LUMENS OIP-D40D AVoIP Encoder AVoIP Decoder

LUMENS OIP-D40D AVoIP Encoder AVoIP Decoder User Manual

Contents

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[Important]

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Package Contents

OIP-D40E Encoder

OIP-D40E Encoder

Foot mats

(A set of four)

5 V/2.6 A Power supply (including a multinational adapter)

3.5 mm male to D-Sub female adapter cable

3.5 mm to infrared emitter

3.5 mm to infrared extender

OIP-D40D Decoder

OIP-D40D Decoder

Foot mats

(A set of four)

5 V/2.6 A Power supply (including a multinational adapter)

3.5 mm male to D-Sub female adapter cable

Product Overview

Overview

This product is an HDMI over IP encoder/decoder, which can extend and receive HDMI signals through a Cat.5e network cable under TCP/IP protocol. This product supports HD images (1080p@60Hz) and audio data, and the transmission distance can be 100 meters. If it is equipped with a Gigabit network switch, it can not only extend the transmission distance (up to 100 meters for each connection) but also receive VoIP signals without loss or delay. In addition to supporting IR and RS-232 bi-directional transmission, this product also supports Multicast ooIP signals, which can send the audio-visual signals of one encoder to multiple decoders in the same area network. In addition, the VoIP signals with multicast can also be used to build a large video wall composed of multiple displays. This product is perfectly suitable for home use and commercial audio-visual installation environments, and has a screen display function to quickly check setting information. The control interface includes WebGUI, Telnet, and AV over IP controllers.

Product Applications

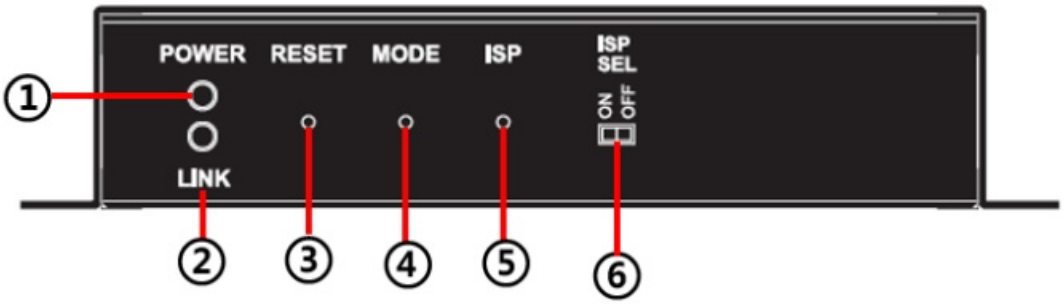
- HDMI, IR, and RS-232 signal extension
- Multi-screen broadcast displays in restaurants or conference centers
- Use the connection to long-distance transmit data and images
- Matrix image distribution system
- Video wall image distribution system

System Requirements

- HDMI audio-visual source devices, such as digital media players, video game consoles, PCs, or set-top boxes.
- A Gigabit network switch supports Jumbo Frame (at least 8K Jumbo Frames).
- A Gigabit network switch supports Internet Group Management Protocol (IGMP) Snooping. <Remark>
- Most consumer-grade routers cannot handle the high traffic flow generated by multicast, so it is not recommended to directly use the router as your network switch.
- It is strongly recommended to avoid mixing your commonly used network traffic with VoIP streaming flow. VoIP streaming flow should at least use a separate subnet.

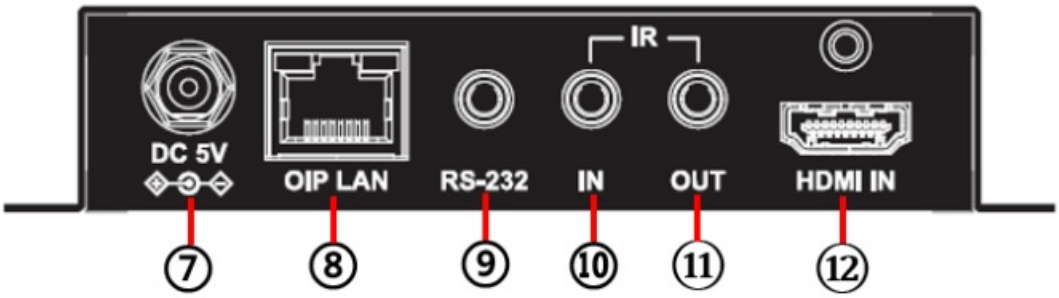
I/O Functions Introduction

OIP-D40E Encoder – Front Panel



NO	Item	Function Descriptions
①	Power indicator	Display the status of the device. Please refer to **2.5 Description of Indicator Display**.
②	Connection indicator	Display the status of the connection. Please refer to **2.5 Description of Indicator Display**.
③	Reset button	Press this button to restart the device (all settings will be retained).
④	Image stream button	Press this button to switch the image stream to Graphic or Video image processing modes. Graphic mode: Optimizing high-resolution static images. Video mode: Optimizing full-motion images. **<Remark>** In the unplugged state, press and hold this button, and then insert the power. When the POWER and LINK indicators flash at the same time, it means the factory settings have been restored (it takes 15~30 seconds). Then, release the button, and restart the device.
⑤	ISP button	For manufacturers only.
⑥	ISP SEL On/Off	For manufacturers only. The default position of this switch is OFF.

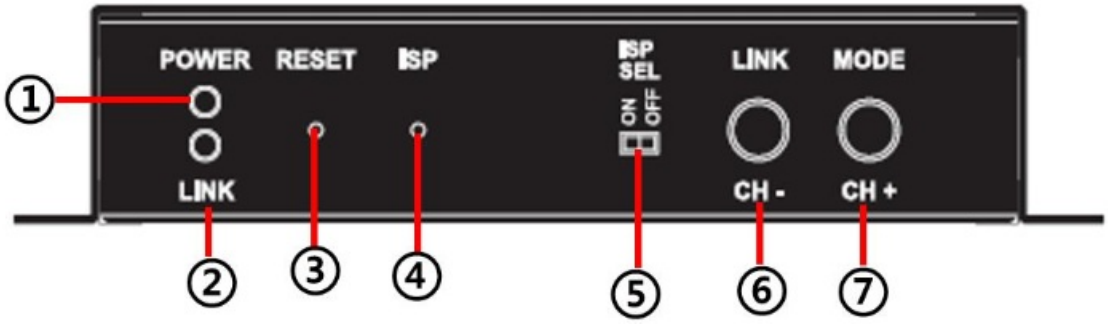
OIP-D40E Encoder – Rear Panel



NO	Item	Function Descriptions
⑦	Power port	Plug in a 5V DC power supply and connect to an AC outlet.
⑧	OIP LAN port	Connect to a network switch to serially connect compatible decoders and transmit data, while being able to use WebGUI/Telnet control.
⑨	RS-232 port	Connect to a computer, laptop, or control equipment to extend the RS-232 signals . The default baud rate is 115200 bps, which can be set by users. **<Remark>**With Multicast, the encoder can send RS-232 commands to all decoders, and individual decoders can send RS-232 commands to the encoder.
⑩	IR input port	After connecting to the IR extender, aim at the remote control to extend the IR con trol range of the remote control to the far ends. **<Remark>**With Multicast, the encoder can send IR signals to all decoders.
	IR output port	After connecting to the IR emitter, aim at the controlled device to send the receive d IR signals from the remote control to the controlled device.
	HDMI input port	Connect to HDMI source devices, such as digital media players,

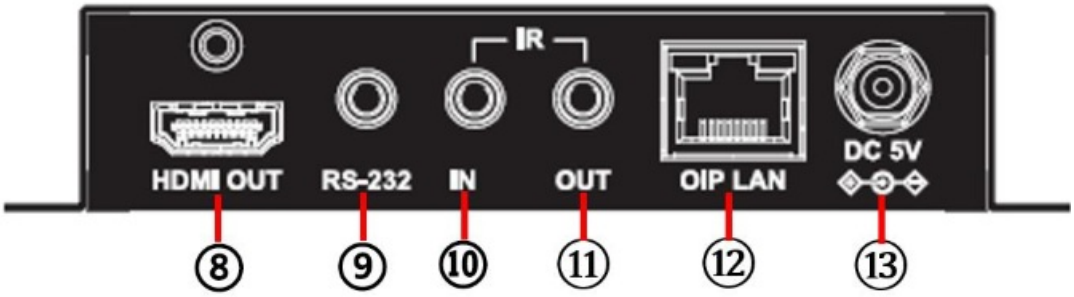
13		video game consoles, or set-top boxes.

