EL-5400-HBT

Multi-Inputs with HDMI and HDBT output Scaler Box

Operation Manual

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
VR0	16/03/16	Preliminary Release

CONTENTS

1. INTRODUCTION

The Multi-inputs with HDMI and HDBT output scaler box supports 5 inputs of HDMI, VGA and DisplayPort. The input source is capable to switch and scale to adopt resolution then transmit over HDMI and HDBaseT. The HDTV resolution is achievable. Meanwhile, it offer flexibility application of audio which includes unbalance audio, MIC In and line out. The professional 48V phantom microphone is compatible. The audio DSP engine offer auto-mixer and auto-gain control to mix or reduce background audio in order to enhance major audio source. The system could be controlled and configure by easily operation of Telnet, WebGUI, IR remote and RS-232. This scaler box is a suitable solution for presentation purpose at classroom and conference room.

2. APPLICATIONS

• Analog and digital source integration
• Upscaling standard definition video for high-definition displays
• Conference centers
• Lecture halls
• Schools and universities

3. PACKAGE CONTENTS

• 1 x Multi Input Scaler
• 1 x Remote Control unit (model: CR-165)
• 1 x IR blaster Cable
• 1 x IR Emitter Cable
• 1 x RS-232 D-Sub connector to earphone cable
• 1 x 24V Power Adaptor
• 1 x D-Sub to 3RCA cable
• 1x Operation Manual

4. SYSTEM REQUIREMENTS

Input source equipment such as Blu-ray/DVD players or PC/Laptop and output to displays, AV Receivers or active speakers.

5. FEATURES

- HDMI and HDCP compliant
- Supports multi inputs: 2 x HDMI, 2 x VGA and 1 x Display port, 3 x unbalance audio, 1 x MIC In (48V phantom selection)
- Scaler synchronous outputs to 1 x HDMI, and 1 x CAT5e/6/7
- Supports HDTV resolutions up to 1080p (VGA to WUXGA)
- Supports Internal EDID
- Supports pass-through of PCM 2CH
- Audio DSP offer auto mixer and auto gain control for mix or reduce background audio
- Device could be controlled via WebGUI, IR remote and RS-232
- Supports IR In and IR Out to receive or transmit IR signal from compatible receiver with bi-directional RS-232 control
- Input control provides direct input source selection
- Support output resolutions up to 1080p

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel
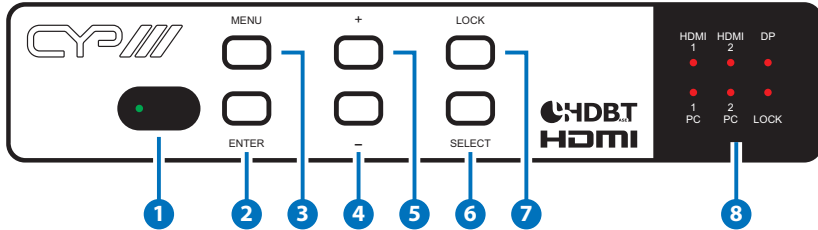
1 **IR Window:** Receiving IR signal from remote control unit which come with scaler box.

2 **"Enter" button:** Press this button to confirm the selection of On Screen Display (OSD) menu.

3 **"Menu" button:** Press this button to access to On Screen Display (OSD) menu.

4 **"-" (Minus) button:** Press button to navigate down on OSD menu. Press "Menu" and "+" will direct output of XGA60(1024x768) and "Menu" and "-" for 720p60.

5 **"+" (Plus) button:** Press button to navigate up on OSD menu.

6 **"Select" button:** Press this button for source selection. The active source will be indicator on LEDs at front panel.

7 **"Lock" button:** Press this button to lock front panel and press again to unlock.

8 **LEDs:** This LED for selected source indication. The LED for the selected source will illuminate for indicating active source accordingly.

6.2 Rear Panel
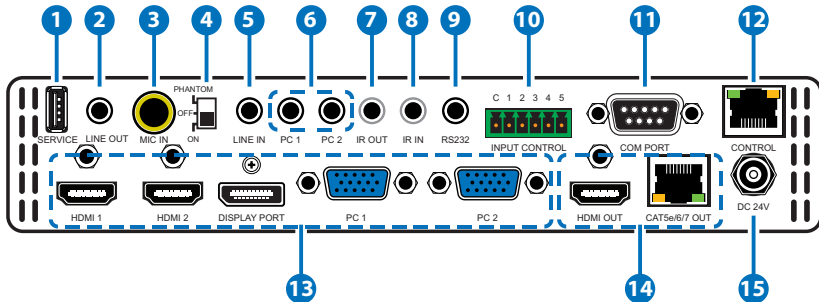
1 **Service:** The service slot is for firmware update via USB driver.

2 **Line out:** Connects with amplifier for audio source broadcasting.

