HDBaseT 6x6 Matrix Switcher
User Guide

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Content

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Introduction

The HDBaseT 6x6 matrix switcher includes six HDMI inputs, six HDBaseT outputs, three local HDMI outputs, and three digital coax outputs. It works with the HDBaseT receiver to transmit HDMI, IR, and RS232. The transmission distance is 70 meters.

Features

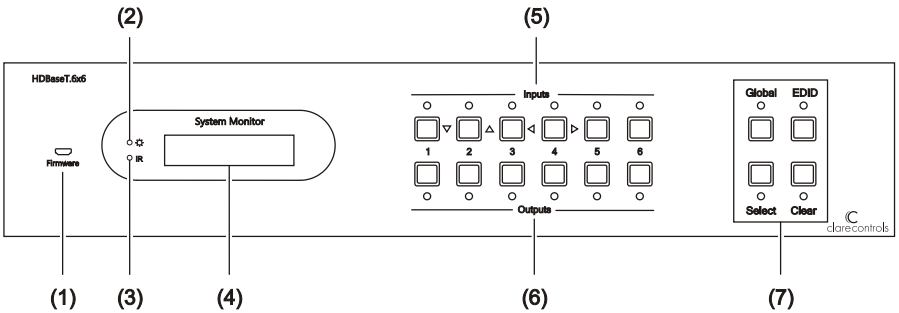
- Supports 1080P at 60 Hz and 3D
- HDCP compliant, supporting HDMI 1.4a
- Powerful EDID and HDCP management
- Six HDBaseT outputs, to transmit HDMI, IR and RS232 to 70 meters over a Cat6e cable or 60 meters over a Cat5e cable
- Provides power for all the receivers connected to HDBaseT outputs
- Supports multiple control options, including front panel, RS232, IR and TCP/IP control (works with the Network Controller)
- IR OUT signal switching follows with a video signal, which can be separated from video switching
- Multiple EDID management
- LCD indicator shows connection status, switching status, HDCP status, and output resolution

Package contents

- 1 x HDBaseT 6x6 matrix switcher
- 2 x Mounting ears (6 x screws)
- 1 x Power cord
- 1 x RS232 cable
- 4 x Plastic cushions (4 x screws)
- 1 x IR remote
- 18 x Terminal blocks
- 1 x User manual
- 6 x IR converting cables
- 6 x IR emitters

Front panel

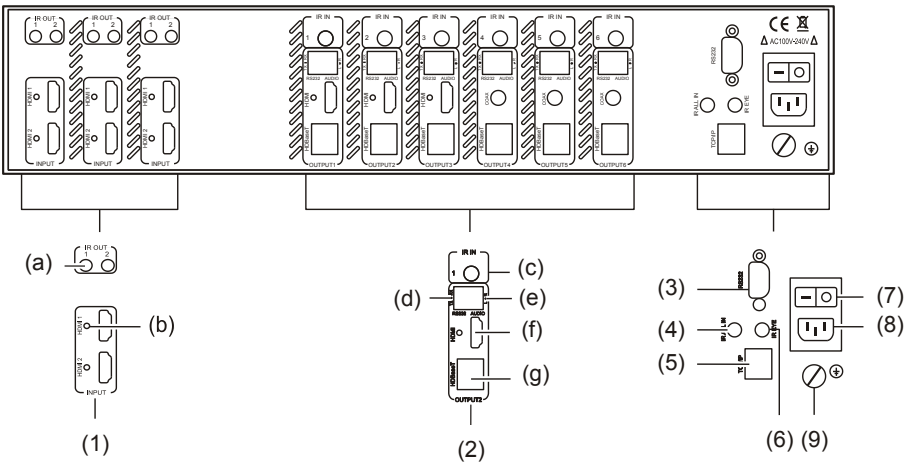
Figure 1: Front panel



(1)	Firmware	Micro USB port for updating firmware.
(2)	Power indicator	Power 'on' indicator light.
(3)	IR receiver	IR receive window.
(4)	LCD indicator	Shows real-time system status.
(5)	INPUTS	**Normal mode**: The input buttons range from 1 to 6. **Inquire mode**: Press and hold SELECT for three seconds to enter this mode. Press ◄► to change menus and ▲▼ to change channels.
(6)	OUTPUTS	Output buttons range from 1 to 6. HDMI INPUT 1 to 3 support local HDMI output.
(7)	FUNCTION	**GLOBAL**: Select all outputs to transfer on input to all outputs. **Example:** Transfer both AV and IR signals from input channel 1 to all output channels. **Operation:** Press **1 + GLOBAL + SELECT**.
		EDID: Management button. Enable the input port to manually capture and study the EDID data of output devices. **Example**: Input channel 2 captures and studies the EDID data of output channel 4. **Operation:** Press buttons in this order **EDID + 2 + 4 + SELECT**. **Note:** Press button 2 in INPUTS and 4 in OUTPUTS.
		CLEAR: Clear an operation, such as switching output channel, studying EDID data before it comes into effect. Meanwhile, the switcher returns to the previous state.
		SELECT: Confirm operation. Press and hold it for three seconds to enter the Inquire mode.

Rear panel

Figure 2: Rear panel



(1) INPUTS	a. **IR OUT:** Connect with IR transmitter, six in total, to send out the IR signal from the HDBaseT port of the far-end receiver. These IR OUTs make up an IR switcher with the IR INs on the HDBaseT receivers, and all can be switched synchronously with the AV signal, or separately switching.
	b. **HDMI:** HDMI input ports, six in total, type A female HDMI connector, connect with HDMI input source devices.
(2) OUTPUTS	c. **IR IN:** Connect with IR receiver, fixed IR input for the output, cannot be switched separately. It makes up an IR bi-directional transmission with the IR OUT on the corresponding HDBaseT receiver.
	d. **RS232:** RS232 port to communicate with the RS232 port on corresponding HDBaseT receiver. When controlled by HDBaseT receiver, the communication protocol must be the same with the switcher.
	e. **AUDIO**: stereo analog output ports, six in total.
	f. **HDMI**: HDMI output port, for HDMI inputs 1 to 3. To split HDMI output for local monitoring or used instead of HDBaseT outputs.
	g. **HDBaseT**: Works with receivers using HDBaseT technology, such as the HDMI CAT5 cable receiver and the HDMI POH (Power Over HDBaseT) twisted pair receiver. It can pass through AV, IR, and RS232 signals up to 70 meters.

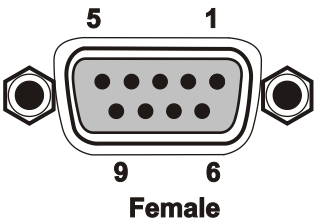
(3) RS232	The serial port for unit control, 9-pin female connector, needs a straight through cable and connects with control devices, such as a PC.
(4) IR ALL IN	IR control signal input port, connect with IR receiver, pass through all the HDBaseT ports (regardless of the selected input/output) to control remote devices.
(5) TCP/IP	RJ45 port for unit control.
(6) IR EYE	Connects with the extended IR receiver. Used to extend the IR control of the switcher functions.
(7) Power	Press the button to power the switcher. The indicator turns red and remains on when the power is on.
(8) Power supply	Connects with 110 to 240 VAC power adapter.
(9) GROUND	Connects to ground.

