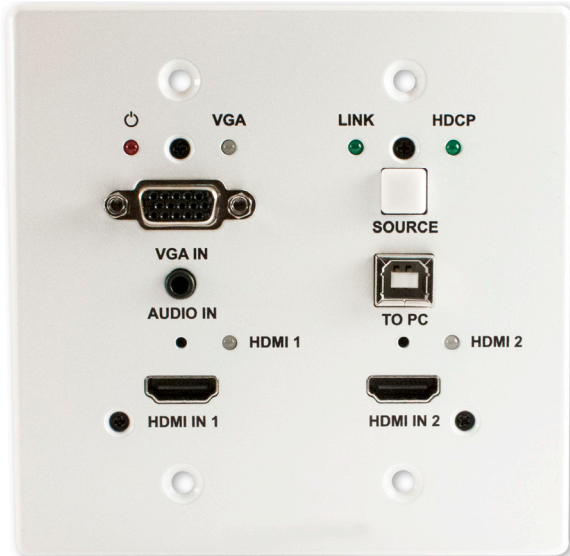


USER MANUAL



Optional Smart Keypad Control



Front View



Back View



All-in-One A/V Control System

HDBase-T Smart System - P31H-01

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USER MANUAL



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Thank you for purchasing this product

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

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. In order to protect and extend the life of your equipment, use of surge protection systems is highly recommended.

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1. Introduction

The P31H-01 is an intelligent, all-in-one AV system. It offers video extension of two HDMI and one VGA signal, video switching, system control, and analog audio amplification. Uncompressed video, audio, and control can be transmitted up to 230ft/70m, using HDBaseT™ technology over a single cat 6/6a cable. For convenience, the P31H-01 can be controlled by its web GUI or an optional control panel: KP-100.

2. Features

- HDMI 1.4b, HDCP 2.2 and HDCP 1.4 compliant.
- Video resolutions up to 4K2K@30Hz, 1080p@120Hz, and 1080P 3D@60Hz.
- Audio up to 7.1 channels of High Definition audio pass through (LPCM, Dolby TrueHD, and DTS-HD Master Audio).
- HDBaseT™ over a single cat 6/6a cable up to 230ft/70m distance.
- Support multi-VESA Standard VGA formats input.
- Supports balanced MIC input.
- 2x30watts@4 ohms amplifier output.
- Supports interactive display USB pass-through.
- Supports Web GUI control.
- Two relay outputs.
- Supports RS-232 control.

3. Package Contents

- 1 x 2-Gang Extender Transmitter
- 1 x HDMI Extender Receiver
- 1 x 24V3.75A DC Power Supply
- 1 x User Manual
- 2 x Mounting ears

HDBase-T Smart System - P31H-01

4. Technical Specifications

Technical	
HDMI Compliance	HDMI 1.4b
HDCP Compliance	HDCP 2.2 and HDCP 1.4
Video Bandwidth	10.2 Gbps
Video Resolution	up to 4K2K@30Hz, 1080P@120Hz, and 1080P 3D@60Hz
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
Color Depth	8-bit, 10-bit, 12-bit
HDMI Audio Formats (Pass-through)	LPCM 2/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
ESD Protection	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)
Connections	
Transmitter	
Inputs	2x HDMI IN Type A [19-pin female] 1x VGA [DB15 VGA female] 1x AUDIO IN [3.5mm Stereo Mini-jack] 1x RS-232/POWER [RJ45]
Outputs	1x HDBaseT Out [RJ45]
Receiver	
Inputs	1x HDBaseT In [RJ45] 1x MIC IN [Screw Terminal] 1x USB [USB A TYPE] 1x TCP/IP [RJ45]
Outputs	1x HDMI OUT Type A [19-pin female] 1x RS-232 [Screw Terminal] 1x RELAY [Screw Terminal] 1x AUDIO OUT [Screw Terminal] 1x 2x30watts@4 ohms amplifier output [Screw Terminal]

HDBase-T Smart System - P31H-01

USER MANUAL



Mechanical	
Housing	Metal Enclosure
Color	Black, White
Dimensions	Transmitter: 115.9mm [W] x 114.3mm [D] x 38.7mm [H] Receiver: 250mm [W] x 104mm [D] x 30mm [H] Control Panel: 69.9mm [W] x 114.3mm [D] x 22.2mm [H]
Weight	Transmitter: 305g Receiver: 790g Control Panel: 180g
Power Supply	Input: AC100 - 240V 50/60Hz Output: DC 24V/3.75A (US/EU standards, CE/FCC/UL certified)
Power Consumption	75W (Max)
Operation Temperature	32 - 104°F / 0 - 40°C
Storage temperature	-4 - 140°F / -20 - 60°C
Relative Humidity	20 - 90% RH (no condensation)

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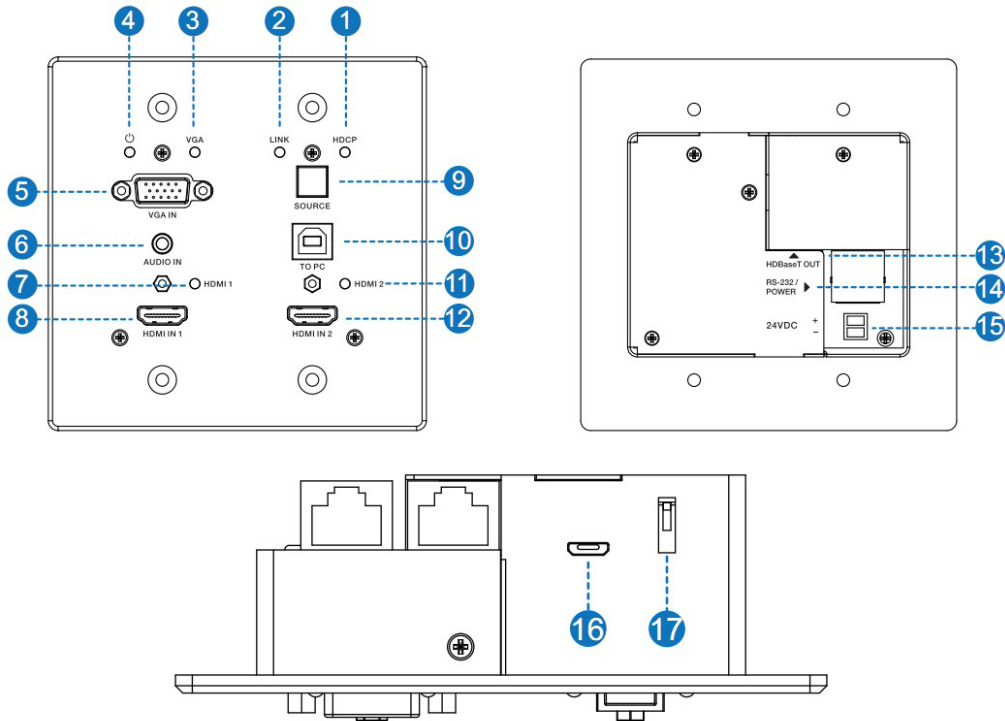
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USER MANUAL



