Vivace MPEG2 Encoder with Stat-Mux User Manual

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1 Introduction

Vivace is an ATSC compliant, real time MPEG2/AC3 encoder with integrated Statistical Multiplexing (Stat-Mux). Vivace models include SD, and/or HD support (depending on model), Emergency Management (EAS) signal detection and insertion, and other advanced features.

The diagrams in Appendix A show the various signal connections for each model available. Refer to your specific model diagram.

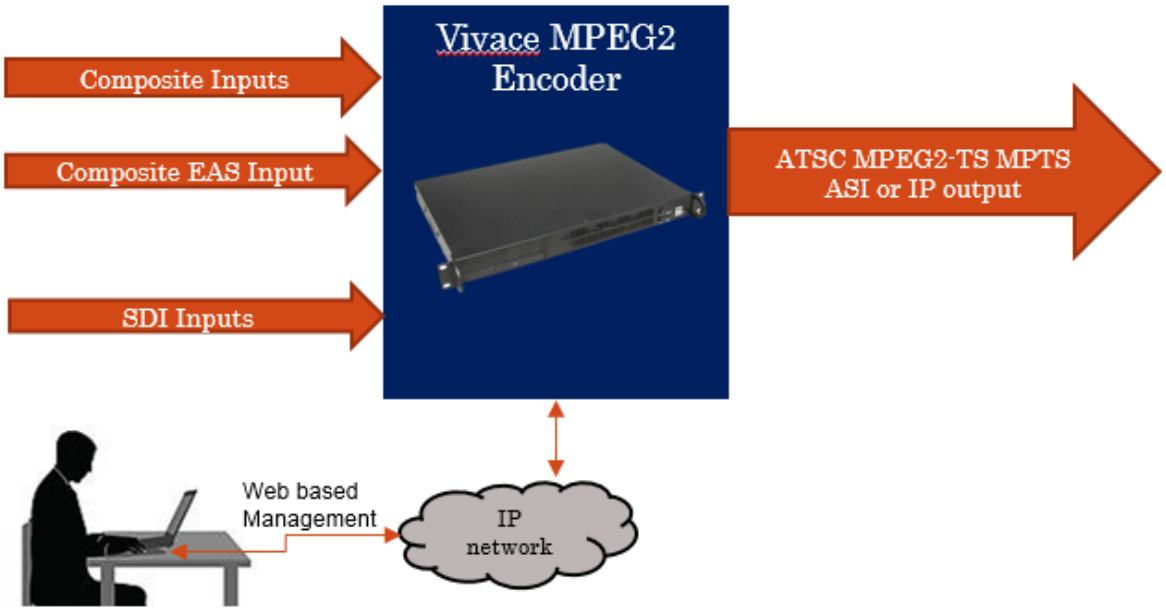
Vivace is setup for simple plug and play operation. Simply power up the unit, plug in your input signals, and Vivace will auto detect the signal and encode it.

A web based user interface is provided for changing video, audio, and other settings for the encoder. In order to access this user interface, you must configure the ethernet ports on the unit to work within your IP network. Network setup instructions are provided with the unit.

2 Connection Setup Overview

The generalized signal flow is shown in the diagram below. Video and Audio inputs are encoded into a single ATSC compliant MPEG2 Multiplexed Transport Stream. The output interface depending on Vivace model is ASI or IP, or both.

Vivace is controlled from a web based interface. Each Vivace is shipped with factory settings on the Ethernet ports. Please refer to the Vivace Setup Guide shipped with each unit which describes how to initially setup your encoder.



3 Hardware Interface Specifications

The following interface types are available depending on the model.

Analog Video/Audio Inputs:

Composite Video Input (CVBS): BNC male connector. 75 Ohm

Stereo Audio Input : 3.5 mm ; -10 dBV (default models)

Optional: +4dBu hardware feature available at time of ordering. This includes XLR female to 3.5 mm connection cables

Digital SDI Inputs: HD-SDI and SD-SDI inputs. SMPTE 259M-C and SMPTE 292M. 75 Ohm BNC

Ethernet Interfaces: 10/100/1000Mbps baseT

ASI (input or output): DVB-ASI. 75 Ohm BNC

For Initial Setup Only (see setup guide): VGA and USB 2 interfaces (for USB keyboard use during initial setup)

4 Management Interface

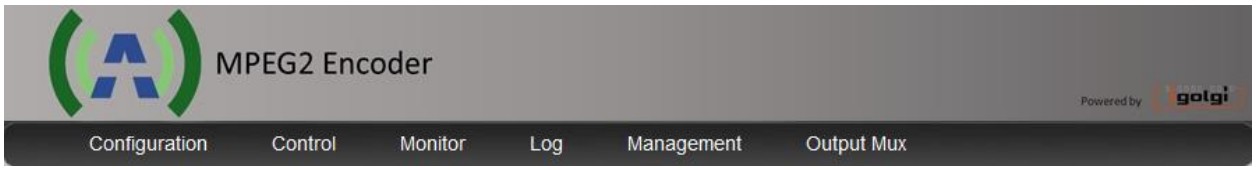
To control the encoder and make configuration changes, use a web browser on any PC connected to the IP network of the encoder. Enter the URL

http://VIVACE-IP

where VIVACE-IP is the IP address you have configured for your encoder.

The web interface is organized with a top row of menus, as seen below.

- Configuration Menu: select this to change channel settings such as bit rate and resolution.
- Control Menu: select this to start or stop individual channels on the encoder and monitor picture thumbnail and other statistics of running channel
- Output Mux: select this to configure and start or stop the MPEG2 MPTS mux.
- Monitor : Provides graphical feedback of bitrate of channels running
- Log : Encoder detailed log messages
- Management: Provides encoder IP configuration settings, and other system level management features.
- Splitter(some units): The splitter component receives MPTS signals (via ASI or IP) and extracts individual SPTS channels for input channels that can be used.



5 Configuration

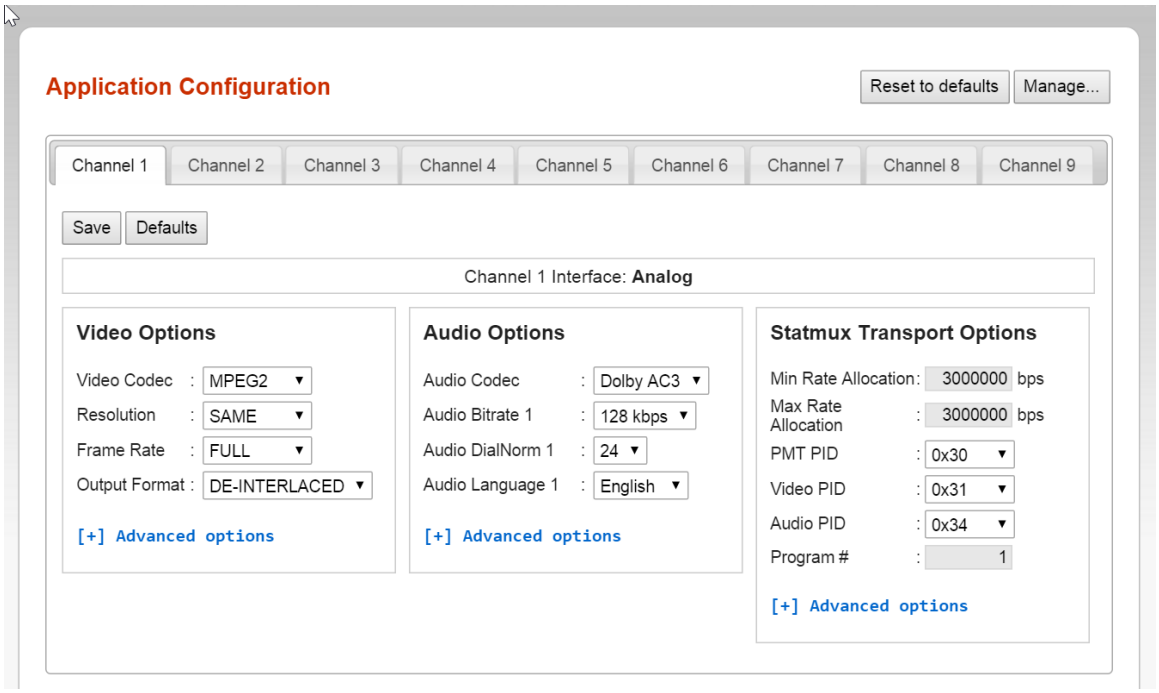
5.1 Overview

The configuration page of the User Interface is shown below. Each channel on the encoder has its own configuration menu. (the example below shows an 8 channel encoder model)

To change a configuration for any channel, select the tab that goes with that channel. Each channel is associated with a specific input interface. Refer to the model you have to associate the physical interface with the channel number.

Once you make your changes to the parameters you wish, you must select the save button. The configuration changes do not take effect until you start or restart a channel on the Control page. A warning is shown on screen when changes are made but not saved. However, if you ignore that warning and navigate to a different menu, then any changes made will be lost.

When first setting up channels, it is suggested to select “reset to defaults” to have a good starting point with typical values. There is also a defaults button for individual channels, if you wish to only set defaults for a given channel.



5.2 Video Options

Video Codec: This selects the video compression standard used for this channel. MPEG2 is the default. H.264 is optional on some models. Certain product models have only MPEG2, or H.264 or both.

Resolution: This is the output resolution for the channel in horizontal x vertical pixel units.

- Standard Definition default setting is 720x480.
- High Definition can be 1920x1080 or 1280x720. The default is 1920x1080, but you may need to change this depending on your source.
- Other resolutions are available which are smaller than HD or SD inputs. If you select one of these smaller resolutions, the video signal will be down scaled.

Frame Rate: This is the output frame rate for the channel in frames per second (fps) units.

- Full: this will maintain the same frame rate as the input signal.
- ½ or ¼ : these will reduce the frame rate by these associated amounts.
    - For SD NTSC sources, the ½ setting will result in 15 fps, and the ¼ setting will result in 7.5 fps.
    - For HD 1920x1080i, the ½ setting will result in 15 fps, and the ¼ setting will result in 7.5 fps
    - For HD 1280x720p, the ½ setting will result in 30 fps, and the ¼ setting will result in 15 fps.
    -

Output Format: This is the output frame structure for the channel.

- De-Interlaced: this setting will de-interlace the input signal to create a progressive output signal. The de-interlacer is a high quality multi-frame motion compensated de-interlacer.

