IGGY-ANA8.8 User Guide

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   - offer the best product quality and support
2. Make Cool Practical Technology
   - develop great products that customers love

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If anything at all with your Ross experience does not live up to your expectations be sure to reach out to us at *solutions@rossvideo.com*.

David Ross
CEO, Ross Video
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Ross Video Code of Ethics

Any company is the sum total of the people that make things happen. At Ross, our employees are a special group. Our employees truly care about doing a great job and delivering a high quality customer experience every day. This code of ethics hangs on the wall of all Ross Video locations to guide our behavior:

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2. We will do our best to understand our customers' requirements.
3. We will not ship crap.
4. We will be great to work with.
5. We will do something extra for our customers, as an apology, when something big goes wrong and it's our fault.
6. We will keep our promises.
7. We will treat the competition with respect.
8. We will cooperate with and help other friendly companies.
9. We will go above and beyond in times of crisis. *If there's no one to authorize the required action in times of company or customer crisis - do what you know in your heart is right. (You may rent helicopters if necessary.)*

IGGY-ANA8.8 · User Guide

- Ross Part Number: **1000DR-834-02 rev2**
- Software Version: 2.1
- Release Date: June 13, 2024.

The information contained in this manual is subject to change without notice or obligation.

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Patents

Patent numbers US 7,034,886; US 7,508,455; US 7,602,446; US 7,802,802 B2; US 7,834,886; US 7,914,332; US 8,307,284; US 8,407,374 B2; US 8,499,019 B2; US 8,519,949 B2; US 8,743,292 B2; GB 2,419,119 B; GB 2,447,380 B; and other patents pending.

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Safety Notices

Refer to the "**Important Regulatory and Safety Notices**" document that accompanied your product.

Statement of Compliance

This product has been determined to be compliant with the applicable standards, regulations, and directives for the countries where the product is marketed.

Compliance documentation, such as certification or Declaration of Compliance for the product is available upon request by contacting techsupport@rossvideo.com. Please include the product; model number identifiers and serial number and country that compliance information is needed in the request.

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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.

Notice — *Changes or modifications to this equipment not expressly approved by Ross Video Ltd. could void the user's authority to operate this equipment.*

Canada

This Class A device complies with Canadian ICES-003 and part 15 of the FCC Rules.

Cet appariel numerique de la classe “A” est conforme a la norme NMB-003 du Canada.

European Union

This equipment is in compliance with the essential requirements and other relevant provisions established under regulation (EC) No 765/2008 and Decision No 768/2008/EC referred to as the “New Legislative Framework”.

Warning — *This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.*

Australia/New Zealand

This equipment is in compliance with the provisions established under the Radiocommunications Act 1992 and Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2008.

Korea

Class A equipment (Broadcasting and communications service for business use).

This device is a business-use (Class A) EMC-compliant device. The seller and user are advised to be aware of this fact. This device is intended for use in areas outside home.

Type of Equipment	User’s Guide
A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
Class A Equipment (Industrial Broadcasting & Communication Equipment)	This equipment is **Industrial (Class A) electromagnetic wave suitability equipment** and seller or user should take notice of it, and this equipment is to be used in the places except for home.

International

This equipment has been tested under the requirements of CISPR 22:2008 or CISPR 32:2015 and found to comply with the limits for a Class A Digital device.

Notice — *This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.*

Maintenance/User Serviceable Parts

Routine maintenance to this Ross product is not required. This product contains no user serviceable parts. If the module does not appear to be working properly, please contact Technical Support using the numbers listed under “**Contacting Technical Support**”. This product is covered by a generous 1-year warranty and will be repaired without charge for materials or labor within this period. See “**Warranty and Repair Policy**” for details.

Environmental Information

The equipment may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.

If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration. You can also contact Ross Video for more information on the environmental performances of our products.

Security and Privacy

If you would like more information on how Ross Video security and privacy practices have been applied to the IGGY-ANA8.8, what you should know about maintaining security of this product, and how we can partner with you to ensure security throughout this product's life-cycle, contact techsupport@rossvideo.com.

Ross Video has implemented reasonable administrative, technical, and physical safeguards to help protect against security incidents and privacy breaches involving a Ross Video product provided those products are used in accordance with Ross Video instructions for use. However, as systems and threats evolve, no system can be protected against all vulnerabilities and we consider our customers the most important partner in maintaining security and privacy safeguards. If you have any concerns, we ask that you bring them to our attention, and we will investigate. Where appropriate, we will address the issue with product changes, technical bulletins and/or responsible disclosures to customers and regulators. Ross Video continuously strives to improve security and privacy throughout the product life-cycle using practices such as:

- Privacy and Security by Design
- Product and Supplier Risk Assessment
- Vulnerability and Patch Management
- Secure Coding Practices and Analysis
- Vulnerability Scanning
- Access Controls appropriate to Customer Data
- Incident Response
- Clear paths for two-way communication between customers and Ross Video

If you would like to report a potential product related privacy or security issue (incident, breach, or vulnerability), contact techsupport@rossvideo.com.

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Introduction

This guide covers the installation, configuration, and use of the IGGY-ANA8.8. The following chapters are included:

- "**Introduction**" summarizes the guide and provides important terms, and conventions.
- "**Product Overview**" provides a brief product overview and installation requirements for the IGGY-ANA8.8.
- "**Hardware Overview**" describes the IGGY-ANA8.8 hardware features and physical connections.
- "**Physical Installation**" provides information when installing the IGGY-ANA8.8 in your system.
- "**Cabling**" provides an overview of connecting external devices to the IGGY-ANA8.8.
- "**Getting Started**" outlines how to display the IGGY-ANA8.8 interfaces in DashBoard.
- "**Configuring the Ethernet Ports**" provides instructions for configuring the IGGY-ANA8.8 settings for basic network communications.
- "**Protocol Setup**" provides information for setting up media distribution via the IGGY-ANA8.8 using third-party protocols.
- "**Configuring the Timing Settings**" provides instructions for configuring the IGGY-ANA8.8 to use Precision Time Protocol, and specifying a reference source.
- "**Configuring the Destinations**" provides instructions for configuring the destination channels on the IGGY-ANA8.8.
- "**Configuring the Senders**" provides instructions for configuring the sender channels on the IGGY-ANA8.8.
- "**Configuring the Presets**" outlines how to define the network streams that the IGGY-ANA8.8 can access.
- "**Operation**" provides general information for operating the IGGY-ANA8.8.
- "**Upgrading the Software**" provides instructions for upgrading the software via DashBoard.
- "**DashBoard Interface Overview**" summarizes the functions, menus, and parameters of the IGGY-ANA8.8 in DashBoard.
- "**Technical Specifications**" provides the specifications for the IGGY-ANA8.8.
- "**Service Information**" provides information on the warranty and repair policy for your IGGY-ANA8.8.
- "**Software Licenses**" provides third-party software license information for your IGGY-ANA8.8.
- "**Glossary**" provides a list of terms used throughout this guide.

Related Publications

It is recommended to consult the following Ross documentation before installing and configuring your IGGY-ANA8.8:

- ***DashBoard User Manual***, Ross Part Number: 8351DR-004
- ***IGGY-ANA8.8 Quick Start Guide***, Ross Part Number: 1000DR-831

Documentation Conventions

Special text formats are used in this guide to identify parts of the user interface, text that a user must enter, or a sequence of menus and sub-menus that must be followed to reach a particular command.

Interface Elements

Bold text is used to identify a user interface element such as a dialog box, or menu. Bold text set in Arial font is used to identify a button. For example:

In the **Edit** dialog, click **Apply**.

User Entered Text

Courier text is used to identify text that a user must enter. For example:

In the **Language** box, enter **`English`**.

Referenced Guides

Italic text is used to identify the titles of referenced guides, manuals, or documents. For example:

For more information, refer to the ***DashBoard User Manual***.

Menu Sequences

Menu arrows are used in procedures to identify a sequence of menu items that you must follow. For example, if a step reads "**Advanced** > **Timing**," you would select the **Advanced** tab and then select the **Timing** sub-tab.

Important Instructions

Star icons are used to identify important instructions or features. For example:

✶ Contact your IT department before connecting to your facility network to ensure that there are no conflicts. They will provide you with an appropriate value for the IP Address, Subnet Mask, and Gateway for your IGGY-ANA8.8.

Contacting Technical Support

At Ross Video, we take pride in the quality of our products, but if problems occur, help is as close as the nearest telephone.

Our 24-hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross Video personnel. During business hours (Eastern Time), technical support personnel are available by telephone. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support person who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. This team of highly trained staff is available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

- **Technical Support**: (+1) 613-652-4886
- **After Hours Emergency**: (+1) 613-349-0006
- **E-mail**: techsupport@rossvideo.com
- **Website**: http://www.rossvideo.com

Product Overview

If you have questions pertaining to the operation of the IGGY-ANA8.8, contact us at the numbers listed in **"Contacting Technical Support**". Our technical staff is always available for consultation, training, or service.

The IGGY-ANA8.8 is a multi-protocol, studio-video-over-IP transceiver offering a complete solution, including NMOS discovery, registration, and client API.

Features

Some features of the IGGY-ANA8.8 include:

- Dual redundant Gigabit Ethernet audio interfaces, and optional GE control interface
- 8 audio receivers, 8 audio senders
  - SMPTE ST 2022-7 hitless 1+1 redundancy per sender and receiver
  - Packet times: 125µs, and 1ms
  - Samples/packet: 6, 12, and 48
  - Sample rate: 48kHz
  - Receive up to a 64 channel stream
  - Supports the L24 audio formats
  - WAN-capable buffering: 30ms per receiver stream
- SMPTE ST 2110-30, including all conformance levels: A, B, and C
- Supports discovery and registration via:
  - ANEMAN
  - NMOS
  - RAVENNA
  - Dante/SAP
- Connection control via Ember+
- Configuration via Ember+, and DashBoard
- Flexible mounting options
- Full DashBoard control

Work Flow Diagram

Figure 1 provides an example work flow of the IGGY-ANA8.8.

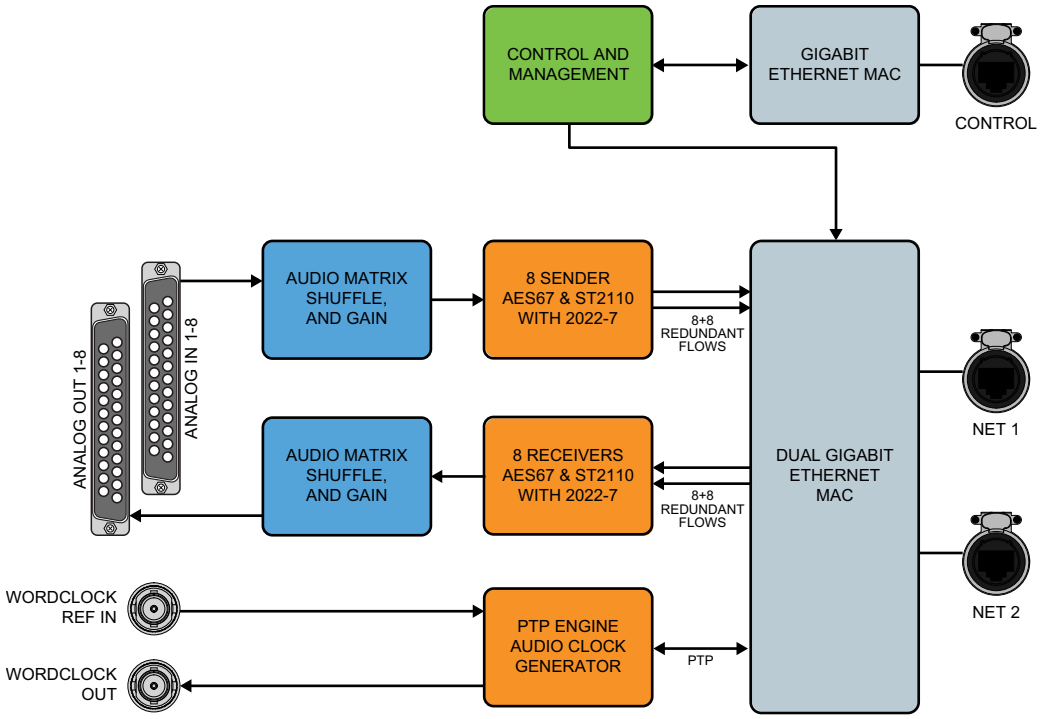


Figure 1 IGGY-ANA8.8 Work Flow Diagram

What are Receivers, Senders, and Streams?

The following terms are used throughout this user guide:

Device

A physical, virtual, or software application that may include multiple sources, destinations, senders, or receivers.

Essence

A single elementary logical media signal. For example, a video essence is one video channel. An audio essence is a single audio (mono) channel.

Flow

The continuous raw media content. It can contain more than one essence (e.g. an audio flow can contain multiple channels).

A flow is independent of the transport protocol. For example, 48kHz LPCM audio is a flow; AES67 is one type of stream which can carry the flow.

Flows cannot generally be passed around natively, and need to be encapsulated in a stream. Flows from the same source are considered “editorially equivalent”, but may be encoded differently.

Receiver

An element within a device that receives exactly one stream, which contains one flow from a network.

Sender

An element within a device which presents exactly one flow, packaged as a stream onto a network.

Stream

One flow, encapsulated within a transport protocol. Examples include SMPTE ST 2022-6, SMPTE ST 2110-20 Video, or SMPTE ST 2110-30 Audio (AES67).

Quick Start

This chapter is intended to help you get started quickly with your IGGY-ANA8.8.

For More Information on...

- installing your IGGY-ANA8.8, refer to the ***IGGY-ANA8.8 Quick Start Guide***.

What is an IGGY?

Each IGGY model is a device that allows audio data to travel across an ethernet network with professional quality AES67 and ST2110 protocols. Different IGGY models connect to different types of audio devices (using connection types such as MADI and AES3), but the network features and setup remain the same.

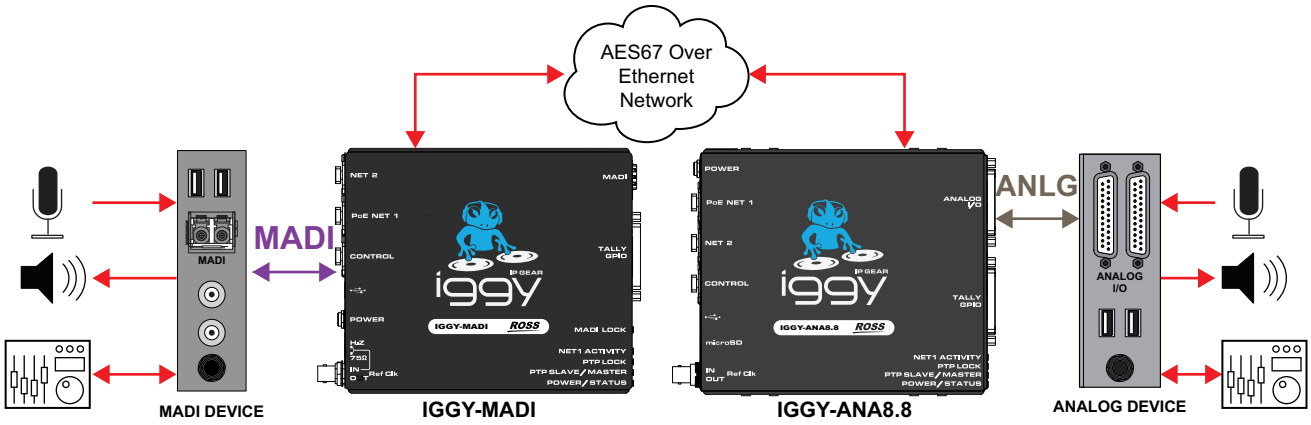


Figure 2 Possible Workflow with an IGGY-MADI and an IGGY-ANA8.8

What are AES67 and ST2110?

These are protocols for sending audio data across an ethernet network. Input audio channels (from the MADI or analog audio ports) are grouped and converted to data packets by IGGY and sent out across the network as source streams. Other IGGY models can be configured to listen to these packet streams, receive and process the data, and then pass the audio out the destination port(s).

For this streaming to work, the IGGY needs a little configuration. Your IGGY ships with default configurations that work well in many scenarios. A Configuration Wizard simplifies the set up.

Connect the IGGY-ANA8.8

1. Connect the IGGY-ANA8.8 to a power source. Refer to "**Connecting to a 15V PSU**".
2. Connect the **NET1** port of your IGGY-ANA8.8 to the same local network that your PC is connected to (i.e., connected to the same ethernet switch).

Set up the IGGY-ANA8.8

1. Locate the serial number label on the side of your IGGY-ANA8.8.
   - Scan the QR code on the serial number label, or
   - Use a browser to go to: www.rossvideo.com/device and enter the serial number.
2. Review the information reported about your IGGY-ANA8.8.
3. Select **Local Link** to launch the IGGY-ANA8.8 web UI and open the Welcome page.
4. Select the **Initial Setup** tab at the top.
5. Follow the on-screen instructions to quickly set up the IP address and user settings.

Hardware Overview

This chapter presents information on the IGGY-ANA8.8 hardware components and features.

Faceplate Overview

The chassis faceplate of the IGGY-ANA8.8 provides a silk-screen map of the available connections and LEDs. **Figure 3** illustrates the IGGY-ANA8.8 faceplate top. From the top you can see that the chassis has two areas:

- the power (PWR) connection, NET ports, CONTROL port, and REF BNCs are located on the left side
- the status LEDs, TALLY/GPIO connector, and ANALOG I/O ports are located on the right side

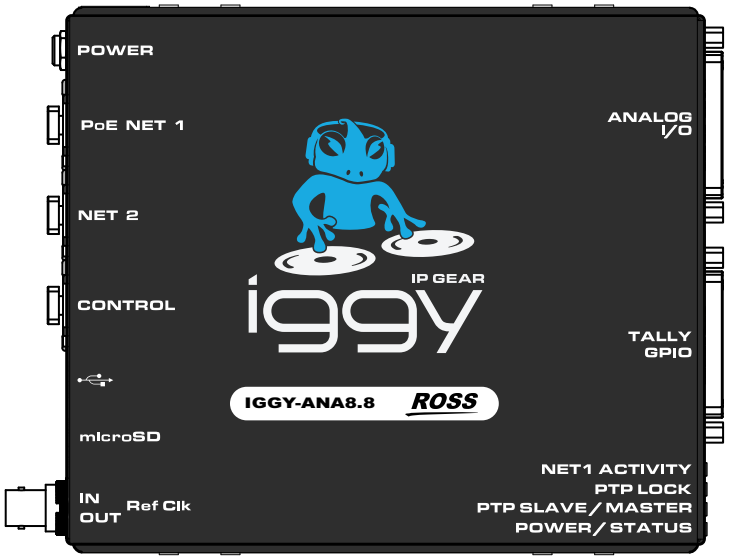


Figure 3 IGGY-ANA8.8 — Faceplate Components

PSU Connection and PWR Status LED

The left-side of the IGGY-ANA8.8 chassis provides one PSU port. (**Figure 4**)

Figure 4 PWR Connection

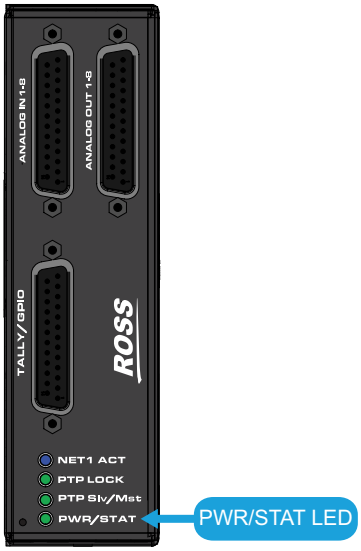


Figure 5 PWR/STAT LED

PWR 15V 4A Connection

The IGGY-ANA8.8 can be powered from an external 15V PSU. This port is a standard miniature power jack (center pin positive). Refer to "**Connecting to a 15V PSU**" for details.

PWR/STAT LED

A PWR/STAT LED is located on the right side of the IGGY-ANA8.8 chassis and reports on general communication and status conditions. (**Figure 5**)

Table 1 describes the possible status information the PWR/STAT LED will report.

