

The purpose of this guide is to assist with commissioning new 4 Series or 5 Series Visionary AVoIP encoders/decoders from an out of the box state, to a fast and efficient AVoIP system. This guide does not cover any advanced features; however, it will assist in getting the system operational.

Networking:

Minimum requirements:

- Gigabit Ethernet
- Jumbo Frames (MTU 9000 or above)
- IGMP Snooping
- IGMP Querier v2
- IGMP Snooping Fast-Leave/Immediate-Leave

Recommended:

- Dynamic multicast router port
- Forwarding unknown multicast to multicast router port or Dante
- For multiple switch deployments, minimum 10GB uplinks should be used

When using a NETGEAR AV Line network switch, make sure the switch is running current firmware, then load the Visionary AV Network profile.

To ensure you have smooth experience in setting up, we suggest you have the following:

- DHCP server
- Java runtime ([Java Download](#))
- Latest version of Visionary's VLite software. (available at www.visionary-av.com via respective products page under downloads)

Initial setup:

The factory default network setting for Visionary AVoIP encoders/decoders comes set to DHCP. If there is no DHCP server on the network, the encoders/decoders will Auto IP in the 169.254.x.x (255.255.0.0) IP range.

VLite:

VLite allows you to manage devices in a simple easy to use way, and as it runs on java, it can be run from just about any device: Windows, Mac, Linux, Raspberry Pi, ect.

VLite may be used to discover, update, reset and route the endpoints (includes auto discovery of the units, firmware updates, factory default, drag and drop routing, presets, etc.).

Create a read/write folder on the C:/ drive of the computer being used to configure the system and name it VLite (*make sure the folder has read/write access*). Open the VLite_Xx_x_x.jar from this location. This will start the server on your device, ready to locate the encoders/decoders.

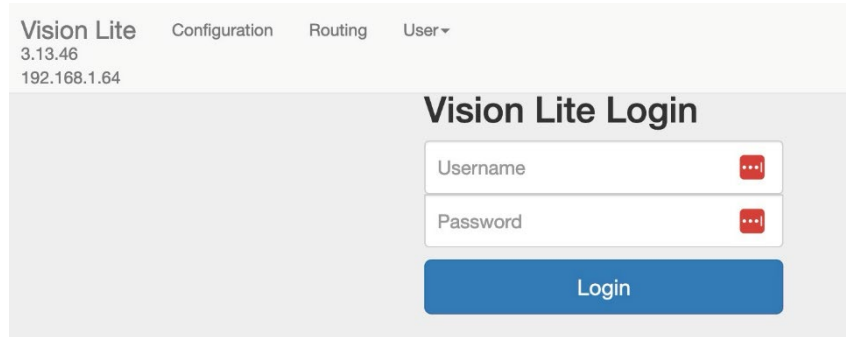
Visionary Solutions, Inc. Vision Lite PacketAV® Server

Allows AV over IP drag and drop routing and live thumbnails.
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www.vsicam.com

Please note that to connect to the application from other computers you would need to browse to
<http://192.168.1.64:8080>

Vision Lite Version: 3.13.46 -15241293
Build Date: 2024-01-11 18:29
Encoder Firmware Version: 3.13.46
Decoder Firmware Version: 3.13.46

Open a web browser and navigate to the IP address displayed in the window (or localhost:8080)



The login credentials are:

Username: admin

Password: admin

Using VLite:

Firmware update:

When first setting up the encoders/decoders, Visionary recommends they be updated to the latest available firmware. The version of VLite running contains that version of firmware. Updates may be performed as easily as checking the box of the device to be updated, or selecting the "All" button to perform a site wide update, then pressing the update button.