5. Operation Controls and Functions

5.1 Transmitter Front and Rear Panel



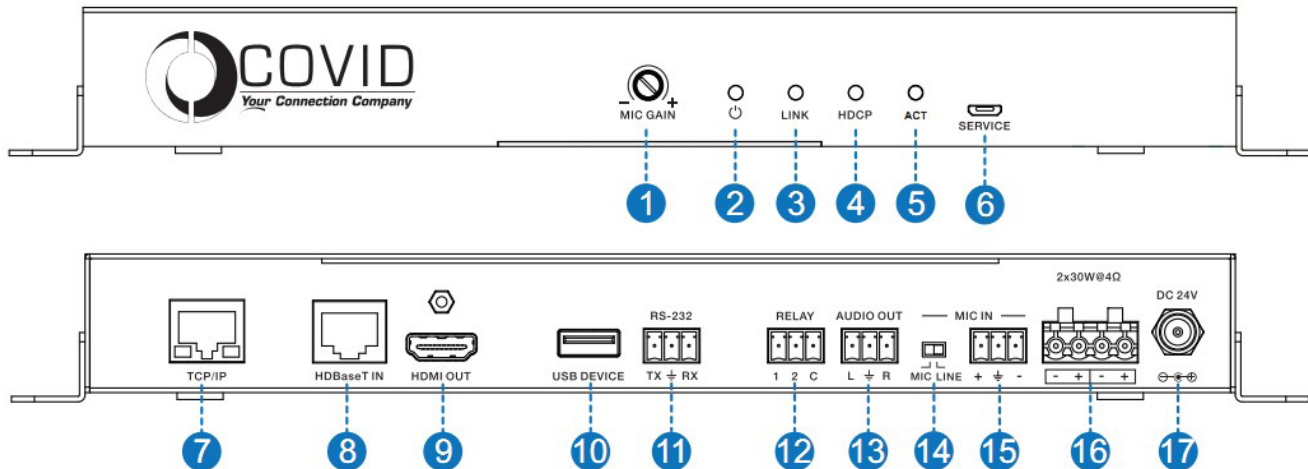
- 1. HDCP LED:** HDCP compliance indicator.
 - **OFF:** HDMI input is not carrying HDCP content
 - **ON:** HDMI input is carrying HDCP content
- 2. LINK LED:** HDBaseT Link status indicator.
 - **OFF:** No Link
 - **GREEN:** Link successful
 - **Blink GREEN:** Link abnormal
- 3. VGA LED:** VGA signal indicator.
 - **OFF:** There is no +5V HPD or VGA signal detected on input
 - **FLASHING:** +5V HPD or VGA signal is detected
 - **GREEN:** VGA is active input and VGA signal is detected
- 4. POWER LED:** System power indicator.
- 5. VGA IN:** Connect with VGA source.

HDBase-T Smart System - P31H-01

- 6. AUDIO IN:** Connect with external audio source for VGA signal.
- 7. HDMI 1 LED:** HDMI 1 signal indicator.
 - **OFF:** There is no +5V HPD or HDMI signal detected on input
 - **FLASHING:** +5V HPD or HDMI signal is detected
 - **GREEN:** HDMI is active input and HDMI signal is detected
- 8. HDMI 1 IN:** Connects to HDMI source device.
- 9. SOURCE:** Press it to select one source.
- 10. TO PC:** Connect PC to transmit USB control signal from the Receiver USB device in.
- 11. HDMI 2 LED:** HDMI 2 signal indicator.
 - **OFF:** There is no +5V HPD or HDMI signal detected on input
 - **FLASHING:** +5V HPD or HDMI signal is detected
 - **GREEN:** HDMI is active input and HDMI signal is detected
- 12. HDMI 2 IN:** Connects to HDMI source device.
- 13. HDBaseT OUT:** Connects to HDBaseT Receiver with a Cat 6/6a cable.
- 14. RS-232/POWER:** Connects to Control Panel via Cat 5e/6/6a cable.
- 15. 24VDC (OPTIONAL):** Connects 24V/1A adaptor to AC wall outlet for power supply.
- 16. MICRO-USB:** For firmware update.
- 17. DIP SWITCH:** Select upgrade type.

HDBase-T Smart System - P31H-01

5.2 Receiver Front and Rear Panel



- 1. MIC GAIN:** Set the MIC input gain.
- 2. POWER LED:** System power indicator.
- 3. LINK LED:** HDBaseT Link status indicator.
 - **OFF:** No Link
 - **GREEN:** Link successful
 - **Blink GREEN:** Link abnormal
- 4. HDCP LED:** HDCP compliance indicator.
 - **OFF:** HDMI input is not carrying HDCP content
 - **ON:** HDMI input is carrying HDCP content
- 5. ACT:** System work indicator.
 - **OFF:** System standby or power off
 - **Blink GREEN:** System working
- 6. SERVICE:** For firmware update.
- 7. TCP/IP:** Connect to a PC access to the WEB GUI for system configuration.
- 8. HDBaset IN:** Connects to HDBaseT Transmitter with a Cat 6/6a cable.
- 9. HDMI OUT:** Connects to a HDMI display device.