3 **MIC IN:** Plug microphone in for audio source output. The phantom microphone is well supported.

4 **Phantom on/off:** Arrange the slide switch to "on" for condenser microphone (5V) or "phantom" for professional 48V phantom microphone. When slide switch arrange to "off", the audio output will be mute.

5 **Line In:** Select the external analog audio on OSD and insert the audio to HDMI or DP video source then output to display.

6 **PC1 / PC2:** When video source is PC, the PC audio cable shall connect in this jack for PC audio source output with video to display.

7 **IR Out:** Connect with supplied IR blaster cable to sending IR single which comes from remote control unit to compatible Receivers.

8 **IR IN:** Connect with supplied IR extender cable to receive the IR signal from the included IR remote. Ensure that the remote is within the direct line-of-sight of the IR extender.

9 **RS-232:** For sending RS-232 command to compatible Receivers.

10 **Input Control:** This input control reserving for direct source input selection. Connect ground pin (mark as C on panel) with following pin number for individual source selection.

Pin number	Source
Pin 1	HDMI 1
Pin 2	HDMI 2
Pin 3	Display port
Pin 4	PC1
Pin 5	PC2

11 **Com Port:** Connect with D-Sub 9 pin cable with PC or laptop for this scaler box controlled by RS-232 commands.

12 **Control:** This port is the link for WebGUI control; connect to an active Ethernet link with an RJ45 terminated cable.

13 **Input Sources:**

1. PC 1 & PC2: Connect to a PC/Laptop source for video signal input with D-Sub 15pin cable.

2. Display port: Connect to a PC / Laptop source for video signal input.

3. HDMI 1 & HDMI2: Connect to HDMI sources such as Blu-ray/DVD player for both video and audio signal.

14 **Output:**

1. CAT5e/6/7 Out: Connects with compatible Receiver for video and / or audio output.

2. HDMI Out: Connect to an HDMI display or AV Receiver for video and/or audio output.

15 **DC 24V:** Plug the 24V DC power supply into the unit and connect the adaptor to an AC outlet.

6.3 RS-232 Command List

6.3.1 Command Format:

1. <COMMAND><CR><LF>

2. <S><SPACE><COMMAND><CR><LF>

3. <R><SPACE><COMMAND><CR><LF>

4. <S><SPACE><COMMAND><SPACE><PARAMETER><CR><LF

6.3.2 Command Format

Following command (from item 2) omits <SPACE><CR><LF> :

ITEM	COMMAND	DESCRIPTION
1	?<CR><LF>	List all commands
2	S<SPACE>factory-reset<CR><LF>	Return to factory default setting
3	r version	Read FW version
4	r source	Read existing input source
5	s source 0	Set up HDMI 1 input (0:HDMI 1/ 1:HDMI2 / 2:DP / 3: VGA1 / 4:VGA2)
6	r lock	Read lock status of manual selection button
7	s lock 1	Set up manual selection button lock status (0: cancel press button lock)
8	r output	Read output resolution
9	s output 0	Set up output resolution at 640x480 (1:800x600, 2:1024x768, 3:1280x768, 4:1360x768, 5:1280x720, 6:1280x800, 7:1280x1024, 8:1440x900, 9:1400x1050, 10:1680x1050, 11:1600x1200, 12:1920x1080, 13:1920x1200, 14:720x480P, 15:1280x720P60, 16:1920x1080I60, 17:1920x1080P60, 18:720x576P, 19:1280x720P50, 20:1920x1080I50, 21:1920x1080P50, 22:Native OUT1, 23:Native OUT2)
10	r size	Read output picture size
11	S size 0	Set up over-scan for output picture (1:Full/2:Follow-Input/3:Pan-scan/4:Letter-Box/5:Under2/6:Under1)

12	r hdmi1-hdcp	Read HDCP status for HDMI 1
13	s hdmi1-hdcp 0	Active HDCP for HDMI 1 (1:disable HDCP for HDMI2)
14	r hdmi2-hdcp	Read HDCP status for HDMI 2
15	s hdmi2-hdcp 0	Active HDCP for HDMI 2 (1:disable HDCP for HDMI2)
16	r dp-hdcp	Read HDCP status for Display Port
17	s dp-hdcp 0	Active HDCP for Display Port (1:disable HDCP for DP)
18	r contrast	Read contrast status
19	s contrast 0	Set up contrast 0 (contrast could be from 0 to 60)
20	r brightness	Read brightness status
21	s brightness 0	Set up brightness 0 (brightness adjustment from 0 to 60)
22	r color-r	Read color-red status
23	s color-r 0	Set up color-red 0 (color-red adjustment from 0 to 1023)
24	r color-g	Read color-green status
25	s color-g 0	Set up color-green 0 (color-green adjustment from 0 to 1023)
26	r color-b	Read color-blue status
27	s color-b 0	Set up color-blue 0 (color-blue adjustment from 0 to 1023)
28	r hue	Read hue status
29	s hue 0	Set up hue 0 (hue adjustment from 0 to 60)
30	r saturation	Read saturation status
31	s saturation 0	Set up saturation 0 (saturation adjustment from 0 to 60)
32	r sharpness	Read sharpness status

