9625SW Series
Mini Master Control Switchers

Instruction Manual

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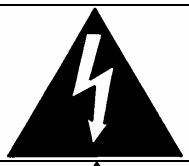
Version 1.1, August 2009

IMPORTANT SAFETY INSTRUCTIONS

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

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

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

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

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

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

INFORMATION TO USERS IN EUROPE

NOTE

CISPR 22 CLASS A DIGITAL DEVICE OR PERIPHERAL

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

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

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

WARNING

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

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

REVISION HISTORY

REVISION	DESCRIPTION	DATE
0.1	Preliminary Version HD9625SW only	Mar 03
0.2	Added 9625SW	Oct 03
0.3	Typographical errors fixed, Configuration drawings and serial port pinouts corrected	Dec 03
0.4	Added information about connecting temperature probe	Jan 04
1.0	Released Version	Oct 07
1.1	Added note below table 2-6	Aug 09

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TABLE OF CONTENTS

Figures

Tables

CHAPTER 1
TABLE OF CONTENTS

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1. OVERVIEW

1.1. OVERVIEW

The Evertz 9625SW Series Mini Master Control Switchers are an excellent addition to your high definition or standard definition control room. These dual unit solutions incorporate the best switching technology with the proven transition and channel branding techniques that has brought Evertz to the forefront of High Definition Television. Add to these, Emergency Alert Services and SoftSwitch™ audio processing, and you have the most advanced media switcher available today.

The 9625SW Series Switchers are available in versions that support both standard definition and high definition video. Throughout this manual the term *9625SW* will be used to reference the common features of the switchers. When necessary, the specific model numbers will be used to distinguish features only available on one model.

Model	Standard Definition SDI Inputs	High Definition SDI Inputs	AES Audio Inputs	Bypass Relays
PKG9625SW	12	---	12 x 4	Standard
PKGHD9625SW	---	12	12 x 4	Optional

The 9625SW series units include all the functionality found in our X Series Routers seamlessly integrated with our advanced Logo Inserter and Downstream keyer hardware. These complete systems allow you to fully control up to 12 input video signals and up to 48 AES audio inputs. You can perform voice-overs, wipes, fades, fade to black and a host of other features, all from the convenience of the single remote control panel.

Features

HD9625SW:

- 12 Input High Definition Video Switcher with quad 12 input AES switcher for discrete 5.1 Dolby
- Optional video and audio input bypass relay for power failure bypass protection

9625SW:

- 12 Input Standard Definition Video Switcher with quad 12 input AES switcher for discrete 5.1 Dolby
- Standard video and audio input bypass relay for power failure bypass protection

Features of both the HD9625SW and 9625SW Models:

- Program/Preview Transition Mixer for HD or SD video and up to 4 audio pairs
- Downstream keyer with mix and additive modes
- Variety of smooth Transitions including Cut, Fade, Fade to-from Black and 8 angles of Wipes
- Multiple logo inserter with Animation
- LTC input for Breakfast Clocks
- Built-in Black Generator
- 12 Bit Video Processing
- Control of key gain & offset are provided

- System comprised of two 1RU rack frames, a 1RU remote control panel for router/keyer/logo functions and two 1RU AES audio breakout panels
- Multiple control interface options including GPI, RS422 automation control, rackmount control panel, third party control panels
- Built-in +/- 1/2 line autotimers for video
- "Pop" free AES audio switch with Evertz patented SoftSwitch™ Technology
- Audio bypass mode for Dolby E

EAS Option:

- Emergency alert crawls
- Interfaces to TFT and Sage EAS decoders.

