TSL Products

Quick Start Guide
for
PAM1-IP-3G and PAM2-IP-3G

Note:
This document provides instructions on how to configure the PAM1-IP-3G and/or PAM2-IP-3G for use with ST-2022-6, ST-2110 and Dante/AES67 sources.

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Tel: +44 (0)1628 564610   E: enquiries@tslproducts.com
www.tslproducts.com

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Version History

Issue	Date	Change Details
1	5/11/18	First Issue
2	4/7/19	Instructions for allowing In-Band and Out of Band Control added.

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Introduction

This Quick Start Guide will take you through the necessary steps required to configure your PAM1-IP-3G and/or PAM2-IP-3G audio monitor for use with 2022-6 and 2110 sources.

Instructions are also included for using your PAM1-IP-3G and/or PAM2-IP-3G to monitor a Dante audio network.

To fully realise the benefits of the PAM1-IP-3G and PAM2-IP-3G, including the monitoring of SDI, AES and Analogue audio sources, this Quick Start Guide should be read in conjunction with the PAM2 MK2 Handbook.

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Updating your PAM1-IP-3G and PAM2-IP-3G Software

Before setting up your PAM1-IP-3G and/or PAM2-IP-3G for the first time, we recommend you first visit our Support portal at www.tslproducts.com.

From here you will be able to download the latest PAM1-IP-3G and/or PAM2-IP-3G software and accompanying Release Notes.

As part of TSL Products commitment to the continual improvement of its products, regular software and firmware updates are made available on our Support portal free of charge.

Please make sure your PAM1-IP-3G and/or PAM2-IP-3G is running the latest software release so that you can benefit from the latest features and functionality offered by the PAM1-IP-3G and/or PAM2-IP-3G.

Instructions on upgrading the software on your PAM1-IP-3G and/or PAM2-IP-3G can be found later in this Quick Start Guide.

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Getting Connected

Alongside the more traditional 3G/HD/SD-SDI, AES and Analogue connectivity typically found on TSL Audio Monitoring Units, the PAM1-IP-3G and PAM2-IP-3G carry the following dedicated ports for connection into IP networks.
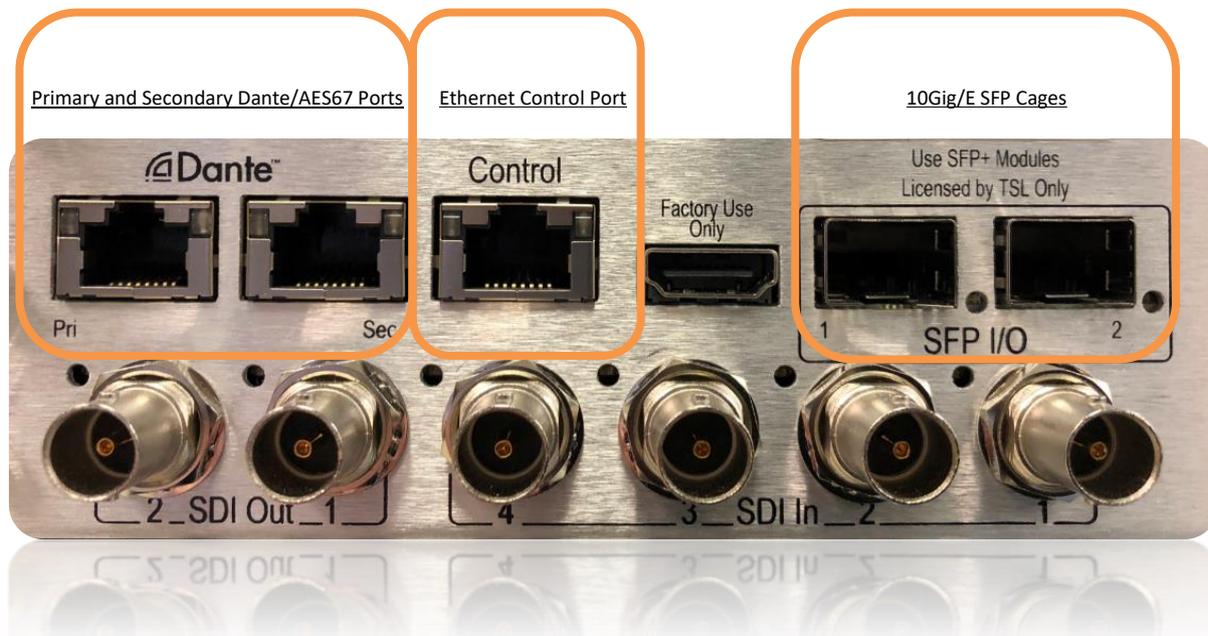
Note: When connecting your PAM1-IP-3G or PAM2-IP-3G to a 10Gig/E network, please ensure that you use SFP modules supplied by TSL Products only. SFP modules sourced from other suppliers will not function and may even damage your PAM1-IP-3G or PAM2-IP-3G.

Note: The Ethernet Control Port can be used to provide 'Out of Band' Control and to allow remote monitoring of the PAM1-IP-3G or PAM2-IP-3G using a suitable web-browser.

Note: The Primary and Secondary Dante ports are only active if the accompanying Dante option has been purchased from TSL.

Fitting the optional SFP Modules

The PAM1-IP-3G and PAM2-IP-3G audio monitors can monitor uncompressed SMPTE 2022-6 and 2110 Multicast IP streams when equipped with optional SFP modules purchased from TSL Products.

1 or 2 10Gig/E SFP modules can be fitted as shown here.

Note: When connecting your SFP modules to your local network, please ensure that only multi-mode fibre cable is used. Single mode cable is not supported at this time.

How to navigate the PAM-IP Menu

Configuring the PAM1-IP-3G and/or PAM2-IP-3G, is made possible using the front panel Setup Menu.

Accessing the Setup Menu on the PAM-2-IP-3G is achieved with a single button push of the Select encoder shown here:

Accessing the Setup Menu on the PAM1-IP-3G is achieved using the pushbutton labelled 'Menu' on its front panel.

Rotate the PAM2-IP-3G or PAM1-IP-3G encoder to navigate to the sub-menu or element you wish to change, the currently selected element will be shown by a yellow highlight.

Having navigated to your desired sub-menu or element, a further button push on the rotary encoder will activate your choice, making it ready for adjustment.

Active elements that can be modified are highlighted in green, allowing them to be changed by rotating the rotary encoder. A further push of the encoder will make the element inactive, thereby allowing you to continue navigating through the menu to other elements within the Setup Menu.

You can step back through the Menu structure and ultimately Exit the Menu by repeatedly pressing the red button on the PAM2-IP-3G as shown above, or by pressing the 'Back' button on the front panel of the PAM1-IP-3G.

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Using the PAM1-IP-3G and PAM2-IP-3G with ST-2110

The following steps are only applicable when monitoring ST-2110 Multicast Sources. To configure the PAM1-IP-3G and/or PAM2-IP-3G for use with ST-2022-6 Multicast Sources, please go directly to Page **13**.

Several configuration steps are required to prepare the PAM1-IP-3G and/or PAM2-IP-3G for use in a network to monitor 2110 signals.
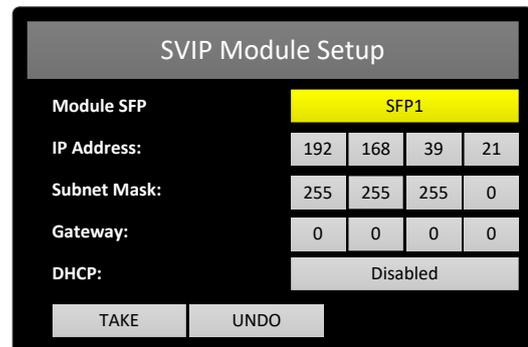
To configure your PAM1-IP-3G and/or PAM2-IP-3G to monitor ST-2110 Sources, the following three settings should be made first using the Setup Menu.

- **Module Setup** (allows the setting or changing of the IP address for each SFP Module) see page **10**
- **Global Options** Setup (allows the setting or changing of the expected video format, sender type, video timing and multicast filtering method for each SFP Module) see page **11**
- **PTP Setup and Status** (allows the setting or changing of the PTP Domain for each SFP Module) see page **12**

Module Setup

To set or change the Control IP addresses for each SFP Module, follow these steps:

1. Push the rotary encoder or Menu button once to enter the **Main Menu**

2. Rotate the rotary encoder to Select the **SVIP Main Menu**

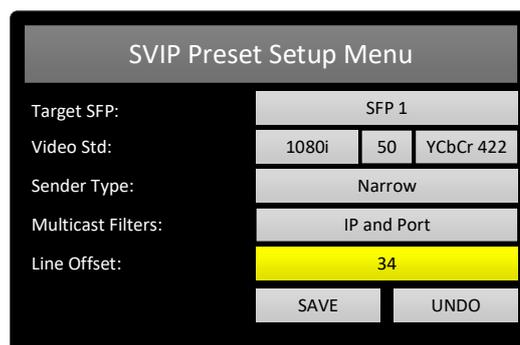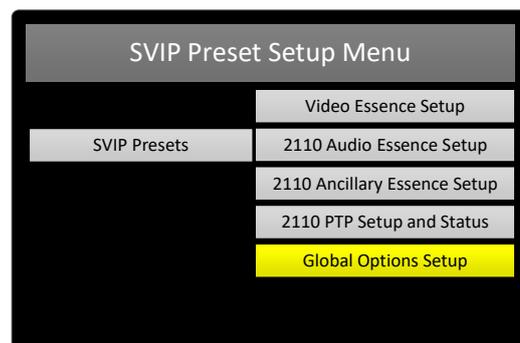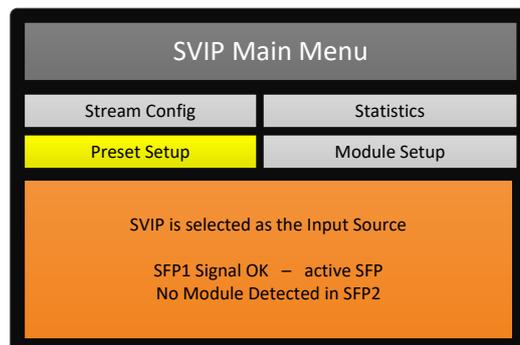3. Push the rotary encoder to enter the **SVIP Main Menu**

4. Select and enter the **SVIP Module Setup** Menu

5. Select the SFP Module you wish to configure (either SFP1 or SFP2), enter the IP Address, Subnet Mask and Gateway address as required.