33	s sharpness 0	Set up sharpness 0 (sharpness adjustment from 0 to 30)
34	r nr	Read status of noise reduction
35	s nr 0	Set up noise reduction at off (1:Low / 2:Middle / 3:High)
36	s pc-auto 1	Enable auto function of PC
37	s pc-reset 1	Return to default setting of PC
38	r pc-h-pos	Read horizontal position of PC
39	s pc-h-pos 0	Set up horizontal position 0 of PC (position adjustment from 0 to 60)
40	r pc-v-pos	Read vertical position of PC
41	s pc-v-pos 0	Set up vertical position 0 of PC (position adjustment from 0 to 60)
42	r pc-phase	Read PC phase
43	s pc-phase 0	Set up PC phase at 0 (PC phase adjustment from 0 to 30)
44	r pc-wxga-xga	Read PC WXGA/XGA status
45	s pc-wxga-xga o	Set up WXGA(1:XGA)
46	r mixer	Read mixer status
47	s mixer 0	Set up mixer off (1:MIC)
48	r mic-vol	Read microphone volume
49	s mic-vol 0	Set up microphone volume 0 (Volume adjustment form 0 to 100)
50	r delay	Read audio delay status
51	s delay 0	Set up audio delay off (1: 40ms / 2:110ms / 3:150ms)
52	r mute	Read audio mute status
53	s mute 0	Set up audio un-mute (1:Mute)
54	r out-vol	Read volume of video output

55	s out-vol 0	Set up volume of video output at 0 (video volume adjustment from 0 to 100)
56	r hdmi 1-audio	Read HDMI 1 audio source
57	s hdmi-1 audio 0	Set up HDMI1 audio source at automatic (1:Analog / 2:Embedded)
58	r hdmi2-audio	Read HDMI 2 audio source
59	s hdmi2-audio 0	Set up HDMI2 audio source at automatic (1:Analog / 2:Embedded)
60	r dp-audio	Read Display Port audio source
61	s dp-audio 0	Set up Display port audio source at automatic (1:Analog / 2:Embedded)
62	r hdmi1-vol	Read HDMI 1 audio volume
63	s hdmi1-vol 0	Set up HDMI 1 volume at 0 (volume adjustment from 0 to 100)
64	r hdmi2-vol	Read HDMI 2 audio volume
65	s hdmi2-vol 0	Set up HDMI 2 volume at 0 (volume adjustment from 0 to 100)
66	r dp-vol	Read Display Port audio volume
67	s dp-vol 0	Set up Display Port volume at 0 (volume adjustment from 0 to 100)
68	r pc1-vol	Read VGA1 audio volume
69	s pc1-vol 0	Set up VGA1 volume at 0 (volume adjustment from 0 to 100)
70	r pc2-vol	Read VGA2 audio volume
71	s pc2-vol 0	Set up VGA2 volume at 0 (volume adjustment from 0 to 100)
72	r osd-h-pos	Read OSD horizontal position
73	s osd-h-pos 0	Set up OSD horizontal position at 0 (position adjustment from 0 to 100)
74	r osd-v-pos	Read OSD vertical position

75	s osd-v-pos 0	Set up OSD vertical position at 0 (position adjustment from 0 to 100)
76	r osd-timer	Read OSD automatic off time
77	s osd-timer 10	Set up OSD automatic off time at 10 seconds (off time adjustment from 10 seconds to 100 seconds)
78	r osd-trans	Read OSD transparent status
79	s osd-trans 0	Set up OSD transparent status at 0 (transparent adjustment from 0 to 100)
80	r osd-display	Read OSD display status
81	s osd-display 0	Set up OSD display status to off (1:INFO,2:ON)
82	r mac-addr	Read MAC address
83	r udp	Read UDP address
84	s udp 1	Set up UDP address at 1 (UDP address adjustment from 1 to 65535)
85	r ip-mode	Read IP mode
86	s ip-mode 0	Set up IP mode at Static (change parameter to 1 to DHCP mode)
87	r ip-addr	Read IP address (by IP mode)
88	s ip-addr 192.168.001.050	Set up IP address (000.000.000.000~255.255.255.255). The IP address only allows to read it, it is not allow setting IP address when under IP mode at DHCP.
89	r sub-net	Read subnet
90	s sub-net 255.255.255.255	Set up Sub Net (000.000.000.000~255.255.255.255)
91	r gate-way	Read Gate-way
92	s gate-way 192.168.000.254	Set up Gate-way (000.000.000.000~255.255.255.255)
93	r auto-sync-off	Read Auto Sync off