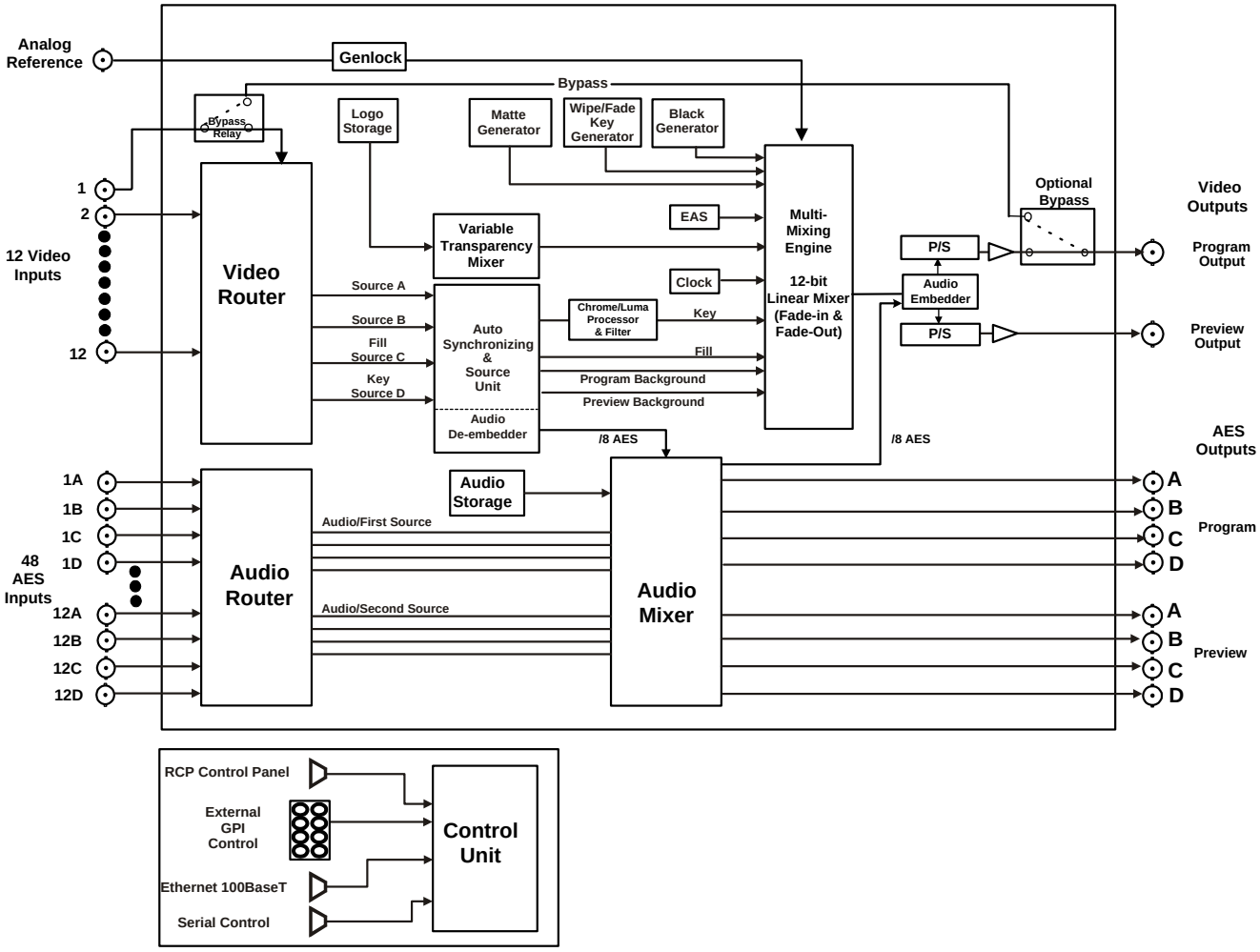


Figure 1-1: 9625SW Mini Master Control Switcher Block Diagram

1.2. HOW TO USE THIS MANUAL

This manual is organized into 5 chapters: Overview, Installation, Operation, Optional EAS Features, and Technical Description. Chapter 1 contains a brief overview of the 9625SW operation and features as well as a glossary to define concepts and terms used throughout the remainder of the manual. We highly recommend taking the time to become familiar with the terms and concepts described here before proceeding into the remainder of the manual.

Chapter 2 gives a detailed description of the rear panel connectors, and how the 9625SW should be connected into your system.

Chapter 3 shows how to operate the 9625SW using the Front panel controls and Menu system.

Chapter 4 shows how to control the 9625SW using third party control panels.

Chapter 5 gives technical information such as the specifications and how to update the firmware in the 9625SW.

Items of special note are indicated with a double box like this.

1.3. DEFINITIONS

4:2:2 The sampling ratio used in the HDTV digital video signal. For every 4 samples of luminance there are 2 samples each of R-Y (Red minus Luminance) and B-Y (Blue minus luminance).

16x9 A wide screen television format such as HDTV in which the aspect ratio of the screen is 16 units wide by 9 high as opposed to the 4x3 of normal TV.

