



## **PROGUARD**

### **Live UHD/3G/HD Broadcast Delay System**

#### **Quick Start Guide**

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## IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "Dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

- Read these instructions
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

### **WARNING**

TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE

### **WARNING**

DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS ARE PLACED ON THE EQUIPMENT

### **WARNING**

TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE

### **WARNING**

THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE

## **INFORMATION TO USERS IN EUROPE**

### **NOTE**

#### **CISPR 22 CLASS A DIGITAL DEVICE OR PERIPHERAL**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Union EMC directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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### **NOTE**

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This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### **WARNING**

Changes or Modifications not expressly approved by Evertz Microsystems Ltd. could void the user's authority to operate the equipment.

Use of unshielded plugs or cables may cause radiation interference. Properly shielded interface cables with the shield connected to the chassis ground of the device must be used.

## REVISION HISTORY

<u>REVISION</u>	<u>DESCRIPTION</u>	<u>DATE</u>
1.0	First Release	Nov 2021

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## 1. OVERVIEW

Evertz ProGuard enables you to protect your live broadcasts from offensive video or audio content. With ProGuard, broadcasters of live content can guard against unexpected or unwanted events (nudity, offensive images/language or technical issues) going to air by providing up to 30 seconds of delay (in UHD). This flexible delay allows operators to correct offensive material to meet regulations and maintain program continuity.

ProGuard provides a simple and easy to use interface for operators to quickly conceal unwanted video or audio content.

ProGuard offers flexible and comprehensive delay techniques beyond simple video switches and audio beeps to meet demanding broadcasting requirements and simplify live production workflows.

### Video Protection Options

- Switch to alternative safe feed
- Blur or defocus video content
- Insert video black, static/animated graphic or safe content/clip

### Audio Protection Options

- Switch to alternative safe feed
- Mute, shuffle or swap audio channels
- Insert safe audio content or beep

### Configurable Operator Reaction Time

ProGuard provides an easy to configure reaction time from 1–5 seconds, allowing your operators to react reliably to eliminate offensive behavior or actions before they go on–air.

### Future Proof

ProGuard provides support for HD/3G/UHD 4:2:2 10–bit formats with High Dynamic Range (HDR) and uncompressed IP formats (SMPTE ST 2022–6 and ST 2110).

### Full Redundancy

ProGuard uses dual power supplies and solid state devices as standard features to maximize its reliability. In the case of SDI, internal bypass relays are triggered in the case of power loss.

ProGuard is built upon technology created by the team that originated profanity delay systems and has been used by major broadcasters globally. ProGuard is a platform designed for any format and interface type to guard your live broadcasts for now and the future.

## Ordering Information

### **PROGUARD-3G-2**

Dual-channel 3G/HD/SD broadcast delay system with standard SDI I/O. Optional 10G I/O support.

### **PROGUARD-UHD**

Single-channel UHD or dual-channel 3G/HD/SD broadcast delay system with standard SDI I/O.

### **PROGUARD-10G-2**

Dual-channel 3G/HD/SD broadcast delay system with 10G I/O (4x 10GbE ports). Native support for SMPTE ST 2110 and ST 2022-6.

### **PROGUARD-3G-VM**

Single-channel 3G/HD/SD broadcast delay system for cloud application. Compressed MPEG-2/H.264 I/O. Contact factory for details.

### **PROGUARD-UHD-VM**

Single-channel 3G/HD/SD broadcast delay system for cloud application. Compressed MPEG-2/H.264 I/O. Contact factory for details.

## 2. PROGUARD PHYSICAL INSTALLATION AND CONNECTIONS

### 2.1. PROGUARD

PROGUARD is based off a 2RU Intel server and runs 64-bit Ubuntu Linux as its operating system. The PROGUARD chassis utilizes eight 1.2TB 2.5” hard drives configured as a 6.6TB RAID6 storage. The Ubuntu Linux 64-bit operating system and Overture software reside on two 80GB 2.5” SSDs setup in RAID1 mode. The PROGUARD chassis also provides dual-redundant power supplies, four 1G Ethernet ports, four 10G Ethernet ports and IPMI/iLO control. PROGUARD can be equipped with up to eight channels of SDI on DIN 1.0/2.3 I/O ports, each channel can be configured as an input or an output. Alternatively, PROGUARD can be equipped with four 25G I/O ports to support 2022-6 and 2110 output formats.

#### 2.1.1. Front View

Physically, the PROGUARD occupies 2 rack unit of space. The front of the PROGUARD is shown in Figure 2-1 below. The front accessible drive bays as well as the status/activity LEDs, a soft reset button and system power button are readily visible.



Figure 2-1: Front View of PROGUARD Front Panel Installed

LABEL	FUNCTION
HDD 1 through 8	Local Storage
Control Panel	Status LEDs, Soft Reset Button, Power Button

Table 2-1: Front View Labels & Functions.

#### Drive Arrangement

The drives used for storage are on the eight (8) left drive bays (Bays One (1) through Eight (8)). The OS drives is located in the SSD drive bays on the back of the unit.

#### Drive Bay LEDs

Each of the eight (8) drive bays has a blue and a red LED. When illuminated, the blue LED indicates drive activity. The blue LED on the drive bay also flashes when the drive in the bay is being accessed. The red LED is illuminated in the event of a drive failure.

**Control Panel**



**Figure 2-2: PROGUARD Status Activity LEDs, Soft Reset Button and Power Button**

The Control panel located in front of the PROGUARD has five (6) LEDs and two (2) push buttons. These uses of these buttons and LEDs are detailed below.

ICON	NAME	USE
<b>BUTTONS</b>		
<b>A</b>	<b>Power</b>	Depressing the Power button applies or turns off the main power to the system.
<b>F</b>	<b>Reset</b>	Depressing the Reset button reboots the system.
<b>LED</b>		
<b>B</b>	<b>HDD</b>	The LED flashes if there is any drive activity on the unit.
<b>D</b>	<b>NIC1</b>	The LED flashes if there is any network activity on ETH1.
<b>E</b>	<b>NIC2</b>	The LED flashes if there is any network activity on ETH2.
<b>C</b>	<b>Power Failure</b>	The LED flashes if there is a power supply failure.
<b>H</b>	<b>Information LED</b>	<p>This LED flashes at different rates and different colors to indicate one of several failures that may have occurred in the unit.</p> <p>The list below describes the different LED states and failures.</p> <p><b>Fast Blinking Red (1x/sec):</b> Fan Fail</p> <p><b>Solid Red:</b> CPU Overheat</p> <p><b>Slow Blinking Red (1x/4 sec):</b> Power Fail</p> <p><b>Solid Blue:</b> Local UID Button Depressed</p> <p><b>Blinking Blue:</b> IPMI-Activated UID</p>

**Table 2-2: Control Panel Buttons and LEDs**

**2.1.2. Rear View**

The rear panel of the PROGUARD unit as shown in Figure 2-3 provides several display, Ethernet, USB and DIN ports. Refer to Table 2-3 for port labels and functions on each port. The rear panel of the PROGUARD unit with the 25G I/O option installed can be seen in Figure 2-4. Refer to Table 2-4 for port labels and functions for the 25G I/O option.

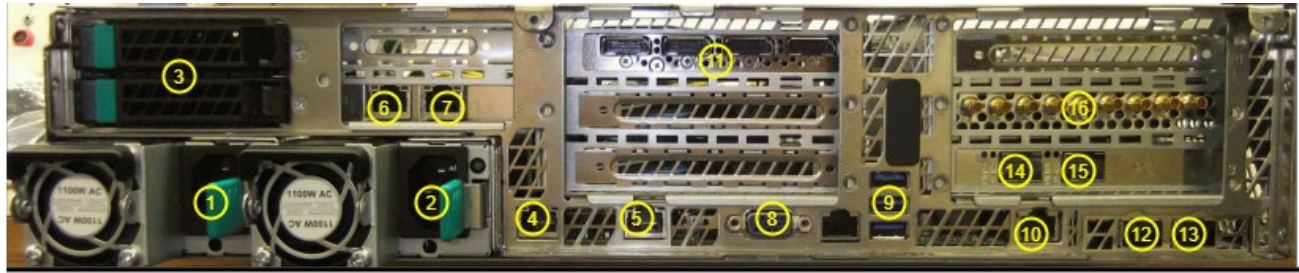


Figure 2-3: ProGuard Rear Panel View

PORT LABEL	FUNCTION
1	Power Supply 1
2	Power Supply 2
3	OS SSDs
4	eth0
5	eth1
6	eth4
7	eth5
8	VGA
9	USB
10	IPMI
11	GPU
12	eth3 (10G)
13	eth2 (10G)
14	eth7 (10G)
15	eth6 (10G)
16	SDI Card 0 (most left is reference, then 1-8 in increasing order from left to right)

Table 2-3: Port Labels & Functions.