94	s auto-sync-off 0	Set up Auto Sync off close (1:Fast, 2:Slow)
95	r auto-input	Read auto input status
96	s auto-input 0	Set up Auto-Input off (1:Scan All)
97	r pc1-comp	Read COMP IN PC1 status
98	s pc1-comp 0	PC1 support PC signal only (1: support COMP IN)
99	r pc2-comp	Read COMP IN PC2 status
100	s pc2-comp 0	PC2 support PC signal only (1: support COMP IN)
101	r edid-from	Read the copied EDID from output source
102	s edid-from 0	Set up the copied EDID output source as None (1:Out1, 2:out2, 3:Default)
103	r edid-to	Read the copied EDID from input source
104	s edid-to 0	Set up the copied EDID input source as None (1:HDMI1, 2:HDMI2, 3:DP)
105	r edid-copy	Read active status of copied EDID
106	s edid-copy 1	Set up to active copied EDID (0:Inactive)

6.4 OSD (On Screen Display) Menu

OSD Selection Items	Adjustable Parameters
DISPLAY	Input and output setting menu
PICTURE	Picture setting menu
AUDIO	Audio setting menu
MISCELLANY	Miscellaneously setting menu
FACTORY	Factory default and setting Menu
INFORMATION	Information Menu

1. Source and Resolution Setting Menu:

OSD Selection Items		Adjustable Parameters
SOURCE	HDMI 1	SOURCE: HDMI1, HDMI2, DP, PC1, PC2
SIZE	FOLLOW INPUT	SIZE: OVER SCAN, FULL, FOLLOW INPUT, PAN SCAN,LETTER BOX, UNDER 2, UNDER 1
RESOLUTION	1280x720P 60	RESOLUTION: 640x480, 800x600, 1024x768, 1280x768, 1360x768, 1280x720, 1280x800, 1280x1024,
HDCP ON INPUT		
COMP IN PC		
		1440x900, 1400x1050, 1680x1050, 1600x1200,1920x1080, 1920x1200,
		720x480P, 1280x720P60, 1920x1080i60 1920x1080P60, 720x576P, 1280x720P50,
		1920x1080i50, 1920x1080P50,NATIVE OUT1, NATIVE OUT2

1.1 HDCP ON INPUT Menu:

OSD Selection Items	Adjustable Parameters	OSD Selection Items	Adjustable Parameters
HDMI1 ON	ON, OFF	COMP IN PC1 OFF	ON, OFF
HDMI2 ON	ON, OFF	COMP IN PC2 OFF	ON, OFF
DP ON	ON, OFF		

2. Picture Menu for HDMI1, 2, DP:

OSD Selection Items		Adjustable Parameters
CONTRAST	30	0 ~ 60
BRIGHTNESS	30	0 ~ 60
RED	512	0 ~ 1023
GREEN	512	0 ~ 1023
BLUE	512	0 ~ 1023
HUE	30	0 ~ 60
SATURATION	30	0 ~ 60
SHARPNESS	10	0 ~ 30
NOISE REDUCTION	OFF	OFF, LOW, MIDDLE, HIGH
FINETUNE		

2.1 Menu of Picture Setting for PC1, 2:

OSD Selection Items		Adjustable Parameters
CONTRAST	30	0 ~ 60
BRIGHTNESS	30	0 ~ 60
RED	512	0 ~ 1023
GREEN	512	0 ~ 1023
BLUE	512	0 ~ 1023
HUE	--	
SATURATION	--	
SHARPNESS	--	
NOISE REDUCTION	--	
FINETUNE		

2.1.1 Fine Tune Menu for PC1, 2:

OSD Selection Items		Adjustable Parameters
AUTO ADJUST	NO	NO, YES
H-POSITION	30	0 ~ 60
V-POSITION	30	0 ~ 60
PHASE	16	0 ~ 30
CLOCK	1344	700 ~ 2300
WXGA/XGA	XGA	WXGA, XGA
RESET	NO	NO, YES

3. Audio Menu:

OSD Selection Items		Adjustable Parameters
MIXER	OFF	OFF, MIC
MIC VOLUME	70	0 ~ 100
DELAY	OFF	OFF, 40ms, 110ms, 150ms
MUTE	OFF	OFF, ON
OUTPUT VOLUME	80	0 ~ 100
EMBEDDED AUDIO		
INPUT VOLUME		

3.1 Embedded Audio Menu:

OSD Selection Items		Adjustable Parameters
HDMI1	AUTOMATIC	Automatic, Embedded, Analog
HDMI2	AUTOMATIC	Automatic, Embedded, Analog
DP	AUTOMATIC	Automatic, Embedded, Analog