Table 1 POWER/STATUS LED

Status	Description
Green	The IGGY-ANA8.8 is receiving +15VDC on the PSU (DC) port of its chassis. No errors are detected in the communication activity between the IGGY-ANA8.8 and external devices.
Yellow/Green	The IGGY-ANA8.8 is initializing.
Red	A communication error is detected or the IGGY-ANA8.8 is currently in reboot mode. Monitor the IGGY-ANA8.8 status before taking action.
Off	When this LED is unlit, a valid power connection is not connected to the POWER port.

CONTROL Port

The CONTROL port is a GigE XLR RJ45 port that connects to your facility network. This connection is used to communicate with a DashBoard client for configuration and monitoring purposes.

Connect IGGY-ANA8.8 to the same network as your DashBoard client computer or to a network that has a route to the network your DashBoard client computer is on.

Figure 6 IGGY-ANA8.8 — CONTROL Port

NET 1, NET 2 Ports

Each NET port is a GigE XLR RJ45 port. There are options provided for configuring the NET ports as a receiver and/or transmitter.

The NET 1 port is PoE Type 1, Class 3 (802.3at Type 2) connector that provides up to 13W of power. The NET 1 port is also the primary audio transport link.

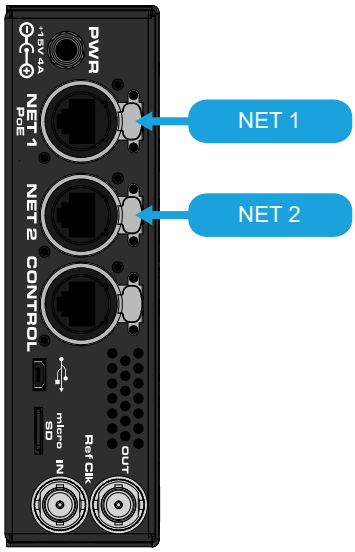


Figure 7 IGGY-ANA8.8 — NET Ports

NET 1 ACT LED

The status of the NET 1 signal is reported in DashBoard and via the NET 1 ACT LED. (**Figure 8**)

Figure 8 IGGY-ANA8.8 — NET 1 ACT LED

Table 2 describes the possible status information the NET 1 ACT LED will report.

Table 2 NET 1 ACT LED

Status	Description
Blue	No errors are detected in the communication activity between the IGGY-ANA8.8 and external devices
Off	The IGGY-ANA8.8 is not powered on or there is no activity on this port.

ANALOG I/O Connections

Each ANALOG port is a DB-25 multi-way female connector with 4-40 jack-screws for locking the connector (**Figure 9**)

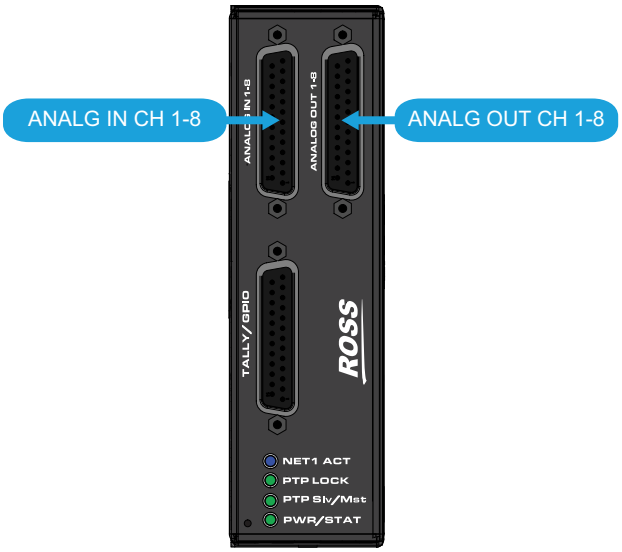


Figure 9 IGGY-ANA8.8 — ANALOG I/O Connectors

For More Information on...

- the pin-outs, refer to "**Cabling the Analog Inputs and Outputs**".

Reference Connections

The right-side of the IGGY-ANA8.8 chassis also provides two 75ohm BNC connectors (**Figure 10**):

- one BNC for a word clock reference input
- one BNC for a work clock reference output on a 5V TTL signal

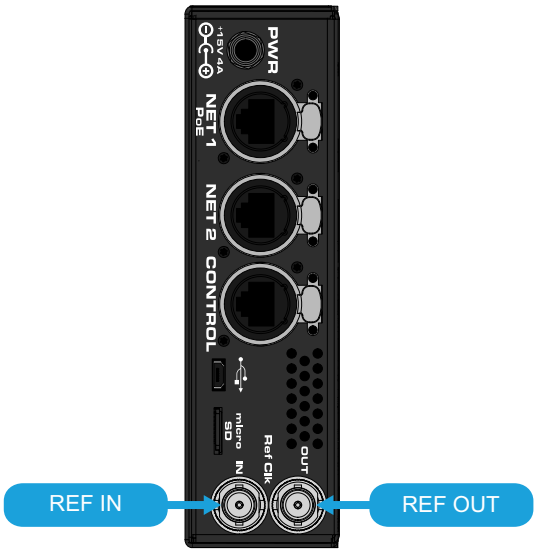


Figure 10 IGGY-ANA8.8 — Reference Connections

PTP LEDs Overview

On the left-side of the IGGY-ANA8.8 chassis there are two PTP status LEDs enable you to monitor the PTP communication traffic on the IGGY-ANA8.8.

Figure 11 IGGY-ANA8.8 — PTP Status LEDs

PTP SLV/MST LED

Table 3 describes the possible status information the PTP SLV/MST LED will report.

Table 3 PTP SLV/MST LED

Status	Description
Green	The IGGY-ANA8.8 is communicating with the PTP Grandmaster and PTP is slaving to a Grandmaster
Blue	The IGGY-ANA8.8 is acting as the Master on the network
Red	The IGGY-ANA8.8 is initializing. The IGGY-ANA8.8 is not configured correctly (is not a PTP Follower or master on the network). Verify the network connection and PTP settings.
Off	The IGGY-ANA8.8 is not powered on

PTP LOCK LED

Table 4 describes the possible status information the PTP LOCK LED will report.

Table 4 PTP LOCK LED

Status	Description
Green	The IGGY-ANA8.8 is locked to a valid PTP connection
Red	The IGGY-ANA8.8 cannot establish a PTP connection and is not locked to a timing reference
Off	The IGGY-ANA8.8 is not powered on

Other Features

The IGGY-ANA8.8 chassis also provides a TALLY/GPIO port, a reset button and a USB port.

✶ The USB port and Micro SD Card slot are not implemented.

TALLY/GPIO Port

This port is a DB-25 multi-way female connector with 4-40 jack-screws for locking the connector.

✶ The TALLY/GPIO port is reserved for future use.

Reset Button

Press and hold this button for 5 seconds to reset the microprocessor and re-initialize the IGGY-ANA8.8. This is a hard reset of the module settings, including the IP Address, to the factory default values.

Physical Installation

If you have questions pertaining to the installation of IGGY-ANA8.8, contact us at the numbers listed in "**Contacting Technical Support**". Our technical staff is always available for consultation, training, or service.

For More Information on...

- the technical specifications for the IGGY-ANA8.8, refer to "**Technical Specifications**".

Static Discharge

Throughout this guide, please heed the following cautionary note:

ESD Susceptibility — *Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Always exercise proper grounding precautions when working on circuit boards and related equipment.*

Unpacking

Unpack each IGGY-ANA8.8 you received from the shipping container and ensure that all items are included. If any items are missing or damaged, contact your sales representative or Ross Video directly.

Installation and Setup Overview

The generalized work flow of installing and configuring your IGGY-ANA8.8 is:

1. Download and install the latest version of the DashBoard client software.
2. Contact your IT department for the required IP addresses for your IGGY-ANA8.8.
3. Physically install and cable the IGGY-ANA8.8.
4. Use DashBoard to access the IGGY-ANA8.8.
5. Use the IGGY Configuration Wizard to set the basic settings for your module.
6. Define the Network Stream Sources.
7. Make your connections.

For More Information on...

- installing your IGGY-ANA8.8, refer to the ***IGGY-ANA8.8 Quick Start Guide***.

Mounting and Installing the IGGY-ANA8.8

IGGY-ANA8.8 can be mounted in any convenient location. However, to ensure long life for this product, observe the following precautions and operating requirements:

- Maintain a temperature of 0°C to 40°C (32°F to 104°F).
- Allow for air circulation around the chassis for convectional cooling.

Many different mounting positions are possible. Some installation options are permanent and require careful consideration of the final positioning before installation.

✶ In some mounting locations, the power adapter must be affixed in a similar manner as the chassis.

Cable ties may be necessary in some applications to relieve strain on the mounting hardware and the connectors.

For More Information on...

- installation and mounting your IGGY-ANA8.8, refer to the ***IGGY-ANA8.8 Quick Start Guide***.
- how to install the IGGY-ANA8.8 with an optional mounting kit, refer to the install guide that shipped with your kit.

Cabling

If you have questions pertaining to the setup of IGGY-ANA8.8, contact us at the numbers listed in "**Contacting Technical Support**". Our technical staff is always available for consultation, training, or service.

For More Information on...

- the technical specifications for the IGGY-ANA8.8, refer to "**Technical Specifications**".
- notices to service personnel, refer to the document ***IGGY Important Regulatory and Safety Notices*** that shipped with your IGGY-ANA8.8.

Before You Begin

Keep the following in mind before cabling the IGGY-ANA8.8:

- Contact your IT department before connecting to your facility network to ensure that there are no conflicts. They will provide you with an appropriate value for the IP address, subnet mask, and gateway for your device.
- If difficulties or problems are experienced when connecting the IGGY-ANA8.8 to a network hub, contact your network administrator.

Connecting to a 15V PSU

The IGGY-ANA8.8 is shipped with an external power supply. The DC Power cord has a locking connector that securely fastens into the PWR DC jack on the IGGY-ANA8.8 chassis. Refer to the ***IGGY-ANA8.8 Quick Start Guide*** for details.

Warning — *The power supply connector of the IGGY-ANA8.8 power supply module must be fully inserted into the IGGY-ANA8.8 PWR port and the locking collar fully secured before use. Failure to do so may damage the PWR port on the IGGY-ANA8.8 chassis.*

Caution — *Ensure to connect the DC Power cord of the power supply to the PWR jack on the IGGY-ANA8.8 before connecting the power supply to the power source.*

Caution — *Use of improper adapters may damage the IGGY-ANA8.8 and will void the warranty.*

Cabling the NET Ports

The primary function of each NET port is to provide a network interface that can be configured as a Receiver and/or a Sender in DashBoard. Use the NET 1 port if you choose to power the IGGY-ANA8.8 with an optional PoE+ connection to your network.

Cabling NET 1 as a PoE+ Connection

The IGGY-ANA8.8 can be powered from a PoE+ (802.3at Type 2) power source (PSE) connected to the NET 1 port.

✶ Ross Video does not supply this cable.

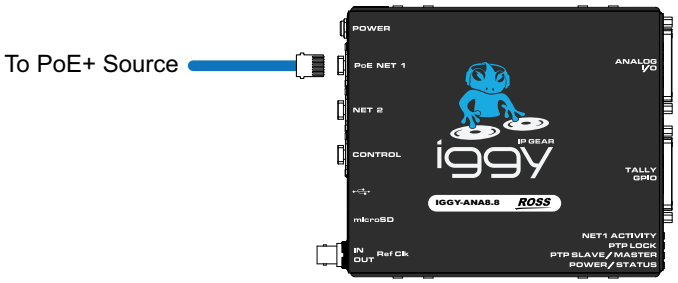


Figure 12 IGGY-ANA8.8 Cabling — PoE+ Port

Connecting the NET Ports to a Network

You will need an Ethernet cable with a standard RJ45 connector for each NET port.

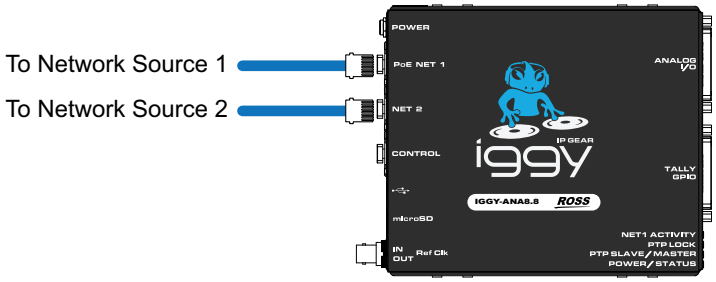


Figure 13 IGGY-ANA8.8 Cabling — NET Ports

Cabling the CONTROL Port

The IGGY-ANA8.8 is connected directly to your network so that it can interface with the devices and the computer running the DashBoard client. After a physical connection is established via the CONTROL port, DashBoard is used to configure the network settings for the IGGY-ANA8.8.

The exact steps for connecting your IGGY-ANA8.8 to your facility via an Ethernet network depend on the network requirements of your facility.

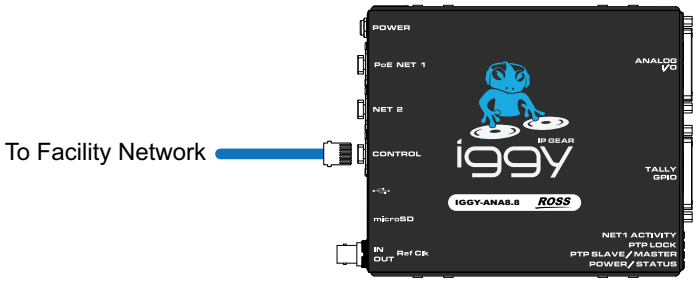


Figure 14 IGGY-ANA8.8 Cabling — CONTROL Port

Cabling the Reference Ports

The IGGY-ANA8.8 provides two reference BNCs: a REF IN and a REF OUT.

Connecting a Reference Source to the IGGY-ANA8.8

Use the REF IN BNC if you wish to use a local SDI reference input signal for the IGGY-ANA8.8 timing. This signal must be a 48kHz word clock signal.

To connect the IGGY-ANA8.8 to an SDI reference source

1. Connect one end of a Belden 1694A cable with a female BNC to the REF IN BNC on the IGGY-ANA8.8 chassis.
2. Connect the other end of the same Belden 1694A to the reference source for the IGGY-ANA8.8.

Cabling the Reference Output

Use the REF OUT BNC if you wish the IGGY-ANA8.8 to output a 48kHz work clock signal synchronized to PTP. This reference can be used by external devices.

For More Information on...

- specifying the **Audio Sampling Frequency**, refer to "**Configuring the Device Settings**".

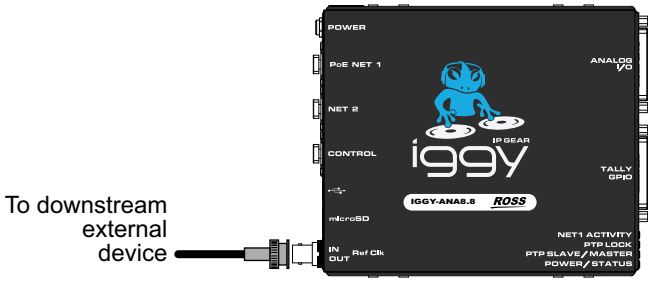


Figure 15 IGGY-ANA8.8 Cabling — REF OUT

Cabling the Analog Inputs and Outputs

Each ANALOG I/O connector has locations for the hot (+), cold (-), and ground wires for a balanced analog audio cable.

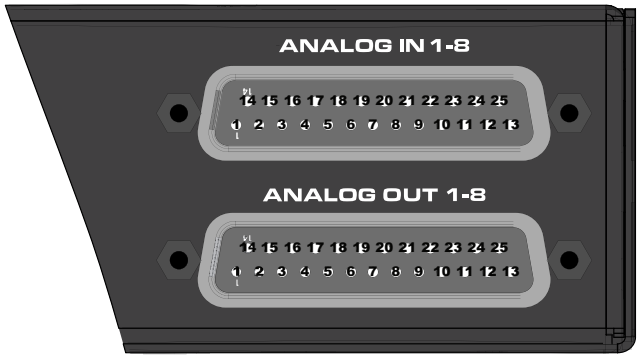


Figure 16 IGGY-ANA8.8 Cabling — ANALOG I/O Pinouts

ANALOG IN 1-8 Pin Designations

Table 5 outlines the pin assignment for the ANALOG IN 1-8 connector.

Table 5 Pins — ANALOG IN 1-8

	Pins		
ANALOG IN	**Hot (+)**	**Cold (-)**	**Ground**
1	24	12	25
2	10	23	11
3	21	9	22
4	7	20	8
5	18	6	19
6	4	17	5
7	15	3	16
8	1	14	2

ANALOG OUT 1-8 Pin Designations

Table 6 outlines the pin assignment for the ANALOG OUT 1-8 connector.

Table 6 Pins — ANALOG OUT 1-8

	Pins		
ANALOG OUT	**Hot (+)**	**Cold (-)**	**Ground**
1	24	12	25
2	10	23	11
3	21	9	22
4	7	20	8
5	18	6	19
6	4	17	5
7	15	3	16
8	1	14	2

Getting Started

This chapter provides instructions for launching DashBoard, assigning an initial IP address to the IGGY-ANA8.8, and accessing the tabs and menus in DashBoard.

Before You Begin

These installation guidelines assume the following:

- a valid IPV4 address is available for the IGGY-ANA8.8
- a PTP Grandmaster is configured and accessible for the IGGY-ANA8.8
- a network switch is configured in Boundary Clock mode and available for communicating with the IGGY-ANA8.8

✶ Ensure that your facility IT Department provided the required network settings to be assigned to the IGGY-ANA8.8 and each NET port you plan to enable.

Configuration Overview

Figure 17 summarizes the generalized work flow of configuring your IGGY-ANA8.8.

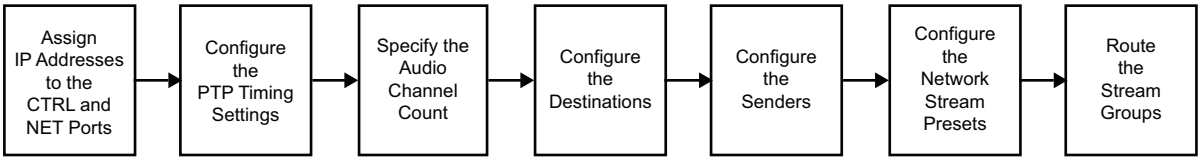


Figure 17 Process for Configuring an IGGY-ANA8.8

Launching DashBoard

✶ DashBoard must run on a computer that has a physical wired Ethernet connection directly to the IGGY-ANA8.8 and configured with an IP address in the same range as the default address of the IGGY-ANA8.8 (192.168.0.100).

For More Information on...

- downloading and installing the DashBoard client software, refer to the ***DashBoard User Manual***.
- the IGGY-ANA8.8 interfaces in DashBoard, refer to "**DashBoard Interface Overview**".

To launch DashBoard

1. Ensure that you are running DashBoard software version 9.5 or higher.
2. Launch DashBoard by double-clicking its icon on your computer desktop.

Using Walkabout to Assign the Initial IP Address to IGGY-ANA8.8

Once the IGGY-ANA8.8 is physically installed and cabled to your facility network, you will need to assign it an initial static IP address to enable DashBoard to locate it on your network. Establishing an initial IP address enables DashBoard to communicate with IGGY-ANA8.8.

To use Walkabout to assign the initial static IP address to the IGGY-ANA8.8

1. Launch DashBoard.
2. From the DashBoard client main toolbar, select **File** > **Show Walkabout**.

The DashBoard window displays the **Walkabout** table.

3. Click **Refresh**, located at the bottom of the Walkabout tab, to ensure the list in the Walkabout interface is current.
4. In the **Walkabout** table, find the entries for the IGGY-ANA8.8 you want to configure.

✶ Each IGGY-ANA8.8 has three entries in the table: CTRL, NET 1, and NET 2. These are the physical ports on the IGGY-ANA8.8 chassis. You need only assign an IP address to the CTRL port for initial setup of the IGGY-ANA8.8.

