NEXIS

MT1616

16 by 16 Modular Matrix

HDBT



Operation Manual

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Version 1.1 August 2011

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SAFETY PRECAUTIONS

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

REVISION HISTORY

VERSION NO.	DATE (DD/MM/YY)	SUMMARY OF CHANGE
RDV1	05/07/13	Preliminary Release
RDV2	31/10/13	Panel's Printing
RDV3	21/04/14	Package Contents Add IR Cables
RDV4	30/06/14	RS-232 Command & CIN-8DS model
RDV5	21/01/15	UART Command
RDV6	05/03/15	Add IR Command
RDV7	23/04/15	Add IR Pin Assignment
VS0	27/04/15	Updated Text/Diagrams
RDV8	06/11/15	5Play Output Module Add LAN
VS1	15/08/16	Updated IRMASK command descriptions

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1. INTRODUCTION

The 16 by 16 Modular Matrix is designed to allow the switching and distribution of up to 16 source devices to up to 16 connected displays, either directly via HDMI, DVI or via CAT5e/6/7 outputs to compatible receivers, providing control options (dependent on module configuration).

Providing unparalleled levels of flexibility, with an advanced modular design these models can be setup in a wide variety of combinations allowing users the ability to tailor the Matrix to their requirements by simply adding or removing the input or output modules as required.

The Modular Matrix is supplied with dual removable internal PSU's which allow for easy inspection and maintenance with zero down time. Also included is a DVI output for local monitoring of the output allowing installers to easily monitor, test, and configure the Inputs and Outputs on installation.

In addition, this matrix also features IP control allowing users to access and control the matrix remotely and also allow additional options for integration of third-party control systems.

2. APPLICATIONS

- Public information display
- Educational demo
- Professional presentation
- Advertising display

3. PACKAGE CONTENTS

- 1×16 by 16 Modular Matrix Enclosure (including CPU Control Board and Removeable Dual Power Supplies)
- 2×Input Module Boards - HDMI, DVI, CAT5e/6/7 or VGA (Optional)
- 2×Output Module Boards - HDMI, DVI or CAT5e/6/7 (Optional)
- 1×IR Extender
- 1×IR Blaster
- 1×Remote Control (with Battery)
- 2×Power Cords
- 1×Operation Manual

4. SYSTEM REQUIREMENTS

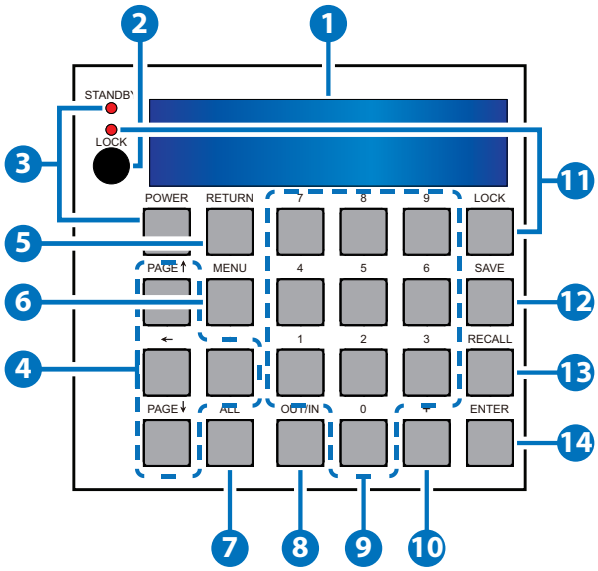
- Up to 16 HDMI, DVI, CAT5e/6/7 or VGA source devices (dependent on module configuration) connected with appropriate cables.
- Up to 16 displays (TV or monitor) or AV receivers, equipped with HDMI, DVI, CAT5e/6/7 connection (dependent on module configuration) connected with appropriate cables
- Industry standard CAT5e/6/7 cable (for CAT5e/6/7 inputs/outputs)
- Compatible PoC HDBaseT™ Transmitters/Receivers for CAT5e/6/7 Input/Output modules