3.2 Input Volume Menu:

OSD Selection Items		Adjustable Parameters
HDMI1	100	0 ~ 100
HDMI2	100	0 ~ 100
DP	100	0 ~ 100
PC1	100	0 ~ 100
PC2	100	0 ~ 100

3.3 Miscellaneous Setting Menu:

OSD Selection Items		Adjustable Parameters
AUTO INPUT	OFF	Off, Scan All
AUTO SYNC OFF	OFF	Auto Sync Off: Off, Fast (10 sec), Slow (120 sec)
OSD		*Note: The Auto sync off will stop when scan off be active*
ETHERNET		
EDID SETUP		

4. OSD Setting Menu:

OSD Selection Items		Adjustable Parameters
H POSITION	50	0 ~ 100
V POSITION	50	0 ~ 100
TIMER	100	10 ~ 100
TRANSPARENCY	50	0 ~ 100
DISPLAY	ON	INFO, ON, OFF

5. Ethernet Setting Menu:

OSD Selection Items		Adjustable Parameters
IP MODE	STATIC	Static, DHCP
Static IP Address		
IP Address: 192. 168. 1. 50		0~255, 0~255, 0~255, 0~255
Subnet : 255. 255. 255. 0		0~255, 0~255, 0~255, 0~255
Gateway : 192. 168. 1. 254		0~255, 0~255, 0~255, 0~255
Control Port	50000	1 ~ 65535
MAC Address.F8:22:85:00:04:FC		Factory default

6. EDID SETUP: only provide EDID setting for HDMI and Display port.

OSD Selection Items		Adjustable Parameters
EDID FROM	NONE	None, Out1, Out2, Default
EDID TO	NONE	None, HDMI1, HDMI2, DP
EDID COPY	NO	No, Yes

7. Factory Reset and Update Menu:

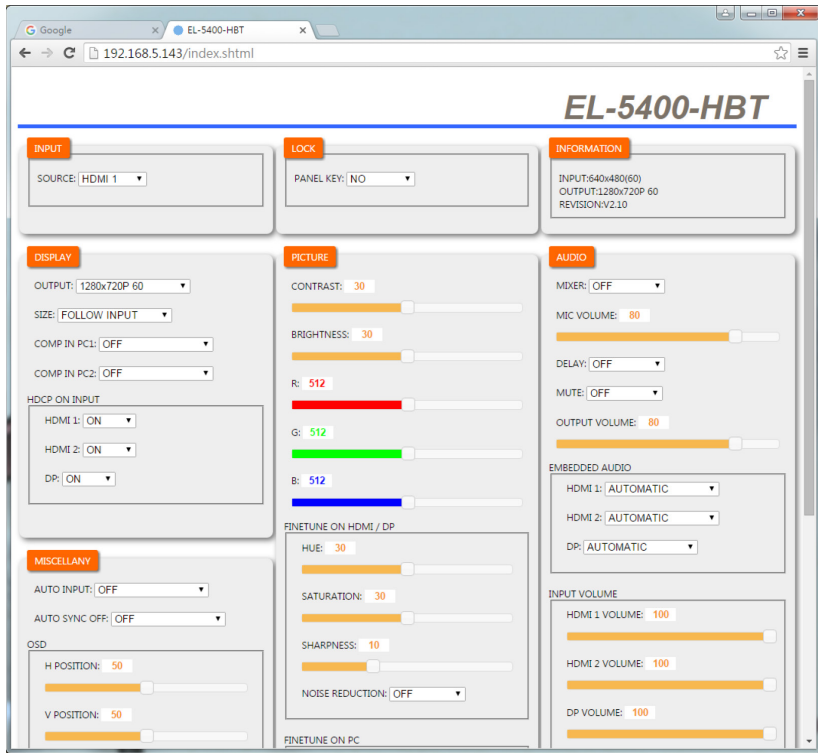| OSD Selection Items		Adjustable Parameters
RESET	NO	No, Yes
UPDATE SYSTEM		USB Update