Connecting with the RS232 communication port

You can control the switcher from the front panel, IR, or RS232. RS232 control is used via the rear RS232 communication port. It is a female 9-pin D connector. The pin definitions are listed in the table below.

Table 1: RS232 connection definitions

No.	Pin	Function
1	N/u	Unused
2	Tx	Transmit
3	Rx	Receive
4	N/u	Unused
5	Gnd	Ground
6	N/u	Unused
7	N/u	Unused
8	N/u	Unused
9	N/u	Unused

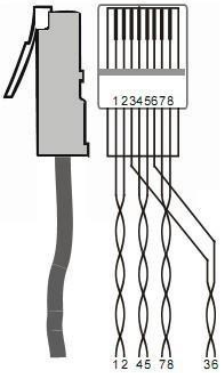


Twisted pair cable connection

The cables for HDBaseT ports must a straight through TIA/EIA T568B standard.

Table 2: T568B cable standards

TIA/EIA T568B	
Pin	**Cable color**
1	orange white
2	orange
3	green white
4	blue
5	blue white
6	green
7	brown white
8	brown



1st Ground	4-5
2nd Ground	1-2
3rd Group	3-6

Note: Do not use RJ45 EZ connectors.

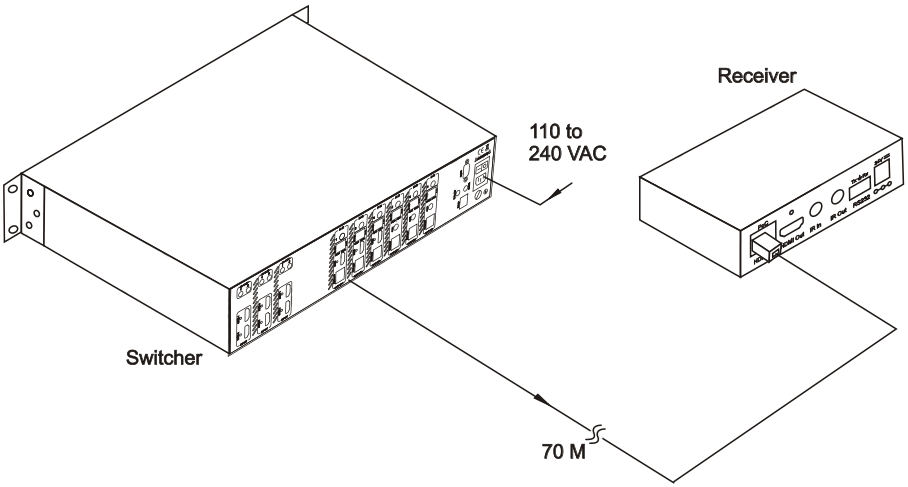
System connection

Usage precautions

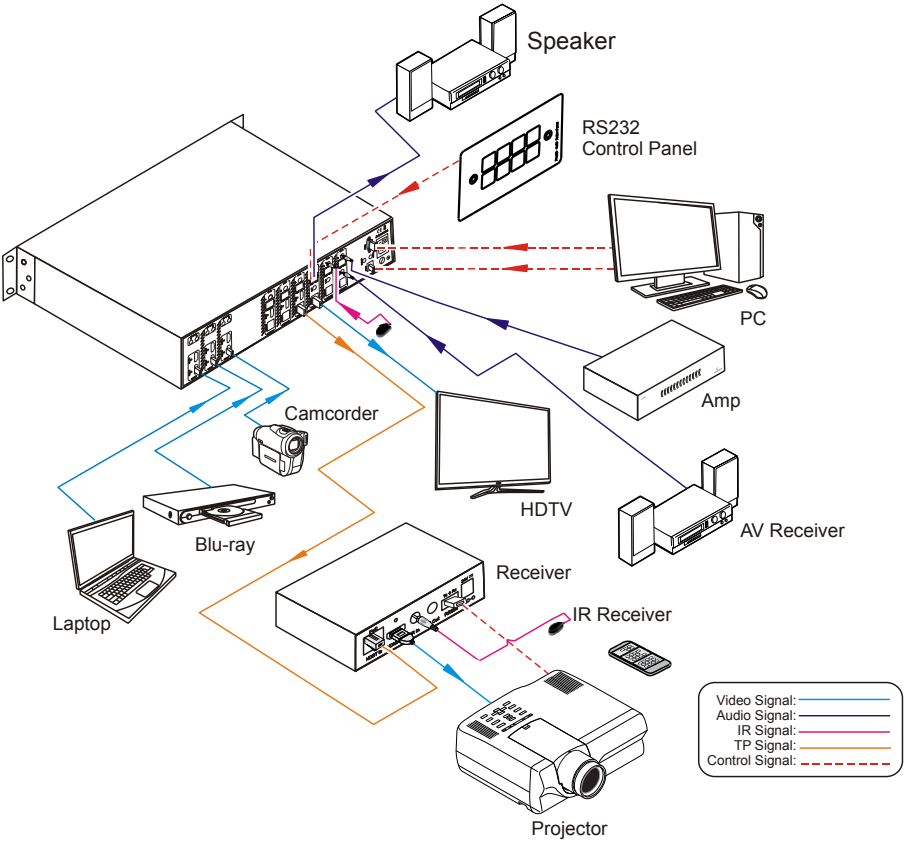
- The system should be installed in a clean environment with a proper temperature (-4 to 158ºF or -20 to 70ºC) and humidity controls.
- All power switches, plugs, sockets, and power cords should be insulated for safety.
- It is recommended that all devices be connected before powering on.

Connecting with the HDBaseT extender set receiver

The switcher can work with the HDBaseT extender set receiver to extend transmission distance up to 70 meters. Connect the HDBT output port of the switcher to the receiver with a Cat5e or Cat6e cable. Since the port supports POH, once the switcher is powered on, the receiver is powered simultaneously. This allows the receiver to obtain power without the need of a local power source.



System diagram



Connection procedure

1. Connects HDMI sources (e.g., DVD) to the HDMI inputs of the switcher using HDMI cables.
2. Connects HDMI displayers (e.g., HDTV) to the HDMI outputs of the switcher using HDMI cables.
3. Connects amplifiers or AVRs to the AUDIO output ports (3P captive screw connectors).
4. Connects the HDBaseT port of the receiver and the switcher with a Cat5 cable.
5. Connects the RS232 port (9 pin female D) of the switcher with a control device (e.g., PC).

6. Connects the RS232 port of the controlled device to any other RS232 port (3P captive screw connector) of the switcher. The control signal can be transmitted bi-directionally.
7. The switcher can be controlled through its built-in IR receiver, or through the IR EYE port connected with an external IR receiver. The IR signal can be transmitted bi-directionally (connecting the IR OUT port to the IR IN port of the other far-end IR device, and connecting the IR IN port to the IR OUT port of other far-end IR device).

   Note: The IR IN port has built-in infrared carrier receiver.
8. Connect the 100 to 240 VAC power supply to the switcher.

System applications

The switcher is useful in any scenario when an HDMI signal (along with control signals) must be transmitted reliably across greater distances than is practical using the traditional HDMI cables. It can be used in both residential and commercial applications when centrally locating source equipment and displaying HD video in remote locations. The switcher allows the sharing of source content across multiple displays.