Same As Input : Select Same As Input to keep the frame structure the same as the incoming signal

5.3 Audio Options

Audio Codec: Several audio compression standards are available on different product models. The default audio codec is AC3. Codecs available on certain models include AAC-LC, AAC-HE, MPEG1-layer1/2, MPEG2-layer1/2, and MP3.

Bitrate: Several audio bitrate value options for the AC3 encoder are provided in Kbps

Stereo signals are typically encoded at 128,192, or 256 Kbps

If you have a model with HD signals, 5.1 audio is supported. Typical bit rates used for 5.1 are 384, 512, or 640 Kbps

Audio Dialnorm: range 1-31: Dialnorm (Dialog Normalization) is an AC3 parameter that defines the playback gain of -30 to 0 dB (unity). The value of the Dialnorm parameter in the AC-3 elementary bit stream shall indicate the level of average spoken dialogue within the encoded audio program.

Audio Language: Provides language descriptor for the audio stream.

Second Audio Program (SDI inputs). SDI inputs have second audio input capability which can support second language or other applications.

To enable the second audio program on these channels, select “audio bitrate 2” to a desired bit rate.

To disable the second audio program, select “disable” on the Audio Bitrate 2 option.

5.4 Transport Options

Total Mux Rate: This is the total bitrate (bandwidth) in bits per second (bps) for the channel. The supported range for SD signals is 3,000,000 to 10,000,000 bps (3-10 Mbps).

Without Statmux, the video bit rate will be automatically calculated based on the Total Mux Rate minus the Audio Bitrate minus the Transport Packet overhead. Transport overhead includes packetization into MPEG TS format for ATSC compliance and associated synchronization packets such as PCRs.

With StatMux Transport Options

Min Rate Allocation: This is the target minimum bitrate (bandwidth) in bits per second (bps) for the channel.

Max Rate Allocation: This is the target maximum bitrate (bandwidth) in bits per second (bps) for the channel.

Note: The video bit rate will be automatically calculated based on the Total Mux Rate minus the Audio Bitrate minus the Transport Packet overhead. Transport overhead includes packetization into MPEG TS format for ATSC compliance and associated synchronization packets such as PCRs.

Example Suggested Bit Rates:

Depending on the number of channels, the picture format (SD or HD), and the output total mux rate, the settings for your min and max will vary.

The minimum bit rate assigned to all channels cannot add up to more than the Mux Rate.

To assign a higher priority to a given channel compared to another, provide a higher minimum bit rate to the higher priority channel.

Example1: 9 SD Channels and total Mux rate of 19.39 Mbps: min 1.25 Mbps, max 3 Mbps

Example2: 2 HD Channels and 1 SD channel:

HD min: 6 Mbps and Max 14 Mbps

SD min: 1.25 Mbps and Max 3 Mbps

PMT, Video and Audio PID

PID (Program IDentification) are unique IDs for each element in a MPEG TS.

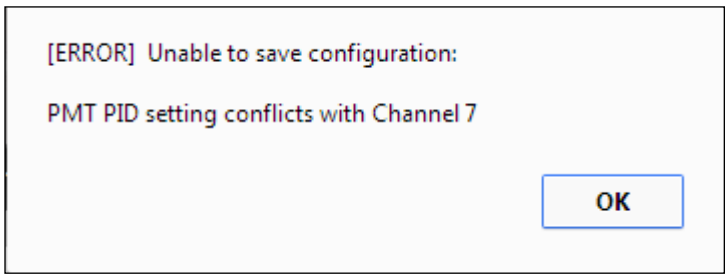
The default values for the PMT,Video,and Audio PIDs for each channel are offset by 0x10 units (hexadecimal). For example

Channel 0: 0x30, 0x31, 0x32

Channel 1: 0x40, 0x41, 0x42

You may change these PIDs to other values, but they must be unique ID values for all channels.

The user interface will warn you if you choose a value that is not unique based on all channel configurations. The warning will occur when you attempt to save a channel configuration with such a conflict. A dialog box will appear (example below). In this case a channel PID was in conflict with the same PID value from channel 7.



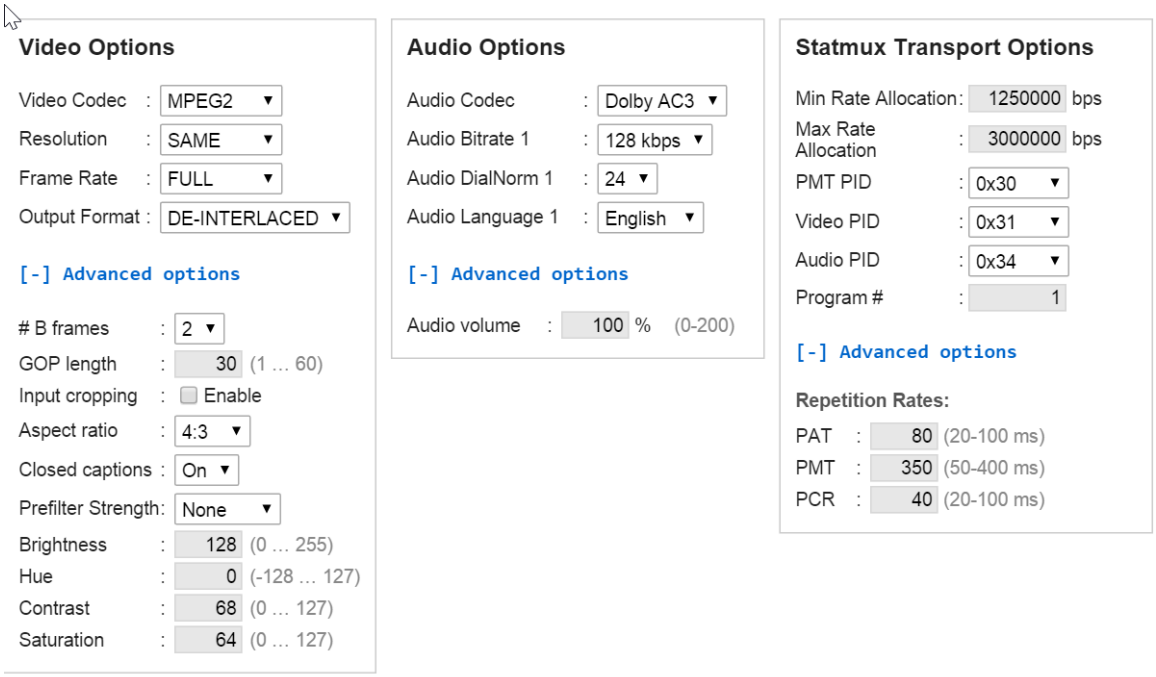
Program #

The program # is a unique number for each channel. This parameter is included in the MPEG-TS stream and must be unique for each channel.

The user interface will warn you if any program numbers conflict across channels.

5.5 Advanced Parameter Options

The advanced parameter options can be set by selecting the blue “advanced options” for each type (Video, Audio, Transport). Below is shown with all of these options opened.



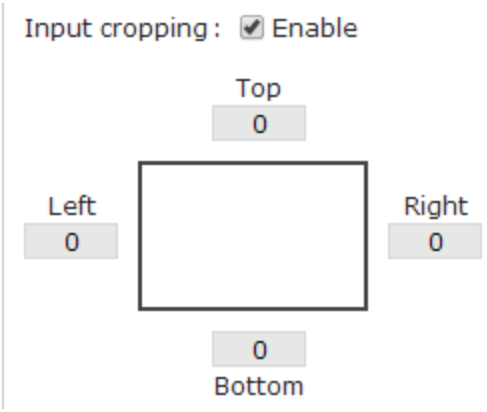
5.5.1 Advanced Video Options

B frames : The default setting is 2. Allowed settings are 0,1 or 2. In general, the higher setting will result in increased compression, and the video quality is improved for a given bit rate.

GOP Length: The distance in frames between Intra frames. Typical value is 30 or 60. In general, the higher values provided better compression.

Closed Captions: When On, captions are included in the encoder output if the CVBS or SDI source signal has caption information.

Input Cropping. When enabled a cropping window selection is available. Each entry provides cropping offset from Top and Left of the video frame.



If cropping is used, it is recommended to crop to pixel boundary positions divisible by 16 to align on macroblock boundaries of the compressed video stream. This provides the best video quality during cropping.

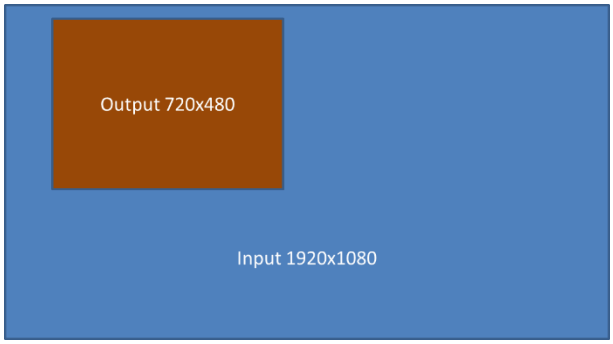
If the input signal is cropped and the output resolution setting is different, then the video will be cropped and then scaled to the requested output resolution setting. Therefore, you do not need to crop to an exact output resolution, the correct scaling will be applied.

The Top and Bottom Parameters are in pixel units measured from the top of the incoming Frame.

The Left and Right Parameters are in pixel units measured from the left of the incoming Frame.

Cropping Example

Input HD 1920x1080 frame
Desired Output SD 720x480 frame, from upper left section of input Frame
Cropping settings
Top 16 Bottom 496
Left 128 Right 848



PreFilter Strength: An optional video prefilter is available. This can be used to reduce the high frequency noise of an incoming signal if needed. Filtering noise can provide a higher quality overall picture when encoding at low bit rates for MPEG2. Filter Strength of Low, Medium and High are available.

Brightness: The default setting is 128. Allowed settings are 0-255. Increase or decrease the value will increase or decrease the luminance level of the picture.

Hue: The default setting is 0. Allowed settings are -127 to 128. Increase or decrease the value will shift the color values within the spectrum of defined colors. Use this for course color correction when needed.

Contrast: The default setting is 68. Allowed settings are 0-127. Increase or decrease the value will increase or decrease the sharpness and separation of objects.

Saturation: The default setting is 64. Allowed settings are 0-127. Increase or decrease the value will increase or decrease the color intensity.

5.5.2 SDI source options

If the encoder model you have includes SDI inputs, these options are also available:

Field Order: top field or bottom field first for SDI inputs. Default is top field first.