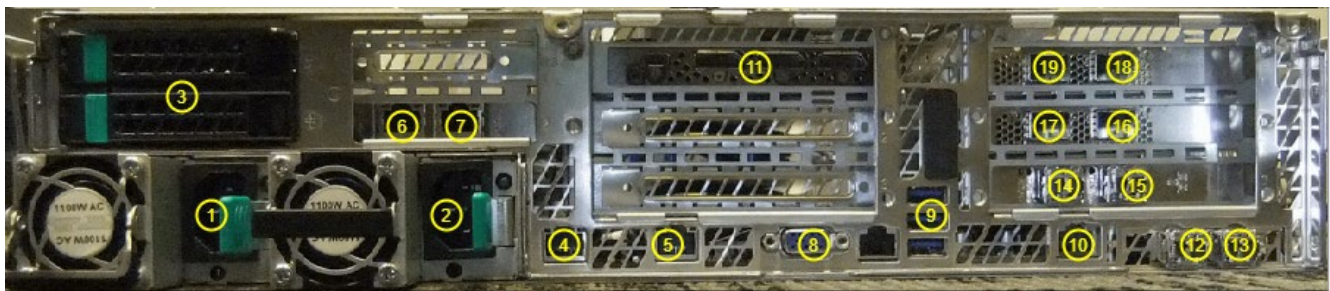


Figure 2-4: ProGuard with 25G I/O Option Rear Panel View

PORT LABEL	FUNCTION
1	Power Supply 1
2	Power Supply 2
3	OS SSDs
4	eth0
5	eth1
6	eth4
7	eth5
8	VGA
9	USB
10	IPMI
11	GPU
12	eth3 (10G)
13	eth2 (10G)
14	eth7 (10G)
15	eth6 (10G)
16	25G Port 1
17	25G Port 2
18	25G Port 3
19	25G Port 4

**Table 2-4: Port Labels & Functions for the 25G I/O Option**

**Power Supply Units**

Power is supplied to the PROGUARD via two hot-swappable 1100W power Supply units (PSU1 & PSU2) with load sharing. Each power supply unit has a LED to indicate it's current working state. The LED uses two colors to indicate the state of the PSU. The table below lists the LED colours and PSU state.

PSU LED Color	PSU State
Green	Indicates power is being supplied to the PSU, the PSU is in good working condition, and the unit is on.
Amber	Indicates power is being supplied to the PSU and the unit is off.

**Table 2-5: PSU State**

Each PSU provides audible tone for notification in the event of a PSU fails or loses power

**2.2. POWERING UP THE UNIT**

To power up the PROGUARD unit, depress the power button. Refer to Figure 2-2 and Table 2-2 for the location of the power button. Once the PROGUARD power button is depressed, the unit will automatically boot. Wait for (60 seconds) for the unit to boot up.



**NOTE: During the boot-up process the PROGUARD's internal fan speeds will ramp up and temporarily operate in a high-flow mode of operation. The internal fans will ramp down to their steady-state mode of operation upon successful booting.**



### 3. FEATURES

#### 3.1. PROGUARD CONFIGURATION

ProGuard provides a configuration menu for setting up the device. The configuration menu allows the user to select I/O type, configure PTP and IPMI, configure the network settings for the control and data ports, and shutdown/reboot the device.

To access the configuration menu, connect a keyboard and monitor to the device. Login as user "admin" with password "admin". The configuration menu can be accessed over SSH after initial setup with the credentials "admin/admin".

Navigate the menu using the arrow keys or by clicking the desired menu options. The UP and DOWN arrow keys can be used to navigate between menu items. The LEFT and RIGHT arrow keys are used to select between confirmation choices (e.g. <OK> or <Back>). Menu items are selected by pressing the ENTER key.

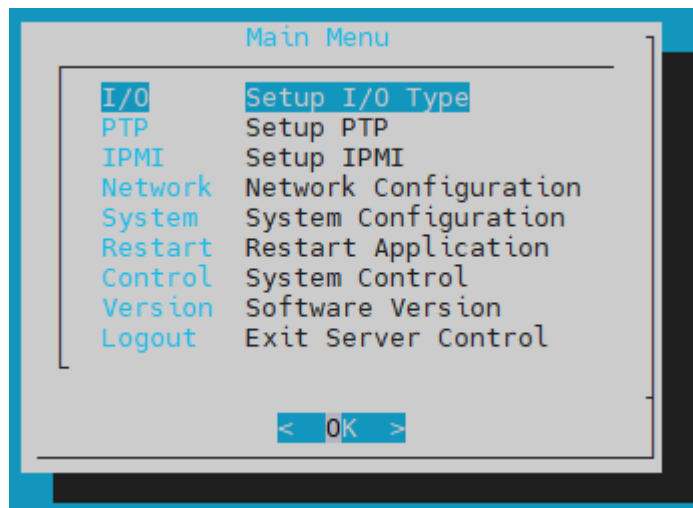


Figure 3-1: Configuration Main Menu

##### 3.1.1. I/O Configuration

The I/O menu allows the user to select the type of I/O used as well as the output video standard.

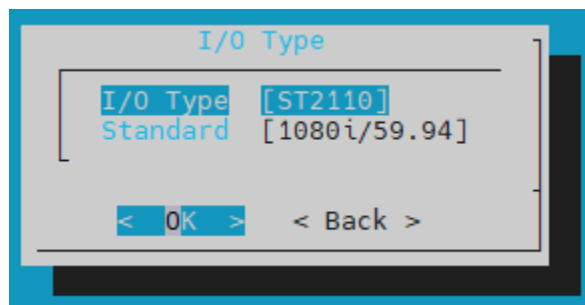


Figure 3-2: I/O Type Configuration Menu

3.1.1.1. I/O Type

This control allows the user to select between SDI and ST2110 I/O. The selected I/O type applies to both ProGuard paths.

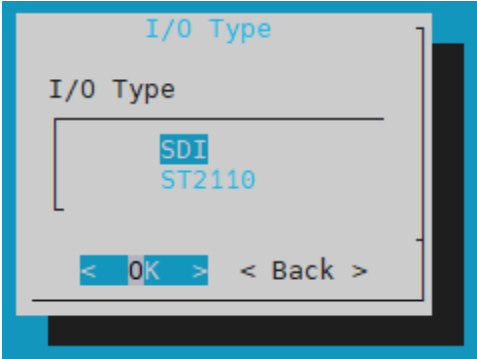


Figure 3-3: I/O Type Options

3.1.1.2. Standard

This control allows the user to select the video standard used for playout. The selected standard applies to both ProGuard paths.

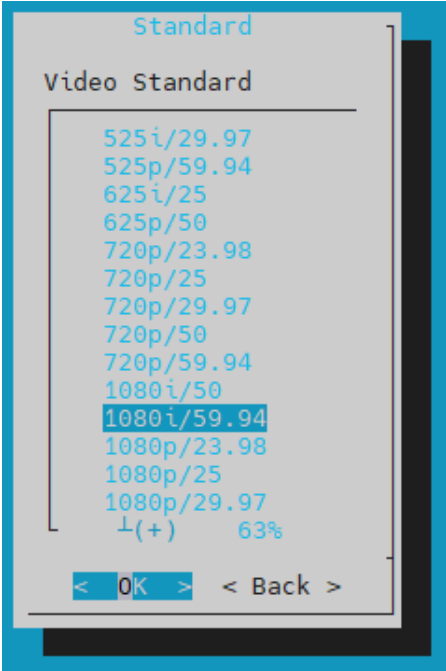
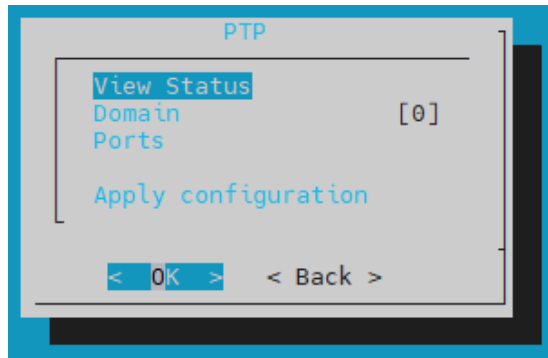


Figure 3-4: Standard Options

### 3.1.2. PTP Configuration

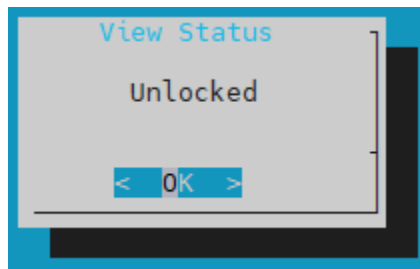
The **PTP** menu allows the user to configure PTP. The user can select the domain number, main and backup ports, and view the status of the PTP lock.



