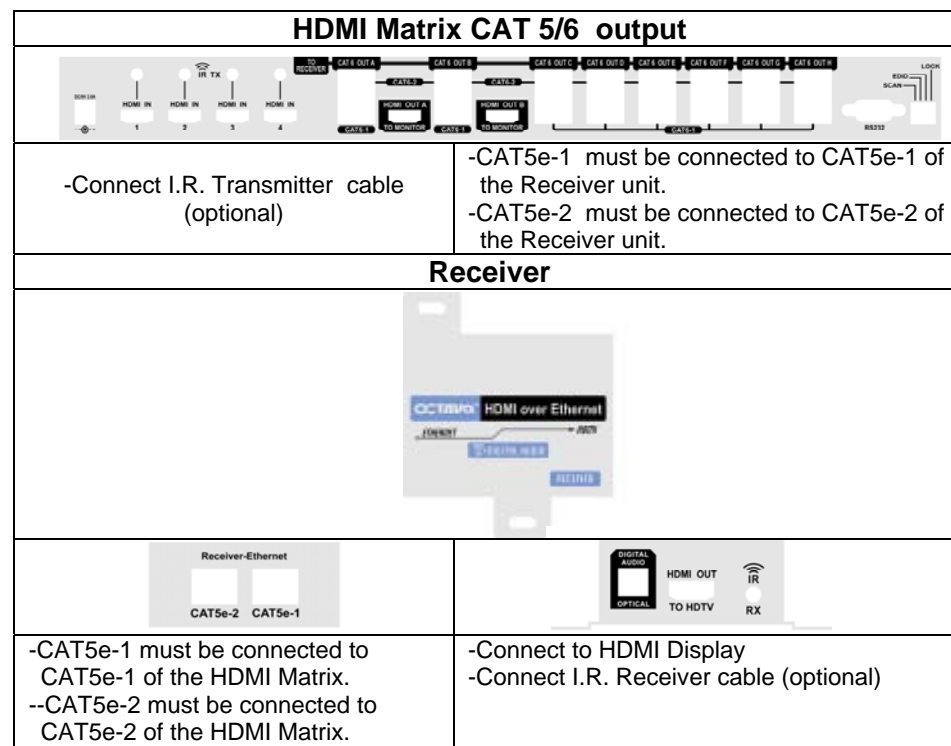
<STX> denotes Start of Text (0x2)

<ETX> denotes End of Text (0x3)

Connecting Using CAT 5/6 outputs:

- 1) Configure the output to CAT 5/6 output (see page 7)
- 2) Connect **CAT5e -1** of the **HDMI Matrix and Receiver** with CAT5e/6 cable.
- 3) Connect **CAT5e -2** of the **HDMI Matrix and Receiver** with CAT5e/6 cable.
- 4) Connect the I.R. Receiver cable (optional) to the **I.R.** of **HDMI Ethernet Receiver unit**.
- 5) Connect the I.R. Transmitter cable (optional) to the **I.R. TX** of **HDMI Matrix**.
- 6) Connect the DC power adapter.

Ethernet CAT 6 cable is recommended for 1080P and best performance.



Front Panel Control:

Source Selection:

You may use the front panel buttons to select the sources connected to each display.

For example,
To Set display A to Input 2. Simply press and release the A display button until the LED shows 2.



Output Configure:

Configure outputs A and B to either 1) HDMI OR 2) RJ-45 CAT 5/6 output. Each output is individually configurable. To configure output, please follow these instructions.

Note : The default from factory is RJ-45 CAT5/6 mode

Output Mode	Action	Indicator
RJ-45 CAT 5/6 mode	Press the front panel button for the desired output for ~ 10 seconds. The LED will indicate a "c" for Cat 5/6 mode.	
HDMI Mode	Press the front panel button for the desired output for ~ 10 seconds. The LED will indicate a "0" for HDMI mode.	
quick configure To quickly change ALL outputs to.	Press and HOLD the front panel A and B button for 10 seconds. -The LED will indicate a "c" for Cat 5/6 mode. -The LED will indicate a "0" for HDMI mode.	

RS232 Controls:

The Octava 4x8 HDMI - CAT 5/6 Matrix Switch can be easily integrated with 3rd Party control systems via RS232 control. The following shows the control protocol for controlling the HDHC48MX.