6.5 WebGUI

Please enter the IP address to log in WebGUI. If IP address is unware, please go to OSD menu information for getting it.
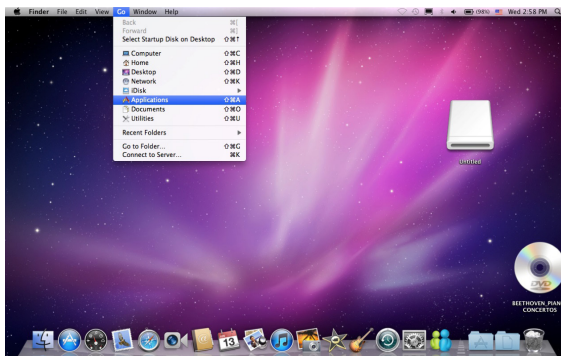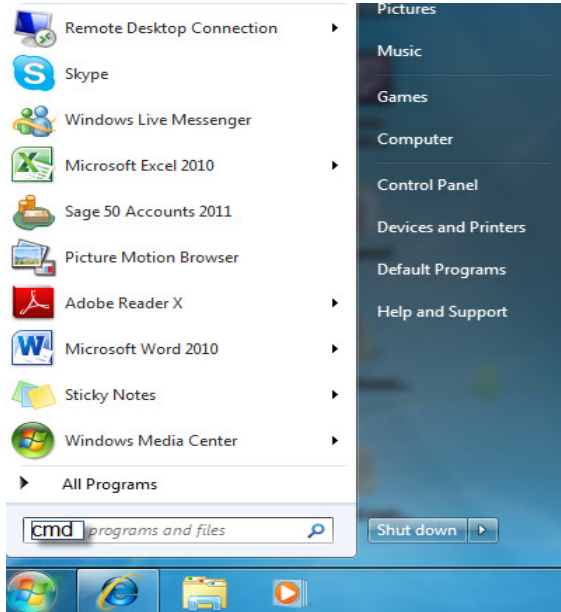
6.6 Telnet

To access the telnet control under MS windows, click 'Start' menu and type "cmd" in the search field then press enter.

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

See below for reference.

Once in the command line interface (CLI) type "telnet", then the IP address and hit enter. The IP address is available once access to OSD information menu.

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

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

Press "?" then hit enter to bring up all available commands.

```
=====================================
 Telnet  command  service
 command '?'     for help
 command 'quit' for quit
=====================================
?
R VERSION,S FACTORY-RESET,S SOURCE,R SOURCE,S LOCK,R LOCK,S OUTPUT,R OUTPUT,S SI
ZE,R SIZE,S HDMI1-HDCP,R HDMI1-HDCP,S HDMI2-HDCP,R HDMI2-HDCP,S DP-HDCP,R DP-HDC
P,S PC1-COMP,R PC1-COMP,S PC2-COMP,R PC2-COMP,S CONTRAST,R CONTRAST,S BRIGHTNESS
,R BRIGHTNESS,S COLOR-R,R COLOR-R,S COLOR-G,R COLOR-G,S COLOR-B,R COLOR-B,S HUE,
R HUE,S SATURATION,R SATURATION,S SHARPNESS,R SHARPNESS,S NR,R NR,S PC-AUTO,S PC
-H-POS,R PC-H-POS,S PC-V-POS,R PC-V-POS,S PC-PHASE,R PC-PHASE,S PC-CLOCK,R PC-CL
OCK,S PC-WXGA-XGA,R PC-WXGA-XGA,S PC-RESET,S MIXER,R MIXER,S MIC-VOL,R MIC-VOL,S
 DELAY,R DELAY,S MUTE,R MUTE,S OUT-VOL,R OUT-VOL,S HDMI1-AUDIO,R HDMI1-AUDIO,S H
DMI2-AUDIO,R HDMI2-AUDIO,S DP-AUDIO,R DP-AUDIO,S HDMI1-VOL,R HDMI1-VOL,S HDMI2-V
OL,R HDMI2-VOL,S DP-VOL,R DP-VOL,S PC1-VOL,R PC1-VOL,S PC2-VOL,R PC2-VOL,S AUTO-
SYNC-OFF,R AUTO-SYNC-OFF,S AUTO-INPUT,R AUTO-INPUT,S TIMING-SHIFT,R TIMING-SHIFT
,S OSD-H-POS,R OSD-H-POS,S OSD-V-POS,R OSD-V-POS,S OSD-TIMER,R OSD-TIMER,S OSD-T
RANS,R OSD-TRANS,S OSD-DISPLAY,R OSD-DISPLAY,S IP-MODE,R IP-MODE,S NET-IP,R NET-
IP,S IP-ADDR,R IP-ADDR,S NET-GATE,R NET-GATE,S GATE-WAY,R GATE-WAY,S NET-MASK,R
NET-MASK,S SUB-NET,R SUB-NET,S UDP,R UDP,R MAC-ADDR,S EDID-FROM,R EDID-FROM,S ED
ID-TO,R EDID-TO,S EDID-COPY,R EDID-COPY
```

