



Videon Product Manual

Greylock and Sorona Encoders/Decoders

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Product Ordering Information for Videon products:

To order encoders and decoders, as well as other Videon products, call our Customer Care team at (814) 235-1111 x303.

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Overview

Thank you for purchasing a Videon product.

This manual will describe device setup, configuration, technical specifications and troubleshooting. All Videon devices are interoperable and controlled via a web user interface. Except where otherwise noted, the information in this manual applies to all Videon devices, including:

- Greylock HD H.264 Encoder/Decoder
- Sonora HD H.264 Encoder/Decoder

Questions? Let Customer Care Help.

If at any point you have questions or comments about your Videon product, or just need a hand getting started, our Customer Care team would be happy to assist you. Give us a call during regular business hours (8:00-5:00 ET, Monday-Friday) or submit a support ticket through our Customer Help Desk or by emailing techsupport@videon-central.com.

(814) 235-1111 x303

customer-care-team@videon-central.com

helpdesk.videon-central.com/servicedesk/customer/portal/2

You can also search the Videon Product Knowledge Base at kb.videon-central.com for FAQs and tips!

1. Setting up your Videon device(s)

1.1 Network Requirements

Your installation space must be equipped with a DHCP-enabled and multicast-enabled Ethernet router. (These are the default settings for most routers.) Upload bandwidth needs to be sufficient for the video bitrate that you're encoding. (Use a network speed diagnostic tool such as speedtest.net to determine your maximum upload bandwidth.)

1.2 Equipment

Each product can be set up as an encoder, decoder, or both.

In order to set up a Videon encoder, you need:

- HDMI or SDI video source
- Computer with Google Chrome web browser (Chrome version 39 or newer is recommended)
- DHCP- and multicast-enabled router connected to network
- HDMI cable to connect video source to encoder
- Ethernet cable to connect encoder to router
- Ethernet cable to connect control computer to router

In order to set up a Videon decoder, you need:

- Display with HDMI Input
- Computer with Google Chrome web browser (Chrome version 39 or newer is recommended)
- DHCP- and multicast-enabled router connected to network
- HDMI cable to connect decoder to display
- Ethernet cable to connect decoder to router
- Ethernet cable to connect control computer to router

With your device, you received a power supply and a USB stick. On the USB stick, you'll find:

- Videon Discovery Application
- Product documentation
- Feedback forms

1.3 Connecting Your Videon device(s)

We recommend completing all hardware connections before powering on your device.

1. For encoding: Connect the video source to the device's HDMI IN port with an HDMI cable, or the SDI port with an SDI cable. Alternatively, connect an audio jack to the device's AUDIO IN port when using the SDI port if the SDI source does not have audio embedded.
2. For decoding: Connect the device's HDMI OUT port to the display with an HDMI cable.
3. Connect the device's Ethernet port to the router with an Ethernet cable.
4. Connect the control computer to the router with an Ethernet cable.
5. Plug provided power supply into the device's 12V connector. Then plug into the wall. This will power on the device.

1.4 Connection Diagrams

Greylock Original Design (HDMI-only):



Greylock Encoder/Decoder (HDMI and SDI):



Sonora Encoder/Decoder (HDMI only):



1.5 Final Setup

Verify that the following components of your installation are turned on:

- Video source (for encoding only)
- Connected display (for decoding only)
- Control computer
- Router

2. Controlling your Videon Device(s)

2.1 Overview

To control Videon devices, you will use a device's IP address to log into the web user interface through your browser. **Once you are connected to a Videon device, you can control any other device on that network through the same interface window.** (You do not need to enter the IP address of each unit individually.)

2.2 Initial Setup: IP Address Discovery

Videon Discovery Application (Recommended)

The first time you use your control computer to connect to a Videon device, you will need to run the Videon Discovery Application to detect the IP addresses of devices on your network.

1. Download the Videon Discovery Application from the Videon website at videon-central.com/resources, or install the app from the USB stick that came with your device.
2. Double-click to open the app. The app will automatically begin scanning the network for Videon devices and will display the IP addresses of the devices as they are found.
3. Click the "Open" button next to the IP address of the device you want to use as the controller to enter the web based user interface. (Note that it does not matter which device you select. Any Videon device can set up and control itself and all others on the network.)