**Figure 3-5: PTP Configuration Menu**

#### 3.1.2.1. View Status

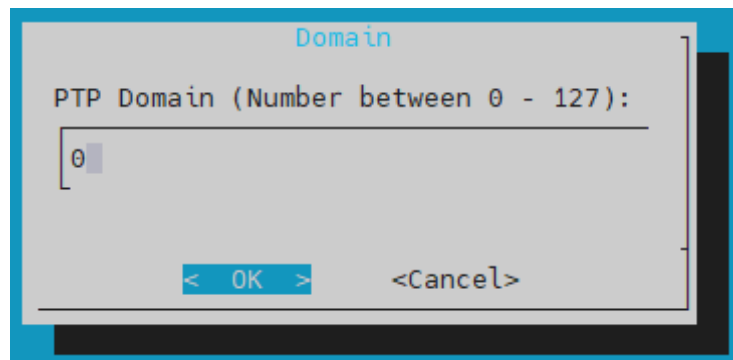
This menu option displays the lock status of PTP. The status will display "**Locked**" if PTP is currently locked, or "**Unlocked**" if PTP lock has not been established.



**Figure 3-6: PTP Status Window**

#### 3.1.2.2. Domain

This control allows the user to set the PTP domain number.



**Figure 3-7: PTP Domain Configuration**

### 3.1.2.3. Ports

This control allows the user to select the main and backup PTP ports.

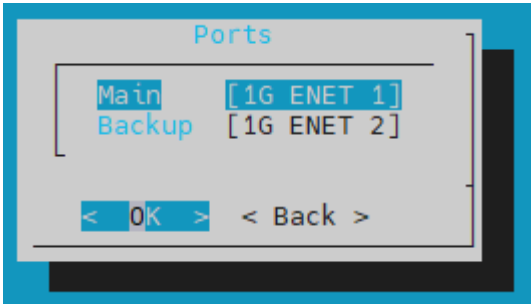


Figure 3-8: PTP Port Configuration

### 3.1.2.4. Apply Configuration

This menu option applies any changes made to the PTP configuration.



**NOTE: Applying changes to the PTP configuration restarts the PTP services and may cause temporary service disruptions.**

### 3.1.3. IPMI Configuration

The **IPMI** menu allows the user to configure the network settings for IPMI control.

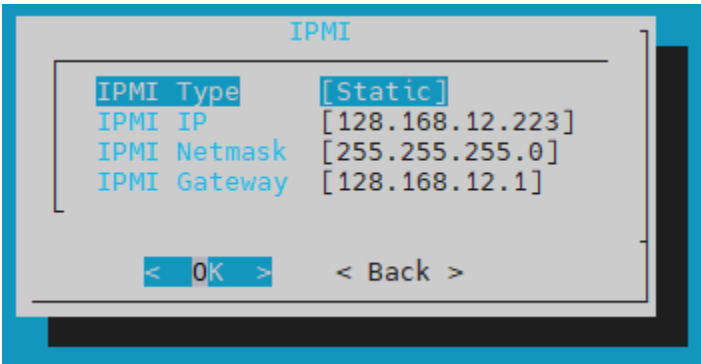


Figure 3-9: IPMI Configuration Menu

The **IPMI type** option allows the user to select between using **DHCP** or a **Static** network configuration for the IPMI interface.

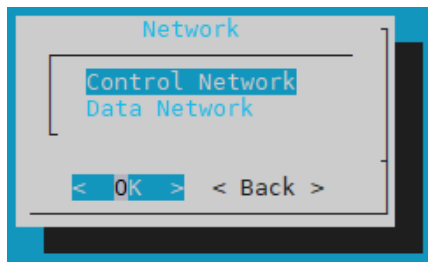
If a static network configuration is selected, the **IP address**, **netmask**, and **gateway** can be configured by selecting the associated menu option and entering the desired address.



**NOTE: The IP address, netmask, and gateway controls are only editable when a static network configuration is used for IPMI.**

### 3.1.4. Network Configuration

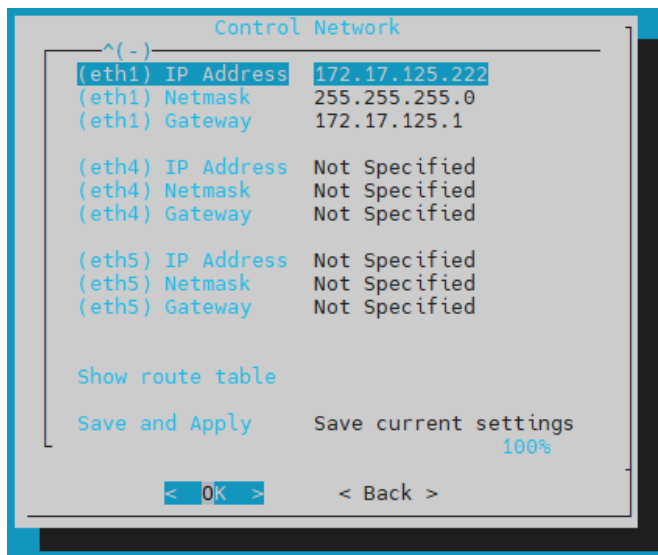
The **Network** menu allows the user to configure the network settings for the control and data networks.



**Figure 3-10: Network Configuration Menu**

#### 3.1.4.1. Control Network

The **Control Network** menu allows the user to configure the network settings for the control ports. This menu provides the option to configure the IP address, netmask, and gateway for each control interface as well as view the current route table.



**Figure 3-11: Control Network Configuration Menu**

##### 3.1.4.1.1. Control Port Configuration

The **IP address**, **netmask**, and **gateway** are displayed for each control interface. Refer to section 2.1.2 Rear View for the mapping between the interface name and network port on the rear panel of the device.



**Figure 3-12: IP Address, Netmask, and Gateway Configuration Options**

Configure the IP address, netmask, and gateway by selecting the associated menu option and entering the desired address. Save and apply the changes to the network settings by selecting the **Save and Apply** menu option.

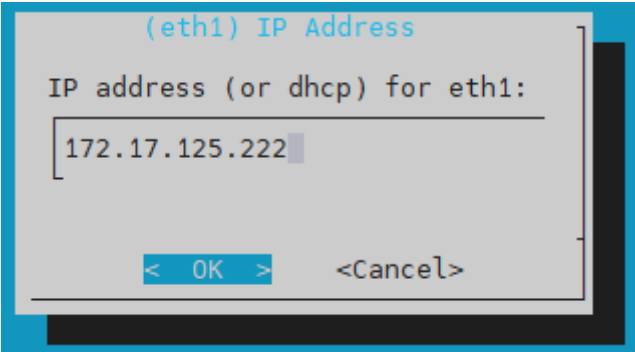


Figure 3-13: IP Address Configuration



**NOTE: Applying changes to the network settings restarts the network interfaces and may cause a temporary service interruption.**

3.1.4.1.2. Show route table

This control displays the current route table.

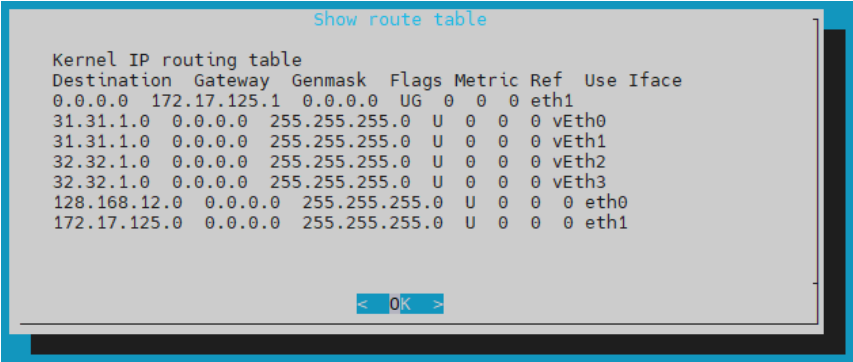


Figure 3-14: Route Table

### 3.1.4.2. Data Network

The **Data Network** menu allows the user to configure the network settings for the 10G or 25G data ports.