AES/EBU: (Sometimes abbreviated as AES) Refers to the digital audio standard (AES3-1992) set by the Audio Engineering Society and European Broadcast Union and used by most forms of digital audio from CDs to professional digital video.

Aspect Ratio: The ratio of width to height in a picture. Theatre screens generally have an aspect ratio of 1.85 to 1, widescreen TV (16x9) is 1.77 to 1, and normal TV (4x3) is 1.33 to 1.

CCIR (International Radio Consultative Committee) An international standards committee. (This organisation is now known as ITU.)

CCIR-601: See ITU-R601.

Cliff effect: (also referred to as the 'digital cliff') This is a phenomenon found in digital video systems that describes the sudden deterioration of picture quality when due to excessive bit errors, often caused by excessive cable lengths. The digital signal will be perfect even though one of its signal parameters is approaching or passing the specified limits. At a given moment however, the parameter will reach a point where the data can no longer be interpreted correctly, and the picture will be totally unrecognisable.

Component analog: The non-encoded output of a camera, video tape recorder, etc., consisting of the three primary colour signals: red, green, and blue (RGB) that together convey all necessary picture information. In some component video formats these three components have been translated into a luminance signal and two colour difference signals, for example Y, B-Y, R-Y.

Component digital: A digital representation of a component analog signal set, most often Y, B-Y, R-Y. The encoding parameters are specified by ITU-R709 for HDTV signals. SMPTE 274M and SMPTE 296M specify the parallel interface.

Composite analog: An encoded video signal such as NTSC or PAL video that includes horizontal and vertical synchronizing information.

Composite digital: A digitally encoded video signal, such as NTSC or PAL video that includes horizontal and vertical synchronizing information.

D1: A component digital video recording format that uses data conforming to the ITU-R601 standard. Records on 19 mm magnetic tape. (Often used incorrectly to refer to component digital video.)

D2: A composite digital video recording format that uses data conforming to SMPTE 244M. Records on 19 mm magnetic tape. (Often used incorrectly to refer to composite digital video.)

D3: A composite digital video recording format that uses data conforming to SMPTE 244M. Records on 1/2" magnetic tape.

D5: A component digital video recording format that uses data conforming to the ITU-R601 standard. Records on 1/2" magnetic tape.

HD-D5: A component digital video recording format that uses data conforming to the ITU-R709 standard. Records on 1/2" magnetic tape.

Drop frame: In NTSC systems, where the frame rate is 29.97002618 frames per second, the drop frame mode permits time of day indexing of the frame numbers by dropping certain frame numbers. Specifically, frames 0, and 1 at the beginning of each minute except minutes 0,10,20,30,40, & 50, are omitted, to compensate for an approximate timing error of 108 frames (3 seconds 18 frames) per hour. A flag bit is set in the time code to signal when the drop frame mode is in effect.

EBU (European Broadcasting Union): An organisation of European broadcasters that among other activities provides technical recommendations for the 625/50 line television systems.

Embedded audio: Digital audio is multiplexed onto a serial digital video data stream.

ITU: The United Nations regulatory body governing all forms of communications. ITU-R (previously CCIR) regulates the radio frequency spectrum, while ITU-T (previously CCITT) deals with the telecommunications standards.

ITU-R601: An international standard for standard definition component digital television from which was derived SMPTE 125M and EBU 3246-E standards. ITU-R601 defines the sampling systems, matrix values and filter characteristics for both Y, B-Y, R-Y and RGB component digital television signals.

ITU-R709: An international standard for High definition component digital television from which was derived SMPTE 274M and SMPTE 296M standards. ITU-R709 defines the sampling systems, matrix values and filter characteristics for both Y, B-Y, R-Y and RGB component digital television signals.

Letterbox: Placing a wide screen image on a conventional TV by placing black bands at the top and bottom of the screen.

Linear time code: (Also known as Longitudinal Time Code) A digital code used for timing and control purposes on videotape and associated audio tape machines. It is recorded on a linear track with audio characteristics and is referred to as LTC. Each 80 bit code word is associated with one television frame, and consists of 26 time bits, 6 flag bits, 32 user bits and 16 sync bits. This time code may run at 24, 25 or 30 frames per second depending on the video format. See also SMPTE 12M

LTC: See Linear Time Code

NTSC: National Television Standards Committee established the television and video standard in use in the United States, Canada, Japan and several other countries. NTSC video consists of 525 horizontal lines at a field rate of approximately 60 fields per second. (Two fields equals one complete Frame). Only 487 of these lines are used for picture. The rest are used for sync or extra information such as VITC and Closed Captioning.