After completing these steps, your browser will display the web based user interface.

Note: If you are using more than one Videon device on your network, we recommend connecting each device independently the first time you operate it. Log onto the user interface and rename that device before moving on to the next. This will help you identify the devices.

Note: If unable to find the Videon device using the Videon Discovery Application, please use the alternative method below that utilizes the USB Storage Device included in the package contents.

IP Address Stored to USB Storage Device

To write the network configuration to a file, insert a USB drive, once the box is booted up, with one of the following file system formats: ext2, ext3, ext4, FAT32, or NTFS. Wait at least 30 seconds, and then remove the USB drive. There should now be a file on the USB drive named "videon_streaming_ip_address.txt". The file should contain the following:

- IP address
- Whether the IP address is static or from DHCP
- The subnet mask

- The gateway address
- The domain name servers (DNS)

Enter the IP address shown in the .txt file into your web browser to reach the web UI.

2.3 LED Indicators

The LED indicators on the front of the Greylock Original Design device signify the following states:

Power LED	Source LED	System State
Off	Off	Powered Off
Green	Orange	System is booting up
Red	Off	Awaiting valid HDMI input
Red	Green	Valid HDMI source is connected
Red	Green; blinking regularly	Actively streaming to RTMP destination
Red	Green; quick blink x2	Attempting to connect to RTMP destination
Red	Green; quick blink x5	Failure to begin streaming

The LED indicators on the front of the Greylock and Sonora device signify the following states:

Power LED	Source LED	System State
Off	Off	Powered Off
Green	Off	Awaiting valid HDMI input
Green	Blue	Valid HDMI source is connected
Green	Blue; blinking regularly	Actively streaming to RTMP destination
Green	Blue; quick blink x2	Attempting to connect to RTMP destination
Green	Blue; quick blink x5	Failure to begin streaming

2.4 Basic Control Functions

From the web based user interface, you will see tabs labeled:

- Encoder Control
- Decoder Control
- Device Settings
- Device Map
- Advanced Settings

In general, the tabs are used for the following tasks. See subsequent sections for more detailed description of options in each tab.

Tab	Function
Encoder Control	Set up and manage encoder functions
Decoder Control	Set up and manage decoder functions
Device Settings	Manage basic settings such as network settings and device name
Device Map	View a list of all devices on the network
Advanced Settings	Manage advanced settings such as software updates and resets

2.5 Encoder Control

This tab shows and allows you to control all Videon encoders currently on your network. If the device that is currently serving the user interface has an “Encoder” role enabled, it will be the first row in the table. (You can tell which device is serving the interface by looking at the top right corner of the interface window.) Each row shows a summary of an individual encoder’s status and provides a Configure button for configuring the encoder settings and a Configure button for configuring the output settings.

The following columns provide information about the encoder.

- **Device Name:** This is the name assigned to the encoder. It can be changed in the Device Settings tab.
- **AV Input Type:** Select the appropriate video input type. If Auto Detect input is selected, SDI will be used if both HDMI and SDI input are provided and embedded audio will be used if both embedded and analog audio are provided.
- **Video Input Resolution:** Indicates whether there is a valid video signal detected from the encoder’s selected video source.
 - If there is a valid video signal detected from the selected video source, this column lists the resolution and framerate.
 - If a red X, no valid video signal is currently detected.
- **Streaming:** Indicates whether the encoder is actively streaming.
 - If a green checkmark, stream is active.
 - If a red X, stream is inactive.
 - If a spinning circle, RTMP is connecting.
 - If a “!” and hover text states “Error connecting to RTMP server”, an error occurred while connecting. Please confirm the correct values have been entered for the RTMP settings.
 - If a “!” and hover text states “waiting for input”, the encoder does not detect any video input. Please confirm the video source is powered on and outputting video.
 - If a “!” and hover text states “unable to encode”, the encoder detects that there is video input but it is in a format which it does not support. Please refer to videon-central.com/resources for your encoder’s Product Data sheet.
- **Recording:** Indicates whether video is being recorded to the inserted USB drive
 - If a green check mark, encoder is recording to USB drive
 - If a red X, recording is inactive
 - If a spinner icon, FTP uploads are in progress or USB drive is being unmounted. Hover over icon for more information.
 - If a “!”, there is an issue recording to the USB drive or uploading via FTP. Hover over icon for more information.
- **Encoder Settings:** Click the Configure button in this column to open the Encoder Settings Configuration dialog. Refer below to the Encoder Settings section for descriptions on the options within this dialog.
- **Output Settings:** Click the Configure button in this column to open the Output Settings Configuration dialog. Refer below to the Output Settings section for descriptions on the options within this dialog.