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USER MANUAL



- 10. USB DEVICE:** Connect to an interactive display.
- 11. RS-232:** RS232 control for the display.
- 12. RELAY:** To control the projector screen rise and fall.
- 13. AUDIO OUT:** Connect to a speaker.
- 14. MIC LINE SWITCH:**
 - When the switch is set to “MIC”, the microphone input is used to connect a dynamic microphone.
 - When the switch is set to “LINE”, the microphone input is used for connecting a line level audio source or wireless microphone output.
- 15. MIC IN:** Using Phoenix terminal cable to connect microphone input.
- 16. 2X30 watts @ 4Ω / 2X15 watts @ 8Ω:** Connect to speaker out.
- 17. DC 24V:** Connect 24V/3.75A adaptor to AC wall outlet for power supply.

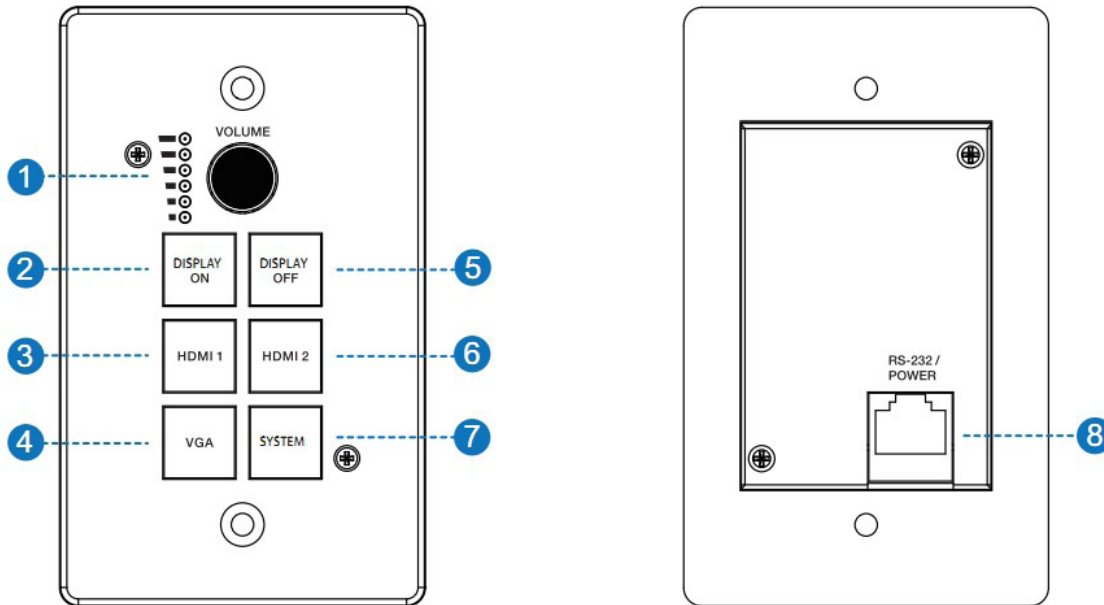
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5.3 Control Panel Front and Rear Panel



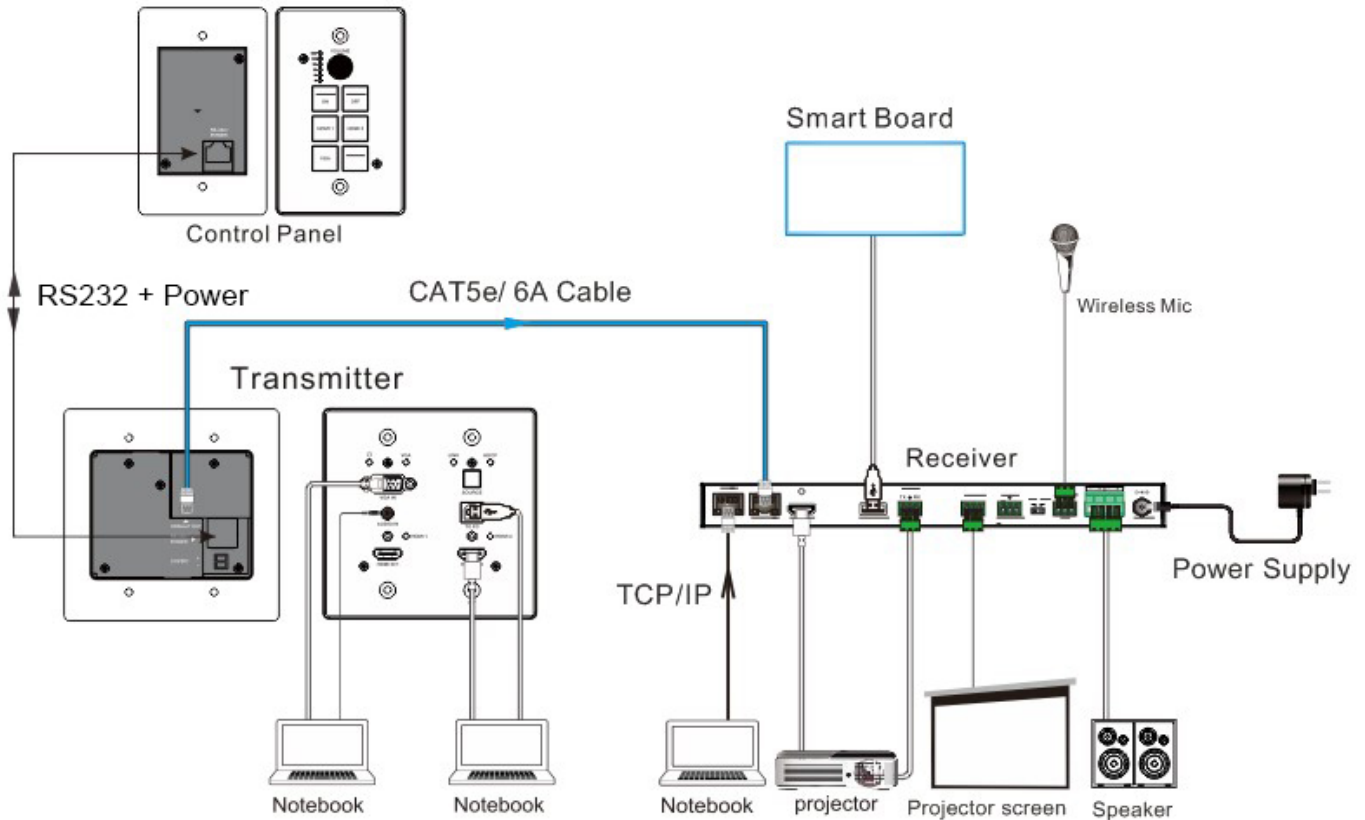
- 1. VOLUME Knob and Volume level indicator:** Adjust amplifier output volume.
 - Clockwise adjustment to increase the volume.
 - Counter-clockwise adjustment to decrease the volume.
- 2. DISPLAY ON:** Run Display ON Subroutine, see section 13.
- 3. HDMI 1:** Select HDMI 1 signal as input source.
- 4. VGA:** Select VGA signal as input source.
- 5. DISPLAY OFF:** Run Display OFF Subroutine, see section 13
- 6. HDMI 2:** Select HDMI 2 signal as input source.
- 7. SYSTEM:** Long-press this button for 3 seconds to run System ON/OFF Subroutine, see section 12
- 8. RS-232/POWER:** Connects to Transmitter via CAT5e/6/7 cable.