6.7 Firmware Update:

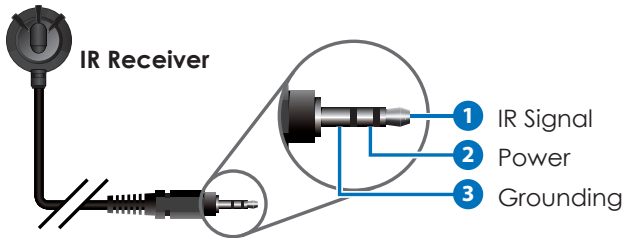1. Please log in WebGUI. And move mouse courser to blue line
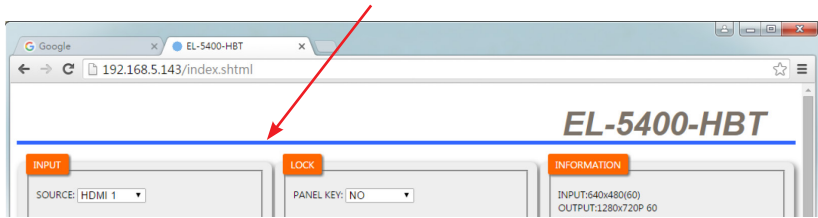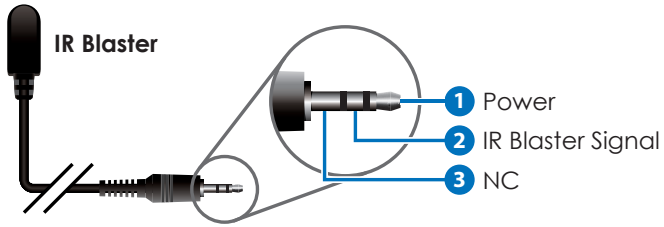

2. Click mouse right key for invoking Firmware update menu
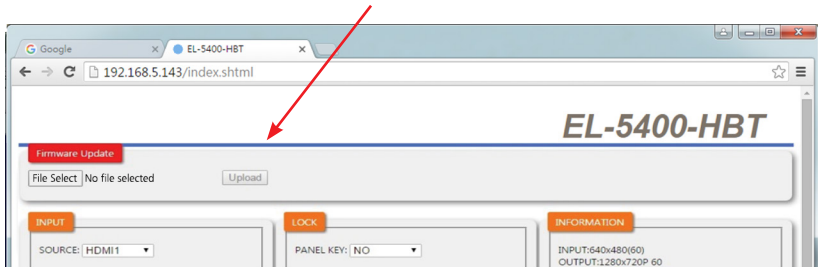
3. Follow the instruction to update Firmware. The update Firmware file is EL5400HBT_all.bin.

6.8 IR Cable Pin Assignment

IR Blaster

1. Power
2. IR Blaster Signal
3. NC

IR Receiver

1. IR Signal
2. Power
3. Grounding

6.9 D-Sub 9 Pin Definitions

pin	Define TX / RX
1	N/C
2	TxD / RxD
3	RxD / TxD
4	N/C
5	GND
6	N/C
7	N/C
8	N/C
9	N/C