5. Use the **Name** field to assign a unique identifier to the IGGY-ANA8.8. This will be the name displayed in the Tree View of DashBoard.
6. Use the **Address** field to specify the IP address supplied by your IT Department for this device.

✶ After you edit a cell in the **Walkabout** table, it is recommended to wait approximately 1 minute, then click **Refresh** to apply the new settings.

7. Ensure the **Netmask** field is set to match your network requirements.
8. Use the **Gateway** field to specify the IP address for connection outside of the local area network (LAN).
9. Click **Reboot** in the row of the **Walkabout** table for the IGGY-ANA8.8.

Manually Adding the IGGY-ANA8.8 to the Tree View

The IGGY-ANA8.8 does not automatically display the DashBoard Tree View. You must manually add it to the Tree View.

To manually add the IGGY-ANA8.8 to the Tree View in DashBoard

1. From the main toolbar in DashBoard, select **File** > **New** > **TCP/IP DashBoard Connect or openGear Device**.

   The **New TCP openGear Frame Connection** dialog opens.

2. In the **IP Address** field, enter the IP address that you specified in the procedure "**To use Walkabout to assign the initial static IP address to the IGGY-ANA8.8**".
3. Enter a unique identifier for the IGGY-ANA8.8 in the **Display Name** field or click **Detect Frame Information**.

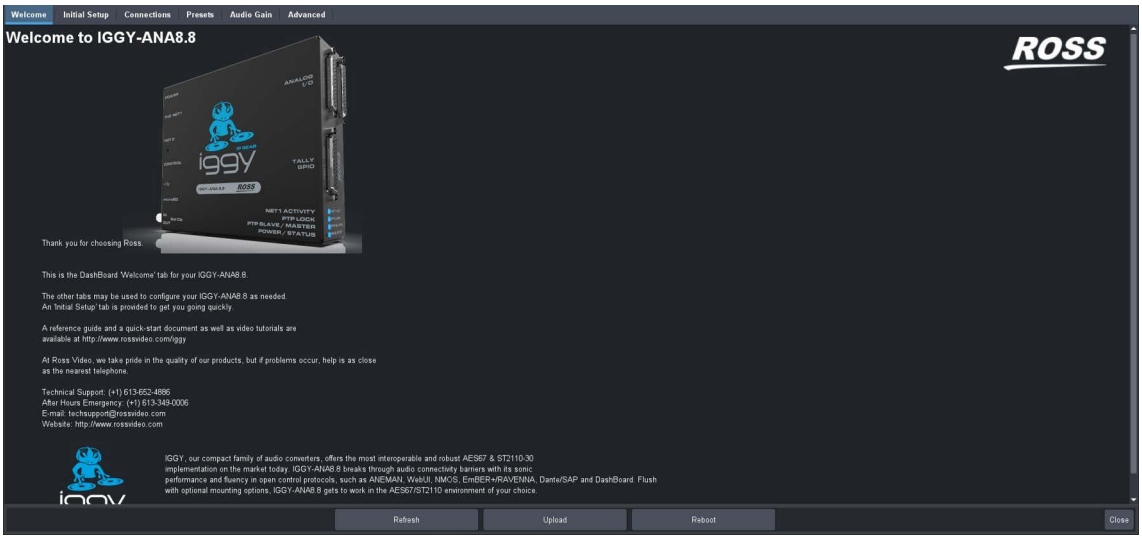
✶ This is the name displayed in the DashBoard Tree View.

4. Click **Finish** to close the dialog.
5. Verify that the IGGY-ANA8.8 node displays in the DashBoard Tree View.
6. Right-click the **IGGY** node (with the name assigned in step 3) in the Tree View.

   A dialog opens.

7. Select **Open** from the dialog.

   The IGGY-ANA8.8 interface displays in DashBoard with the **Welcome** tab automatically selected.



Using the IGGY-ANA8.8 Setup Wizard

The **IGGY-ANA8.8 Setup Wizard** is displayed when the **Initial Setup** tab is selected in DashBoard.

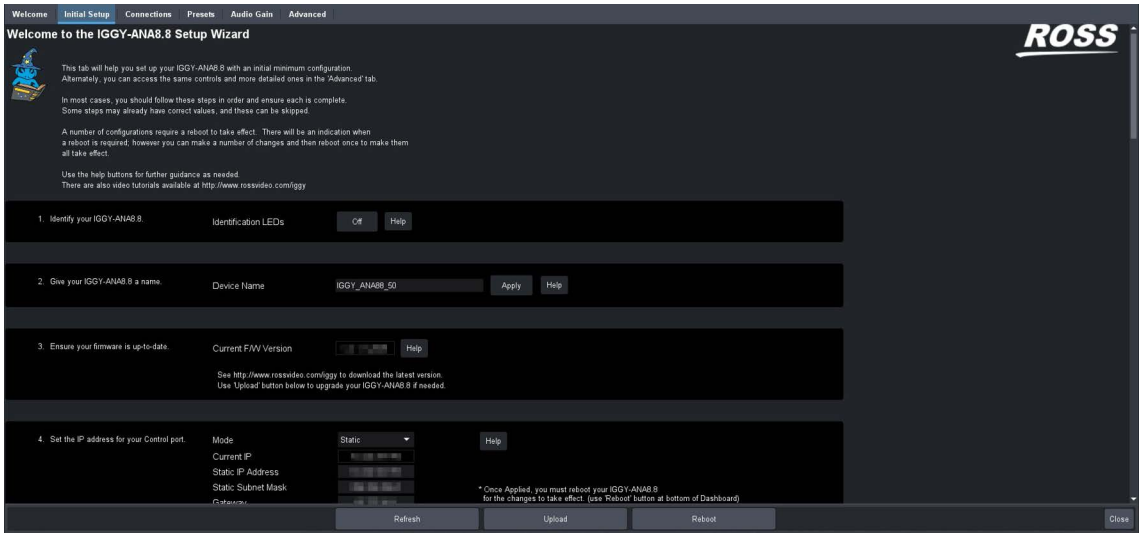


Figure 18 Example of the Initial Setup Tab

Use the **IGGY-ANA8.8 Setup Wizard** to configure the following settings (described in the proceeding chapters):

- Specifying the device name
- IP address for the CONTROL port and each NET port
- PTP Timing System
- Audio Packet Time
- Default number of audio channels per stream
- Destination channel mapping
- Default Audio Codec
- Sender Sources

Accessing the IGGY-ANA8.8 in DashBoard

The IGGY-ANA8.8 groups the configuration, monitoring, and operating features as a series of tabs in the DashBoard client window. Each tab provides access to specific configuration options for your IGGY-ANA8.8.

The tabs are accessed by double-clicking the IGGY-ANA8.8 node in the DashBoard Tree View. This procedure assumes that you have launched DashBoard on your computer and a valid IP address assigned to the IGGY-ANA8.8.

To access the IGGY-ANA8.8 in DashBoard

1. In the Basic Tree View of DashBoard, expand the top IGGY node.
2. Expand the **IGGY** sub-node.
3. Double-click the second **IGGY** sub-node to display the IGGY-ANA8.8 interface in the right pane of the DashBoard window.

   When first accessing the IGGY-ANA8.8, the **Welcome** tab is automatically displayed in DashBoard.

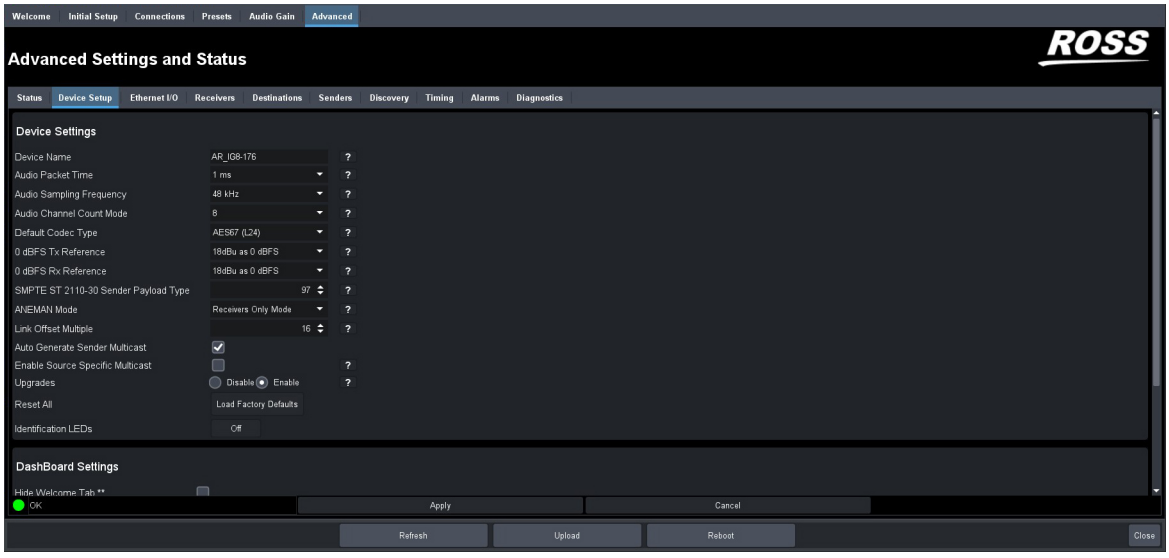
✶ Once the initial settings are configured and applied to the IGGY-ANA8.8, you can hide the Welcome and Initial Setup tabs by selecting **Advanced** > **Device Setup** > **Hide Welcome Tab** and/or **Hide Initial Setup Wizard Tab**.

Configuring the Device Settings

It is recommended to edit the global device settings such as setting the audio packet time, the number of audio channels that each menu defaults to.

To update the global device settings for the IGGY-ANA8.8

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Advanced > Device Setup** tab.



3. Use the **Device Name** field to assign a unique identifier to your IGGY-ANA8.8.

✶ This is the name used to identify the streams the IGGY-ANA8.8 is managing within your system.

4. Use the **Audio Packet Time** field to specify the amount of digital audio that is buffered and encapsulated into a single Ethernet packetized frame on a Sender. Note that a longer packet time increases the latency of the audio stream.

✶ When setting up a receiver stream on the IGGY-ANA8.8, ensure that you configure a receiver to match the audio packet time of the sender.

✶ This impacts all connected audio streams. Applying a new Audio Packet Time automatically disconnects all audio streams. It is recommended to set the Audio Packet Time before configuring your audio streams.

5. Use the **Audio Sampling Frequency** to specify the number of samples of audio carried per second.
6. Use the **SMPTE ST 2210-30 Payload Type** field to specify the RTP payload format to be used for transporting audio via SMPTE ST 2110-30.
7. Use the **Default Codec Type** menu to specify the audio compression format.
8. Enable the **Auto Generate Sender Multicast** feature to avoid having to manually set a multicast IP address when creating IGGY-ANA8.8 senders.

✶ If the **Auto Generate Sender Multicast** box is not selected, you will need to manually set the multicast IP addresses for senders created in the Senders tab.

9. Click **Apply** to save the new settings.

✶ You may need to reboot the IGGY-ANA8.8 to apply your changes.

Setting the Audio Channel Count Mode

The Audio Channel Count feature is useful when all the audio network streams in your network have the same channel count. You select from a preset number (1, 2, 8, or 16) that matches your network configuration. This number is then used to determine the appropriate defaults to apply when setting up your streams and essences.

✶ Select Mixed mode if your audio network streams do not have a consistent channel count.

To set the audio channel count mode

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Advanced > Device Setup** tab.
3. Use the **Audio Channel Count Mode** field to specify the maximum number of audio channels available for each stream.

✶ This field assumes that all audio streams in your network contain the specified number of channels. This automatically determines the maximum channel count of each network stream for the Receivers, and Senders tabs. Note that the size of the Destination stream is specified independently via the options on the **Advanced > Destinations** tab.

Configuring the Ethernet Ports

The IGGY-ANA8.8 provides two NET ports that are populated with Ethernet RJ45 connectors. The chassis also provides a third Ethernet RJ45 (CONTROL) port that is used to connect to your facility network for DashBoard communication. This chapter outlines how to configure each of these ports.

✶ Contact your network administrator if difficulties or problems are experienced when assigning IP addresses.

For More Information on...

- the location of the NET ports, refer to "**NET 1, NET 2 Ports**".
- the location of the CONTROL port, refer to "**CONTROL Port**".

Configuring the CONTROL Port

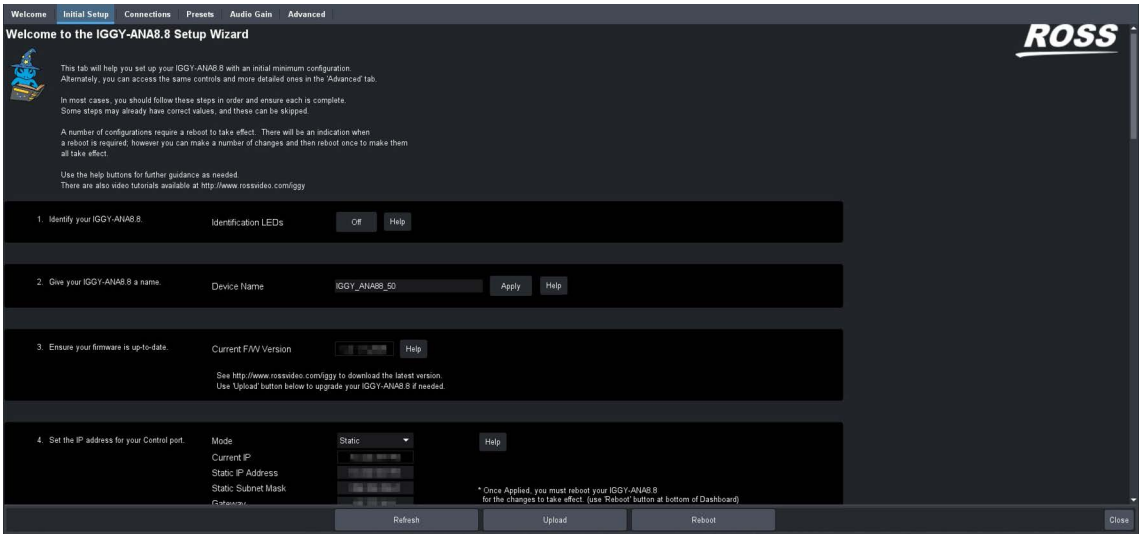
The CONTROL port is located on the right side of the IGGY-ANA8.8 chassis. Once the IGGY-ANA8.8 is communicating via DashBoard, you may wish to assign a different static IP address from the factory default value (which was used to initially establish a connection point to the IGGY-ANA8.8).

✶ The IGGY-ANA8.8 ships with the default IP address of 192.168.0.100. You may wish to change the IP address from the factory default after you establish this initial connection.

To update the static network settings for the CONTROL port

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Initial Setup** tab.

✶ You can also change these settings via the **Advanced** > **Ethernet I/O** tab.



3. Locate step 4 on the tab.
4. Use the **Mode** menu to select **Static**.

✶ If you want the network settings for the CONTROL port to be automatically obtained, and DHCP service is available on your control network, select **DHCP** from the **Mode** menu.

5. Use the **Static IP Address** field to assign a unique IP address to the IGGY-ANA8.8.
6. Use the **Subnet Mask** field to assign the subnet mask for the IGGY-ANA8.8.

7. Use the **Gateway** field to specify the gateway for communications outside of the local area network (LAN) the IGGY-ANA8.8 will use.
8. Click **Apply**.
9. Click **Reboot** to apply the new settings. This button is located at the bottom of the interface.

✶ The IGGY-ANA8.8 is temporarily taken off-line during the reboot.

10. Verify the new network settings reported on the **Advanced** > **Ethernet I/O** tab.
11. Add the IGGY-ANA8.8 to the DashBoard Tree View using the new settings. Refer to "**Manually Adding the IGGY-ANA8.8 to the Tree View**".

Configuring the NET Ports

By assigning an IP address to each NET port (NET 1, NET 2), you are able to uniquely identify it on the network and control it via DashBoard. Each NET port can be configured for media traffic for the IGGY-ANA8.8.

This section outlines how to configure the network settings for the NET ports on the chassis.

To update the network settings for a NET port

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Initial Setup** tab.

✶ You can also change these settings via the **Advanced** > **Ethernet I/O** tab.

3. Locate the options for the NET port you wish to configure (step 4 on the **Initial Setup** tab).
4. If you are manually configuring the Ethernet settings:
   a. Use the **Mode** menu to select **Static**.
   b. Use the **Static IP Address** field to specify the new static IP address for the IGGY-ANA8.8. This is the IP address that is used to control and communicate with the specific NET port.
   c. Use the **Subnet Mask** field to specify the subnet mask for the NET port.
   d. Use the **Gateway** field to specify the gateway for communications outside of the local area network (LAN) the IGGY-ANA8.8 will use.
5. If you want the network settings for the NET port to be automatically obtained, and DHCP service is available on your control network, select **DHCP** from the **Mode** menu.
6. Click **Apply** to save the new settings.
7. Repeat this procedure for the second NET port you wish to configure.
8. Click **Reboot** to apply the new settings. This button is located at the bottom of the interface.

   The IGGY-ANA8.8 is temporarily taken off-line during the reboot.
9. Verify the new settings reported on the **Advanced** > **Ethernet I/O** tab.

Protocol Setup

The IGGY-ANA8.8 supports media distribution based on NMOS, RAVENNA, RTSP, Ember+, SAP and SLP. This chapter outlines how to specify which outputs to enable on the IGGY-ANA8.8, and configure the IGGY-ANA8.8 for a specific media distribution protocol.

NMOS Support

This section outlines the required settings on the IGGY-ANA8.8 to establish communications via the Network Media Open Specifications (NMOS).

To configure the IGGY-ANA8.8 as a NMOS device

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select **Advanced** > **Discovery** tab.
3. Locate the **NMOS** area in the tab.
4. To assign a name to the IGGY-ANA8.8 for use in the NMOS network, perform one of the following:
   - Use the **Device Name** menu to specify a unique identifier for the IGGY-ANA8.8 in the NMOS network; or
   - Click **Use System Device Name** to use the identifier provided by the master NMOS device.

✶ The default name is **`IGGY_ANA8_#`** where **#** represents the module serial number.

5. Select the **Enable** box.
6. Click **Apply** to save the new settings.

✶ When NMOS is enabled, the Device Setup > Audio Channel Count Mode must be set to a fixed number of channels (and not Mixed mode).

RAVENNA Support

This section outlines how to configure the IGGY-ANA8.8 for the open standard for real-time media over IP (AES67).

To configure the IGGY-ANA8.8 as a RAVENNA device

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select **Advanced** > **Discovery** tab.
3. Locate the **RAVENNA** area in the tab.
4. Use the **Port** menu to specify the port assigned to the IGGY-ANA8.8 within the RAVENNA network.
5. Select the **Enable** box.
6. Click **Apply** to save the new settings.

RTSP Support

This section outlines the required settings when establishing communications between IGGY-ANA8.8 and an external device via the Real Time Streaming Protocol (RTSP).

To configure the IGGY-ANA8.8 as a RTSP device

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select **Advanced** > **Discovery** tab.
3. Locate the **RTSP** area in the tab.
4. Use the **Port** field to specify the TCP port the protocol uses to send and receive messages.
5. Click **Apply** to save the new settings.

Ember+ Support

✶ IGGY-ANA8.8 implements BESS v1.1 for Ember+ support to communicate with third-party controllers.

Keep the following in mind when setting up an Ember+ connection with IGGY-ANA8.8:

- Ensure that all network streams have a consistent channel count.
- Audio shuffling is not supported in Ember+ setups.
- IGGY-ANA8.8 supports one-to-many connection (where one source can be routed to multiple targets).

Channel Mapping for Ember+

Channels in the network stream are mapped to the corresponding analog channels in the Ember+ client in a 1-to-1 mapping.

In each channel count mode, the Sender configuration must first be created in DashBoard to show up in the Ember+ tree. If a Sender has not been set up through DashBoard for one of these sets of channels then these Audio sub-groups will contain no SDP file. If a Sender is created without following the channel mapping configuration above, the Ember+ tree contents will not be correct.