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USER MANUAL



6. Connection Diagram



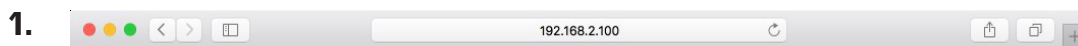
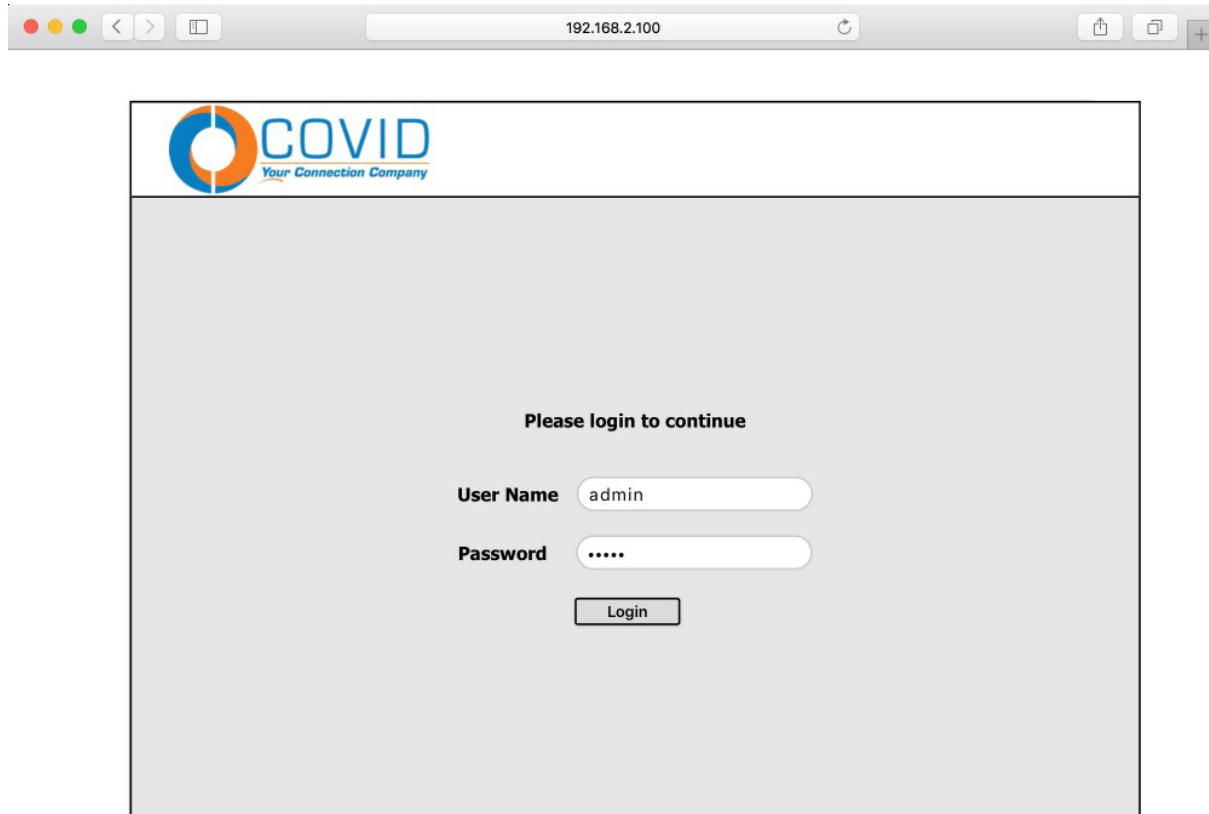
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7. Web Server - Login



The default IP to login to the web server is 192.168.2.100.