7. CONNECTION DIAGRAM
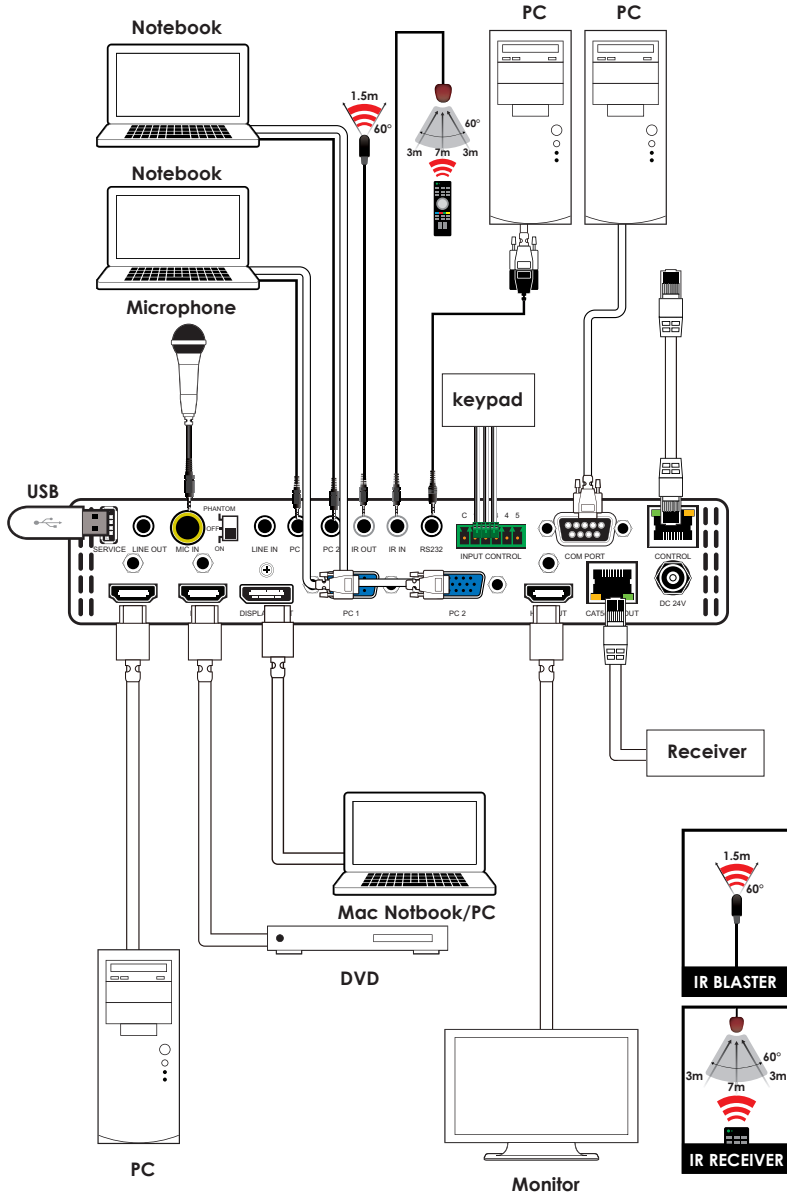
8. SPECIFICATIONS

Input Ports	2 x HDMI
	2 x VGA
	1 x Display Port
	3 x unbalanced audio
	1 x MIC In
Control Interfaces	1 x IR Out
	1 x IR In
	1 x Com Port (RS232)
	1 x Service
	1 x Control
	5 x Input Control
Output Ports	1 x HDMI
	1 x CAT5e/6/7 Out
	1 x Line Out
Supported Resolutions	480i~1080p@24/50/60
Baud Rate	9600 bps
Power Supply	24VDC
Chassis Material	Metal
Silkscreen Color	Black
Weight	1256g
Dimensions	219(W) x 156(D) x43(H)mm/Jacks Excluded
	219(W) x 165.3(D) x 52(H)mm /Jacks Included
Power Consumption	Maximum 22W includes Receiver
	(model:CH-506RXPL)

9. CAT5E/6/7 CABLE SPECIFICATION

Cable Type	Range	Pixel clock rate	Video Data Rate	Supported Video
CAT5e/6/7	60m CAT5e/6/7	<=225MHz	<=5.3 Gbps	Up to 1080p 8 bits

10. TIMING SUPPORT TABLE

PC, HDMI, DP
480i x 576i
480p x 576p
720p@50&60
1080i@50&60
1080p@24,25,30,50&60
640x480@60,72,75
800x600@56,60,72&75
1024x768@60,70&75
1280x1024@60
1400x1500@60
1600x1200@60
1680x1050@60
1280x800@60
1440x900@60
1366x768@60
1920x1200@60RB
1600x900@60

HDMI & HDBT output
480p/576p
720p@50&60
1080i@50&60
1080p@50&60
640x480@60
800x600@60
1024x768@60
1280x720@60
1280x768@60
1280x800@60
1280x1024@60
1360x768@60
1400x900@60
1400x1050@60
1600x1200@60
1680x1050@60
1920x1200@60
1920x1080@60

11. HDBT FEATURES

HDBase T Feature	Support or Not
Video & Audio	Support
IR	Support
RS232	Support
Send power to Transmitter	Not Available
Send power to Receiver	Support

12. REMOTE CONTROL UNIT

1 **HDMI1 :** HDMI 1 source input

2 **HDMI2 :** HDMI 2 source input

3 **DP:** Display Port source input

4 **PC1:** PC1 source input

5 **PC2:** PC2 source input

6 **MENU:** Access to On Screen Display (OSD)

7 **EXIT:** Exit from On Screen Display (OSD)

8 **RESET:** Return to factory default setting (Ethernet setting remain the same)

9 **AUTO ADJUST:** Auto adjust PC picture in central

10 **▲/▼:** Navigate down/up of On Screen Display selection items

11 **◄(-)/►(+) :** Adjust selection items parameter (+) or (-) of On Screen Display or output volume adjustment
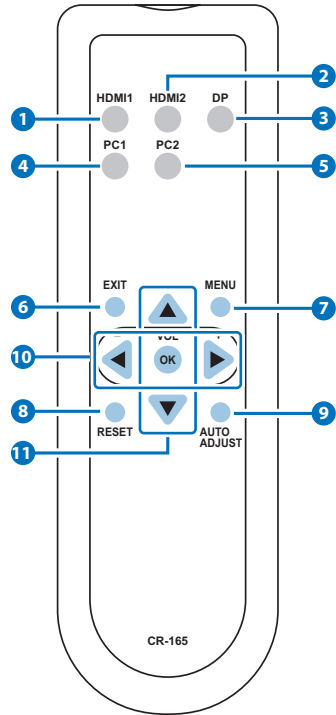
13. ACRONYMS

ACRONYM	COMPLETE TERM
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
LCM	Liquid Crystal Monitor
USB	Universal Serial Bus
VGA	Video Graphics Array
WUXGA	Wide Ultra Extended Graphics Array

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