ID	Model	Serial Number	IP Address	VW Name	VW Row	VW Col	Uptime (min)	Location	FW Version	Update	Factory Default
E5200-001315	E5200	186-011-001315	192.168.1.24				NA	NA	3.13.46	☒ All	☐ All
E5100-000341	E5100	186-009-000341	192.168.1.38				NA	NA	3.13.46	☒ All	☐ All
D5200-000275	D5200	186-010-000275	192.168.1.72				NA	NA	3.13.46	☒ All	☐ All

DO NOT remove the power or interrupt the network while updating devices

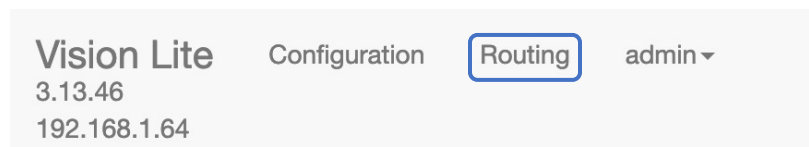
Factory reset:

Similar to the update process, VLite also contains the ability to factory reset the encoders/decoders. Simply check the boxes of the devices to be reset (or All), then press the Factory Default button.

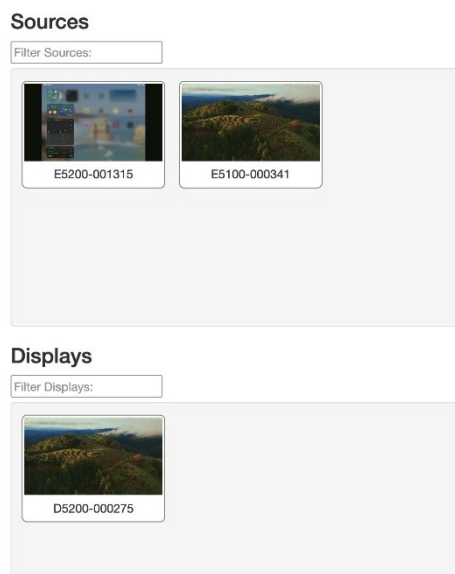
ID	Model	Serial Number	IP Address	VW Name	VW Row	VW Col	Uptime (min)	Location	FW Version	Update ☐ All	Factory Default ☒ All
E5200-001315	E5200	186-011-001315	192.168.1.24				NA	NA	3.13.46	☐	☒
E5100-000341	E5100	186-009-000341	192.168.1.38				NA	NA	3.13.46	☐	☒
D5200-000275	D5200	186-010-000275	192.168.1.72				NA	NA	3.13.46	☐	☒

Routing:

VLite contains the ability to do simple drag and drop routing of live thumbnail previews. This may be done by navigating to the routing tab.



To route Encoders to Decoders, simply drag a source to a display.



Note: Independent routing of Video/Audio/USB Services is not covered in the QuickStart Guide. For information regarding Independent Routing please contact support@visionary-av.com

Mass Configuration:

Any Visionary decoder may be configured for Mass Configuration. This allows the decoder to discover and configure all the encoders/decoders of a system. In addition, Mass Configuration allows a known good state to be saved, and to quickly see the overall configuration of the encoders/decoders of that system. No need for any special software on your device, extra boxes or special servers running. Microsoft Excel is recommended to view and edit the Mass Configuration CSV file. By default, Mass configuration is turned off, to prevent untrained users from making system wide configuration changes to the encoders/decoders.

Mass Configuration using the following command:

```
1. CMD=START&UNIT.ID=ALL&UNIT.MASS_CONFIG=TRUE&CMD=END
```

Or, to make it a persistent change that will keep Mass Configuration enabled after a reboot:

```
1. CMD=START&UNIT.ID=ALL&UNIT.MASS_CONFIG=TRUE&SAVE=TRUE&REBOOT=TRUE&CMD=END
```

Enabling via web browser:

Visionary AVoIP devices have the ability to be sent commands via a web browser using the following format:

```
1. http://[Username]:[Password]@[DecoderIP]/cgi-bin/wapi.cgi?
```

Example:

```
1. http://admin:admin@192.168.1.72/cgi-bin/wapi.cgi?CMD=START&UNIT.ID=ALL&UNIT.MASS_CONFIG=TRUE&SAVE=TRUE&REBOOT=TRUE&CMD=END
```

Encoders/decoders return this message in the browser if successful:

```
1. &REBOOT=Unit rebooting in 2 seconds&API.STATUS=SUCCESS
```