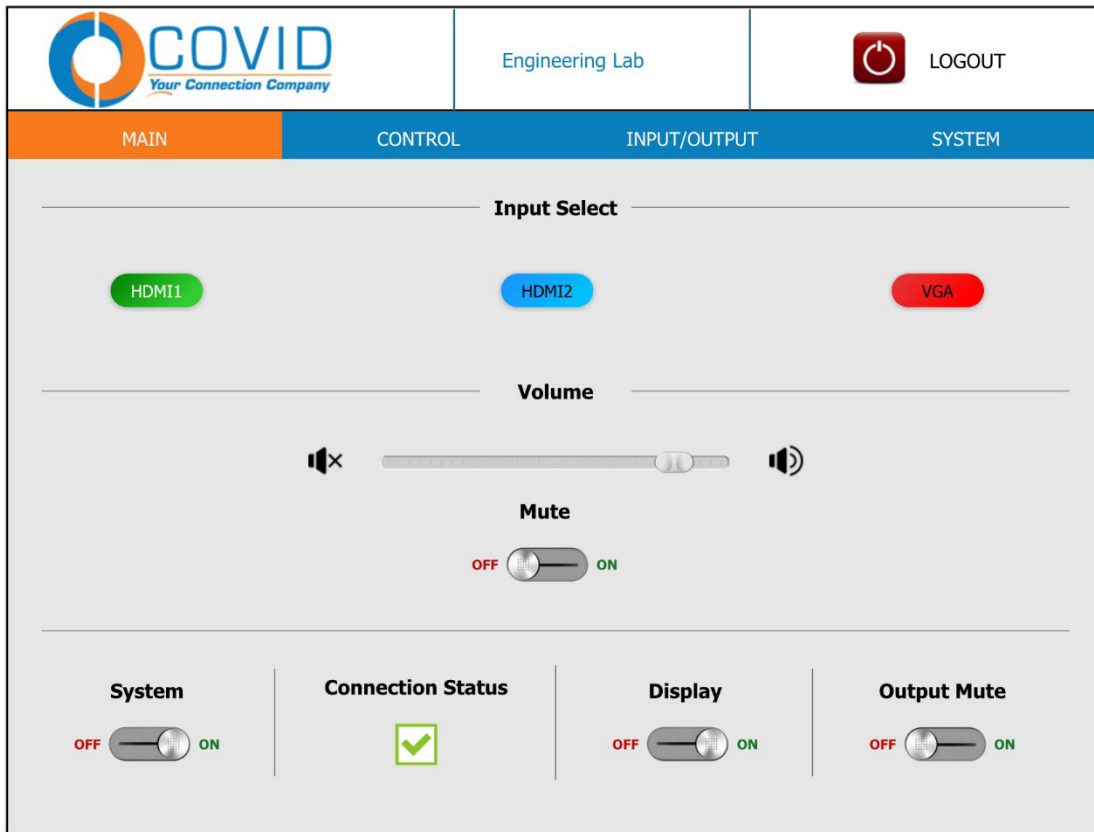


The default Username and Password for the admin are both "admin".

The default Username and Password for the user are both "user". The user login limits the amount of functions accessible.

HDBase-T Smart System - P31H-01

8. Web Server - MAIN



Input Select



1.

Shows the status of the input signals.

Green = connected and active signal

Blue = connected but not active signal

Red = not connected

HDBase-T Smart System - P31H-01

Volume



2.

Mute



Volume controls for the amplifier and audio extractor outputs. Adjust the slider to increase or decrease the amplifier output or the volume of the extractor output. Toggle the Mute setting to silence the amplifier and audio extractor outputs. Mute does not silence the audio on the HDMI output line.

System



Connection Status



Display



Output Mute



3.

System – runs the system on/off subroutine when toggled, see section 12.

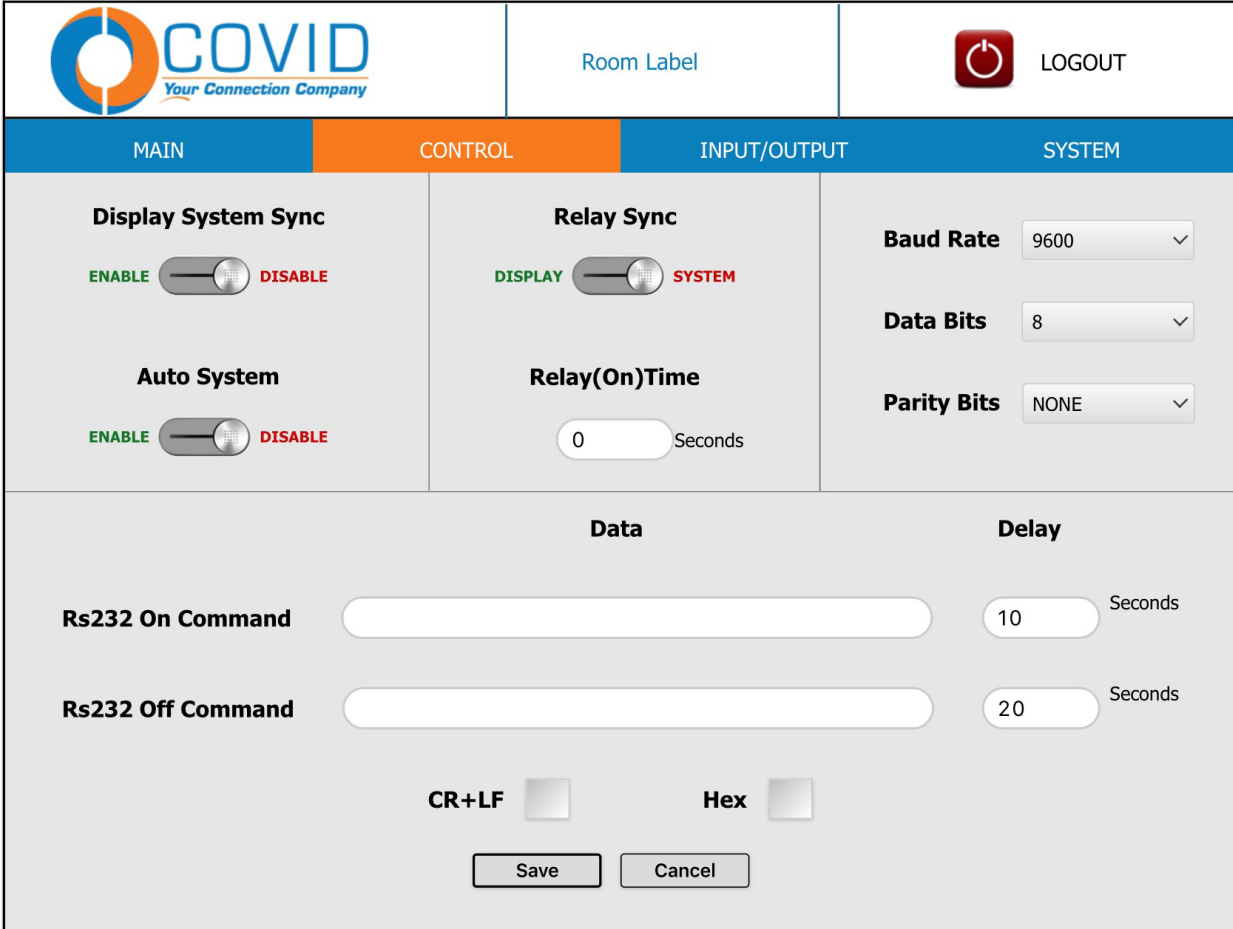
Connection Status – indicates if the connection to the web server is good.

Display – Runs the display on/off subroutine when toggled, see section 13

Output Mute – when on, turns off the video output. Does not mute audio.

