Sx TAG IP Modes

Quick Start Guide

Software Release 2.01

Revision 1a

About this Guide

This Quick Start Guide is intended to help you quickly to get up-and-running with the SMPTE ST 2110 and 2022-6 IP functions of the PHABRIX Sx TAG; to provide a short overview of the main user interface and controls, and to summarize the screens related to the IP setup and functions of the unit.

This guide is not intended as a complete guide to the Sx TAG. For more detailed information, please refer to the Sx TAG User Manual available from the PHABRIX Support web page:

https://www.phabrix.com/products/sxtag/

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PHABRIX® Limited

Omega House
Enterprise Way,   Phone: +44 (0)1635 873030
Thatcham, Berkshire
RG19 4AE   Email: support@phabrix.com

United Kingdom   Website: www.phabrix.com

Revision

This guide is a revision controlled document. Any changes to any page content will be reflected in the overall revision status of the whole manual.

Release	Date	Software Version	Updates Include:
1a	May 2021	2.01	New release of document

Table of Contents

Setting-up the Sx TAG

1

General Set-up Checklist

Before starting to use the Sx TAG for testing in an IP environment (2110 or 2022-6) be sure to complete each of the steps in the following checklist:

Check	Task	Description
☐	1	Make sure that you have received all ordered components. See: *"What's in the Box?" on the next page*.
☐	2	Insert the power supply connector into the unit and plug-in to a power source. See: *"Side Panel Connectors" on page 1-3*
☐	3	Insert the Optical SFP+ Transceiver into the SFP cage (Option: **PHSFP-10SR-IP**). See: *"Inserting the SFP+ Interface Module" on page 1-4*
☐	4	Press the red button on the front panel to power-up the unit. See: *"Powering the Unit On and Off" on page 1-5*
☐	5	Insert the RJ-45 Control Ethernet connector to connect the Sx TAG to your control network. See: *"Side Panel Connectors" on page 1-3*
☐	6	Insert the LC-LC Multimode optical cable connector to connect the Sx TAG to your 2022-6 or 2110 test network. See: *"Side Panel Connectors" on page 1-3*
☐	7	Insert any of the optional connectors required for you testing requirements, e.g., Audio I/O D-type, audio headphone jack, or any BNC connectors. See: *"Side Panel Connectors" on page 1-3*
☐	8	Configure the Sx TAG IP address for use in the control network, using either DHCP or by supplying a static IP address. See: *"Setting the Sx TAG Control IP Address" on page 2-7*

What's in the Box?

The Sx TAG is supplied with the following as standard:

- Sx TAG Analyzer, Generator, Monitor, and IP Handheld Unit including built-in MSA/Non-MSA SFP+ Cage.

- 5 V 4 A DC Power Adapter.

- PHABRIX Soft Carry Case.

- SFP Cage fitted.

Optional Accessories

In addition to the standard equipment supplied with the Sx TAG, you may also have ordered the following optional components, depending on your test requirements:

- Various SFP Interface Modules, including:

    - Optical SFP+ Transceiver (Option: **PHSFP-10SR-IP**) for generation, analysis and monitoring of SMPTE ST 2110-10/20/30/31/40 with NMOS IS-04/IS-05/IS-08 and ST 2022-6 IP formats.
    Also provides SDI-to-IP and IP-to-SDI Gateway conversion of 3G, HD, SD-SDI signals with up to 16 channels of audio.

    - Electrical SFP Transceiver (Option: **PHSFP-RT30-HDBNC**) for closed-loop testing in SDI environments.

    - Optical SFP Transceiver 1310 or 1550 nm (Options: **PHSFP-RT30-1310** or **PHSFP-RT30-1550**) for closed-loop testing in optical fiber environments.

    - HDMI Input SFP (Option: **PHSFP-HDMI-IN**) to convert HDMI signal to SDI for analysis.

    - HDMI Ouput SFP (Option: **PHSFP-HDMI-OUT**) to convert Sx TAG SDI Output to HDMI without scaling artifacts.

- Audio break-out cable (Option: **PHSXC-1**)
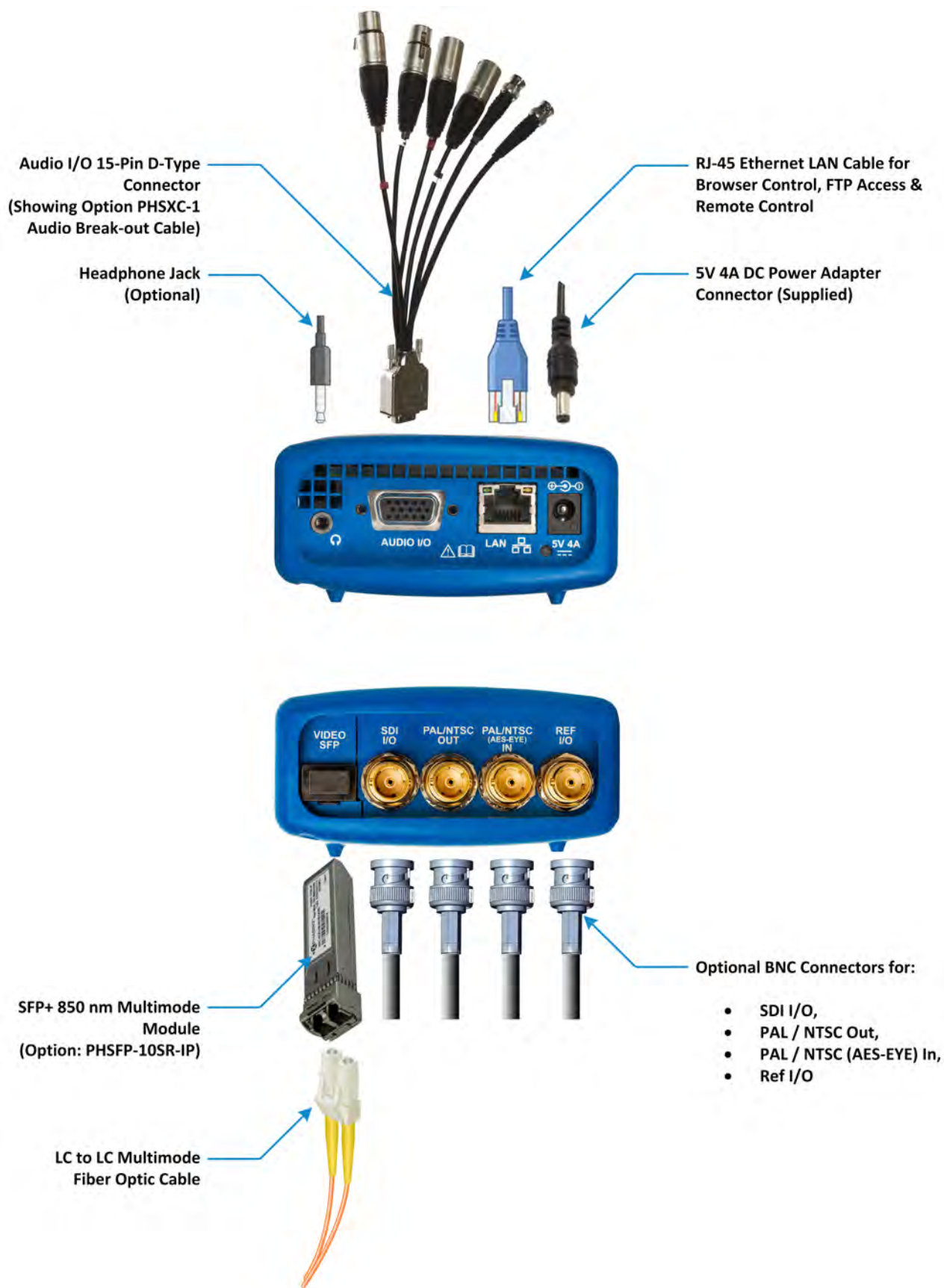
Side Panel Connectors

Audio I/O 15-Pin D-Type
Connector
(Showing Option PHSXC-1
Audio Break-out Cable)

Headphone Jack
(Optional)

RJ-45 Ethernet LAN Cable for
Browser Control, FTP Access &
Remote Control

5V 4A DC Power Adapter
Connector (Supplied)

SFP+ 850 nm Multimode
Module
(Option: PHSFP-10SR-IP)

LC to LC Multimode
Fiber Optic Cable

Optional BNC Connectors for:

- SDI I/O,
- PAL / NTSC Out,
- PAL / NTSC (AES-EYE) In,
- Ref I/O

Figure 1-1: Sx TAG Side Panel Connectors

Inserting the SFP+ Interface Module

Insert the SFP+ interface module into the cage as shown below. Push the module into the slot until you feel a small click.
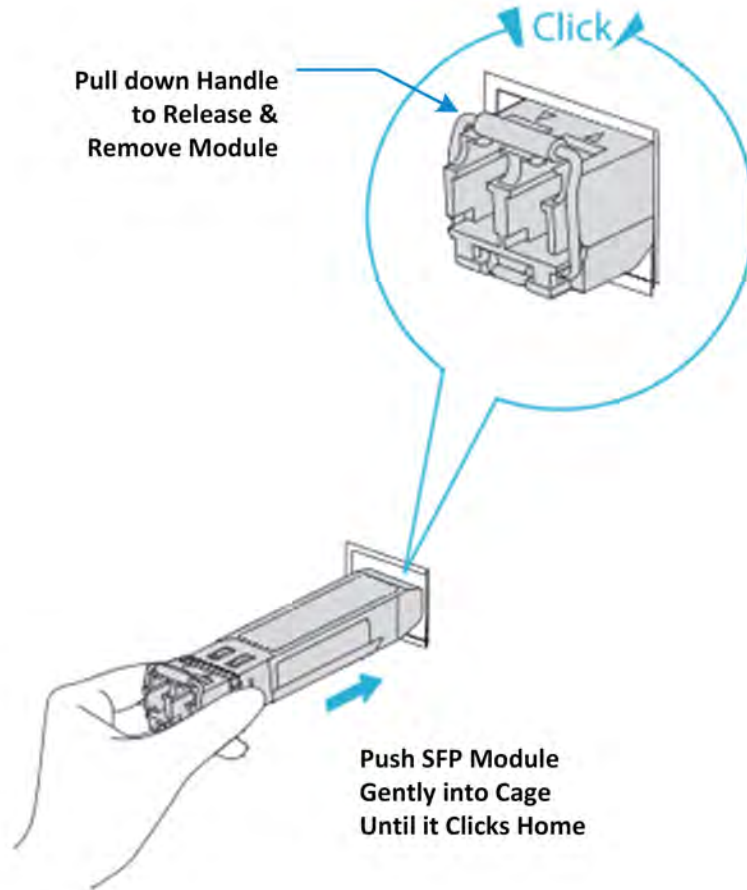

**Figure 1-2: Inserting the SFP+ Interface Module**

To remove the module, pull down the lever on top of the unit and pull gently out of the cage.

> **Note:** The IP function key (**2110Encap**, **2110Decap**, **2022Encap**, or **2022 Decap**) is displayed only when an SFP module is inserted in the unit.

> **Note:** When running a new Sx TAG in IP mode alongside an older unit, you may notice that the fan sounds slightly louder in the new unit. From serial number 6382, the Sx TAG fan was upgraded to dissipate any addiitonal heat generated by the optical SFP+ transceiver (option: **PHSFP-10SR-IP**).