5. FEATURES

- HDMI, HDCP 1.1 and DVI 1.0 compliant
- Interchangeable input and output modules
- Input and output module types can be mixed and added in multiples of 8 from 8×8 (1 Input module, 1 Output module) up to 16×16 (2 Input modules, 2 Output modules) with HDMI, DVI, CAT5e/6/7 and VGA (Input only) connection types
- Supports a wide range of PC and HDTV resolutions from VGA to WUXGA and 480i to 1080p and 4K2K@24/25/30
- Supports pass-through of LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio
- Supports control of the matrix via on-panel, RS-232, Telnet and WebGUI controls
- Supports 10 available preset settings
- Support 3 EDID modes: Standard, Dynamic and Manual (see Section 6.1 for details)
- Dual removal power supply units
- Supports HDMI cable input and output lengths of up to 15m each way (1080p@8-bit resolution), 10m (1080p@12-bit resolution) or 5m (4K2K@30 resolution)
- Supports CAT5e/6/7 cable input and output lengths of up to 100m (1080p@8-bit/12-bit resolution) or 70m (4K2K@30 resolution) dependent on board capabilities
- HDBaseT 5Play™ convergence supports HD Video, HD Audio, PoC, Ethernet and IR/RS-232 Control
- HDBaseT 4Play convergence supports HD Video, HD Audio, PoC and IR/RS-232 Control
- HDBaseT 3Play convergence supports HD Video, HD Audio and IR/RS-232 Control

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1. **LCM:** Displays the setting information of each input/output and other setting information according to the selected mode.
2. **IR WINDOW:** Accepts the IR remote control signal for the matrix only.
3. **POWER:** Press this button to turn the matrix on or press it again to put the matrix into standby mode. The LED will illuminate when the unit is in standby mode.

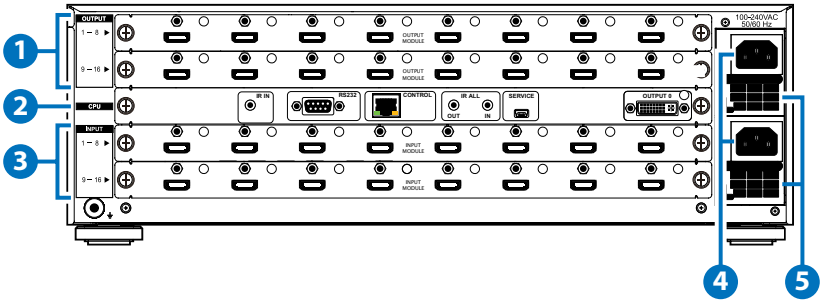
   Note: If the LED is flashing it means the temperature inside is too high and air circulation may have been restricted.
4. **PAGE (▲/▼/◄/►):** Use these buttons to cycle through the LCM's pages for displaying the current I/O status or when entering into the settings menu.
5. **RETURN:** Press this button to return back or exit the current selection.
6. **MENU:** Press this button to enter the menu to change the following settings:
   - ***EDID:*** Support 3 EDID modes.

1. *Standard Mode:* Uses the built-in EDID settings that support video up to 1080p@60 or WUXGA@60 (RB) video and LPCM 2CH audio.
2. *Dynamic Mode:* Reads the EDID settings from the display connected to the lowest numbered output port.
3. *Manual Mode:* Supports independent EDID settings by selecting the input and output ports.

- ***IP:*** Displays the setting information of IP address, IP Netmask and IP Gateway.
- ***Temperature***: These figures show the internal temperature of the matrix.
- ***LCM:*** Supports LCM contrast range from 1 to 4.

7. **ALL:** Press this button to assign the same input to all outputs.
8. **OUT/IN:** Press to assign the source to be displayed on the required output. The sequence should be OUT/IN→Select the Input→OUT/IN→a Select the output→Enter.
9. **NUMBERS (0~9):** Use to select the appropriate numbered input or output.
10. **PLUS (+):** Press this button when multiple outputs are required for a selected input. This button only works in conjunction with the OUT/IN button.
11. **LOCK:** Press this button to lock all the function buttons on panel. The LED will illuminate, to unlock press it again.
12. **SAVE:** Press this button to store the present Input/Output configuration to one of the 10 available preset settings.
13. **RECALL:** Press this button to recall a previously stored preset setting.
14. **ENTER:** Press this button to confirm a setting or selection in the menu.

6.2 Rear Panel



Note: The above panel is an example of 16×16 HDMI configuration.

1 **OUTPUTS 1~16:** Install up to 2 Output modules as required for up to 16 displays (TV or monitor) or CAT5e/6/7 outputs for compatible HDBaseT receivers (dependent on module configuration).

2 **CPU (Control Board)**

IR IN: For IR control of the matrix only. Connect to the IR Extender for IR signal reception of the IR remote control of the matrix. Ensure that the remote being used is within the direct line-of-sight of the IR Extender.

RS-232: Connect to a PC/Laptop with a D-sub 9-pin cable for RS-232 command sending and controlling over the Matrix.