HDBase-T Smart System - P31H-01

9. Web Server - CONTROL



COVID Your Connection Company

Room Label

LOGOUT

MAIN CONTROL INPUT/OUTPUT SYSTEM

Display System Sync
ENABLE DISABLE

Auto System
ENABLE DISABLE

Relay Sync
DISPLAY SYSTEM

Relay(On)Time
0 Seconds

Baud Rate 9600

Data Bits 8

Parity Bits NONE

Data **Delay**

Rs232 On Command 10 Seconds

Rs232 Off Command 20 Seconds

CR+LF Hex

Save Cancel

Display System Sync

1. 

When enabled, the display on/off subroutine will run every time the system on/off subroutine runs, see section 12

Auto System

2. 

When enabled, the system will turn off when no signals are actively connected to the plate for a programmable amount of time. See No Activity Timeout in the INPUT/CONTROL section.

HDBase-T Smart System - P31H-01

Relay Sync

3.



Sets the relays to either be triggered with the display on/off subroutine or the system on/off subroutine, see section 12 and 13.

Relay(On)Time

0 Seconds

4.

Sets the amount of time that the relay contacts will stay closed.

Baud Rate 9600

Data Bits 8

Parity Bits NONE

5.

Sets the RS232 communication settings for the RS232 port.

	Data	Delay
Rs232 On Command	<input type="text"/>	10 Seconds
Rs232 Off Command	<input type="text"/>	20 Seconds

CR+LF Hex

6.

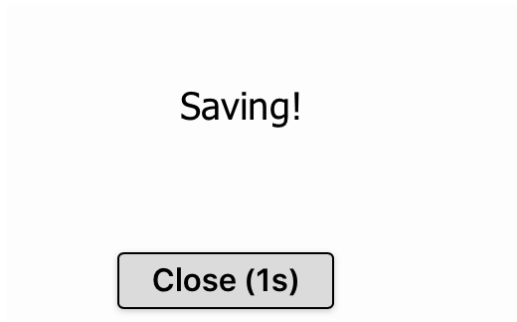
RS232 On Command – Sends out the data when Display On subroutine is called.

RS232 Off Command – Sends out the data when Display Off subroutine is called.

HDBase-T Smart System - P31H-01

CR + LF – Appends a carriage return and line feed character to the end of the input strings as they are sent out.

The commands can be input as hexadecimal numbers, if the Hex checkbox is marked.



After any change is made, the settings must be saved by pressing the Save button.

Wait for the popup window to close automatically before continuing to make further changes, while it saves.

HDBase-T Smart System - P31H-01

10. Web Server – INPUT/OUTPUT

1. **Switch Mode**

Sets how the switcher plate will change between input signals.

-
2. **HDMI1**
HDMI2
VGA

Sets the priority to use when the switch mode is set to priority mode.

1 is the highest priority and 3 is the lowest.

HDBase-T Smart System - P31H-01

3. **No Activity Timeout** Minutes

Sets the amount of time it will take for the unit to turn itself off when there is no input signal detected. It is only used when Auto System button is set to enabled on the Control tab.

4. **Audio Delay** Seconds

Sets how many seconds the audio from the amp is delayed.

5.

HDMI EDID	EDID
EXTERNAL <input type="checkbox"/> INTERNAL	<input type="text" value="SAMSUNG"/>
EDID Update	
Open BIN File <input type="text" value="click here open file..."/>	<input type="button" value="Upgrade"/> 0%
<input type="button" value="Save"/>	<input type="button" value="Cancel"/>

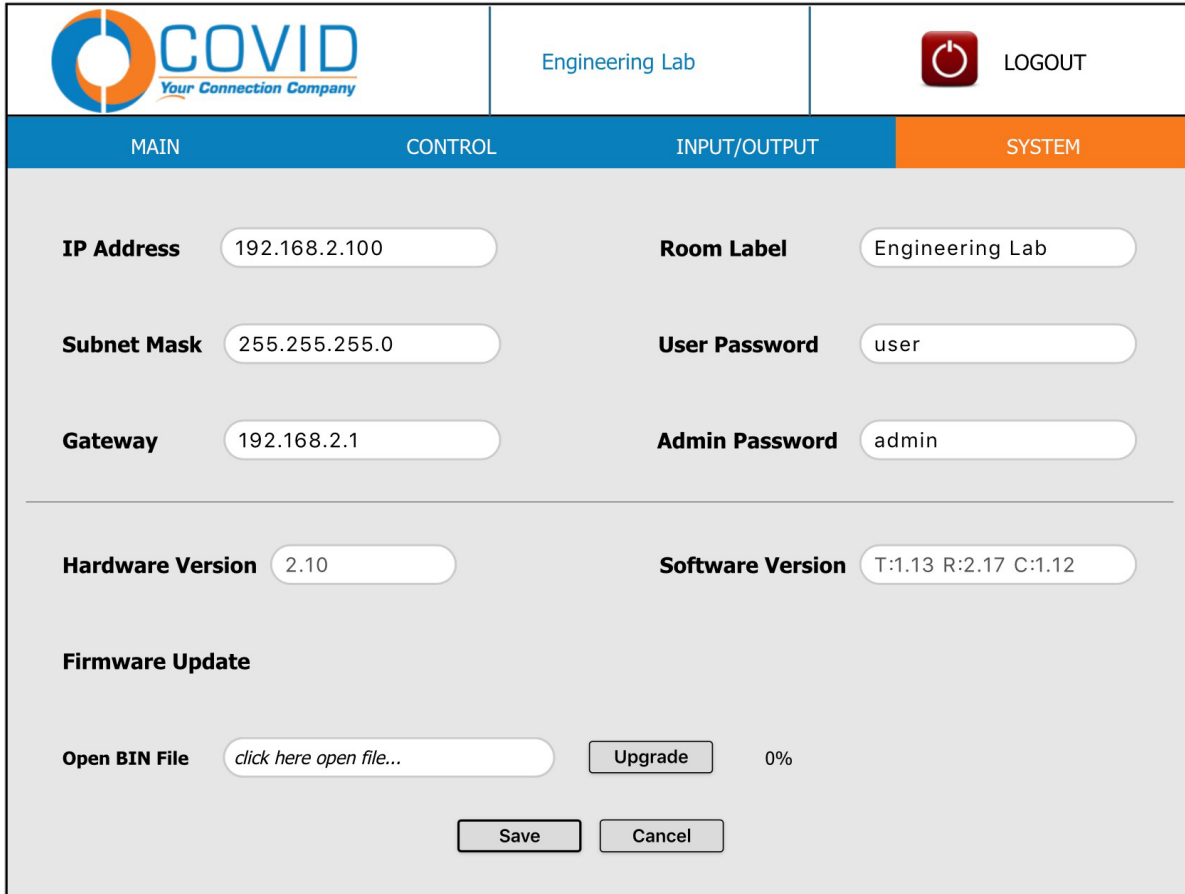
HDMI EDID – when set to Internal, the EDID communicated to the source is the one stored in the P31H-01's memory.