OIP-D40D Decoder – Front Panel



NO	Item	Function Descriptions
①	Power indicator	Display the status of the device. Please refer to **2.5 Description of Indicator Display**.
②	Connection indicator	Display the status of the connection. Please refer to **2.5 Description of Indicator Display**.
③	Reset button	Press this button to restart the device (all settings will be retained).
④	ISP button	For manufacturers only.
⑤	ISP SEL On/Off	For manufacturers only. The default position of this switch is OFF.
⑥	Channel or Link button	(1) Channel -: Press this button to switch to the previously available streaming channel in the local network. **<Remark>**If the device does not detect an available streaming channel, its channel number will not be changed.
		(2) Image Connection: Press this button for 3 seconds to enable or disable image connection. When the image connection is disabled, the displays connected to the decoder will show the current IP address and the firmware version of the system.
⑦	Channel or Image Stream button	(1) Channel +: Press this button to switch to the next available streaming channel in the local network. **<Remark>**If the device does not detect an available streaming channel, its channel number will not be changed.
		(2) Image Stream: Press this button to switch the image stream to Graphic or Video image processing modes. Graphic mode: Optimizing high-resolution static images. Video mode: Optimizing full-motion images. **<Remark>** In the unplugged state, press and hold this button, and then insert the power. When the POWER and LINK indicators flash at the same time, it means the factory settings have been restored (it takes 15~30 seconds). Then, release the button, and restart the device.

OIP-D40D Decoder – Rear Panel

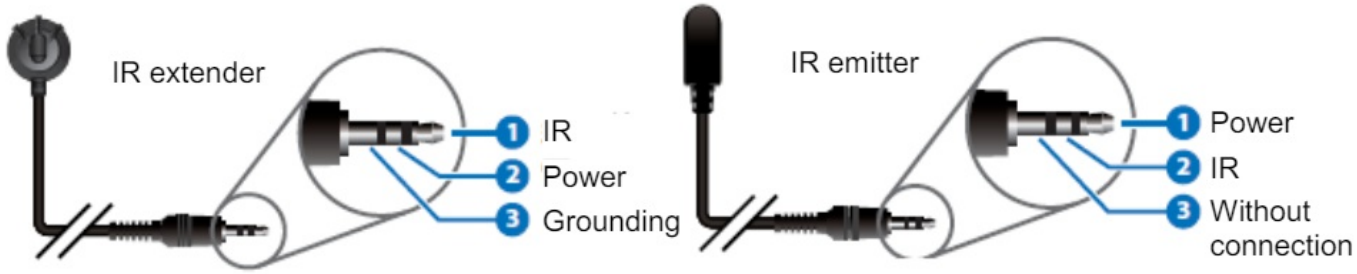


NO	Item	Function Descriptions
⑧	HDMI output port	Connect to HDMI display or audio-visual amplifier to output digital images and audio.
⑨	RS-232 port	Connect to a computer, laptop, or control equipment to extend the RS-232 signals. The default baud rate is 115200 bps, which can be set by users. **<Remark>**With Multicast, the encoder can send RS-232 commands to all decoders, and individual decoders can send RS-232 commands to the encoder.
⑩	IR input port	After connecting to the IR extender, aim at the remote control to extend the IR control range of the remote control to the far ends.
	IR output port	After connecting to the IR emitter, aim at the controlled device to send the received IR signals from the remote control to the controlled device. **<Remark>**With Multicast, the encoder can send IR signals to all decoders.
	OIP LAN port	Connect to a network switch to serially connect compatible encoders and transmit data, while being able to use WebGUI/Telnet control.
	Power port	Plug in a 5V DC power supply and connect to an AC outlet.

Description of Indicator Display

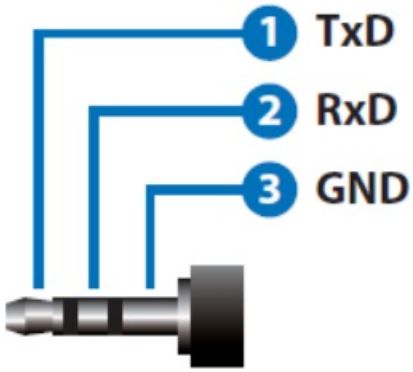
Name	Indicator Status
Power indicator	**Flickering:** Receiving power **Stays On:** Ready
Connection indicator	**Off:** No internet connection **Flickering:** Connecting **Stays On:** Connection is stable

IR Pin Assignment Configuration



Serial Port Pin and Default Setting

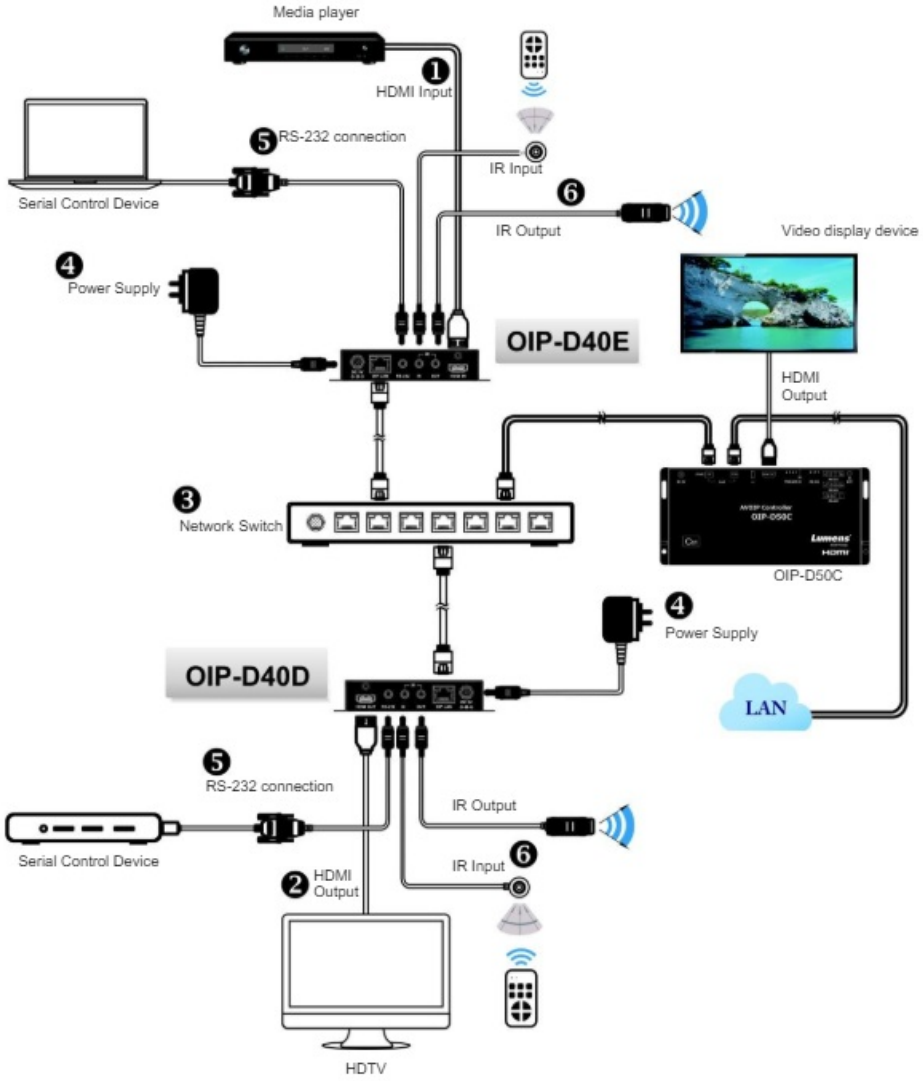
- 3.5 mm male to D-Sub female adapter cable