Line 21 CC data rate: adjustment for the closed caption data rate for SDI inputs with line 21 cc data.

Output format: interlaced or progressive option

Caption Search: Auto, VANC608 , or Line21 Default mode is Auto which will search both the VANC for 608 captions and line21 for analog captions. If you know what type of closed caption format your SDI input is, you can select it.

5.5.3 Advanced Audio Options

Audio Volume: The default setting is 100%. Allowed range is 0 to 200%. This control will apply a static increase or decrease to the volume level of the audio signal.

Audio AGC::The Audio Grain Control (AGC) is an optional feature that supports audio loudness level processing compliant with the CALM ACT. The AGC allows automatic, dynamic audio level adjustment for individual channels. Each channel configuration allows the use of this feature, with different parameter control.

The setting options are:

Disabled => no limiting

Any of the following settings will ensure CALM ACT compliance. TheTV_5B_GEN setting is the default setting that is recommended.

TV_5B_GEN : This is the recommended setting that provides moderate degree of dynamic range processing and works with a wide variety of content.

TV_5B_LIGHT: similar to the GEN setting, but has a slower transition on sharp loudness changes.

TV_5B_HEAVY: Stronger reduction to loudness changes but results in less dynamic sound.

TV_5B_Loud : Strongest loudness suppression.

IT_LOUD_LIMIT : this provides a slow adjustment to the program loudness. This is useful for live applications where the program loudness may be changing slowly.

Protect Limit : This provides a simple limiter function to protect against overload.

5.5.4 SDI source option

Audio Group: Audio group for input audio.

Audio Pair: Audio pair (stereo pair) for input audio signal

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5.5.5 Advanced Transport Options

PAT: The Program Association Table of a MPEG-TS. Default value is 80 milliseconds. This defines the repetition rate of a PAT table in the MPEG-TS. Higher value reduces the overhead of the PAT component on the overall MPEG-TS bandwidth, hence providing slightly more room for audio and video signaling.

PMT: The Program Map Table of a MPEG-TS. Default value is 350 milliseconds. This defines the repetition rate of a PMT table in the MPEG-TS. Higher value reduces the overhead of the PMT component on the overall MPEG-TS bandwidth, hence providing slightly more room for audio and video signaling.

PCR: The Program Clock Reference of a MPEG-TS. Default value is 40 milliseconds. This defines the repetition rate of the PCR in the MPEG-TS. Higher value reduces the overhead of the PCR component on the overall MPEG-TS bandwidth, hence providing slightly more room for audio and video signaling. However, lower values may be needed for some networks with high jitter downstream of the encoder (for example IP network connections add jitter, so a lower value may be needed).

5.6 SPLITTER (optional component on certain models)

The Splitter is an MPTS Program De-multiplexer, and ASI/IP to IP router.

The Splitter can take IP MPTS MPEG2-TS streams from the external Ethernet input, or ASI input. The Splitter then de-multiplexes programs in a MPTS to individual SPTS MPEG2-TS streams. These SPTS streams can be configured to be used as inputs for the encoder.

The splitter also features a discover mode to identify what programs exist in an incoming stream and provide information on the stream construction and codecs.

Operation

The Splitter can be accessed from HTTP user interface by selecting the "Input Splitter" name on the top of the user interface.

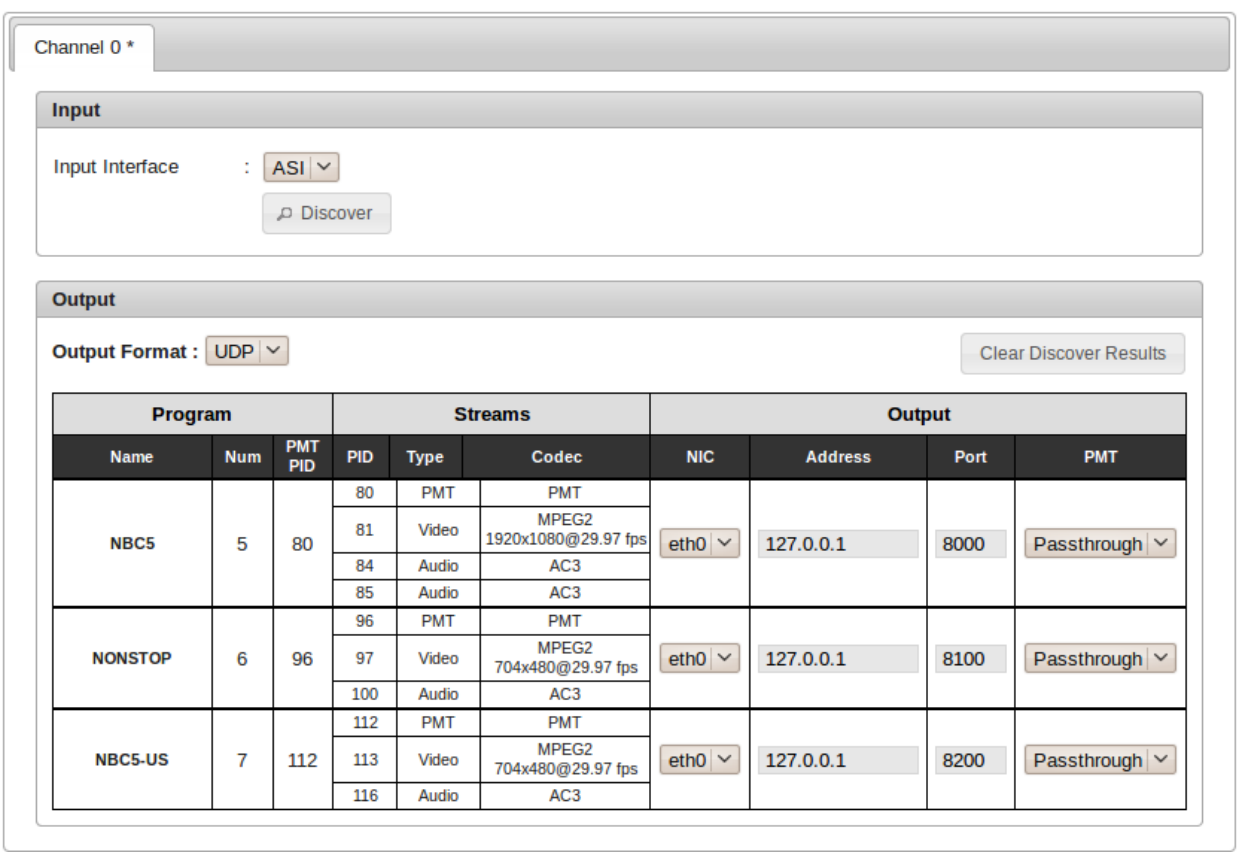
The Splitter has the following main controls

- ⇨ Start : to turn on the Splitter Function
- ⇨ Stop : to stop the Splitter Function
- ⇨ Restart : to restart a Splitter channel
- ⇨ Status : to open detail real time stream information on running splitter channels
- ⇨ Save Configuration : save the configuration of the Splitter settings. This is best done when the splitter is not running. If you change configuration of the Splitter while running, a dialog box will appear asking if you want to save these new settings. If yes, the splitter channels which have had configurations changed will be stopped and restarted at that time.
- ⇨ Defaults: If selected, the user will be prompted to set all channels to default settings, then these can be saved. Default settings set all output IP/ports to loopback and incremented non-conflicting ports.
- ⇨ For each Channel, there are these parameters to configure
    - Input Interface : ASI or IP or Tuner.
        - For IP input, multicast, unicast, and loopback address supported. Set IP to 0.0.0.0 for generic unicast input, and 127.0.0.1 for loopback input.
        - 0.0.0.0 will catch all unicast inputs with a matching port.
    - Discover => once an input port is defined, you can select the Discover button. After a few seconds, a Table will appear in the "Output" section that lists all the incoming programs on the input port. For each program, PIDs, stream type, and codec is displayed.
    - NOTE: DISCOVER will not function if the splitter is already running. You must stop the channel to run discover.

- Output Format:
  - UDP or RTP. Both use MPEG2-TS , but RTP includes the addition of RTP headers in the stream.
  - NIC: for systems with multiple Ethernet NIC interfaces, you can select any NIC for each SPTS output. You can also select “lo” for loopback output.
    - Setting a specific NIC with 127.0.0.1 also will result in loopback
  - IP/port setting. Each program will be output to a different IP/port as a SPTS. multicast, unicast, and loopback address supported)
  - In order for the Encoder to use the splitter output, the splitter must be configured to use eth0 or loopback, with address 127.0.0.1 and port 8000, 8100, 8200, etc.
  - PMT Passthrough or Rewrite:
    - Passthrough mode simply keeps the PAT/PMT structure of the incoming stream and the outgoing SPTS has just 1 element in the PMT
    - Rewrite: creates a new PAT/PMT for the stream with new PIDS.

The user interface of the Splitter is shown below with a step by step example.

Step 1: Configure input interface on channel 0 (or other channels) In this example we configure it for ASI input.