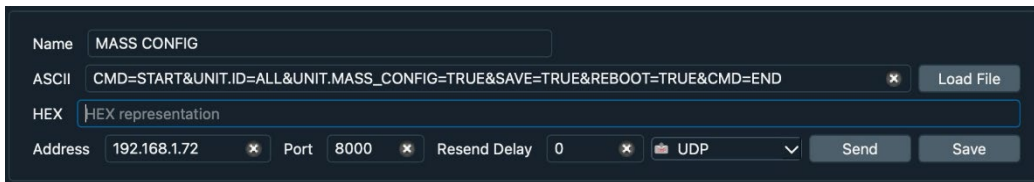
The following command may be copy/pasted after the IP address of a decoder in a web browser:

```
/cgi-bin/wapi.cgi?CMD=START&UNIT.ID=ALL&UNIT.MASS_CONFIG=TRUE&SAVE=TRUE&REBOOT=TRUE&CMD=END
```

Enabling via UDP:

Commands may also be sent via UDP to the encoders/decoder. In this example, Packet Sender is used to send the UDP API command. Visionary AVoIP encoders/decoders use port 8000 for UDP.

CMD=START&UNIT.ID=ALL&UNIT.MASS_CONFIG=TRUE&SAVE=TRUE&REBOOT=TRUE&CMD=END



For more information on control via code, please see our API documentation.

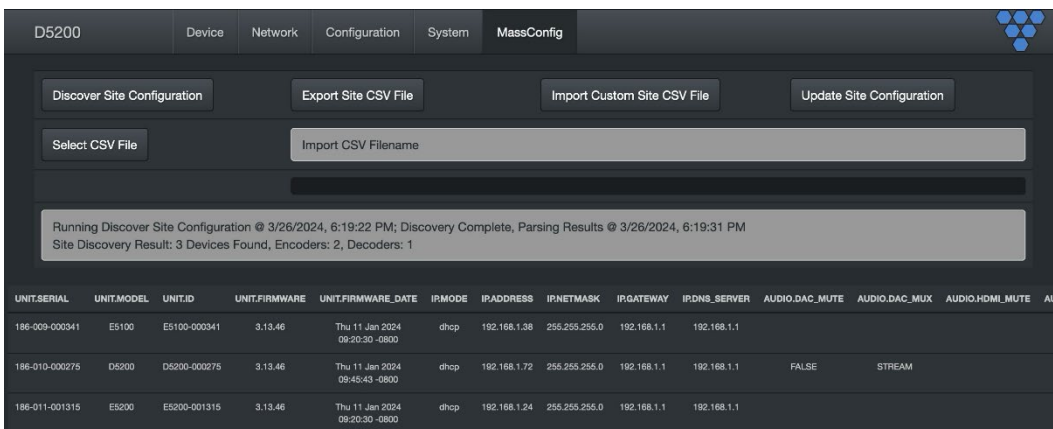
Using Mass Configuration:

Navigate to the web interface of the decoder that has Mass Configuration enabled, and click the "MassConfig" tab.

Pressing the Discover Site Configuration button will then run site discovery and find all the devices in your IP range.

Note: Video will drop while MassConfig is searching for devices.

Pressing the Export Site CSV file will download the .CSV for you to save, or open and edit.