16-channel Count Mode

If the channel count mode is set to **16**, there is 1 audio sub-group (Audio 1) for receivers and transmitters with 16 channels. (**Figure 19**)

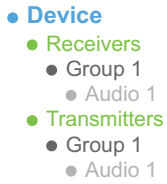


Figure 19 Ember+ Tree Example — Channel Count Mode set to 16

In **Figure 19**, the Receivers > Group 1 > Audio 1 represents the receiver that maps to audio channels 1 to 16. When connecting a 16-channel network stream to one of these targets, the 16 channels from the network stream will be mapped to the corresponding audio channels in a 1-to-1 mapping.

In **Figure 19**, the Transmitters > Group 1 > Audio 1 represents the sender that maps to audio channels 1 to 16.

8-channel Count Mode

If channel count mode is set to **8**, there are 2 audio sub-groups (Audio 1-2) for receivers and transmitters with 8 channels each. (**Figure 20**)

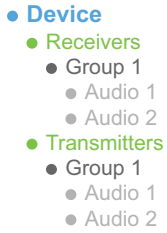


Figure 20 Ember+ Tree Example — Channel Count Mode set to 8

In **Figure 20**, the Receivers > Group 1 > Audio 1 represents the receiver that maps to channels 1 to 8; Receivers > Group 1 > Audio 2 represents the receiver that maps to audio channels 9 to 16. When connecting an 8-channel network stream to one of these targets, the 8 channels from the network stream will be mapped to the corresponding audio channels in a 1-to-1 mapping.

In **Figure 20**, the Transmitters > Group 1 > Audio 1 represents the sender that maps to audio channels 1 to 8; Audio 2 maps to the sender that maps to audio channels 9 to 16.

2-channel Count Mode

If channel count mode is set to **2**, there are 8 audio sub-groups (Audio 1-8) for receivers and transmitters with 2 channels each. (**Figure 21**)

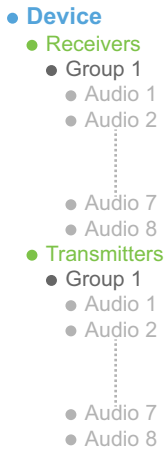


Figure 21 Ember+ Tree Example — Channel Count Mode set to 2

In **Figure 21**, the Receivers > Group 1 > Audio 1 represents the receiver that maps to audio channels 1 and 2; Receivers > Group 1 > Audio 2 represents the receiver that maps to audio channels 3 and 4; etc. When connecting an 2-channel network stream to one of these targets, the 2 channels from the network stream will be mapped to the corresponding audio channels in a 1-to-1 mapping.

In **Figure 21**, the Transmitters > Group 1 > Audio 1 represents the sender that maps to audio channels 1 and 2; Audio 2 maps to the sender that maps to audio channels 3 and 4; etc.

1-channel Count Mode

If channel count mode is set to **1**, there are 16 audio sub-groups (Audio 1-16) for receivers and transmitters with 1 channel each. (**Figure 22**)

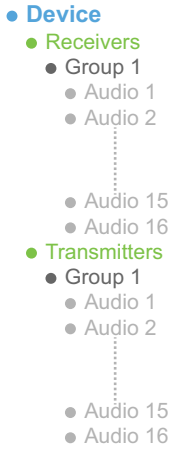


Figure 22 Ember+ Tree Example — Channel Count Mode set to 1

In **Figure 22**, the Receivers > Group 1 > Audio 1 represents the receiver that maps to audio channel 1; Receivers > Group 1 > Audio 2 represents the receiver that maps to audio channel 2; etc. When connecting a 1-channel network stream to one of these targets, the channel from the network stream will be mapped to the corresponding audio channel in a 1-to-1 mapping.

In **Figure 22**, the Transmitters > Group 1 > Audio 1 represents the sender that maps to audio channel 1; Audio 2 maps to the sender that maps to audio channel 2; etc.

Establishing a Connection

✶ Before proceeding, ensure that SDP patching is enabled with the Ember+ client to establish audio receivers on the IGGY-ANA8.8.

To establish a connection between the Ember+ client and the IGGY-ANA8.8

1. Add the IGGY-ANA8.8 in the Ember+ client interface using the IP address assigned to the IGGY-ANA8.8.
2. In DashBoard:
   a. Navigate to IGGY-ANA8.8 **Advanced** > **Discovery** tab.
   b. Locate the **Ember+** area in the tab.
   c. Set the **Port** field to 9095.
3. In the Ember+ client, set the TCP port to 9095 for the IGGY-ANA8.8.

Specifying the Audio Channel Count Mode on the IGGY-ANA8.8

By default, the Channel Count mode is set to 8 but this value can be edited in DashBoard.

✶ You will need to reboot the IGGY-ANA8.8 before the Ember+ tree is updated with the new Channel Count mode.

To set the Audio Channel Count mode on the IGGY-ANA8.8

1. In DashBoard, navigate to the **Advanced** > **Device Setup** tab.
2. Use the **Audio Channel Count Mode** menu to specify the number of channels in each group.
3. Click **Apply**.

Configuring the IGGY-ANA8.8 for Ember+

For most setups (as seen in "**Direct Audio Mapping**"), you will only need to create the Senders in DashBoard for the IGGY-ANA8.8. Refer to "**Configuring the Senders**" for details.

For other setup types, (as seen in "**One-to-Many Direct Audio Mapping**" and "**Custom Network Streams**"), you will need to configure the Senders, and then use the Ember+ controller interface (e.g. Lawo VSM) to map the sources to the targets. Refer to the documentation that came with your controller for details.

SLP Support

DashBoard uses the Service Location Protocol (SLP) to find devices in a local area network (LAN) without prior configuration. Enabling SLP on the IGGY-ANA8.8 allows it to announce its location on the local network, establish communications with DashBoard, and display its node in the Basic Tree View of DashBoard.

✶ This protocol is enabled by default on the IGGY-ANA8.8.

ANEMAN Support

An Audio Network Manager (ANEMAN) controller enables you to manage and monitor audio streams and PTP connections on a RAVENNA network.

To enable ANEMAN communications on the IGGY-ANA8.8

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select **Advanced** > **Device Setup**.
3. Use the **ANEMAN Mode** menu to specify how sender sessions are created by the ANEMAN controller. Choose from the following:
   - Receivers Only Mode — The sender sessions are first created through a web interface. This is the default.
   - Dual Receivers Mode — Select this mode when the ANEMAN controller creates two receivers.
   - Duplex Mode — Select this mode when the ANEMAN controller creates the sources for one-to-many connections.
4. Click **Apply** to save the new settings.

Enabling Source Specific Multicast Mode (SSM)

When SSM is enabled, the IGGY-ANA8.8 receiver will monitor traffic for a specific destination multicast address and receive traffic from only one specific source sending to that multicast address.

✶ SSM is supported for both redundant (SMPTE 2022-7) and non-redundant traffic.

Keep the following in mind when enabling SSM:

- The IGGY-ANA8.8 follows the IGMPv3 standard as defined in ***RFC3376***.
- If the network switch is configured for IGMPv2, the IGGY-ANA8.8 will communicate via Any-Source Multicast (ASM) instead of SSM.
- While SSM allows a source address to be defined, a network switch will differentiate between the network streams coming from different sources and route them independently even if they share the same Destination Multicast address.
- Specify only one source address when subscribing to a multicast stream.
- All connection protocols in a SSM-enabled system will use SSM (e.g. NMOS, DashBoard, Ember+).

To enable SSM on the IGGY-ANA8.8

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select **Advanced** > **Device Setup**.
3. Select the **Enable Source Specific Multicast** box.
4. Click **Apply** to save the new settings.

   A **Source IP** field displays in the **Advanced** > **Receivers** and **Presets** tabs.

Configuring the Timing Settings

The IGGY-ANA8.8 supports the Precision Time Protocol (PTP) and AES67 media as defined in the IEEE 1588-2008 standard and the SMPTE ST 2059 specification.

Configuring the PTP Settings

From the Timing tab in DashBoard, you can synchronize the IGGY-ANA8.8 to real-time clocks of other devices in the same network.

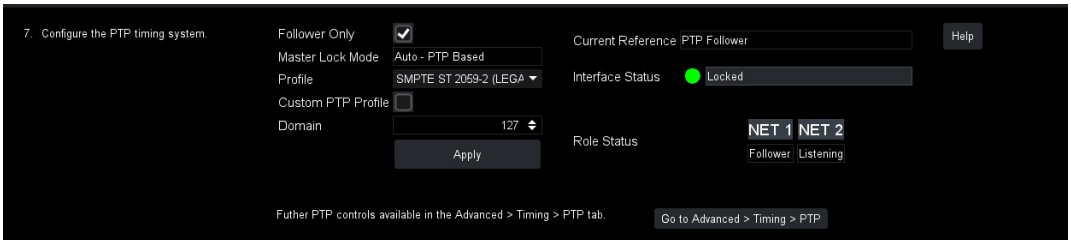
✶ There are several criteria that PTP clocks compare to determine who will be master and who will be follower (called the Best Master Clock Algorithm, or BMCA), and they are evaluated in order: Priority1, clock class, accuracy, scaled log variance, Priority2, clock ID (similar to the MAC address). Practically, Priority1 is the only setting configured on all clocks to control the outcome of the Grandmaster election. If Priority1s are equal, the next criterion is evaluated (clock class) and the criteria are evaluated in succession until a Grandmaster is determined.

To update the PTP settings for the IGGY-ANA8.8

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Initial Setup** tab.

✶ You can also change these settings via the **Advanced** > **Timing > PTP**.

3. Select the **Follower Only** box to define the IGGY-ANA8.8 as only a follower and never a Boundary Clock or Grandmaster device. (You may need to scroll down the tab to locate this box on the tab.)



4. Use the **Profile** menu to specify the standard/specification used for PTP.

✶ The Domain is automatically set if **Custom PTP Profile** is not selected.

5. Use the **Domain** field to specify the sub-domain the PTP clock is assigned to.

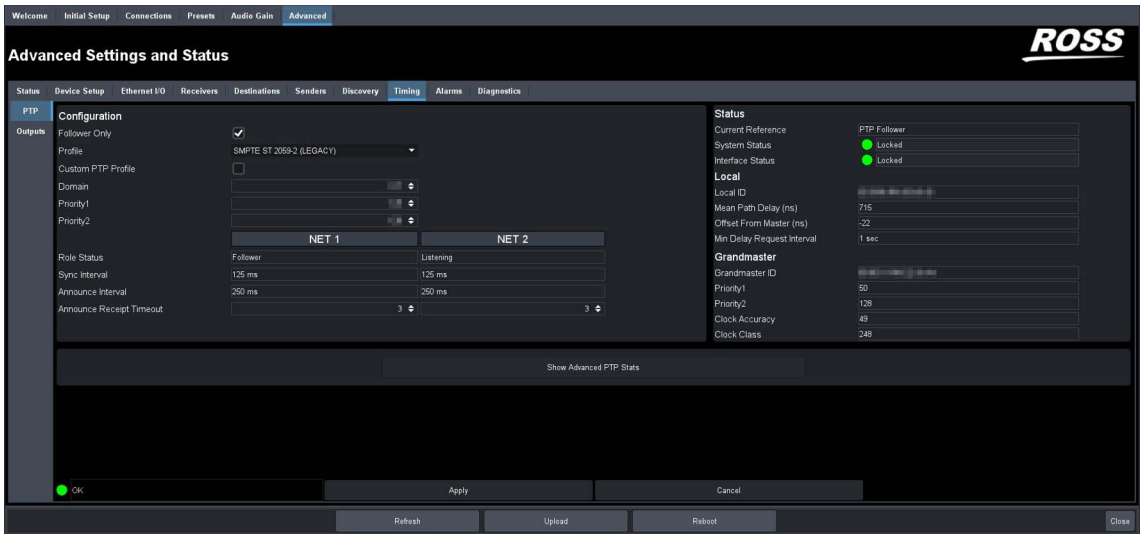
✶ There can be multiple PTP domains operating concurrently within a network. The domain is a field in all PTP message headers. Messaging between entities are segregated by domain (e.g. The IGGY-ANA8.8 is an endpoint configured for domain 128 and ignores messages from a neighboring clock configured for domain 127).

6. If you did not select the **Follower Only** box and the IGGY-ANA8.8 matches the primary Grandmaster election criterion for your network:
   a. Use the **Priority 1** field to define the first 8bit clock field.
   b. Use the **Priority 2** field to define the backup 8bit clock field.

To configure the PTP settings for a specific NET port

1. Select the **Advanced** > **Timing** tab.

   The **PTP** tab is automatically selected.



2. Select the **Custom PTP Profile** box.

   The Domain, Priority1, Priority2, Sync Interval, Announce Interval and Announce Receipt Timeout fields are now editable.

3. Use the **Sync Interval** field to specify the number of seconds at which synchronization messages are sent from the master clock to the specified NET port on the IGGY-ANA8.8.

4. Use the **Announce Interval** field to specify the rate of announce messages that the specified NET port on the IGGY-ANA8.8 requests from the master clock during a Unicast session.

5. Use the **Announce Receipt Timeout** field to specify the number of seconds the specified NET port on the IGGY-ANA8.8 waits for an announce interval message before timing out.

6. Click **Apply** to save the new settings.

Configuring the Audio Offset for Outputs

An output is timed relative to the input stream, and the source will be delayed a fixed offset from the sender's RTP timestamps. This allows for non-PTP aligned sources to be passed through with fixed latency.

✶ Use this procedure if you need to adjust the timing of each output independently. Otherwise it is recommended to keep these settings at the default values.

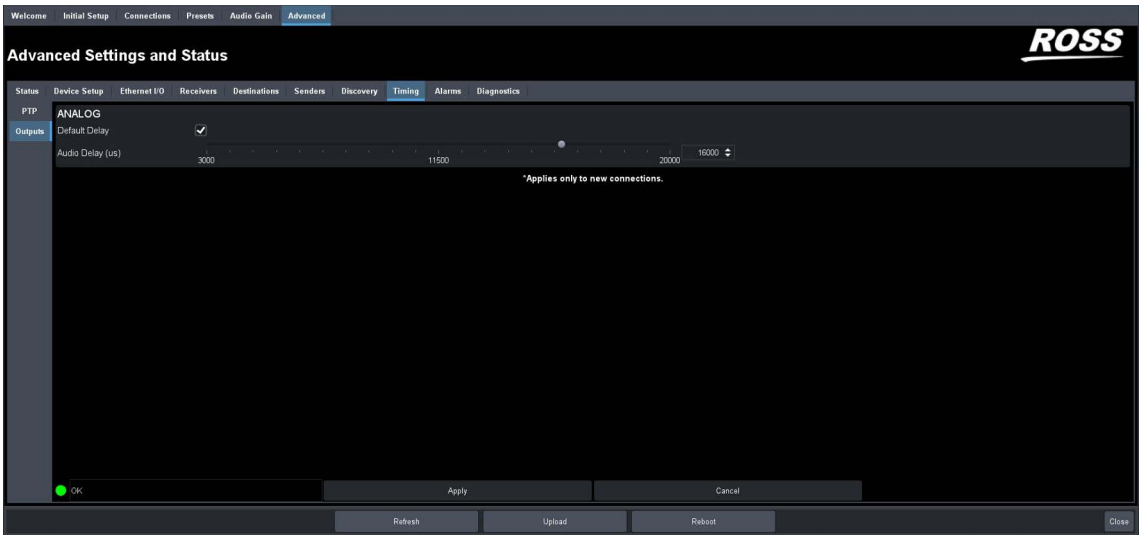
To adjust the timing for an output

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".

2. Select the **Advanced** > **Timing** tab.

3. Click **Outputs**.

   The **Timing** tab updates to display the timing options for each output.



4. Locate the options for the output you want to adjust the timing for.
5. To automatically apply the default delay value of 2000us, select the **Default Delay** box for the output.
6. To manually configure the delay and offset values for an output:
   a. Verify that the **Default Delay** box is cleared.
   b. Use the **Audio Delay** slider to adjust the relative position of the audio start position as an offset to the reference.

✶ Audio delay is specified relative to the reference source.

7. Click **Apply** to save the new settings.
8. Refresh the connection as follows:
   a. Select the **Receivers** tab.
   b. Locate the row for the output you need to refresh the connection for.
   c. Click **Disconnect**.

      The applicable **Output Status** field reports "**`Not in Use`**" and the Destination reads "**`Disconnected`**" for the **Audio** field.

   d. Click **Connect**.

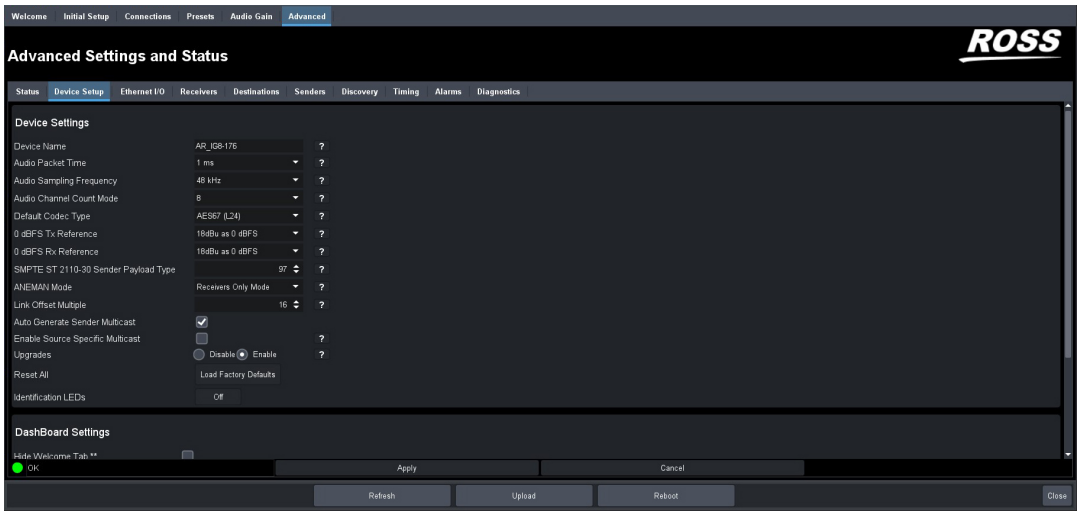
Setting the Audio Packet Time

You can add an offset to the audio streams if you wish to define the rate the IGGY-ANA8.8 sends packets. Keep in mind that a smaller packet time results in more Ethernet packet overhead (more packets are sent) but less network delay.

✶ This impacts all connected audio streams. It is recommended to set the Audio Packet Time before configuring your audio streams.

To set the audio packet time

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Advanced** > **Device Setup** tab.



3. Use the **Audio Packet Time** menu to specify the amount of time that IGGY-ANA8.8 will add as an offset to the audio streams.
4. Click **Apply**.
5. Re-connect the audio streams as outlined in "**Routing the Signals**".

Configuring the Destinations

You can choose to use the default destination values or customize the number of destinations and audio channels assigned to each. This chapter outlines both methods.

Using the Default Destination Settings

The default Destination settings are as follows:

- Two outputs with assigned Destination Names (using the nomenclature **ANALOG #** where **#** is an auto-generated character)
- Each output is pre-configured with 8 channels
- Each output is enabled (the corresponding box is selected)
- The Default Mapping box in the Channel Mapping area is automatically selected.
- The Output Ports are automatically assigned in a 1:1 map

✶ The default number of channels per Destination can be defined via the **Initial Setup** tab.

Customizing a Destination

You can customize the destination labels, and the number of audio channels assigned to each destination. This feature enables you to assign channels for specific work flow and to divide a large analog source into more intuitive parts. For example you may need analog channels 1-4 to go to Speaker 1, channels 5-8 to Speaker 2, channels 1-4 to Monitor 1, etc. You would then connect the network streams to these specific destinations directly.

To customize the destination list

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Advanced** > **Destinations** tab.
3. Use the **Number of Channels per Destinations** field, located in the top left corner of the tab, to specify the number of channels for all destinations.