CONTROL: Connect to an active network for LAN serving and Telnet/WebGUI control. LAN serving on compatible HDBaseT input/output modules and transmitters/receivers only.

ALL IR OUT: Connect the IR output to the IR Blaster for IR signal transmission of the equipment to be controlled. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.

ALL IR IN: Connect the IR input to the IR Extender for IR signal reception of the IR remote control of the equipment to be controlled. Ensure that remote being used is within the direct line-of-sight of the IR Extender.

Note: For IR control of the HDBaseT input/output modules and transmitters/receivers only. IR signals received by all IR Extenders connected to the transmitters/receivers will be transmitted by all IR Blasters connected to the transmitters/receivers.

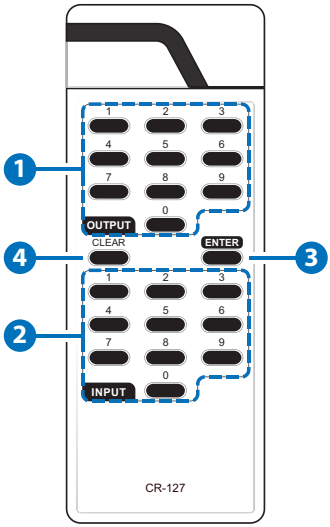
SERVICE: Firmware update only.

OUTPUT 0: Connect to DVI equipped display or to an HDMI equipped display (with DVI to HDMI adaptor) for local monitoring of the output signal.

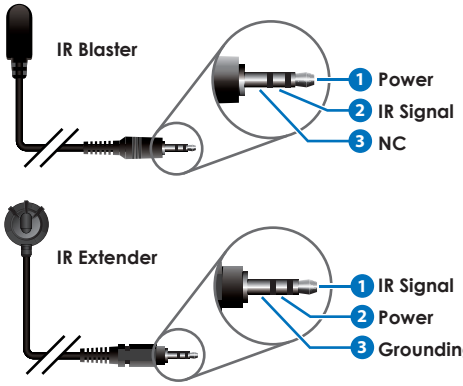
3. **INPUT 1~16:** Install up to 2 Input modules as required for up to 16 source devices or CAT5e/6/7 inputs for compatible HDBaseT transmitters (dependent on module configuration).
4. **POWER SUPPLY:** The matrix will automatically turn on when connected to an active power supply.
5. **VENTILATION FAN:** This fan will automatically operate when the matrix is switched on. Do not block the exhaust of the fan or cover it with any object. Please allow adequate space around the unit for air to circulate freely.

6.3 Remote Control

1. **OUTPUT:** Output port selection
2. **INPUT:** Input port selection.
3. **ENTER:** Press to confirm the present input/output selection.
4. **CLEAR:** Press to clear the present input/output selection.



6.4 IR Cable Pin Assignments



6.5 RS-232 Protocols

MATRIX	
Pin	Definition
1	NC
2	TxD
3	RxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

▶
◀

RS-232 CONTROLLER	
Pin	Definition
1	NC
2	RxD
3	TxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Baud Rate: 19200bps
Data Bit: 8 bits
Parity: None
Stop Bit: 1
Flow Control: None

6.6 RS-232 and Telnet Commands

COMMAND	DESCRIPTION
P1	Power on
P0	Power off
Oxly	Set output (x=1~16) to input (y=1~16)
ALLOUT x	Set all outputs to input (x=1~16)
ACTIVE	Report active I/O channels
INDETECT	Input channels detection indicator
OUTDETECT	Output channels detection indicator
PORTSTATUS	Report all output connection status
HDCPON x	Set input port (x=1~16) HDCP to 'on'
HDCPOFF x	Set input port (x=1~16) HDCP to 'off'
HDCPONALL	Set all input port's HDCP to 'on'
HDCPOFFALL	Set all Input port's HDCP to 'off'
HDCPSTATUS	Show the HDCP status of all outputs (0=disabled, 1=enable)
MUTEO x	Mute video for output (x=1~16)
UNMUTEO x	Unmute video for output (x=1~16)
MUTEI x	Mute video for input (x=1~16)
UNMUTEI x	Unmute video for input (x=1~16)
MUTEALL	Mute all outputs
UNMUTEALL	Unmute all outputs
MUTESTATUS	Show the mute status of all outputs (0=unmuted, 1=muted)
HPDL x	Pull the input (x=1~16) hot-plug-detect signal to 'low'.
HPDH x	Pull the input (x=1~16) hot-plug-detect signal to 'high'