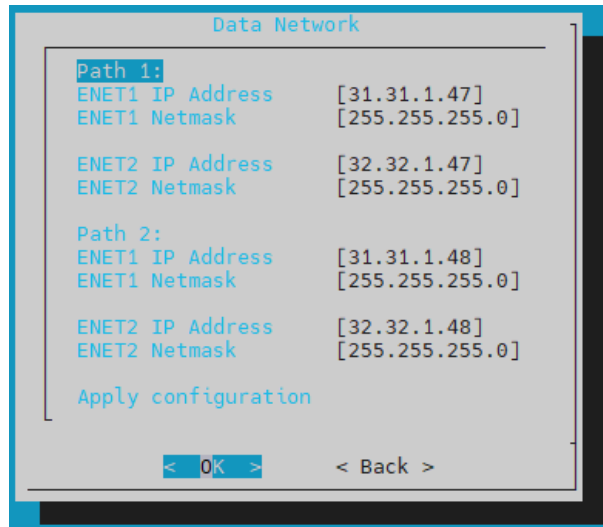


Figure 3-15: Data Network Configuration Menu

#### 3.1.4.2.1. Data Port Configuration

The **IP address** and **netmask** are displayed for each data port. Each ProGuard path has two data ports: a main port (ENET1) and an aux port (ENET2). Refer to section 3.3 I/O LAYOUT for the mapping between the ENETs and the physical ports on the rear panel of the device.

Configure the IP address and netmask for each port by selecting the associated menu option and entering the desired address. Apply the changes to the network settings by selecting the **Apply configuration** menu option. Changes to the data port settings may require a reboot of the device after the ProGuard application has been restarted.



Figure 3-16: IP Address and Netmask Configuration Options.



**NOTE:** This menu is only available for ProGuard devices equipped with the 10G or 25G IO options.

### 3.1.5. System Configuration

The **System Configuration** menu allows the user to change system wide settings such as the hostname, date and time, and admin password.

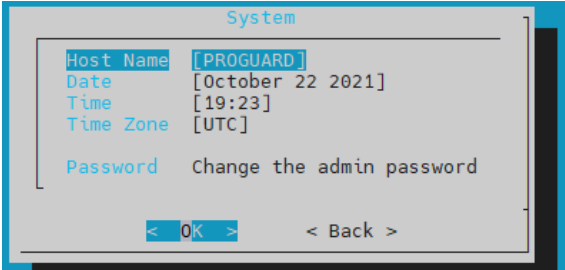


Figure 3-17: System Configuration Menu

#### 3.1.5.1. Host Name

This control allows the user set the hostname for the system.

#### 3.1.5.2. Date

This control allows the user to set the date for the system.

#### 3.1.5.3. Time

This control allows the user to set the time for the system.

#### 3.1.5.4. Time Zone

This control allows the user to set the time zone for the system.

#### 3.1.5.5. Password

This control allows the user to change the password for the admin user.

### 3.1.6. Restart Application

The **Restart Application** menu option allows the user to restart the ProGuard application.

### 3.1.7. System Control

The **System Control** menu allows the user to reboot or shutdown the ProGuard device.

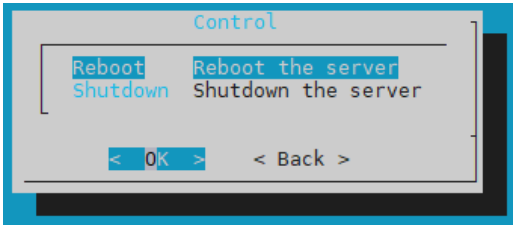


Figure 3-18: System Control Menu



### 3.1.8. Software Version

The **Software Version** menu option displays the version of ProGuard currently installed on the system.

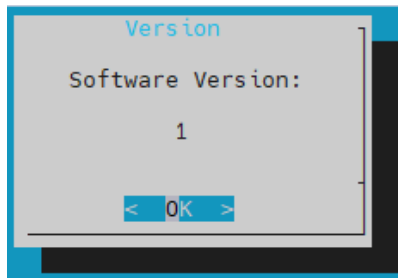


Figure 3-19: ProGuard Software Version

### 3.1.9. Exit Server Control

The **Logout** menu option allows the user to logout of the configuration shell. The escape key can also be used to exit the shell.

## 3.2. CONTROL USER INTERFACE

PROGUARD offers a Control UI accessed through a web browser for easy control of the device. To launch the PROGUARD control UI, open a web browser such as Firefox. Enter the IP address followed by “/canvas” (e.g. 172.18.125.11/canvas) and press **Enter**. The control UI will open to a **Seat Selection** page as shown in Figure 3-1.

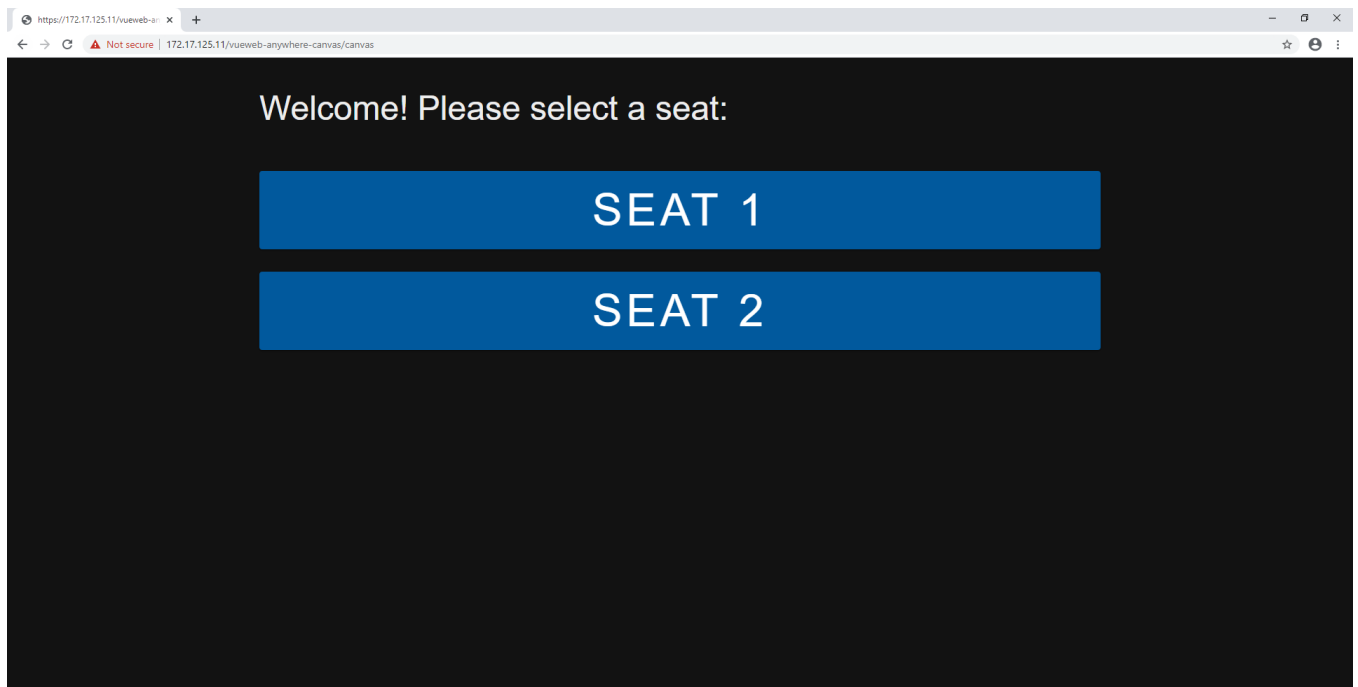
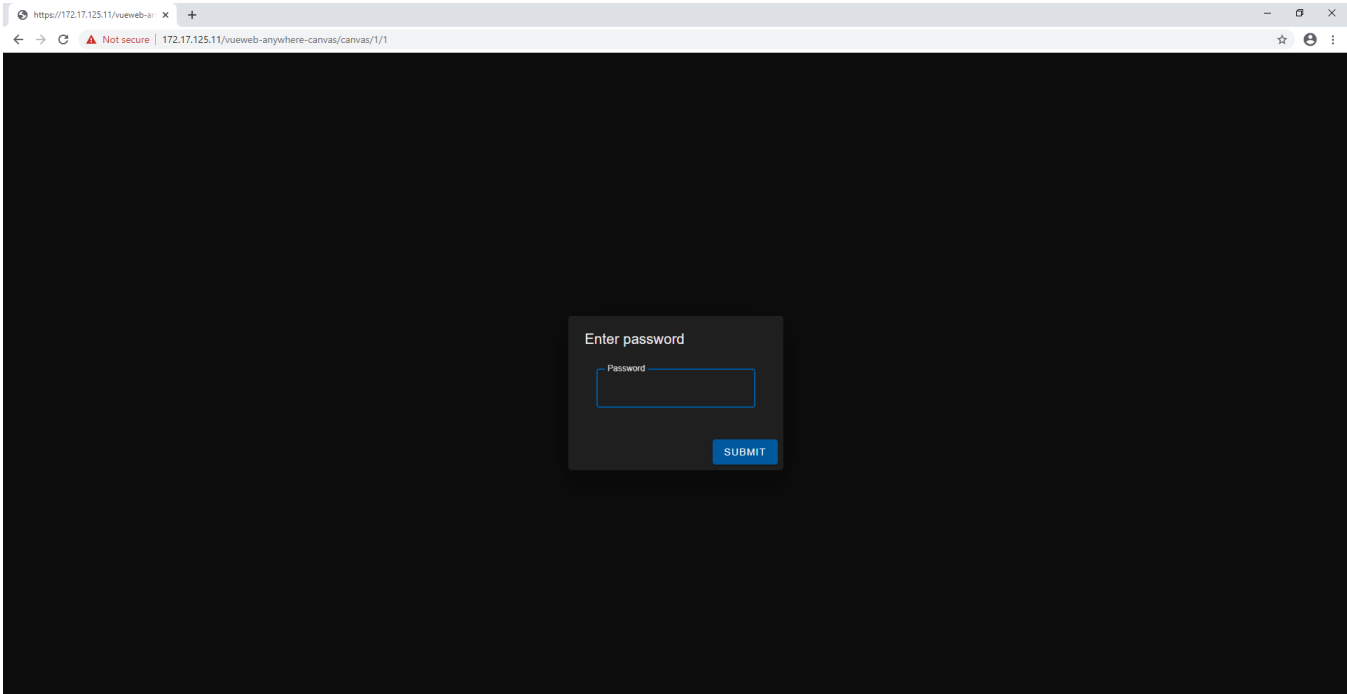