EDID – the name of the current EDID.

EDID Update – upload a .bin file to change what EDID is stored in the P31H-01's memory that is used when EDID is set to internal.

HDBase-T Smart System - P31H-01

11. Web Server – SYSTEM



The screenshot shows the COVID web server interface. At the top left is the COVID logo. The current page is 'Engineering Lab'. A 'LOGOUT' button is in the top right. A navigation bar has four tabs: 'MAIN', 'CONTROL', 'INPUT/OUTPUT', and 'SYSTEM' (which is highlighted in orange). The main content area is divided into two columns. The left column contains 'IP Address' (192.168.2.100), 'Subnet Mask' (255.255.255.0), and 'Gateway' (192.168.2.1). The right column contains 'Room Label' (Engineering Lab), 'User Password' (user), and 'Admin Password' (admin). Below these are 'Hardware Version' (2.10) and 'Software Version' (T:1.13 R:2.17 C:1.12). A 'Firmware Update' section includes an 'Open BIN File' button with a placeholder 'click here open file...', an 'Upgrade' button, and a progress indicator '0%'. At the bottom are 'Save' and 'Cancel' buttons.

- IP Address**
- Subnet Mask**
1. **Gateway**

The network settings of the P31H-01 system

HDBase-T Smart System - P31H-01

Room Label

Engineering Lab

2.

This is the user-assigned label that appears at the top of the web interface.

User Password

user

Admin Password

admin

3.

The user and admin password settings

Hardware Version

2.10

Software Version

T:1.13 R:2.17 C:1.12

Firmware Update

Open BIN File

click here open file...

Upgrade

0%

4.

Save

Cancel

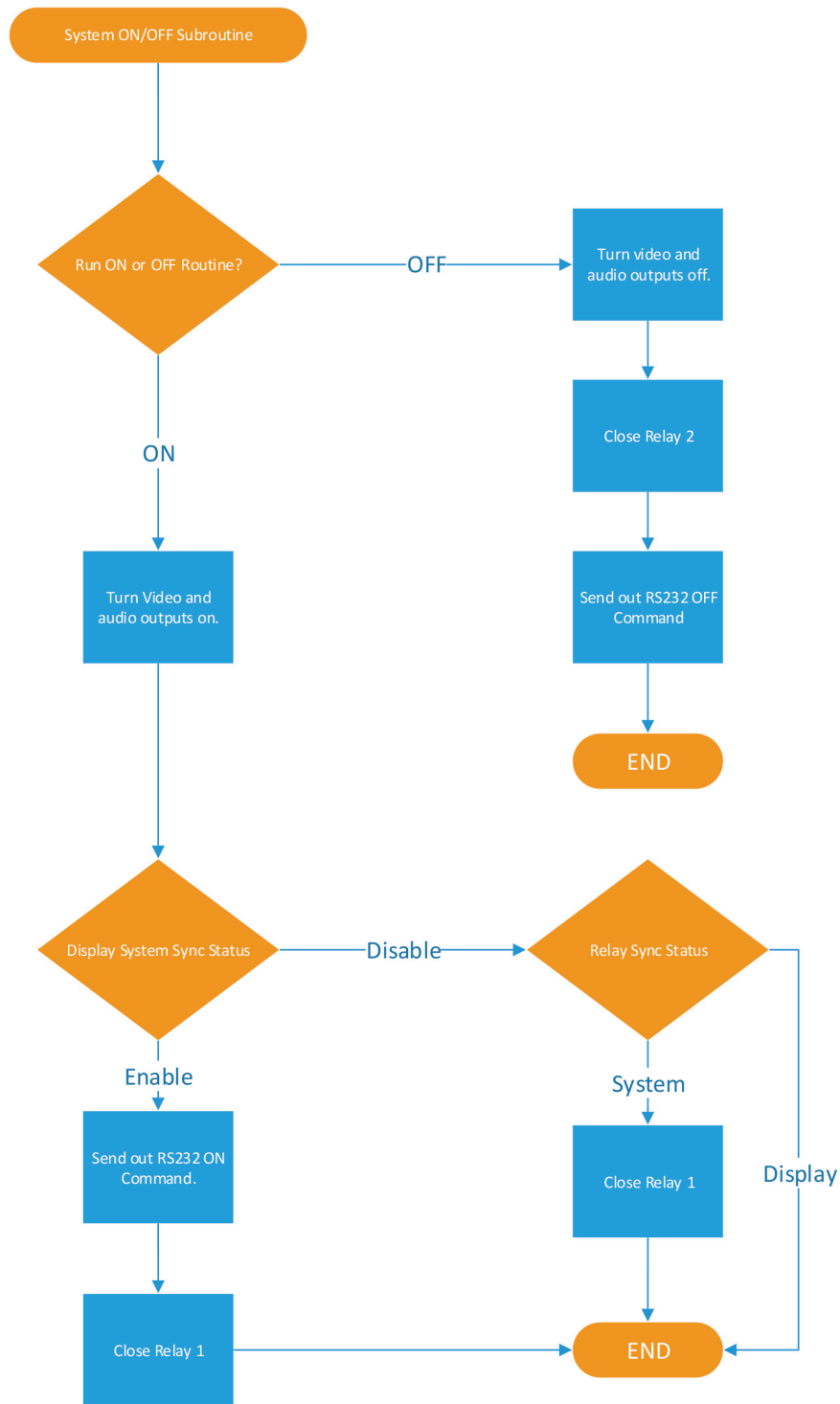
Upload new firmware versions and see current ones installed. This can update the firmware of the control panel and the receiver box, not the two-gang transmitter. To update the firmware of the two-gang switcher, use the USB port on the plate.