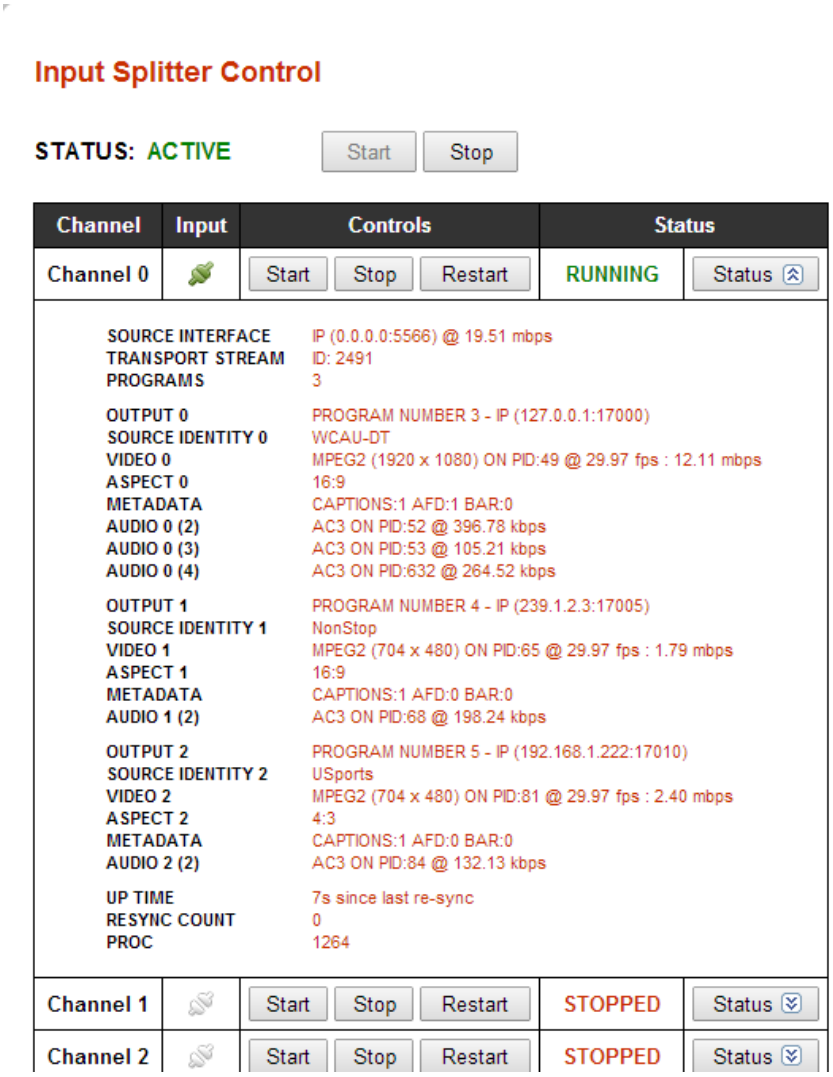


Program			Streams			Output			
Name	Num	PMT PID	PID	Type	Codec	NIC	Address	Port	PMT
NBC5	5	80	80	PMT	PMT	eth0	127.0.0.1	8000	Passthrough
			81	Video	MPEG2 1920x1080@29.97 fps				
			84	Audio	AC3				
			85	Audio	AC3				
NONSTOP	6	96	96	PMT	PMT	eth0	127.0.0.1	8100	Passthrough
			97	Video	MPEG2 704x480@29.97 fps				
			100	Audio	AC3				
NBC5-US	7	112	112	PMT	PMT	eth0	127.0.0.1	8200	Passthrough
			113	Video	MPEG2 704x480@29.97 fps				
			116	Audio	AC3				

Step 2: Select Discover Button, and if an MPTS is found the stream information is shown.

Step 3: Define output settings for each SPTS. Then select “Save Configuration”

Step 4: Start the splitter and monitor real status.

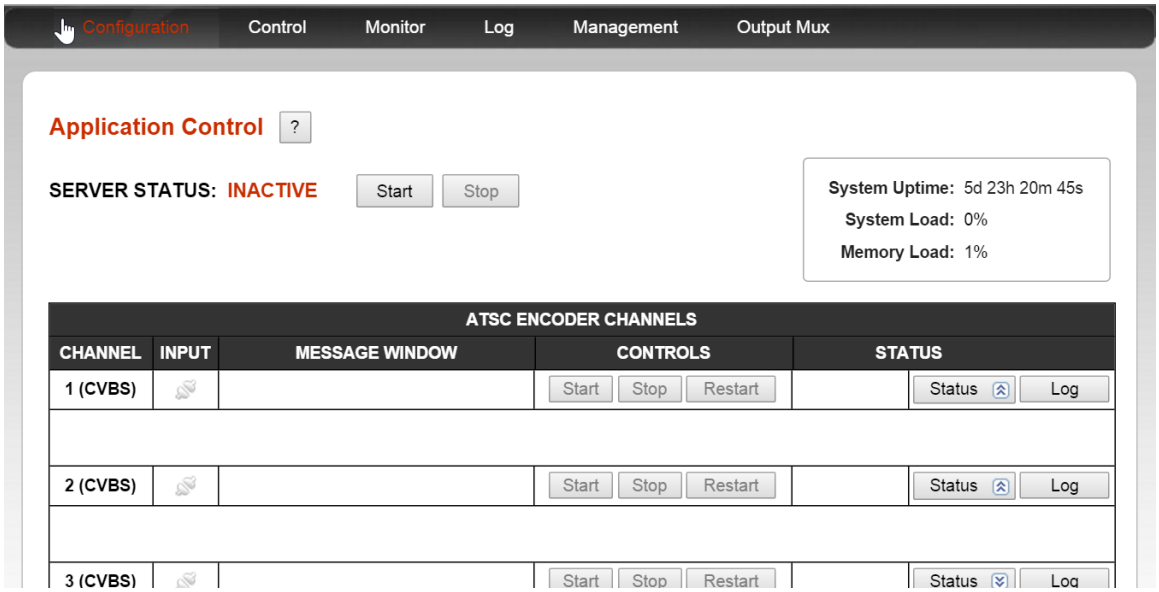


Configuration Notes

⇨ The Splitter MPTS places each program in the order of the Input Streams incoming MPTS PAT/PMT table.

6 CONTROL MENU

The control menu provides start and stop control for all the input channels. This menu also provides real time feedback of the channels that are running, including a thumbnail image that is updated every 5 seconds.



SERVER STATUS: This is a global ON/OFF control for the encoder. If the system is "INACTIVE" then select the Start button to change it to ACTIVE. The encoder will not run unless the SERVER STATUS is listed as ACTIVE.

System Uptime, load and memory load provide machine level status information.

You can start or stop any individual channel with the channel start and stop buttons. Each channel is listed as a row in a table. The columns of the table are the following:

Channel: Each channel represents a pair of physical connectors for audio and video signals. The channel numbers correspond to the labels on the capture system connectors.

Signal: Denotes the composite signal status for the channel.

- : A input signal is being properly recognized
- : No input signal is detected.

Message Window: System warning messages will appear here. For example when a configuration is changed, then the channel needs to be restarted before the changes take effect.

Controls: Start and Stop buttons to start and stop capture on the channel. Restart can be used in the case where configuration has been changed on a running channel and the channel needs a restart.

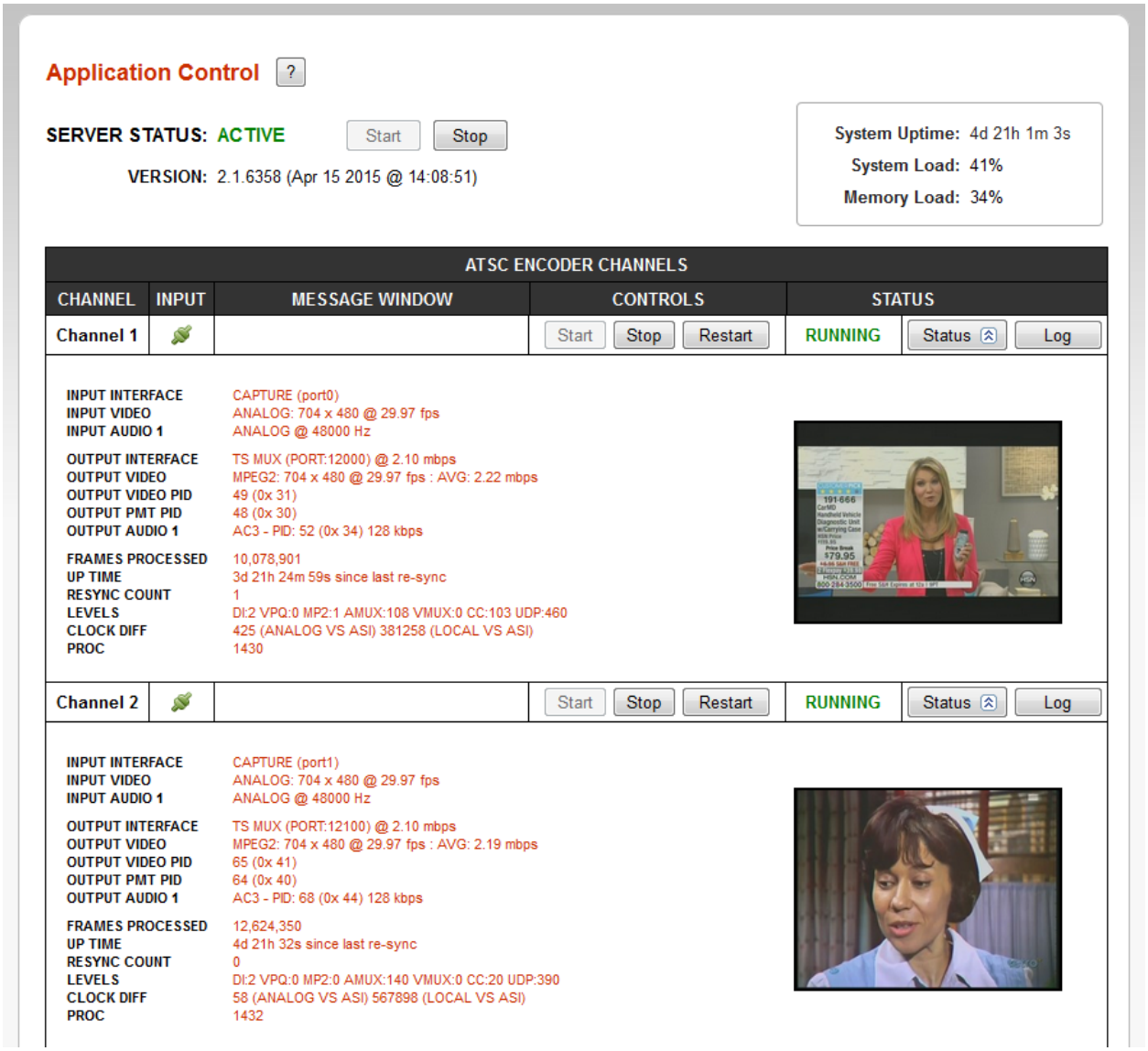
Status: The channel high level status is shown as these status

- **STOPPED**: Channel is **not** encoding
- **RUNNING**: Channel is encoding

Detailed Status information is available with the Status button. When you select this a variety of channel input and output signaling information is shown and updated in real time.

Log: The channel specific log information is shown in a pop up dialogue window.

An example control page is shown here. A thumbnail of the processed video is updated every 5 seconds.



The System load of the server is monitored and displayed on this page. The value includes user and system process load. Memory Load is also shown. These values should nominally stay at 95% or less.

After a Power Failure or other event, the encoder will start up automatically and relaunch all channels as they were configured before the power event.