System operations

The button operation examples are shown in the “Front panel” image on page 2. This is a brief introduction to the system inquire operations.

I/O control

Change an input to an output.

Example: Input 1 to output 2.

Operation: Press **1 + 2 + SELECT**

Note: In default status, six IR OUTs correspond with six HDM INPUTS. When you change an HDMI input to an output, IR OUT switches synchronously.

Change an input to many outputs.

Example: Change input channel 2 to output 2, 4, and 6.

Operation: Press **2 + 2 + 4 + 6 + SELECT**

Change an input to all.

Example: Change Input 1 to all outputs.

Operation: Press **1 + GLOBAL + SELECT**

Note: Each button flashes three times, and then turns off. Should the operation fail, the light turns off immediately.

Learn EDID data

Learn EDID data from one input port to one output port.

Example: Enable input 2 to learn EDID data from output 4.

Operation: Press **EDID + 2 + 4 + SELECT**

All input ports learn EDID data from one output port.

Example: Enable all input ports to learn EDID data from output 4.

Operation: Press **EDID + GLOBAL + 4 + SELECT** and hold for three seconds

Note: Each button flashes two times when the data is successfully copied, and turns off. Should the operation fail, each button flashes quickly for three seconds.

EDID setting

Select one type of EDID data from following four types of built-in EDID data:

- INPUT 1: 1080P 3D 2CH
- INPUT 2: 1080P 3D Multichannel
- INPUT 3: 1080P 2D 2CH
- INPUT 4: 1080P 2D Multichannel
- INPUT 5: 3840 x 216 2D (30 HZ)
- INPUT 6: 4096 x 2160 3D (30 HZ)

To set the EDID data of one input port, press EDID and hold for three seconds to enter in EDID setting statues, and then press INPUTS + OUTPUTS + SELECT.

Example: Set the EDID data of INPUT 4 to the forth type of EDID data.

Operation: Press **EDID + 4 + 4 + SELECT** and hold for three seconds

To set the EDID data of all input ports, press EDID and hold for three seconds to enter in EDID setting statues, and then press GLOBAL + OUTPUTS + SELECT.

Example: Set the EDID data of all input ports to the second type of EDID data.

Operation: Press and hold **EDID + GLOBAL + 2 + SELECT**

Note: Each button will flash for two times when the data copies successfully, and then turns off. Should the operation fail, each button quickly flashes for three seconds.

Status check

To access the System menu, press SELECT for three seconds. Use the left and right direction buttons to navigate checking the previous and next item.

Table 3: Examples of front panel operations

Function items	Example	Description
Checks the connection status of inputs	In 1 2 3 4 Connect Y Y Y Y	Y: The corresponding port is connected with the input device. N: It is not.
Checks the connection status of outputs	Out 1 2 3 4 Connect Y Y N N	Y: The corresponding port is connected with output device. N: It is not.
Correspondence between inputs and outputs	Out 1 2 3 4 Input 1 2 3 3	Shows the correspondence between the six inputs and six outputs.
Checks if the input is with HDCP	In 1 2 3 4 HDCP Y Y Y N	Y: The input signal is with HDCP. N: It is not.
Checks if the output is with HDCP	Out 1 2 3 4 HDCP Y Y Y N	Y: The output signal is with HDCP. N: It is not.
Checks the output resolution	Resolution Out 1 1920X1080	Use ▲▼ to check all six output resolutions.

Output check

Press any output button to check the corresponding input.

Example: Check which one is the corresponding input to output 2.

Operation: Press output 2 button. The LCD screen display “01B02 01R02”, and the indicators for input 1 and output 2 turn on for three seconds. Output 2 corresponds with input 1.

Clear operation

When you switch output channels, study EDID data, or set EDID data, press CLEAR to clear the operation before you press SELECT to enable it. When pressed, the switcher returns to the previous status.

IR control

Using IR and HDBaseT transmission technology, the switcher has the following functions.

- Controls far-end output device from local
- Controls local input and output device remotely
- Controls the switcher locally or remotely

Note: Non-flashing emitters are not supported.

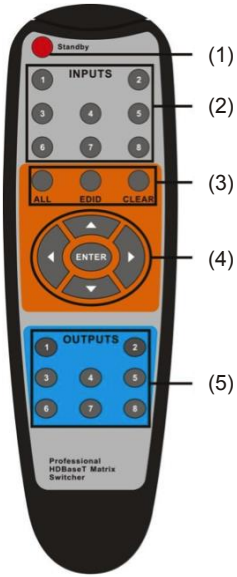
You can control the switcher using its built-in IR receiver, or through the IR EYE port by connecting it to an extended IR receiver.

– or –

You can control it remotely using an IR device or though the twisted pair.

IR remote

Figure 3: IR remote



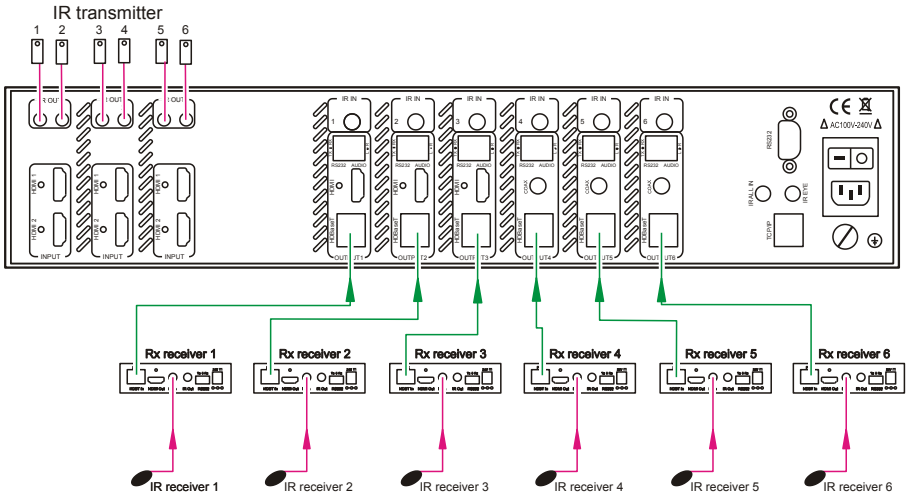
(1) Standby	Press to enter or exit Standby mode.
(2) Input buttons	1 to 8, The IR signal is switched to the corresponding HDMI signal. Buttons 7 and 8 are unavailable.
(3) Menu buttons	**ALL** (GLOBAL), **EDID** and **CLEAR** buttons have the same function as those on the front panel.
(4) Direction buttons	Up, Down, Left, Right, Enter to confirm.
(5) Output buttons	1 to 6, The IR signal is switched to the corresponding output signal. Buttons 7 and 8 are unavailable

IR operations

IR matrix switching

The six “IR OUT” ports make up a 6x6 IR switcher with the six “IR IN” ports of the far-end receivers, as shown below.

Figure 4: Control local devices or the switcher remotely



The IR signal is received from a corresponding remote controller. It is transferred to the HDBaseT receiver, then to the corresponding zone of the switcher through the twisted pair, and finally transferred to the IR OUT port and received by the controlled device.

Switching operation

Sending command: [x1]R[x2].

x1: Corresponds with the six IR OUT ports of the switcher. The IR transmitter connected to this port can be placed at the IR receiving area of the output device or the switcher itself.

x2: Corresponds with the zone number. The IR signal transmits to the HDBaseT receiver, and then goes to the HDBaseT port of this zone via the twisted pair.