Powering the Unit On and Off

You can choose to operate the unit by connecting to the mains power using the supplied adapter, or alternatively, run the unit for approximately 1.5 hours from the built-in battery.
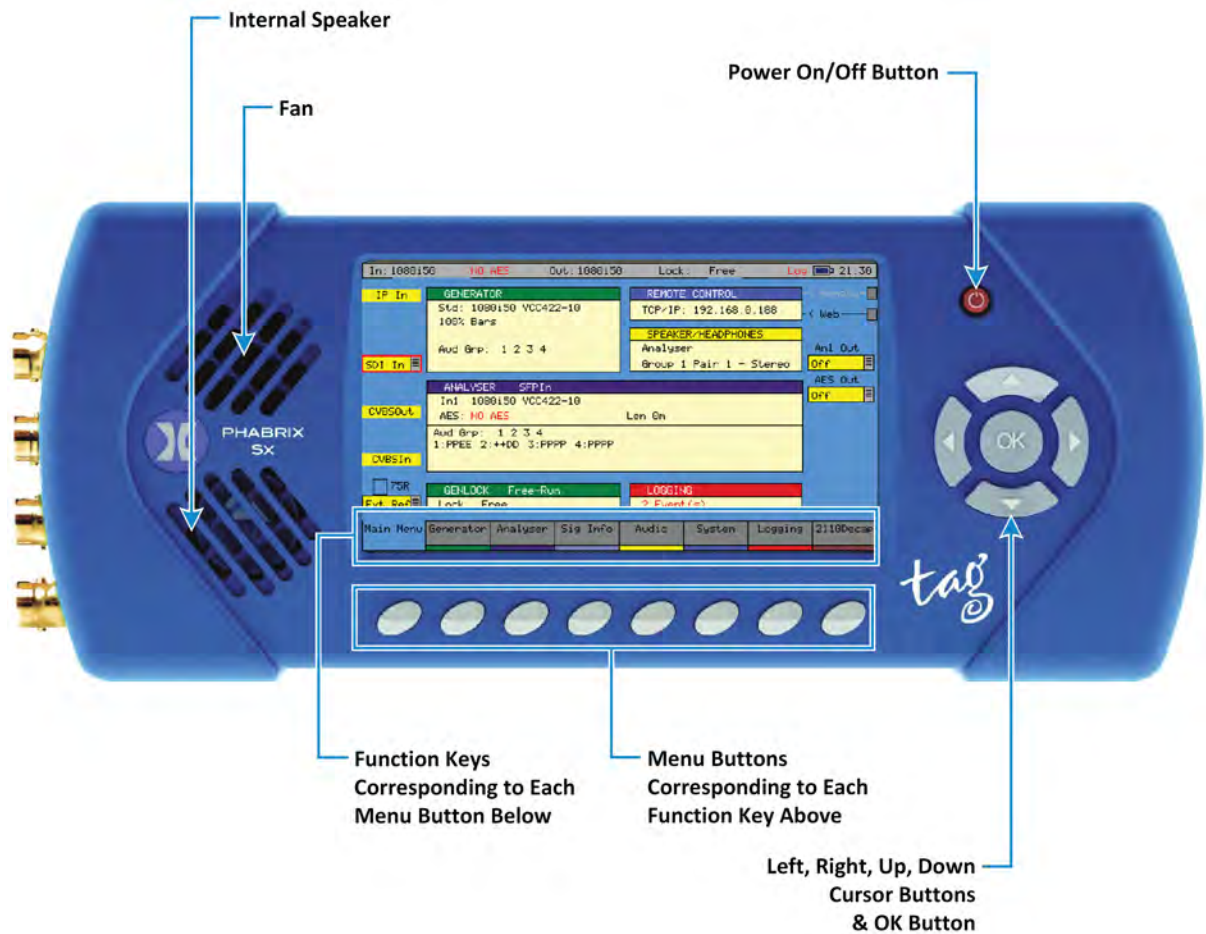
To power-on the unit:

- Press the small red button at the top right-hand corner of the front panel.

To power-off the unit:

- Press the red button on the front panel again.

The detected IP SFP mode is displayed in the right-hand button of the Main Menu.

Checklist for 2110 Testing

Before starting to test in a 2110 environment, make sure that you have access to the following:

- Network domain providing an ST 2059 compatible Grandmaster PTP timing signal.

- Optionally an NMOS-compatible, configuration, monitoring and control utility for in-band, remote control of the IP SFP, for example, Riedel MN SET (available from the PHABRIX Support website under **PHABRIX Product Utilities**.)

Check	Task	Description
☐	**1**	Configure the SFP+ IP address for use in the test network using either DHCP or by supplying a static IP address. See: *"SFP Setup Management Interface" on page 3-3*
☐	**2**	Select the correct SFP Mode. See: *"SFP Mode & Management" on page 3-1*
☐	**3**	Configure PTP by setting the PTP Communication mode and Domain number. See: *"Setting-up Precision Time Protocol (PTP) for 2110 Decap Flows" on page 4-6* or *"Setting-up Precision Time Protocol (PTP) for 2110 Encap Flows" on page 5-6*.
☐	**4**	Configure NMOS using either MN SET or a similar control application (if using NMOS.) See the *MN SET User Guide*.
☐	**5**	For **2110 Encap**, configure the following: • Generator or SDI-to-IP Gateway. • Video Flow(s): Set destination IP Address and enable flow(s) etc. • Audio Mapping. • Audio Flow: Set destination IP Address and enable flow(s) etc. • ANC Flow: Set destination IP Address and enable flow(s) etc. (if using the gateway) • Optionally set the Source IP address to match the SFP Management IP address using the **Copy Management Source IP** button. • Optionally enable the synchronizer on the SFP Setup page. See: *"2110 Encap Video Flows" on page 5-2* and *"2110 Encap: Setup Other Flows and PTP" on page 5-4*.
☐	**6**	For **2110 Decap**, configure the following: • Configure the Video Flow(s): Set Destination Multicast IP Address for Video, Audio and ANC and enable flow(s). • Configure the Audio Mapping. • Configure the Audio Flow: Set source IP Address and enable flow(s) etc. • Configure the ANC Flow: Set source IP Address and enable flow(s) etc. See: *"2110 Decap Video Flows" on page 4-2* and *"2110 Decap: Setup Other Flows and PTP" on page 4-4*.

Checklist for 2022-6 Testing

Before starting to test in a 2110 environment, make sure that you set-up the following:

| Check	Task	Description
☐	**1**	Configure the SFP+ IP Address for use in the test network using either DHCP or by supplying a static IP address. See: *"SFP Setup Management Interface" on page 3-3*
☐	**2**	Select the correct SFP Mode. See: *"SFP Mode & Management" on page 3-1*
☐	**3**	For **2022-6 Encap**, configure the following: • Configure the Video Flow(s): Set destination IP Address and enable flow(s) etc. See: *"2022-6 Encap Video Flows" on page 7-2*.
☐	**4**	For **2022-6 Decap**, configure the following: • Configure the Video Flow(s): Set Destination Multicast IP Address and enable flow(s) etc. See: *"2022-6 Decap Video Flows" on page 6-2*.

Networking Connection Example
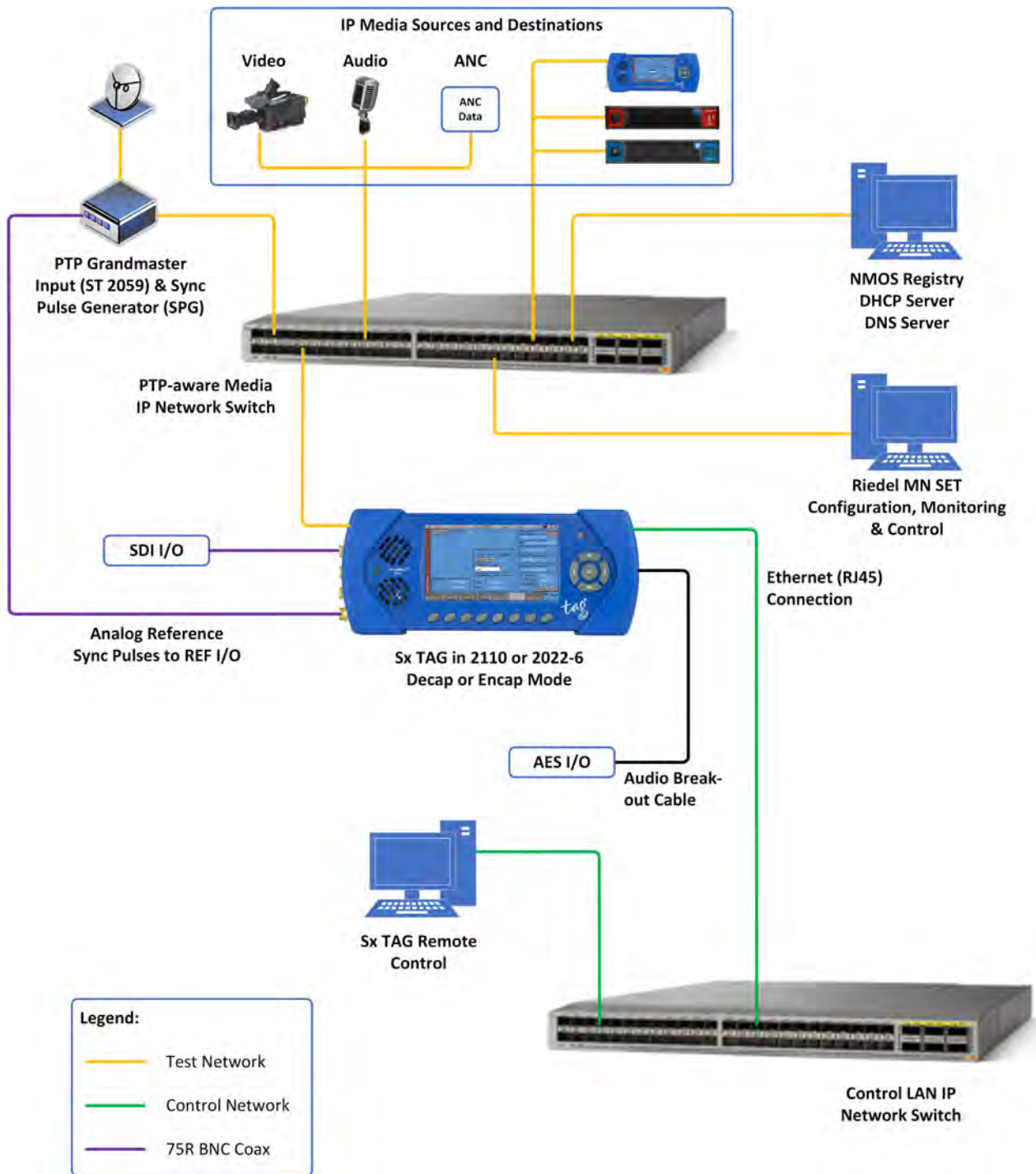
Figure 1-3: Installing Sx TAG in Test and Control Networks

About the Sx TAG User Interface $\quad$ **2**

Using the Front Panel Controls

Each of the eight menu buttons along the bottom of the Sx TAG screen corresponds to the Function Key displayed directly above it on the screen. The purpose of the function keys changes depending on the task selected from the main menu and the mode in which the unit is operating. In the Sx TAG Main Menu, shown above, each function key is color-coded to match the corresponding functional area of the screen.
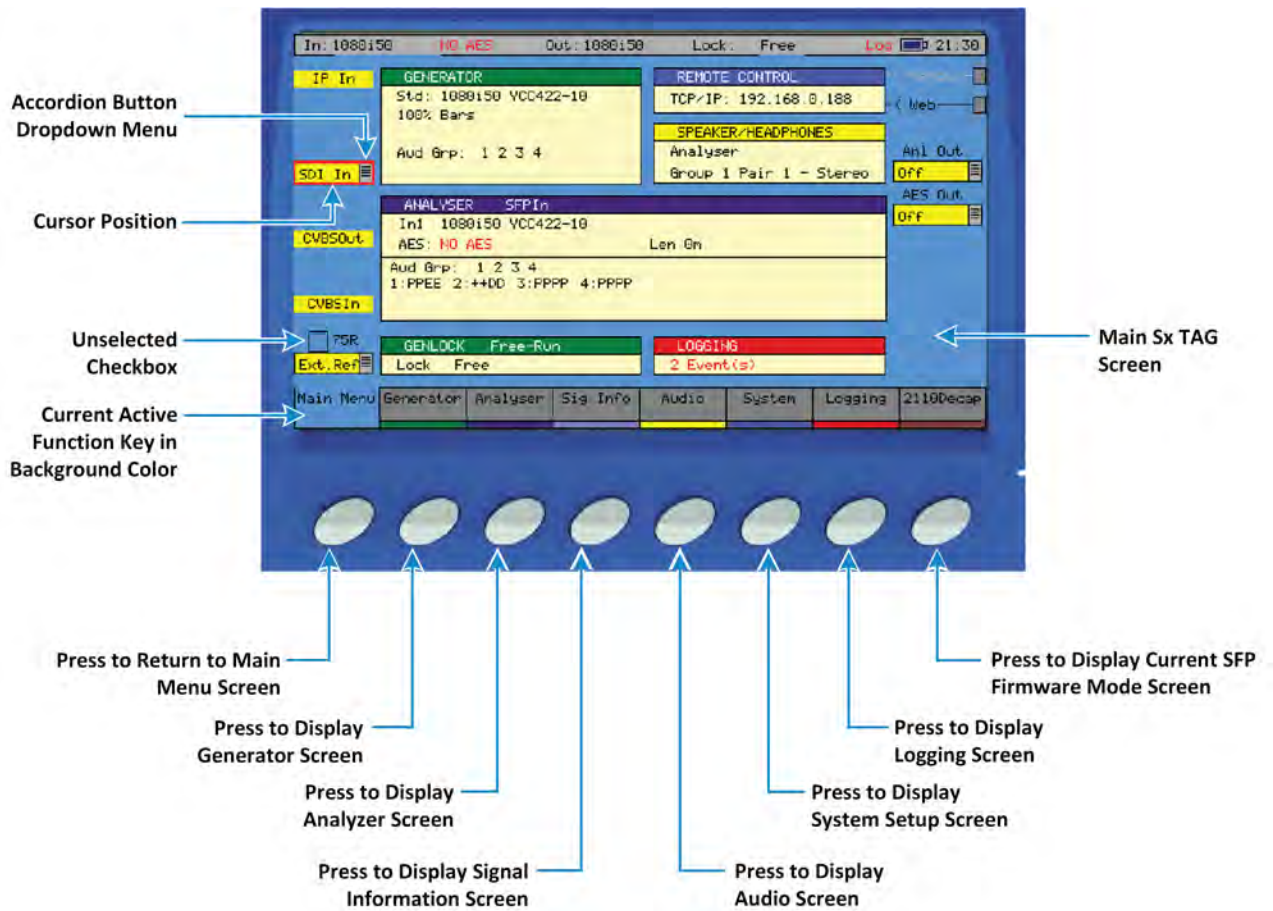
Figure 2-1: Sx TAG Menu Button and Function Key Controls