7 EAS

The Anywave Encoder can automatically detect an Emergency Alert System (EAS) signal from an external EAS generator and switch all channels to the Video/Audio signal of the EAS generator.

To enable this feature do the following:

1) Connect the CVBS video and stereo audio output of an EAS generator to the EAS input of the Anywave Encoder (Composite video and stereo audio)
2) Start the EAS channel (last channel on the control page)
3) Check that the EAS channel is running (on the control panel the input signal should be green. The status information will show an active video and audio signal encoding (just like other channels))

Some EAS generators have test modes. We recommend testing your Anywave encoder with your EAS generator signal to be sure all connections and setup are correct.

When an EAS alert occurs, the Anywave encoder detects the alert tone on the EAS input, then automatically switches all encode channels to the EAS signal. Therefore, all channels will have the same EAS video and audio signal. When the EAS signal alert ends with a second alert tone, then the Anywave encoder will switch back to the normal signal programming.

8 OUTPUT MUX

The output mux creates a single MPTS (multi-program transport stream) composed of any of the running encoder channels. The MPTS signal is the output of the encoder, which can be ASI or IP output or both.

To enable the mux select the check box “enable mux”. This does not start the mux.

If this is the first time you are setting up the mux, it is recommend to select “defaults”

This will fill out the parameters like what is shown here.

Output Mux Configuration

Save Configuration | Defaults

Input Streams

Channel	Program #	PMT PID	Video PID	Audio PID	Rate (bps)	
Channel 0	1	480	481	482	5000000	☑ Enable
Channel 1	2	580	581	582	5000000	☑ Enable
Channel 2	3	680	681	682	5000000	☐ Enable
Channel 3	4	780	781	782	5000000	☐ Enable
Channel 4	5	880	881	882	5000000	☐ Enable
Channel 5	6	980	981	982	5000000	☐ Enable
Channel 6	7	1080	1081	1082	5000000	☐ Enable
Channel 7	8	1180	1181	1182	5000000	☐ Enable

Stream	Interface	Address	Port	Rate (bps)
PSIP	Disable ▾	0.0.0.0	16000	100000

Output

Interface	Address	Port	Rate (bps)
Ethernet ▾	225.1.1.1	2000	19393000

Transport Stream ID: 1 (1 - 65535)

☑ Enable MGT/TVCT tables

Stream	Major Channel	Minor Channel	Channel Name	Source ID
Channel 0	1	0	CH0	1
Channel 1	2	0	CH1	2

MGT Repetition Rate : 20 (20 - 150ms)

TVCT Repetition Rate : 20 (20 - 400ms)

8.1 PSIP input into the MUX

The Input Streams information is all provided from the encoder channels. You can select which channels to include in the MUX MPTS with the enable check box next to each channel.

An optional feature is to insert Program Guide (PSIP) into the mux from an Anywave Program Guide Generator (an external system). To use this feature, the Anywave Program Guide Generator streams to a unicast port on the Encoder over ethernet. Either eth0 or eth1 can be used.

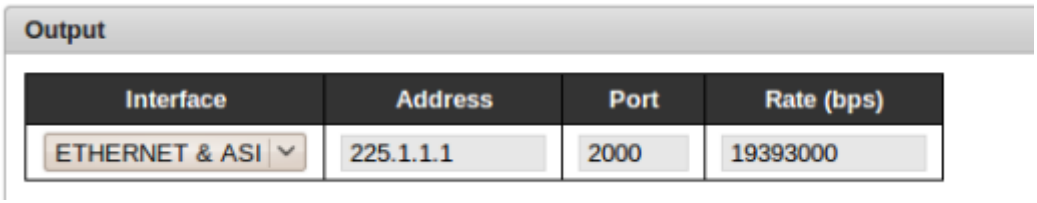
Enter the IP, Port and bit rate of the PSIP data into the MUX interface.

8.2 Output Mux Settings

The output mux can be on ASI or IP. Select which interface to use.

If IP, set output address and port

To select ASI and IP simultaneous output, select “ethernet and ASI” as shown here



The output mux bitrate can be set. The UI will check that the rate is large enough to include all chosen channels (including PSIP if selected) and warn the user if it needs to be increase.

The default mux rate of 19393000 is the ATSC VSB rate.

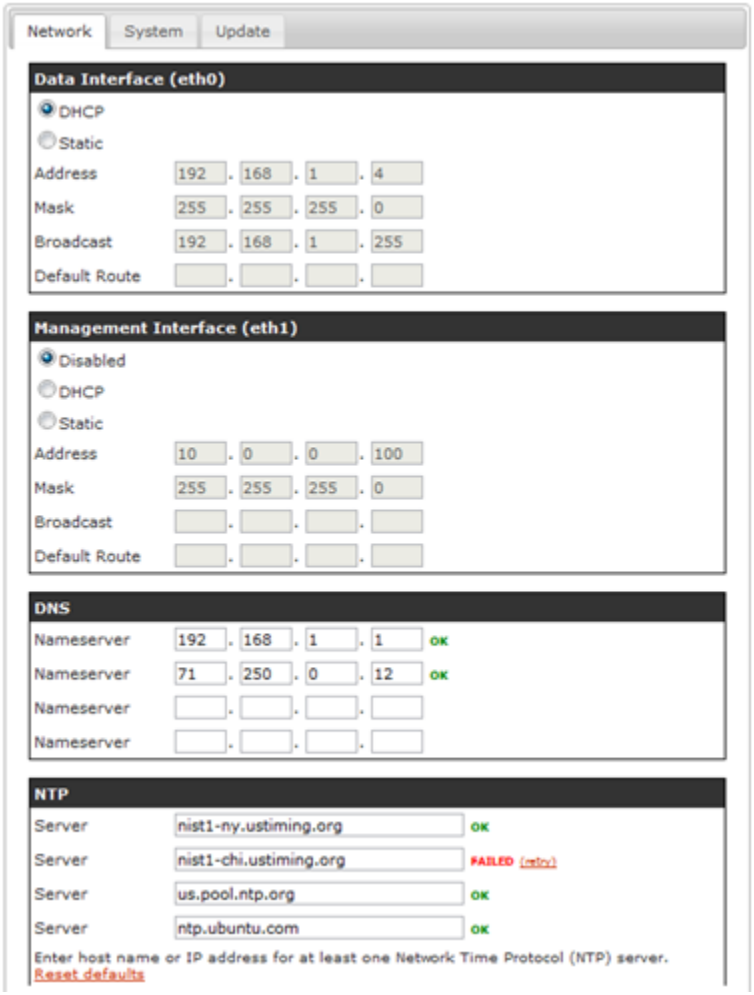
To enable static channel name information in the MUX stream, you can enable the MGT/TVCT tables. Major Channel Number, Minor Channel Number, Channel Name, and Program ID can be entered by the user.

MGT and TVCT repetition rate can be set. Larger values use less bandwidth to transmit this channel information data.

Once all mux settings are complete, select the “save configuration” button and then “Start” the mux

9 Management Page

The Management page has 3 tabs: Network , System, and Update



The System tab in this release is a re-boot switch for user convenience if operating from a remote facility.

The Network tab allows control of the network configuration of the system. eth0 is for Data, and eth1 for Management. You can choose DHCP or static settings for each interface. DNS and NTP settings are also available.

Indicators are shown that check the DNS and NTP addresses to see if they are reachable on the network. Green indicator “ok” means the address is valid and the target is returning a ping. Failed means the IP cannot be reached (or pinged). This could be due to the target IP not returning ping which may be normal for some systems.

NTP external reference is recommended for most installations. This can be an internet available NTP reference server provided by a variety of organizations worldwide, or a private NTP reference on your LAN. NTP provides a mechanism to lock the clock reference used for video/audio time stamps and system reference times to an external source.

IMPORTANT NOTES :

When any network settings are changed including Ethernet, DNS, or NTP, then the settings will not take effect until you select “Apply Changes”.

When Apply Changes is selected, the encoder will reboot. This will disrupt all data traffic on any running channels for 1-2 minutes.

9.1 UPDATE TAB

This interface is a simple upload/install mechanism that can be used to update the software of the product.

The use of this method requires a minimum of 1-2 minutes of encoder/transcoder shut down time, therefore live channels will be interupted during this time.

Operation

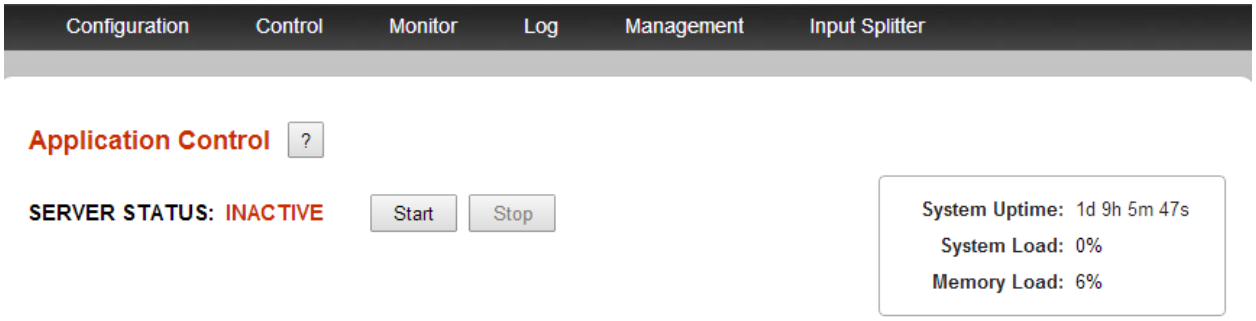
Before a software update can be performed, the proper update software file must be created and provided by Anywave. The specific hardware and software features of your product must be determined. With this information, Anywave will generate an update software release (file with extension upd) that matches your system.

Once the upd file is available, the following steps are required

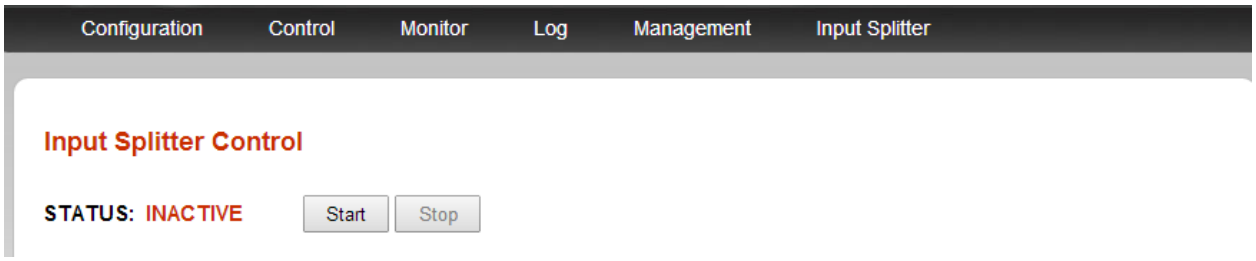
1) Move the upd file to a machine in which you will access the web interface. (any PC with a web browser)

2) Stop all running Encode/Transcode, Splitter, and Mux top level functions.