Example: Send command “3R2.” to transfer the IR signal received from zone 2 to IR OUT port 3.

Note: When you switch all six IR input signal channels to the same IR out channel, the IR out channel is unable to control all of the devices at the same time.

IR carrier enforcing

When the IR receiver that is connected to the HDBaseT receiver is with the IR carrier, the received IR signal can be transferred to the IR OUT port of the switcher.

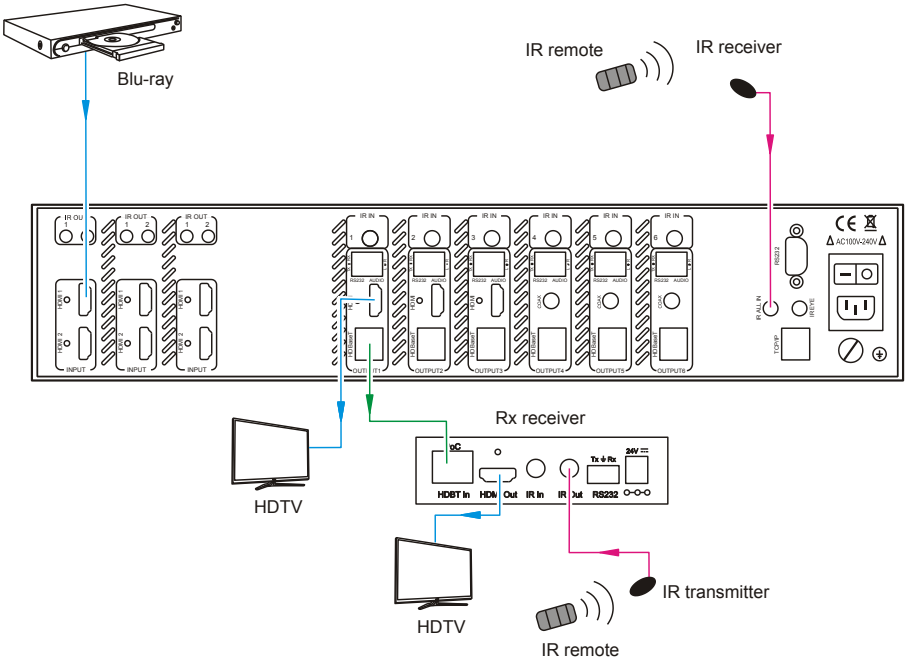
When the IR receiver that is connected with the IR ALL IN port of the switcher is with the IR carrier, the received IR signal can be transferred to the IR OUT port of the switcher.

When the IR receiver is connected with the HDBaseT receiver, or the IR ALL IN port of the switcher is not with IR carrier, send the command “%0901.” You are then able to transfer the IR signal to the IR OUT port.

Control far-end output device from local

When you need to control a remote displayer locally, the IR receiver must be used with the IR carrier. The IR signal is transferred to the corresponding zone that is connected to the HDBaseT receiver and to the IR transmitter. When the IR receiver is connected to the IR ALL IN port, the IR signal is transferred to all six IR transmitters that are connected to HDBaseT receivers.

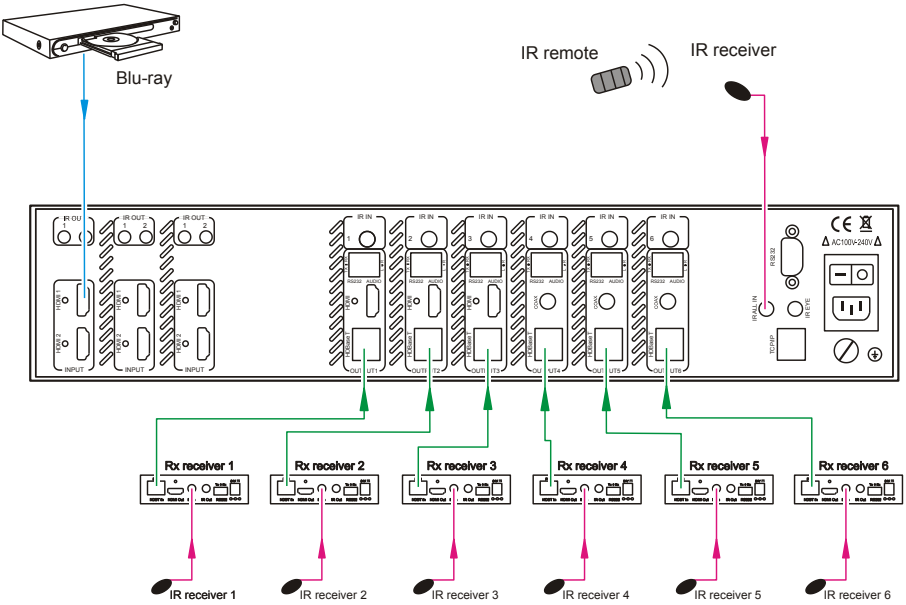
Figure 5: Locally control remote devices



Control far-end device through IR ALL IN port

The IR signal received from the IR ALL IN port is transmitted to all six far-end HDBaseT receivers connected to HDBaseT ports of the switcher.

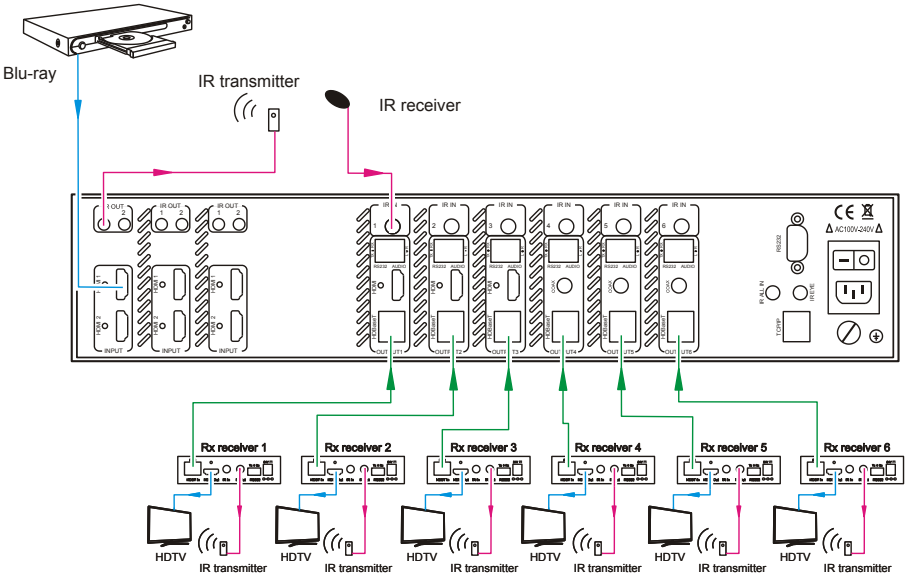
Figure 6: Control remote devices through IR ALL IN port



Control local device from remote

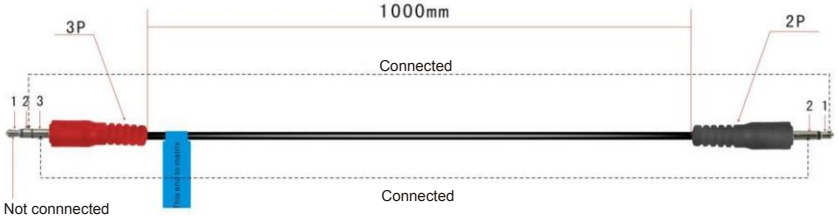
Users can control local devices remotely. When in use, the IR signal received from the HDBaseT receiver is transmitted to the corresponding IR OUT port of the switcher.