HDBase-T Smart System - P31H-01

USER MANUAL

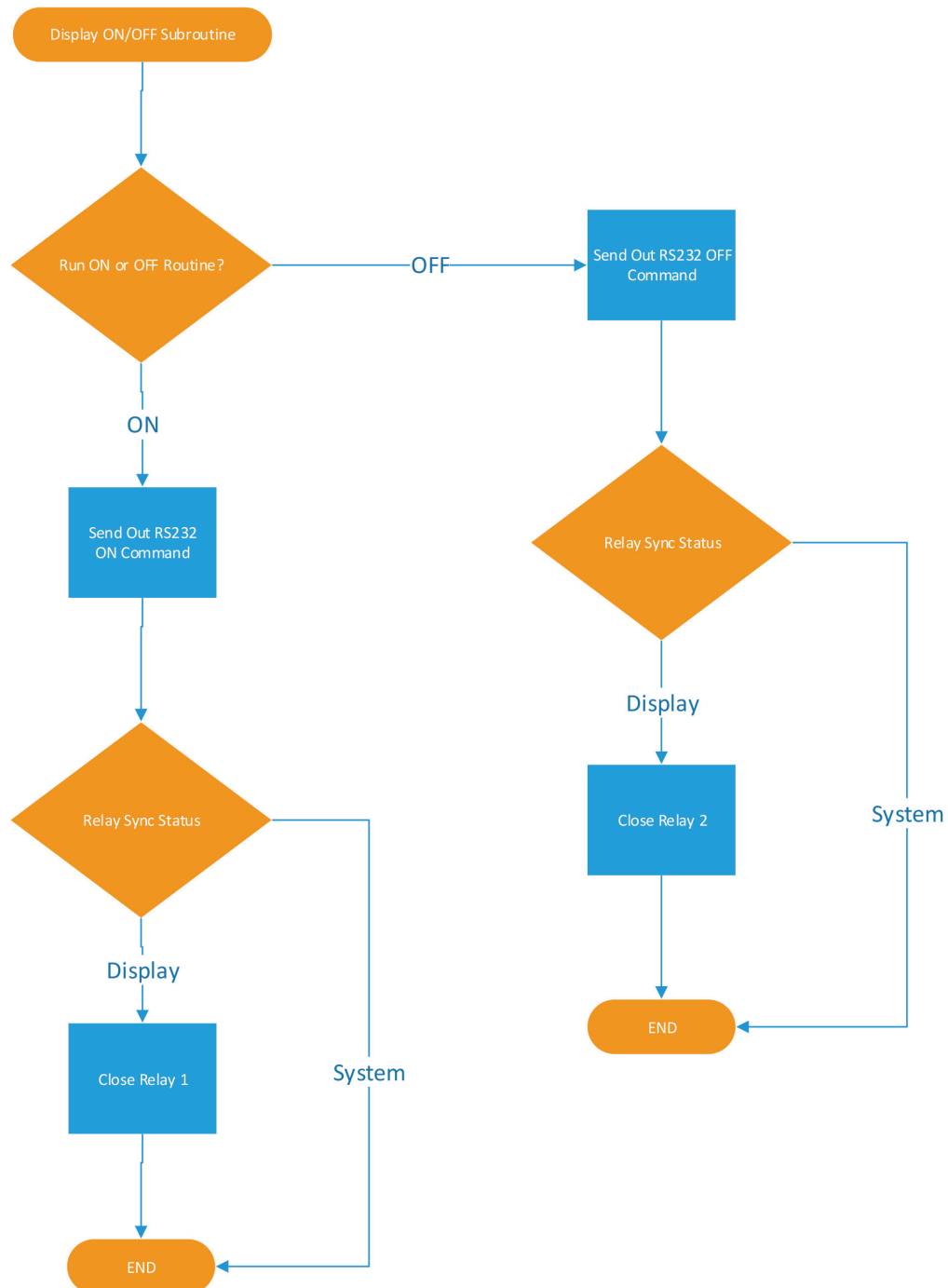


12. SYSTEM ON/OFF SUBROUTINE



HDBase-T Smart System - P31H-01

13. DISPLAY ON/OFF SUBROUTINE

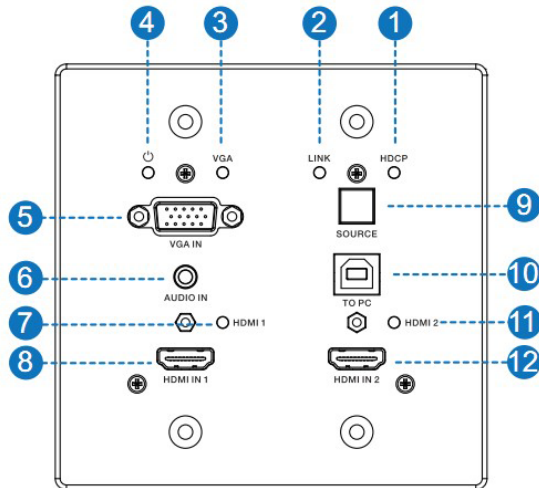


HDBase-T Smart System - P31H-01

USER MANUAL



14. System Reset



To perform a system reset hold the source button (labeled 9) for 20 seconds until the HDCP light flashes three times. When the system is reset, user settings will return to their default values this includes: passwords, room label, switching mode, IP address, etc.

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Warranty

Parts and labor warranty time is three year and from the date of original shipment. This warranty shall be void if a serial number has been removed from the product.

Upon determination of a legitimate defect covered by this warranty and at COVID's sole discretion, user should bear the transport cost during the warranty.

If product is out of warranty then repair charge is required. Out of warranty repairs will only be made after cost has been approved by Customers and proper financial arrangements are made. Customer must cover round trip shipment expenses.

Safety Information



To reduce the risk of electric shock, do not expose this product to rain or moisture.



Do not modify the wall plug. Doing so will void the warranty and safety features.



If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.



This equipment should be installed near the socket outlet and the device should be easily accessible in the case it requires disconnection.

HDBase-T Smart System - P31H-01