Default Setting of the Serial Port	
Baud Rate	115200
Data Bit	8
Parity Bit	N
Stop Bit	1
Flow Control	N

Installation and Connections

Connection diagram



Connection Setting

1. Use an HDMI cable to connect the video source device to the HDMI input port on the D40E encoder.
2. Use an HDMI cable to connect the video display device to the HDMI output port on the D40D decoder.
3. Use a network cable to connect the OIP network port of the D40E encoder, D40D decoder, and D50C controller to the network switch of the same domain, so that all OIP devices are in the same local area network.
4. Plug the transformer into the power ports of the D40E encoder, D40D decoder, and D50C controller and connect to the power outlet.
    1. Steps ①-④ can extend the signal. You can enter the IP address of the encoder or decoder on the browser to control the encoder or decoder individually. Or use the WebGUI operation interface to control the video display device connected to the D50C controller, which can simultaneously control all encoders and decoders currently connected to the same local network. You can also connect to a computer and IR emitter/receiver. Please refer to the following connection methods:
5. Connect a computer, laptop, or control device to the RS-232 port to extend the RS-232 signal.
6. Connect the IR emitter/receiver to the D40E encoder and D40D decoder to receive IR from the remote control, and use the remote control to control the controlled device.

Start Using

VoIP transmission will consume a lot of bandwidth (especially at higher resolutions), and it needs to be paired with

a Gigabit network switch that supports Jumbo Frame and IGMP Snooping. It is strongly recommended to be equipped with a switch that includes VLAN (Virtual Local Area Network) professional network management.

Network Switch Setting

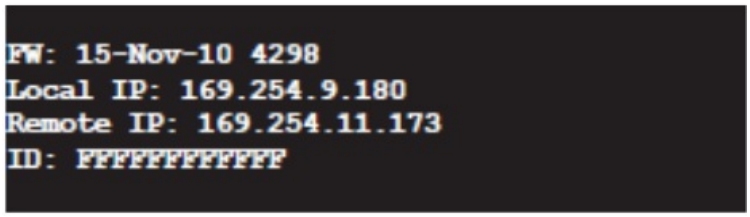
Notes
Most consumer-grade routers cannot handle the high traffic flow generated by multicast, so it is not recommended to directly use the router as your network switch. It is strongly recommended to avoid mixing your commonly used network traffic with VoIP streaming flow. VoIP streaming flow should at least use a separate subnet.

Setting Suggestions

- Please set the Port Frame Size (Jumbo Frame) to 8000.
- Please set IGMP Snooping and relevant settings (Port, VLAN, Fast Leave, Querier) to [Enable].

WebGUI Control Methods

WebGUI control via D40E encoder/D40D decoder
The encoder and decoder have their own WebGUI interface. Open a standard web page browser, enter the IP address of the device, and log in to the WebGUI interface to connect to the encoder or decoder you'd like to operate. If you don't know the IP address, temporarily stop the VoIP streaming connection between the encoder and the decoder first. Please press the LINK button on the front panel of the decoder for 3 seconds (the LINK indicator flickers quickly and then is off), and check the IP address on the display connected to the decoder. Once the VoIP streaming is disconnected, the decoder will output a 640 x 480 black screen, and a set of local (equal to the decoder) IP addresses will be shown at the bottom of the screen, and a set of remote (equal to the encoder) IP address sharing the same VoIP transmission channel (the channel number is preset to 0). After obtaining the IP address, please press the LINK button again for 3 seconds to restore the original operating state of the device (the LINK indicator lights up first and then stays on).



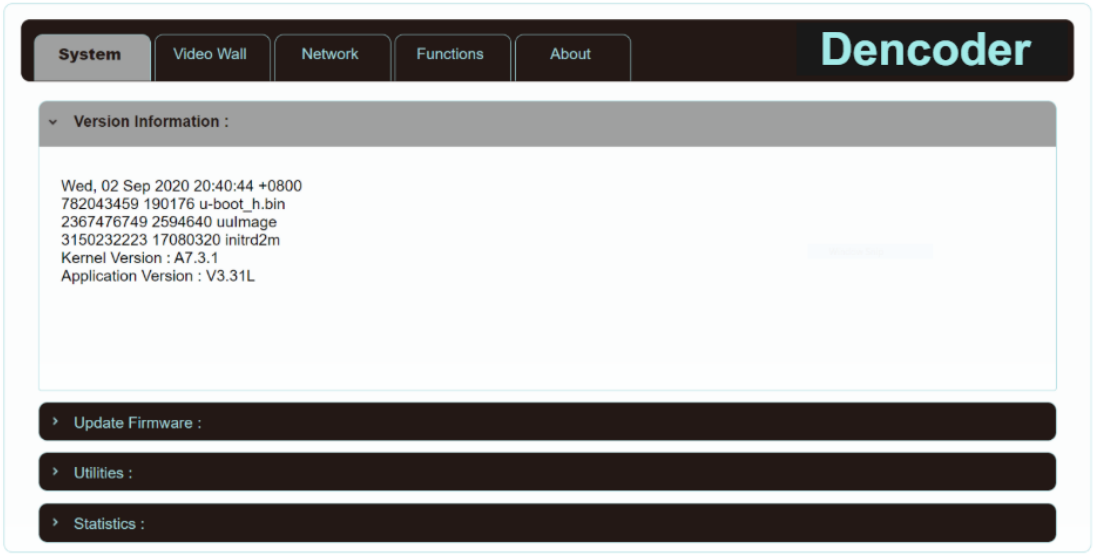
After logging in to the WebGUI interface, you will see a window composed of several tabs. Please click the button at the top of the window to check the content of each tab. For each tab and its function, please refer to 5.1 WebGUI Control Menu Descriptions.

WebGUI control via theD50C controller
To activate the WebGUI connection of the D50C controller, please open a web page browser, and enter the IP address of the CTRL LAN port of the D50C controller, or connect the display to the HDMI output port, and connect the keyboard and mouse to the USB port for easy operation. Whether it is controlled on a web page browser or a display, all encoders and decoders connected to the same local network can be controlled on the control page at the same time. For the description of the D50C WebGUI control menu, please refer to the OIP-D50C User Manual.