6. Once done, Select **TAKE** and push the rotary encoder once to apply the changes.

7. Repeat for the other SFP Module as required.

8. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **SVIP Module Setup Menu**.

MainMenu		
Input	Loudness	Monitor
Setup	Assign Matrix	S2020 Meta
SVIP		Web Setup

SVIP Group 1 Pair 1
PCM Audio
SVIP: 1080i 50
S2020: None detected

SVIP Main Menu	
Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Module Setup			
Module SFP	SFP1		
IP Address:	192	168	39	21
Subnet Mask:	255	255	255	0
Gateway:	0	0	0	0
DHCP:	Disabled		
TAKE	UNDO		

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2110 Global Options Setup

1. From the **SVIP Main Menu**, navigate to **Preset Setup.**

2. Push the rotary encoder to enter the **SVIP Preset Setup Menu**

3. Select and enter the **2110 Global Options Setup** Menu

4. Select the SFP Module you wish to configure (either SFP1 or SFP2)

5. Set the Video Standard, Sender Type (Narrow, Narrow-Linear or Wide) and Multicast Filtering as required.

6. Once done, Select **Save** and push the rotary encoder once to apply the changes.

7. Repeat for the other SFP Module if required.

8. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **2110 Global Options Setup** Menu.

Note: Setting the 'Line Offset' parameter is best set once a valid 2110 video essence has been subscribed to.

SVIP Main Menu

| Stream Config | Statistics |
| Preset Setup | Module Setup |

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Preset Setup Menu

	Video Essence Setup
SVIP Presets	2110 Audio Essence Setup
	2110 Ancillary Essence Setup
	2110 PTP Setup and Status
	Global Options Setup

SVIP Preset Setup Menu

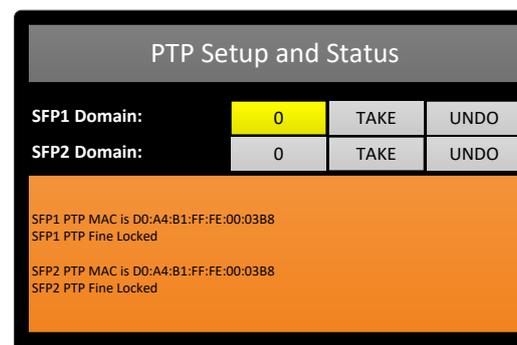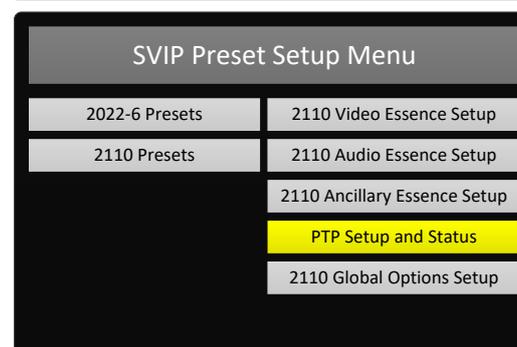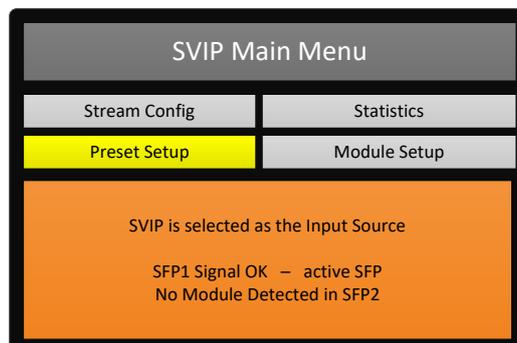| Target SFP: | SFP 1 | | |
Video Std:	1080i	50	YCbCr 422
Sender Type:	Narrow		
Multicast Filters:	IP and Port		
Line Offset:	34		
	SAVE	UNDO	

PTP Setup and Status Information

1. From the **SVIP Main Menu**, navigate to **Preset Setup.**

2. Push the rotary encoder to enter the **SVIP Preset Setup Menu**

3. Select and enter the **PTP Setup and Status** Menu

4. Set the PTP Domain number for each SFP and apply using the **TAKE** option

5. With the correct PTP Domain number set and applied, the PAM2-IP-3G will report one of the following statuses for each SFP Module present.

- Fine Locked
- Coarse Locked
- Not Locked

   The MAC Address(es) of the PTP Source(s) are also reported for each SFP Module present.

6. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **PTP Setup and Status** Menu.

SVIP Main Menu

Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Preset Setup Menu

2022-6 Presets	2110 Video Essence Setup
2110 Presets	2110 Audio Essence Setup
	2110 Ancillary Essence Setup
	PTP Setup and Status
	2110 Global Options Setup

PTP Setup and Status

SFP1 Domain:	0	TAKE	UNDO
SFP2 Domain:	0	TAKE	UNDO

SFP1 PTP MAC is D0:A4:B1:FF:FE:00:03B8
SFP1 PTP Fine Locked

SFP2 PTP MAC is D0:A4:B1:FF:FE:00:03B8
SFP2 PTP Fine Locked

Using the PAM1-IP-3G and PAM2-IP-3G with ST-2022-6

The following steps are only applicable when monitoring ST-2022-6 Multicast Sources. To configure the PAM1-IP-3G and/or PAM2-IP-3G for use with ST-2110 Multicast Sources, please go to page 9.

To configure your PAM1-IP-3G and/or PAM2-IP-3G to monitor ST-2022-6 Sources, the following setting should be made first using the Setup Menu.
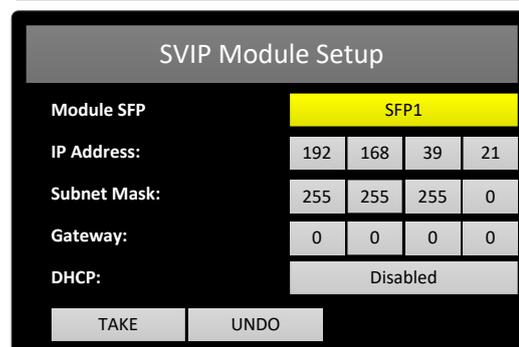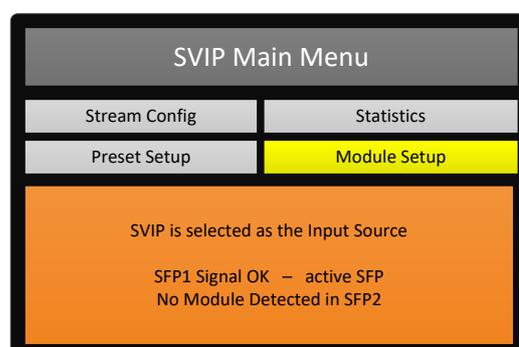
- **Module Setup** (allows the setting or changing of the IP address for each SFP Module) see page 14

Note: The following steps are only applicable when monitoring ST-2022-6 Multicast Sources. To configure the PAM1-IP-3G and/or PAM2-IP-3G for use with ST-2110 Multicast Sources, please go to page 9.

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Module Setup

To set or change the Control IP addresses for each SFP Module, follow these steps:

1. Push the rotary encoder or Menu button once to enter the **Main Menu**

2. Rotate the rotary encoder to Select the **SVIP Main Menu**

3. Push the rotary encoder to enter the **SVIP Main Menu**

4. Select and enter the **SVIP Module Setup** Menu

5. Select the SFP Module you wish to configure (either SFP1 or SFP2), enter the IP Address, Subnet Mask and Gateway address as required.

6. Once done, Select **TAKE** and push the rotary encoder once to apply the changes.

7. Repeat for the other SFP Module as required.

8. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **SVIP Module Setup Menu**.

MainMenu		
Input	Loudness	Monitor
Setup	Assign Matrix	S2020 Meta
SVIP		Web Setup

SVIP Group 1 Pair 1

PCM Audio

SVIP: 1080i 50

S2020: None detected

SVIP Main Menu	
Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Module Setup

Module SFP		SFP1		
IP Address:	192	168	39	21
Subnet Mask:	255	255	255	0
Gateway:	0	0	0	0
DHCP:		Disabled		

TAKE	UNDO

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Controlling the PAM1-IP-3G and PAM2-IP-3G

When monitoring ST-2022-6 and/or ST-2110 Multicast sources the PAM1-IP-3G and PAM2-IP-3G audio monitors may be controlled using one of three methods:

- 'In-Band' Control (see pages 16-17)
- 'Out of Band' Control (see page 18)
- SVIP Preset Control (see pages 19 -

'In-Band' Control allows a suitable control system to manage 2110 subscriptions using either Ember+, NMOS IS-04/05 or the Embrionix RESTful API or 2022-6 subscriptions using Ember+ or the Embrionix RESTful API.

'Out of Band' control allows a suitable control system to manage 2110 or 2022-6 subscriptions using the TSL Audio RESTful API.

SVIP Preset Control allows the PAM-IP to recall 2110 or 2022-6 subscriptions without an external control system.