Output Configuration

- Through this dialog, you can set the Output Configuration for the device. Output Configuration settings control how the encoded video is routed to the destinations (e.g. via unicast, multicast or RTMP).
- **RTMP Output:** Allows you to configure the encoder to send a single stream to an RTMP server. If you are using one of our integrated partners as a CDN, please refer to the instructions provided by that CDN partner. (Also refer to videon-central.com/resources)
- For a general RTMP output, follow these steps:
 - Select `rtmp://` or `rtmps://` (RTMP over a TLS/SSL connection) as protocol.
 - Enter the URL of the RTMP server. Refer to the RTMP server's encoding configuration recommendations. Servers use different RTMP protocols. If you have difficulty connecting to your RTMP server, please contact their customer service or call Videon's Customer Care Team for help.
 - In the Encoder Stream Settings configuration, ensure that H.264 video and AAC audio are selected.
 - The status icon to the right of the URL will update when the connection is successful or failing.
- **Multicast Output:** Allows you to configure the encoder to send a single stream that can be received by multiple decoders. In order to configure Multicast Output, follow these steps:
 - Select a protocol. `rtp://` is recommended.
 - Each encoder must be configured with a unique, valid combination of multicast address and port value.
 - For full description of valid multicast range, refer to [iana.org \(http://www.iana.org/assignments/multicast-addresses/multicast-addresses.xml#multicast-addresses-12\)](http://www.iana.org/assignments/multicast-addresses/multicast-addresses.xml#multicast-addresses-12).
 - Enter a multicast address. **Recommended** address values are in the range 239.0.0.0 to 239.255.255.249.
 - Enter a multicast port value to indicate the network port that the multicast stream is to be sent over.
 - **Recommended** port values are even numbers between 1024-49150.
 - For additional details about port values, see Section 11 of IETF RFC3550 (<https://tools.ietf.org/html/rfc3550>).
 - Enter a TTL. **Recommended** TTL value is 5.
- **Unicast Output (A/B):** Allows you to configure the encoder to send unicast output(s). Videon encoders are capable of two simultaneous unicast outputs, in addition to the multicast output. Each unicast output can be controlled independently.

Note: If you are streaming between two Videon devices, we recommend configuring the stream via Decoder Stream Settings Configuration. The instructions in this section apply to the use of third party decoders.

In order to configure unicast output via the encoder, follow these steps:

- Select a protocol, `rtp://` or `udp://`

- Manually enter the IP address of the third party decoder device. The third party decoder must accept RTP over UDP (rtp://) or Raw UDP (udp://) delivery of an MPEG-2 Transport Stream containing H.264 video and the selected audio codec.
- Manually enter the listening port value for the third party decoder device. Configure the decoder device to receive on the same port value as well.
- **File Recording:** Allows you to record video to a USB storage device. Supports fat32 and ext4 file systems
 - The default saved filename is VID. Filename will be appended with a timestamp when recording is saved to the storage device.
 - Storage status is shown based on used vs. total available storage and in the form of amount of storage time remaining calculated using the current bitrate the encoder is set at.
 - A list of files can be seen and downloaded from the “Files on USB root” dropdown.
 - Clicking “Safely Remove” ensures the recording processes has completed before the storage device is removed. This prevents file corruption.
 - Files saved to the storage device are saved in .ts format.
- **FTP Upload:** Allows you to upload recorded files to an FTP site
 - Credentials needed: FTP server address, authentication username/password and FTP filepath (optional).
 - **TIP:** Credentials can (and should!) be tested by clicking “Test Connection”.
 - “Delete file from USB after upload” will remove the recorded file from the USB storage device once FTP upload has completed.
 - FTP upload history gives a record of what files have be uploaded to the authenticated server.
 - **Note:** FTP upload only occurs for a file being actively recorded. Previously recorded files cannot be selected for upload to the FTP server.