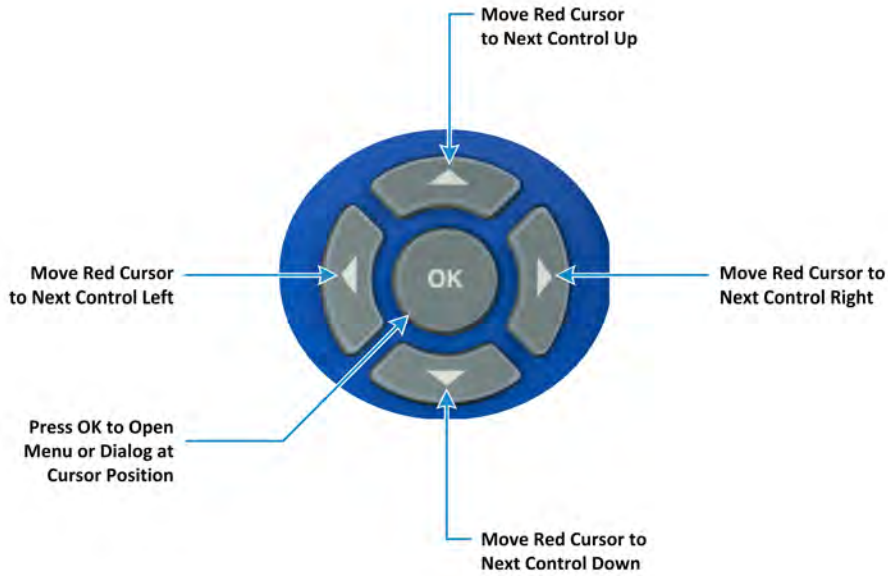# Using the Cursor Control Buttons

Figure 2-2: Sx TAG Front Panel Controls

The Sx TAG *cursor* is represented by the red box, usually located on the top-left control on each new screen you select.

Use the four cursor controls to move red cursor to the next active **control** on the screen. Once you move the cursor to a specific control, select it by pressing the **OK** button.

The following example shows how to move the cursor to the **Reset** control on the right of the dialog.
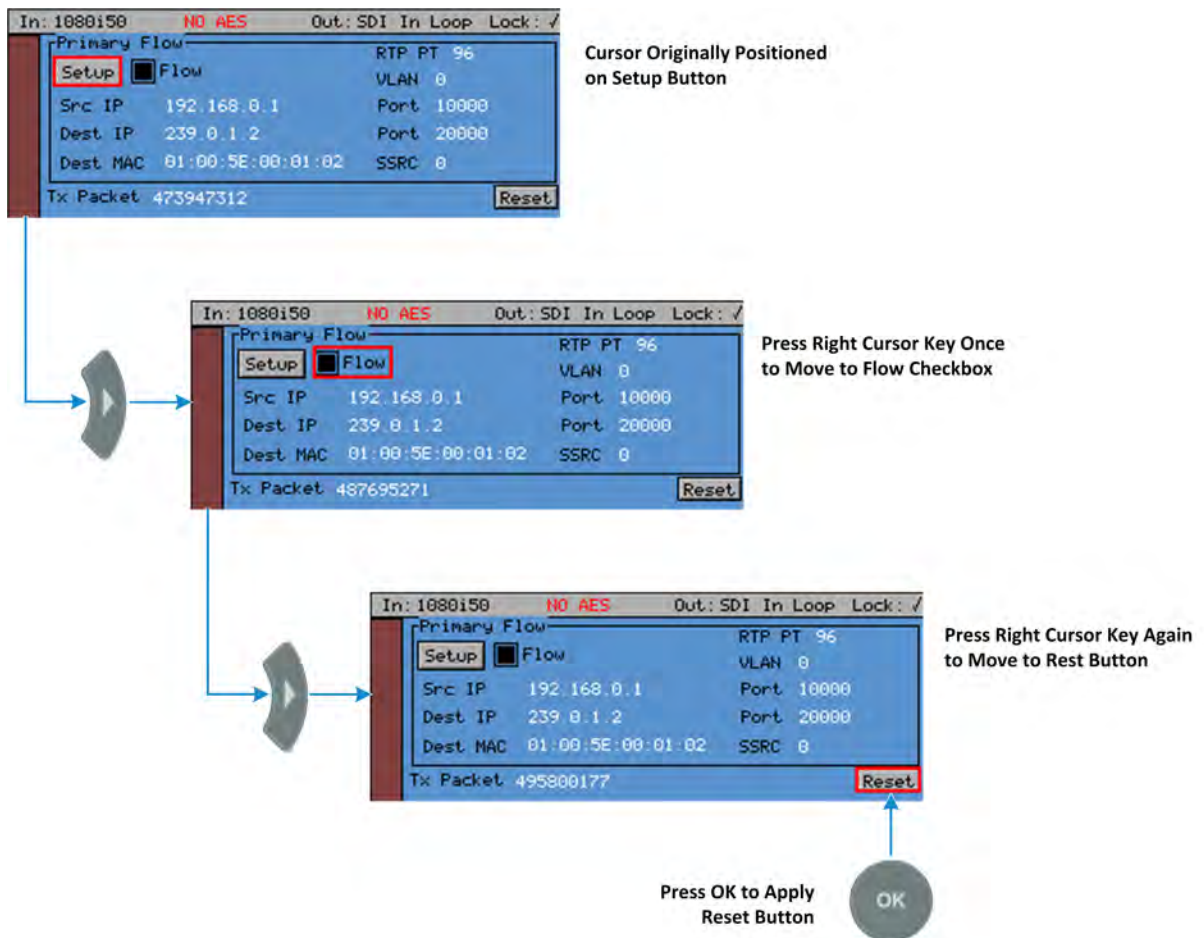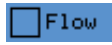

Figure 2-3: Moving the Screen Cursor

PHABRIX Sx TAG
Quick Start Guide
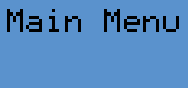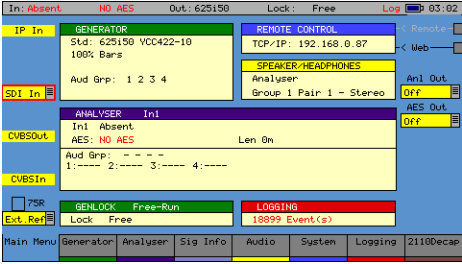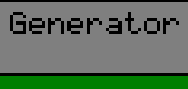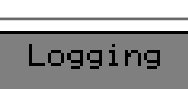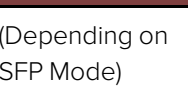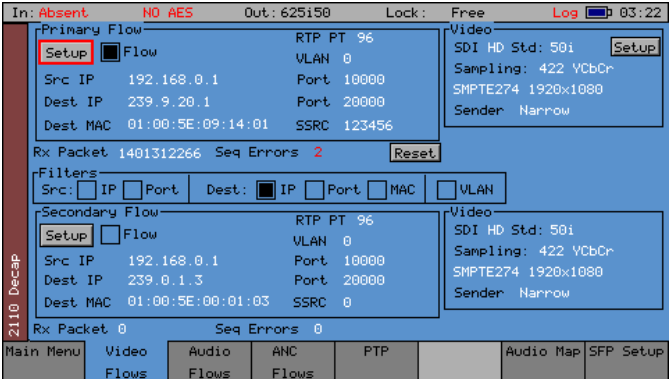
Using the Dialog Control Buttons
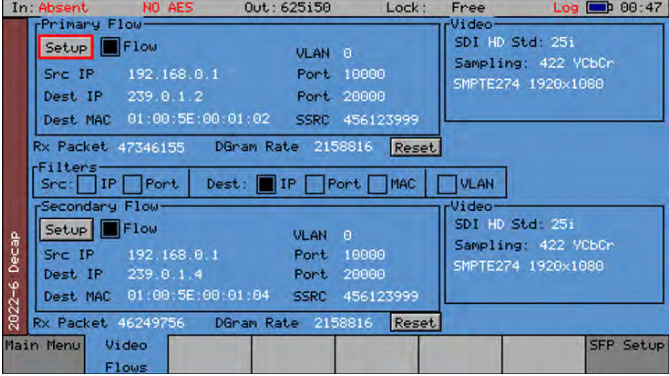
The Sx TAG screens feature a number of different control types which, when selected, perform a range of different tasks. A control can be any of the following:

Control	Example	Description
Setup Button:	Setup	Opens a dialog to modify the displayed parameters.
Reset Button	Reset	Zeroes the display of a counter.
Deselected Checkbox:	☐Flow	Shows the the function is currently disabled.
Selected Checkbox	■Flow	Shows the the function is currently enabled.
Menu Accordion Button		When selected, opens a drop-down list of options.
Dialog Control Button	Copy To Second	Executes a command in a dialog.

Using the Function Keys

The eight Function Keys along the bottom of each screen, give you access to a different functional area of the unit. For example, select the Audio function key to access the Audio functions of the Sx TAG. It is important to note that the right-most function key provides access to the IP functions of the unit and the label changes, depending on the active SFP Mode, either: 2110 Decap, 2110 Encap, 2022-6 Decap or 2022-6 Encap.

Press Function Key:	To Access Screen:
Main Menu	**Main Screen** Main menu button always returns to the main overview screen, providing access to all functional areas. Provides a full overview of the current system status. *[screen image]*
Generator	**Generator Screen** Generator option allows unit to be locked to external reference and provides a fully populated Composite, SD-SDI, HD-SDI and Fiber video test pattern generator and audio tone generator.
Analyser	**Analyzer Screen** Allows the selected Composite, SDI or SFP input signal to be analyzed in the form of a Picture, Waveform Monitor and Vectorscope.
Sig Info	**Signal Information Screen** Allows detailed signal information about the video and audio status for the SDI or SFP video input source to be displayed.
Audio	**Audio Screen** Gives access to the Audio Meters and Audio Status displays to display levels of the embedded SDI audio, AES audio and analog audio. Also rovides speaker/headphone setup.
System	**System Screen** Allows setup of system wide settings including unit TCP/IP address, Subnet Mask, Default Gateway, DNS Server address, Memories, Date/time and software utilities.
Logging	**Logging Screen** Setup and view the error logging system.
2110Decap **2110Encap** (Depending on SFP Mode)	**2110 Decap Screen / 2110 Encap Screen** Setup of 2110 Decapsulation/Encapsulation on the unit for IP packet reception/transmission. *[screen image]*

Press Function Key:	To Access Screen:
2022Decap **2022Encap** (Depending on SFP Mode)	**2022-6 Decap Screen / 2022-6 Encap Screen** Setup of 2022-6 Decapsulation/Encapsulation on the unit for IP packet reception/transmission.

Entering Numeric Values

In some of the Sx TAG configuration dialogs you may need to enter numeric values, for example, if manually defining an IP address. To do so requires a combination of the **Up** or **Down** cursor control buttons and the function keys.

Enter a numeric value in a dialog field as follows:

1. Move the cursor to the target field using the cursor controls.
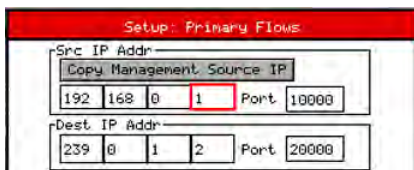
2. Press the **OK** button to select the field.