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'In-Band' Control

To allow 'In-Band' control of the PAM1-IP-3G and/or PAM2-IP-3G, you must first ensure that the 'Module Setup', 'Global Options Setup' and 'PTP Setup' settings have been made (see pages 10, 11 and 12 of this manual for further information).
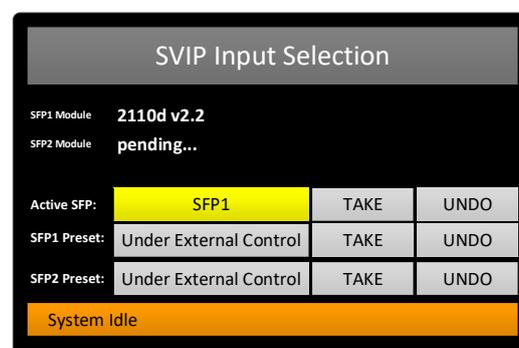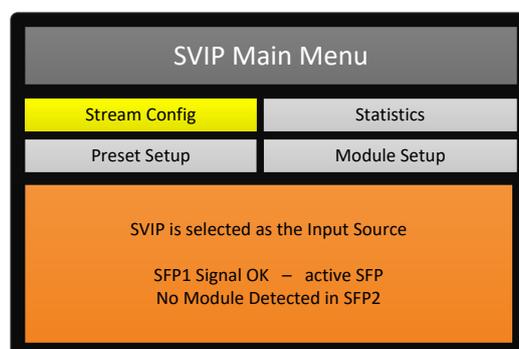
'In-Band' control allows an external control system to manage multicast subscriptions using the following protocols:

2110 SFP Module	2022-6 SFP Module
Ember+	Ember+
NMOS IS04/05	Embrionix RESTful API
Embrionix RESTful API	

To allow In-Band control, ensure that the 'Under External Control' Preset is loaded for the corresponding SFP Module you wish to control, as follows:

From the **SVIP Main Menu**, navigate to **Stream Config.**

1. Push the rotary encoder to enter the **Stream Config Menu**

2. **SFP1 Module: -** The PAM2-IP-3G displays both the type (e.g. 2110 or 2022-6) and the firmware version number of the SFP Module currently inserted into SFP Slot 1 of the PAM2-IP-3G. If no valid module is present, the message 'pending…' will be displayed.

3. **SFP2 Module: -** The PAM2-IP-3G displays both the type (e.g. 2110 or 2022-6) and the firmware version number of the SFP Module currently inserted into SFP Slot 2 of the PAM2-IP-3G. If no valid module is present, the message 'pending…' will be displayed.

4. **Active SFP: -** The name of the currently active SFP Module is shown. Use of the TAKE and UNDO buttons provides manual switching between the Multicast Streams currently being subscribed to by SFP1 and SFP2.

5. **SFP1 Preset: -** The name of the 2110 Preset currently loaded into SFP Module # 1 is shown here. Any one of the SVIP Presets can be manually selected and applied here using the TAKE option. Please note, when loading a 2110 Preset into the Active SFP, the 2110 Essences associated with that preset will be displayed immediately on the front panel of the PAM2-IP-3G.

6. **SFP2 Preset: -** The name of the 2110 Preset currently loaded into SFP Module # 2 is shown here. Any one of the SVIP Presets can be manually selected and applied here using the TAKE option.

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Please note, when loading a 2110 Preset into the Active SFP, the 2110 Essences associated with that preset will be displayed immediately on the front panel of the PAM2-IP-3G.

7. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **SVIP Input Selection** Menu.

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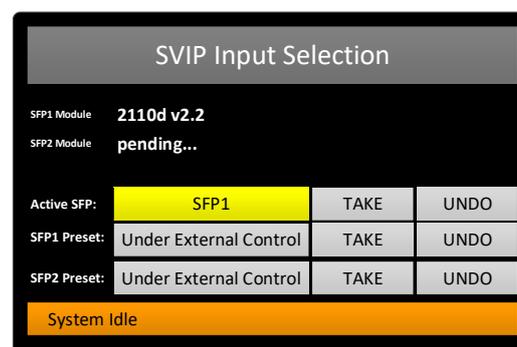Page **17** of **41**
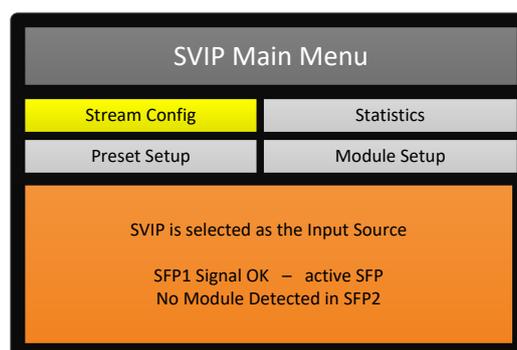
'Out of Band' Control

To allow 'Out of Band' control of the PAM1-IP-3G and/or PAM2-IP-3G, you must first ensure that the Preset named 'Under External Control' is loaded for the corresponding SFP Module you wish to control, using an external control system.

'Out of Band' control allows an external control system to manage multicast subscriptions using the following protocols:

2110 SFP Module	2022-6 SFP Module
TSL Audio RESTful API	*TSL Audio RESTful API*

From the **SVIP Main Menu**, navigate to **Stream Config.**

1. Push the rotary encoder to enter the **Stream Config Menu**

2. **SFP1 Module: -** The PAM2-IP-3G displays both the type (e.g. 2110 or 2022-6) and the firmware version number of the SFP Module currently inserted into SFP Slot 1 of the PAM2-IP-3G. If no valid module is present, the message 'pending…' will be displayed.

3. **SFP2 Module: -** The PAM2-IP-3G displays both the type (e.g. 2110 or 2022-6) and the firmware version number of the SFP Module currently inserted into SFP Slot 2 of the PAM2-IP-3G. If no valid module is present, the message 'pending…' will be displayed.

4. **Active SFP: -** The name of the currently active SFP Module is shown. Use of the TAKE and UNDO buttons provides manual switching between the Multicast Streams currently being subscribed to by SFP1 and SFP2.

SVIP Main Menu

Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Input Selection

SFP1 Module **2110d v2.2**
SFP2 Module **pending…**

Active SFP:	SFP1	TAKE	UNDO
SFP1 Preset:	Under External Control	TAKE	UNDO
SFP2 Preset:	Under External Control	TAKE	UNDO

System Idle

5. **SFP1 Preset: -** The name of the 2110 Preset currently loaded into SFP Module # 1 is shown here. Any one of the SVIP Presets can be manually selected and applied here using the TAKE option. Please note, when loading a 2110 Preset into the Active SFP, the 2110 Essences associated with that preset will be displayed immediately on the front panel of the PAM2-IP-3G.

6. **SFP2 Preset: -** The name of the 2110 Preset currently loaded into SFP Module # 2 is shown here. Any one of the SVIP Presets can be manually selected and applied here using the TAKE option. Please note, when loading a 2110 Preset into the Active SFP, the 2110 Essences associated with that preset will be displayed immediately on the front panel of the PAM2-IP-3G.

7. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **SVIP Input Selection** Menu.

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SVIP Preset Control

Preset Control allows for the creation and recall of locally stored Presets to allow the PAM1-IP-3G and PAM2-IP-3G to manage multicast subscriptions, independent of any external control system.

For 2110 multicast sources, the PAM1-IP-3G and PAM2-IP-3G can store and recall the following:

- A maximum of 32 x 2110-20 Video Essences
- A maximum of 128 x 2110-30 Audio Essences
- A maximum of 32 x 2110-40 Ancillary Essences

For 2022-6 multicast sources, the PAM1-IP-3G and PAM2-IP-3G can store and recall the following:

- A maximum of 32 x 2022-6 Video Essences

To allow Preset control of ST-2110 sources with the PAM1-IP-3G and/or PAM2-IP-3G, you must first ensure that the 'Module Setup', 'Global Options Setup' and 'PTP Setup' settings have been (see pages 10, 11 and 12 of this manual for further information).

To allow Preset control of ST-2022-6 sources with the PAM1-IP-3G and/or PAM2-IP-3G, you must first ensure that the 'Module Setup' settings have been (see page 14 of this manual for further information).

Note: It is not necessary to create Presets if you intend to manage 2110 and/or 2022-6 subscriptions with an external control system (see 'In-Band' Control and 'Out of Band' Control on pages 16, 17 and 18 of this manual).

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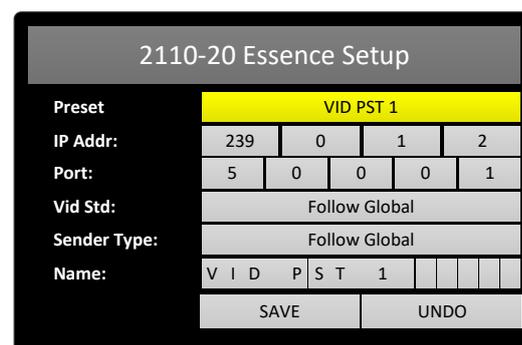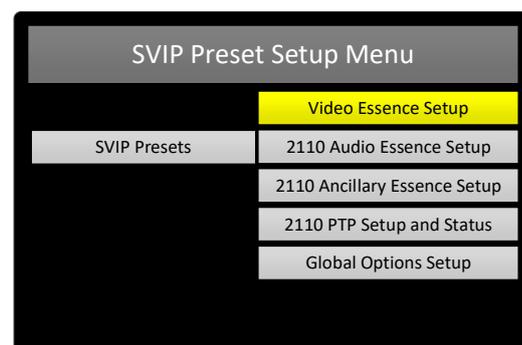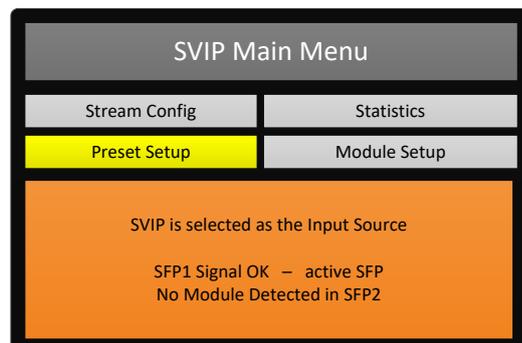Registered No: 05143472 VAT Registered No: GB254 0619 19

Creating SVIP Presets

To create SVIP Presets for use with 2110 sources, it is first necessary to register the Video, Audio and Ancillary Essences you wish to use (see pages 21, 22 and 23 for further information)

To create SVIP Presets for use with 2022-6 sources you need only register a Video Essence (see page 21 for further information).