COMMAND	DESCRIPTION
HPDLALL	Set the hot-plug-detect of all inputs to 'low'
HPDHALL	Set the hot-plug-detect of all inputs to 'high'
HPDSTATUS	Report the hot-plug-detect signal status of all inputs
EDIDMODE x y	Set the EDID mode of input (x=1~16) to y (1~3)
EDIDMODEALL x	Set the EDID mode of all input to x (1~3)
EDIDPORT x y	Set the EDID mode of assigned port (y=1~16) to input (x=1~16)
EDIDPORTALL x	The EDID mode of all ports is assigned to output (x=1~16)
EDIDSTATUS	Report the status of the EDID modes of all inputs
IRMASKOUT x y z*	Disable/enable (z=0/1) IR transmission from the IR input on the specified HDBaseT Output Module's port (y=1~16/all) to the currently routed HDBaseT Transmitter (x=src) or Receiver (x=sink) Example 1: "IRMASKOUT src 7 0" disables IR transmissions from the HDBaseT Output Module's IR In port #7 to the currently routed HDBaseT Transmitter's IR Out. Example 2: "IRMASKOUT sink 5 1" enables IR transmissions from the HDBaseT Output Module's IR In port #5 to the currently routed HDBaseT Receiver's IR Out.

COMMAND	DESCRIPTION
IRMASKCPU x y z*	Disable/enable (z=0/1) IR transmission from the IR ALL input on the CPU Control Board to the HDBaseT Transmitter (x=src), Receiver (x=sink) or Output Module (x=out) on to the specified port (y=1~16/all) Example 1: "IRMASKCPU src all 0" disables IR transmissions from the CPU Control Board's IR ALL In port to all connected HDBaseT Transmitters' IR Out. Example 2: "IRMASKCPU out 5 1" enables IR transmissions from the CPU Control Board's IR ALL In port to the HDBaseT Output Module's port #5 IR Out.
SHOWIRMASKOUT x y*	Display the current IR mask setting for the specified HDBaseT Output Module's port (y=1~16/all) to HDBaseT Transmitters (x=src) or Receivers (x=sink)
SHOWIRMASKCPU x y*	Display the current IR mask setting for the IR ALL input on the CPU Control Board to the HDBaseT Transmitter (x=src), Receiver (x=sink) or Output Module (x=out) on to the specified port (y=1~16/all)
UART x y "str"	Write UART string to output port (x=in/out, y=1~16, "str"="string")
UARTBAUD x y	Set the UART Baud rate of output (x=1~16, y=rate)
STATUSUART	Show the UART Baud rate of output
TEMPSTATUS	Show temperature sensor values y1 and y2
SETIPADDR	Set the IP address (x.x.x.x)
SETSNMASK	Set the Subnet Mask address (x.x.x.x)

COMMAND	DESCRIPTION
SETGWADDR	Set the Gateway address (x.x.x.x)
IPCONFIG	Show the current IP configuration
RSTIP	Reset the IP configuration to default values (DHCP)
BUZZER x	Set the buzzer (0=mute, 1=unmute)
REBOOT	Reboot the system
SAVETO x	Save as preset x (1~10)
RECALLTO x	Recall the preset x (1~10)
RESET	Reset the system to O1I1, O2I2, O3I3, O4I4, O5I5, etc.
VERSION	Show the firmware version

Note:

1. *HELP: Show command list.*
2. *Commands will be not executed unless followed by a carriage return. Commands are not case-sensitive.*
3. *Commands marked with an asterisk (*) will only function with compatible HDBaseT Transmitters, Receivers and HDBaseT Output Modules.*

6.7 Telnet Control

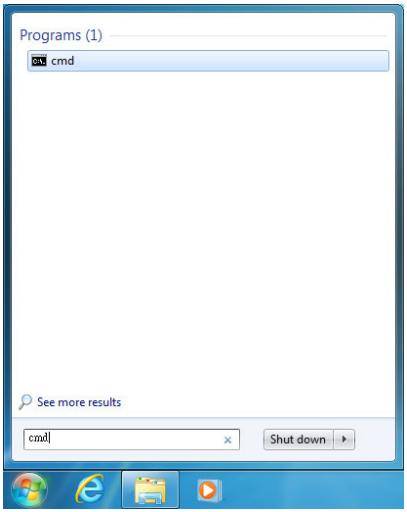
Before attempting to use the Telnet control, please ensure that both the Matrix (via the 'LAN /CONTROL' port) and the PC/Laptop are connected to the same active networks.