Encoder Configuration

- Through this dialog, you can set the Encoder Configuration for the device. Encoder Configuration settings control how the audio and video are compressed/encoded (e.g. bitrate, scaling, etc.)
- **Video Input Resolution:** Displays the resolution and framerate of the video source connected to the HDMI IN port.
- **Video Scaling:** Select the scaling option you prefer.
 - Passthrough outputs the same resolution as the input.
 - Possible Video Scaling Resolutions include: 320x180p, 480x270p 640x360p, 720x480p, 960x540p, 1280x720p, and 1920x1080p
 - The selected resolution will scale the input resolution to the given scaled resolution. For example, 640x360 will scale the video to 640x360 resolution. This is useful for low bitrate streams.
- **Limit to 30 fps:** If the input is greater than 30fps, selecting this option will cut the fps in half. This is also useful for low bitrate streams.
- **Latency Mode:** Allows you to select the latency mode that will be used to encode the video stream. Greylock and Sonora only have a latency mode of Normal, which is about 1 second.
- **Encoding Mode:** Allows you to select the encoding bitrate mode for the MPEG-2 Transport Stream container.

- For constant bitrate MPEG-2 Transport Stream, select TS Fixed Bitrate.
- For a variable bitrate MPEG-2 Transport Stream, select TS Variable Bitrate.
- **Keyframe Interval:** This can be defined in seconds or in frames and controls the length of time between keyframes. Refer to your RTMP destination's documentation for suggested values. For low bitrate streaming, choose a larger interval.
- **Video Encoding:** Allows you to set the target bitrate for your H.264 video encoding. The table below shows the suggested bitrates' different priorities (best compression vs. best quality).

Suggested Bitrates

Encoded Resolution	Bitrate (kbps) for Best Compression	Bitrate (kbps) for Best Quality
1920x1080	2500 @ 30FPS	7500
1280x720	1500 @ 30FPS	5000
640x360	500 @ 30FPS	1500

Note: If you are simultaneously encoding and decoding on the same device, please select a bitrate no higher than 15000 kbps.

- **H.264 Profile:** Allows you to set the H.264 Profile to High, Main, or Baseline. Depending on which profile is selected, the H.264 Level will be auto-configured to one of the following levels based upon the specified Video Encoding bitrate and Video Scaling selections: 3, 3.1, 3.2, 4, 4.1.
- **Audio Encoding:** Allows you to set the audio encoding codec and bitrate value to use for the encoded audio. Greylock and Sonora only support MPEG-4 AAC-LC.

When you have finished Output Configuration and Encoder Configuration, you may select from three options at the bottom of the dialog.

- The OK button will save the settings and close the configuration dialog.
- The Cancel button will close the configuration dialog without saving any settings.
- The Apply button will save the settings.

2.6 Decoder Control

This tab shows and allows you to control all Videon decoders currently on your network. If the current web server unit, identified in the top right corner, has a “Decoder” role enabled, it will be the first row in the table. Each row shows a summary of an individual decoder’s status and provides a Configure button for configuring the decoder.