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Registering Video Essences

1. From the **SVIP Main Menu**, navigate to **Preset Setup.**

2. Push the rotary encoder to enter the **SVIP Preset Setup Menu**

3. Select and enter the **2110 Video Essence Setup** Menu

4. **Preset: -** The name of the currently selected Video Essence is shown in the uppermost field (labelled Preset). If this uppermost field is blank, then the changes you apply in this menu will result in a new Video Essence being registered. However, if this uppermost field already bears a name, the changes you make in this menu will overwrite an existing Video Essence. You can use the rotary encoder to scroll through and recall any Video Essence already registered.

5. **IP Addr: -** Set the Multicast IP Address of the 2110 Video Essence you wish to register.

6. **Port: -** Set the Port of the 2110 Video Essence you wish to register.

7. **Vid Std: -** Set the Video Standard of the 2110 Video Essence you wish to register. The default 'Follow Global' setting will use the default setting previously defined in the Global Options Setup Menu (see Page x).

SVIP Main Menu	
Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Preset Setup Menu	
	Video Essence Setup
SVIP Presets	2110 Audio Essence Setup
	2110 Ancillary Essence Setup
	2110 PTP Setup and Status
	Global Options Setup

2110-20 Essence Setup

Preset	VID PST 1			
IP Addr:	239	0	1	2
Port:	5	0	0	0	1
Vid Std:	Follow Global			
Sender Type:	Follow Global			
Name:	V I D P S T 1			
	SAVE		UNDO	

8. **Sender Type: -** Set the Sender Type of the 2110 Video Essence you wish to register. The default 'Follow Global' setting will use the default setting already defined in the Global Options Setup Menu (see page C).

9. **Name: -** Create a name for the Video Essence you wish to register.

10. Once done, Select **Save** and push the rotary encoder once to apply the changes.

11. Repeat this process for any other 2110 Video Essences you wish to register.

12. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **2110-20 Essence Setup** Menu.

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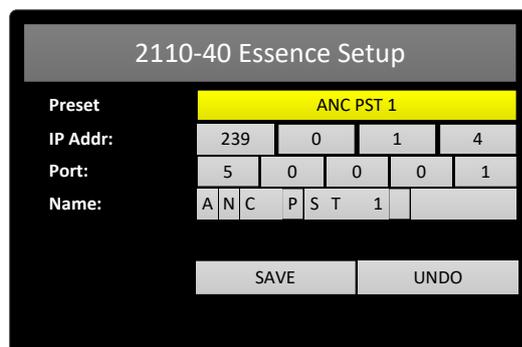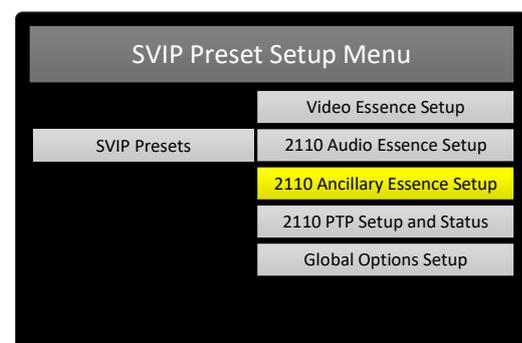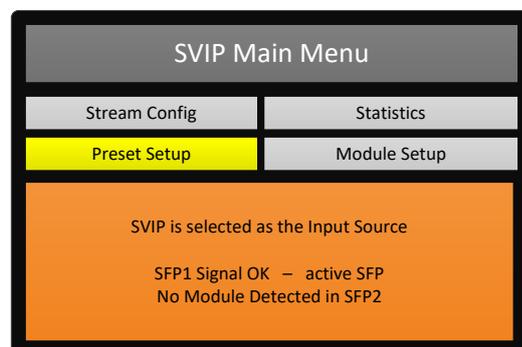
Registering 2110-30 Audio Essences

1. From the **SVIP Main Menu**, navigate to **Preset Setup.**

2. Push the rotary encoder to enter the **SVIP Preset Setup Menu**

3. Select and enter the **2110 Audio Essence Setup** Menu

4. *Name: -* The name of the currently selected Audio Essence is shown in the uppermost field (labelled Preset). If this uppermost field is blank, then the changes you apply in this menu will result in a new Audio Essence being registered. However, if this uppermost field already bears a name, the changes you make in this menu will overwrite an existing Audio Essence. You can use the rotary encoder to scroll through and recall any Audio Essence that already registered.

5. *IP Addr: -* Set the Multicast IP Address of the 2110 Audio Essence you wish to register.

6. *Port: -* Set the Port of the 2110 Audio Essence you wish to register.

7. *No of Ch: -* Set the number of Audio Channels present in the 2110 Audio Essence you wish to register. (1 through to 16).

8. *Name: -* Create a name for the Audio Essence you wish to register.

9. Once done, Select **Save** and push the rotary encoder once to apply the changes.

10. Repeat this process for any other 2110 Audio Essences you wish to register.

11. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **2110-30 Essence Setup** Menu.
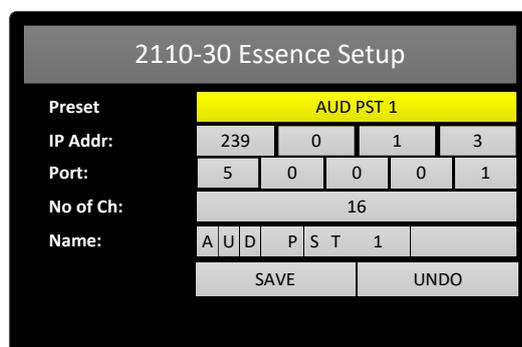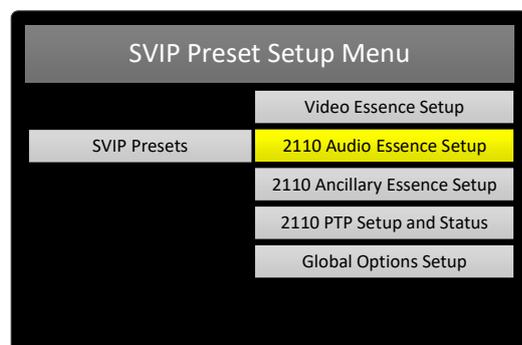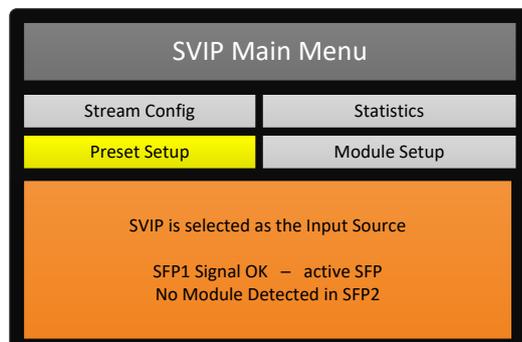
Note: It is not necessary to create Audio Essences when monitoring 2022-6 multicast sources.

SVIP Main Menu	
Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Preset Setup Menu	
	Video Essence Setup
SVIP Presets	2110 Audio Essence Setup
	2110 Ancillary Essence Setup
	2110 PTP Setup and Status
	Global Options Setup

2110-30 Essence Setup

Preset	AUD PST 1			
IP Addr:	239	0	1	3
Port:	5	0	0	0	1
No of Ch:	16			
Name:	A U D P S T 1			
	SAVE		UNDO	

Registering 2110-40 Ancillary Essences

1. From the **SVIP Main Menu**, navigate to **Preset Setup.**

2. Push the rotary encoder to enter the **SVIP Preset Setup Menu**

3. Select and enter the **2110 Ancillary Essence Setup** Menu

4. **Name: -** The name of the currently selected Ancillary Essence is shown in the uppermost field (labelled Preset). If this uppermost field is blank, then the changes you apply in this menu will result in a new Ancillary Essence being registered. However, if this uppermost field already bears a name, the changes you make in this menu will overwrite an existing Ancillary Essence. You can use the rotary encoder to scroll through and recall any Ancillary Essence already registered.

5. **IP Addr: -** Set the Multicast IP Address of the 2110 Ancillary Essence you wish to register.

6. **Port: -** Set the Port of the 2110 Ancillary Essence you wish to register.

7. **Name: -** Create a name for the Ancillary Essence you wish to register.

8. Once done, Select **Save** and push the rotary encoder once to apply the changes.

9. Repeat this process for any other 2110 Ancillary Essences you wish to register.

10. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **2110-40 Essence Setup** Menu.

Note: It is not necessary to create Audio Essences when monitoring 2022-6 multicast sources.