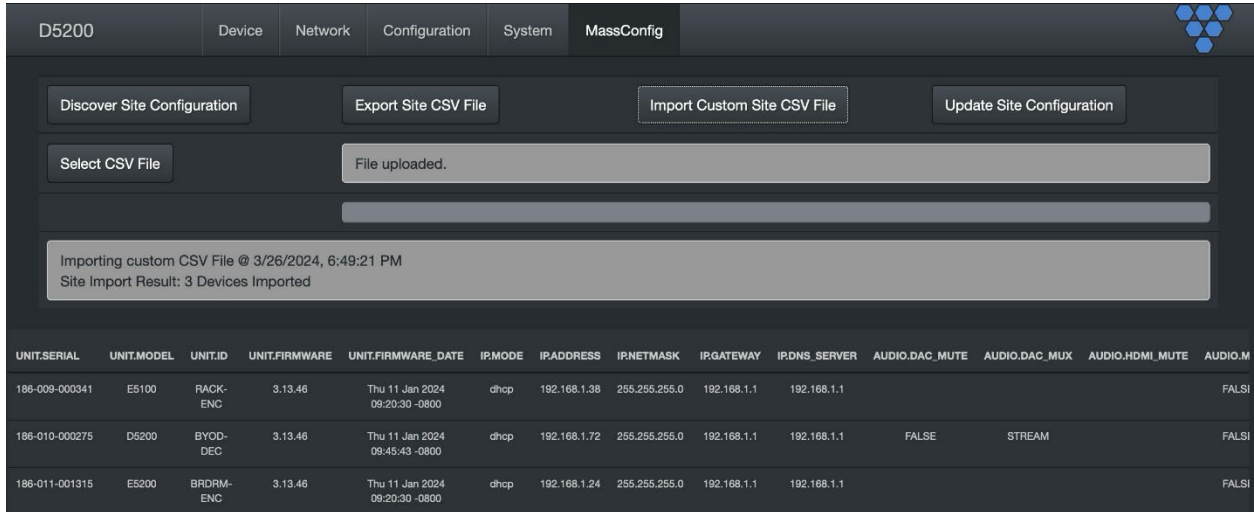


UNIT.SERIAL	UNIT.MODEL	UNIT.ID	UNIT.FIRMWARE	UNIT.FIRMWARE_DATE	IP.MODE	IP.ADDRESS	IP.NETMASK	IP.GATEWAY	IP.DNS_SERVER	AUDIO.DAC_MUTE	AUDIO.DAC_MUX	AUDIO.HDMI_MUTE	AU
186-009-000341	E5100	E5100-000341	3.13.46	Thu 11 Jan 2024 09:20:30 -0800	dhcp	192.168.1.38	255.255.255.0	192.168.1.1	192.168.1.1				
186-010-000275	D6200	D6200-000275	3.13.46	Thu 11 Jan 2024 09:45:43 -0800	dhcp	192.168.1.72	255.255.255.0	192.168.1.1	192.168.1.1	FALSE	STREAM		
186-011-001315	E5200	E5200-001315	3.13.46	Thu 11 Jan 2024 09:20:30 -0800	dhcp	192.168.1.24	255.255.255.0	192.168.1.1	192.168.1.1				

4 Series/5 Series • Encoders/Decoders

Quick Start Guide

To upload your config, press the Select CSV File, then the Import Custom Site CSV File and confirm.



MassConfig

Discover Site Configuration Export Site CSV File Import Custom Site CSV File Update Site Configuration

Select CSV File File uploaded.

Importing custom CSV File @ 3/26/2024, 6:49:21 PM
Site Import Result: 3 Devices Imported

UNIT.SERIAL	UNIT.MODEL	UNIT.ID	UNIT.FIRMWARE	UNIT.FIRMWARE_DATE	IP.MODE	IP.ADDRESS	IP.NETMASK	IP.GATEWAY	IP.DNS_SERVER	AUDIO.DAC_MUTE	AUDIO.DAC_MUX	AUDIO.HDMI_MUTE	AUDIO.M
186-009-000341	E5100	RACK-ENC	3.13.46	Thu 11 Jan 2024 09:20:30 -0800	dhcp	192.168.1.38	255.255.255.0	192.168.1.1	192.168.1.1				FALSI
186-010-000275	D5200	BYOD-DEC	3.13.46	Thu 11 Jan 2024 09:45:43 -0800	dhcp	192.168.1.72	255.255.255.0	192.168.1.1	192.168.1.1	FALSE	STREAM		FALSI
186-011-001315	E5200	BRDRM-ENC	3.13.46	Thu 11 Jan 2024 09:20:30 -0800	dhcp	192.168.1.24	255.255.255.0	192.168.1.1	192.168.1.1				FALSI

Confirm all settings are correct, and press the Update Site Configuration button.

This will return information in the box such as:

```

Performing Site Configuration Update @ 3/26/2024, 6:59:29 PM
#####

Update Device #0 @ 192.168.1.38 Result is FAIL
Skipping Myself #1
Update Device #2 @ 192.168.1.24 Result is OK

Site Configuration Update Complete, Devices are Rebooting
  
```

In this example we see that:

1. Device 0 is a FAIL (In this example it is disconnected)
2. Device 1 is a SKIP (The Decoder we are using)
3. Device 2 is OK (Config sent, saved and reset)

Please note: Decoder uploading configuration will always skip itself as it does not configure itself

Encoder/Decoder Setup:

In this section we will cover how to set up the encoders/decoders for the best user experience in varying use cases. If you require any additional assistance, please contact support@visionary-av.com.