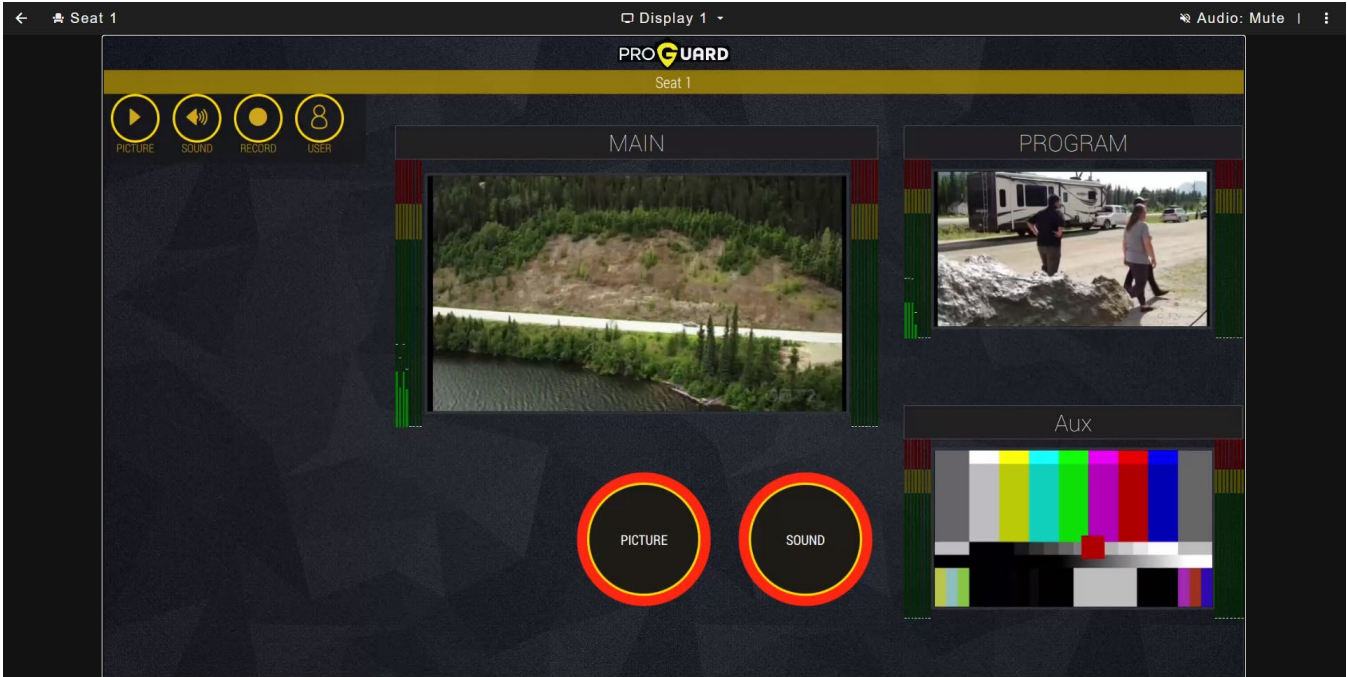
Figure 3-20: Seat Selection Page

**PROGUARD Quick Start Guide**

There are two independent seats defined in the configuration. Select a seat by clicking on one of the seat options. After clicking a seat, an **Enter password** prompt will appear as shown in Figure 3-2. Enter the password for the seat and hit **Enter**. The user will then be directed to the UI for that seat, as shown in Figure 3-3.



**Figure 3-21: Enter password Prompt**



**Figure 3-22: Control UI**

### 3.2.1. Header Panel

The ProGuard UI provides a header panel with two buttons that allows the user to change the seat that they are currently operating and mute or unmute the audio that they receive.

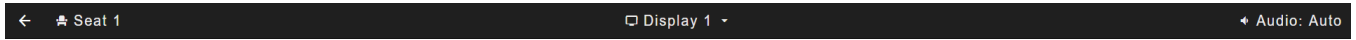
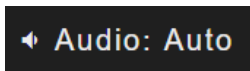


Figure 3-23: Header Panel



**Seat:** This button allows the user to return to the Seat Selection page to change the seat they are currently operating.



**Audio:** This button allows the user to change the audio output of the ProGuard UI. The user can mute, unmute, or set it to auto.

### 3.2.2. Video and Audio Previews

ProGuard provides three windows for monitoring audio and video as shown in Figure 3-5. The **Main** feed is the unaltered program source before any concealment profiles have been applied. The **Aux** feed is the auxiliary or safe feed that the Program feed can be switched to for concealment. The **Program** feed is the altered video feed after concealment profiles have been applied.