   This displays the adjustment values in the function keys:
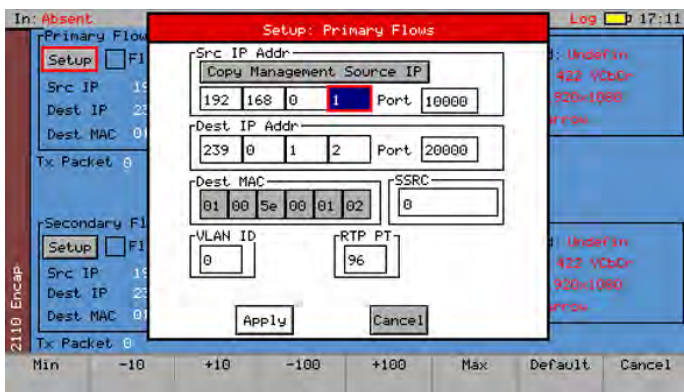
   You can now adjust the value using any of the following methods:

   - Increment or decrement in units (1, 2, 3, etc.) using the **Up** or **Down** cursor buttons, respectively.

   - Increment or decrement in tens using the **+10** or **−10** function keys, respectively.

   - Increment or decrement in hundreds using the **+100** or **−100** function keys, respectively.

   - Set the minimum or maximum value as a starting point using the **Min** or **Max** function keys, respectively.

3. Once you reach the required value, press the **OK** button.

The value is now displayed in an orange font to show that your change has not yet been applied but is temporarily saved.

4. Change any other elements of the address as required.

5. When all components are complete, press either **Apply** to save, or **Cancel** to abandon your change(s).

    This closes the dialog window and returns you to the configuration screen, with any change applied.

Setting the Sx TAG Control IP Address

The PHABRIX Sx TAG is fully network compatible, which allows you to control the Sx TAG from an external computer on the control network.

If DHCP is already enabled on the unit, it will automatically try to obtain an IP address from the DHCP server (if present). It is recommended to use DHCP when possible.

If necessary, configure an Sx TAG static IP address manually as follows:

From the Main Menu:

1. Select the **System** function key.

2. Select the **Network** function key (if not already selected.)
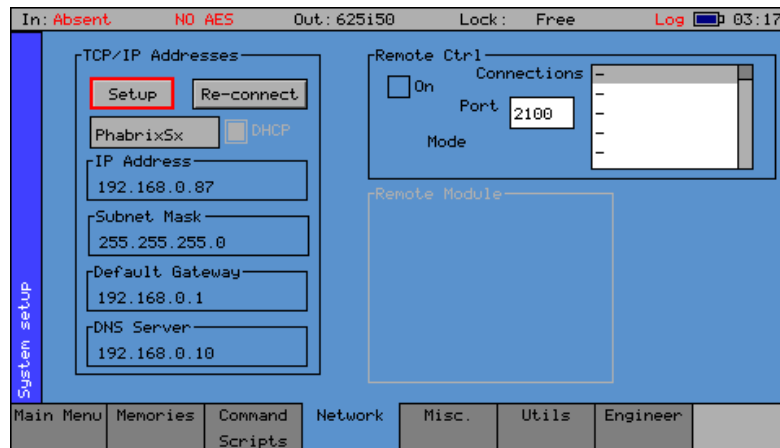
3. Select the **Setup** button (if DHCP is unchecked.)

4. Enter the IP Address, Subnet Mask, Default Gateway Subnet Mask and DNS Server IP Address as provided by your network administrator and then select **Apply**.

Once set, the TCP/IP Address of the Sx TAG is displayed at the top-right of the Main Screen in the **Remote Control** box.

> **Note:** If you switch on the Sx TAG without first connecting the network cable, select the **Re-connect** button to establish the network connection.

SFP Mode & Management

3
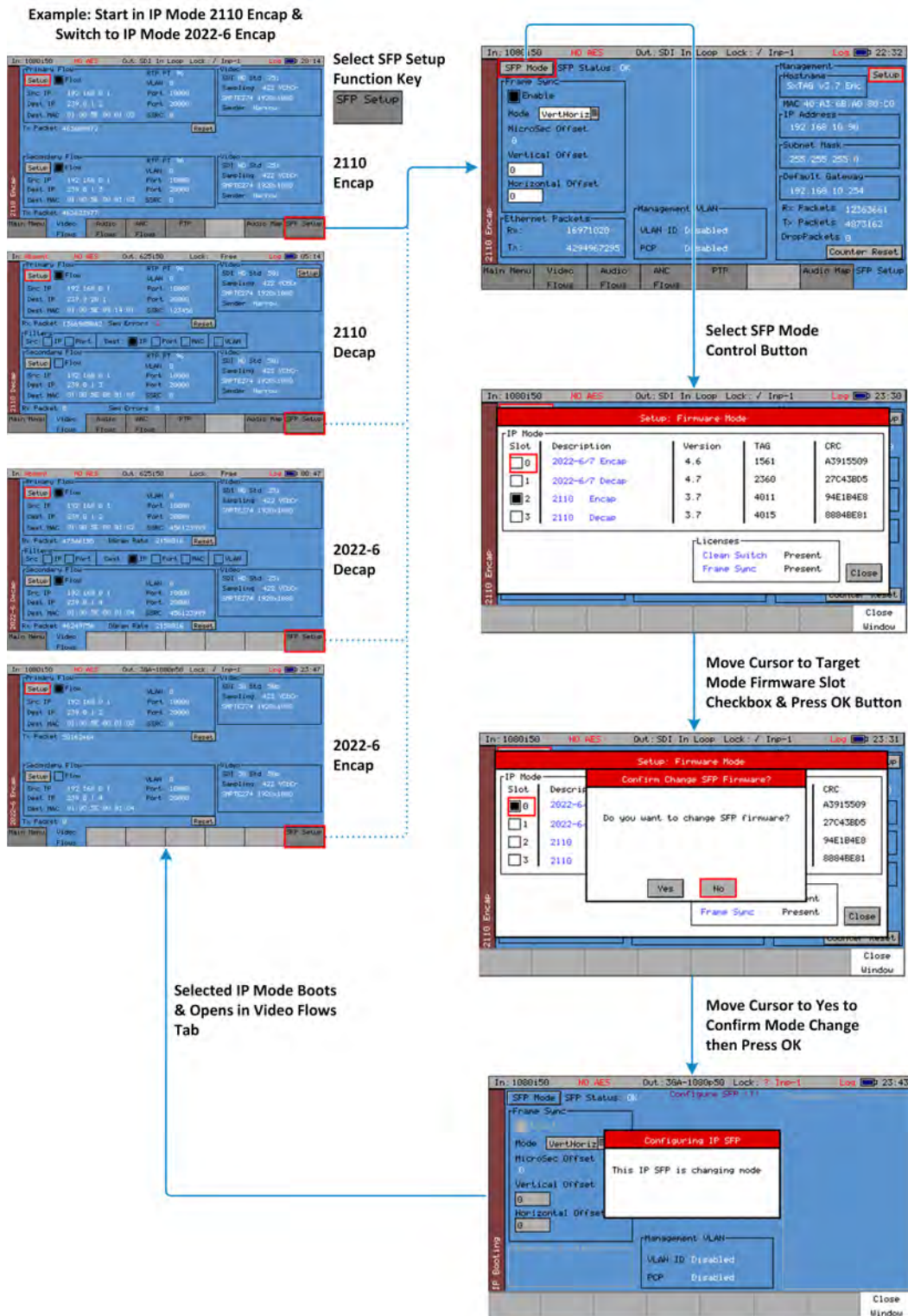
Switching SFP Mode

Figure 3-1: Switching SFP Mode

SFP Setup

Overview

The Sx TAG automatically detects the boot mode of the IP SFP on power-up and configures the user interface to match the SFP mode. You can change the SFP Boot Mode in the **Setup: Firmware Mode** dialog by selecting the **SFP Setup** function key.

Switching the SFP to a Different Operating Mode

From the Main Menu:

1. Select the currently active SFP function key, either: **2110 Decap**, **2110 Encap**, **2022-6 Decap**, or **2022-6 Encap**.

2. Select the **SFP Setup** function key.

3. Highlight the **SFP Mode** button, then press **OK**.

4. Move the cursor to the desired SFP Mode in the **IP Mode Firmware Slot** column, then press **OK**.

5. Select **Yes**, then press **OK** to confirm the SFP mode change.
   You will see the following message displayed: **This IP SFP is changing mode**.
   Wait about 15-20 seconds for the selected mode to boot. and display the **Video Flows** tab for the new mode.

SFP Setup Management Interface

Figure 3-2: SFP Setup Management Dialogs

SFP Setup: Management Interface Dialog

Overview

The IP SFP can be remotely controlled in-band over the multimode fibre via REST API using a suitable REST Client, or with the custom control available by using Riedel MN SET configuration, monitoring and control software.

The SFP management page for both 2110 and 2022-6 Encap/Decap displays the current status of the SFP interface, showing:

- IP addressing details for the inserted SFP interface module.

- Total count of Ethernet packets received (Rx) and transmitted (Tx) for the Sx TAG remote control interface.

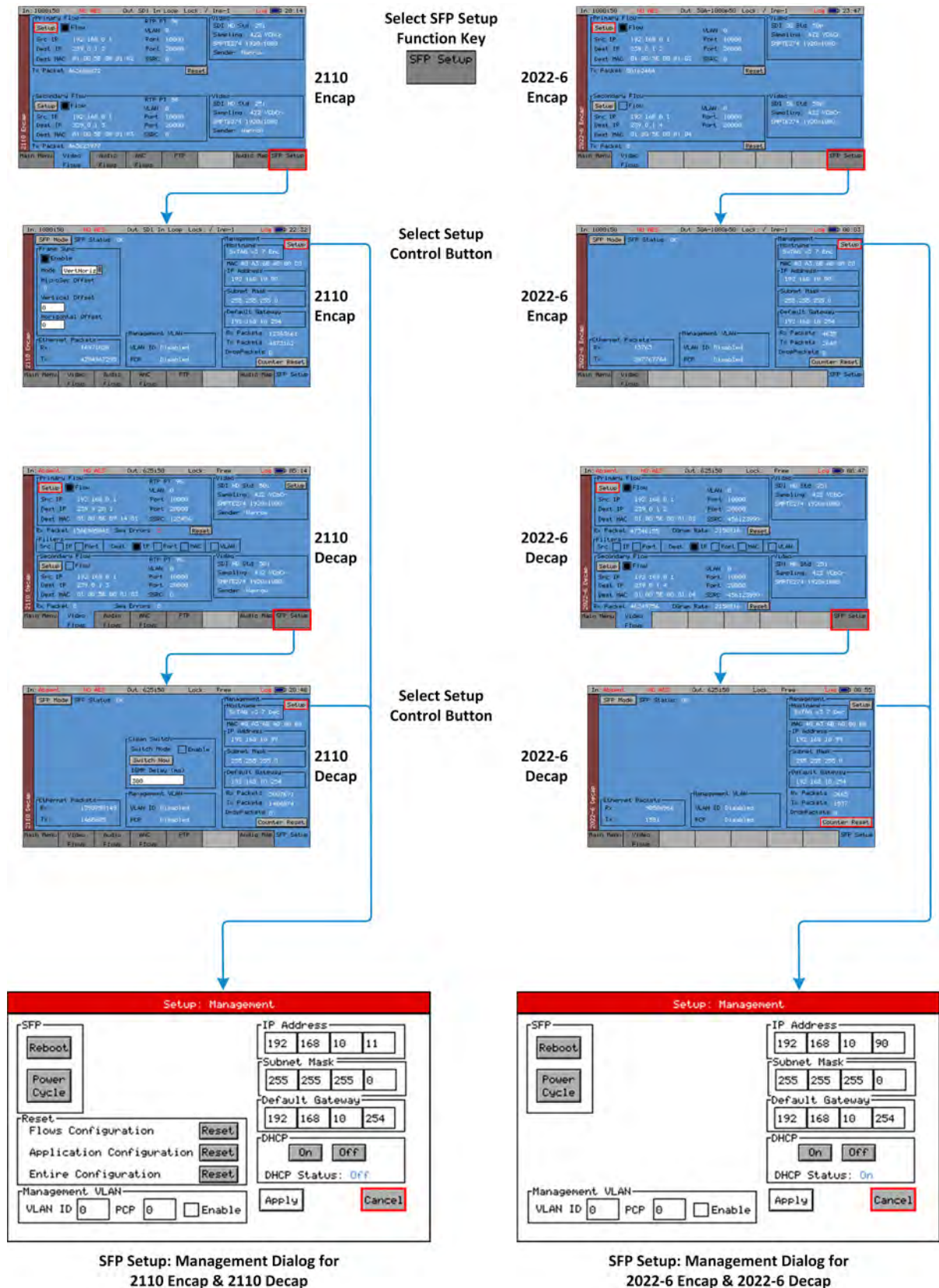- Management VLAN status (Enabled/Disabled).