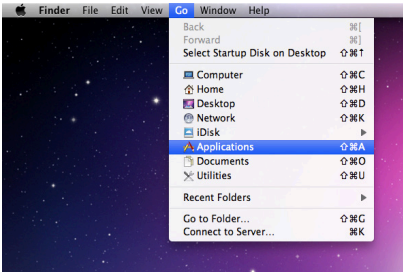
To access the Telnet control in Windows 7, click on the 'Start' menu and type "cmd" in the Search field then press enter.

Under Windows XP go to the 'Start' menu and click on "Run", type "cmd" with then press enter.

Under Mac OS X, go to Go→Applications→Utilities→Terminal

See below for reference.





Once in the command line interface (CLI) type "telnet", then the IP address of the unit and "23", then hit enter.

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\Administrator>telnet 192.168.5.80 23
```

Note: The IP address of the Matrix can be displayed on the unit's LCM monitor by pressing the MENU button twice.

This will bring us into the unit which we wish to control. Type "help" to list the available commands.

```
telnet-> help

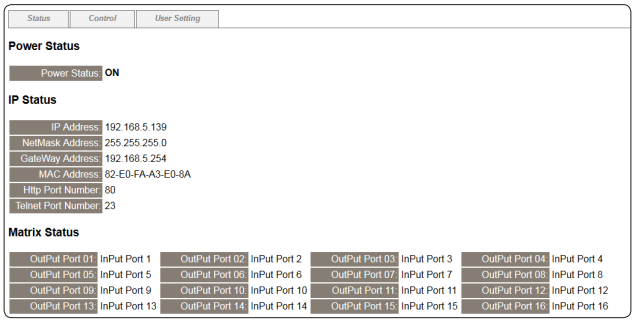
                P0  : Power Off
                P1  : Power On
             RESET : System Reset to O1I1,O2I2,O3I3,O4I4,O5I5....
     OxxIxx(x:01~8) : Output 0~8 set to Input 1~8
   ALLOUT xx(x:01~8) : All Output set to Input 1~8
     MUTE xx(x:0~8) : Video mute command at output interface
   UNMUTE xx(x:0~8) : Video unmute command at output interface
            MUTEALL : Mute all outputs
          UNMUTEALL : Unmute all outputs
           SHOWMUTE : Show mute status of all output(0=not muted,1=muted)
   RDMUTE xx(x:0~8) : Read MUTE Status at Output
   HPDLOW xx(x:01~8) : Pull the Hot-Plug-Detect signal to 'LOW'
  HPDHIGH xx(x:01~8) : Pull the Hot-Plug-Detect signal to 'HIGH'
         HPDLOW ALL : Set All Input HPD to Low
        HPDHIGH ALL : Set All Input HPD to High
           SHOWHPD : Report ALL Input Hot-Plug-Detect signal status
  STATUSHPD x(x:1~8) : Show HPD status of input(x)
          SHOWTEMP  : Show temperature sensor values y1, y2
 STATUSIN xx(x:01~8) : Report Input connection status
STATUSOUT xx(x:0~8) : Report Output connection status
          STATUSALL : Report ALL Output connection status
         STATUSEDID : Report ALL Input EDID mode&port
  SETEDIDMODE ii mm(ii:01~8 mm:1~3) : Set EDID mode(mm) to Input(ii)
  SETEDIDMODE ALL mm (mm=1~3) :  The EDID mode(mm) of All Input(ii)
SETEDIDPORT ii pp(ii:01~8 pp:01~8) : Set EDID Assigned Port(pp) to Input(ii)