General Usage:

To obtain the best switching performance and user experience, Visionary recommends the following configuration as a baseline. Every system is a little unique, so some settings may need to be different. However, the following settings will achieve optimal performance for most systems.

Encoder:

- VIDEO.EDID set to 4k or 1080P60
 - Recommend testing with 03_1080P60_LPCM_2CH
- VIDEO.HDCP_FORCE_ON set to SOURCE
 - REJECT – Will send a message to the HDMI source that the encoder is not HDCP compliant and to not send any encrypted content
 - SOURCE – Will pass on the signal from the HDMI source, with or without encrypted content
 - 1_X – Will request version 1.x encryption from the HDMI source, will apply version 1.x HDCP to the transmitted AV stream
 - 2_X – Will request version 2.x encryption from the HDMI source, will apply version 2.x HDCP to the transmitted AV stream

Decoder:

- VIDEO.FORMAT set to desired output resolution
 - Auto or Source modes will result in a slower switching time. It is recommended to set a specific output scaler resolution to match the display the decoder is connected to
- VIDEO.HDCP_FORCE_ON set to 1_X or 2_X
 - 1_X – Will apply 1.x encryption to the output signal and should be used with 1080P
 - 2_X – Will apply 2.x encryption to the output signal and should be used with 4k
 - SOURCE – Will pass on the encryption (encrypted or not) from the encoder AV stream, and may result in a longer switching time. When set to SOURCE, the decoder and display will need to renegotiate the HDCP every time the decoder is tuned to a different encoder.

Please contact support@visionary-av.com for advanced setup for recorders, UVC transcoding and video conferencing/Codec usage.

An important step to remember is to use the save button for any changes you want to commit to non-volatile memory. This will set the assign value as the default moving forward. (If it isn't it will be reset back to last save on power cycle)

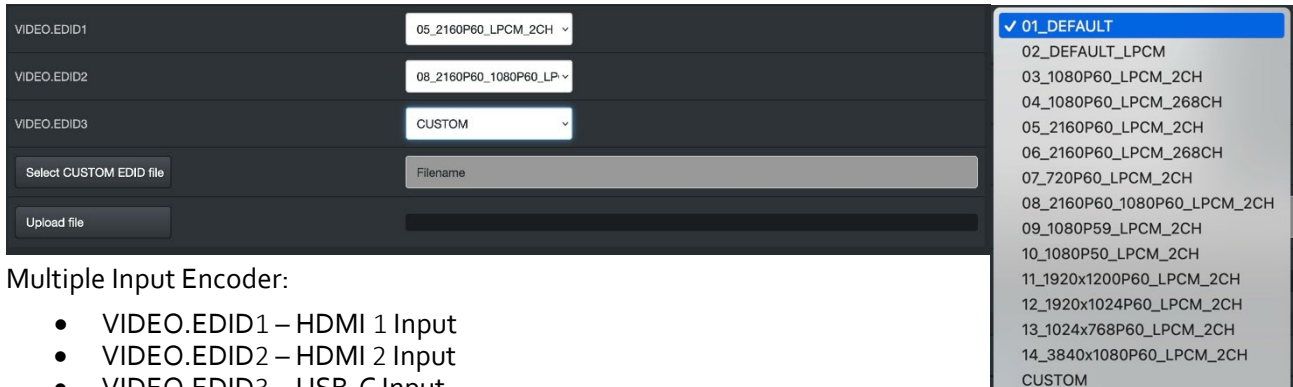
Encoders:

Encoder EDIDs may be used to request specific resolutions and audio formats from the HDMI source. Visionary encoders have the ability to configure EDID's per input on the multi-input devices. There are 3 different EDID's for the auto switching inputs. The encoders support a list of prebuilt EDIDs that may be selected via the VIDEO.EDID drop-down menu. They also support the ability to upload custom made EDIDs made with a program like Analog Way EDID editor. Visionary encoders also contain HDCP settings on the encode side and embed audio.