SVIP Main Menu

Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK — active SFP
No Module Detected in SFP2

SVIP Preset Setup Menu

	Video Essence Setup
SVIP Presets	2110 Audio Essence Setup
	2110 Ancillary Essence Setup
	2110 PTP Setup and Status
	Global Options Setup

2110-40 Essence Setup

Preset	ANC PST 1			
IP Addr:	239	0	1	4
Port:	5	0	0	0	1
Name:	A N C	P S T	1	

SAVE	UNDO

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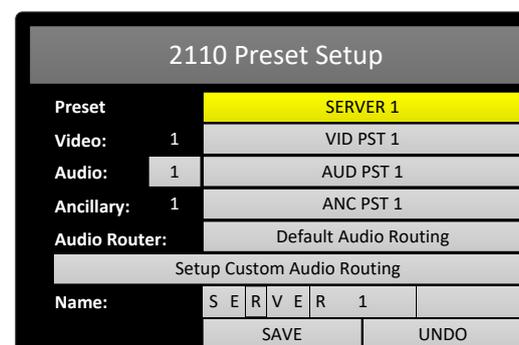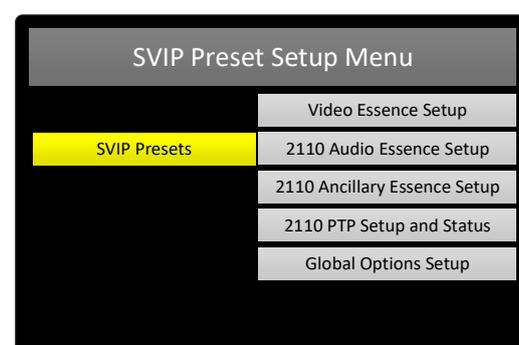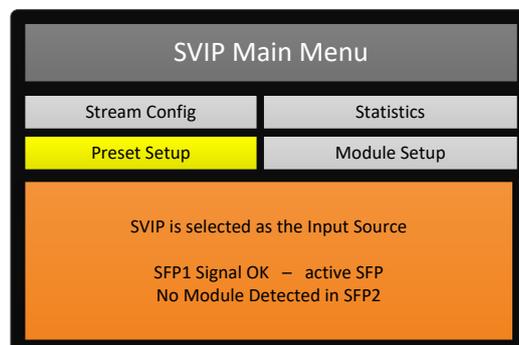
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SVIP Presets Continued

Having registered your chosen Essences, you are now ready to create an SVIP Preset.

Up to 24 Presets can be created, each of which can be used to quickly recall the following with a single button push:

- 1 x Registered Video Essence
- 4 x Registered Audio Essences
- 1 x Registered Ancillary Essence

Creating an SVIP Preset

1. From the **SVIP Main Menu**, navigate to **Preset Setup.**

2. Push the rotary encoder to enter the **SVIP Preset Setup Menu**

3. Select and enter the **SVIP Presets** Menu

4. **Preset: -** The name of the currently selected SVIP Preset is shown in the uppermost field (labelled Preset). If this uppermost field is blank, then the changes you apply in this menu will result in a new SVIP Preset being created. If this uppermost field already bears a name, the changes you make in this menu will overwrite an existing SVIP Preset. You can use the rotary encoder to scroll through and recall any existing SVIP Preset.

5. **Video: -** Select the registered Video Essence you wish to recall as part of this SVIP Preset.

6. **Audio: -** Select the any registered Audio Essence you wish to recall as part of this preset. Up to four registered Audio Essences can be stored and recalled within a single SVIP Preset, simply change the Audio Slot field from 1 through to 4 as required. Please note that when recalling multiple Audio Essences as part of an SVIP Preset, the combined Audio Channel Count must not exceed 16 Channels.

7. **Ancillary: -** Select any registered Ancillary Essence you wish to recall as part of this SVIP Preset.

8. **Audio Router: -** The Audio Router defaults to 'Default Audio Routing'. Please check the PAM1-IP-3G and PAM2-IP-3G Release Notes re: the availability of the 'Setup Custom Audio Routing' option.

9. **Name: -** Create a name for your SVIP Preset

10. Once done, Select **Save** and push the rotary encoder once to apply the changes.

11. Repeat this process for any other SVIP Presets you wish to create.

12. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **SVIP Preset Setup** Menu.

SVIP Main Menu

Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Preset Setup Menu

SVIP Presets	Video Essence Setup
	2110 Audio Essence Setup
	2110 Ancillary Essence Setup
	2110 PTP Setup and Status
	Global Options Setup

2110 Preset Setup

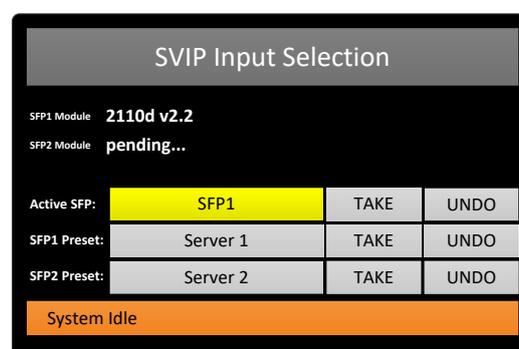| Preset		SERVER 1
Video:	1	VID PST 1
Audio:	1	AUD PST 1
Ancillary:	1	ANC PST 1
Audio Router:		Default Audio Routing
Setup Custom Audio Routing		
Name:		S E R V E R 1
	SAVE	UNDO

Loading a Preset from the front panel

8. From the **SVIP Main Menu**, navigate to **Stream Config.**

9. Push the rotary encoder to enter the **Stream Config Menu**

10. *SFP1 Module: -* The PAM2-IP-3G displays both the type (e.g. 2110 or 2022-6) and the firmware version number of the SFP Module currently inserted into SFP Slot 1 of the PAM2-IP-3G. If no valid module is present, the message 'pending...' will be displayed.
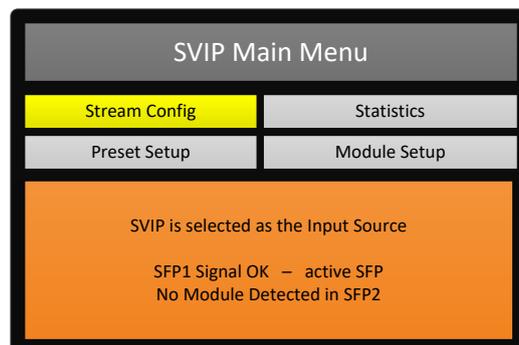
11. *SFP2 Module: -* The PAM2-IP-3G displays both the type (e.g. 2110 or 2022-6) and the firmware version number of the SFP Module currently inserted into SFP Slot 2 of the PAM2-IP-3G. If no valid module is present, the message 'pending...' will be displayed.
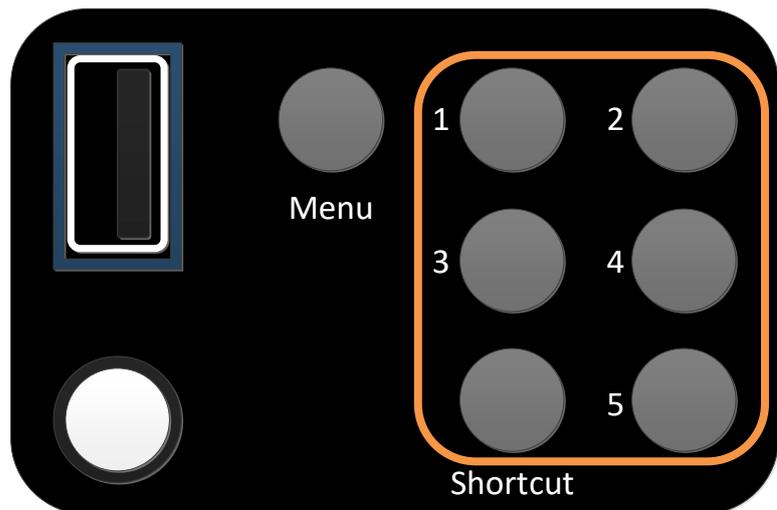
12. *Active SFP: -* The name of the currently active SFP Module is shown. Use of the TAKE and UNDO buttons provides manual switching between the Multicast Streams currently being subscribed to by SFP1 and SFP2.

SVIP Main Menu

Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Input Selection

SFP1 Module	2110d v2.2		
SFP2 Module	pending...		
Active SFP:	SFP1	TAKE	UNDO
SFP1 Preset:	Server 1	TAKE	UNDO
SFP2 Preset:	Server 2	TAKE	UNDO
System Idle			

13. *SFP1 Preset: -* The name of the SVIP Preset currently loaded into SFP Module # 1 is shown here. Any one of the SVIP Presets can be manually selected and applied here using the TAKE option. Please note, when loading a 2110 Preset into the Active SFP, the 2110 Essences associated with that preset will be displayed immediately on the front panel of the PAM2-IP-3G.

14. *SFP2 Preset: -* The name of the SVIP Preset currently loaded into SFP Module # 2 is shown here. Any one of the SVIP Presets can be manually selected and applied here using the TAKE option. Please note, when loading a 2110 Preset into the Active SFP, the 2110 Essences associated with that preset will be displayed immediately on the front panel of the PAM2-IP-3G.

15. Press the red button as shown on Page 8 of this Quick Start Guide to exit the **SVIP Input Selection** Menu.

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Assigning a Preset to a Hot Key

Up to 24 x SVIP Presets can be recalled using Hot Keys on the front panel of the PAM2-IP-3G. The SVIP Presets can be presented as a series of 'banks' that can be cycled through by repeatedly pressing the Home button.

Similarly, up to 24 x SVIP Presets can be recalled using Hot Keys on the front panel of the PAM1-IP-3G. The first 5 SVIP Presets can be assigned to buttons 1-5 on the front panel, with the remaining 19 SVIP Presets accessible using the Preset Recall Menu (accessed using the button labelled 'Shortcut').

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1. From the **SVIP Main Menu**, navigate to **Stream Config.**

2. Push the rotary encoder to enter the **Stream Config Menu**

3. Load the SVIP Preset that you wish to assign to a Hot Key into the currently Active SFP

4. With the SVIP Preset loaded into the currently Active SFP you should now see your desired 2110 Sources or 2022-6 source on the front panel of the PAM1-IP-3G or PAM2-IP-3G.