WebGUI Control Menu

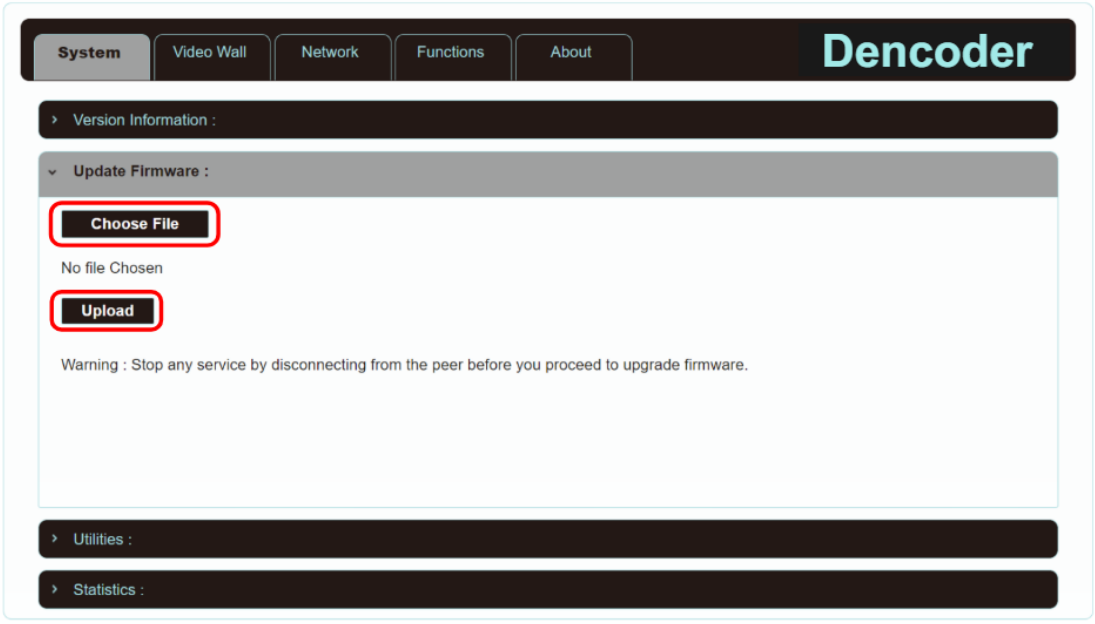
WebGUI Control Menu Descriptions
This chapter describes the WebGUI control menu of the D40E encoder/D40D decoder. To use the WebGUI control page of the D50C controller to control the device, please refer to the OIP-D50C User Manual.

System – Version Information



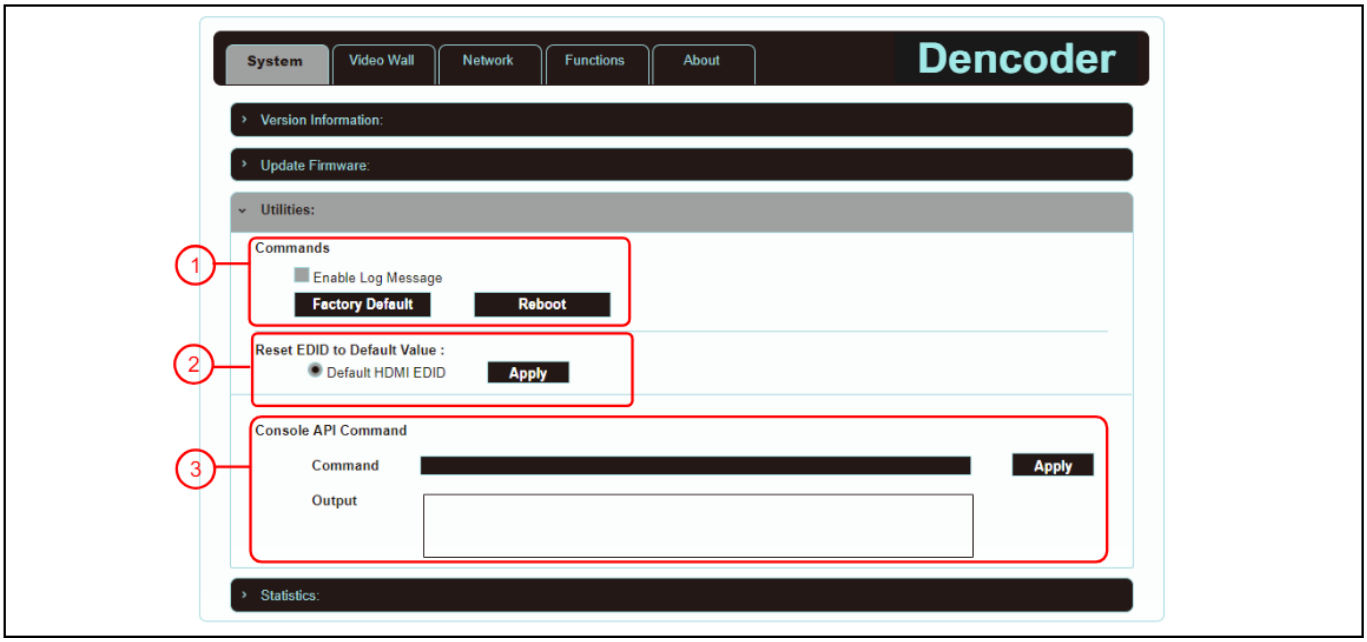
Description
This window will show detailed information about the current firmware version of the device.

System – Upgrade the Firmware



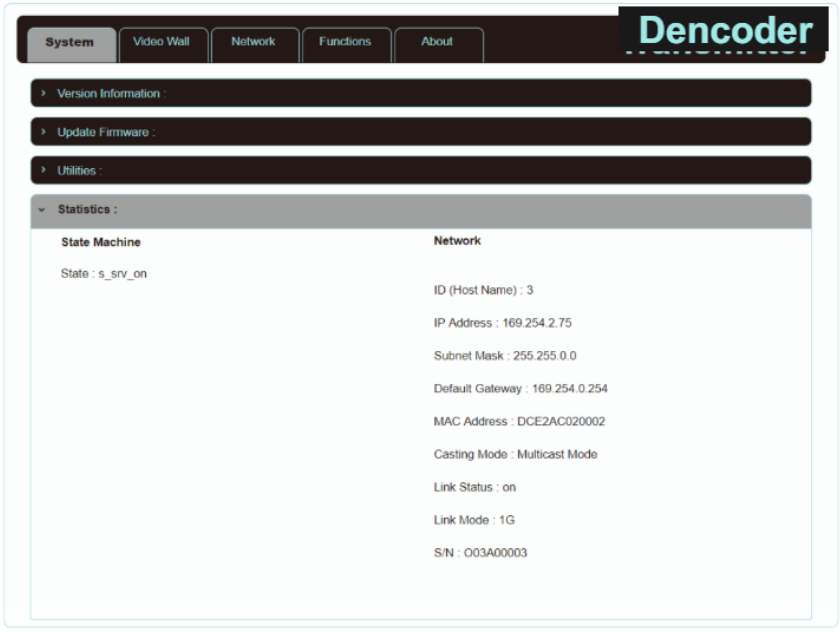
Description
To upgrade the firmware of this device, please press **[Choose File]**, select the updated file (*.bin format) from your computer, and then press **[Upload]** to start the update. **<Remark>**The update process will take a few minutes to complete, and the device will automatically restart during the process. When updating, the video output may become unsteady.