EDID: (VIDEO.EDID)

To set the EDID that the source device will see, we do the following:

Use the VIDEO.EDID drop-down menu to select the desired EDID. Then press the "Save" button to save and reboot the encoder. This will set the selected EDID as the default EDID setting.



VIDEO.EDID1: 05_2160P60_LPCM_2CH

VIDEO.EDID2: 08_2160P60_1080P60_LP

VIDEO.EDID3: CUSTOM

Select CUSTOM EDID file: Filename

Upload file

- 01_DEFAULT
- 02_DEFAULT_LPCM
- 03_1080P60_LPCM_2CH
- 04_1080P60_LPCM_268CH
- 05_2160P60_LPCM_2CH
- 06_2160P60_LPCM_268CH
- 07_720P60_LPCM_2CH
- 08_2160P60_1080P60_LPCM_2CH
- 09_1080P59_LPCM_2CH
- 10_1080P50_LPCM_2CH
- 11_1920x1200P60_LPCM_2CH
- 12_1920x1024P60_LPCM_2CH
- 13_1024x768P60_LPCM_2CH
- 14_3840x1080P60_LPCM_2CH
- CUSTOM

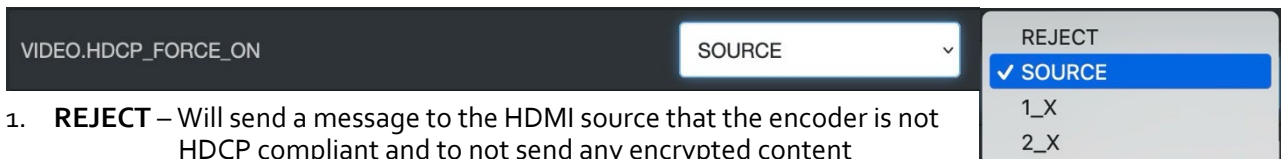
Multiple Input Encoder:

- VIDEO.EDID1 – HDMI 1 Input
- VIDEO.EDID2 – HDMI 2 Input
- VIDEO.EDID3 – USB-C Input

To upload a custom EDID, we can select the custom dropdown, or the Select Custom EDID file button and then the Upload file. Be sure to Save to commit the change.

HDCP: (VIDEO.HDCP_FORCE_ON)

There are 4 different encoder HDCP options. Use the VIDEO.HDCP_FORCE_ON drop-down menu to select the desired HDCP mode, then press the "Save" button to save and reboot the encoder and enable the HDCP mode.



VIDEO.HDCP_FORCE_ON: SOURCE

- REJECT
- SOURCE
- 1_X
- 2_X

1. **REJECT** – Will send a message to the HDMI source that the encoder is not HDCP compliant and to not send any encrypted content
2. **SOURCE** – Will pass on the signal from the HDMI source, with or without encrypted content

3. 1_X – Will request version 1.x encryption from the HDMI source, will apply version 1.x HDCP to the transmitted AV stream
4. 2_X – Will request version 2.x encryption from the HDMI source, will apply version 2.x HDCP to the transmitted AV stream

Decoders:

Output Scaling: (VIDEO.FORMAT)

All Visionary AVoIP decoders may be set to scale resolution up or down. Make sure the decoder is set to the native resolution of the display it is connected to, in order to avoid 2 devices both trying to scale. This can result in the display constantly trying to rescale, with performance suffering as a result.

In this example we are connected to a 4k60 display, but you can see the options below: (*Note: this example uses 5 Series decoder, 4 Series decoders will scale up to 2160P30*)

VIDEO.FORMAT

2160P60

Auto
Source

✓ 2160P60

2160P50

2160P30

2160P25

2160P24

1080P60

1080P50

1080P30

1080P25

720P60

720P30

1366x768

1440x900

1920x1200

1400x1050

1080P60_RGB_FULL

1920x1024

512x1536

3840x1080

Auto - will attempt to ask the **Display** what resolution it wants and output.

Source - will output whatever is coming from the **Source Device**.

Specific resolutions listed are hard scaled at the **Decoder**.