   The **Destinations** tab updates to display the specified number of channels.
4. Use the **Destination Name** field to specify a unique identifier for each destination.

✶ This is used to help identify the output within your system and in the DashBoard **Connections** tab.

5. Select the **Enable** box for the destination to display it in the **Connections** tab.
6. Click **Apply**.

Configuring the Senders

You need to specify the IP encapsulation properties for the active audio for each analog input signal.

Configuring an Audio Sender

Before you begin, make a note of the **NET Bandwidth Allocation** for the NET ports to determine the available capacity on each port. This information is reported in the **Active Senders** tab.

To create a new audio essence

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Advanced** > **Senders** tab.
3. Select the **Setup Streams** sub-tab.
4. Click **Add Stream**.

   The **Stream** list and **Source Name** field updates to include a new entry "`Sender.#`" where `#` is an auto-generated number.
5. Use the **Source Name** field to override the auto-detected name of the data stream with a unique identifier for the stream.

✶ The Source Name is used to help identify the sender within your system and in the **Connections** interface.

6. If the **Audio Channel Count** mode is set to **Mixed**, use the **Channel Count** field to select the number of channels.
7. Use the **Codec** field to specify the transmission standard the network stream will use.
8. If the **Allow Random IP** feature is enabled (via the **Initial Setup** tab), proceed to "**Mapping the Audio Channels to a Sender Stream**".
9. Edit the **Transport IP** and **UDP Port** fields for the Primary Stream you wish to assign the sender to.
10. If required, edit the **Transport IP** and **UDP Port** fields for the Protection Switching stream the sender will use.

Mapping the Audio Channels to a Sender Stream

You can choose to apply the default audio channel map or assign the channels as required by your system. Both methods are described below.

To map the audio channels to a sender stream using the default channel map

1. Click **Set Default Audio**.

   The **Analog Channels** map updates to display the default channel map. You may need to scroll to the bottom of the tab to display the map.
2. Click **Apply** to save the new settings.

To customize the audio channel mapping for a sender stream

✶ A channel can only be assigned to one sender.

1. In the **Analog Channels** map, select the channels to include in the audio stream.
2. In the **Target** map, select the sender channel(s) to assign the analog channel to.

3. Click  .
4. Click **Apply** to save the new settings.

Configuring the Receivers

A receiver on the IGGY-ANA8.8 can be configured to connect to a network stream with any destination multicast IP address in the range of 225.x.x.x and 239.x.x.x.

For More Information on...

- specifying the network stream groups, refer to "**Configuring the Presets**".

Configuring a Receiver

Each configured Receiver can be monitored on the IGGY-ANA8.8 using the fields in the Receivers tab. You can also choose to disconnect a stream (connected outside of DashBoard) from the Receivers tab.

To name a receiver

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select **Advanced** > **Receivers**.
3. Locate the row for the analog signal you wish to configure.
4. Use the **Name** field to specify a unique identifier for the receiver.

✶ This identifier is used to help identify the receiver within your system and in the DashBoard **Connections** interface.

To assign a NET port to a receiver

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select **Advanced** > **Receivers**.
3. Use the **NET** menu to assign the analog signal to an NET port connection on the IGGY-ANA8.8.
4. Click the ⌄ button to expand the monitoring options for the analog signal.
5. Verify the source(s) are correct and no errors are reported.

Using the Disconnect Button

Clicking the **Disconnect** button for a session immediately stops that session. This is helpful:

- to free up NET bandwidth
- if the source is invalid or missing
- if the source includes data that you do not want to output
- to update the receiver with the latest NET settings

✶ You will need to return to the **Connections** tab to reconnect the sessions.

Configuring the Presets

Once you have the timing, destinations, and senders configured on the IGGY-ANA8.8, you must specify the available IP streams as presets for the IGGY-ANA8.8.

Overview

You can configure a preset for the IGGY-ANA8.8 by assigning an advertised stream or adding a stream by manually specifying the IP stream credentials. A preset advertised by a node flows to multiple devices.

What is a Preset?

A preset allows you to create a grouping of streams on the network into a unit that can be mapped to a destination.

Presets are required if:

- the destination has more channels than a stream on the network and the user wants to drive all channels;
- the user wants to perform complicated audio shuffling.

Presets are not required if:

- the user has destinations and network streams that are the same size (i.e. channel count);
- wants to perform a 1-to-1 mapping.

Work Flow

From DashBoard you create presets, map the audio channels, and assign the group to a destination.

You create presets, combine them into audio mappings with different assignments to create network stream sources. Then the preset is mapped to a specific destination, which corresponds to a specific set of analog channels.

Adding a Preset

A preset is identified in the Receivers and Connections tabs using the parameters specified in the **Presets** tab. Ensure to give each group a unique name for easy identification in the DashBoard.

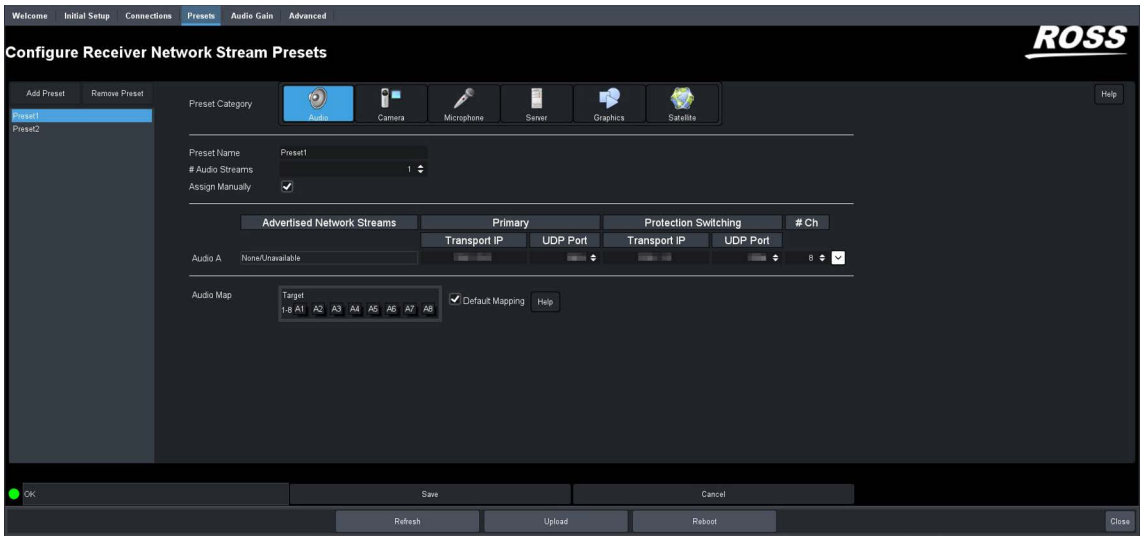
Using an Advertised Stream

The **Presets tab** automatically provides a list of advertised RAVENNA streams available to the IGGY-ANA8.8. This enables you to quickly create network stream sources using only the (detected) advertised streams.

To add a new preset using an advertised stream

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Presets** tab.
3. Click **Add Preset**.

   The fields in the **Presets tab** clear and the **Preset Name** field displays "**`NewGroup#`**" where # is an auto-generated character.



4. Use the **Preset Name** field to specify a unique identifier for the preset.
5. Verify that the **Assign Manually** box is unselected (cleared).
6. Use the **# Audio Streams** menu to specify the total number of audio streams for this preset.

✶ This number determines the Audio Map options and the number of streams you can configure.

7. Use the **Advertised Network Streams** menus to specify the stream for the audio signals for the network stream.

   The **Transport IP**, **Port**, and **DSCP** fields are read-only and automatically populated when a new selection is made in the **Advertised Stream** menu.

8. Use the options in the **Preset Category** area to assign the network stream to a Connections category.

✶ Assigning network streams to a specific Category enables you to later filter the sources on the Connections tab.

9. Click **Save** to update the list in the **Presets** tab.

Manually Assigning a Stream

An IP stream can also be manually assigned as a preset for the IGGY-ANA8.8. You will need the transport IP address, port number, and DSCP value for the IP stream you want to add. This is useful if you wish to access a network stream that is not a RAVENNA device.

To manually define a new preset

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Presets** tab.
3. Click **Add Group**.

   The fields in the **Presets tab** clear and the **Preset Name** field displays "**`NewGroup#`**" where # is an auto-generated character.

4. Use the **Preset Name** field to specify a unique identifier for the network stream.
5. Select the **Assign Manually** box.

   The **Transport IP**, **UDP Port**, and **# Ch** fields are now editable.

6. Use the **# Audio Streams** menu to specify the total number of audio streams for this group.

✶ This number determines the Audio Map options and the number of audio streams you can configure for this group.

7. Use the **Transport IP** field to specify the multicast IP address for the network stream.

✶ IGGY-ANA8.8 supports multicast IP addresses ranges from 225.x.x.x to 239.x.x.x. Contact Ross Technical Support if you need additional IP ranges.

8. Use the **UDP Port** field to specify the RTP port for the network stream.
9. Use the **# Ch** field to assign the total number of audio channels for the network stream.
10. Use the options in the **Preset Category** area to assign an icon to the button on the Connections tab.
11. If required, use the **Protection Switching** fields to assign the redundant audio streams to the IGGY-ANA8.8.

✶ The **Protection Switching** options display as two separate rows below the manually added stream fields.

12. To specify the data transmission standard that the IGGY-ANA8.8 will use for this preset:
    a. Click ⌄.
    b. Use the **Codec** menu to specify the
13. Click **Save** to update the list in the **Presets** tab.

Mapping the Audio Channels

Audio shuffling enables you to take any channels from the network streams within a preset and re-map them in any order before assigning to a destination. You can choose to apply the default audio channel map (1:1 mapping) or assign the channels as required by your system. Both methods are described below.

✶ When you create a new preset, the audio Target map displays the number of available channels for mapping (as defined in the Destinations tab). A single network stream can be used to drive all analog channels, but you do not need to assign all 16 channels. For example, if you are connecting to an 8-channel destination, you would assign the first 8 channels.

To assign audio channels to a preset using the default map

1. Locate the **Audio Map** area of the **Presets** tab.
2. Select the **Default Mapping** box to map the channels to audio streams as 1:1
3. Click **Save** to update the list in the **Presets** tab.

✶ You may need to scroll down the tab to locate this button.

To customize the audio channel mapping for the preset

1. Locate the **Audio Map** area of the **Presets** tab.

✶ You may need to scroll down the tab to fully display the **Audio Map**.

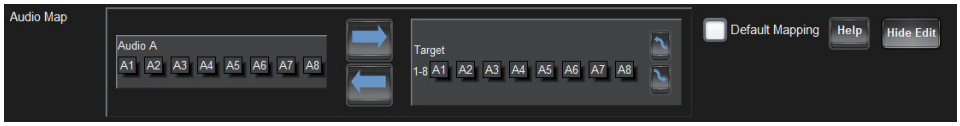
2. Clear the **Default Mapping** box.

   The Channel Mapping area updates to display the mapping options based on the number of destinations and audio channels you specified using the fields on this tab.

   The **Edit** button now displays.

3. Click **Edit**.

   The Audio Map area updates to provide two maps.



4. Select the network stream channel(s) on the leftmost map.
5. On the rightmost map, select the output channel(s).
6. Click  to assign the channel.
7. Repeat steps 4 to 6 to map all the channels to target channels.
8. Click **Save**.

Adjusting the Audio Gain

The Audi Gain options on the IGGY-ANA8.8 enable you to adjust the gain in 0.5dB increments for each receiver channel independently. You can also choose to mute a single channel or all channels in a receiver stream.

To adjust the audio gain for a receiver channel

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Audio Gain** tab.

   The **Destination Audio Gain** sub-tab is automatically selected.

3. Locate the audio channel you wish to adjust the gain for.
4. Use the **Gain** slider to set a gain value between +20dB and -75dB.

To mute a channel

1. Locate the audio channel you wish to mute.
2. Click **Mute**.

To mute all channels

- Click **Mute All**.

To unmute all channels

- Click **Unmute All**.

To reset the gain and mute settings of all channels

- Click **Reset All**.

Operation

You can route the IGGY-ANA8.8 destinations and stream sources using the options in the Connections tab.

Connections Tab Overview

The Connections tab is organized into two areas: Routing Selection and Stream Sources.

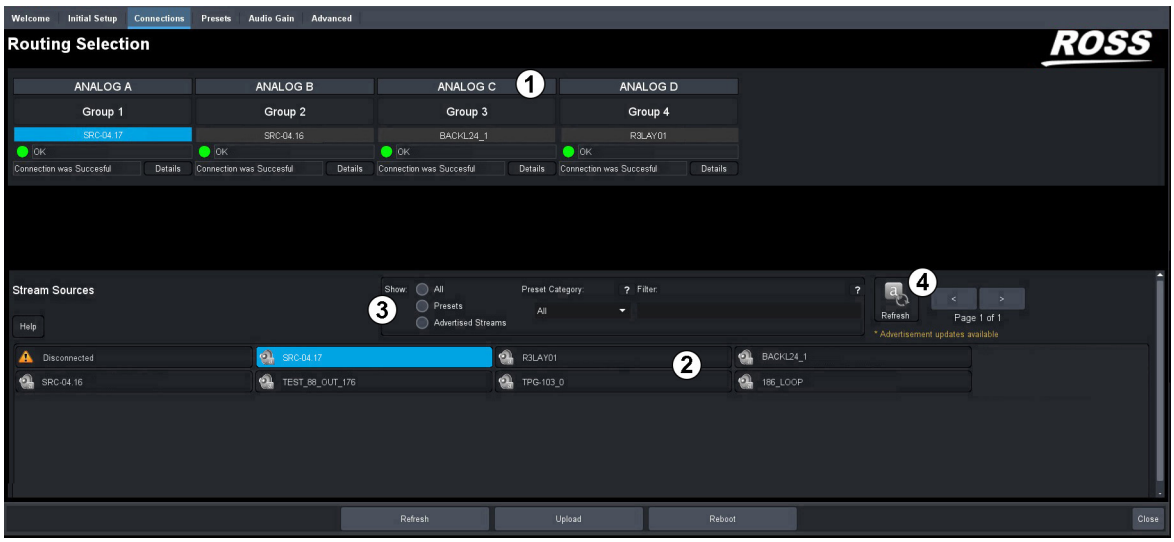


Figure 23 Example of a Populated Connections Tab

1. Destinations Area

This area displays the available outputs in a series of rows. Each output is represented as a button which is clicked to include it in the routing switch. A Status read-only field reports overall communication status and whether any error conditions are occurring on the output. The Audio read-only fields report the Network Streams assigned to the output. Refer to "**Configuring the Destinations**" for information on managing the destinations and audio channels.

2. Stream Sources Area

This area displays the available inputs as selectable buttons. Use the **Filter** field to narrow down the options displayed in the area.

3. Show Stream

Use the options in the Show Stream area to filter the type of network streams displayed. Choose from the following:

- **Presets** — Select this option to display all the presets that were created in "**Configuring the Presets**".
- **Advertised Sessions** — Select this option to display only the raw advertised streams. Using this selection, you can select a destination, select an advertisement with the same number of audio channels, and connect.

4. Refresh Button

Click this button to update the list of available Stream Sources. It is recommended to refresh the list before making connections (but not between connections).

Routing the Signals

To route the audio signals you must first select an analog output, then a network stream. Keep in mind that routing occurs automatically after a Stream button is selected.

To select an output

1. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
2. Select the **Connections** tab.
3. In the **Output Name** row of the **Destinations** area, locate the button for the output you wish to route.
4. Click the required **Output** button.

To perform the switch

1. In the **Stream Sources** area, locate the button for the Network Stream you wish to route.
2. If required, filter the options in the Stream Sources area using the following:
   - **Filter** field — type text in the field to filter the items displayed in Stream Sources area to those with names containing the specified text.
   - **Show** options — select a type of stream to display. Choose from Network Streams (manually defined streams), Advertised Streams (streams the IGGY-ANA8.8 automatically detects), or Both.
3. Click the required **Network Stream** button to perform the switch.

Using IGGY-ANA8.8 with Ultritouch

Ultritouch uses the open SLP protocol to locate devices on the same network as it is connected to. This section outlines how to manually add the IGGY-ANA8.8 to the list of connected devices by specifying its IP address. You must first set up communications between IGGY-ANA8.8 and the Ultritouch panel before you access the IGGY-ANA8.8 interfaces, including the Connections window.

✶ Ensure the **SLP Enable** box is selected on the **Advanced** > **Discovery** tab.

To set up a connection point between IGGY-ANA8.8 and Ultrix/Ultricore

1. On the Ultritouch panel, tap  .

✶ This button is located on the leftmost toolbar of the Ultritouch interface.

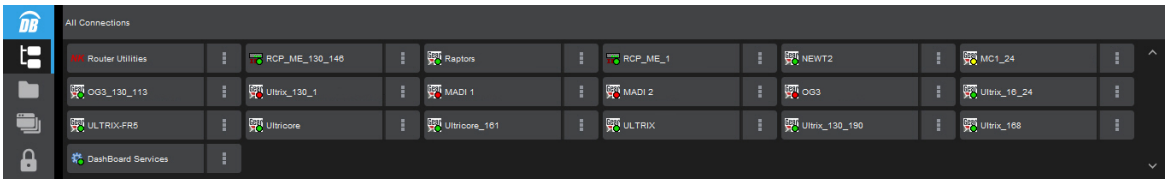
2. Tap **Connected Devices**.
3. Tap **Add**.
4. Tap **Manually Add a Connection Point**.
5. Use the **Device IP/Hostname** field to specify the IP address for the IGGY-ANA8.8.
6. Tap **Add Device**.

   The device is now listed in the **Connected Devices** table.
7. Select the device from the **Connected Devices** table.
8. Tap **Connect**.

To display the IGGY-ANA8.8 on the Ultritouch panel

1. On the Ultritouch panel, tap  .

   The **All Connections** interface displays.



2. Tap the icon for the IGGY-ANA8.8 you want to control via Ultritouch.
3. Tap the icon for the menu you wish to display on the Ultritouch panel.

   The Connections window for the selected IGGY-ANA8.8 automatically displays on the Ultritouch panel.

Accessing the IGGY-ANA8.8 Interfaces

It is recommended to use the DashBoard client software to setup and configure the IGGY-ANA8.8 and then use Ultritouch for control via the Connections interface. Keep the following in mind when using Ultritouch to control the IGGY-ANA8.8:

- The Welcome and Initial Setup interfaces are not available on the Ultritouch panel.
- The Connections window automatically displays each time the IGGY-ANA8.8 interface is loaded onto the Ultritouch panel.
- The Connections window is re-organized when displayed on an Ultritouch with the Destination buttons in the left most window, and the Sources on the right.

To perform the switch

1. In the **Connections** window, locate the button for the output you wish to route.
2. Tap the required **Output** button.
3. Tap the required **Network Stream** button.
4. Tap **TAKE** to perform the switch.

Upgrading the Software

The IGGY-ANA8.8 software can be upgraded in the field using the **CONTROL** port and the options available in DashBoard.

To upgrade the software on the IGGY-ANA8.8

1. Visit the Ross Video website for the latest software version file.
2. Display the IGGY-ANA8.8 interfaces as outlined in "**To access the IGGY-ANA8.8 in DashBoard**".
3. Verify that the remote upgrade option is enabled for the IGGY-ANA8.8:
   a. Select the **Advanced** > **Device Setup** tab.
   b. Select **Upgrades** > **Enable**.
4. Select **Upload**, located near the bottom of the DashBoard interface, to display the **Select file Upload** dialog.
5. Navigate to the file you want to upload.
6. Click **Open**.
7. If you are upgrading a single module:
   a. Click **Finish**.
   b. Proceed to step 9.
8. If you are upgrading multiple modules:
   a. Click **Next >** to display the **Select Destination** menu. This menu provides a list of the compatible cards.
   b. Specify the card(s) to upload the file to by selecting the check box(es) for the cards you want to upload the file to.
   c. Verify the card(s) you want to upload the file to. The **Error/Warning** fields indicate any errors, such as incompatible software or card type mismatch.
   d. Click **Finish**.
9. Monitor the upgrade.