5. Push and hold the front panel Hot Key that you wish to assign the SVIP Preset to**.**

6. Using the rotary encoder, enter a label for the Hot Key (a maximum of 10 Characters including spaces is allowed) and Select Save to commit the SVIP Preset to your chosen Hot Key.

7. To exit the menu, press the red button as shown on Page 8 of this Quick Start Guide.

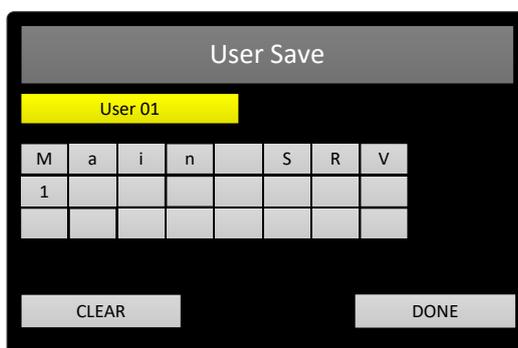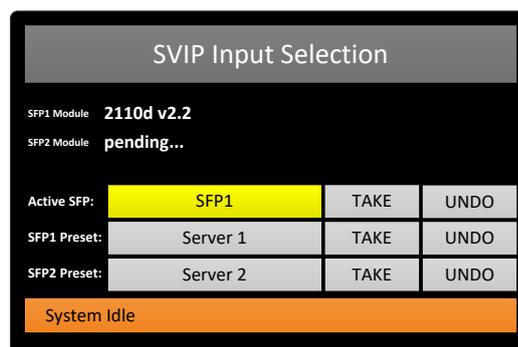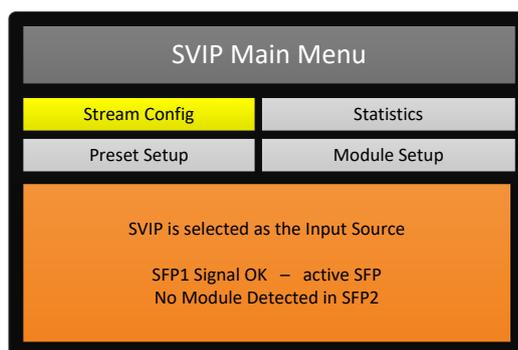Please note that when assigning an SVIP Preset to a Hot Key, the Active SFP setting is also stored.

As an example, you could create two Hot Keys, both of which make use of the same SVIP Preset but use different SFP Modules.

This can prove useful if you wish to compare Main vs Backup sources or either 'side' of a redundant network.

It is also worth noting that when assigning an SVIP Preset to a Hot Key, the current contents of the right-hand screen on the PAM1-IP-3G or PAM2-IP-3G are also stored.

The contents of the right-hand screen are selectable from the front panel of the PAM1-IP-3G and PAM2-IP-3G and are as follows:

- Audio Level Meters (to allow 16 Audio Level Meters to be displayed across both front-panel screens).
- Loudness/DialNorm Data
- Loudness Histogram
- Video

SVIP Main Menu

Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Input Selection

SFP1 Module	2110d v2.2		
SFP2 Module	pending...		

Active SFP:	SFP1	TAKE	UNDO
SFP1 Preset:	Server 1	TAKE	UNDO
SFP2 Preset:	Server 2	TAKE	UNDO

System Idle

User Save

User 01

M	a	i	n		S	R	V
1							

CLEAR		DONE

# Troubleshooting and Diagnostics

Both the PAM1-IP-3G and PAM2-IP-3G provide diagnostic information to help identify possible system issues.

This diagnostic information can be monitored remotely using the PAM1-IP-3G or PAM2-IP-3G webpage or locally on the front panel or the unit itself.
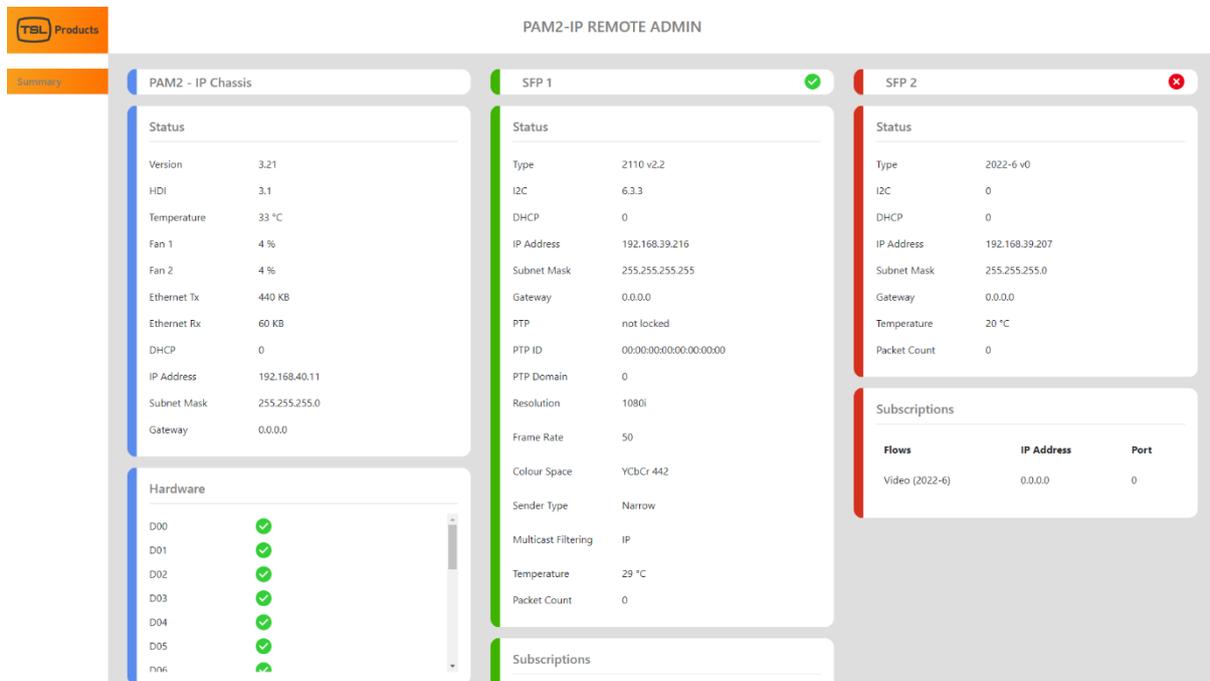
Access to the web page is made using the Control Port of the PAM1-IP-3G and PAM2-IP-3G.

The Control Port can be set to DHCP or a static IP address can be signed using the 'Web Setup' Sub Menu.
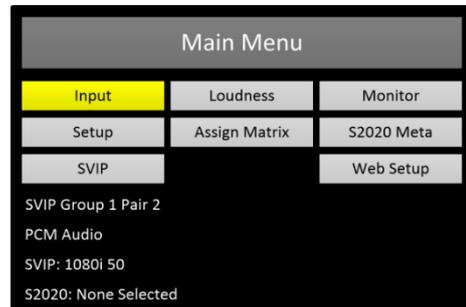
The web page provides hardware and software information for the both the main chassis as well as any SFP modules present.

Alongside system health information such as software/hardware version information, temperatures and fan speeds, the webpage includes diagnostic information such PTP status, PTP domain number and the MAC address of the PTP source.
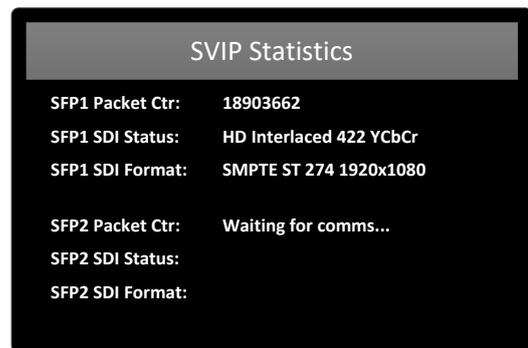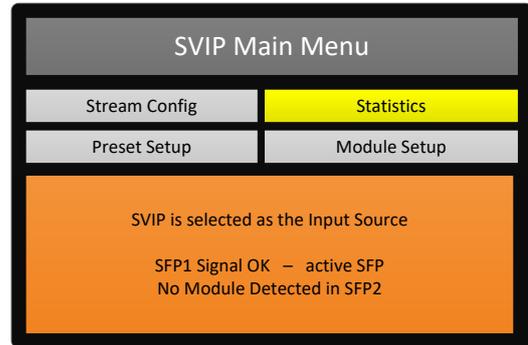
When subscribing to 2022-6 and/or 2110 sources, the multicast addresses and port numbers of the essences currently being subscribed to are reported directly on the web page.

This can be useful when controlling the PAM1-IP-3G or PAM2-IP-3G using an 'In-Band' or 'Out of Band' control system.