  SETEDIDPORT ALL mm (pp=01-8) :  The EDID of All Inports is assigned to Output
pp
            ACTIVE : Report I/O active channels
          INDETECT : Input channels detect indicator
         OUTDETECT : Output channels detect indicator
          IPCONFIG : Display the current IP config
SETIP <IP> <SubNet> <GW> : Setting IP.SbuNet.GateWay(Static IP)
             RSTIP : IP Configuration Was Reset To Factory Defaults(DHCP)
      SETIPADDR <IP> : Setting IP address
   SETSNMASK <SubNet> : Setting subnet mask
      SETGWADDR <GW> : Setting gateway IP address
           R
```

Type "IPCONFIG" To show all IP configurations. To reset the IP, type "RSTIP" and to use a static IP, type "SETIP" (For a full list of commands, see Section 6.4).

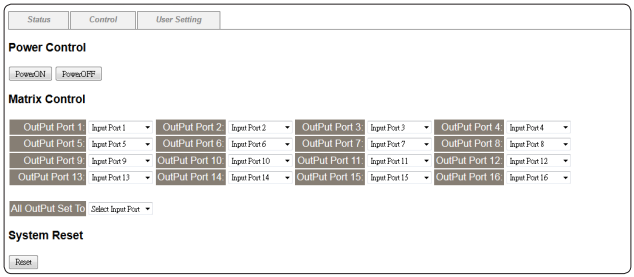
Note: Commands will not be executed unless followed by a carriage return. Commands are not case-sensitive. If the IP is changed then the IP Address required for Telnet access will also change accordingly.

6.8 WebGUI Control

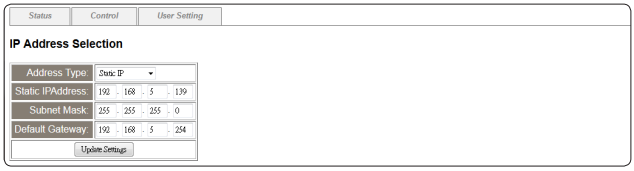
On a PC/Laptop that is connected to the same active network as the Matrix, open a web browser and type the unit's IP address on the web address entry bar. The browser will display the unit's Status, Control and User Setting pages.



Click on the 'Control' tab to control power, input/output ports and reset mode.

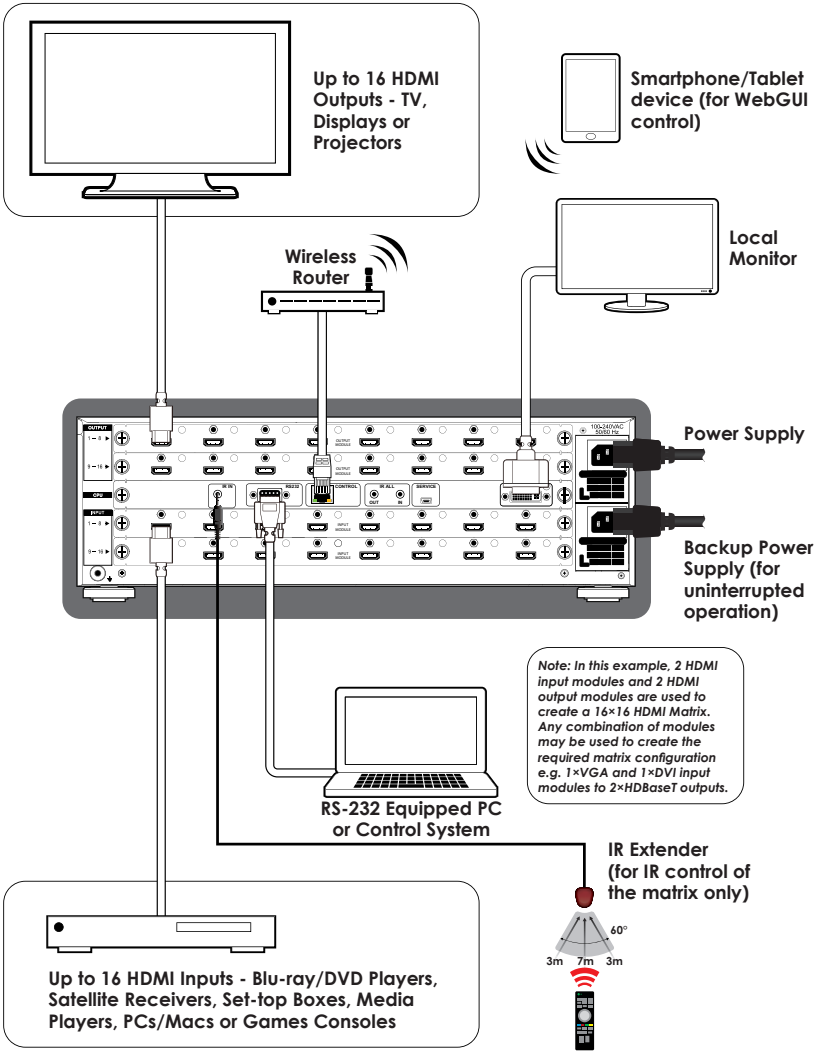


Click on the 'User Setting' tab allows you to reset the IP configuration. The system will ask for a reboot of the unit each time any of the settings are changed. The IP address needed to access the WebGUI control will also need to be changed accordingly on the web address entry bar.

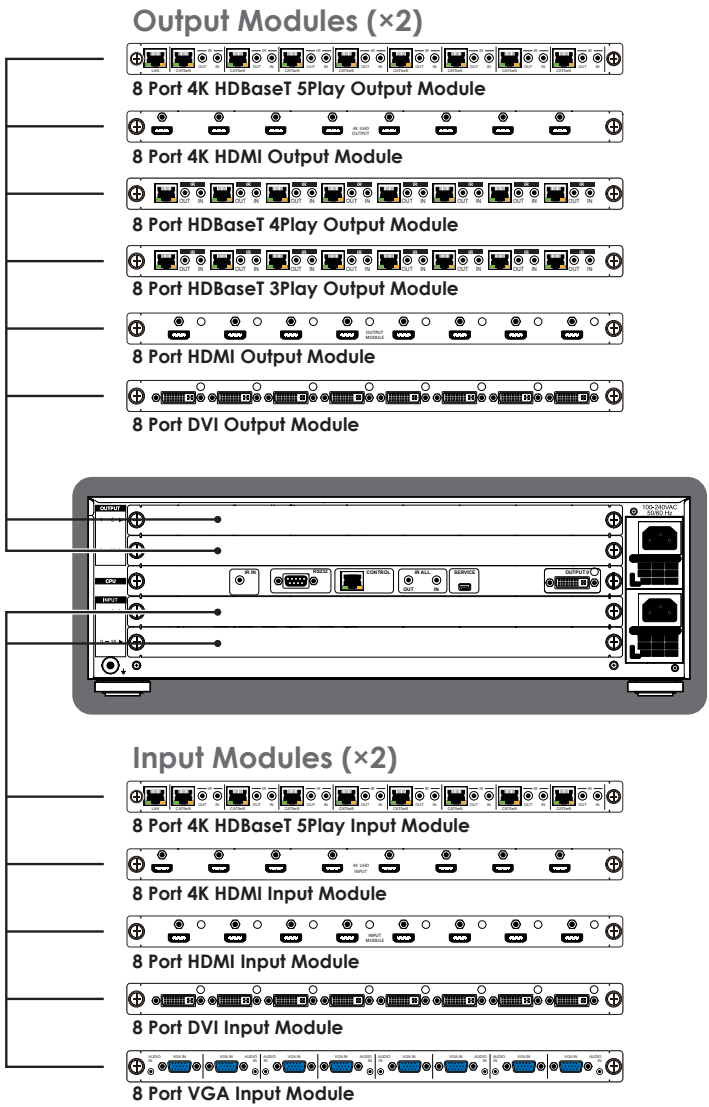


7. CONNECTION DIAGRAM

7.1 Example Installation (16×16 HDMI Matrix)



7.2 Input and Output Modules



8. SPECIFICATIONS

8.1 Technical Specifications (Enclosure)

Input Ports	Up to 16×HDMI or DVI or CAT5e/6/7 or VGA (dependent on module configuration)
Output Ports	Up to 16×HDMI or DVI or CAT5e/6/7 (dependent on module on module configuration)
Power Supply	2×AC 110~240V (US/EU standards, CE/FCC/UL certified)
Dimensions	482 mm (W)×484 mm (D)×145 mm (H)
Weight	14,400g