- Counters for received packets (Rx), transmitted packets (Tx) and dropped packets across the SFP interface module.

In addition, the 2110 Encap Management Page includes a **Frame Sync** configuration dialog and the 2110 Decap Management Page includes a **Clean Switch** configuration dialog (see below.)

2110 Encap Management Interface - Frame Sync

The 2110 Encap Management page includes additional controls for the SFP Frame Synchronizer, which can enable a Video Frame Synchronizer and the PCM Audio Sample Rate converters. This locks any asynchronous SDI input to PTP and increases the latency through the device. You can control the phase of the video with respect to PTP using the Vertical and Horizontal Offset controls.

2110 Decap Management Interface - Clean Switch

The 2110 Decap Management page has additional controls for a Clean Switch, which provides smooth switching between IP sources for a stable viewing experience.

Setting-up the 2110 Encap Management Interface

From the Main Menu:

1. Select the **2110 Encap** function key.

2. Select the **SFP Setup** function key.

3. Highlight the Management dialog **Setup** button, then press **OK**.

4. To assign IP Address, Subnet Mask and Default Gateway automatically, in the DHCP dialog, select **On**, then select **Apply**.

5. If not using DHCP, in the DHCP dialog, select Off, then set the following manually:

   - SFP management IP Address. The SFP will respond to ARP requests or ping commands sent to this address.

   - SFP management IP Subnet Mask

   - SFP Default Gateway.

6. Select **Apply** to save your SFP management interface configuration changes.

Setting-up the 2110 Decap Management Interface

From the Main Menu:

1. Select the **2110 Decap** function key.

2. Select the **SFP Setup** function key.

3. Highlight the Management dialog **Setup** button, then press **OK**.

4. To assign IP Address, Subnet Mask and Default Gateway automatically, in the DHCP dialog, select **On**, then select **Apply**.

5. If not using DHCP, in the DHCP dialog, select Off, then set the following manually:

   - SFP management IP Address. The SFP will respond to ARP requests or ping commands sent to this address.

   - SFP management IP Subnet Mask

   - SFP Default Gateway.

6. Select **Apply** to save your SFP management interface configuration changes.

Setting-up the 2022-6 Encap Management Interface

From the Main Menu:

1. Select the **2022-6 Encap** function key.

2. Select the **SFP Setup** function key.

3. Highlight the Management dialog **Setup** button, then press **OK**.

4. To assign IP Address, Subnet Mask and Default Gateway automatically, in the DHCP dialog, select **On**, then select **Apply**.

5. If not using DHCP, in the DHCP dialog, select Off, then set the following manually:

   - SFP management IP Address. The SFP will respond to ARP requests or ping commands sent to this address.

   - SFP management IP Subnet Mask

   - SFP Default Gateway.

6. Select **Apply** to save your SFP management interface configuration changes.

Setting-up the 2022-6 Decap Management Interface

From the Main Menu:

1. Select the **2022-6 Decap** function key.

2. Select the **SFP Setup** function key.

3. Highlight the Management dialog **Setup** button, then press **OK**.

4. To assign IP Address, Subnet Mask and Default Gateway automatically, in the DHCP dialog, select **On**, then select **Apply**.

5. If not using DHCP, in the DHCP dialog, select Off, then set the following manually:

   - SFP management IP Address. The SFP will respond to ARP requests or ping commands sent to this address.

   - SFP management IP Subnet Mask

   - SFP Default Gateway.

6. Select **Apply** to save your SFP management interface configuration changes.

Using ST 2110 Decap Mode

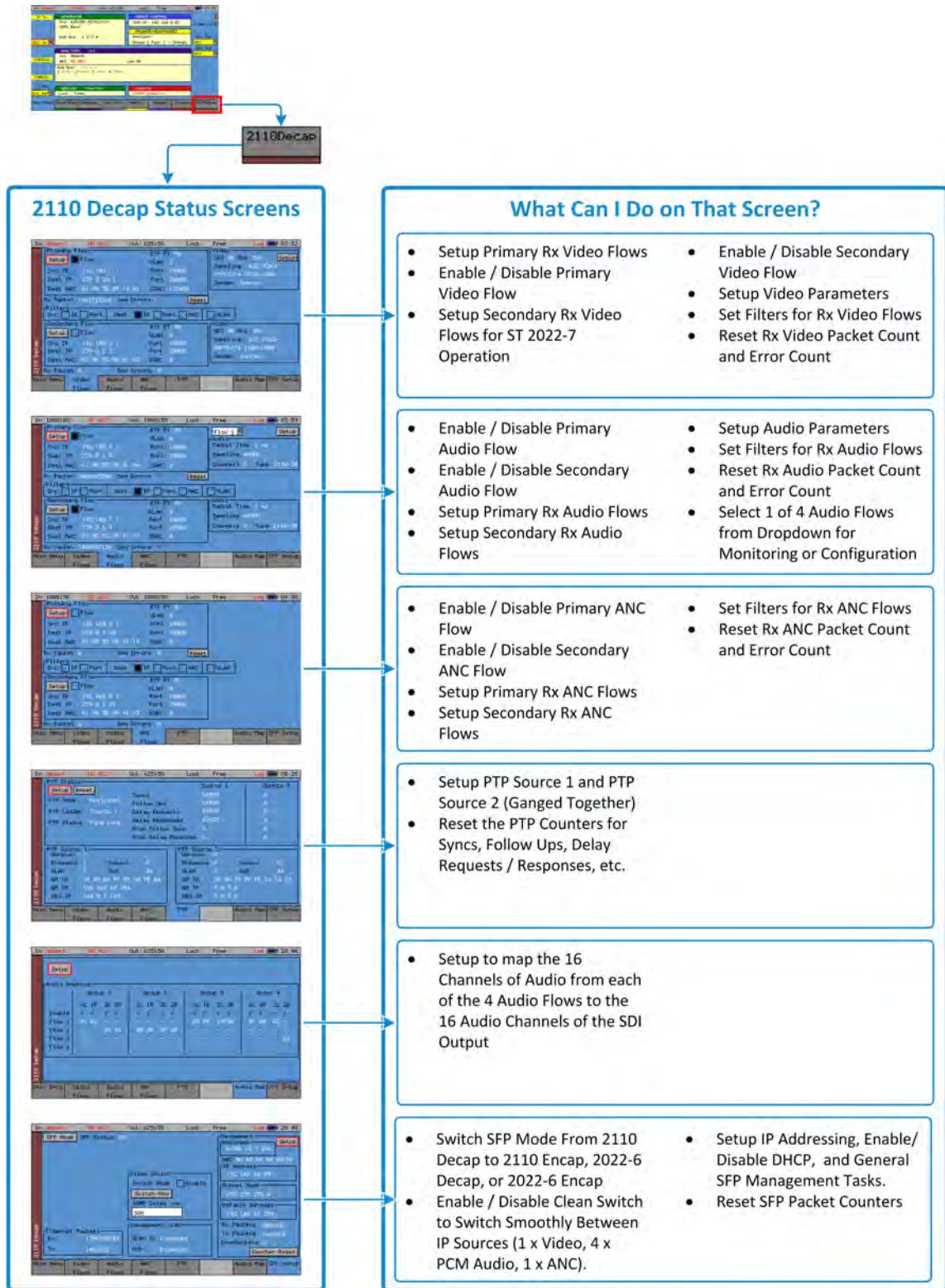## Overview of the 2110 Decap Status Screens

Figure 4-1: Overview of the 2110 Decap Status Screens

2110 Decap Video Flows
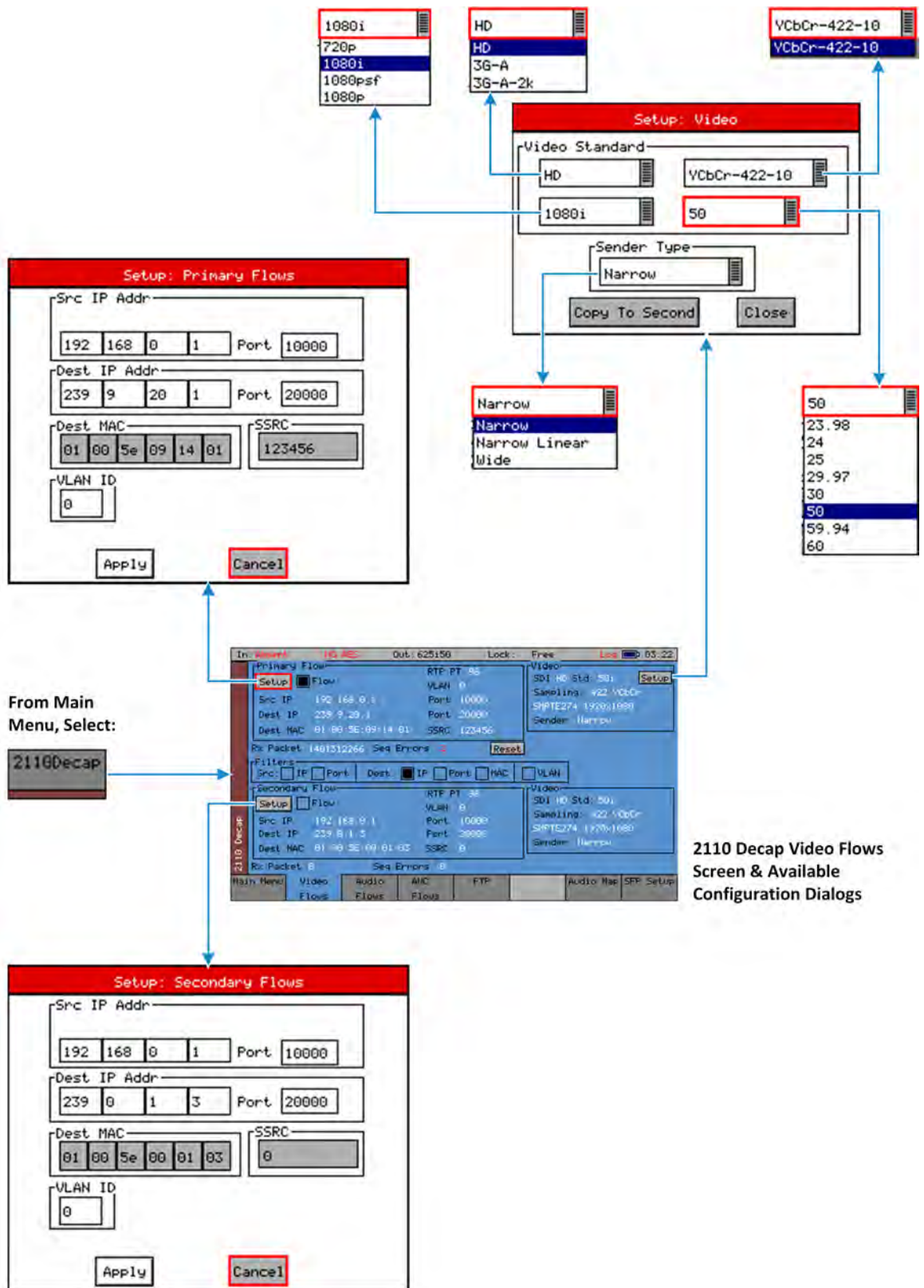
Setup Dialog and Menu Overview

Figure 4-2: 2110 Decap Setup Dialogs and Menus

Working in the 2110 Decap Video Flows Dialog

Setting-up the 2110 Decap Primary Flows

From the Main Menu:

1. Select the **2110 Decap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the Primary Flow **Setup** button, then press **OK**.

4. In the **Setup: Primary Flows** dialog, set the following:

   • Destination multicast IP Address (this is the minimum the SFP needs to match by default.)

5. Select **Apply** to save your Primary Flow configuration changes.

6. Select the **Flow** checkbox to enable the Primary Video flow.

Setting-up the 2110 Decap Secondary Flows

When using 2022-7 operation, set-up the secondary flow as described below.

From the Main Menu:

1. Select the **2110 Decap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the Secondary Flow **Setup** button, then press **OK**.

4. In the **Setup: Secondary Flows** dialog, set the following:

   • Destination multicast IP Address (this is the minimum the SFP needs to match by default.)

5. Select **Apply** to save your Primary Flow configuration changes.

6. Select the **Flow** checkbox to enable the Secondary Video flow.

Setting-up the 2110 Decap Video Flow Parameters

> **Note:** Set-up video format for 2110 Decap flows manually only when not automatically set by receipt of an SDP Transport file under NMOS or REST API control.

