

# **EEG A1452**

## **SCTE-104 Inserter Frame Card**



## **Product Manual**

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## A1452 SCTE-104 Inserter Frame Card

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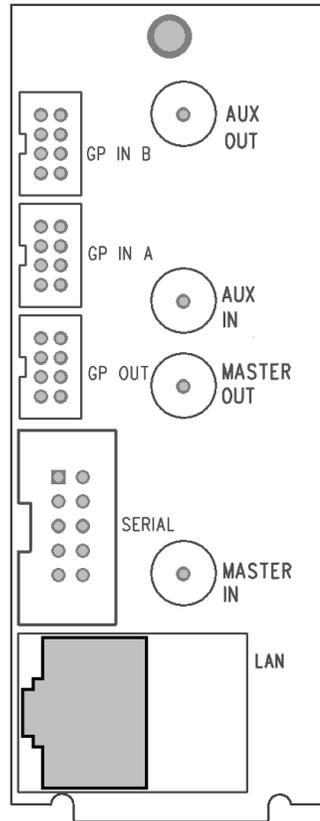
## **1 Introduction**

### **1.1 Product Description**

The A1452 frame card brings the SCTE-104 insertion functionality of EEG's industry standard Smart Encoder to the openGear® platform. The frame card utilizes the user friendly DashBoard software, which is available for Windows, Mac and Linux operating systems and streamlines setup of the A1452.

## 2 Installation

### 2.1 Rear Module

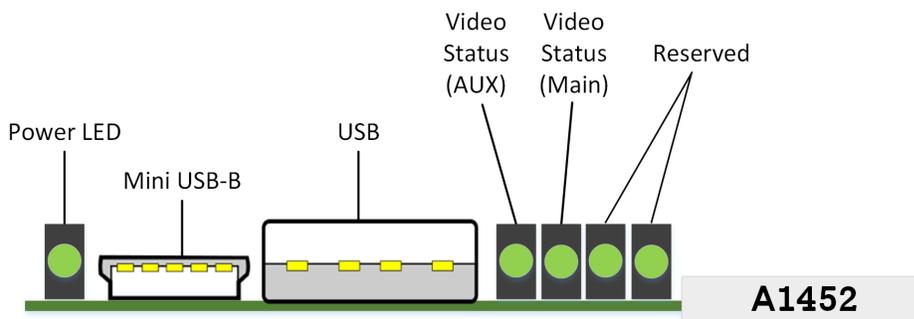


<b>MASTER IN</b>	Master video input. Accepts SMPTE 259M SD-SDI, SMPTE 292M HD-SDI, or SMPTE 424M 3G-Level-A SDI.
<b>AUX IN</b>	Auxiliary video input. Unused.
<b>MASTER OUT</b>	Program video output with relay-bypass protection.
<b>AUX OUT</b>	Auxiliary video output. Unused
<b>GP IN A and GP IN B</b>	Two Molex 87831-0841 connectors, each containing 4 GPI inputs. See Appendix A for more information regarding GPIO usage.
<b>GP OUT</b>	Molex 87831-0841 connector containing 4 GPI outputs. See Appendix A for more information regarding GPIO usage.
<b>SERIAL</b>	Connector for cable containing two DB-9 (RS-232) serial ports labeled P1 and P2. Unused.
<b>LAN</b>	1000-Base Ethernet port for connection to LAN. After configuring your A1452's network settings in DashBoard (see below), you can view the Web Configuration site for your card by navigating to its local IP address in your web browser.

### 3 A1452 Operation

#### 3.1 Front Panel

The front of the A1452 card is depicted in the following diagram:



##### **Power LED**

The power LED will be green when the card is receiving power from the frame. Reserved for future use.

##### **USB Connectors** **Video Status (AUX)**

This LED will be off when there is no video present on the auxiliary input. When HD or 3G video is present, it will be green, and when SD video is present, it will be orange.