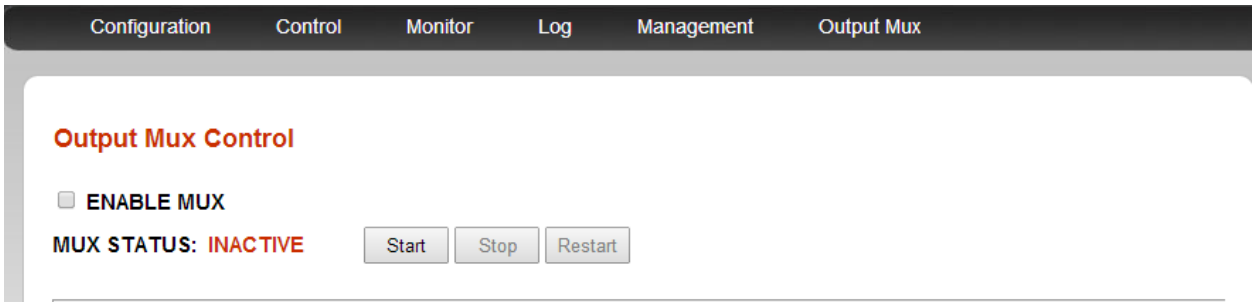
    a. Navigate to “Control” and select Stop to stop all channels.



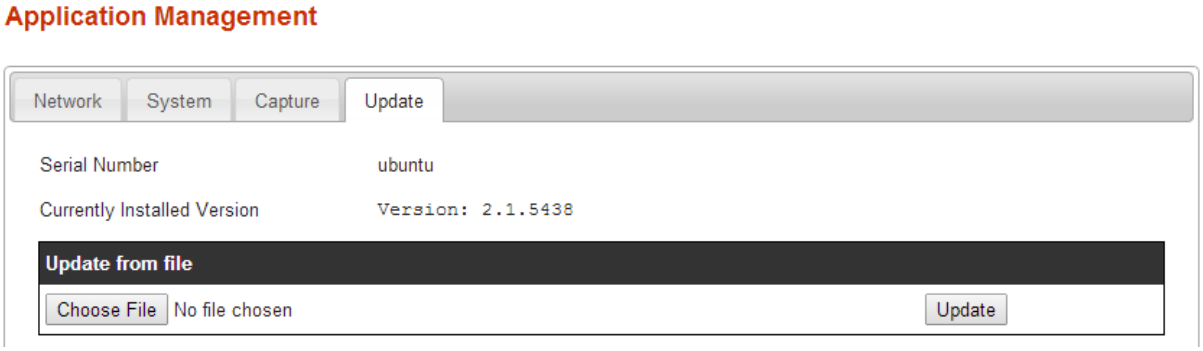
    b. Navigate to the Splitter (if available) and select Stop



    c. Navigate to the Mux (if available) and select Stop

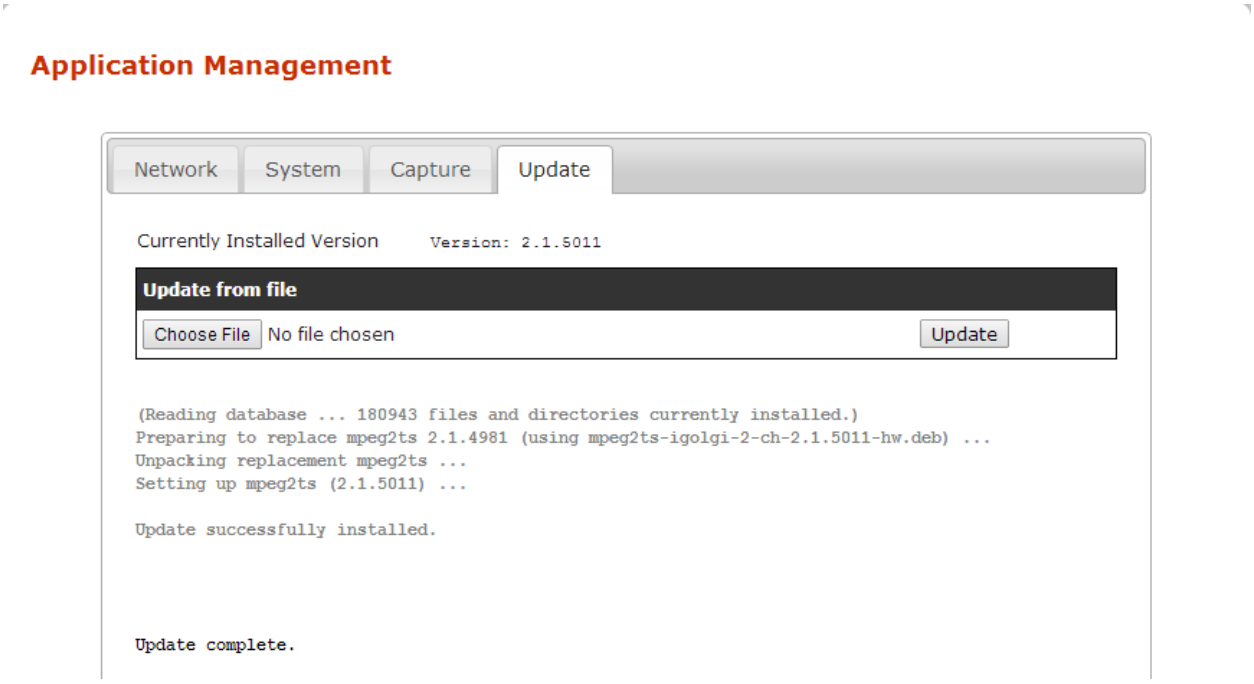


3) Navigate to the Management Page. From there navigate to the “Update” page



4) Select the “Choose File” and select the upd file provided on your local machine.

5) Select Update. After a few seconds, the update should be complete and you will see a success message similar to the example below.

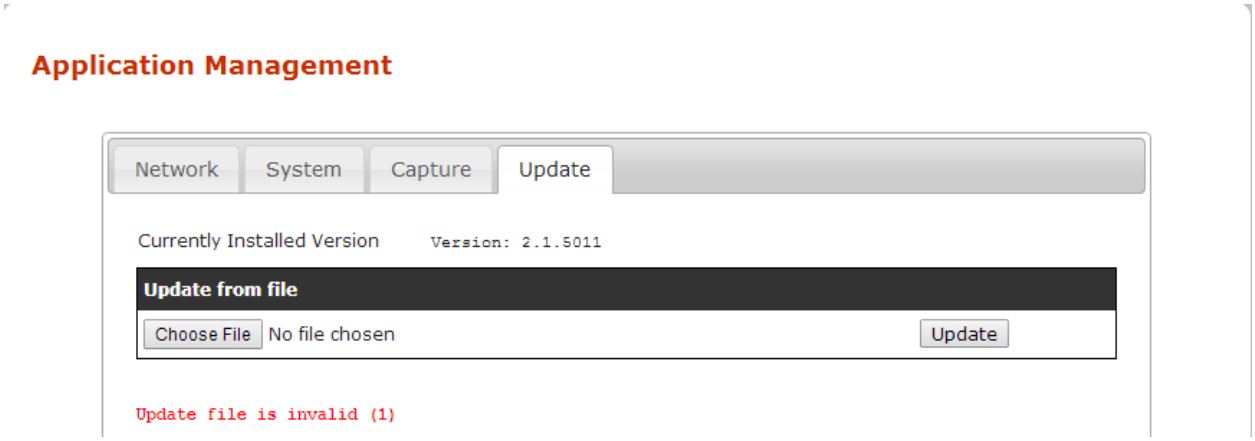


If the update was not successful, you will see an error message and the previous version of the software will not be replaced

6) After a successful update, navigate to the Control, Splitter, and Mux pages and restart any channels.

Error Message(s)

If the update file does not match the hardware or software license for the machine, then an error message is displayed and the update fails (old version will not be changed)



10 VIVACE ENCODER - PRODUCT MODELS AND CONNECTIONS

Vivace Encoder has many interface options including analog or digital video inputs, compressed or uncompressed inputs, and IP and/or ASI outputs.

The following interfaces are available:

Inputs:

- ⇨ **Analog CVBS video/stereo audio**
- ⇨ **Digital SD-SDI or HD-SDI**
- ⇨ **Digital Compressed DVB-ASI or IP (MPEG2-TS)**
- ⇨ **EAS : Analog CVBS/stereo audio**

Outputs:

- ⇨ **Digital MPEG2-TS output (IP or DVB-ASI)**

All interfaces are labeled on actual units. Please refer to specific delivered unit labeling and associated documentation with your unit for connection diagrams.