From the Main Menu:

1. Select the **2110 Decap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the Video **Setup** button, then press **OK**.

4. In the **Setup: Secondary Flows** dialog, set the following:

   • Video Standard (Bit rate, sampling format, video format and frame rate).

   • Sender Type (Narrow, Narrow Linear, or Wide)

5. Select **Copy to Second** if using 2022-7 secondary flows.

6. Select **Close** to save your changes and close the dialog.

2110 Decap: Setup Other Flows and PTP

Setup Dialog and Menu Overview

2110 Decap: Audio Flows
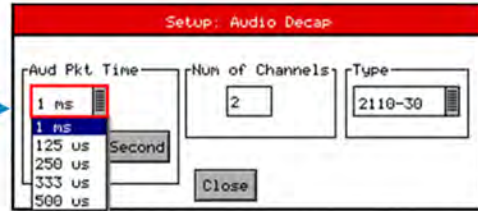
Setup: Audio Decap Dialog

2110 Decap: ANC Flows

No Additional Setup Dialog for 2110 Decap ANC Flows

2110 Decap: PTP

Setup: PTP Dialog for 2110 Decap

2110 Decap: Audio Map

Setup: Audio Mapping Dialog for 2110 Decap

Figure 4-3: 2110 Decap Setup Dialogs and Menus for Other Flows

Working with the 2110 Decap Other Flows

Setting-up the 2110 Decap Audio Flows

From the Main Menu:

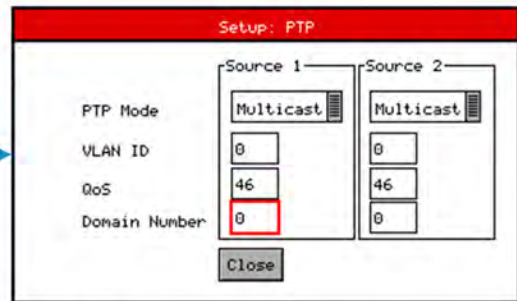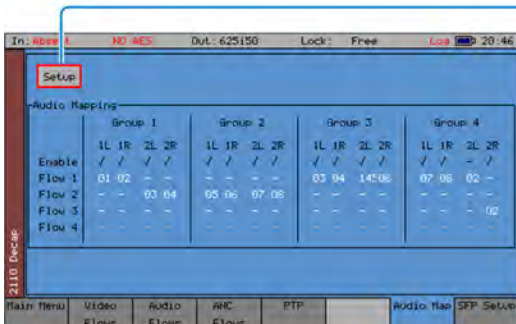1. Select the **2110 Decap** function key.

2. Select the **Audio Flows** function key.

3. Select the Primary Flow **Setup** dialog and set the Destination multicast IP Address (this is the minimum the SFP needs to match by default.)

4. When using 2022-7 operation, select the Secondary Flow **Setup** dialog and set the Destination multicast IP Address.

5. Highlight the Audio dialog **Flow *n*** accordion control, press **OK** then select the target flow to configure from the dropdown.

6. Highlight the Audio dialog **Setup** button in the top-right of the screen, then press **OK**.

7. In the **Setup: Audio Decap** dialog, set the following:

   - Audio Packet Time to match the audio packet time of the flow.

     > **Note:** You may experience operational problems if the source and receiver packet times do not match.

   - Number of audio channels within the selected flow, from 1 to 16.

   - Type of audio flow, either SMPTE ST 2110-30 PCM or ST 2110-31 AES audio.

8. Select **Copy to Second** if using a Secondary Flow in ST 2022-7 operation to copy down the audio settings.

9. Select **Close** to save your audio configuration changes.

Setting-up the 2110 Decap ANC Flows

From the Main Menu:

1. Select the **2110 Decap** function key.

2. Select the **ANC Flows** function key.

3. Select the Primary Flow **Setup** dialog and set the Destination multicast IP Address (this is the minimum the SFP needs to match by default.)

4. When using 2022-7 operation, select the Secondary Flow **Setup** dialog and set the Destination multicast IP Address.

Setting-up Precision Time Protocol (PTP) for 2110 Decap Flows

From the Main Menu:

1. Select the **2110 Decap** function key.

2. Select the **PTP** function key.

3. Highlight the PTP **Setup** button, then press **OK**.

4. In the **Setup: PTP** dialog, set the following for the two announce detectors:

   - PTP Communication Mode: Multicast (Default), Mixed, or Unicast.

   - PTP VLAN ID: Default 0 if VLAN Not used.

   - Quality of Service (QoS) value for outgoing Delay Request messages.

   - PTP Domain number in the range specified by ST 2059, 0 to 127.

5. Select **Close** to save your PTP configuration changes.

Setting-up the 2110 Decap Audio Map

From the Main Menu:

1. Select the **2110 Decap** function key.

2. Select the **Audio Map** function key.

3. Highlight the **Setup** button, then press **OK**.

4. In the **Setup: Decap Mapping** dialog, do the following:

   - Select the **Enabled** checkbox(es) to enable the required SDI audio channel (**0 to 15**).

   - Select one of the four flows (**0 to 3**) used to source the audio for the enabled SDI channel.

   - Select the audio channel index (**0 to 15**) in the selected Flow ID to be used as audio source for the selected SDI channel.

5. Select **Close** to save your audio mapping configuration and close the dialog.

Using ST 2110 Encap Mode

<div style="text-align: right">5</div>

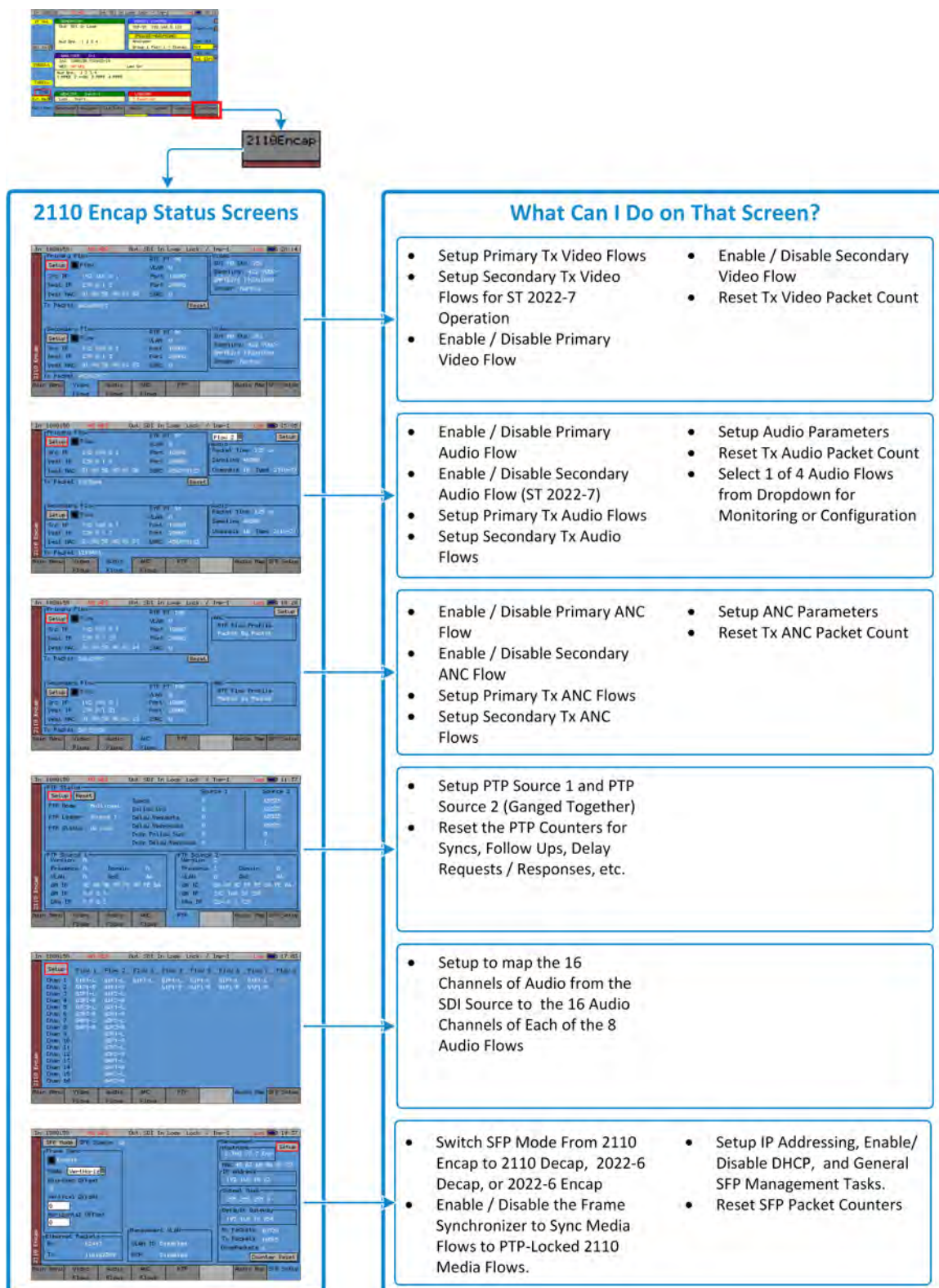## Overview of the 2110 Encap Status Screens

Figure 5-1: 2110 Encap Status Screens

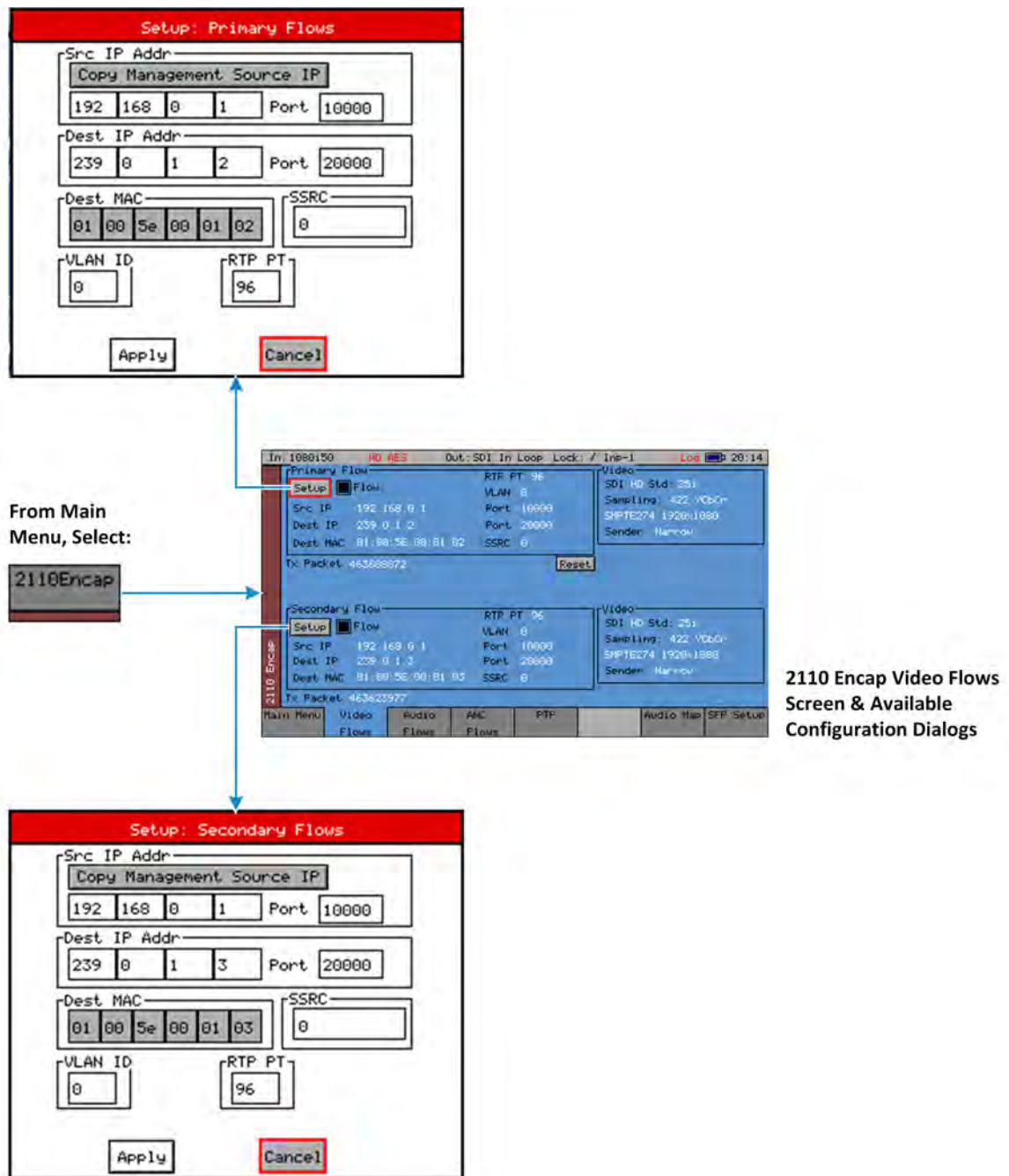# 2110 Encap Video Flows

Dialog and Menu Overview

Figure 5-2: 2110 Encap Dialogs and Menus

Working in the 2110 Encap Video Flows Dialog

Setting-up the 2110 Encap Primary Flows

From the Main Menu:

1. Select the **2110 Encap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the Primary Flow **Setup** button, then press **OK**.