Figure 7: Control local devices remotely



Controlled by a third-party IR control device

Using the IR adapter cable (included), connect the 3P end to the switcher's IR input port and the 2P end to the IR output port of the third-party control device. The IR signal is transmitted via the twisted pair to the remote output device.



IP and RS232 control protocol

Bi-directional RS232 to each connected HDBaseT receiver allows the control of displays, projectors, etc. at the receiver locations.

Communication protocol: RS232 communication protocol

Baud rate: 9600 Data bit: 8 Stop bit: 1 Parity bit: none

Table 4: RS232 command types and codes

Command Type	Command Code	Function
System Command	/*Type;	Returns the switcher model information.
	/%Lock;	Locks the front panel buttons on the switcher.
	/%Unlock;	Unlocks the front panel buttons on the switcher.
	/^Version;	Returns the firmware version installed.
	/:MessageOff;	Turn the COM port feedback command off.
	/:MessageOn;	Turn the COM port feedback command on.
	Demo.	Puts the switcher into 'Demo' mode.
	Undo.	Cancels the prior command.
Operation Command	[x]All.	Transfers the signal from the input channel [x1] to all output channels.
	All#.	Transfer all input signals to their corresponding output channels.
	All$.	Switches off all of the output channels.
	All@	Switches on all of the output channels.
	[x]#.	Transfers signals from the input channel [x] to the output channel [*x*].
	[x]$.	Switches off the output channel [*x*].
	[x]@.	Switches on the output channel [*x*].
	[x1] V[x2].	Transfers the video signal from the input channel [*x*1] to the output channel [*x*2].
	[x1] B[x2].	Transfers the AV and IR signals from the input channel [*x*1] to the output channel [*x*2].
	Status(X)	Checks the status of the output channel [*x*].
	Status.	Returns the current status of the input channel to the output channels one by one.
	Save[Y].	Saves the present operation to the preset command [Y], ranges from 0 to 9.

	Recall[Y].	Recalls the preset command [Y].
	Clear[Y].	Clears the preset command [Y].
	PWON.	Works in normal mode.
	PWOFF.	Enters standby mode and stops power to the HDBaseT receivers.
	STANDBY	Enters standby mode and keeps power to the HDBaseT receivers. Press other buttons or send other commands to start.
	Audio/[X]:[Y]	Select HDMI audio or analog audio as the audio source for outputs 1 to 6.
	/%[Y]/[X]:[Z].	HDCP management command. • [Y] is for input (value: I) or output (value: O). • [X] is the number of one port, if the value of X is ALL, it means all ports. • [Z] is for working status (value: 1 or 0). Y=I and Z=1, the input port is compliant with the HDCP. Y=O and Z=1, the output port is compliant with the HDCP. Y=I and Z=0, the input port is not compliant with the HDCP. Y=O and Z=0, the output port is not compliant with the HDCP.
	[x1] R[x2].	Transfers the IR signal from the input channel [x1] to the output channel [x2].
	DigitAudioON[x].	Enable HDMI audio output of port x. X=1, 2, 3, 4, 5, 6, enables one port. X=7, enables all six ports.
	DigitAudioOF F[x].	Disable the HDMI audio output of port x. X=1, 2, 3, 4, 5, 6, disables one port. X=7, disables all six ports.

/+[Y]/[X]:******.	Set communication between PC and HDBaseT Receiver. Y is the port. • Y = 1, 2, 3, 4, 5, or 6, sends the command in a given baud rate to the corresponding HDBaseT receiver. • Y = 9, sends the command to all connected HDBaseT receivers. • Y = A, B, C, D, E, or F, sends the command to the corresponding HDBaseT receiver only when in normal mode. • Y = G, H, I J, K, or L, sends the command to the corresponding HDBaseT receiver only when in standby mode. X is for baud rate. • Value ranges from 1 to 7. (1 = 2400, 2 = 4800, 3 = 9600, 4 = 19200, 5 = 38400, 6 = 57600, and 7 =115200) ***** is for the data (max 48 Byte) The symbol "." is the end of one command. If there are some symbols with "." in one command, then this case is allowed and the last one is the end of this command.
EDIDH[x]B[y].	Study the EDID from the output port [x] to the input port [y]. If the EDID data is effective and the audio portion does not support PCM mode, then force-set it to support PCM mode only. If the EDID data is not effective, then set it as initialized EDID data.
EDIDPCM[x].	Set the audio portion of the input port [x] to PCM format in the EDID database.
EDIDG[x].	Get EDID data from the output port and display the output port number of x.
EDIDMInit.	Recover the factory default EDID data.
EDIDM[X]B[Y].	Manual EDID switching. Enable input [Y] to study the EDID data of output [X]. If the EDID data is not effective, then set it as initialized EDID data.
EDIDUpgrade [x].	Upgrade EDID data via the RS232 port. [x] is for the input port. When the value of x is 9, it will update all input ports. When the switcher receives the command, it will show a message to prompt you to send the EDID file (.bin file). Operations are canceled after ten seconds. End all of the connections of the HDBaseT ports.

UpgradeIntED ID[x].	Select one type of EDID data and upgrade built-in EDID data. Supports four types of EDID data: 1. 1080P, 3D, 2CH 2. 1080P, 3D, Multichannel 3. 1080P, 2D, 2CH 4. 1080P, 2D Multichannel 5. 3840 x 2160, 2D (30 Hz) 6 4096 x 2160, 2D (30 Hz) [x] = 1, 2, 3 or 4 When the switcher receives the command, it displays a message to send the EDID file (.bin file). Operations are canceled after ten seconds.
EDID/[x]/[y].	Set the built-in EDID data of the input port [x] to the type [y]. The value of [y] is 1, 2, 3, and 4. The EDID data types are the same as mentioned above.
GetIntEDID[x]	Returns the embedded EDID data ranked x, [x]=1 to 6.
GetInPortEDID[X]	Returns the EDID data of input [x], [x]=1 to 6.
%0801.	Automatic HDCP management.
%0900.	Sets as infrared carrier following mode.
%0901.	Sets as infrared carrier enforcing mode.
%0911.	Resets to factory default.
%9951.	Checks the command sent by port 1 when PWON.
%9952.	Checks the command sent by port 2 when PWON.
%9953.	Checks the command sent by port 3 when PWON.
%9954.	Checks the command sent by port 4 when PWON.
%9955.	Checks the command sent by port 5 when PWON.
%9956.	Checks the command sent by port 6 when PWON.
%9941.	Checks the command sent by port 1 when PWOFF.
%9942.	Checks the command sent by port 2 when PWOFF.
%9943.	Checks the command sent by port 3 when PWOFF.
%9944.	Checks the command sent by port 4 when PWOFF.
%9945.	Checks the command sent by port 5 when PWOFF.
%9946.	Checks the command sent by port 6 when PWOFF.
%9961.	Checks the system locking status.
%9962.	Checks the status while in standby mode.