- **Device Name:** This is the name assigned to the decoder. It can be changed in the Device Settings tab.
- **Source:** This indicates which source, if any, is serving the decoder.
 - If another Videon device is the source, this column names that device.
 - If you are decoding a third-party stream, this column will display Other.
 - If the decoder does not have a source configured, this column will display a red X.
- **Video Output Resolution:** Allows you to set the decoder’s output resolution. A red X will appear if the resolution chosen is not supported by the connected display.
- **Status:** Indicates if the decoder is configured to actively listen for and display a video stream. Hover with mouse for more information.
- **Quick Control:** Buttons in this column allow you to start and stop a pre-configured decoder with a single click. Note that the decoder must have been configured before this feature can be used for the first time. If Not Configured is displayed, you must click the Configure button in the Stream Settings column and configure the decoder before proceeding.
 - To disconnect a decoder that is currently receiving video, click Disconnect. (If the connection is a unicast connection with a Videon encoder, this action will also cause the encoder to stop transmitting.)
 - To reconnect a decoder that is not currently receiving video, click Connect. The decoder will connect using the previous configuration. If the configuration is a unicast video stream from a Videon encoder, this will also cause the encoder to begin transmitting.
- **Stream Settings:** Click the Configure button in this column to open the Decoder Stream Settings Configuration dialog. The following section describes the options within this dialog.

Decoder Stream Settings

Through this dialog, you can:

1. Customize settings for audio and video decoding.
2. Configure multicast streaming.
3. Configure unicast streaming.
4. Configure RTMP input from an RTMP server.

Decoder Stream Settings for Source Type

Stream Setting Configuration will be different depending on the source you are using. The following sections describe necessary configurations for decoding unicast and multicast streams from Videon and third party sources.

Videon Source, Multicast

- **Source Encoder:** Select a Videon encoder from the list of detected encoders.
- **Stream Type:** Select Multicast.
- **Multicast Protocol:** This selection displays the currently configured multicast protocol for the encoder.
- **Multicast IP Address:** This selection displays the currently configured IP address for the encoder.
- **Multicast Port:** This selection displays the currently configured multicast port for the encoder.

Note: The Videon encoder's multicast output must be turned on through the Encoder Control tab.

Videon Source, Unicast

- **Source Encoder:** Select a Videon encoder from the list of detected encoders.
- **Stream Type:** Select Unicast.
- **Protocol:** Select a protocol to use. rtp:// is recommended.
- **Port:** Select an open port value that the decoder will use to receive the encoded stream. Recommended port values are even numbers between 1024 and 49150.

Third Party Source, Multicast

The third party encoder must be configured to provide H.264 video in an MPEG-2 Transport Stream using RTP over UDP (rtp://) or Raw UDP (udp://) over multicast. The audio within the stream can be encoded as either MPEG-1 Layer 2 or AAC. Configure the RTP multicast IP address and port value within the third party encoder. Please be sure to use a valid multicast IP address. Recommended values are from 239.0.0.0 to 239.255.255.249.

- **Source Encoder:** Select Other Encoder.
- **Stream Type:** Select Multicast.
- **Multicast Protocol:** Select the correct protocol for the video source.
- **Multicast IP Address:** Enter the currently configured multicast IP address for the video source. Refer to the third party encoder for the currently configured multicast IP address.
- **Multicast Port:** Enter the currently configured multicast port value for the video source. Refer to the third party encoder for the currently configured multicast port.

Third Party Source, Unicast

The third party encoder must be configured to provide H.264 video in an MPEG-2 Transport Stream using RTP over UDP (rtp://) or Raw UDP (udp://) over unicast. The audio within the stream can be encoded as either MPEG-1 Layer 2 or AAC.

- **Source Encoder:** Select Other Encoder.
- **Stream Type:** Select Unicast.
- **Protocol:** Select the correct protocol for the video source.
- **Port:** Enter the currently configured unicast port value. Refer to the third party encoder for this information.

Third Party Source, RTMP

Follow these instructions to configure the target decoder to receive the RTMP playback type from a streaming server. The RTMP streaming server must be streaming in the H.264 video and AAC audio codecs.

- **Source Encoder:** Select Other Encoder.
- **Stream Type:** Select RTMP.
- **URL Prefix:** Ensure “rtmp://” or “rtmps://” is selected.
- **URL:** Enter the URL of the RTMP source.

2.7 Device Settings

This tab is used to modify the device name, role, and network settings for any Videon device on the network. Clicking the “Save” button will change the configuration of the device.

Select an Encoder or Decoder: This dropdown lists all Videon devices on the network. Select the device for which you want to adjust settings.