System – Utility Program



No	Item	Description
1	Commands	To restore the factory default settings of the device, please press [Factory Default]. If you only need to restart the device (settings will not be reset), please press [Reboot].
2	Reset EDID to Default Value	If the EDID data from the decoder is not compatible with the HDMI signal source, ple ase select the built-in HDMI EDID setting from the encoder (supports 1080p resolution, including audio) to solve the compatibility problem, and then press [Apply] . **<Remark>**If restart the device, the EDID setting will be reset. * The decoder operation interface does not have this function.
3	Console API Co mmand	To send a Telnet command to the device, enter the Telnet command in the Comman d field, and then press [Apply]. The device's response to the command will be shown in the Output field. **<Remark>**To check Telnet commands, please refer to**-D40E.D40D Telnet Command List**.

System – Statistics

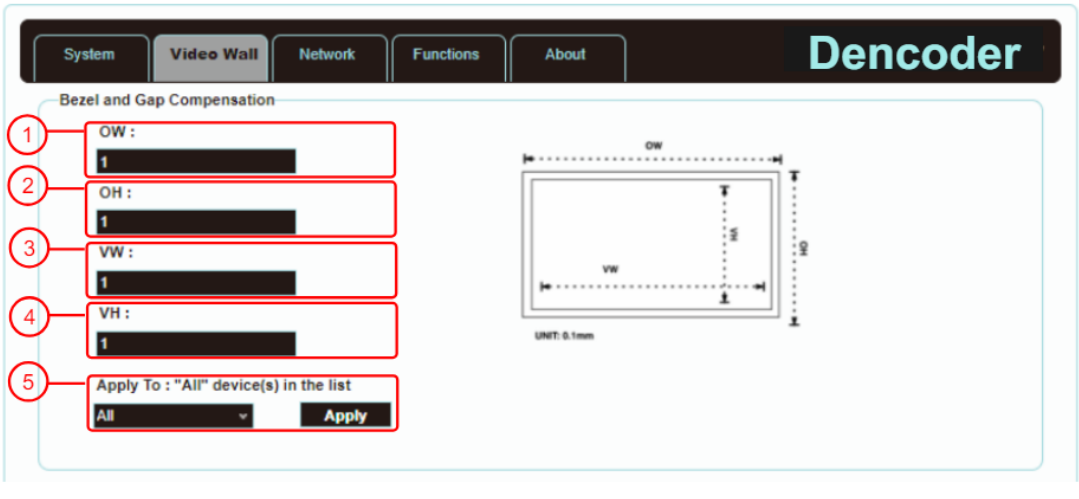


Description

This window will display the current operating status of the device, including hostname, network information, MAC address, unicast or multicast, and connection status and mode.

Video Wall – Bezel and Gap Compensation

The video wall page can design, edit, and operate a video wall built by displays connected with multiple decoders. In the same video wall system, you can choose to control any decoder on any encoder (as long as the channel number is shared), or you can choose to access the video wall settings on the encoder and decoder. Some of the changed video wall settings can only be applied to the decoder. After saving the new video wall settings, please set Apply To to select the applied target and then press [Apply]. <Remark>Although it is feasible to build a small video wall with the unicast mode, it is strongly recommended to give priority to adopting the multicase mode when building a video wall so that the network bandwidth can be used more effectively.

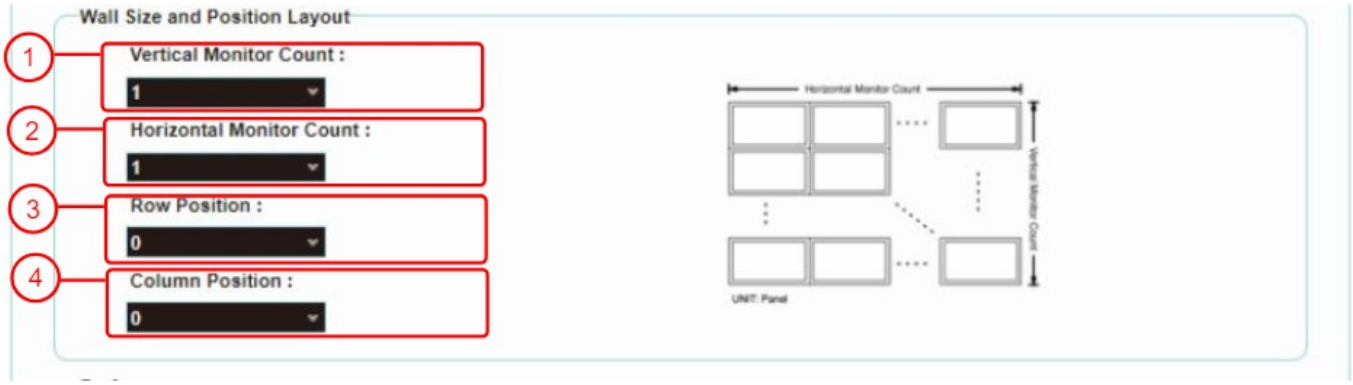


Description

It provides the actual size setting of the display of the video wall. Various measurement units (inches, millimeters, centimeters) will do, as long as all measurements are in the same unit and the numbers are integers. <Remark>Video walls usually use the same type of display in the same size. It is also feasible to use displays in different sizes, as long as each display is measured in the same unit. The video wall is laid out in the most common rectangular pattern, and the bezels of each display are aligned with the center of the video wall.

No	Item	Description
1	OW	(OW) The horizontal size of the display.
2	OH	(OH) The vertical size of the display.
3	VW	(VW) The horizontal size of the signal source screen.
4	VH	(VH) The vertical size of the signal source screen.
5	Apply your settings	Set the device to which you want to apply the changes, and then press [Apply] Select All, an d apply the changes to all encoders and decoders in the current video wall. Select a set of IP addresses on the Client, and apply the changes to the decoder connected to this address.

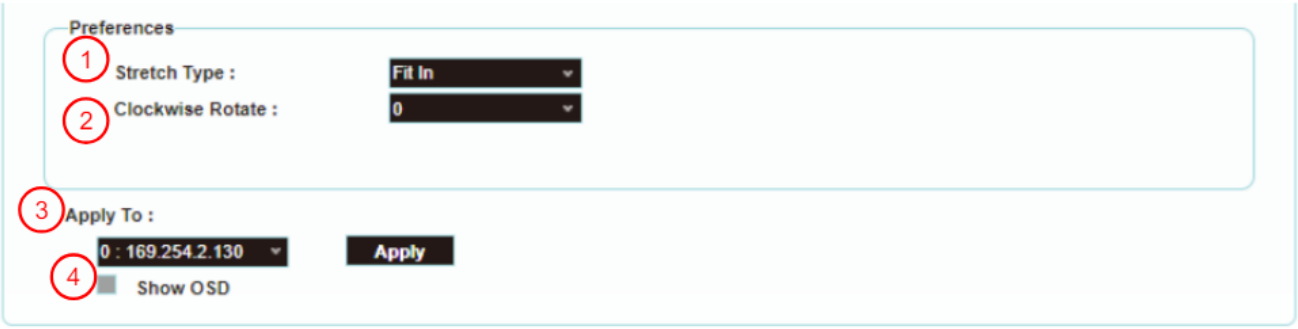
Video Wall – Wall Size and Position Layout



Description
Provide the settings regarding the amount of displays in the video wall, and the position of displays. Typical video walls consist of the same amount of displays in both horizontal and vertical directions (for example: 2 x 2 or 3 x 3). Through this setting, you can build video walls in various rectangular patterns (for example: 5 x 1 or 2 x 3).
<Remark>The maximum amount of displays for both the horizontal and vertical directions is 16.

No	Item	Description
1	Vertical Monitor Amount	Set the number of displays in the vertical direction of the video wall (up to 16).
2	Horizontal Monitor Amount	Set the number of displays in the horizontal direction of the video wall (up to 16).
3	Row Position	Set the vertical position of the displays currently under control (from top to bottom, ranging from 0 to 15).
4	Column Position	Set the horizontal position of the displays currently under control (from left to right, ranging from 0 to 15).