1. Baud rate=9600
2. Data bits=8
3. Parity check=None
4. Stop bits=1
5. Flow Control=None

Controlling the HDHC48MX via RS232 can be done by send a series of commands per the RS232 Command Table

Protocol:




<STX>Command to Execute<ETX>

A-General


Input	ASCII	Function Selection
1	<STX>001<ETX>	Port Status
2	<STX>2XX<ETX>	Source display switching (see page 13)
3	<STX>003<ETX>	Turn ON LED
4	<STX>004<ETX>	Turn OFF LED
5	<STX>005<ETX>	Turn ON Power
6	<STX>006<ETX>	Turn OFF Power
7	<STX>007<ETX>	Turn ON Smart Scan
8	<STX>008<ETX>	Turn OFF Smart Scan
9.	<STX>9XX<ETX>	Output(HDMI/Ethernet) Configure (see page 14)

Note:

<STX> denotes Start of Text (0x2)
<ETX> denotes End of Text (0x3)

7	Press the A button on the front panel. LED will flash "0" for ~2 min while programming.	LED will flash "0" while programming.	
8	Wait. Programming is complete when LED indicates "1"		
9	Set to LOCK Position		
10	Set output to either HDMI or CAT5/6 mode	See page 7	Refer to Page 7 "Output configure"
11	Connect all video sources and displays and turn ON	.	
12	Re-power the Matrix.		

Remote Control Guide:



Pressing A-H Selects the Display to be controlled.

Pressing 1-4 Selects the corresponding numbered source.

Pressing +/- Increments/Decrements to the next available Source.

Pressing ON/OFF Turns On/Off the HDMI switch

Pressing LED Turns on/off the Blue LED light.

Using the Remote:

Use the remote control to select the Display that you wish to control followed by the Input (DVD, Settop) that you wish to watch.

For example:

-Pressing **Display B**, "2" will switch Input 2 to HDMI Out B.

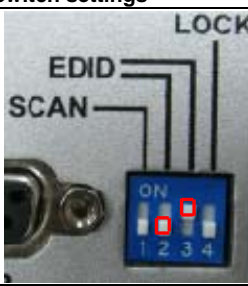

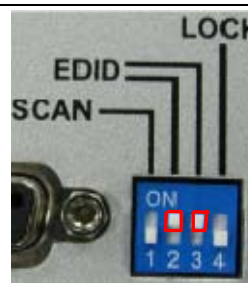
Here are some more examples:

Output Selection (Step 1)	Input Selection (Step2)	Result
DISPLAY A	"2"	Display A switches to Input 2
DISPLAY B	"4"	Display B switches to Input 1
DISPLAY C	"2"	Display C switches to Input 2
DISPLAY D	"4"	Display D switches to Input 1
DISPLAY A	"+"	Display A increments to next available Input
DISPLAY B	"-"	Display B decrements to next available Input
DISPLAY C	"+"	Display C increments to next available Input
DISPLAY D	"-"	Display D decrements to next available Input

EDID Configuration:






The Matrix can be configured to 3 EDID settings.

It is recommended to keep the EDID in the default factory mode 1.

Mode	Video	Audio	Description	Switch settings
1	480I,720I/P, 1080I/P	PCM, Bitstream (Dolby Digital, DTS)	Default Mode	
2	480I, 720I/P, 1080I/P. Reads EDID of all monitors and sets to : Video=Min Resolution of displays connected.	PCM, Bitstream (Dolby Digital, Dolby Tru HD,DTS,DTS Master Audio) Read EDID from Monitor and AV receiver connected and set AUDIO to Maximum capability.	Parsing/ Read Mode	
3	480I,720I/P, 1080I	2 CH PCM	Basic Mode	

Changing EDID mode:

It is recommended to keep the EDID in the factory default MODE1. If necessary, you may set to different EDID mode by following these instructions.

Step	Action		Notes
1	Set the Smart Scan switch to OFF		
2	Disconnect all sources and display from Matrix		
3	Set the Program/Lock switch #4 to "program mode" (down)		
4	Set the EDID to the mode desired.(MODE 2 shown.)	See page 9 for other EDID modes	
5	Reset Power to the Matrix by disconnecting the power and reconnecting power.		
6	The LED will now indicate the EDID Mode that you will program.(mode 2 shown)		 flashed