✶ Clicking **Cancel** returns you to the **Select file Upload** dialog without rebooting the device(s).

- Each IGGY-ANA8.8 is temporarily taken off-line during the reboot process.
- The process is complete once the status indicators for the **Card state** and **Connection** fields in the **Status** tab return to their previous status.

✶ If the IGGY-ANA8.8 fails to upgrade correctly, contact Ross Technical Support for assistance.

DashBoard Interface Overview

The DashBoard client software enables you to monitor, configure, and operate your IGGY-ANA8.8. The IGGY-ANA8.8 groups the configuration, monitoring, and operating features as a series of tabs in the DashBoard client window. Each tab provides access to specific configuration options.

Welcome Tab

The Welcome tab displays on initial start-up of the IGGY-ANA8.8 in DashBoard. Once the initial settings are configured and applied to the IGGY-ANA8.8, hide the Welcome and Initial Setup tabs by selecting **Initial Setup** > **Hide Welcome** tab and/or **Initial Setup** > **Hide Initial Setup Wizard** tab.

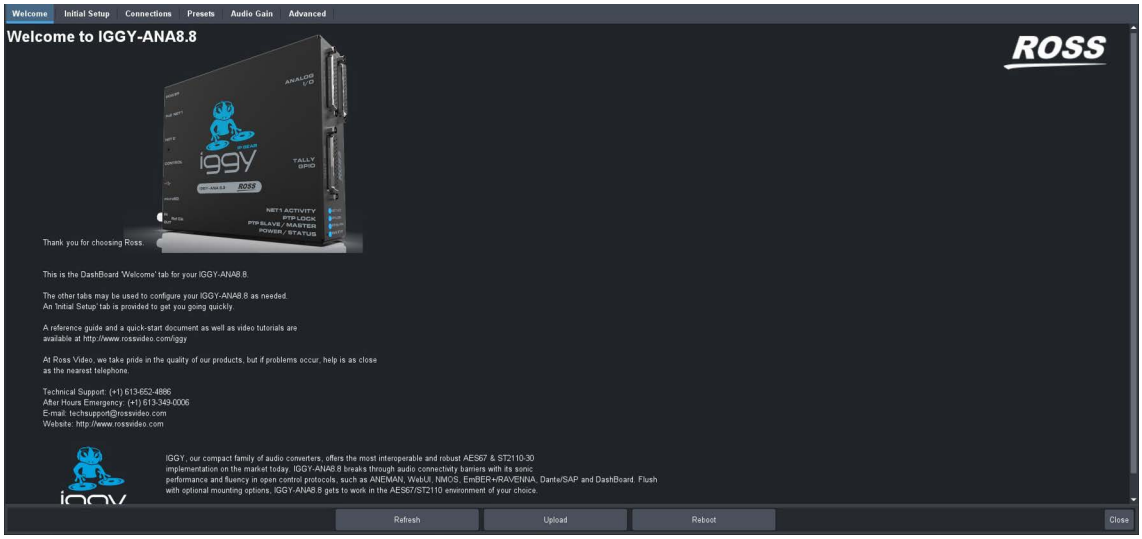


Figure 24 Example of the Welcome Tab

Initial Setup Tab

The Initial Setup tab helps you to quickly set up your IGGY-ANA8.8 and proceed to configure your Presets (Network Streams) and Connections. The same controls are available in the Advanced tabs.

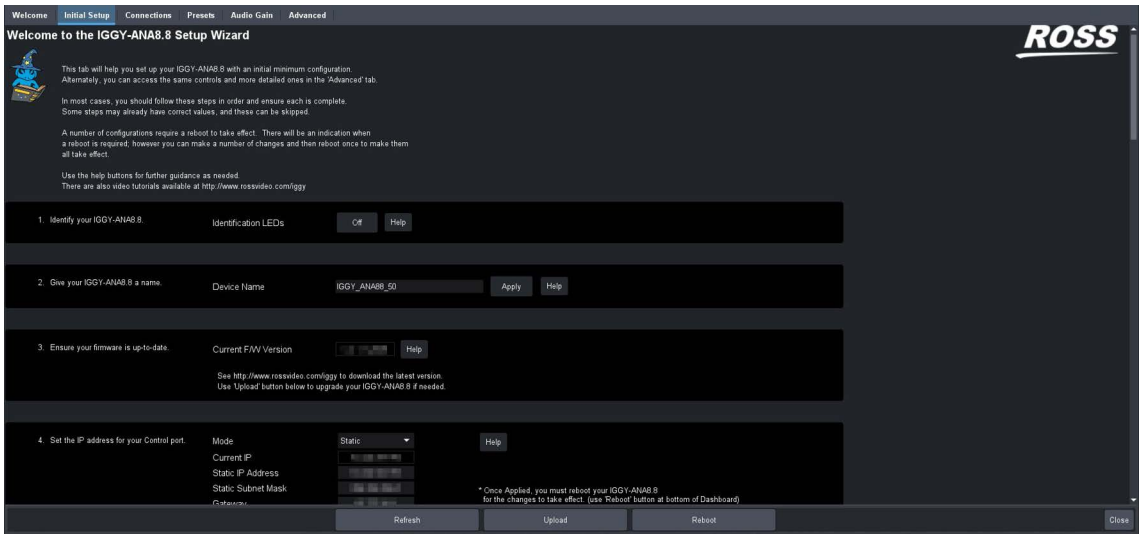


Figure 25 Example of the Initial Setup Tab

Connections Tab

The Connections tab is a patch-panel style interface that enables the IGGY-ANA8.8 to connect to the available senders on the network.

Routing Selection Area

The Routing Selection area is located at the top of the Connections tab and provides options for routing the analog audio signals to the outputs on the IGGY-ANA8.8. From this area you can quickly select outputs and monitor the status of the output signals.

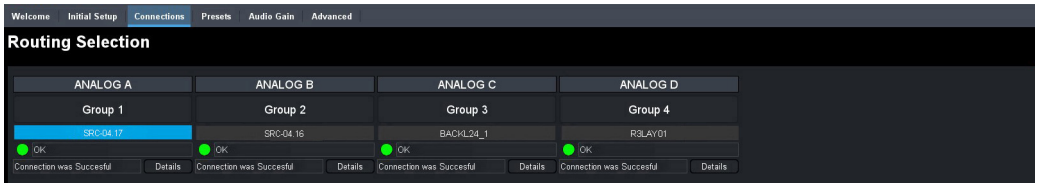


Figure 26 Connections Tab — Example of a Routing Selection Area

Table 7 summarizes the buttons, menus, and fields available in the Routing Selection area of the Connections tab.

Table 7 Connections Tab — Routing Selection Area

Item	Parameters	Description
Interface	ANALOG #	Indicates the physical analog I/O port on the IGGY-ANA8.8
Output Name	#	Each button represents an output that is configured and available for switching
Status (read-only)	OK (Green)	No errors are detected on this output
	Alarm Suppressed (Green)	An alarm condition is present, but the alarm is disabled on the Advanced > Alarms tab
	Network Delay Not Compatible (Yellow)	The link offset selected by the user is smaller than the propagation delay of the network
Status (read-only)	Advertisement no longer available (Yellow)	The IGGY-ANA8.8 cannot detect the advertised stream assigned to the destination
	No packets received (Yellow)	The configured destination IP stream(s) is not receiving any packets; stream might not be on the network or experiencing other issues
	System clock is in failure (Red)	The IGGY-ANA8.8 is unable to re-obtain a stable clock source. Sessions cannot be created until this condition is fixed. It is recommended to navigate to the Advanced >Timing > PTP tab to check the status of the PTP and update the Configuration settings. Once PTP is locked again, the message clears.

Table 7 Connections Tab — Routing Selection Area

Item	Parameters	Description
Status (read-only)	Param Out of Range (Red)	A Destination was configured with an invalid setting
	Not in Use (Gray)	This output is disabled
Connection (read-only)	Connection was successful	Indicates the connection status between the selected input and output
	No connection information	
	Error during connect	
	Disconnected	
	<blank>	
Details	Opens the Details dialog that provides more information about the state of the connection	

Stream Sources Area

The Stream Sources area is located on the bottom half of the Connections tab. From this area you can route any source signal to an output, monitor its status, and filter the stream available based on type.

Each button displayed here represents a configured network stream. You can filter what network streams are displayed using the **Filter** field (filtering according to the text entered in the filed), the Show options, or by selecting one of the Preset Category buttons next to the **Filter** field.

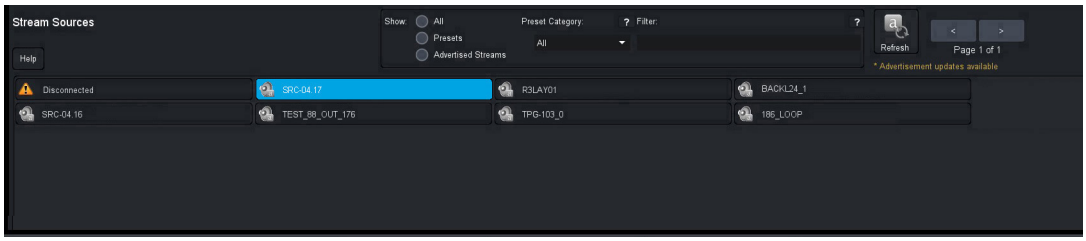


Figure 27 Connections Tab — Example of a Stream Sources Area

✶ Once an output is selected, clicking a **Stream Source** button performs an immediate switch (a hot-punch).

Presets Tab

The options in the Presets tab enable you to create and manage the IP streams in your system. Advertised streams are those that the IGGY-ANA8.8 automatically detects as defined by the RAVENNA protocol. You can also define a stream by manually populating the Transport IP, UDP Port, and #Ch fields for the audio signals.

Once a preset is defined, it is made available for use in the **Connections** tab.

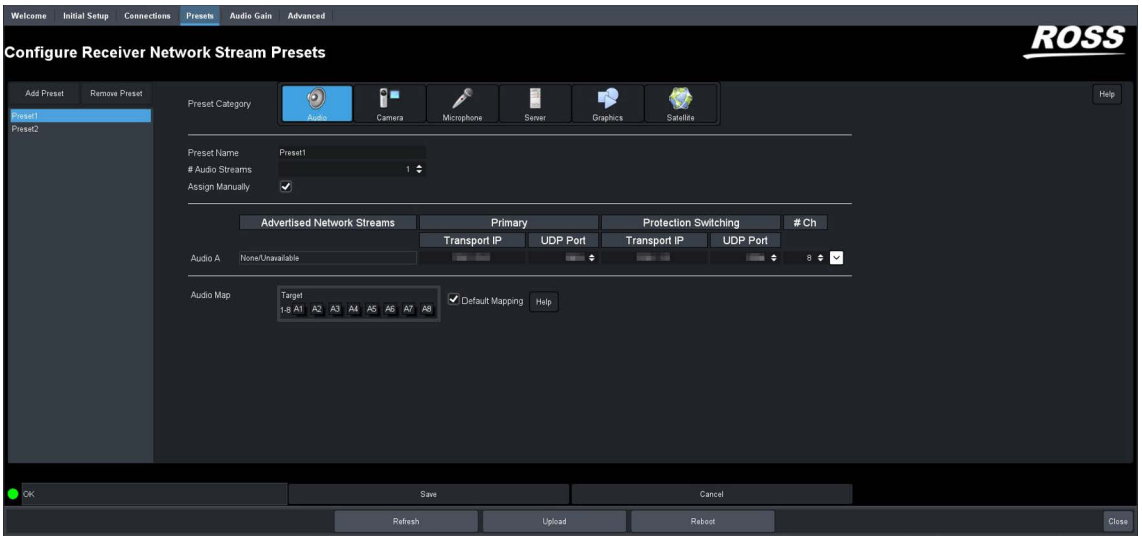


Figure 28 Presets Tab

Table 8 outlines the options displayed in the Presets tab starting from the left-most area of the tab.

Table 8 Presets Tab

Item	Parameters	Description
Configure Receiver Network Stream Presets		
List	<name>	Reports the configured network stream presets for this IGGY-ANA8.8
Add Preset	Enables you to configure a new stream preset	
Remove Preset	Deletes the selected group	
Preset Category	Assigns the stream to a type of essence. This is useful when filtering the streams on the Connections tab	
Preset Name	<text>	Specifies a unique identifier for the group
# Audio Streams	#	Specifies the maximum number of audio streams available in the selected group
Assign Manually	Selected	Enables you to manually enter the Transport IP, Port, and DSCP fields for a specific session
	Cleared	The Transport IP, Port, and DSCP fields are determined by the assigned Advertised Stream
Advertised Network Streams		
Audio #	None	Lists the discovered RAVENNA audio sessions. Select a session to auto-fill the Audio fields.
	#	
Manually Configured Streams - Audio #		
Stream Name	<name>	Assigns a unique identifier for the stream
Transport IP	#.#.#.#	Specifies the network socket for the video/audio data for the session. This value is auto-populated when you select an Advertised Stream.

Table 8 Presets Tab

Item	Parameters	Description
UDP Port	#	Specifies the source port to connect to the advertised stream. This must match the source you are attempting to connect to.
Protection Switching - Audio #		
Stream Name	<name>	Assigns a unique identifier for the stream
Transport IP	#.#.#.#	Specifies the network socket for the video/audio data for the session. This value is auto-populated when you select an Advertised Stream.
UDP Port	#	Specifies the source port to connect to the advertised stream. This must match the source you are attempting to connect to.
# Ch	#	Specifies the maximum number of audio channels in the audio stream
Audio Map		
Default Mapping	Selected	The channels in the target preset are populated in the order that the selected presets are listed
	Cleared	Enables you to customize the audio map for the preset
Edit	Displays when the Default Mapping box is not selected. Click this button to update the Audio Map options and to customize the audio channel mapping for the preset. Refer to "**Mapping the Audio Channels to a Sender Stream**" for more information.	

Table 9 summarizes the fields that display when the ⌄ button is selected at the end of a stream row.

Table 9 Presets Tab — Additional Options

Item	Parameters	Description
Codec	None	Specifies the audio over IP technical standard that the preset will use
	AES67 (L24)	
	Audio and Control (AM824)	
Media Clock Offset	#	Specifies an offset (in milliseconds) from the detected media clock timestamp

Audio Gain Tab

The Audio Gain tab provides options for adjusting the gain for individual channels or all channels. You can also choose to mute single channels or all channels. There are two sub-tabs: Destination Audio Gain, and Sender Audio Gain.

Figure 29 Audio Gain — Destination Audio Gain

Table 10 summarizes the options displayed in the Destination Audio Gain sub-tab.

Table 10 Destination Audio Gain Sub-tab

Item	Parameters	Description
Channel # - Analog #		
Gain (dB)	#	Adjusts the gain of the specified audio channel
Mute	Mutes the specified channel	
Control All		
Reset All	Resets all audio channels to their default Gain value of 0.	
Mute All	Mutes all channels	
Unmute All	All channels are no longer muted	

Advanced Tabs

The Advanced sub-tabs expand the controls available in the Initial Setup tab.

Status Tabs

The Status tab is organized into two sub-tabs: Device Status and Analog Input Status.

Device Status

The Device Status tab provides read-only hardware information, signal status, and general product information for your IGGY-ANA8.8. The tab is organized into three distinct areas in the DashBoard window: Alarms Summary, Unsaved Changes, and Product.

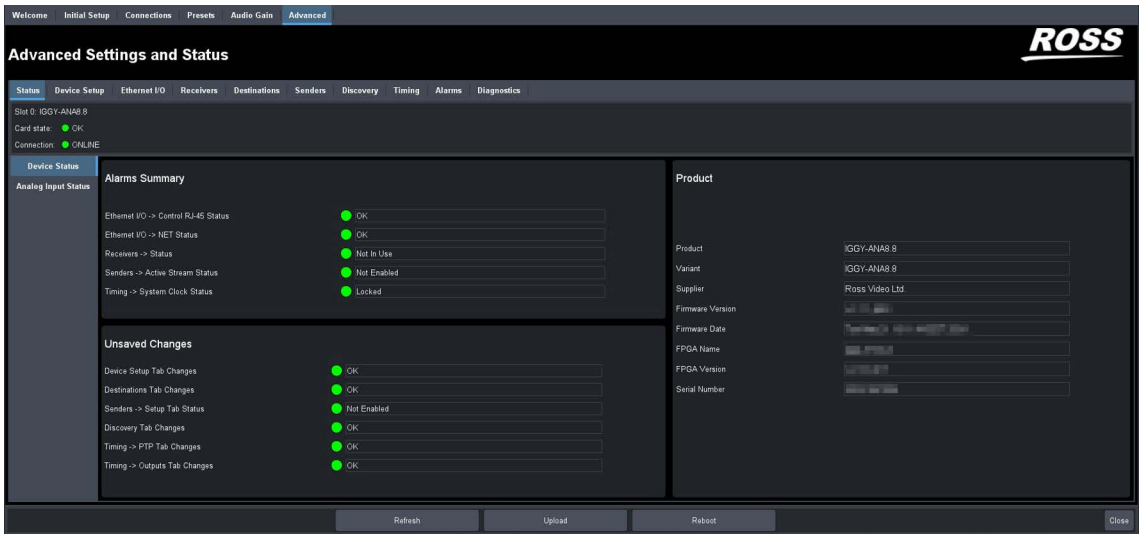


Figure 30 Example of the Advanced > Status > Device Status Tab

Table 11 summarizes the read-only information displayed in the Alarms Summary area.

Table 11 Status Tab — Alarms Summary

Item	Parameters	Description
Ethernet I/O -> Control RJ-45 Status		Reports the same information as the Advanced > Ethernet I/O > Control RJ-45 > Link Status field
Ethernet I/O -> NET Status		Reports the same information as the Advanced > Senders > Active Streams fields
Receivers -> Status		Reports the same information as the individual alarms in the Receivers tab
Senders -> Active Stream Status		Reports the same information as the Advanced > Senders > Active Streams fields
Timing -> System Clock Status		Reports the status of the PTP Clock connection

Table 12 summarizes the read-only information displayed in the Unsaved Changes area.

Table 12 Status Tab — Unsaved Changes

Item	Parameters	Description
Device Setup Tab Changes		Reports if there are unsaved changes made to the Advanced > Device Setup tab
Destinations Tab Changes		Reports there are unsaved changes made to the Advanced > Destinations tab
Senders -> Setup Tab Changes		Reports if there are unsaved changes made to the Advanced > Senders > Setup Streams tab
Discovery Tab Changes		Reports if there are unsaved changes made to the Advanced > Discovery tab

Table 12 Status Tab — Unsaved Changes

Item	Parameters	Description
Timing -> PTP Tab Changes	Reports if there are unsaved changes made to the Advanced > Timing > PTP tab	
Timing -> Outputs Tab Changes	Reports if there are unsaved changes made to the Advanced > Timing > Outputs tab	

Table 13 summarizes the read-only information displayed in the Product area.

Table 13 Status Tab — Product

Item	Parameters	Description
Product	IGGY-ANA8.8	The product name of the hardware
Variant		The software marketing code
Supplier		The supplier/manufacturer of the module
Firmware Version	#	The firmware version running on the module
Firmware Date	#	The date the current firmware was loaded on to the module
FPGA Name	#.#	The FPGA build running on the module
FPGA Version	#	The FPGA version running on the module
Serial Number	#	The assigned serial number of the module motherboard

Analog Input Status Tab

The Analog Input Status tab reports read-only information on the status of the input signal detected on the ANLG I/O ports.