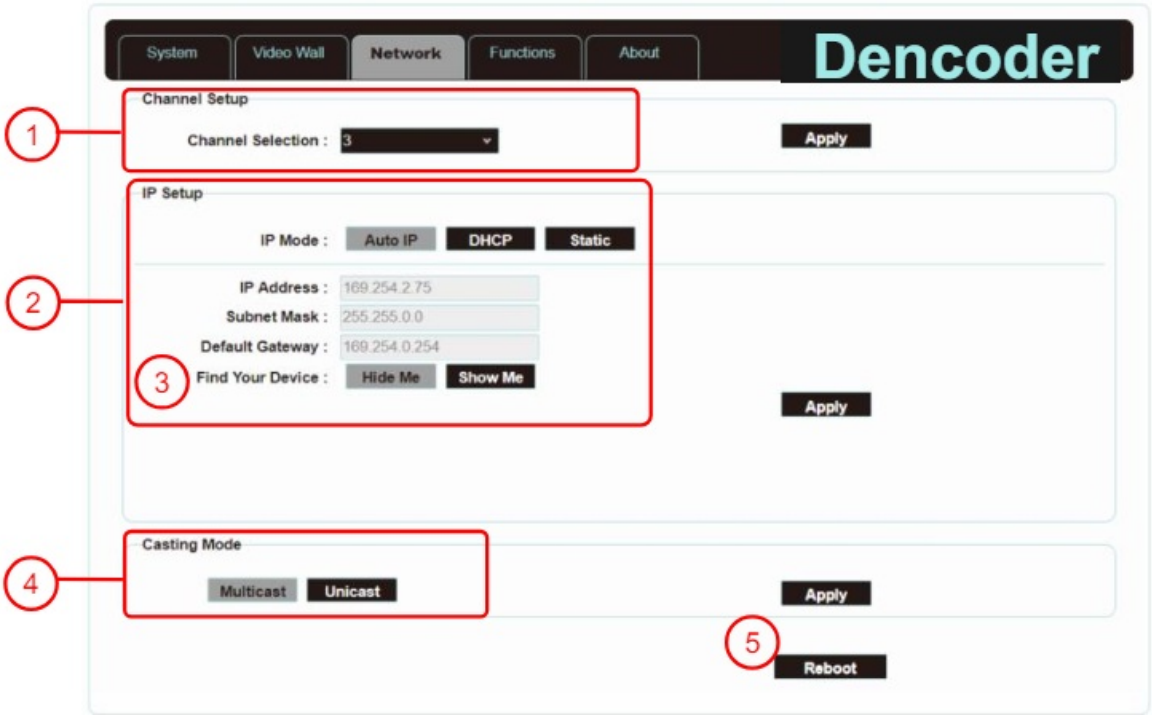
Video Wall – Preference



Description
It provides additional control to the video wall, including the screen display settings, and changes to the applied settings of the video wall.

No	Item	Description
1	Stretch Out	Set the stretch-out mode of the screen. – Fit In mode: The original aspect ratio of the image signal will be ignored, and the a spect will be stretched to fit the size of the video wall. – Stretch Out mode: The original aspect ratio of the image signal will be maintained, and the screen will be zoomed in/out until it stretches for the four sides of the video wall.
2	Clockwise Rotation	Set the rotation degree of the screen, which can be 0°, 180°, or 270°.
3	Apply your settings	Set the device to which you want to apply the changes, and then press [Apply] Select a set of IP addresses on the Client, and apply the changes to the decoder connected to this address.
4	Show OSD (On Sc reen Display)	Enable or disable the OSD of the currently selected channel.

Network



Description

Set the network control. After changing any settings, please press [Apply] and follow the instructions to restart the device. <Remark>If the IP address is changed, the IP address used to log in to WebGUI must also be changed. If a new IP address is assigned through Auto IP or DHCP, stop the image connection between the encoder and the decoder to view the new IP address on the display connected to the decoder.

No	Item	Description
1	Channel Setting	Select the broadcast channel of this device from the drop-down menu. As long as the decoder channel is the same as the encoder in the same local area network, the encoder signal can be received. There are a total of 0 to 255 channel numbers. **<Remark>**Encoders in the same local area network must have different channel numbers to avoid conflicts with each other.
2	IP Address Setting	Select the IP mode and configuration of the device, and quickly search for the device. – Auto IP mode: Automatically assign a set of APIPA addresses (169.254.XXX.XXX) to itself. – DHCP mode: Automatically obtain a set of addresses from the DHCP server. – Static mode: Manually set the IP address, subnet mask, and default gateway. Press [Apply] to save the new settings. **<Remark>**The pre-set internet is Auto IP mode.
3	Search Your Device	After pressing [Show Me], the indicators on the front panel of the device will flash immediately for quick notice of the device. After pressing [Hide Me], the indicators will back to normal. It is very helpful for troubleshooting when a large number of devices are installed in the cabinet.
4	Broadcasting Mode	Click the button to select broadcast mode, and press [Apply] to save the new settings. **<Remark>**The broadcast mode of the decoder must be the same as that of the encoder to receive the signal. – Multicast: Transfer the image stream of the encoder to multiple decoders at the same time without increasing the bandwidth consumption. This mode is suitable for video wall or matrix audio-visual distribution. It must be paired with a network switch that supports IGMP Snooping. – Unicast: Transfer the image stream of the encoder to each decoder individually, so the bandwidth consumption will be quite heavy. This mode is suitable for establishing simple peer-to-peer streaming and does not necessarily need to be paired with a network switch that supports IGMP Snooping.
5	Restart	Press this button to restart the device.

Functions – Image Extension/Serial over IP (Encoder)