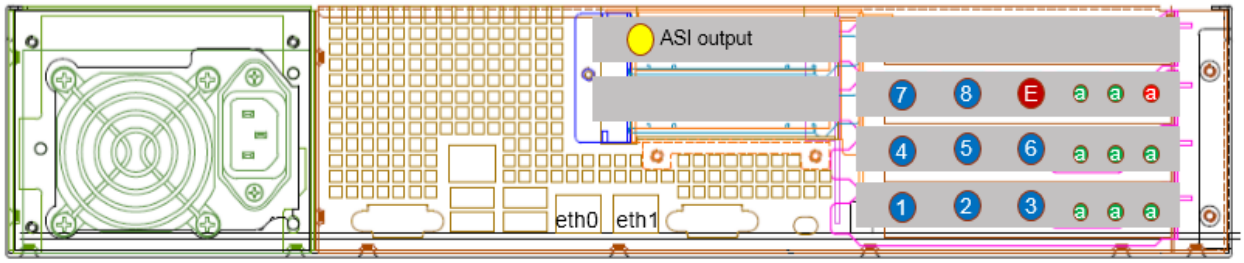
Analog audio inputs have 2 interface options:

1) Stereo Audio Input : 3.5 mm ; -10 dBV (default models)

2) Optional: +4dBu input (available at time of ordering). This includes XLR female to 3.5 mm connection cables (shown below)

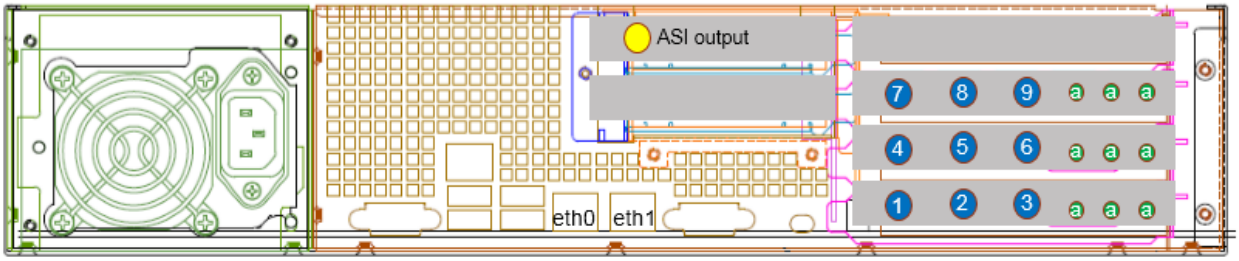
Example Model Configurations – Year 2015

8 Channel Analog SD Encoder with ASI output and EAS



Video Input
EAS Input
Audio Input

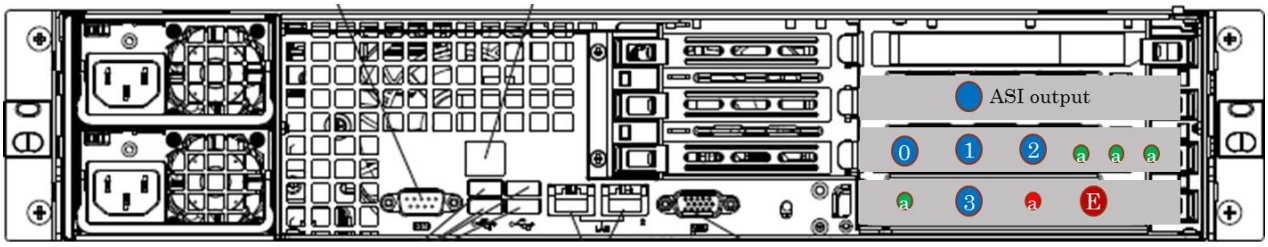
9 Channel SD Encoder with ASI output



Video Input
EAS Input
Audio Input

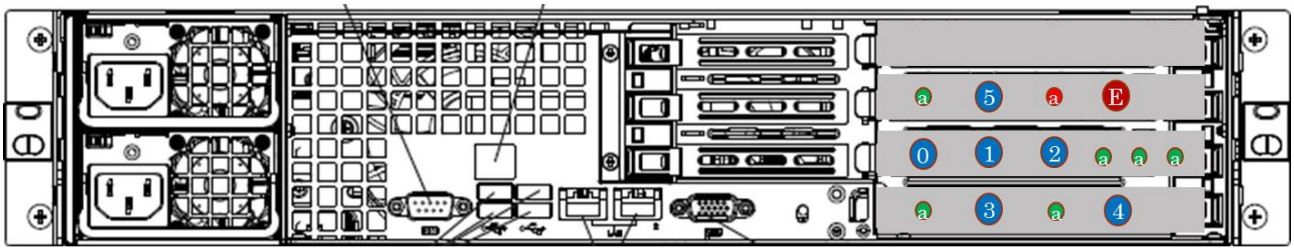
Year 2014 Models

ACT-ENC-4SD-AS – 4 Channel SD Encoder with ASI output



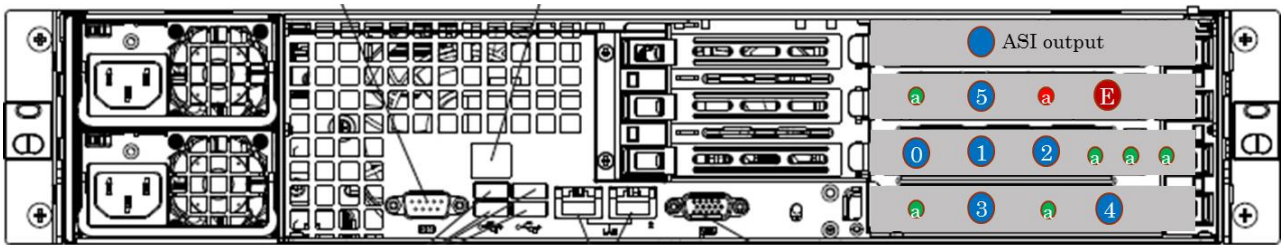
Video Input
EAS Input
Audio Input

ACT-ENC-6SD-IP – 6 Channel SD Encoder with IP output



Video Input
EAS Input
Audio Input

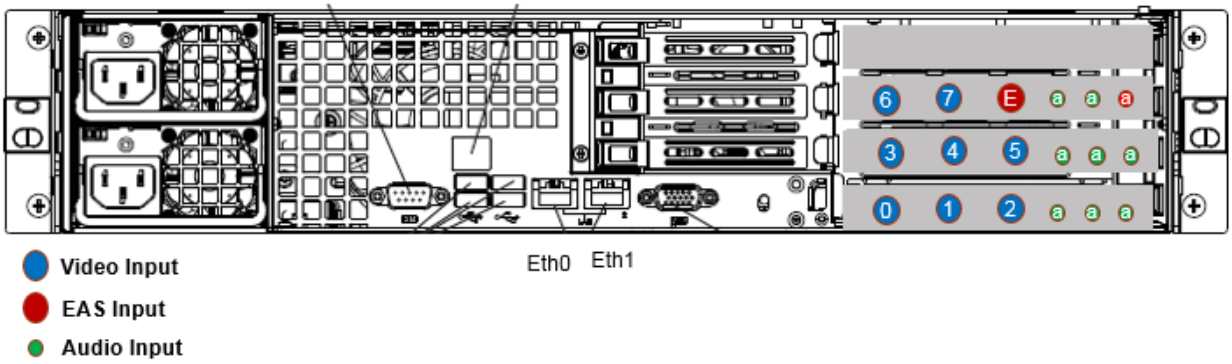
ACT-ENC-6SD-AS – 6 Channel SD Encoder with ASI output



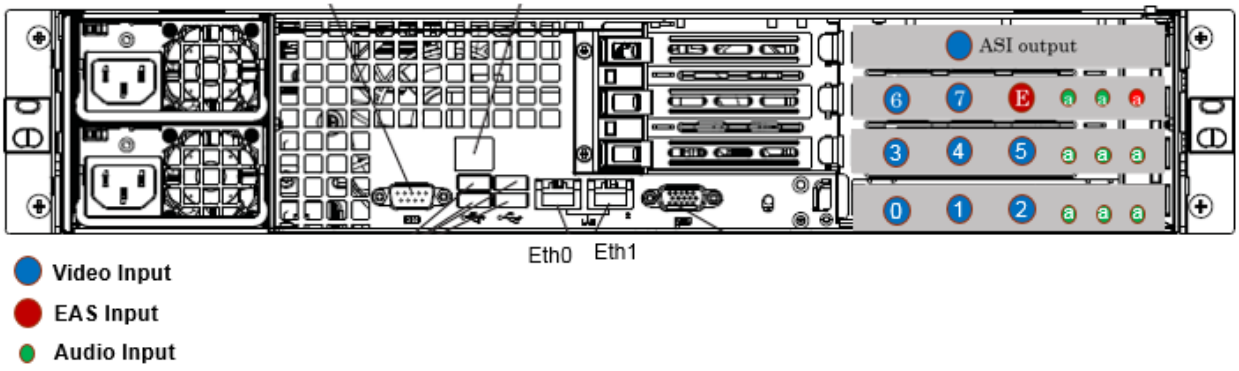
Video Input
EAS Input
Audio Input

11 Vivace ENCODER - PRODUCT CONFIGURATIONS

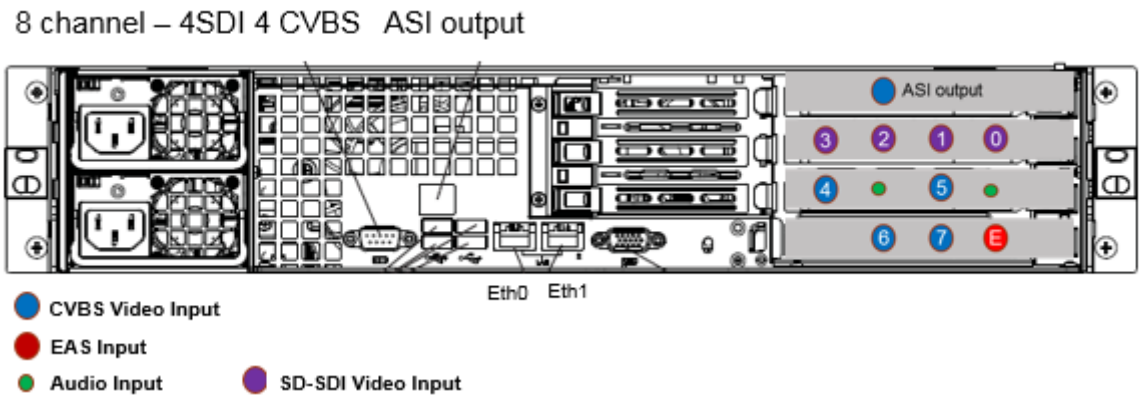
ACT-ENC-8SD-IP – 8 Channel SD Encoder with IP output



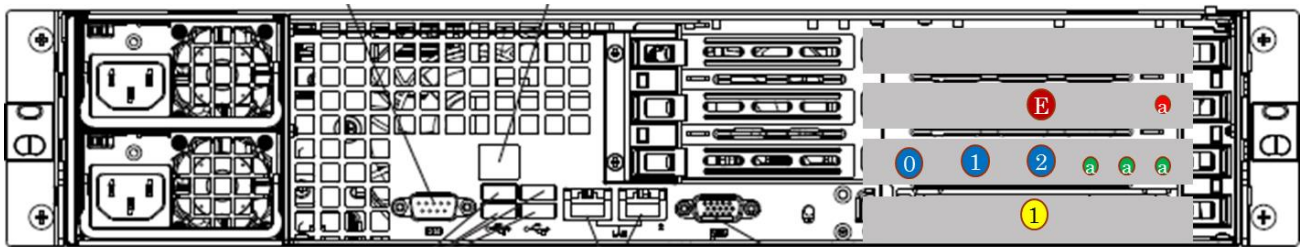
ACT-ENC-8SD-AS – 8 Channel SD Encoder with ASI output