Chassis Material	Metal
Color	Black
Operating Temperature	0˚C~40˚C/32˚F~104˚F
Storage Temperature	−20˚C~60˚C/−4˚F~140˚F
Relative Humidity	20~90% RH (non-condensing)
Power Consumption	50 W

8.2 Technical Specifications (Input Modules)

8 Port 4K HDBaseT 5Play Input Module	
Video Bandwidth	300 MHz/10.2 Gbps
Features	HD Video/Audio, PoC, Ethernet, IR/RS-232
Input Ports	8×CAT5e/6/7, 1×LAN
Ethernet Speed	100 Mbps
Video Resolutions	PC: VGA~WUXGA HDTV: 480i~1080p & 4K2K@30 Hz
IR Frequency	30~50 Hz
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192 kHz Fs sample rate)
Power Consumption	45 W+10 W PoC/each port

8 Port 4K HDMI Input Module	
Video Bandwidth	300 MHz/10.2 Gbps
Input Ports	8×HDMI
Video Resolutions	PC: VGA~WUXGA HDTV: 480i~1080p & 4K2K@30 Hz
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192 kHz Fs sample rate)
Power Consumption	22 W

8 Port HDMI Input Module	
Video Bandwidth	225 MHz/6.75 Gbps
Input Ports	8×HDMI
Video Resolutions	PC: VGA~WUXGA@60 (RB) HDTV: 480i~1080p

8 Port HDMI Input Module	
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192kHz Fs sample rate)
Power Consumption	20W

8 Port DVI Input Module	
Video Bandwidth	225MHz/6.75Gbps
Input Ports	8×DVI
Video Resolutions	PC: VGA~WUXGA@60 (RB) HDTV: 480i~1080p
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192kHz Fs sample rate)
Power Consumption	20W

8 Port VGA Input Module	
Input Ports	8×VGA, 8×2.5mm Audio Phone Jack
Video Resolutions	PC: VGA~WUXGA@60 (RB)
Audio Transmission	Stereo 2.5mm phone jack (included 2.5mm to 3.5mm adaptor)
Power Consumption	22W

8.3 Technical Specifications (Output Modules)

8 Port 4K HDBaseT 5Play Output Module	
Video Bandwidth	300MHz/10.2Gbps
Features	HD Video/Audio, PoC, Ethernet, IR/RS-232
Output Ports	8×CAT5e/6/7, 8×IR Extender, 8×IR Blaster, 1×LAN
Ethernet Speed	100Mbps

8 Port 4K HDBaseT 5Play Output Module	
Video Resolutions	PC: VGA~WUXGA HDTV: 480i~1080p & 4K2K@30 Hz
IR Frequency	30~50 Hz
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192 kHz Fs sample rate)
Power Consumption	45 W+10 W PoC/each port

8 Port 4K HDMI Output Module	
Video Bandwidth	300 MHz/10.2 Gbps
Output Ports	8×HDMI
Video Resolutions	PC: VGA~WUXGA HDTV: 480i~1080p, 4K2K@30Hz