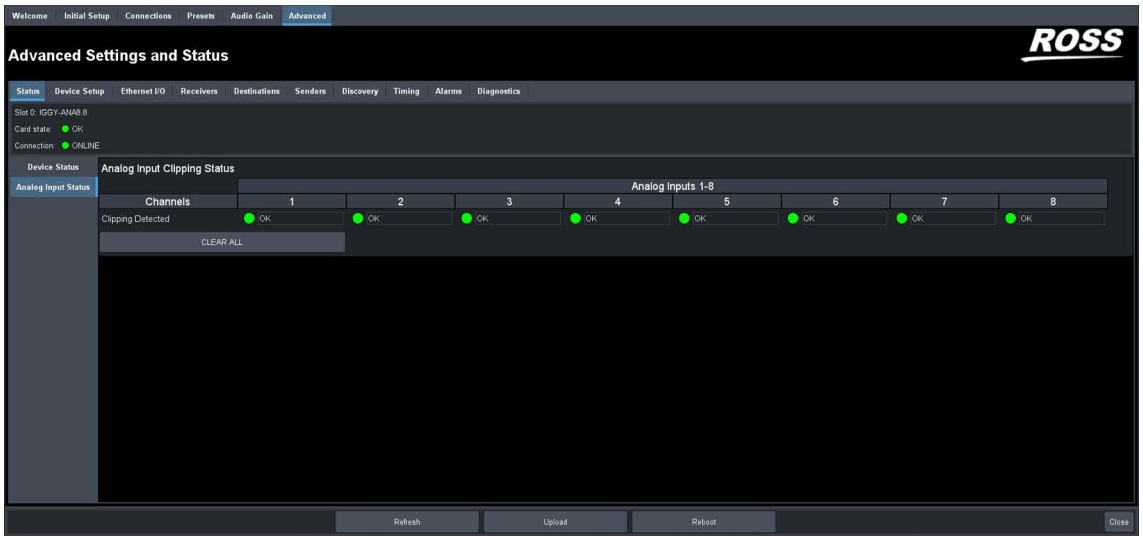


Figure 31 Example of the Advanced > Status > Analog Input Status Tab

Table 14 summarizes the read-only information displayed in the AES3 Input Status tab.

Table 14 AES3 Input Tab

Item	Parameters	Description
Analog Inputs - Channels #		
Clipping Detected	OK (Green)	The input audio level is within the threshold
	(Red)	The input audio level is too high to pass through
Clear All	Clears the error messages from the tab fields	

Device Setup Tab

The **Device Setup** tab provides settings that impact the IGGY-ANA8.8 operation such as Multicast settings, Audio Channel Count Mode, and the Default Codec Type.

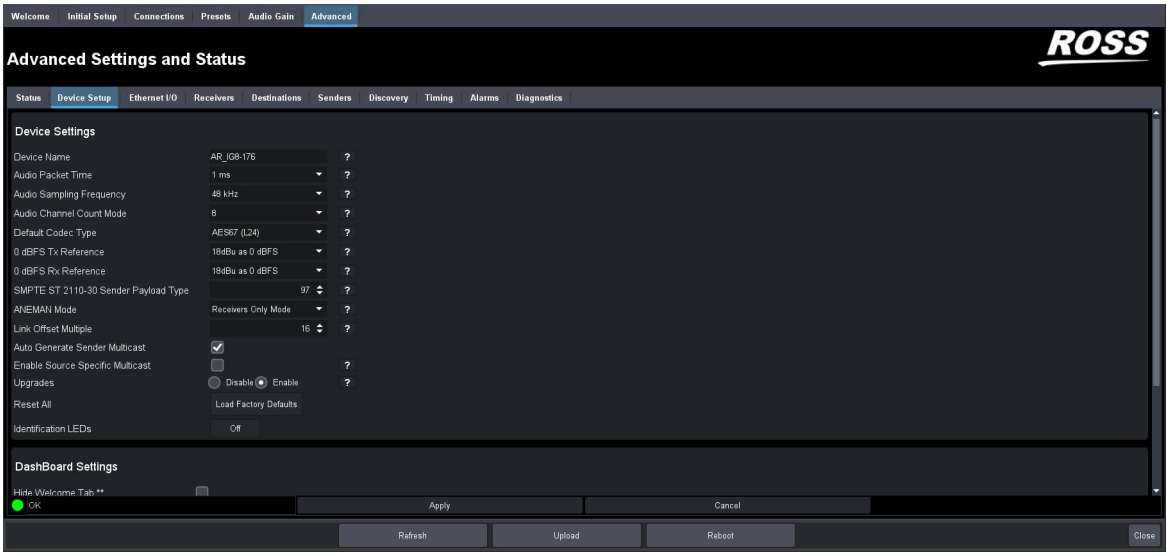


Figure 32 Example of the Advanced > Device Setup Tab

Table 15 summarizes the options displayed in the Device Setup tab.

Table 15 Device Setup Tab

Item	Parameters	Description
Device Settings		
Device Name	<text>	Specifies a unique identifier for this IGGY-ANA8.8. This name is used to identify the streams the IGGY-ANA8.8 is managing.
Audio Packet Time	1 ms # µs	Defines the amount of time that a sender buffers audio samples before it is packeted into an Ethernet frame. This impacts all connected audio streams. It is recommended to set the Audio Packet Time before configuring your audio streams. Applying a new Audio Packet Time automatically disconnects all audio streams.

Table 15 Device Setup Tab

Item	Parameters	Description
Audio Sampling Frequency	#	Specifies the number of samples of audio carried per second
Audio Channel Count Mode	#	Specifies the number of audio channels to be configured within an IP-based stream. The default is 8.
Default Codec Type	#	Specifies the standard that the IGGY-ANA8.8 will default to for all IP-based streams
0dBFS Tx Reference	#	Specifies the reference value in dBu in the analog domain which maps to 0dBFS in the digital domain for the Tx Direction (Analog Output)
0dBFS Rx Reference	#	Specifies the reference value in dBu in the analog domain which maps to 0 dBFS in the digital domain for the Rx Direction (Analog Input)
SMPTE ST 2110-30 Sender Payload Type	#	Specifies the 7-bit numeric value that identifies the RTP payload format the IGGY-ANA8.8 supports. The default is 97.
ANEMAN Mode	Receivers Only Mode	The sender sessions are first created through a web interface. This is the default.
	Dual Receivers Mode	
	Duplex Mode	The ANEMAN controller creates the sources that will be used in an “one-to-many connection” topology
Link Offset Multiple	#	Defines the default size of the receiver buffer. It is a multiple of packet time units. For example, if set to 10 and the packet time is set to 1ms, the receiver buffer will be 10ms.
Auto Generate Sender Multicast	Selected	Enables the IGGY-ANA8.8 to automatically generate an IP address for any stream when its IP address field is set to 0.0.0.0. This is the default.
	Cleared	An IP address must be specified for each stream
Enable Source Specific Multicast	Selected	An SSM allows the user to specify a specific source for a receiver connection
	Cleared	Disables this feature
Upgrades	Disable	The software running on the IGGY-ANA8.8 cannot be upgraded. This also disables the Log > Captures page. This is the default.
	Enable	Provides the option to upgrade the IGGY-ANA8.8 software via the Upload button in DashBoard

Table 15 Device Setup Tab

Item	Parameters	Description
Reset All	Load Factory Defaults	Sets editable settings to the default values
Identify LEDs	Selected	The NET1 ACT, PTP LOCK, PTP Slv/Mst, and POWER LEDs will flash in two second intervals from red, to green, to blue, then remain purple until this box is cleared.
	Cleared	
DashBoard Settings		
Hide Welcome Tab	Selected	The Welcome tab does not display in the DashBoard window
	Cleared	The Welcome tab displays in the DashBoard window
Hide Initial Setup Wizard Tab	Selected	The Initial Setup tab does not display in the DashBoard window
	Cleared	The Initial Setup tab displays in the DashBoard window
Enable Beta Features	Selected	Contact Ross Technical Support for more information on enabling this option
	Cleared	
Transport Options		
SMPTE ST 2022-7 / Seamless Protection Switching	Selected	• Allows the user to turn on/off the Redundant Streams feature (both sending and receiving). • When off, the user specifies the NET port to output the stream. • When receiving with this option off, the IGGY-ANA8.8 will receive a stream that is redundant on NET 1 only. If the stream is not redundant, it will receive the stream on the network that the stream is on (NET 1 or NET 2).
	Cleared	

Ethernet I/O Tab

Use the Ethernet I/O tab to configure the network settings for the NET 1, NET 2, and CTRL ports on the IGGY-ANA8.8.

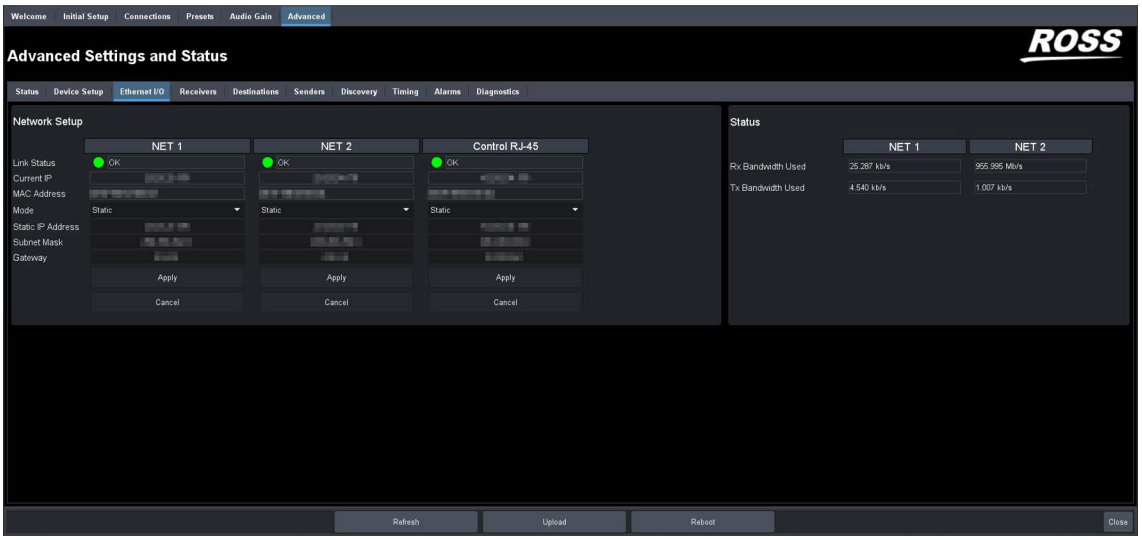


Figure 33 Example of the Advanced > Ethernet I/O Tab

Network Setup Area

Table 16 summarizes the fields and menus displayed for configuring the network settings of the CONTROL and NET ports.

✶ Each port is configured independently.

Table 16 Ethernet I/O — Network Setup

Item	Parameters	Description
Link Status (read-only)	OK (Green)	The link for the specified port is valid
	Alarm suppressed (Green)	The Link Status alarm is suppressed in the Device Status tab.
	Link Down (Red)	The link for the specified port is invalid (fails)
Current IP (read-only)	#	The IP address currently assigned to the IGGY-ANA8.8 for the specified port
MAC Address (read-only)	#	The MAC Address currently assigned to the IGGY-ANA8.8 for the specified port
Mode	Static	The user manually supplies the network settings for the specified port
	DHCP	Automates the assignment of the network settings for the specified port
Static IP Address	#	Specifies the static IP address for the IGGY-ANA8.8 when the user wants to manually assign to the specified port
Subnet Mask	#	The subnet mask for the specified port
Gateway	#	The gateway for communications outside of the local area network (LAN)

Status Area

Table 17 summarizes the read-only fields displayed for each NET port.

Table 17 Ethernet I/O — Status

Item	Parameters	Description
Rx Bandwidth Used	#	The amount of data the IGGY-ANA8.8 is currently receiving on the specified NET port
Tx Bandwidth Used	#	The amount of data the IGGY-ANA8.8 is currently transmitting on the specified NET port

Receivers Tab

The **Receivers** tab provides details on each of the IP receivers (NET ports) of the IGGY-ANA8.8. There are two sub-tabs: Status, and X-Connect.

Status

At the top of the Status interface there is a read-only field for each configured NET port on the IGGY-ANA8.8. These fields report the expected bandwidth allocated by the Receiver NET port.

Figure 34 Receivers Tab — Example of the NET Bandwidth Bars

If the bandwidth bar is green, the expected allocated bandwidth is below 100%.

The bottom half of the Status interface displays a row for each analog Receiver stream.

Table 18 outlines the read-only fields and menus available to configure the receiver settings for the analog signals.

Table 18 Receivers Tab — Configuration Area

Item	Parameters	Description
Status (read-only)	OK (Green)	No errors are detected on this analog connection
	Apply Changes (Yellow)	This receiver has unsaved settings. Click **Apply** at the bottom of the tab to save your settings.
	Network Delay Not Compatible (Yellow)	The link offset selected by the user is smaller than the propagation delay of the network
	No packets received (Yellow)	The configured receiver IP stream(s) is not receiving any packets; stream might not be on the network or experiencing other issues
	Param Out of Range (Red)	Two receivers with the same network stream were created. IGGY-ANA8.8 can only subscribe to a stream once.

Table 18 Receivers Tab — Configuration Area

Item	Parameters	Description
Status (read-only)	System clock is in failure (Red)	The IGGY-ANA8.8 is unable to re-obtain a stable clock source. Sessions cannot be created until this condition is fixed. It is recommended to navigate to the Timing > PTP tab to check the status of the PTP and update the Configuration settings. Once PTP is locked again, the Network Groups will need to be disconnected and then re-connected to clear the alarm.
	Not In Use (Gray)	The receiver is not configured
Name	<text>	Assigns an unique identifier to the receiver stream
Disconnect	Stops that session and the Receiver outputs silence	

Table 19 summarizes the read-only information that displays when the ⌄ button is selected at the end of a row.

Table 19 Receivers Tab — Additional Status

Item	Parameters	Description
Audio #		
Status	OK (Green)	No errors are detected on the audio signal
	No Active Sessions	The output is not configured and a network stream is not assigned to it
Source Name	xx.yy.audio#	The source name is determined by the stream that is connected
Transport IP	#.#.#.#	Specifies the IP address for the audio stream
	<blank>	The IGGY-ANA8.8 firmware provides an IP when the session is created
Port	#	The port associated with the IP address
NET (read-only)	#	The NET port on the IGGY-ANA8.8 that the audio signal is derived from
Link Offset (µs)	#	The Audio Offset and/or Audio Delay values set in the Timing > Outputs tab for the output

Destinations Tab

The **Destinations** tab is organized into two areas: Destinations Setup and Channel Mapping. **Table 20** outlines the options in the Destinations tab.

Table 20 Destinations Tab

Item	Parameters	Description
Number of Channels Per Destination	#	Assigns the specified number of channels to each Destination
Number of Destinations (read-only)	#	The maximum number of analog destination streams the IGGY-ANA8.8 supports
ANALOG #		
Enable	Selected	The specified analog stream is enabled and available for configuration
	Cleared	The specified analog stream is disabled and unavailable for use
Destination Name	<text>	Assigns a unique identifier to the analog stream. This name is used on the Connections tab
# of Channels (read-only)	#	The maximum number of audio channels for the analog stream

Senders Tab

The **Senders** tab is organized into two sub-tabs: Setup Streams and Active Streams. The Setup Streams tab provides options for configuring the senders for each NET port of the IGGY-ANA8.8.

Active Streams Tab

The Active Streams provides monitoring options and read-only status fields for the connected audio streams.

Table 21 outlines the read-only fields in the Active Streams tab.

Table 21 Senders Tab — Active Streams

Item	Parameters	Description
Audio Streams		
Status	OK (Green)	The sender streams are operating correctly without errors
	Paused (Green)	Sender stream is paused and not sending data
	Alarm Suppressed (Green)	An alarm condition is present, but the alarm is disabled on the Alarm Enable tab
	System Clock in Failure (Red)	• The IGGY-ANA8.8 is unable to obtain a stable clock source. • Sessions cannot be created until this condition is fixed. • It is recommended to navigate to the Advanced > Timing > PTP tab to check the status of the PTP and update the Configuration settings.

Table 21 Senders Tab — Active Streams

Item	Parameters	Description
Transport IP	#.#.#.#	The IP address for the audio session
UDP Port	#	The port associated with the IP address and the communication protocol for the audio essence
Protection Switching[a]		
Transport IP	#.#.#.#	The IP address for the audio session assigned to Protection Switching
UDP Port	#	The port associated with the IP address and the communication protocol for the audio essence assigned to Protection Switching

a. Applicable only if SMPTE ST 20200-7 / Seamless Protection Switching is enabled.

Setup Streams Tab

The Setup Sender Stream area provides options for enabling, re-naming, selecting the source, and the communication settings for each NET port.

Table 22 outlines the options in the Setup Streams tab.

Table 22 Senders Tab — Setup Streams

Item	Parameters	Description
Add Stream	Enables you to configure a new stream	
Remove Stream	Deletes the selected stream	
Setup Sender Streams		
Connection Status (read-only)	Active (Green)	The Sender stream is active
Connection Status (read-only)	Error (Red)	Reports a specific error condition that is occurring
	Not Applied (Gray)	Stream was added but not yet assigned
Source Name	<text>	Provides a unique identifier for the stream. This name is used to identify the data within your network.
Codec	#	Specifies the transmission standard the network stream will use
Primary Stream		
Transport IP	#.#.#.#	Specifies the IP address for the audio essence
UDP Port	#	Specifies the port associated with the IP address and the communication protocol for the audio essence
Protection Switching[a]		
Transport IP	#	Specifies the IP address for the redundant audio essence

Table 22 Senders Tab — Setup Streams

Item	Parameters	Description
UDP Port	#	Specifies the port associated with the IP address and the communication protocol for the redundant audio essence
Auto Create Audio Source		
Set Default Audio	Click this button to automatically assign the first available consecutive analog channels (based on the Audio Channel Count Mode value) to the target stream	
Channel Map		
Analog Channels	#	Use this area to select the audio channels available from each configured analog stream
Target	1-#	Use this area to assign the selected analog channels to the session you are configuring

a. Applicable only if SMPTE ST 20200-7 / Seamless Protection Switching is enabled.

Discovery Tab

The Discovery tab provides options for configuring communications via the supported transport protocols.

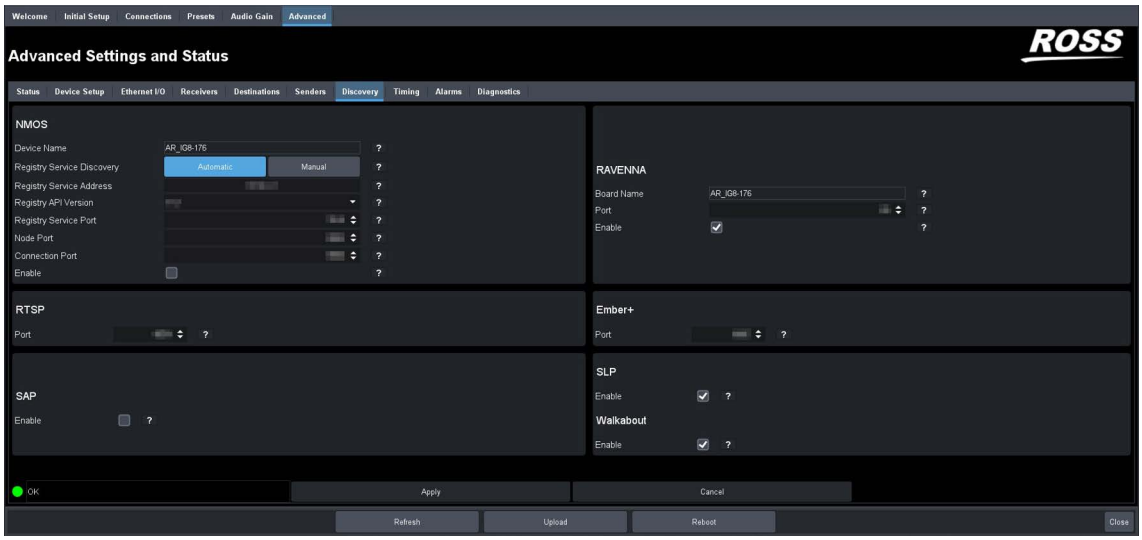


Figure 35 Example of the Advanced > Discovery Tab

Table 23 summarizes the options displayed in the Discovery tab.