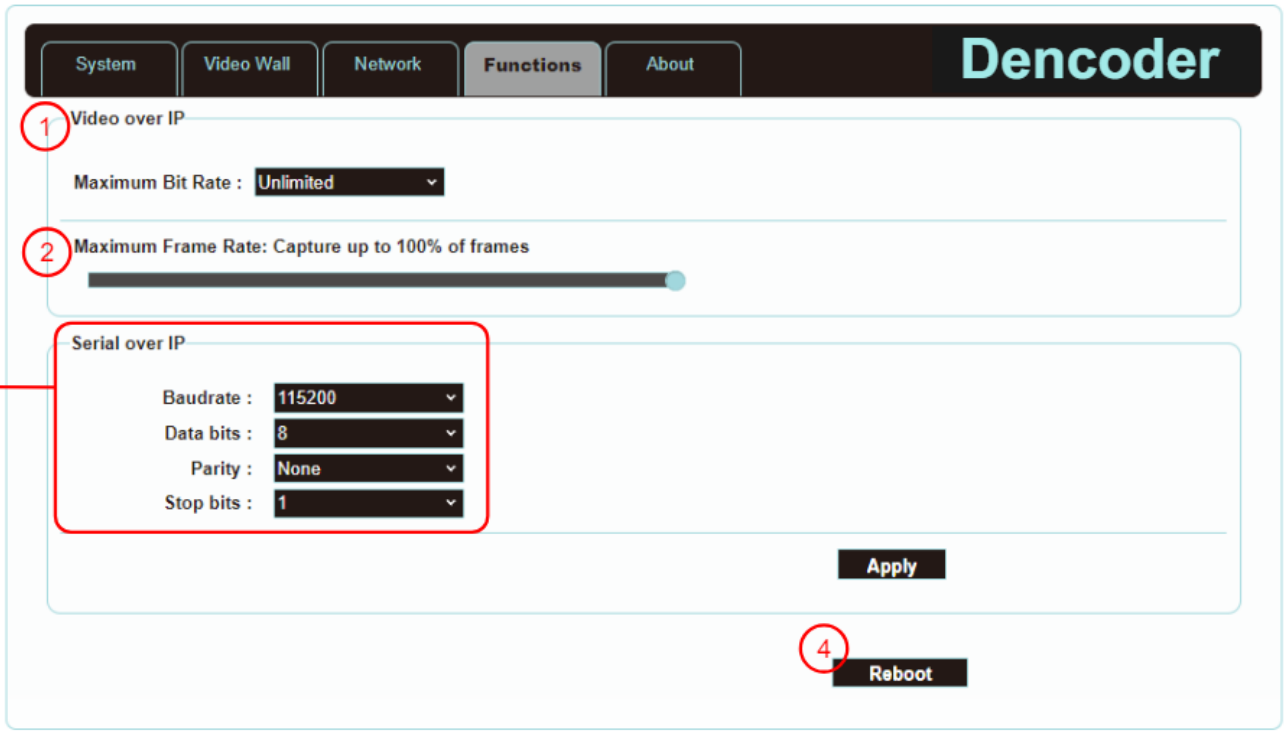


Image extension over IP		
No	**Item**	**Description**
1	Maximum Bit Rate	Set the maximum bit rate of the image stream. There are five options: Unlimited, 400 Mbps, 200 Mbps, 100 Mbps, and 50 Mbps. Selecting Unlimited will use the maximum bit rate of the bandwidth to keep the update frequency of the image stream intact. **<Remark>**It is recommended to select Unlimited to transfer 1080p image streams. Bandwidth requirements will become very large, and the amount of image streams wi ll be limited.
2	Maximum Frame Rate	Setting the encoding percentage of the image source (2%-100%) can effectively redu ce the bandwidth requirement of high-resolution images. It is suitable for PowerPoint presentations or digital signage displays, but not suitable for dynamic image displays. **<Remark>**If the frame rate of the dynamic images is too low, the frame will be intermittent.
Serial Extension over IP		
No	**Item**	**Description**
3	Serial communication se ttings	Manually set the baud rate, data bits, parity, and stop bits you need to extend RS-232 signals. **<Remark>**The serial communication settings of the encoder and decoder must be th e same.
4	Restart	Press this button to restart the device.

Functions – Image Signals extension/Serial Data over IP (Decoder)

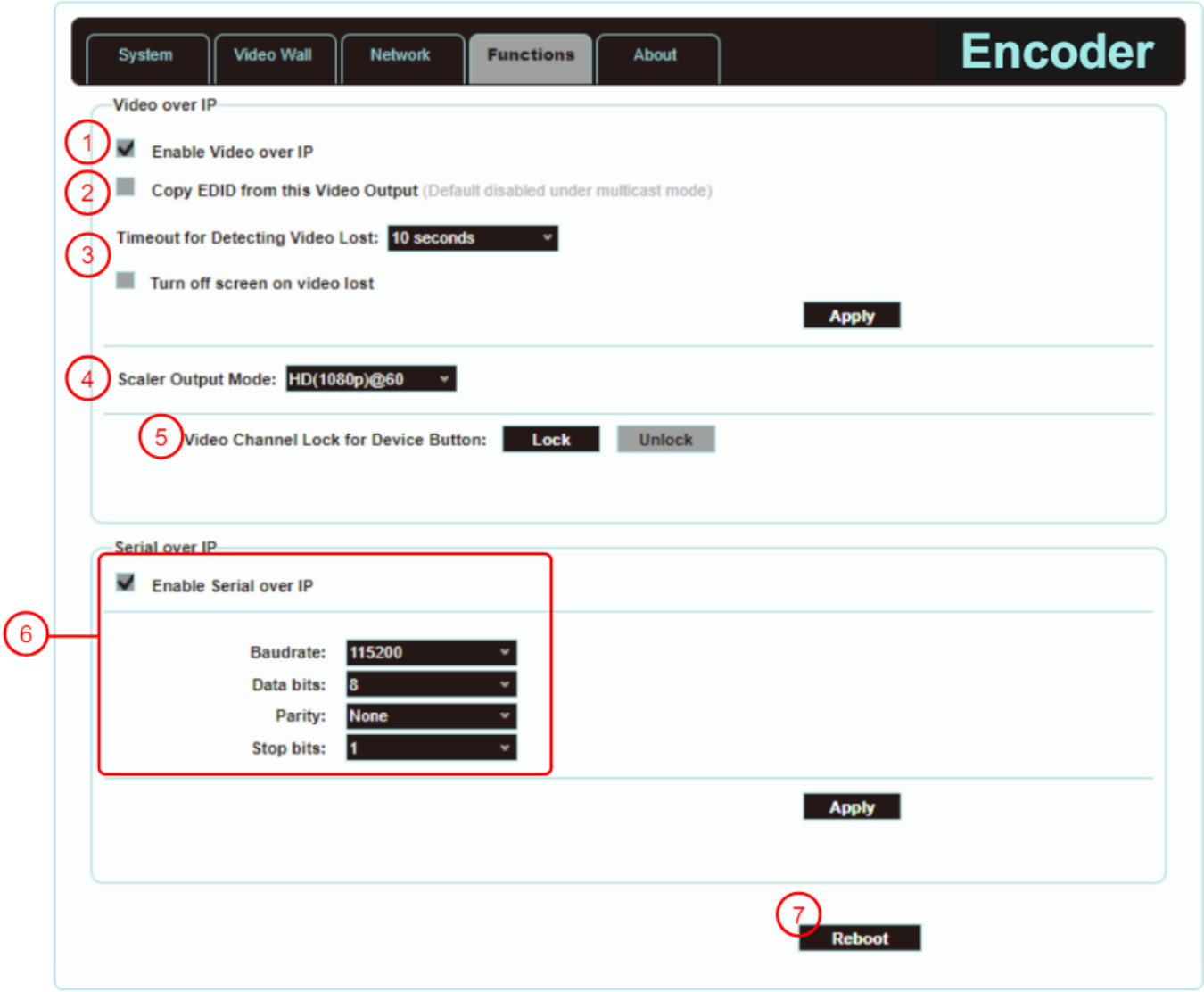


Image extension over IP		
Item	**Description**	
Enable image extension over IP	Uncheck to disable image signal extension over IP. Unless troubleshooting is in progress, please check this checkbox.	

2	Copy EDID data	After checking this checkbox with multicast, the EDID data of the device will be sent to the connected encoder. **<Remark>**This function can only be used in multicast mode.
3	Reminder for disc onnection timeout	Select the waiting time when the signal source is lost from the drop-down menu, and a Link Lost message will appear on the screen. There are seven options: 3 seconds, 5 seconds, 10 seconds, 20 seconds, 30 seconds, 60 seconds, or Never Timeout. If you check and select Turn off screen, the device will stop sending any signal from the HDMI output port after the waiting time expires.
4	Scaler output mo de	Select the output resolution from the drop-down menu. Select one, and the output resolution will become the one you selected. Select Pass-Through, the output resolution will be the signal source resolution. Select Native, the output resolution will be up-converted to the connected display resolution.
5	Image channel lock (CH+/-) for d evice button	After pressing [Lock], the image channel selection button will be locked and cannot be used.
Serial Extension over IP		
No	**Item**	**Description**
6	Serial communica tion settings	Uncheck to disable serial extension over IP. Unless you don’t use serial support, pleas e check this checkbox. Disabling this function can save a small amount of bandwidth. Manually set the baud rate, data bits, parity, and stop bits you need to extend RS-232 signals. **<Remark>**The serial communication settings of the encoder and decoder must be the same.
7	Restart	Press this button to restart the device.