Subscriptions		
Flows	**IP Address**	**Port**
Video (2110-20)	239.1.2.3	0
Audio (2110-30)	239.1.2.5	0
Audio (2110-30)	239.1.2.7	0
Audio (2110-30)	239.1.2.9	0
Audio (2110-30)	239.1.2.11	0
Ancillary (2110-40)	239.0.1.20	20000

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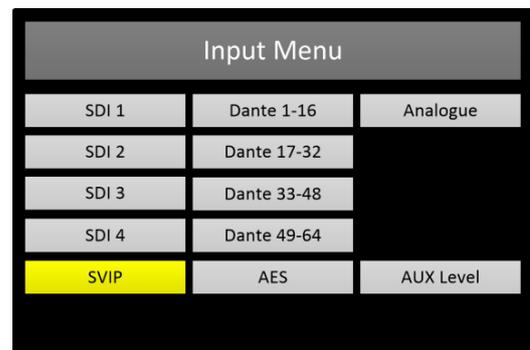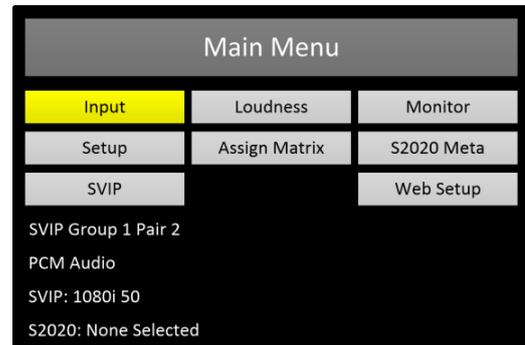Registered No: 05143472 VAT Registered No: GB254 0619 19

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Basic status information regarding flow subscriptions can also be seen directly on the front panel of the PAM1-IP-3G or PAM2-IP-3G:

1. From the **SVIP Main Menu**, navigate to **Statistics.**

2. Push the rotary encoder to enter the **SVIP Statistics Menu**

3. *SFP1 Packet Ctr:* - The number of packets received on SFP1 since subscribing to the last 2110-20 video Essence or 2022-6 source

4. *SFP1 SDI Status:* - The Video Format of the 2110-20 Video Essence or 2022-6 source currently being received on SFP1

5. *SFP1 SDI Format:* - The SDI Video Standard derived from the 2110-20 Video Essence or 2022-6 source currently being received on SFP1

6. *SFP2 Packet Ctr:* - The number of packets received on SFP1 since subscribing to the last 2110-20 video Essence or 2022-6 source.

7. *SFP2 SDI Status:* - The Video Format of the 2110-20 Video Essence or 2022-6 source currently being received on SFP2

8. *SFP2 SDI Format:* - The SDI Video Standard derived from the 2110-20 Video Essence or 2022-6 currently being received on SFP2

SVIP Main Menu	
Stream Config	Statistics
Preset Setup	Module Setup

SVIP is selected as the Input Source

SFP1 Signal OK – active SFP
No Module Detected in SFP2

SVIP Statistics

SFP1 Packet Ctr:	18903662
SFP1 SDI Status:	HD Interlaced 422 YCbCr
SFP1 SDI Format:	SMPTE ST 274 1920x1080
SFP2 Packet Ctr:	Waiting for comms...
SFP2 SDI Status:	
SFP2 SDI Format:	

If the PAM1-IP-3G and/or PAM1-IP-3G is successfully subscribed to a ST-2110 or ST-2022-6 Source but it is not being displayed on either of the front panel displays, please check the following:

1. Exit the SVIP Main Menu and go to the **Main Menu**

2. Select and enter the **Input Menu**

3. Select **SVIP** as the Input Source.

Main Menu

Input	Loudness	Monitor
Setup	Assign Matrix	S2020 Meta
SVIP		Web Setup

SVIP Group 1 Pair 2
PCM Audio
SVIP: 1080i 50
S2020: None Selected

Input Menu

SDI 1	Dante 1-16	Analogue
SDI 2	Dante 17-32	
SDI 3	Dante 33-48	
SDI 4	Dante 49-64	
SVIP	AES	AUX Level

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Updating your PAM1-IP-3G or PAM2-IP-3G Software

As part of TSL Products commitment to the continual improvement of its products, regular software and firmware updates are made available on our Support portal at www.tslproducts.com

From here you will be able to download the latest PAM1-IP-3G and PAM2-IP-3G software along with accompanying Release Notes.

Please make sure your PAM1-IP-3G o rPAM2-IP-3G is running the latest software release so that you can benefit from the latest features and functionality offered by the PAM1-IP-3G and PAM2-IP-3G.
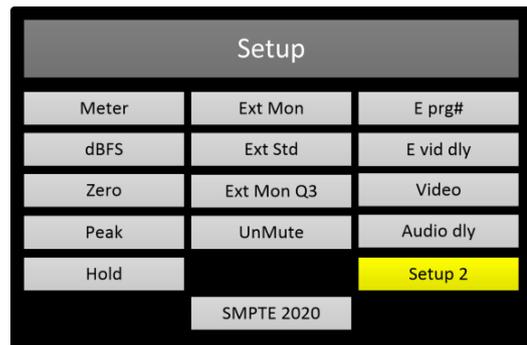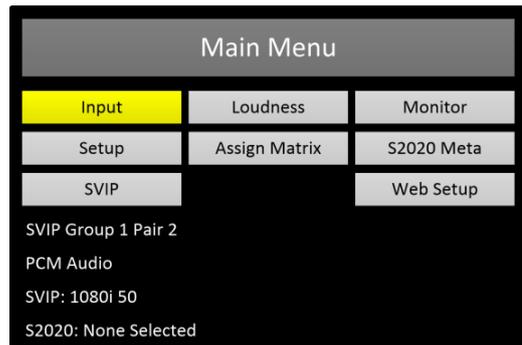
Having downloaded the latest PAM1-IP-3G or PAM2-IP-3G software release from www.tslproducts.com, you will be presented with a .ZIP file with a file name like the example below:

PAM2-IP_v321

Unzip this file and locate the directory named 'PAM2-IP' or 'PAM1-IP' as appropriate, copy the directory and its contents into the root of a USB thumb drive.

1. Navigate to the **Main Menu** and select **Setup.**

2. Navigate to and select **Setup 2**

3. Navigate to and select **S/ware**

4. Finally, navigate to and select 'Perform Update'.

5. Updating the PAM1-IP-3G or PAM2-IP-3G can take up to 5 minutes.

6. Once complete, power recycle the PAM1-IP-3G or PAM2-IP-3G

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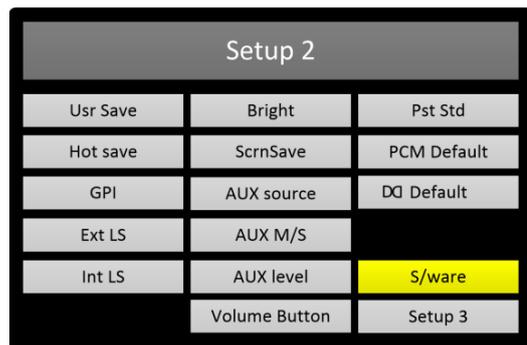
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Using the PAM1-IP-3G and PAM2-IP-3G to Monitor Dante/AES67 AoIP

In order to use the PAM1-IP-3G or PAM2-IP-3G within a Dante/AES67 network, you will need to make use of Audinate's Dante Controller.

Dante Controller can be downloaded from Audinate's Website using the following link:

https://audinate.com/products/software/dante-controller

If you are connecting your PAM1-IP-3G or PAM2-IP-3G to a non-redundant network, please make sure to connect the Primary port only.

If you are connecting your PAM1-IP-3G or PAM2-IP-3G to a redundant network, then both Primary and Secondary ports should be used.

Note: When connecting your PAM1-IP-3G or PAM2-IP-3G to a redundant Dante network, please ensure that both Primary and Secondary ports are connected using the same link speed. If the primary interface is connected to a 1 Gbps switch port, the secondary interface must also be connected to a 1 Gbps switch port.

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Understanding Dante/AES67 Ports

Both PAM1-IP-3G and PAM2-IP-3G Primary and Secondary 1Gig/E ports are set to default to DHCP. If no DHCP server is present, the ports will auto-assign an IP address.

When auto-assigning IP addresses, the Primary and Secondary ports will adopt an IP address in the following ranges:

Primary Port	169.254.x.x
Secondary Port	172.31.x.x

In cases where no DHCP server is present, both the Primary and Secondary Ports will continue to search for DHCP.

Using Dante Controller, it is also possible to assign a static IP address to the Primary and Secondary Dante/AES67 ports if required.

Note: It is not possible to either set or discover the IP addresses of the Primary and/or Secondary Dante/AES67 ports using the front panel controls on the PAM1-IP-3G or PAM2-IP-3G. TSL Products recommends that customers use Dante Controller for this purpose. More information on how to use Dante Controller can be found on the Audinate Website at the following link:

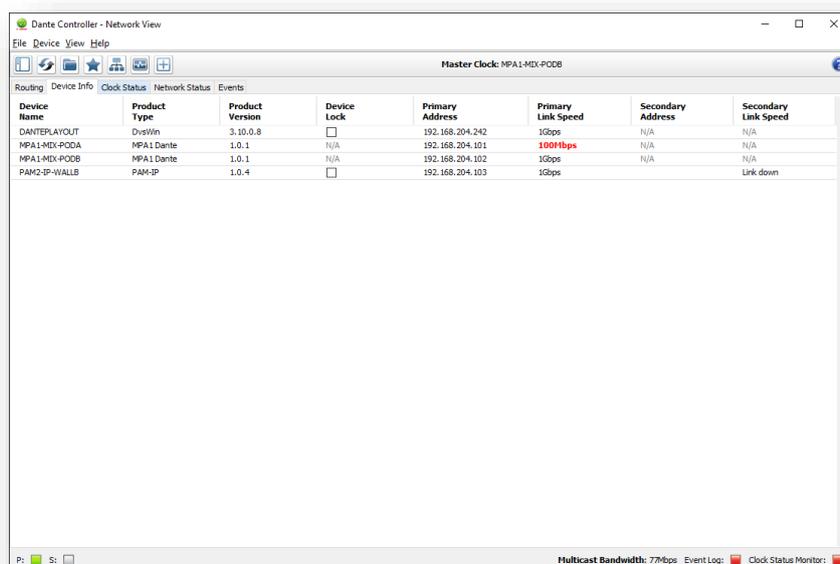https://audinate.com/resources/technical-documentation

Using the 'Device Info' tab in Dante Controller, it is possible to see the IP addresses currently in use by the Primary and Secondary Dante/AES67 ports on the PAM1-IP-3G or PAM2-IP-3G.
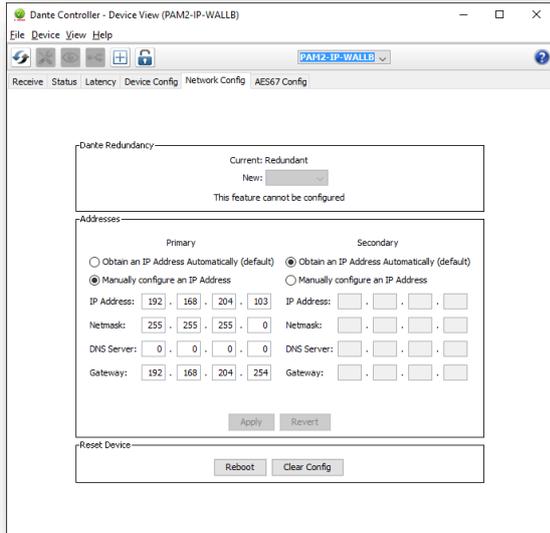
The example below shows a PAM2-IP-3G being identified on the network (see PAM-IP under the Product Type Column) using an IP address of 192.168.204.103 on the Primary port.