PAL: Phase Alternating Line. The television and video standard in use in most of Europe. Consists of 625 horizontal lines at a field rate of 50 fields per second. (Two fields equals one complete Frame). Only 576 of these lines are used for picture. The rest are used for sync or extra information such as VITC and Teletext.

Pixel: The smallest distinguishable and resolvable area in a video image. A single point on the screen. In digital video, a single sample of the picture. Derived from the words *picture element*.

Serial digital: Digital information that is transmitted in serial form. Often used informally to refer to serial digital television signals.

SMPTE (Society of Motion Picture and Television Engineers): A professional organisation that recommends standards for the film and television industries.

SMPTE 12M: The SMPTE standard for Time and address code. SMPTE 12M defines the parameters required for both linear and vertical interval time codes.

SMPTE 272M: The SMPTE standard for embedding audio in serial digital standard definition (SMPTE 259M) video signals.

SMPTE 274M: The SMPTE standard for bit parallel digital interface for high definition component video signals with an active picture of 1080 lines x 1920 pixels.

SMPTE 292M: The SMPTE standard for high definition serial digital component interfaces.

SMPTE 296M: The SMPTE standard for bit parallel digital interface for high definition component video signals with an active picture of 720 lines x 1280 pixels.

SMPTE 299M: The SMPTE standard for embedding audio in serial digital high definition (SMPTE 292M) video signals.

SMPTE RP188: The SMPTE recommended practice for embedding SMPTE 12M timecode into ancillary data packets in serial digital video signals.

TRS: Timing reference signals used in composite digital systems. (It is four words long).

TRS-ID: Abbreviation for "Timing Reference Signal Identification". A reference signal used to maintain timing in composite digital systems. (It is four words long.)

CHAPTER 2
TABLE OF CONTENTS

Figures

Tables

2. INSTALLATION

The 9625SW Switcher hardware consists of a 1204 X Series Router, seamlessly integrated with a 9625SW Logo Inserter and Downstream keyer unit. Section 2.1 provides an overview of the connections to the Router unit and section 2.2 provides an overview of the connections to the keyer unit. Sections 2.5 to 2.12 describe how to interconnect the two units and connect them into your system.

2.1. ROUTER UNIT REAR PANEL OVERVIEW

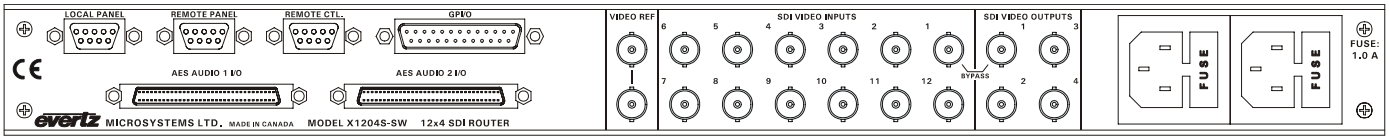


Figure 2-1: X1204S-SW Rear Panel

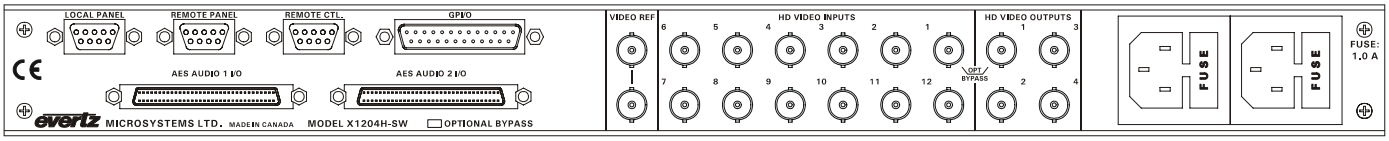


Figure 2-2: X1204H-SW Rear Panel

Figure 2-1 and Figure 2-2 show the rear panels of the standard definition and high definition X1204 router units respectively. Sections 2.1.1 to 2.1.6 describe the specific video, audio, and control signals that should be connected to the X1204 router units.