Product Specifications

Technical Specifications

Item	Description of Specifications	
	D40E Encoder	**D40D Decoder**
HDMI Bandwidth	225 MHz/6.75 Gbps	
Audio-visual input port	1x HDMI terminal	1x RJ-45 LAN terminal
Audio-visual output port	1x RJ-45 LAN terminal	1x HDMI terminal
Data transfer port	1x IR extender [3.5 mm terminal] 1x IR emitter [3.5 mm terminal] 1 x RS-232 port [9-pin D-sub terminal]	1x IR extender [3.5 mm terminal] 1x IR emitter [3.5 mm terminal] 1 x RS-232 port [9-pin D-sub terminal]
IR Frequency	30-50 kHz (30-60 kHz ideally)	
Baud Rate	Maximum of 115200	
Power	5 V/2.6A DC (US/EU standards and CE/FCC/UL Certifications)	
Statics protection	± 8 kV (Air Discharge) ± 4 kV (Contact Discharge)	
Size	128 mm x 25mm x 108 mm (W x H x D) [without parts] 128 mm x 25mm x 116mm (W x H x D) [with parts]	
Weight	364 g	362 g
Case material	Metal	
Case color	Black	
Operation 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	5.17 W	4.2 W

Image Specifications

Supported Resolutions (Hz)	HDMI	Streaming
720×400p@70/85	✓	✓
640×480p@60/72/75/85	✓	✓
720×480i@60	✓	✓
720×480p@60	✓	✓
720×576i@50	✓	✓
720×576p@50	✓	✓
800×600p@56/60/72/75/85	✓	✓
848×480p@60	✓	✓
1024×768p@60/70/75/85	✓	✓
1152×864p@75	✓	✓
1280×720p@50/60	✓	✓

Supported Resolutions (Hz)	HDMI	Streaming
1280×768p@60/75/85	✓	✓
1280×800p@60/75/85	✓	✓
1280×960p@60/85	✓	✓
1280×1024p@60/75/85	✓	✓
1360×768p@60	✓	✓
1366×768p@60	✓	✓
1400×1050p@60	✓	✓
1440×900p@60/75	✓	✓
1600×900p@60RB	✓	✓
1600×1200p@60	✓	✓
1680×1050p@60	✓	✓
1920×1080i@50/60	✓	✓
1920×1080p@24/25/30	✓	✓

1920×1080p@50/60	✓	✓
1920×1200p@60RB	✓	✓
2560×1440p@60RB	✗	✗
2560×1600p@60RB	✗	✗
2048×1080p@24/25/30	✗	✗
2048×1080p@50/60	✗	✗
3840×2160p@24/25/30	✗	✗
3840×2160p@50/60 (4:2:0)	✗	✗
3840×2160p@24, HDR10	✗	✗
3840×2160p@50/60 (4:2:0), HDR10	✗	✗
3840×2160p@50/60	✗	✗
4096×2160p@24/25/30	✗	✗
4096×2160p@50/60 (4:2:0)	✗	✗
4096×2160p@24/25/30, HDR10	✗	✗
4096×2160p@50/60 (4:2:0), HDR10	✗	✗
4096×2160p@50/60	✗	✗

Audio Specifications

LPCM	
Maximum number of channels	8
Sample rate (kHz)	32, 44.1, 48, 88.2, 96, 176.4, 192
Bitstream	
Formats supported	Standard

Wire Specifications

Wire Length	1080p		4K30	4K60
	8-bit	**12-bit**	**(4:4:4) 8-bit**	**(4:4:4) 8-bit**
High-speed HDMI cable				
HDMI input	15m	10m	O	O
Network cable				
Cat.5e/6	100m		O	
Cat.6a/7	100m		O	

Troubleshooting

This chapter describes problems you may encounter while using OIP-D40E/D40D. If you have questions, please refer to related chapters and follow all the suggested solutions. If the problem still occurs, please contact your distributor or the service center.

No.	Problems	Solutions
1.	**The signal source screen is not shown on the display end**	Please check whether the Multicast of the encoder and decoder is enabled: (1) Enter the WebGUI control interface of the encoder and decoder, and check whether the Casting Mode is Multicast on the Network tab. (2) Enter the WebGUI control interface of the D50C controller, then click Device – [Settings] on the Encoder tab and Decoder tab to check whether Multicast is enabled.
2.	**Image delay on the display- end**	Check whether the MTU of the encoder and decoder is enabled (default is Enable): Enter “GET_JUMBO_MTU” in the Command field in the WebGUI interface system – Utility Program tab and the Output below will show whether the status of jumbo frame MTU is enabled or disabled. If it is disabled, please enter “SET_JUMBO_MTU 1” in the Command field to enable it, and follow the instructions to restart the device to implement the changes.
3.	**The image on the display end is broken or black**	Check that the Jumbo Frame of the switch is set to above 8000; Please make sure that IGMP Snooping of the switch and relevant settings (Port, VLAN, Fast Leave, Querier) have been set to “Enable”.

Safety Instructions

Always follow these safety instructions when setting up and using the CU-CAT Video Board (※):

Operation

1. Please use the product in the recommended operating environment, away from water or sources of heat
2. Do not place the product on a tilted or unstable trolley, stand, or table.
3. Please clean the dust on the power plug before usage. Do not insert the product's power plug into a multiplug to prevent sparks or a fire.
4. Do not block the slots and openings in the case of the product. They provide ventilation and prevent the product from overheating.
5. Do not open or remove covers, otherwise it may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
6. Unplug the product from the wall outlet and refer servicing to licensed service personnel when the following situations happen:
    - If the power cords are damaged or frayed.
    - If liquid is spilled into the product or the product has been exposed to rain or water.

Installation

1. For security considerations, please make sure the standard hanging rack you bought is in line with UL or CE safety approbations and installed by technician personnel approved by agents.

Storage

1. Do not place the product where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
2. Unplug this product during thunderstorms or if it is not going to be used for an extended period.
3. Do not place this product or accessories on top of vibrating equipment or heated objects.

Cleaning

1. Disconnect all the cables before cleaning and wipe the surface with a dry cloth. Do not use alcohol or volatile solvents for cleaning.

Batteries (for products or accessories with batteries)

1. When replacing batteries, please only use similar or the same type of batteries.
2. When disposing of batteries or products, please adhere to the relevant instructions in your country or region for disposing of batteries or products.

Precautions

- This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock. Do not remove the cover (or back). No user-serviceable parts inside. Refer servicing to licensed service personnel.
- This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.

FCC Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used by the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice
The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules. These limits are to provide reasonable protection from harmful interference in residential installations.

IC Warning
This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standardentitled "Digital Apparatus," ICES-003 of Industry Canada. Cet appareil numerique respecte les limites de bruits radioelectriques applicables aux appareils numeriques de Classe B prescrites dans la norme sur le material brouilleur: "Appareils Numeriques," NMB-003 edictee par l'Industrie.

Documents / Resources

	LUMENS OIP-D40D AVoIP Encoder AVoIP Decoder [pdf] User Manual OIP-D40D AVoIP Encoder AVoIP Decoder, OIP-D40D, AVoIP Encoder AVoIP Decoder, Encoder AVoIP Decoder, AVoIP Decoder, Decoder

References

- Download | Lumens
- User Manual