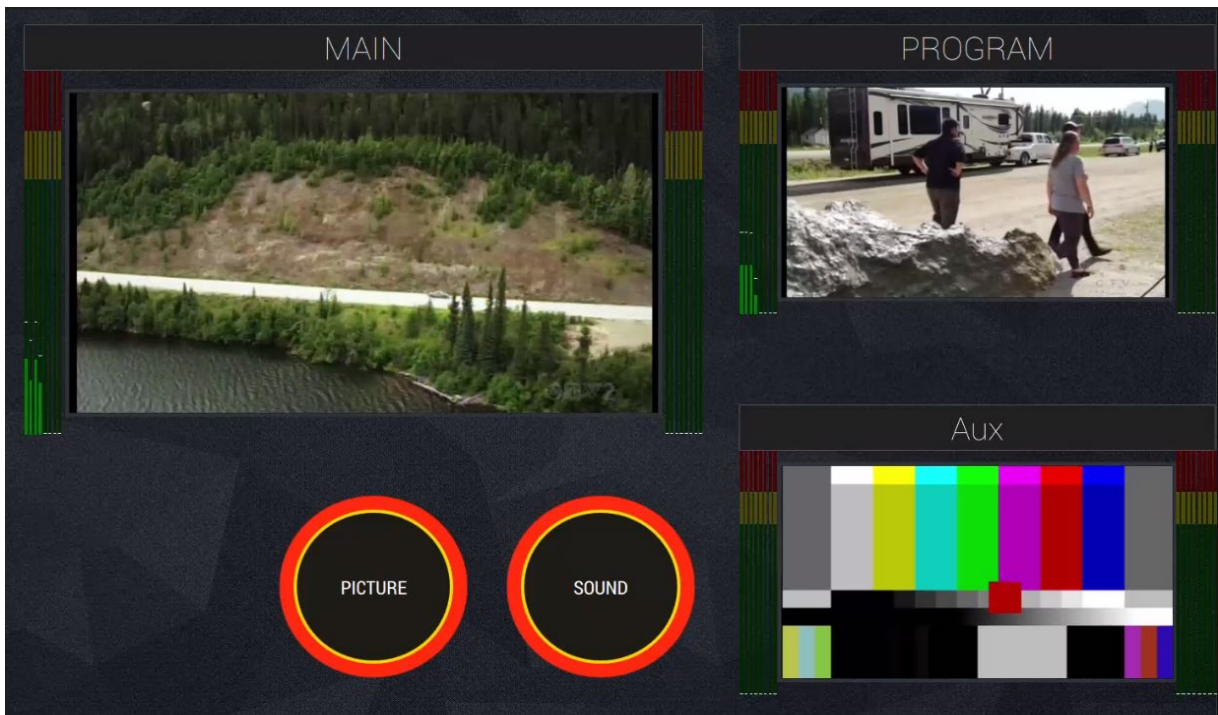


Figure 3-24: Preview of the Main, Auxiliary, and Program Video Feeds and their Audio Levels

The user can view each of these feeds in full screen by clicking on the desired video feed and then clicking the full screen button that appears in the bottom right corner of the feed, as shown in Figure 3-6. The user can also listen to specific audio sources by clicking the audio levels for the desired feed and then clicking the headset icon that appears at the bottom of the audio levels, as shown in Figure 3-7.

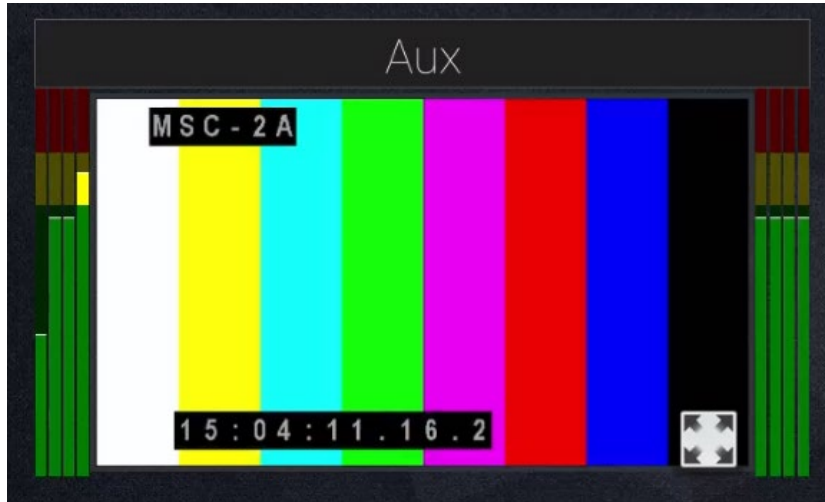


Figure 3-25: Video Preview Full Screen Button

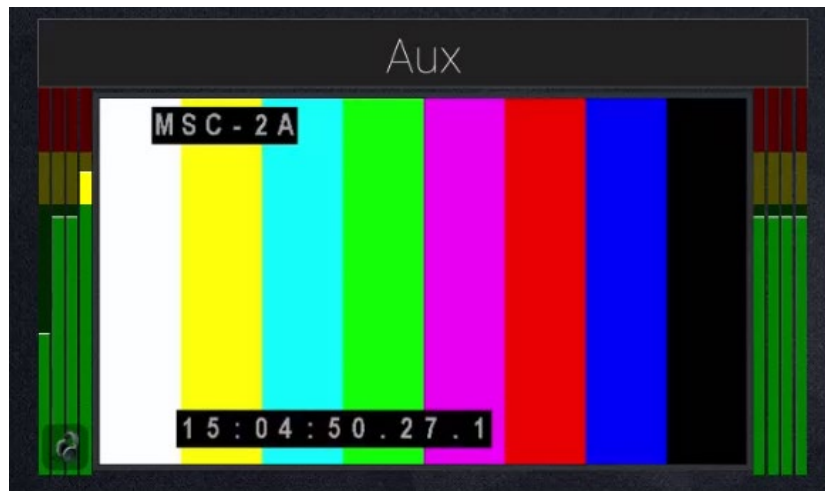
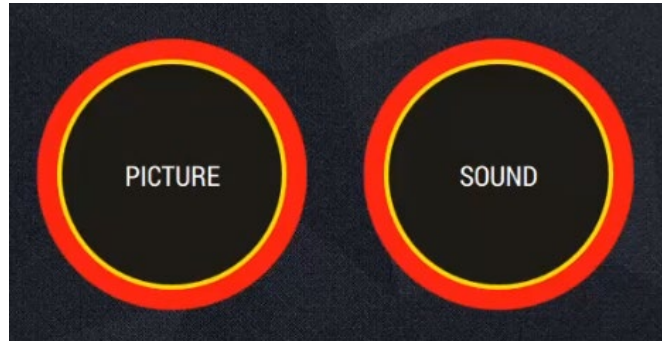


Figure 3-26: Audio Preview Button

### 3.2.3. Applying Concealment Profiles

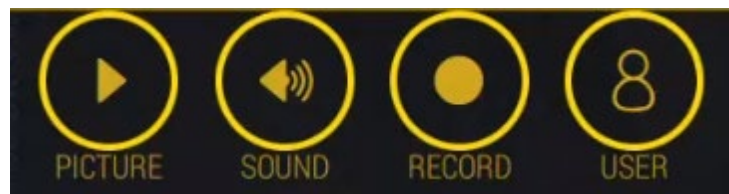
Below the video feed previews, ProGuard provides two buttons that can be used for applying concealment profiles to the output video and audio, as shown in Figure 3-8. Clicking the **PICTURE** button applies the selected video concealment profile to the **Program** feed for the duration that the button is held. Clicking the **SOUND** button applies the selected audio concealment profile to the **Program** feed's audio for the duration that the button is held.



**Figure 3-27: Buttons to Apply Concealment Profiles to the Video and Audio Feeds**

**3.2.4. Configuring Concealment Profiles**

PROGUARD provides a configuration panel with four buttons that allow the user to configure the concealment profiles, as shown in Figure 3-9. The buttons open drop-down menus for selecting and configuring the profiles. These menus are covered in more detail in sections 3.2.4.1 Picture, 3.2.4.2 Sound, 3.2.4.3 Record, and 3.2.4.4 User.



**Figure 3-28: Concealment Profile Configuration Panel**

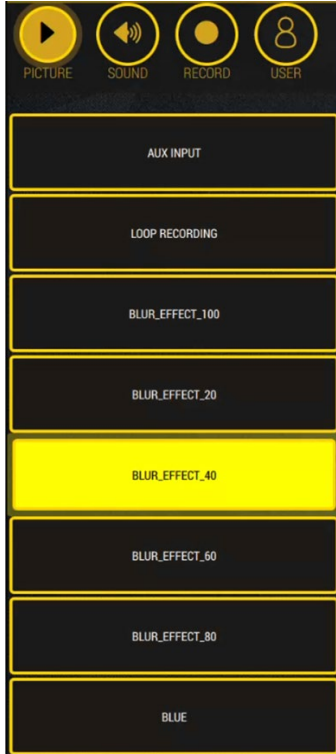
**3.2.4.1. Picture**

The **PICTURE** tab provides a number of concealment profiles that the user can apply to the video output. The ProGuard device is preloaded with seven video concealment profiles which are listed in Table 3-1. In addition, the user can define and upload their own custom concealment profiles. Refer to section 5.4 for list of supported file formats.