Device Settings

- **Name:** Enter the name that you want to use to identify the device on the network. We recommend choosing a name that indicates the physical location of the device or the video source or display that is connected to the device. By default, Videon devices are assigned the unit’s serial number as a name.
- **Device Roles**
 - Encoder:** If you wish to use the device for encode, enable this function.
 - Decoder:** If you wish to use the device for decode, enable this function.

Network Settings

- **Address Assignment:** Use this setting to change the device between DHCP and Static IP address modes.
- **IP Address:** This displays the current IP address configured for the device. If Static IP was selected in the Address Assignment option above, you can edit the IP address.
- **Subnet Mask:** This displays the current subnet mask configured for the device. If Static IP was selected in the Address Assignment option above, this can be edited.
- **Gateway:** This displays the current gateway configured for the device. If Static IP was selected in the Address Assignment option above, this can be edited.
- **DNS Address:** This displays the current DNS server address configured for the device. If Static IP was selected in the Address Assignment option above, this can be edited.

2.8 Device Map

This tab shows a list of all Videon devices on your network. A summary of the streaming state is shown for each device.

Encoders

Each enabled encoder on the network is listed here. (To enable a device as an encoder or decoder, use the Device Settings tab.) For each device, the following information is shown:

- **Device Name:** The name saved for that device under “Device Settings”.
- **Multicast Broadcast:** Displays if the encoder is actively streaming via multicast.
- **RTMP Broadcast:** Displays if the encoder is actively streaming via RTMP.
- **Connections:** The number of decoder connections to that encoder for Videon and third party decoders connected via unicast.
- **Destinations:** A list of the names of all the decoders connected to an encoder as well as the IP addresses of third party decoders connected via unicast.

Decoders

Each enabled decoder on the network is listed here. (To enable a device as an encoder or decoder, use the Device Settings tab.) For each device, the following information is shown:

- **Device Name:** The name saved for that device under “Device Settings”.
- **Status:** Indicates if the decoder device is connected to an encoder.
 - If a green checkmark, the decoder is configured to actively listen for and display a video stream from an encoder.
 - If a red X, the decoder is not configured or has been disconnected.
- **Stream Type:** Displays the stream type that the decoder is using to communicate with the source.
- **Source:** The name of the encoder that is configured as the video source. If a third party source is being used, “Other” will be displayed.

2.9 Advanced Settings

This tab offers more advanced control over Videon devices, including reset and firmware updates. The functions on this tab will likely be used only by system administrators, not all users.

Password Authentication for Web UI

- **Setting Password:** Turn Authentication on. Enter the password in the New Password field and the Confirm New Password field. Press Save.
- **Username:** The default username is “admin”.
- **Changing Password:** Press Change Password under the Authentication switch. Enter your old password in the Admin Password field and enter your new password in the New Password and Confirm New Password field.
- **Turning Authentication Off:** Turn the Authentication switch off. Enter your password in the Admin Password field. **Note:** If you forget your password, authentication can be turned off by doing a factory reset on the board. Refer to section 3 for instructions on how to do a factory reset.

Reboot Device

Reboots the device that is currently serving the web user interface.

Reset Settings

Use this function to reset all stream settings (encode and decode) to a default, unconfigured state. Network settings, device name, and other settings controlled from the Device Settings tab will remain unchanged. **Note:** If you would like these settings reset, refer the Hardware Reset Instructions in section 3.

1. Select the device that will be reset.
2. With the device selected, press the Confirm Reset button to clear all stream settings.
3. The selected device will reboot and the stream settings will be cleared.

Firmware Update

Use this function to update the firmware to the latest official firmware release from Videon. Note that the device currently serving the web user interface can be updated. The Current Device and Current Version (of the firmware) are displayed on this section of the page. Follow these steps to update the firmware:

1. Ensure that power will not be interrupted during the update process, which may take up to five minutes to complete.
2. Download firmware update from Videon Central’s website. You can find the link on videon-central.com/resources.
3. Click “Choose File” to open a file browser. Select the official firmware update file.
4. Click Upload and Install to begin the update process.