4. In the **Setup: Primary Flows** dialog, set the following:

   - Destination multicast IP Address (this is the minimum required for a multicast flow.)

     Note: If setting the Source IP Address, use the **Copy Management Source IP** button as the SFP management IP address is the only IP address on which the SFP will respond to an ARP request.

5. Select **Apply** to save your Primary Flow configuration changes.

6. Select the **Flow** checkbox to enable the Primary Video flow.

Setting-up the 2110 Encap Secondary Flows

When using 2022-7 operation, set-up the secondary flow as described below.

From the Main Menu:

1. Select the **2110 Encap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the Secondary Flow **Setup** button, then press **OK**.

4. In the **Setup: Secondary Flows** dialog, set the following:

   - Destination multicast IP Address (this is the minimum required for a multicast flow.)

     Note: If setting the Source IP Address, use the **Copy Management Source IP** button as the SFP management IP address is the only IP address on which the SFP will respond to an ARP request.

5. Select **Apply** to save your Primary Flow configuration changes.

6. Select the **Flow** checkbox to enable the Secondary Video flow.

2110 Encap Video Flow Parameters

Manual setup for 2110 Encap video flows is not required as the video parameters are automatically detected.

2110 Encap: Setup Other Flows and PTP
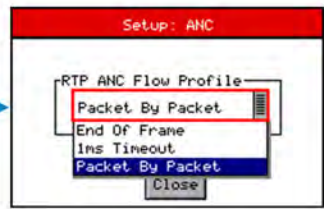
Dialog and Menu Overview

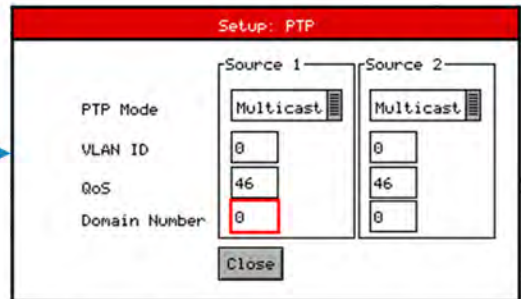2110 Encap: Audio Flows

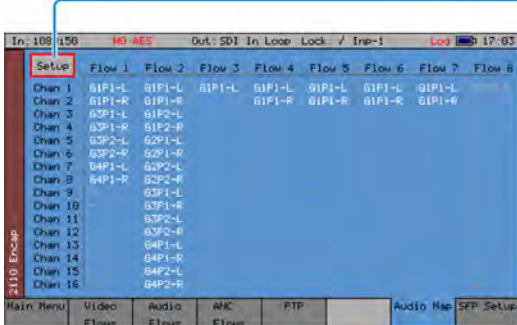Setup: Audio Encap Dialog

2110 Encap: ANC Flows
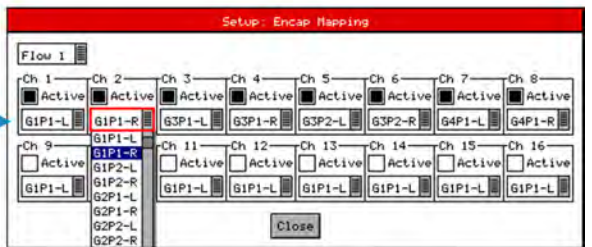
Setup ANC Encap Dialog

2110 Encap: PTP

Setup: PTP Dialog for 2110 Encap

2110 Encap: Audio Map

Setup: Audio Mapping Dialog for 2110 Encap

Figure 5-3: 2110 Encap Dialogs and Menus for Other Flows

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Quick Start Guide

Working with the 2110 Encap Other Flows

Setting-up the 2110 Encap Audio Flows

From the Main Menu:

1. Select the **2110 Encap** function key.

2. Select the **Audio Flows** function key.

3. Select the Primary Flow **Setup** dialog and set the Destination multicast IP Address (this is the minimum the SFP needs to match by default.)

4. When using 2022-7 operation, select the Secondary Flow **Setup** dialog and set the Destination multicast IP Address.

5. Highlight the Audio dialog **Flow *n*** accordion control, press **OK** then select the target flow to configure from the dropdown.

6. Highlight the Audio dialog **Setup** button in the top-right of the screen, then press **OK**.

7. In the **Setup: Audio Encap** dialog, set the following:

   - Audio Packet Time, depending on the required latency and number of audio channels.

   - Type of audio flow, either SMPTE ST 2110-30 PCM or ST 2110-31 AES audio.

8. Select **Close** to save your audio configuration changes.

Setting-up the 2110 Encap Ancillary (ANC) Flows

From the Main Menu:

1. Select the **2110 Encap** function key.

2. Select the **ANC Flows** function key.

3. Select the Primary Flow **Setup** dialog and set the Destination multicast IP Address (this is the minimum the SFP needs to match by default.)

4. When using 2022-7 operation, select the Secondary Flow **Setup** dialog and set the Destination multicast IP Address.

5. Highlight the ANC dialog **Setup** button in the top-right of the screen, then press **OK**.

6. In the **Setup: ANC** dialog, set the following:

   - RTP ANC Flow Profile: Packet By Packet, End Of Frame, 1 ms Timeout.

7. Select **Close** to save your audio configuration changes.

Setting-up Precision Time Protocol (PTP) for 2110 Encap Flows

From the Main Menu:

1. Select the **2110 Encap** function key.

2. Select the **PTP** function key.

3. Highlight the PTP **Setup** button, then press **OK**.

4. In the **Setup: PTP** dialog, set the following for the two announce detectors:

   - PTP Communication Mode: Multicast (Default), Mixed, or Unicast.

   - PTP VLAN ID: Default 0 if VLAN Not used.

   - Quality of Service (QoS) value for outgoing Delay Request messages.

   - PTP Domain number in the range specified by ST 2059, 0 to 127.

5. Select **Close** to save your configuration changes.

Setting-up the 2110 Encap Audio Map

From the Main Menu:

1. Select the **2110 Encap** function key.

2. Select the **Audio Map** function key.

3. Highlight the **Setup** button, then press **OK**.

4. In the **Setup: Encap Mapping** dialog, do the following:

   - Select the **Active** checkbox(es) to activate the required SDI audio channel (**0 to 15**).

   - Assign the stereo 2.0 pair to the active channel, starting from SDI Group 1 Pair 1 left and right (G1P1-L and G1P1-R).

5. Select **Close** to save your audio mapping configuration and close the dialog.

Using ST 2022-6 Decap Mode 6
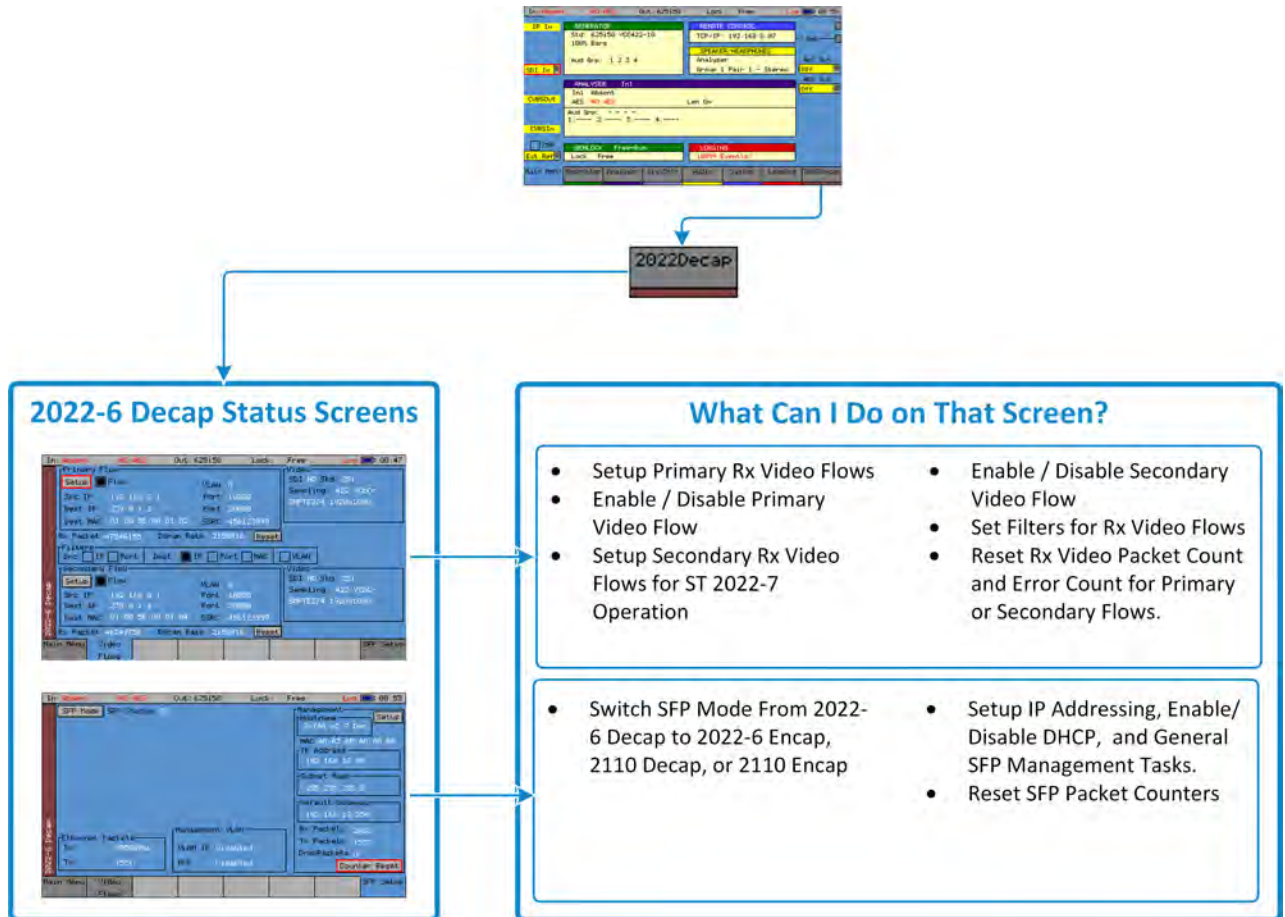
Overview of the 2022-6 Decap Status Screens