Label	Description
AUX INPUT	Toggle Program input from Main to Aux (default is Main when not applied)
BLUR_EFFECT_20	Apply blur effect at 20% level to Program output
BLUR_EFFECT_40	Apply blur effect at 40% level to Program output
BLUR_EFFECT_60	Apply blur effect at 60% level to Program output
BLUR_EFFECT_80	Apply blur effect at 80% level to Program output
BLUR_EFFECT_100	Apply full blur effect to Program output
LOOP_RECORDING	Playback a recording on loop

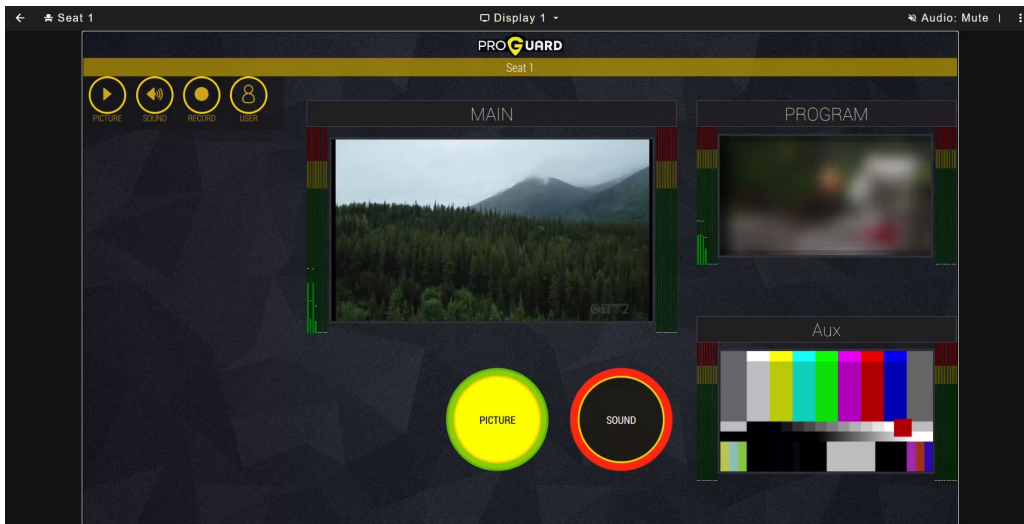
**Table 3-1: Default Video Concealment Profiles**

To apply a video concealment profile to the Program feed, select the **PICTURE** tab on the configuration panel. The profiles will be displayed in a drop-down menu as shown in Figure 3-10.



**Figure 3-29: Picture Concealment Profiles**

A profile can then be selected by clicking the desired option. The menu can be closed by clicking the **PICTURE** tab again. To apply the selected profile to the Program feed, click the **PICTURE** button below the Program preview as shown in Figure 3-11.



**Figure 3-30: Applying a Video Concealment Profile to the Output Feed**



**NOTE:** The picture concealment profile is only applied for the duration that the **PICTURE** button is held. Once the button has been released, the profile is no longer applied.

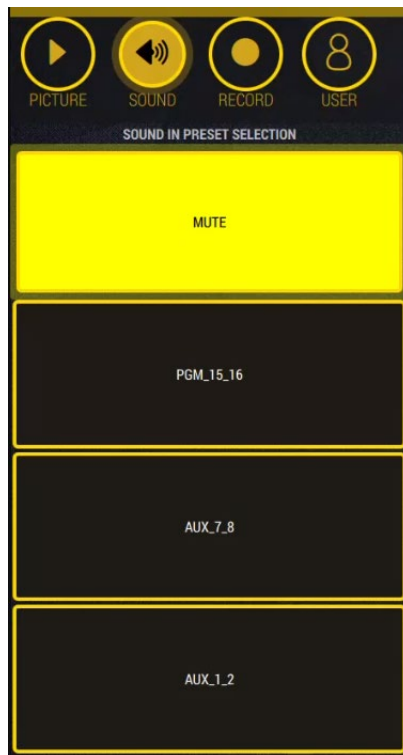
### 3.2.4.2. Sound

The **SOUND** tab provides a number of audio concealment profiles that the user can apply to the audio output. The ProGuard device is preloaded with four audio concealment profiles which are listed in Table 3-2. In addition, the user can define and upload their own custom audio concealment profiles.

Label	Description
MUTE	Mutes the Program feed's audio
PGM_15_16	Shuffles channel 15 and 16 from the Program feed to channel 1 and 2 of the Program feed
AUX_7_8	Shuffles channel 7 and 8 from the Aux feed to channel 1 and 2 of the Program feed
AUX_1_2	Shuffles channel 1 and 2 from the Aux feed to channel 1 and 2 of the Program feed

**Table 3-2: Default Audio Concealment Profiles**

To apply a profile to the audio output, click the **SOUND** tab on the configuration panel. The audio profiles will be displayed in a drop-down menu as shown in Figure 3-12.



**Figure 3-31: Sound Concealment Profiles**

A profile can then be selected by clicking the desired option. The menu can be closed by clicking the **SOUND** tab again. To apply the selected profile to the Program output audio, click the **SOUND** button below the Program feed as shown in Figure 3-13.



Figure 3-32: Applying Sound Concealment Profile to Output Feed



**NOTE:** The sound concealment profile is only applied for the duration that the **SOUND** button is held. Once the button has been released, the profile is no longer applied.

### 3.2.4.3. Record

The **RECORD** tab allows the user to record a clip of the video and audio from one of the desired feeds to disk. This clip can then be played out to the Program feed using the **LOOP\_RECORDING** profile under the **PICTURE** tab as described in 3.2.4.1 Picture.

The duration of the recording can be set using the **RECORD DURATION** option. The **RECORD DURATION** option specifies the length of the recording in seconds, and the maximum duration can be set to 600 seconds (10 minutes). The feed to record from can be selected using the **PORT SELECTION** option. The recording can be taken from either the **PGM** (Program) or **AUX** (Aux) feed.

To record a clip, click the **RECORD** tab on the configuration panel. The recording options will be displayed in a drop-down menu as shown in Figure 3-14.





**Figure 3-33: Recording Options**

The user can then select the duration of the recording and the source to record from. The recording can then be started by clicking the **RECORD** button as shown in Figure 3-15. The **RECORD** button remains highlighted until the recording is complete.



**Figure 3-34: Recording in Progress**



**NOTE:** Once the RECORD button has been pressed, the record operation cannot be cancelled or changed. The user must wait until the current recording has finished before starting a new one.

### 3.2.4.4. User

The **USER** tab allows the user to set the delay for the Main, Aux, and Record paths as well as set how quickly a concealment profile is applied after the user clicks the **PICTURE** or **SOUND** buttons.

The delay applied to the Main, Aux, and Record paths can be set using the **SNP DELAY**, **AUX PATH DELAY**, and **RECORD PATH DELAY** options, respectively. The delay options specify the number of frames that each path is delayed by. The delay can be set to a maximum of 300 frames. Changes to the path delays must be applied by clicking the **APPLY** button below the delay options.

How quickly the concealment profile is applied to the output can be set using the **USER REACTION TIME** option. The **USER REACTION TIME** option specifies how many frames in the past the selected concealment profile should be applied to the Program feed after the user presses the **PICTURE** or **SOUND** buttons. The **USER REACTION TIME** option can be enabled or disabled using the toggle button.

To configure the delay options, click the **USER** tab on the configuration panel. The delay options will be displayed in a drop-down menu as shown in Figure 3-16.