In order to update another Videon device, enter that device’s IP address into your web browser. Navigate to the Advanced Settings tab and repeat the steps above.

Feedback

- **Report a Problem:** Select this button to report a problem you are experiencing with your unit. You can attach a debug log (see below) to easily share your device’s settings.
- **Send Feedback:** Select this button to send us feedback and comments about your Videon device. We’re always working to improve and would appreciate your feedback.

Debug Information

Click on “Export” in this section to download a file providing information about your unit’s settings. This file can be attached to a feedback report (above) or sent through email (customer-care-team@videon-central.com) so that we can help solve your problem.

3 Hardware Reset Instructions

To reset all settings, including the network settings and device name of a Videon device, there exists a full hardware reset function. Use the physical reset button on the front of the device opposite the connectors to complete this process.

1. Power off the device.
2. Hold in the reset button.
3. While holding in the reset button, power on the device.
4. Hold the front button for at least 30 seconds while the device is powering on. The LED will blink 3 times after reset is complete.
5. Upon successful hardware reset, the following values will be set as default.

Default Configuration Values

Configuration Page	Element	Default Value
Encoder	Video Input Resolution	Auto-Detected
Encoder	AV Input Type	HDMI with Embedded Audio(Greylock Original Design, Sonora), Auto Detect (Greylock)
Encoder	Video Scaling	Passthrough
Encoder	Limit to 30 FPS	Off
Encoder	Latency Mode	Normal
Encoder	Encoding Mode	TS Variable Bitrate
Encoder	Keyframe Interval	1 second
Encoder	Video Encoding Type	H.264
Encoder	Video Encoding Value	4000
Encoder	Audio Encoding Type	MPEG-4 AAC-LC
Encoder	Audio Encoding Value	128
Encoder	RTMP Output	OFF
Encoder	Multicast Output	OFF
Encoder	Unicast Output A	OFF
Encoder	Unicast Output B	OFF
Encoder	Record to USB	OFF
Encoder	Filename	VID
Encoder	Upload Recorded USB Files	OFF
Encoder	Delete file from USB after upload	OFF
Decoder	Source Encoder	Other Encoder
Decoder	Video Output Resolution	1080i59.94
Decoder	Stream Type	[Blank]

Device Settings	Name	vunit-xx
Device Settings	Encoder	ON
Device Settings	Decoder	ON
Device Settings	Network Settings	DHCP

4 Frequently Asked Questions

Here are suggestions for troubleshooting common problems encountered when setting up encoders and decoders. If you don't see your question, please contact our Customer Care Team and we'll find you an answer.

(814) 235-1111 x303

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4.1 Why can't I find my device on the network?

Symptoms:

You have opened up the web UI and you do not see the device in the Device Settings tab, or you have run the Videon Discovery application and the device is not shown in the list of detected devices.

Possible Causes:

- The router must allow SSDP message traffic. This is multicast traffic using 239.255.255.250 multicast IP address. Please consult your router's manual to confirm that multicast traffic on this address is not being blocked between the Videon device and the computer running the Videon Discovery application.
- A DHCP server must be available on the network if the device is in DHCP mode, the default setting. A switch will not provide a DHCP server but a router can be configured as one. Please confirm that a DHCP server is available.
- If the device has been previously configured with a static IP address, the configuration may not be valid on the current network. The IP address, subnet mask, and gateway must be valid for the network the device is on. If this is the cause, please use the hardware reset to set the device to DHCP mode once again. A DHCP server must be available on the network.

4.2 Why is there no video or audio coming through my decoder?

Symptoms:

The decoder is not providing video or audio to a connected display.

Possible Causes:

- The decoder may not be connected to a source encoder. In the Device Map tab, is the decoder listed under Decoders and is the Source Encoder displaying the expected encoder name as the source? If not, please open the Decoder Control page and reconfigure the decoder.
- The encoder may not have an active video source. On the Encoder Control tab, does the encoder have a red X indicating that no video input was detected? Is the green activity light off? In either case, please ensure that a valid source is connected and providing video through the HDMI IN connector.