##### **Video Status (Main)**

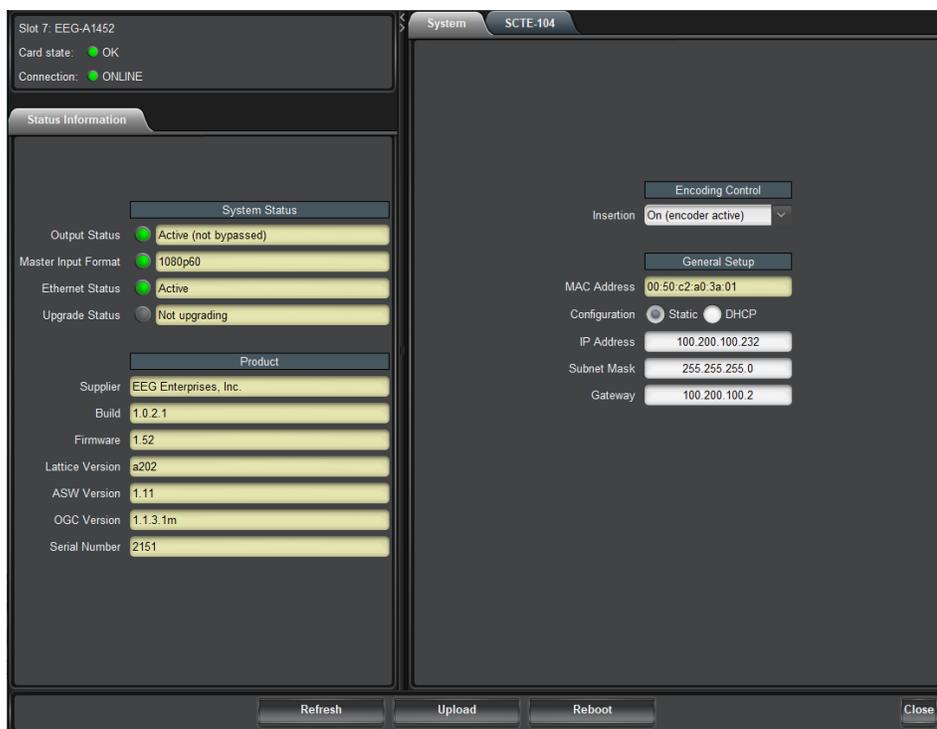
This LED will be red when there is no video present on the main input. When HD or 3G video is present, it will be green, and when SD video is present, it will be orange.

#### 3.2 DashBoard Menus

The DashBoard software is used to configure encoder settings, networking, and perform additional basic configuration for the frame card. It can be downloaded from Ross Video: <https://www.rossvideo.com>

Once you have successfully installed the DashBoard tool, open the program to find information about the A1452 and to configure your card.

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There are two main sections in the Dashboard interface: the Status information on the left side and the Setup menu on the right side. At the bottom of the interface, you will find the **Upload** button, which can be used to upgrade your A1452's Dashboard interface firmware, and the **Reboot** button, which can be used to reboot your A1452.

The upper section on the left shows the Card State and the Connection status, each of which has an indicator light and description of the card's status. There is a more detailed tab labeled **Status Information** below the two basic indicators that provides information about the card's version and its current setup configurations.

The **System Status** section shows what video types are present and the current status of the Ethernet connection. Output Status displays the mode that the encoder is operating in; the icon will be green when the unit is in active operating mode and will be red when the Encoder is in Relay Bypass mode. Master Input Format displays the video type