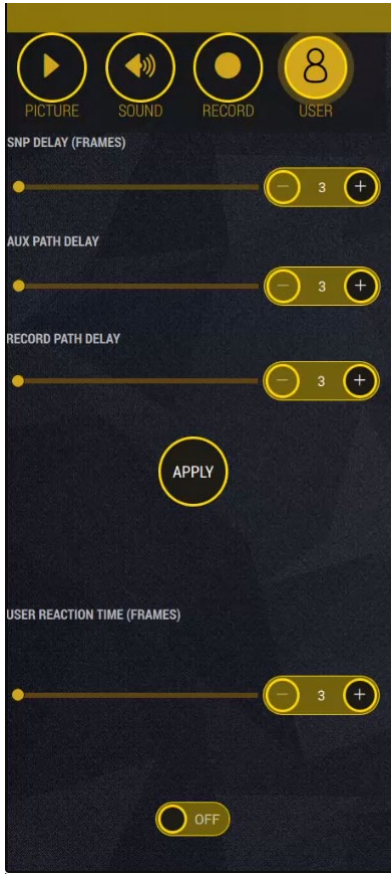


Figure 3-35: User Control Settings

### 3.3. I/O LAYOUT

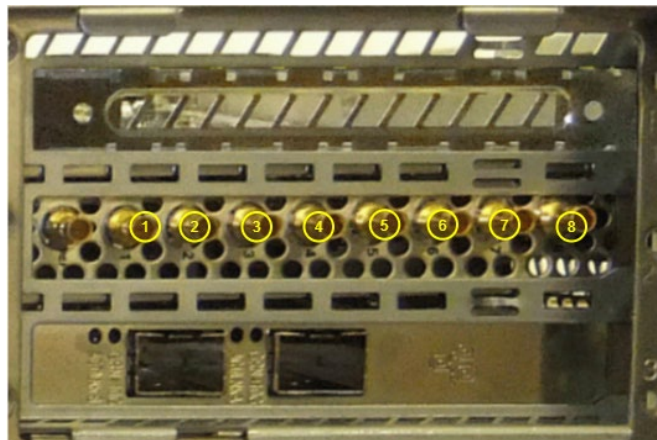
ProGuard can be equipped with SDI or IP I/O. The mapping of each I/O type and location is listed below.

### 3.3.1. SDI I/O

The SDI inputs are set up according to Table 3-3 below. The corresponding SDI inputs on the rear panel of the ProGuard device are shown in Figure 3-36.

BNC	Dual Seat (3G/HD/SD)
1	Program Output (Seat 1)
2	Main Input (Seat 1)
3	Not used
4	Aux Input (Seat 1)
5	Program Output (Seat 2)
6	Main Input (Seat 2)
7	Not used
8	Aux Input (Seat 2)

**Table 3-3: SDI I/O mapping**



**Figure 3-36: SDI I/O Rear Panel View**

### 3.3.2. Compressed IPTS I/O

The uncompressed 10G IP I/O are set up according to Table 3-4 below. The corresponding 10G I/O ports on the rear panel of the ProGuard device are shown in Figure 3-37.

Port (Main/Backup)	Dual Seat (3G/HD/SD)		Single Seat (UHD)	
	Input	Output	Input	Output
1/2	Main (Seat 1)	Program (Seat 1)	Main	Program
1/2	Aux (Seat 1)			
3/4	Main (Seat 2)	Program (Seat 2)	Aux	
3/4	Aux (Seat 2)			

**Table 3-4: 10G IP I/O Mapping.**

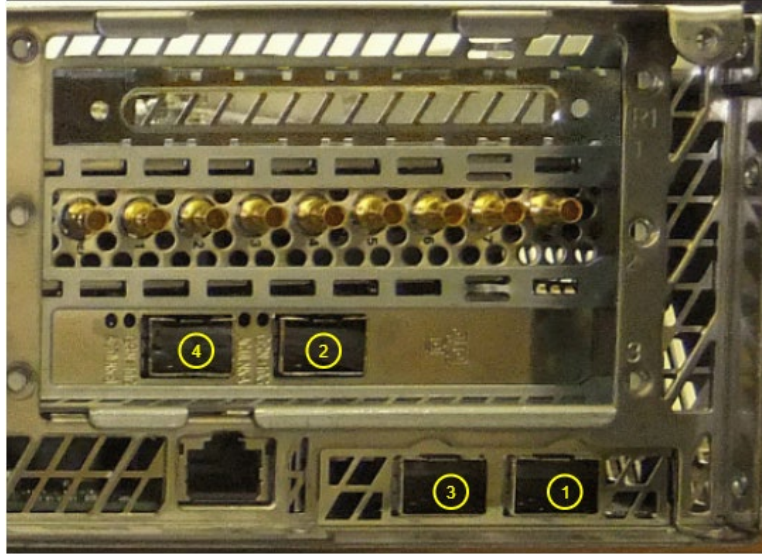


Figure 3-37: 10G IP I/O Rear Panel View

**3.3.3. Uncompressed 25G IP I/O**

The uncompressed 25G IP I/O are set up according to Table 3-5 below. The corresponding 25G I/O ports on the rear panel of the ProGuard device are shown in Figure 3-38.

Port (Main/Backup)	Dual Seat (3G/HD/SD)		Single Seat (UHD)	
	Input	Output	Input	Output
1/2	Main (Seat 1)	Program (Seat 1)	Main	Program
1/2	Aux (Seat 1)			
3/4	Main (Seat 2)	Program (Seat 2)	Aux	
3/4	Aux (Seat 2)			

Table 3-5: 25G I/O Mapping

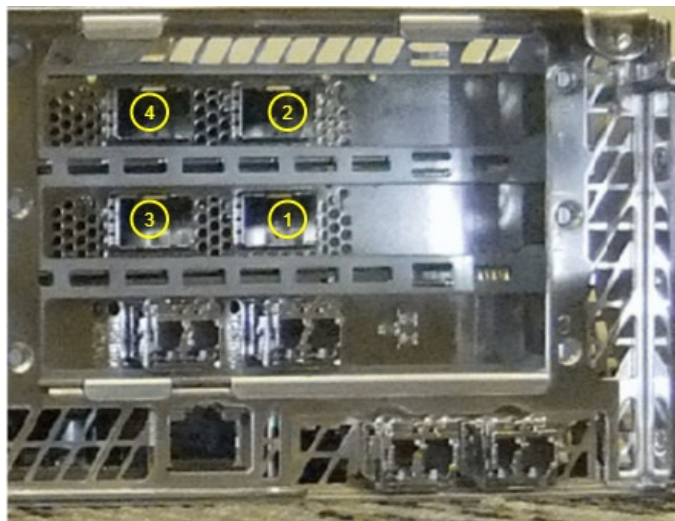


Figure 3-38: 25G IP I/O Rear Panel View

## 4. SPECIFICATIONS

### 4.1. PROGUARD PLATFORM SPECIFICATIONS

Based on multi-core Linux Server architecture  
Includes four (4) 1GbE ports  
Includes four (4) 10GbE ports  
Optional four (4) 25GbE ports  
Includes one (1) IPMI port  
Includes dual-redundant, hot-swappable power supplies

### 4.2. INPUT/OUTPUT

**SDI I/O:** 8x Configurable SDI Input / Output  
**IP I/O:** 4x 25G ports.

#### Supported Standard

**SDI I/O:** SMPTE-424M (3G), SMPTE-292M (HD) and SMPTE-259M (SD).

**IP I/O:** SMPTE-2110 SMPTE-2022-6

**Video Standard:** 525i", "625i", "720p/50", "720p/59.94", "1080i/50", "1080i/59.94", "1080p/50", "1080p/59.94"

**Video Sample Format:** 4:2:2 Y/C 8-bit/10-bit

### 4.3. AUDIO SUPPORT

Support for PCM HD/SD-SDI embedded per SMPTE-272M  
Support for 16-bit, 20-bit and 24-bit samples

### 4.4. GRAPHICS SUPPORT

**Supported Overlay File Formats:** TGA, TIFF, PNG, JPG, and MOV

### 4.5. TIME CODE

ATC/VITC pass-thru for SDI input  
ATC pass-thru for IP input

### 4.6. GENLOCK

Bi-level sync/Black-Burst

### 4.7. VERTICAL BLANKING INTERVAL

Pass through of vanc data.

### 4.8. MONITORING

SNMP support for monitoring through VistaLINK<sup>®</sup>

#### **4.8.1. Non Real-time File Transfers**

**Interface:** IP

**Protocols:** FTP

#### **4.8.2. Storage Capacity**

**PROGUARD:** 6.6 TB RAID6

#### **4.8.3. System Cooling**

**PROGUARD:** Six 60mm fans

### **4.9. POWER REQUIREMENTS**

**PROGUARD:**

- **Power Supply:** 100-240V AC (11 – 4.4 A), 50/60Hz (auto-sensing)
- **Rating:** 1100 W (9.565 A)

#### **Operating Environment**

Operating Temperature 10 to 35°C (50 to 95°F)

Non-operating Temperature -40 to 70°C (-40 to 158°F)

Operating Relative Humidity 20% to 95% (non-condensing)

Non-operating Relative Humidity 5% to 95% (non-condensing)

RoHS Compliant

### **4.10. DIMENSIONS**

**PROGUARD**

- 17.25" Wx 3.5" Hx 28" D (439 mm x 89mm x 712mm)
- Gross Weight: ~50lbs (23kg)
- 2U Rackmount