HDCP: (VIDEO.HDCP_FORCE_ON)

HDCP is an important part of device setup, and with it becoming mandatory even on modern Windows machines, it's critical to get the correct setup. Faster switching compatibility with all devices (including Apple products) is of utmost importance in today's modern technology space.

Setting the HDCP setting to the highest that the display can take will let you do the fastest possible switching.

If you are seeing a black screen between switches, the HDCP could be the cause. Visionary switching should be frame-to-frame with no pause.

Example below for a HDCP 1x display:



The screenshot shows a control interface with a dark grey bar at the top. On the left, the text 'VIDEO.HDCP_FORCE_ON' is displayed. To its right is a dropdown menu currently showing '1_X'. Further right is a panel titled 'SOURCE' with two options: '1_X' (which is selected and highlighted in blue) and '2_X'.

1. **1_X** – Will apply 1.x encryption to the output signal and should be used with 1080P
2. **2_X** – Will apply 1.x encryption to the output signal and should be used with 4k
3. **SOURCE** – Will pass on the encryption (encrypted or not) from the encoder AV stream, and may result in longer switching time. When set to **SOURCE**, the decoder and the display will need to renegotiate the HDCP every time the decoder is tuned to a different encoder.

UVC Transcoding (USB-C Decoder Output)

Visionary 4 and 5 series DuetD-2/5, 4200/5200 decoders have the ability to transcode any source routed to them into a USB UVC compliant signal that is transmitted out the USB-C output (Teams whitelisted). Plug a USB3 or better cable into the USB-C output port on the decoder and plug it into a client device, no drivers needed.

This allows you to use a decoder mentioned above as a BYOD system for soft codec, MTR (Microsoft Teams Room), and Zoom Room systems in order to provide feeds to webinars, recorders, or any number of options.

As the transcoding is done on the decoder, you can send feeds to Zoom, Teams and even a media recorder simultaneously. *Note: This requires a Decoder for each device needing a UVC feed.* This means you can programmatically switch multiple cameras and use/combine multiple Dante audio devices into a single UVC feed to a device. The end device will not see any USB sync changes as you route and change Video and Audio.

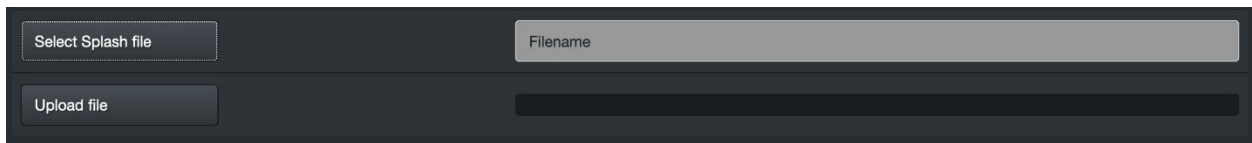
HDMI out will work simultaneously (HDMI output and USB-C output signal will mirror each other, except HDMI will be an HDMI signal and the USB-C out will be a UVC compliant signal) to allow for output monitoring.

*For more in-depth info or HDCP configuration on this please contact
support@visionary-av.com*

Splash screen:

All Visionary decoders may have a custom splash screen instead of the default "Please Select Valid Source" logo set (1920x1080 JPG). The splash screen will be shown when no input/AV stream is detected. It can be the end user's logo, helpdesk number or even a reminder to move the mouse to wake up the device.

To upload a custom splash screen, press the Select Splash Screen, navigate to your JPG and then hit Upload File. Click the Save Required button at the top of the page to commit the change.



The screenshot shows a dark-themed web interface. On the left, there is a button labeled "Select Splash file". To its right is a text input field labeled "Filename". Below the "Select Splash file" button is another button labeled "Upload file".

Make sure the custom splash image is 1920x1080, .jpg, and is no larger than 500KB

Visionary Support

For additional assistance and/or information including (not limited to) the topics listed below, please contact Visionary Support.

- API control.
- HTTPS communication.
- Video wall configuration.
- USB switching.
- Breakaway Video/Audio/USB.
- VLAN segregation of Video/Dante/Expansion Network ports.
- Network Trunking devices.
- Serial over IP (RS-232).
- Dante setup.
- Advanced HDCP setup.

Visionary Support contact information:

Email: support@visionary-av.com

Phone: +1-805-845-8900