2.1.1. Standard Definition Digital Video Connections (X1204S-SW)

SDI VIDEO INPUTS 1 to 12 These BNC connectors are for connecting 10-bit serial digital video signals, compatible with the SMPTE 259M standard to the respective video input bus.

SDI VIDEO OUTPUTS 1 to 4 There is one video output connector for each of the four video router buses on the X1204S-SW routers. Each output should be connected to the corresponding video input on the Keyer unit.

OUTPUT 1 is protected by a bypass relay to the adjacent **INPUT 1** BNC. When the bypass relay is activated on power loss to the router the **OUTPUT 1** BNC will be a direct relay connection to the **INPUT 1** BNC.

2.1.2. High Definition Digital Video Connections (X1204H-SW)

HD VIDEO INPUTS 1 to 12 These BNC connectors are for connecting 10-bit serial digital video signals, compatible with the SMPTE 292M standard to the respective video input bus.

HD VIDEO OUTPUTS 1 to 4 There is one video output connector for each of the four video router buses. Each output should be connected to the corresponding video input on the Keyer unit.

When the bypass relay option is fitted (HBP option), **OUTPUT 1** is protected by a bypass relay to the adjacent **INPUT 1** BNC. When the bypass relay is activated on power loss to the router the **OUTPUT 1** BNC will be a direct relay connection to the **INPUT 1** BNC.

2.1.3. AES Audio Connections

There are two 68 pin connectors used to connect the X1202ABO AES Audio Breakout panels to the Router. These panels are connected using the cables provided. Each Audio Breakout Panel has two identical sections consisting of 12 AES inputs and 2 outputs.

When connecting the Audio Breakout Panel cables, insert the cable carefully into the connector on the router and the breakout panel, being careful not to bend the pins. Press it firmly in place and hand tighten the hold down screws firmly to provide proper strain relief.

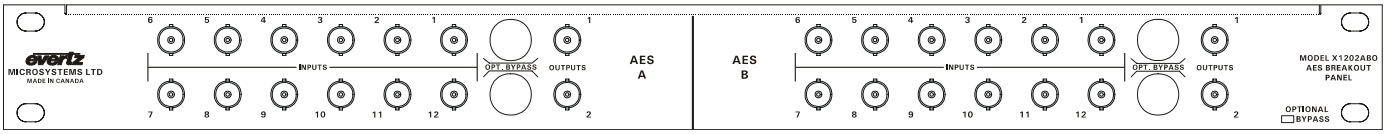


Figure 2-3: X1202ABO Audio Breakout Panel Layout

INPUTS 1 to 12 These BNC connectors are for connecting unbalanced AES audio signals compatible with the SMPTE 276M standard to the respective audio input bus.

OUTPUTS 1 and 2 These BNC connectors are for connecting unbalanced AES audio signals compatible with the SMPTE 276M standard from the respective audio input bus.

When the bypass relay option is fitted (standard on X1204S-SW routers, HBP option on X1204H-SW routers), **OUTPUT 1** is protected by a bypass relay to the adjacent **INPUT 1** BNC. When the bypass relay is activated on power loss to the router the **OUTPUT 1** BNC will be a direct relay connection to the **INPUT 1** BNC.

The inputs and outputs from the AES 1 (A) and AES 2 (B) buses are located on the breakout panel connected to the **AES AUDIO 1 I/O** connector. The audio associated with video bus 1 will be available on output 1 of AES A and AES B sections of the breakout panel. These outputs should be connected to the **MAIN ABO1** inputs **1A** and **1B** on the Keyer unit. The audio associated with video bus 2 will be available on output 2 of AES A and AES B sections of the breakout panel. These outputs should be connected to the **ALT ABO1** inputs **2A** and **2B** on the Keyer unit.

The inputs and outputs from the AES 3 (A) and AES 4 (B) buses are located on the breakout panel connected to the **AES AUDIO 2 I/O** connector. The audio associated with video bus 1 will be available on output 1 of AES A and AES B sections of the breakout panel. These outputs should be connected to the **MAIN ABO2** inputs **1A** and **1B** on the Keyer unit. The audio associated with video bus 2 will be available on output 2 of AES A and AES B sections of the breakout panel. These outputs should be connected to the **ALT ABO2** inputs **2A** and **2B** on the Keyer unit.