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192 kHz Fs sample rate)
Power Consumption	22 W

8 Port HDBaseT 4Play Output Module	
Video Bandwidth	225 MHz/6.75 Gbps
Features	HD Video/Audio, PoC, IR/RS-232
Output Ports	8×CAT5e/6/7, 8×IR Extender, 8×IR Blaster
Ir Frequency	30~50 Hz
Video Resolutions	PC: VGA~WUXGA HDTV: 480i~1080p
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192 kHz Fs sample rate)
Power Consumption	43 W+10 W PoC/each port

8 Port HDBaseT 3Play Output Module	
Video Bandwidth	225 MHz/6.75 Gbps
Features	HD Video/Audio, IR/RS-232
Output Ports	8×CAT5e/6/7, 8×IR Extender, 8×IR Blaster
Video Resolutions	PC: VGA~WUXGA HDTV: 480i~1080p
Ir Frequency	30~50 Hz
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192 kHz Fs sample rate)
Power Consumption	43 W

8 Port HDMI Output Module	
Video Bandwidth	225 MHz/6.75 Gbps
Input Ports	8×HDMI
Video Resolutions	PC: VGA~WUXGA@60 (RB) HDTV: 480i~1080p
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192 kHz Fs sample rate)
Power Consumption	20 W

8 Port DVI Output Module	
Video Bandwidth	225 MHz/6.75 Gbps
Output Ports	8×DVI
Video Resolutions	PC: VGA~WUXGA@60 (RB) HDTV: 480i~1080p
Audio Transmission	LPCM7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio (32~192 kHz Fs sample rate)
Power Consumption	20 W

8.4 CAT5e/6/7 Cable Specifications

HDBaseT 4Play & 5Play Input/Output Module Cable Distance:

Cable Type	Range	Pixel Clock Rate	Video Data Rate	Supported Video Formats
CAT5e/6/7	100 m	≤225 MHz	≤5.3 Gbps (HD Video)	Up to 1080p@60 Hz, 36-bit, 3D (data rates lower than 5.3 Gbps or below 225 MHz TMDS clock).
	70 m	>225 MHz	>5.3 Gbps (Ultra HD Video)	4K2K@30 Hz video formats

HDBaseT 3Play Input Module Cable Distance:

Cable Type	Range	Pixel Clock Rate	Video Data Rate	Supported Video Formats
CAT5e/6/7	60 m	≤225 MHz	≤5.3 Gbps (HD Video)	Up to 1080p@60 Hz, 36-bit, 3D (data rates lower than 5.3 Gbps or below 225 MHz TMDS clock).

9. ACRONYMS

ACRONYM	COMPLETE TERM
CLI	Command Line Interface
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
GUI	Graphical User Interface
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
LCM	Liquid Crystal Module
PoC	Power over Cable
VGA	Video Graphics Array
WUXGA	Widescreen Ultra Extended Graphics Array