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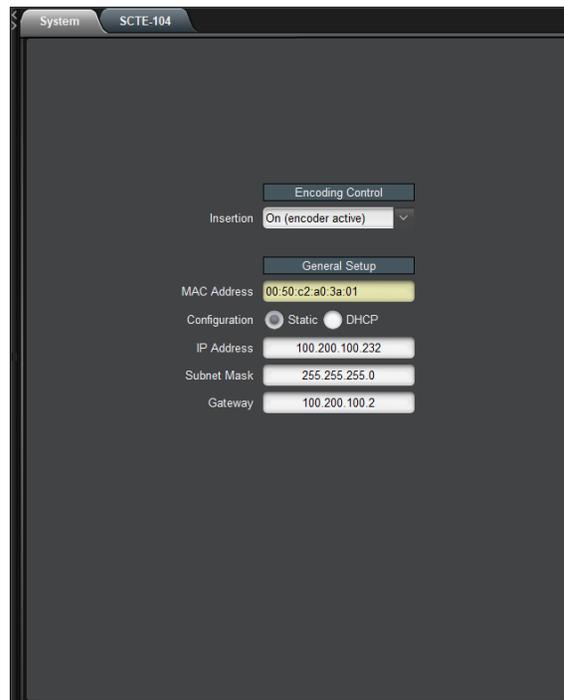
detected on the master video input, including format information for HD video, while Auxillary Input Format indicates the video type detected on the auxillary video input, including format information for HD video. The Upgrade Status field displays information about whether the encoder is currently loading an upgrade.

The lower section entitled **Product** displays identifying information about the hardware and software versions of the card. This section displays the supplier, the build number, the firmware number, and the ASW version to identify the software installed and the serial number of the card.

The setup section in the right half of the tool is broken up into two tabs: System and SCTE-104.

### 3.2.1 System

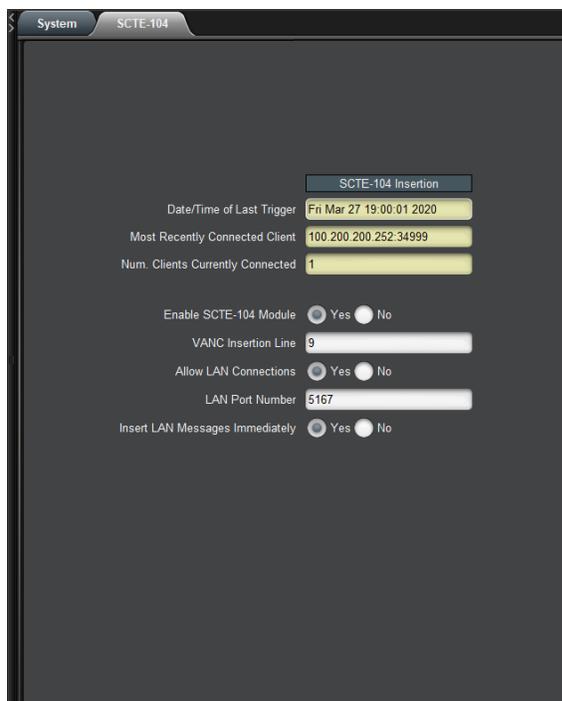
The System tab contains the address settings the unit will use when connected to a local network, as well as control of the relay-bypass mechanism.



- |                    |   |
|--------------------|---|
| <b>Insertion</b>   | Selects the operating mode of the frame card and specifies whether data is being inserted.  |
| <b>IP Address</b>  | Selects the network address that the unit will be assigned on your LAN.   |
| <b>Subnet Mask</b> | Selects the bit mask used. This should match the bit mask used on your LAN.   |
| <b>Gateway</b>     | Selects the address of the computer or device that the unit will use to communicate outside of your local network, when applicable. |

### 3.2.2 SCTE-104

These settings control the A1452's SCTE-104 insertion functionality.



- |   |  |
|---|--|
| <b>Date/Time of Last Trigger</b>        | Displays the date and time of the last SCTE-104 insertion trigger received.                      |
| <b>IP/Port of Last Client</b>           | Displays the IP address and port of the last client to connect to the card over the LAN.         |
| <b>Num. Clients Currently Connected</b> | The number of network clients currently connected to the SCTE-104 module will be displayed here. |
| <b>Enable Module</b>                    | Controls whether the SCTE-104 insertion application is active.                                   |
| <b>VANC Insertion Line</b>              | Determines which VANC line SCTE-104 packets will be inserted on.                                 |

<b>Allow LAN Connections</b>	If set to <b>Yes</b> , SCTE-104 insertion can be triggered via LAN connection on the port specified below.
<b>LAN Port</b>	If the <b>Allow LAN Connections</b> setting is turned on, this field determines the port on which LAN connections will be accepted.
<b>Insert Immediately</b>	If set to <b>Yes</b> , a SCTE-104 packet will be inserted into VANC immediately when the application receives a LAN trigger.