2.1.4. Reference Video Connections

VIDEO REF is a high impedance loop through for connecting an analog video or tri-level sync (X1204H-SW series only) reference. Connect the reference input sync to one side of the loop through and connect the other side to the **REF IN** connector on the Keyer unit. The *REFERENCE* menu is used to select the correct type of video reference being used.

2.1.5. Remote Control Connections

REMOTE CTL This 9 pin female D connector provides an RS-232 serial interface used for serial connection to the Keyer unit. This port is normally connected to the **SERIAL CONTROL C** port on the Keyer unit using the cable provided (Part # 9600SW-1-0). This port is also used for updating the firmware in the router unit. This port is wired at the factory as an RS232 DCE port as shown in Table 2-1.

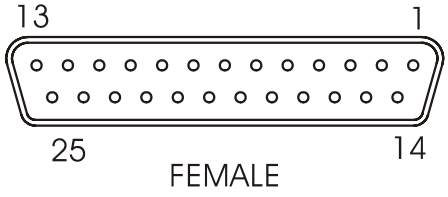
Pin #	Name	Description
1	GND	Chassis ground
2	TxD	RS-232 Transmit Output
3	RxD	RS-232 Receive Input
4		
5	Sig Gnd	RS-232 Signal Ground
6		
7	RTS	RS-232 RTS Input
8	CTS	RS-232 CTS Output
9		

Table 2-1: Router RS-232 Port Pin Definitions

REMOTE PANEL This 9 pin female D connector provides an RS-422 serial interface that is not used in the 9625SW configuration.

LOCAL PANEL This connector is currently not used.

GPI / O This female DB-25 pin connector provides 14 General Purpose Opto-isolated inputs (GPIs) and 4 General Purpose isolated relay outputs (GPOs) from the router unit. Table 2-2 shows the pin definitions of the GPIO connector. Currently this connector is not used.



Pin #	Name	Description
1	GPI 01	General Purpose Input 01
2	GPI 02	General Purpose Input 02
3	GPI 03	General Purpose Input 03
4	GPI 04	General Purpose Input 04
5	GPI 05	General Purpose Input 05
6	GPI 06	General Purpose Input 06
7	GPI 07	General Purpose Input 07
8	GPI 08	General Purpose Input 08
9	GPI 09	General Purpose Input 09
10	GPI 10	General Purpose Input 10
11	GPI 11	General Purpose Input 11
12	GPI 12	General Purpose Input 12
13	GPI 13	General Purpose Input 13
14	GPI 14	General Purpose Input 14
15	Vext	External voltage input to power opto isolators
16	Vint	Protected +5 volts output from router
17	GPO 01 C	General Purpose Output 01 Common contact
18	GPO 01 NC	General Purpose Output 01 Normally closed contact
19	GPO 02 C	General Purpose Output 02 Common contact
20	GPO 02 NC	General Purpose Output 02 Normally closed contact
21	GPO 03 C	General Purpose Output 03 Common contact
22	GPO 03 NC	General Purpose Output 03 Normally closed contact
23	GPO 04 C	General Purpose Output 04 Common contact
24	GPO 04 NC	General Purpose Output 04 Normally closed contact
25	GND	Router Chassis ground

Table 2-2: GPI/O Pin Definitions

2.1.6. Power Connections

The router has one or two (redundant supply is optional) universal power supplies that operate on 100 to 240 Volts 50/60 Hz AC.