In this example, the Secondary port is not connected.

The 'Device Name' column shows the current user assignable name given to the PAM2-IP-3G.

Double clicking on the device in the Device Info window will result in the 'Device View' the pop-up window being shown:

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In the Device Info window, it is possible to switch the Primary and Secondary Ports between DHCP (recommended) or Static IP mode using the 'Network Config' tab.

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Routing Dante/AES67 Audio Sources

All Dante/AES67 sources routed to the PAM1-IP-3G PAM2-IP-3G must be made using Dante Controller.

The example below shows a PAM2-IP-3G named 'PAM2-IP-WALLB' subscribing to audio channels being transmitted from a Dante device named 'Dante Playout'.
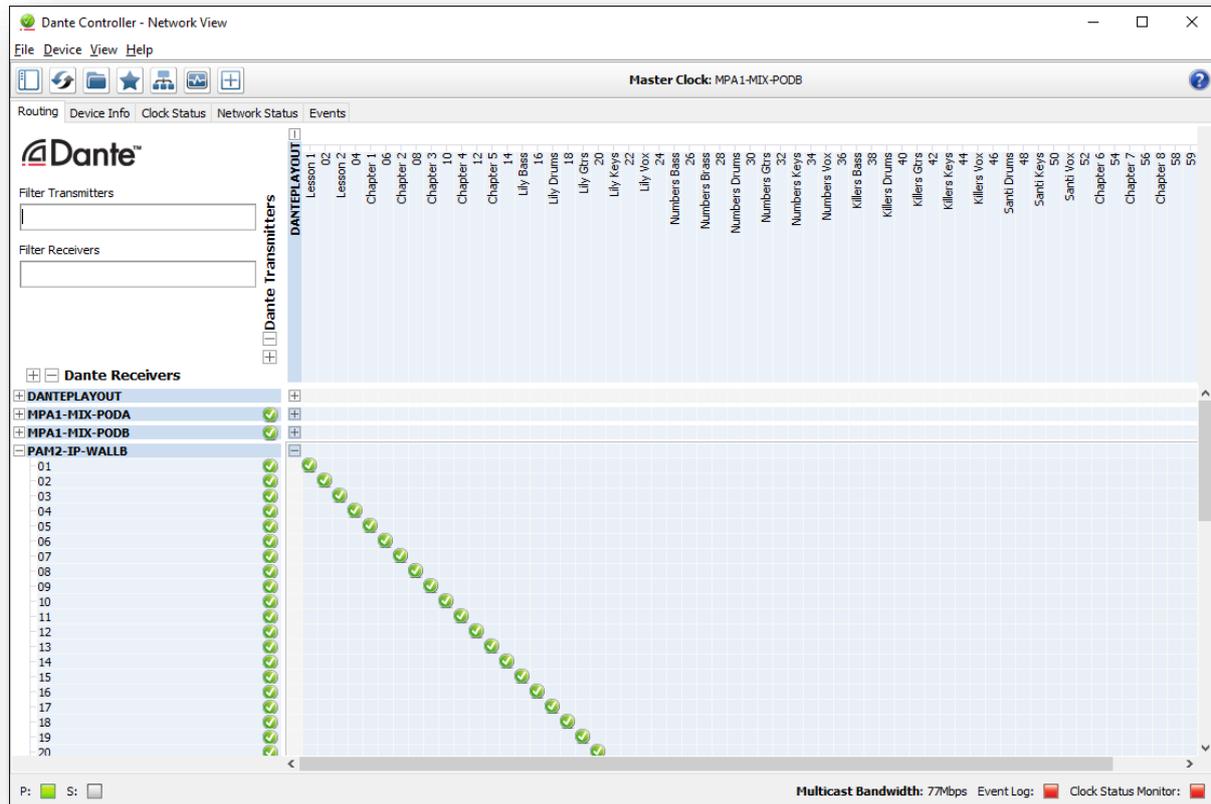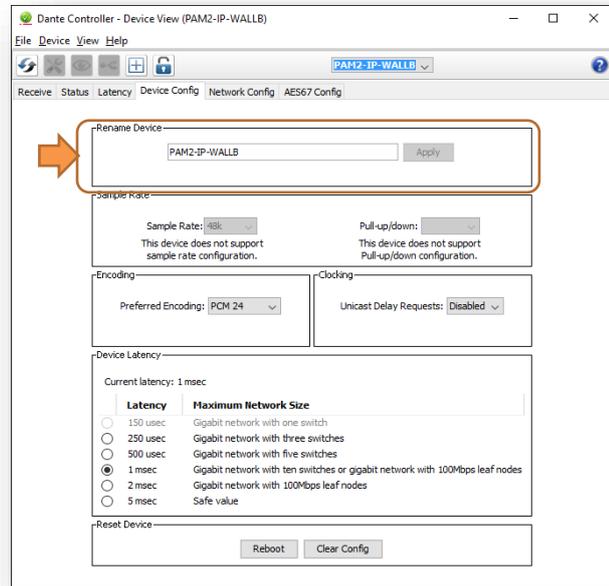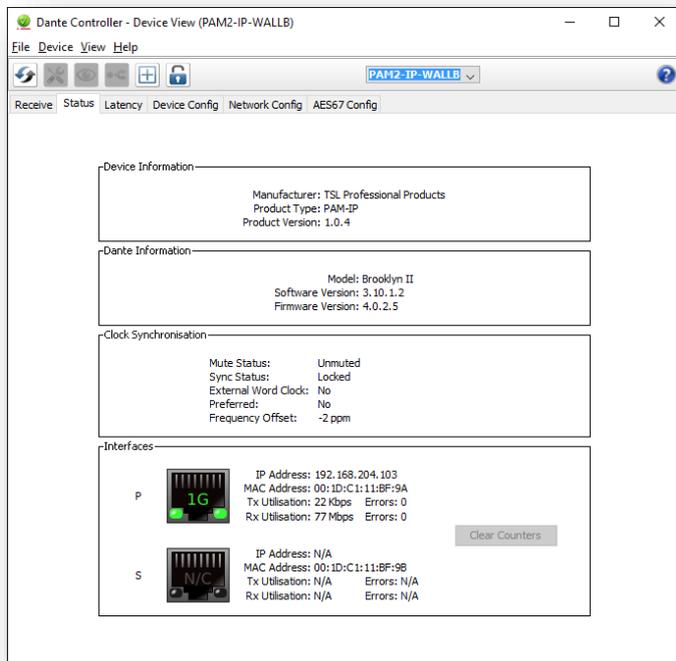
Naming your PAM1-IP-3G and PAM2-IP-3G

When connecting multiple PAM1-IP-3G or PAM2-IP-3G Audio Monitoring units to the same network, you can use Dante Controller to assign each of them with unique names based on location, task, owner etc.

This example shows the Device Config tab in the 'Device View' pop up window for the Device named 'PAM2-IP-WALLB'.

You can name your PAM1-IP-3G or PAM2-IP-3G as required using the 'Rename and Apply' function shown here.

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DANTE/AES67 Port Status on your PAM1-IP-3G and PAM2-IP-3G

Further details regarding the PAM1-IP-3G and PAM2-IP-3G Dante/AES67 ports can be found by clicking on the 'Status' tab in the 'Device View' pop-up window.

In this example we can see the Product Type, Product Version, Dante Software and Firmware Versions, Clock Status, IP and MAC address(es).

Note: As the owner of a PAM1-IP-3G or PAM2-IP-3G, you are entitled to regular free of charge software updates as and when they become available. Software updates and Release Notes are available from the Support portal at www.tslproducts.com.

From time to time it may also prove necessary to upgrade the software and firmware of the Dante Module in order to enable extra functionality. Full instructions for doing so are contained within the Release Notes.

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Updating your PAM1-IP-3G or PAM2-IP-3G Software

As part of TSL Products commitment to the continual improvement of its products, regular software and firmware updates are made available on our Support portal at www.tslproducts.com

From here you will be able to download the latest PAM1-IP-3G and PAM2-IP-3G software and accompanying Release Notes.

Please make sure your PAM1-IP-3G or PAM2-IP-3G is running the latest software release so that you can benefit from the latest features and functionality offered.

Having downloaded the latest software release from www.tslproducts.com, you will be presented with a .ZIP file with a file name like the example below:

PAM2-IP_v321

Unzip this file and locate the directory named 'PAM2-IP' or 'PAM1-IP', copy the directory and its contents into the root of a USB thumb drive.

7. Navigate to the **Main Menu** and select **Setup.**

8. Navigate to and select **Setup 2**

9. Navigate to and select **S/ware**

10. Finally, navigate to and select 'Perform Update'.

11. Updating the PAM1-IP-3G and PAM2-IP-3G can take up to 5 minutes.

12. Once complete, power recycle the unit.