%9963.	Checks the working mode of infrared carrier.
%9964.	Checks the IP address.
%9966	Checks the audio source of all outputs.
%9971.	Checks the connection status of the inputs.
%9972.	Checks the connection status of the outputs.
%9973.	Checks the HDCP status of the inputs.
%9974.	Checks the HDCP status of the outputs.
%9975.	Checks the switching status.
%9976.	Checks the output resolution.
%9977.	Checks the status of digital audio of output channels.
%9978.	Checks the HDCP status of the input ports.

Notes

- Disconnects all of the HDBaseT cables before sending the command EDIDUpgrade[X].
- In the above commands, the [ ] symbols are for easier reading and should not be typed in the actual operation.
- Remember to end the commands with the ending symbols “.” and “;”.
- Type the commands carefully. They are case-sensitive.

Control the switcher

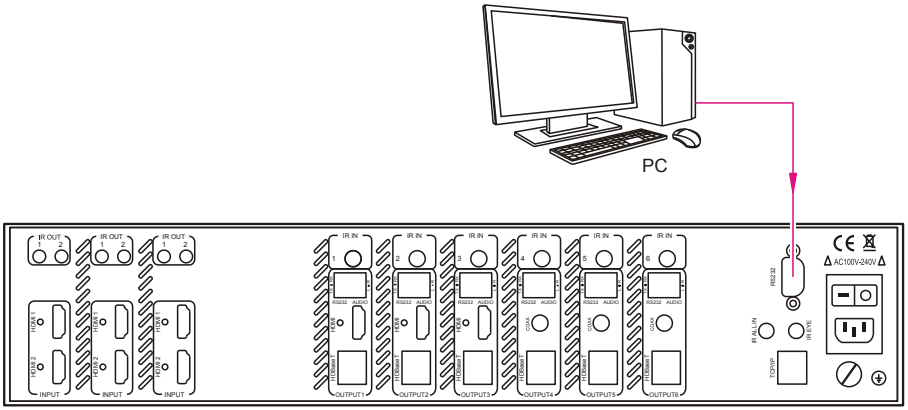
To control the switcher, you must connect its 9-pin female RS232 port to the PC’s RS232 port.

– or –

Connect any one of the HDBaseT receiver’s RS232 ports to the PC.

The RS232 command transmits to the switcher via the twisted pair. Use the RS232 control software to control the switcher.

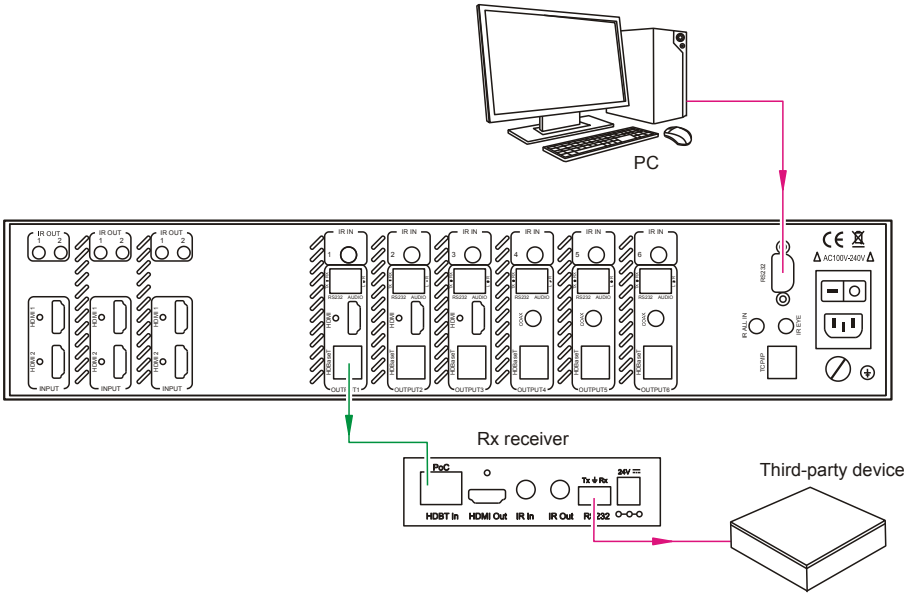
Figure 8: Controlling the switcher locally



Control third-party device from local

Connect the 9-pin female RS232 port of the switcher to the PC. Use the RS232 command "**/+[Y]/[X]:******.**" to control the third-party device connected to the HDBaseT receiver.

Figure 9: Controlling a third-party device locally



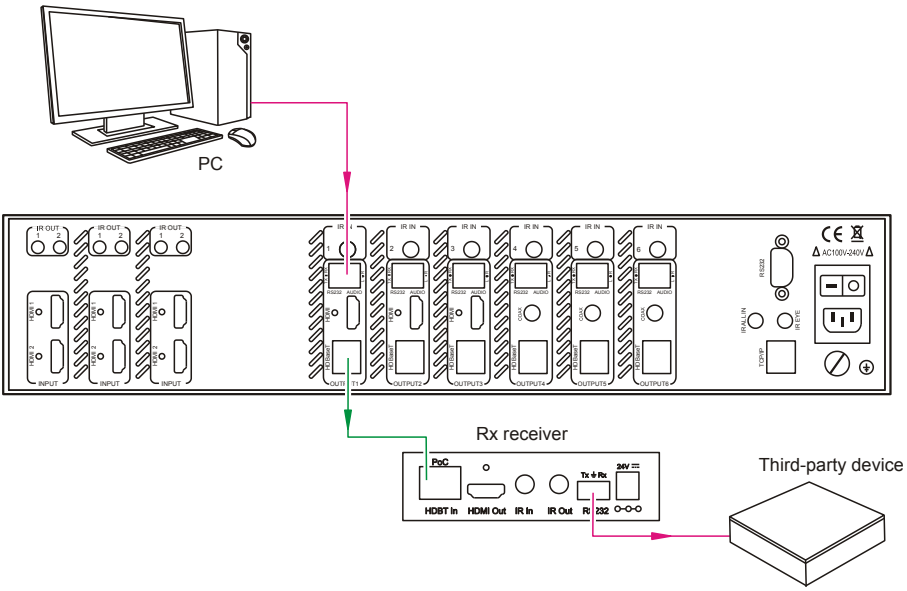
Bi-directional RS232 control

By connecting one 3P captive screw RS232 port with the PC (or controlled device), and then connecting the RS232 port of the corresponding HDBaseT receiver with the controlled device (or PC), the RS232 signal can be transmitted bi-directionally.

Control far-end device from local

Connect the RS232 (3P captive screw) port to the PC, and then connect the controlled RS232 device (third-party device) to the corresponding receiver (same zone as the PC). See Figure 10.