Figure 6-1: 2022-6 Decap Status Screens

2022-6 Decap Video Flows
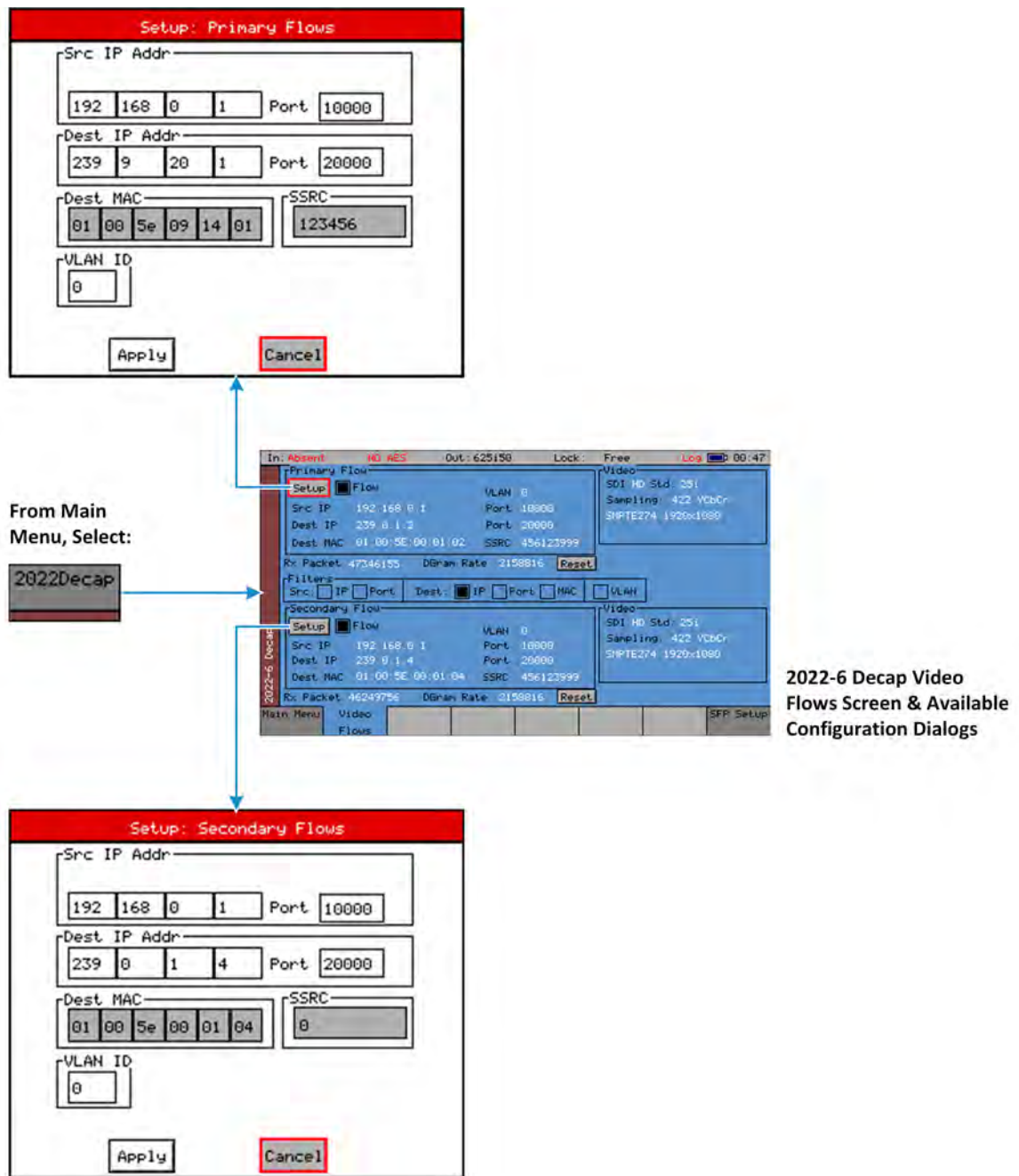
Setup Dialog and Menu Overview

Figure 6-2: 2022-6 Decap Setup Dialogs and Menus

Working in the 2022-6 Decap Video Flows Dialog

Setting-up the 2022-6 Decap Primary Flows

From the Main Menu:

1. Select the **2022-6 Decap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the **Primary Flow Setup** button, then press **OK**.

4. In the **Setup: Primary Flows** dialog, set the following:

    - Destination multicast IP Address (this is the minimum the SFP needs to match by default.)

5. Select **Apply** to save your Primary Flow configuration changes.

6. Select the **Flow** checkbox to enable the Primary Video flow.

Setting-up the 2022-6 Decap Secondary Flows

Use the secondary flow for 2022-7 operation, if required.

From the Main Menu:

1. Select the **2022-6 Decap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the **Secondary Flow Setup** button, then press **OK**.

4. In the **Setup: Secondary Flows** dialog, set the following:

    - Destination multicast IP Address (this is the minimum the SFP needs to match by default.)

5. Select **Apply** to save your Primary Flow configuration changes.

6. Select the **Flow** checkbox to enable the Secondary Video flow.

Using ST 2022-6 Encap Mode

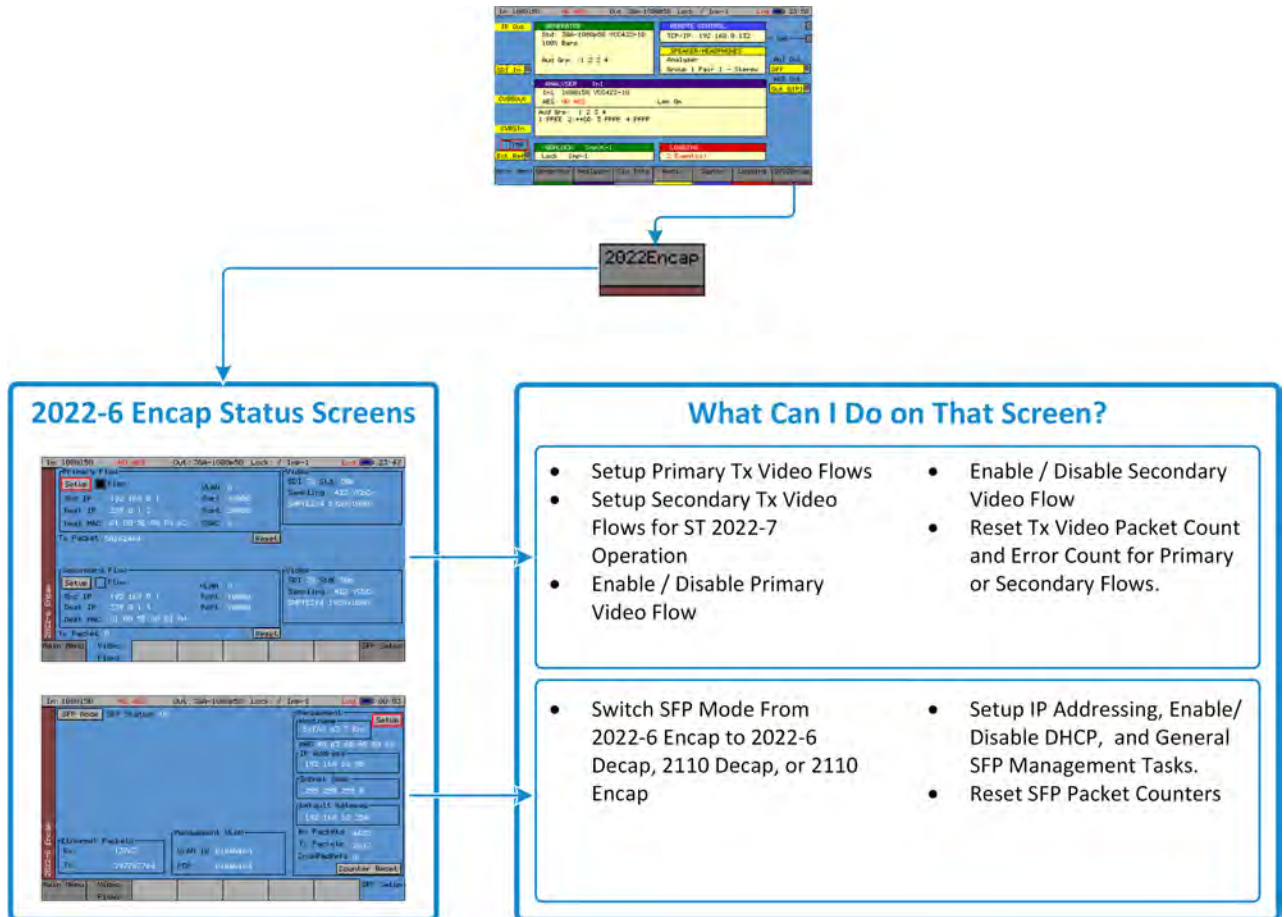# 7

Overview of the 2022-6 Encap Status Screens

Figure 7-1: 2022-6 Encap Status Screens

2022-6 Encap Video Flows

Dialog and Menu Overview

From Main Menu, Select:

2022Encap

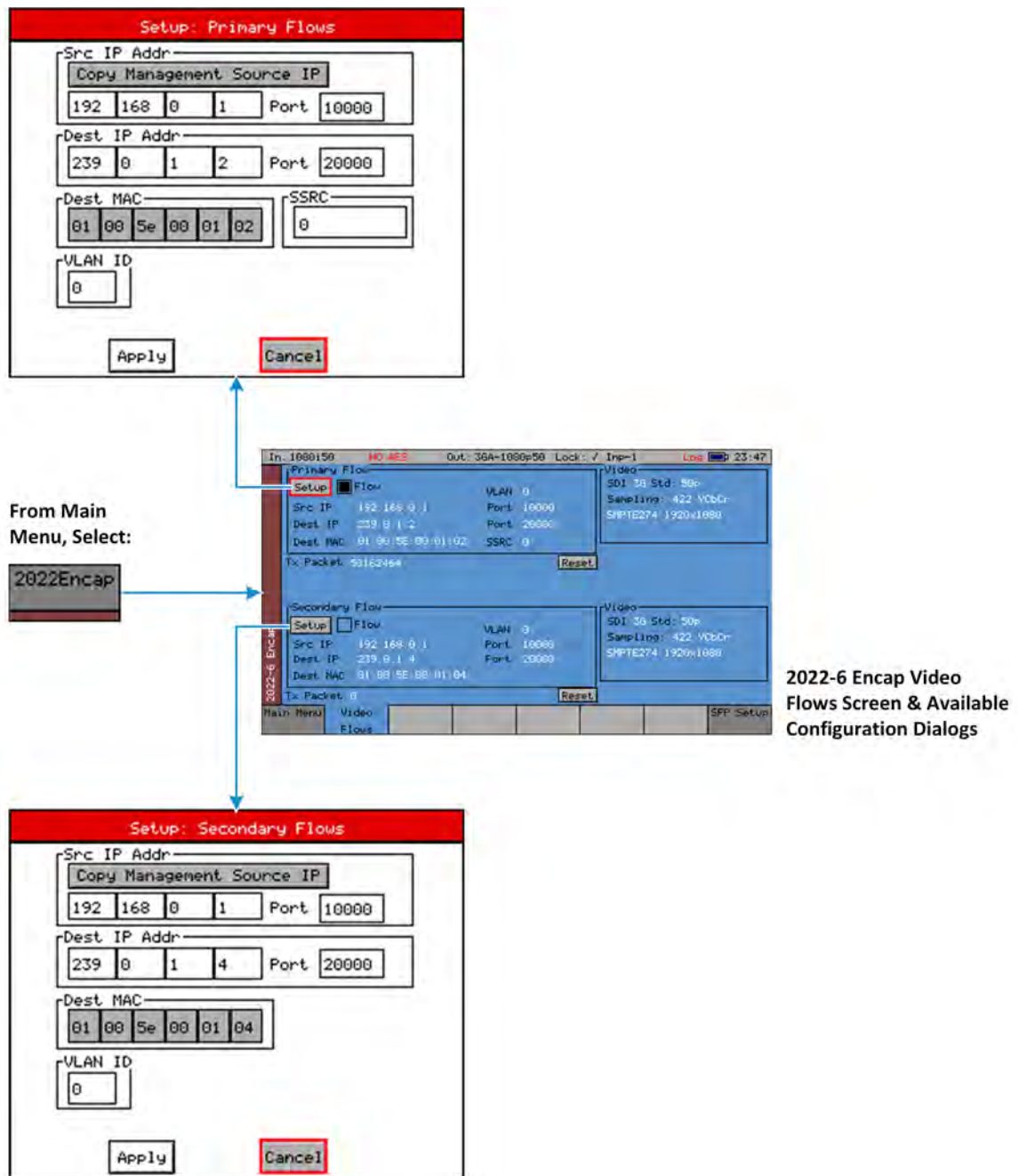**2022-6 Encap Video Flows Screen & Available Configuration Dialogs**

Figure 7-2: 2022-6 Encap Dialogs and Menus

Working in the 2022-6 Encap Video Flows Dialog

Setting-up the 2022-6 Encap Primary Flows

From the Main Menu:

1. Select the **2022-6 Encap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the Primary Flow **Setup** button, then press **OK**.

4. In the **Setup: Primary Flows** dialog, set the following:

   - Destination multicast IP Address (this is the minimum required for a multicast flow.)

   Note: If setting the Source IP Address, use the **Copy Management Source IP** button as the SFP management IP address is the only IP address on which the SFP will respond to an ARP request.

5. Select **Apply** to save your Primary Flow configuration changes.

6. Select the **Flow** checkbox to enable the Primary Video flow.

Setting-up the 2022-6 Encap Secondary Flows

When using 2022-7 operation, set-up the secondary flow as described below.

From the Main Menu:

1. Select the **2022-6 Encap** function key.

2. Make sure that the **Video Flows** function key is selected

3. Highlight the Secondary Flow **Setup** button, then press **OK**.

4. In the **Setup: Secondary Flows** dialog, set the following:

   - Destination multicast IP Address (this is the minimum required for a multicast flow.)

   Note: If setting the Source IP Address, use the **Copy Management Source IP** button as the SFP management IP address is the only IP address on which the SFP will respond to an ARP request.

5. Select **Apply** to save your Primary Flow configuration changes.

6. Select the **Flow** checkbox to enable the Secondary Video flow.

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