ACT-ENC-4CVBS+4SDI-AS – 8 Channel SD Encoder with 4 SDI + 4 CVBS and ASI output



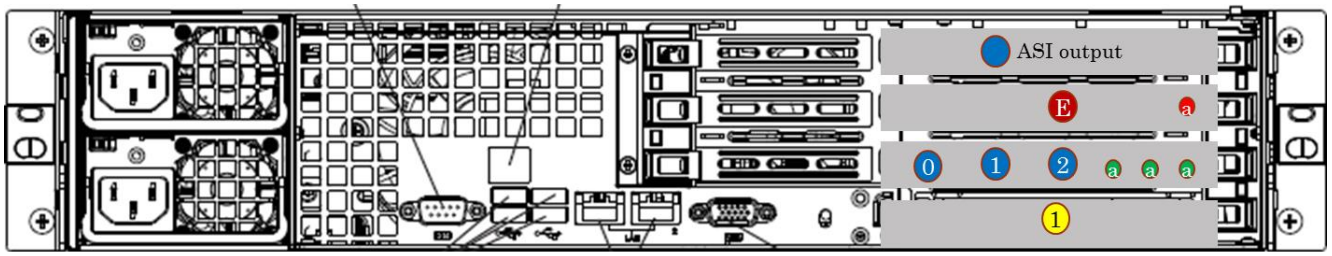
ACT-ENC-1HD_3SD-IP – 1 HD + 3 SD Encoder with IP output



Eth0 Eth1

- HD-SDI Input
- CVBS Video Input
- EAS Input
- Audio Input

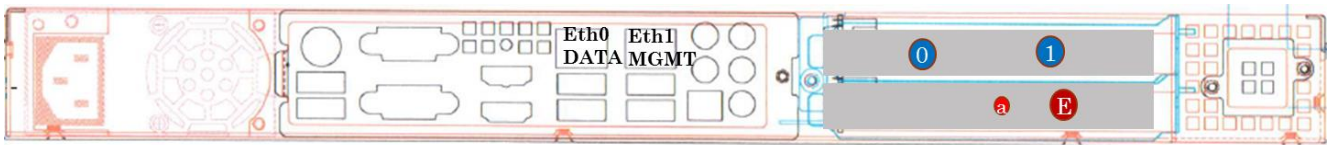
ACT-ENC-1HD_3SD-AS – 1 HD + 3SD Encoder with ASI output



Eth0 Eth1

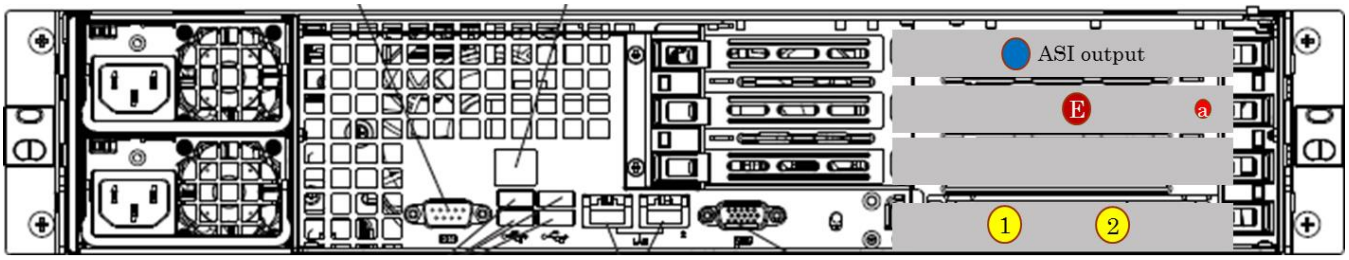
- HD-SDI Input
- CVBS Video Input
- EAS Input
- Audio Input

ACT-ENC-2HD-IP – 2 Channel HD Encoder with IP output



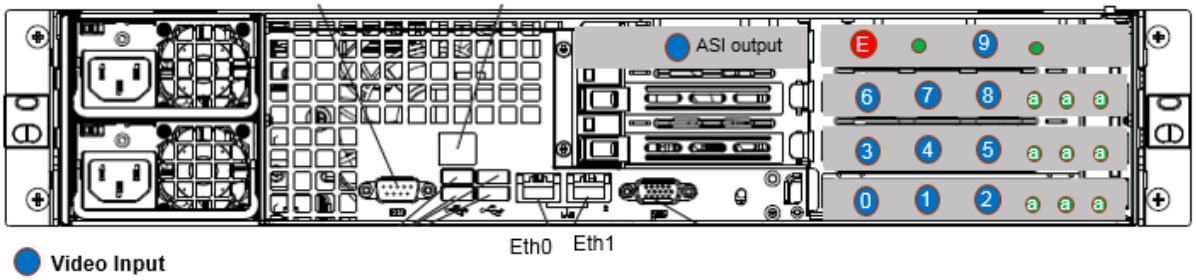
- HD-SDI
- EAS Input

ACT-ENC-2HD-AS – 2 Channel HD Encoder with ASI output



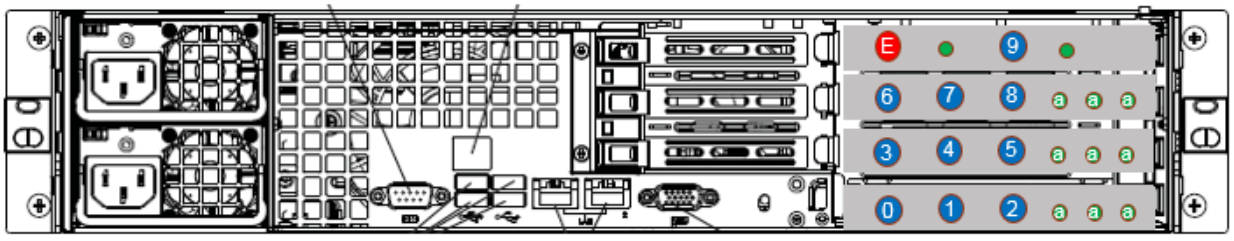
HD-SDI Input
CVBS Video Input
EAS Input

10 channel - ASI



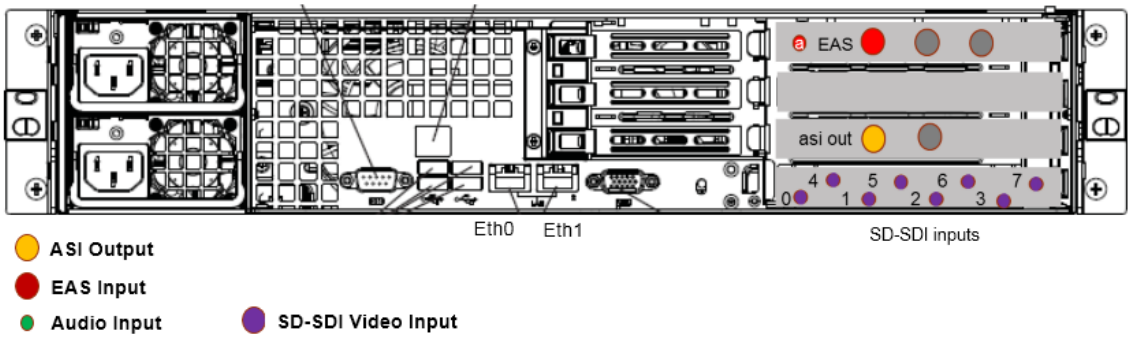
Video Input
EAS Input
Audio Input

10 Channel IP



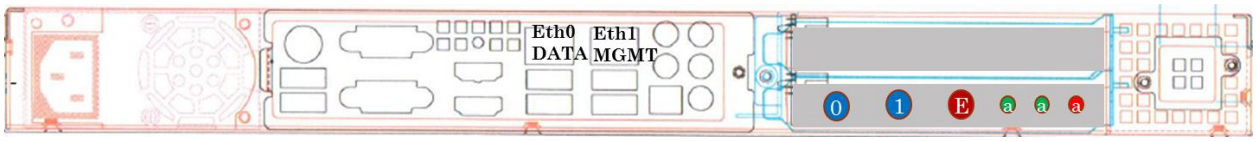
Video Input
EAS Input
Audio Input

Up to 8 channel – SDI ASI output



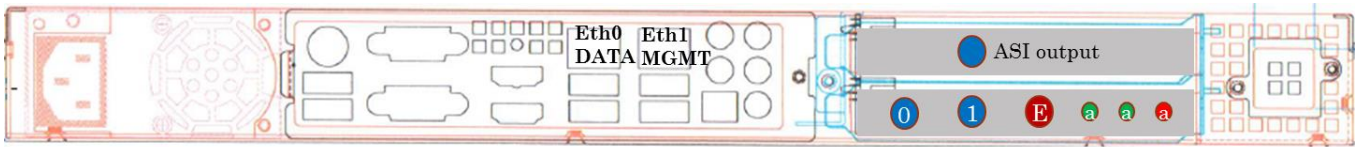
ASI Output
EAS Input
Audio Input
SD-SDI Video Input

ACT-ENC-2SD-IP – 2 Channel SD Encoder with IP output



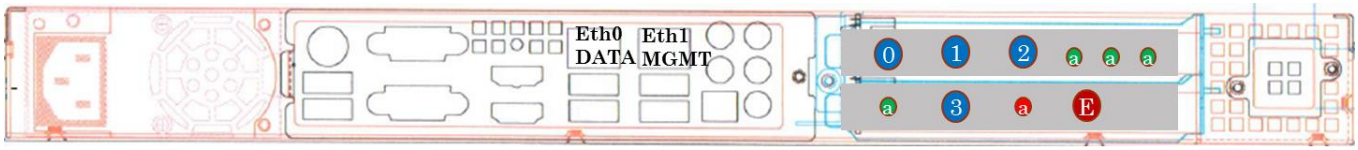
- Video Input
- EAS Input
- Audio Input

ACT-ENC-2SD-AS – 2 Channel SD Encoder with ASI output



- Video Input
- EAS Input
- Audio Input

ACT-ENC-4SD-IP – 4 Channel SD Encoder with IP output



- Video Input
- EAS Input
- Audio Input