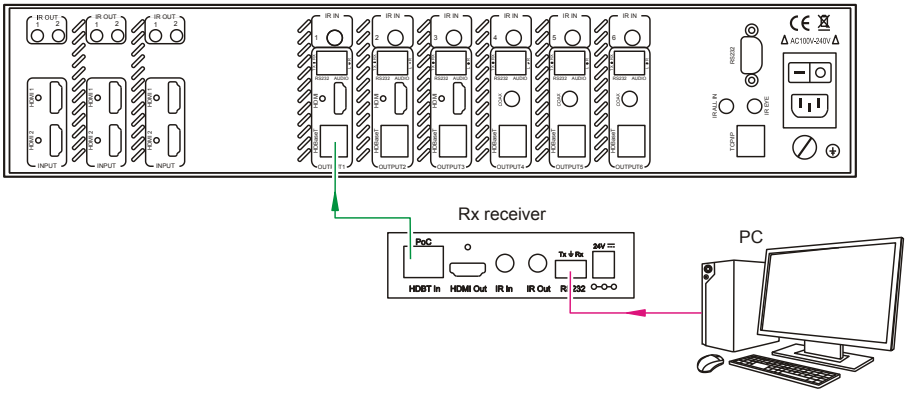
Figure 10: Controlling far-end device locally



Control the switcher from remote

Connect the RS232 (3P captive screw) port to the controlled device (third-party device), and then connect the PC to the corresponding (same zone as controlled device) receiver. See Figure 11.

Figure 11: Controlling the switcher remotely



TCP/IP control

Control modes

The default control settings are as follows:

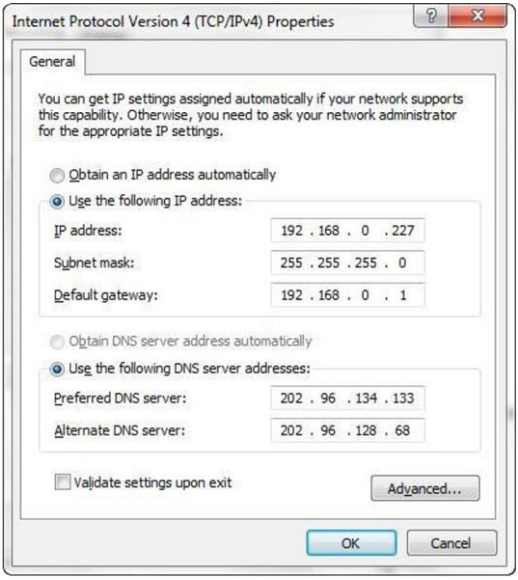
- TCP/IP: 192.168.0.178
- Gateway: 192.168.0.1
- Serial port: 8080

Change the IP and gateway settings as needed. Do not change the serial port number.

Control by a single PC

Connect a computer to the Ethernet port of the switcher. Set its IP address and gateway to the same IP section as the default IP of the switcher (192.168.0.178).

Figure 12: Setting the PC's IP address the same as the switcher

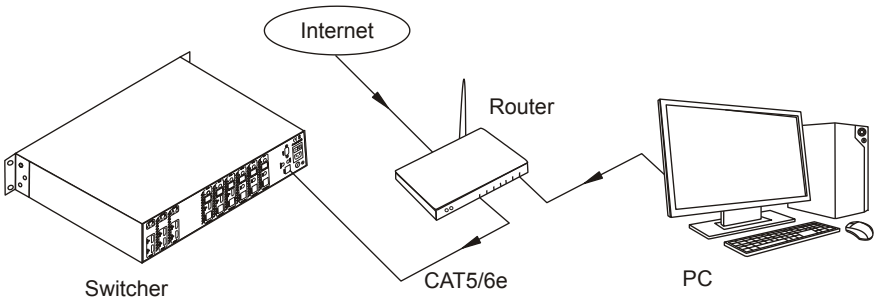


Note: Gateway and DNS information is not needed.

Control by PC(s) in a LAN

Connect the switcher to a router to make a LAN with the PC(s) so that it can be controlled in a LAN. Ensure the switcher's IP section is the same as the router.

Figure 13: Connecting to a LAN



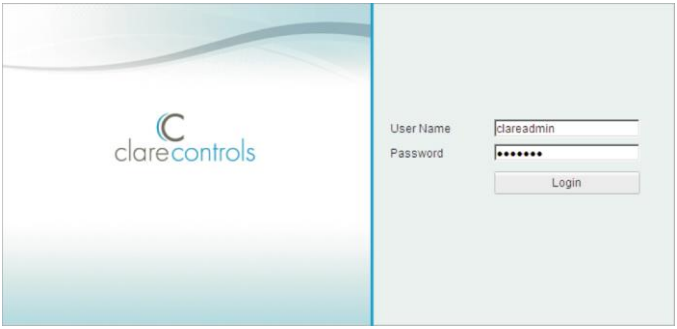
To connect to a LAN:

1. Connect the TCP/IP port of the switcher to Ethernet port of PC using a Cat5e cable.
2. Set the PC's IP address and gateway to the same IP section as the switcher. Note the PC's original IP address and gateway.
3. Set the switcher's IP address and gateway to the same IP section as the router.
4. Set the PC's IP address and gateway as the original one.
5. Connect the switcher and PC(s) to the router. In the same LAN, each PC is able to control the switcher asynchronously.

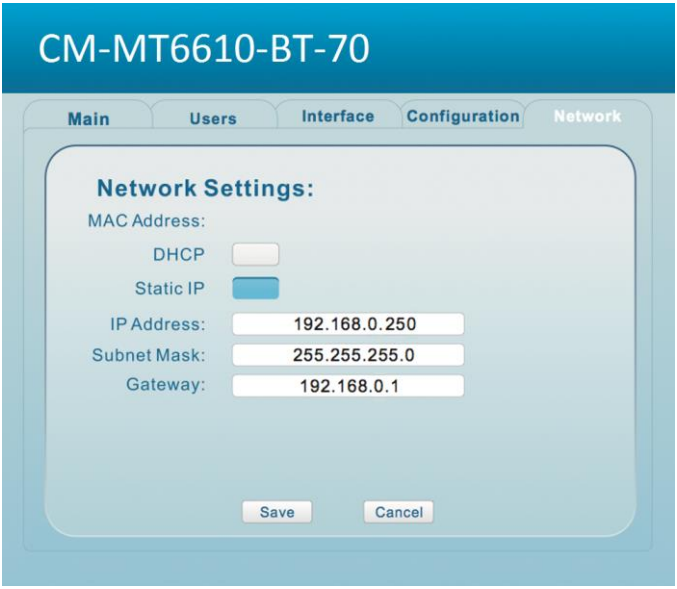
TCP/IP settings

1. Connect the TCP/IP port of the switcher to Ethernet port of the PC with twisted pair.
2. Set the PC's IP and gateway to the same IP subnet as the default IP of the switcher (192.168.0.178).
3. Launch your web browser, and then enter **192.168.0.178**.

   This is the default IP address for all Clare Controls HDMI switchers.
4. The Web Interface Login page displays. Enter the user name "clareadmin" and password "secure7", and then click **Login**.



5. Select the Network tab and set the following parameters.
   - IP address
   - Subnet
   - Gateway



6. Click **Save**.
7. Reboot the switcher.

Once rebooted, you will be able to control the switcher over IP.

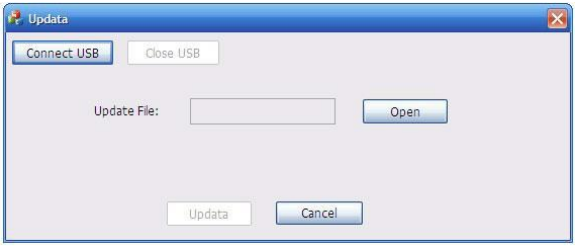
USB firmware updating

To allow for future changes, or to add new functions, the switcher firmware switch can be upgraded via USB. To upgrade, download the latest upgrade file, and then upgrade it through the EXE software. Copy the EXE software to the PC, and then double-click the program to upgrade the firmware.