### **3.3 Web Portal**

The Web Portal allows you to access status information and configurations for your A1452 from any computer on your local network. Several web applications are installed at the factory for all A1452 units: a Startup Setting editor, a web-based serial-emulation Terminal for entering Smart Encoder commands, system date/time configuration, and control of the SCTE-104 insertion module.

Once you have configured your A1452's network settings in DashBoard and connected it to your LAN via the port on the rear module, you can open up a web browser on any PC on the same local network. Navigate to the IP address that you configured in DashBoard; for example, type 192.168.1.15 into the address bar of the browser if that is the address you entered into DashBoard. If you cannot navigate to the page in your web browser, check with your network administrator that the IP Address and Subnet Mask you entered in DashBoard are valid parameters for your network, since individual settings vary.

Once the page has loaded, you will see a list on the top panel of the different web applications installed on your card. Click any of these links to navigate to the page for that application.

## A General-Purpose I/O

Each of the 2 GPIO input banks, Bank A and Bank B, has the following pinout:

7	8
5	6
3	4
1	2

Bank A provides GPI inputs 1-4:

<b>Input</b>	<b>Pins</b>
4 (D)	7, 8
3 (C)	5, 6
2 (B)	3, 4
1 (A)	1, 2

Bank B provides GPI inputs 5-8:

<b>Input</b>	<b>Pins</b>
8 (H)	7, 8
7 (G)	5, 6
6 (F)	3, 4
5 (E)	1, 2

A GPI input is activated when closed (connected to ground), and inactive when open (left floating). The even-numbered pin in a given GPI pair is its ground. For example, GPI input 1 can be activated by connecting pins 1 and 2 of Bank A, thereby grounding pin 1. If pin 1 were left floating, GPI input A would be inactive.

A GPI output's pins form a switch that is on when closed and off when open. For example, pins 3 and 4 of the GPI output bank form a switch that is closed when GPI output 2 is active, and open when it is inactive.

## B Video/Connector Specifications

<b>SDI Video Inputs</b>	
Number of Inputs	2
Connector	BNC per IEC 169-8
Format	2.97 Gb/s SMPTE 424M, 1.485 Gb/s SMPTE 292M, or SMPTE 259M 270 Mb/s
Input Level / Impedance	800 mV p-p $\pm$ 10% / 75 Ohm
Equalization	Automatic up to 100m @ 1.5Gb/s with Belden 1694 or equivalent
<b>SDI Video Outputs</b>	
Number of Outputs	2 relay bypass-protected
Connector	BNC per IEC 169-8
Output Level	800 mV p-p $\pm$ 10%
Output Impedance	75 Ohm
Format	2.97 Gb/s SMPTE 424M, 1.485 Gb/s SMPTE 292M, or SMPTE 259M 270 Mb/s (matches input format)
DC Offset	0V $\pm$ 0.5V
Rise/Fall Time	200pS nominal
Overshoot	< 10% of amplitude
Wide Band Jitter	< 0.2 UI
<b>Data Input/Output Characteristics</b>	
Data Ports	2 DB-9 (one RS-232, one configurable between RS-232 and RS-422)
Serial Data Format	7 data bits, odd parity, 1 stop bit, 1200 baud default
GPIO	Three 8-pin Molex 87831-0841 connectors: two containing 4 GPI inputs each, one containing 4 GPI outputs
<b>Electrical</b>	
Power	115/230V AC 50/60Hz
Power Consumption	6 W
<b>Physical</b>	
Dimensions	12.75" long x 3" wide x 1" tall
Weight	< 1 lb.