Table 23 Discovery Tab

Item	Parameters	Description
NMOS		
Device Name (read-only)	<text>	Reports the unique identifier for IGGY-ANA8.8 when communicating with NMOS-based devices

Table 23 Discovery Tab

Item	Parameters	Description
Registry Service Discovery	Automatic	The IGGY-ANA8.8 uses mDNS to automatically register in an RDS on the network with the lowest priority
	Manual	Allows the user to set an RDS IP in the Registry Service Address field and forces the IGGY-ANA8.8 to register to this specific RDS
Registry Service Address	#	Specifies an RDS IP to force the IGGY-ANA8.8 to register in a specific RDS
Registry API Version	v1.0	Specifies the version of the NMOS registry API. The default is v1.3.
	v1.1	
	v1.2	
	v1.3	
Registry Service Port	0-65535	Specifies the port used for the corresponding RDS
Node Port (read-only)	#	Reports the port the NMOS IS-04 Node service is listening on
Connection Port (read-only)	#	Reports the port the NMOS IS-05 Connection service is listening on
Enable	Selected	The IGGY-ANA8.8 is available as an NMOS device
	Cleared	The IGGY-ANA8.8 is not advertised as an NMOS device
RAVENNA		
Board Name (read-only)	<text>	Reports the unique identifier for the IGGY-ANA8.8 when communicating with RAVENNA-based devices
Port	#	Specifies the communications port on the network that the IGGY-ANA8.8 uses for RAVENNA communications. The default is 80.
Enable	Selected	The IGGY-ANA8.8 is available as a RAVENNA device
	Cleared	The IGGY-ANA8.8 is not advertised as a RAVENNA device
RTSP		
Port	#	Specifies the TCP port the protocol uses to send and receive messages. The default is 8554.
Ember+		
Port	#	Specifies the communications port on the network that the IGGY-ANA8.8 uses for Ember+ communications. The default is 9095.

Table 23 Discovery Tab

Item	Parameters	Description
SAP		
Enable	Selected	The IGGY-ANA8.8 will use the Session Announcement Protocol (SAP) to broadcast multicast session information.
	Cleared	Disables this feature
SLP		
Enable	Selected	Select if the IGGY-ANA8.8 will use the open SLP protocol to locate other devices on the same network it is connected to.
	Cleared	Disables this feature
Walkabout		
Enable	Selected	Enables the Walkabout feature of DashBoard to detect the IGGY-ANA8.8 on the network
	Cleared	Disables this feature

Timing Tab

The system timing options for the IGGY-ANA8.8 are organized into the following sub-tabs displayed on the left pane of the Timing tab: PTP and Outputs.

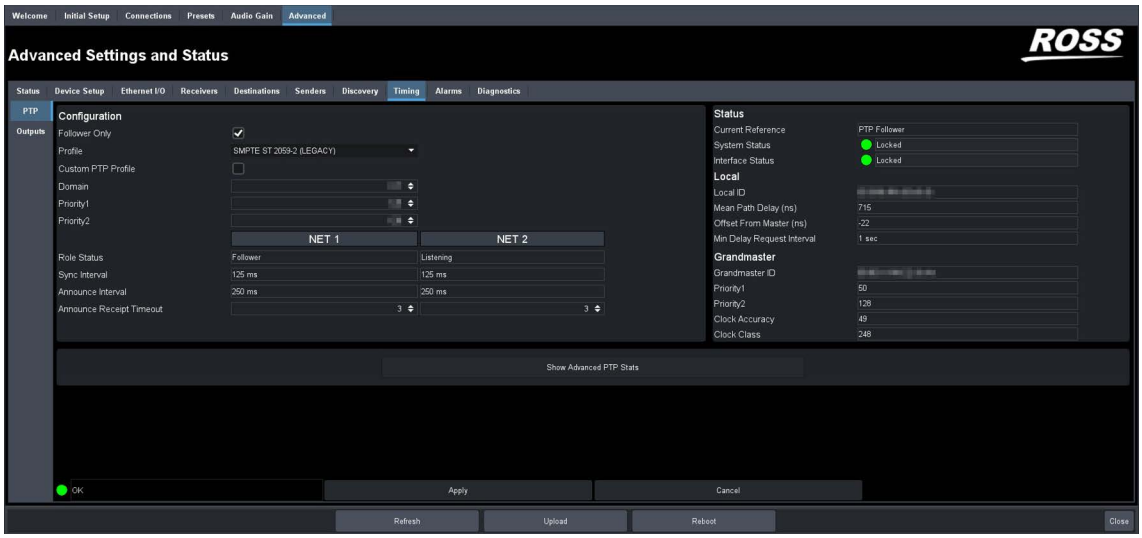


Figure 36 Example of the Advanced > Timing > PTP Tab

PTP Tab

Use the PTP tab to configure the PTP client settings for the IGGY-ANA8.8. This is also where the IGGY-ANA8.8 displays an active Grandmaster.

Table 24 summarizes the options displayed in the PTP tab.

Table 24 Timing Tab — PTP

Item	Parameters	Description
Configuration		
Follower Only	Selected	Defines the IGGY-ANA8.8 as a follower only device in the system; the module cannot be used as a Grandmaster or Master device
	Cleared	Enables the IGGY-ANA8.8 to be used as a Grandmaster or Master device
Profile	IEEEE 1588 Default	Timing is defined by the IEE1588 standard
	AES67 Media	Timing is defined by the AES67 Media standard
	SMPTE ST 2059-2 (LEGACY)	Timing is defined by the SMPTE ST 2059-2 standard
	SMPTE ST 2059-2:2021	Timing is defined by the revised SMPTE ST 2059-2 standard. This is the recommended setting.
Custom PTP Profile	Selected	The Domain, Priority1, Priority2, Role status, Sync Interval, Announce Interval and Announce Receipt Timeout fields can be edited to create a custom PTP profile
	Cleared	The current settings in the Domain, Priority1, Priority2, Role status, Sync Interval, Announce Interval and Announce Receipt Timeout fields are set to read-only and are controlled by the PTP profile selected.
Domain	#	Specifies that the IGGY-ANA8.8 is within the specified group of clocks in your network
Priority1	#	Assigns the first priority level to the IGGY-ANA8.8 during a Grandmaster election where a value of: • 1 is the highest priority • 255 is the lowest priority This menu is applicable when the Follower Only box is not selected
Priority2	#	Assigns the secondary priority level to the IGGY-ANA8.8 during a Grandmaster election where a value of: • 1 is the highest priority • 255 is the lowest priority This menu is applicable when the Follower Only box is not selected
NET #		
Role Status	Master	Indicates the role that the specified port is assigned to in the network system
	Listening	
	Follower	

Table 24 Timing Tab — PTP

Item	Parameters	Description
Sync Interval	#	Specifies how often the NET port on the IGGY-ANA8.8 sends Sync messages
Announce Interval	#	Specifies how often the NET port on the IGGY-ANA8.8 sends Announce messages
Announce Receipt Timeout (seconds)	#	Controls how long the NET port on the IGGY-ANA8.8 will wait before declaring the Grandmaster absent and initiating a new election
Status (read-only)		
Current Reference	PTP FOLLOWER	The IGGY-ANA8.8 is a Follower; uses that system clock as the reference
	INTERNAL OSCILLATOR	The IGGY-ANA8.8 is a Master; using that system clock as the reference
System Status	Locked	Status of PTP on the system
	Free run	
Interface Status	Locked	Status of PTP on the interface
	Acquiring	
	Failed	
Local (read-only)		
Local ID	#	The ID number assigned to the IGGY-ANA8.8 within the system
Mean Path Delay (ns)	#	Average time in nanoseconds it takes a packet to traverse end to end from the PTP master
Offset From Master (ns)	#	Correction time offset from the master in nanoseconds
Min Delay Request Interval	#	Specifies how long the IGGY-ANA8.8 will wait for a delay request
Grandmaster		
Grandmaster ID	#	Reports the ID number assigned to the Grandmaster within the system
Priority1	#	Standard PTP fields used to determine who wins a PTP election
Priority2	#	
Clock Accuracy	#	Standard PTP field that states the accuracy of the system clock on the system
Clock Class	#	Standard PTP field that states the class of the clock used on the system

Outputs Tab

The Outputs tab automatically displays in the DashBoard window. The Outputs tab enables you to adjust the timing of the analog output.

Table 25 summarizes the options displayed in the Outputs tab.

Table 25 Timing Tab — Outputs

Item	Parameters	Description
Default Delay	Selected	The default for audio delay changes based on the audio packet time set on the device: • If the audio packet time is 1000µs, the default audio delay is 20000µs • If the audio packet time is 125µs, the default audio delay is 2000µs
	Cleared	IGGY-ANA8.8 applies the Default Delay and Audio Offset settings in the Outputs tab for the specified signal. This is the default.
Audio Delay	#	Reports the audio output delay relative to the selected reference. This is read-only when the Default Delay box is selected.

Alarms Tab

The **Alarms** tab enables you to manage the type of alarms the IGGY-ANA8.8 reports.

✶ All alarms are enabled by default.

Table 26 summarizes the options displayed in the Alarms tab.

Table 26 Alarms Tab

Item	Parameters	Description
Receiver Streams - Analog #		
Audio Stream	Selected	Enables the monitoring of the audio stream. The status is reported in the Destinations area of the Connections tab.
	Cleared	Disables monitoring of this stream
Sender Streams — Primary, Protection Switching		
Audio Stream	Selected	The Advanced > Senders > Active Streams tab monitors the configured audio streams of the IGGY-ANA8.8
	Cleared	Disables monitoring of the sender audio stream(s)
Sender Setup - Status		
Connection	Selected	Changes made to the Advanced > Senders > Setup Streams tab are reported in the Advanced > Status > Device tab
	Cleared	Disables monitoring of the menus on the Advanced > Senders tab. The Senders Status and Changes field in the Advanced > Device tab does not report any issues.
Ethernet I/O - Control RJ-45		

Table 26 Alarms Tab

Item	Parameters	Description
Link Status	Selected	Enables the monitoring of the IGGY-ANA8.8 and your facility network. If a link is not detected, an error message displays in the Ethernet > Link Status.
	Cleared	Disables monitoring of the communications between the IGGY-ANA8.8 and your facility network
Ethernet I/O - NET #		
Link Status	Selected	The corresponding field in the Advanced > Ethernet I/O tab reports when a link is not detected
	Cleared	Disables monitoring of the link status of the specified NET port
PTP Status - System and Interface Status		
PTP Clock	Selected	The System Clock Status field reports when the connection to the PTP clock is lost
	Cleared	Disables monitoring of the PTP Clock status

Diagnostics Tab

The Diagnostics tab provides additional read-only information to help troubleshoot the network communication activity, and CPU activity.

Network Diagnostics

Table 27 summarizes the fields that are displayed after the **Show Network Diagnostics** button is selected.

Table 27 Diagnostics > Network Diagnostics

Item	Parameters	Description
Network Diagnostics - Link Statistics		
Rx Errors	#	Reports the total number of error packets which are received on the specified NET port
Tx Errors	#	Reports the total number of error packets which are transmitted on the specified NET port
Rx Bandwidth	#	Reports the amount of data the IGGY-ANA8.8 is currently receiving on the specified NET port
Tx Bandwidth	#	Reports the amount of data the IGGY-ANA8.8 is currently transmitting on the specified NET port
Network Diagnostics - CPU Statistics		

Table 27 Diagnostics > Network Diagnostics

Item	Parameters	Description
Rx Errors	#	Reports the total number of errors packets received on the 10G link
Tx Errors	#	Reports the total number of errors packets sent on the 10G link
Rx Bandwidth	#	Reports the packets received on the 10G link and forwarded to the processor on the specified NET port
Tx Bandwidth	#	Reports the packets sent from the processor to the Ethernet links on the specified NET port

Technical Specifications

This chapter provides technical information for IGGY-ANA8.8.

✶ Specifications are subject to change without notice.

CONTROL Port

Table 28 Technical Specifications — Control Port

Item	Specifications
Number of CONTROL Ports	1
Standards Accommodated	100/1000BASE-T
Connector Type	Locking GigE XLR RJ45

NET 1 and NET 2 Ports

Table 29 Technical Specifications — NET 1 and NET 2 Ports

Item	Specifications
Number of NET Ports	2
Standards Accommodated	100/1000BASE-T NET 1 port only: 802.3at Type 2 Power Over Ethernet
Connector Type	Locking GigE XLR RJ45

ANALOG IN 1-8 Ports

Table 30 Technical Specifications — ANALOG IN 1-8 Port

Item	Specifications	
Number of Inputs	8	
Operating Mode	**1**	**2**
Input Impedance	>13k	>13k
Maximum Input Level	+24dBu	+18dBu
Frequency Response	+0.01, -0.2dB 20Hz-20kHz at 0dBFS	+0.01, -0.2dB 20Hz-20kHz at 0dBFS
Signal to Noise Ratio	102dB No Weight 107dB A-wt 104dB CCIR-2k Relative to +24dBu, 22kHz bandwidth	96dB No Weight 101dB A-wt 98dB CCIR-2k Relative to +18dBu, 22kHz bandwidth
THD + N	-90dB max (0.0032%) @ 1kHz +24dBu input	-86dB max (0.005%) @ 1kHz +18dBu input
Amplitude Linearity	< 0.4dB @ -90dBFS	< 1.5dB @ -90dBFS

Table 30 Technical Specifications — ANALOG IN 1-8 Port

Item	Specifications	
Crosstalk	-95dB 20Hz-20kHz at +24dBu, channel to channel	-95dB 20Hz-20kHz at +18dBu, channel to channel
Inter-channel Phase	< 0.3° 20Hz-20kHz at +24dBu	< 0.3° 20Hz-20kHz at +18dBu

ANALOG OUT 1-8 Port

Table 31 Technical Specifications — ANALOG OUT 1-8 Port

Item	Specifications	
Number of Outputs	8	
Operating Mode	**1**	**2**
Maximum Output Level	24dBu	18dBu
Frequency Response	+0.01, -0.3dB 20Hz-20kHz at 0dBFS	+0.01, -0.3dB 20Hz-20kHz at 0dBFS
THD	-93dB (0.0022%) max @ 7.8kHz 20Hz-20kHz at 0dBFS	-93dB (0.0022%) max @ 12kHz 20Hz-20kHz at 0dBFS
Amplitude Linearity	< 0.3dB @ -90dBFS	< 0.7dB @ -90dBFS
Crosstalk	-98dB 20Hz-20kHz at 0dBFS, channel to channel	-98dB 20Hz-20kHz at 0dBFS, channel to channel
Dynamic Range	103dB No Weight 108dB A-wt 105dB CCIR-2k Relative to 0dBFS, 22kHz bandwidth	97dB No Weight 102dB A-wt 99dB CCIR-2k Relative to 0dBFS, 22kHz bandwidth

Reference Clock

Table 32 Technical Specifications — Reference Clock

Item	Specifications
Input	
Termination Options	75ohm or HiZ
Input Voltage	5V TTL compatible
Frequency	48kHz
Connector Type	DC Coupled
	75ohm BNC
Output	
Output Voltage	5V TTL compatible output, 3.8V max.
Frequency	48kHz

Table 32 Technical Specifications — Reference Clock

Item	Specifications
Connector Type	DC Coupled
	75ohm BNC

Power

Table 33 Technical Specifications — Power

Item	Specifications
NET 1 Port only	802.3at Type 2 (PoE+) 42.5V-57V, 600mA max
Wall Adapter	15V (±3%), 4A max
Total Power	13.5W

Environment

Table 34 Technical Specifications — Environment

Item	Specifications
Maximum Ambient Temperature	40°C (104°F)

Dimensions

Table 35 Technical Specifications — Dimensions

Item	Specifications
Physical Dimensions	5.74” x 6.70” x 1.63” (14.60cm x 17.1cm x 4.15cm)
Weight	2.20lb (998g)

Service Information

This chapter provides information on the warranty and repair policy for your IGGY-ANA8.8.

Troubleshooting Checklist

Routine maintenance to this Ross product is not required. In the event of problems with your IGGY-ANA8.8, the following basic troubleshooting checklist may help identify the source of the problem. If the IGGY-ANA8.8 still does not appear to be working properly after checking all possible causes, please contact your Ross products distributor, or the Technical Support department at the numbers listed under the "**Contacting Technical Support**".

1. Visual Review — Performing a quick visual check may reveal many problems, such as connectors not properly seated or loose cables. Check the IGGY-ANA8.8 and any associated peripheral equipment for signs of trouble.
2. Power Check — Verify the PWR LED on the IGGY-ANA8.8 chassis for the presence of power. If the PWR LED is not illuminated, verify that the power cable is connected to a power source and that power is available at the power main. If the PWR LED is still not illuminated, replace the power supply with one that is verified to work.
3. Input Signal Status — Verify that source equipment is operating correctly and that a valid signal is supplied.
4. Output Signal Path — Verify that destination equipment is operating correctly and receiving a valid signal.
5. Module Exchange — Exchanging a suspect module with a module that is known to be working correctly is an efficient method for localizing problems to individual modules.
6. Re-load the Factory Defaults — If the module appears to be working and reports no errors, but is not generating the required audio outputs, restoring the default factory configuration may fix the problem.

Warranty and Repair Policy

The IGGY-ANA8.8 is warranted to be free of any defect with respect to performance, quality, reliability, and workmanship for a period of ONE (1) year from the date of delivery to the customer. In the event that your IGGY-ANA8.8 proves to be defective in any way during this warranty period, Ross Video Limited reserves the right to repair or replace this piece of equipment with a unit of equal or superior performance characteristics.

Should you find that this IGGY-ANA8.8 has failed after your warranty period has expired, we will repair your defective product should suitable replacement components be available. You, the owner, will bear any labor and/or part costs incurred in the repair or refurbishment of said equipment beyond the ONE (1) year warranty period.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profits) incurred by the use of this product. Implied warranties are expressly limited to the duration of this warranty.

This IGGY-ANA8.8 User Guide provides all pertinent information for the safe installation and operation of your IGGY-ANA8.8. Ross Video policy dictates that all repairs to the IGGY-ANA8.8 are to be conducted only by an authorized Ross Video Limited factory representative. Therefore, any unauthorized attempt to repair this product, by anyone other than an authorized Ross Video Limited factory representative, will automatically void the warranty. Please contact Ross Video Technical Support for more information.

In Case of Problems

Should any problem arise with your IGGY-ANA8.8, contact the Ross Video Technical Support Department. (Contact information is supplied at in "**Contacting Technical Support**".)

A Return Material Authorization number (RMA) will be issued to you, as well as specific shipping instructions, should you wish our factory to repair your IGGY-ANA8.8. If required, a temporary replacement will be made available at a nominal charge. Any shipping costs incurred will be the responsibility of you, the customer. All products shipped to you from Ross Video Limited will be shipped collect.

The Ross Video Technical Support Department will continue to provide advice on any product manufactured by Ross Video Limited, beyond the warranty period without charge, for the life of the equipment.

Software Licenses

This chapter provides third-party software license information for your IGGY-ANA8.8. This product includes multiple software components which are individually licensed under one or more of the following licenses included in this chapter.

BSD

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Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If

such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

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1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

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zlib

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The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files ftp://ds.internic.net/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).

Glossary

The following terms are used throughout this guide:

BMCA — Best Master Clock Algorithm

DashBoard — DashBoard Control System

Device — A physical, virtual, or software application that may include multiple sources, destinations, senders, or receivers.

Essence — A single elementary logical media signal. For example, a video essence is one video channel. An audio essence is a single audio (mono) channel.

Flow — The continuous raw media content. It can contain more than one essence (e.g. an audio flow can contain multiple channels, and an SDI flow may contain audio and video essences).

GPIO — General Purpose Input/Output

HTTP — Hypertext Transfer Protocol

Module — Refers to the IGGY-ANA8.8.

PTP — Precision Time Protocol

Receiver — An element within a device which that receives exactly one stream, which contains one flow from a network

Sender — An element within a device which presents exactly one flow, packaged as a stream onto a network

Stream — One flow, encapsulated within a transport protocol

System— The mix of interconnected production and terminal equipment in your environment

TCP — Transmission Control Protocol

TTL — Time To Live

UDP — User Datagram Protocol