- The encoder output may have been turned off. If the decoder is connected and the encoder has an active video source, but on the Encoder Control page the source encoder has a red X under Streaming, the encoder output may have been turned off.
 - If the decoder is connected to a multicast stream, click the Stream Settings Configure button for the source encoder. Confirm that Multicast Output is set to On and that the IP address and port have not changed after the decoder was connected.
 - If the decoder is connected to a unicast stream, go to the Decoder Control page, click the Stream Settings Configure button for the decoder, confirm the source encoder, stream type, and port settings are correct, then click OK.
- The TTL value of the encoder that is sending a multicast stream may be too low. Recommended TTL value to use is 5.

4.3 Why does my video become choppy or experience macroblocking?

Symptoms:

The video being output from the decoder becomes blocky or is unwatchable.

Possible Causes:

- The video encoding bitrate may be set too low; therefore the video buffer does not receive enough packets from the encoder to put a picture together. To resolve, increase the video encoding bitrate to an acceptable level as defined in the Suggested Bitrates Table in “Section 2.5 - Encoder Control”. If you find the video quality is not sufficiently improved, increase the bitrate by small increments until the quality is acceptable.

4.4 Why can't my third party decoder decode the stream from my Videon encoder?

Symptoms:

The encoder has been configured to stream to a third party decoder. The third party decoder has been configured to receive and display the stream, but no video or audio is displayed.

Possible Causes:

- The encoder may not have an active video source. On the Encoder Control tab, does the encoder have a red X indicating that no video input was detected? Is the green activity light off? In either case, please ensure that a valid source is connected and providing video through the HDMI IN connector.
- The encoder output may have been turned off. If the encoder has an active video source, but on the Encoder Control page the source encoder has a red X under Streaming, the encoder output may have been turned off. On the Encoder Control page, click the Configure button under Output Settings for the device. Confirm that the unicast or multicast used to stream to the third party decoder is still on.
- The third party decoder may not be configured correctly. On the Encoder Control page, click the Configure button under Output Settings. Confirm that the settings match the configuration of the third party decoder. The third party decoder must support receiving an MPEG-2 Transport Stream containing H.264 encoded video and either AAC or MPEG-1 Layer 2 audio over one of the following protocols: RTP/UDP or TS over UDP.

4.5 Why can't my Videon decoder decode the stream from my third party encoder?

Symptoms:

The decoder has been configured to display a stream from a third party encoder. The third party encoder has been configured to send the stream, but no video or audio is displayed.

Possible Causes:

- The encoder may not be sending MPEG-2 Transport Stream containing H.264 video and either AAC or MPEG-1 Layer 2 audio over one of the following protocols: RTP/UDP or TS over UDP. Confirm that the encoder is outputting the correct stream format.
- The decoder may not be configured with the correct stream settings. On the Decoder Control tab, click the Stream Settings Configure button for the decoder.
 - If using multicast, confirm that the stream type is multicast and both multicast address and multicast port match the encoder control.
 - If using unicast, confirm that the encoder destination IP address and port match the IP address of the decoder and the port set in the Stream Settings configuration dialog. Also in the Stream Settings configuration dialog, confirm that stream type is unicast.

4.6 Why does the web-based user interface fail to load?

Symptoms:

When the IP address is entered in the Chrome address bar, the web UI does not load.

Possible Causes:

- If you are using DHCP, the DHCP server may have changed the IP address assigned to that device. With the device powered on, rerun the discovery application and confirm the IP address you are using still appears in the list of detected device IP addresses.
- Alternatively, you may use any other IP address shown by the discovery application to control all the Videon devices on the network.
- Confirm that the device is accessible from the network that the computer is connected to.

Still need help? Call the Customer Care Team.

If at any point you have questions or comments about your Videon product, or just need a hand getting started, our Customer Care team would be happy to assist you. Give us a call during regular business hours (8:00-5:00 ET, Monday-Friday) or submit a support ticket through our Customer Help Desk or by emailing techsupport@videon-central.com.

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You can also search the Videon Product Knowledge Base at kb.videon-central.com for FAQs and tips!