Figure 14: Update EXE software

When the program is running normally, it will enter into the interface (as shown in next figure). Click **Open** and choose the upgrade file downloaded, and then click **Connect USB**. The upgrade will begin. When complete, a window will appear showing the message “Update success.”

Figure 15: Interface of update EXE software



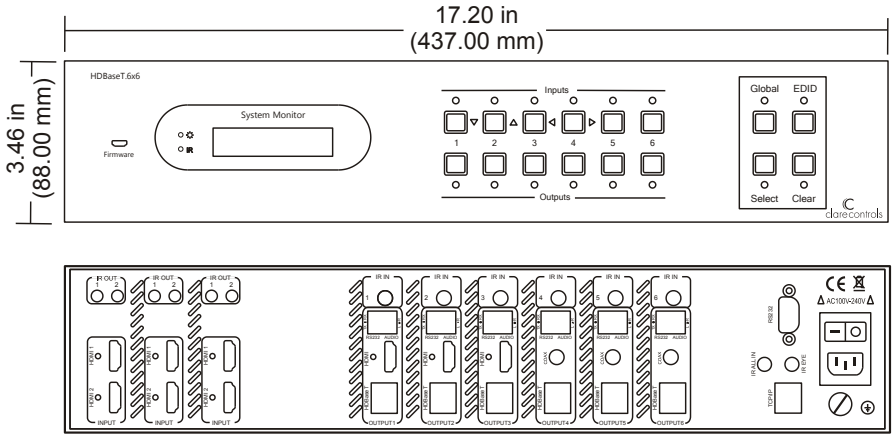
Note: The COM number connected with PC is available only when in 1 to 9.

Specifications

Video Input		**Video Output**	
Input	6 HDMI	Output	3 HDMI 6 HDBaseT
Input connector	Female HDMI 1.4a	Output connector	Female HDMI female RJ45 (with LED indicators)
Input level	T.M.D.S. 2.9 to 3.3 V	Output level	T.M.D.S. 2.9 to 3.3 V
Input impedance	100 Ω (differential)	Output impedance	100 Ω (differential)
		HDBaseT output	1080P at 60 HZ <70 m 4Kx2K at 30 HZ <40 m
Video general			
Gain	0 dB	Bandwidth	10.2 Gbit/s
Video signal	HDMI (or DVI-D) 1.4a	Maximum pixel clock	225 MHz
Resolution range	Up to 4Kx2K, 1080P 3D	Switching Speed	200ns (max.)
Transmission distance	70 m with POH over Cat6e 60 m with POH over Cat5e	HDBaseT output resolution	1080P at 60 Hz 4Kx2K to 30 HZ < 40 m
EDID management	In-built EDID data and manual EDID management		
HDCP	Supports HDCP 1.4, auto and manual HDCP management		
Audio General			
Output signal	Analog audio Digital audio	Output connector	3-pin terminal block

Stereo output	Earphone output distortion: 0.1% 32 Ω / 70 mW at 1 KHz, 0.1% 16 Ω / 105 mW to 1 KHz	Coax output	Supports PCM, Dolby, DTS 5.1
Frequency response	20 Hz to 20 KHz	CMRR	> 90 dB at 20 Hz to 20 KHz
Control ports			
Control ports	6 IR OUTs (green) 6 IR INs (black) 1 IR EYE (black) 1 IR ALL IN (black) 1 TCP/IP (female RJ45) 1 RS232 (9 pin female D) 8 RS232s (3P terminal blocks)	Panel control	Front panel buttons
IR	Default IR remote Extend IR EYE	TCP/IP control	Works with the network controller V2.2
General			
Power supply	110 to 240 VAC		
Power consumption	Full load: 80 W		
Case dimension (W × H × D)	17.3 × 3.5 × 14.9 (44.0 × 8.8 × 38.0 cm)		
Weight	12.3 lb. (5.6 Kg)		
Temperature	14 to 104ºF (-10 to 40ºC)		

Dimensions



Troubleshooting and maintenance

- When there is color loss or no video signal output, the cables may be broken or not fully connected.
- When EDID management does not work normally, the HDMI cable may be broken at the output end.
- When switching and there is a blank screen displayed, resolution of the video source may not be supported. Switch again or manage the EDID data manually to make the resolution of the video source automatically comply with the output resolution.
- When a user cannot control the switcher by computer through its COM port, check the COM port number in the software. Make sure the COM port is in good condition and the communication protocol is correct.
- When switching and there is no output image:
  - Check that there is a signal at the input and the output.
  - Check if the output port number is the same with the controlled one.
  - Check that the input/output cables are not broken and the connectors are loose. Try another cable.
- It is not uncommon for any switcher device to experience trouble when learning the 3D EDID signal from a source device, such as a Blu-ray player. If your switcher cannot learn the 3D EDID signal, connect the source device directly to the display device (TV) and play the movie. Once the movie begins playing, reconnect the source device to the switcher and relearn the EDID data.

Safety operation guide

To guarantee the reliable operation of the equipment and safety of the staff, please follow the procedures listed below.

- The system must be grounded properly. Do not use two blade plugs. Ensure the supply voltage is in the correct range of 100 to 240 V and from 50 to 60 Hz.
- Do not place the device in an area that is abnormally hot or cold or does not have proper temperature control and ventilation.
- The device generates heat when running. Its environment should be well ventilated to prevent damage caused by overheating.
- Disconnect power in humid weather, or when left unused for long periods.
- Before making or removing any connections to the device, ensure that the power supply has been disconnected.
- Do not attempt to open the enclosure of the equipment. Do not attempt any repairs. There are no user-serviceable parts inside. Any attempt to open the equipment will result in a complete void of warranty and may result in serious injury or death.
- Do not splash any chemical substances or liquids on or around the equipment.

After-sales service

- If there appears to be problems when running the device, refer to the “Troubleshooting and maintenance” section in this manual. Return shipping costs are not covered by this warranty.
- You can contact Customer Support at http://support.clarecontrols.com. Please be ready to provide the following information.
    - Product model number, version, and serial number.
    - A detailed description of the trouble issues.
    - A description of all connections and third-party equipment being used.
- We offer this product with a three-year warranty, which starts the first day you purchase this product.
- If, during the warranty period, the unit cannot be repaired, a suitable replacement will be issued. Replacement units will be comparable to the original. However, due to potential design changes over time, replacement units may not be identical to the unit replaced.
- Items not covered by this warranty.
    - Damage caused due to incorrect usage and/or connections.
    - Damage caused due to installation by person(s) not adequately trained in the installation of this equipment.
    - Any attempt to open this unit and access internal components shall immediately void this warranty.
    - Damage caused by any physical force (dropping the unit or dropping an object upon the unit, etc.).
    - Damage caused by voltage/cycle fluctuations outside acceptable range.
    - Damage caused by over-current, voltage spikes or lightning damage due to inadequate surge protection.
- A valid invoice of purchase via an authorized dealer shall be required for any warranty coverage.