2.2. KEYER UNIT REAR PANEL OVERVIEW

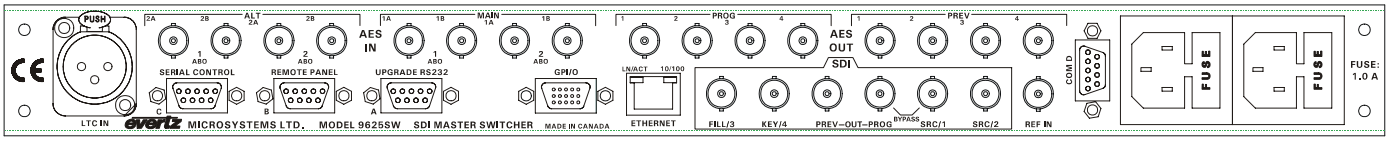


Figure 2-4: 9625SW Rear Panel

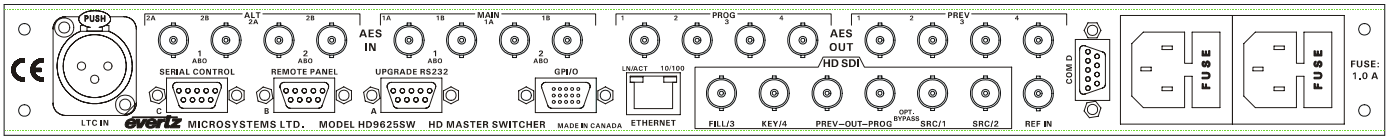


Figure 2-5: HD9625SW Rear Panel

Figure 2-4 and Figure 2-5 show the rear panels of the standard definition and high definition Keyer units respectively. Sections 2.2.1 to 2.2.9 identify the specific video, audio, and control signals that should be connected to the Keyer Units.

2.2.1. Standard Definition Video Connections (9625SW)

SDI SRC/1 and SRC/2, These BNC connectors are the program SDI inputs to the Keyer unit. Connect them to Video outputs 1 and 2 of the router unit using the 2 foot BNC cables marked Video 1 and 2 provided for this purpose.

SDI FILL/3 and KEY/4, These BNC connectors are the key and fill SDI inputs to the Keyer unit. Connect them to Video outputs 3 and 4 of the router unit using the 2 foot BNC cables marked Video 3 and 4 provided for this purpose.

SDI PREVIEW OUT, This output BNC connector is the serial component SMPTE 259M preview video output from the keyer unit. This preview output connector is normally connected to a SDI preview monitor.

SDI PROGRAM OUT, This output BNC connector is the serial component SMPTE 259M program video output from the keyer unit. Connect this output to the next video device in your output path. This output is protected by a bypass relay to the adjacent **SRC/1** input BNC. When the bypass relay is activated on power loss to the keyer the **SDI PROGRAM OUT** BNC will be a direct relay connection to the **SRC/1** BNC.

2.2.2. High Definition Video Connections (HD9625SW)

HD SDI SRC/1 and SRC/2, These BNC connectors are the program HD SDI inputs to the Keyer unit. Connect them to Video outputs 1 and 2 of the router unit using the 2 foot BNC cables marked Video 1 and 2 provided for this purpose.

HD SDI FILL/3 and KEY/4, These BNC connectors are the key and fill HD SDI inputs to the Keyer unit. Connect them to Video outputs 3 and 4 of the router unit using the 2 foot BNC cables marked Video 3 and 4 provided for this purpose.

HD SDI PREVIEW OUT, This output BNC connector is the serial component SMPTE 292M preview video output from the keyer unit. This preview output connector is normally connected to an HD SDI preview monitor.

HD SDI PROGRAM OUT, This output BNC connector is the serial component SMPTE 292M program video output from the keyer unit. Connect this output to the next video device in your output path. When the optional bypass relay is fitted (HBP option) this output is protected by a bypass relay to the adjacent **SRC/1** input BNC. When the bypass relay is activated on power loss to the keyer the **HD SDI PROGRAM OUT** BNC will be a direct relay connection to the **SRC/1** BNC.

2.2.3. Reference Video Connections

REF IN is a 75 ohm terminated input for connecting an analog video reference. Connect the **REF IN** connector on the Keyer unit to one side of the **VIDEO REF** loop through on the Router unit and connect the other side of the loop to the reference input sync. The *REFERENCE* menu is used to select the correct type of video reference being used.

2.2.4. AES AUDIO Connections

AES ALT IN These 4 input BNC connectors provide inputs for the 4 levels of non program AES audio. They are designed for alternate audio that can be inserted over the normal program audio. If the Ext Audio Mix button is pressed, then the audio provided on these inputs will be mixed with the program output audio at the specified levels. Switching the preview video source will cause the audio on these inputs to follow the preview bus video. Connect the ABO1 2A and 2B inputs to output 2 of the A and B router electronic sections of audio breakout panel 1. Connect the ABO2 2A and 2B inputs to output 2 of the A and B router electronics sections of audio breakout panel 2.

AES PROG IN These 4 input BNC connectors provide inputs for the 4 levels of main program AES audio. Connect the ABO1 1A and 1B inputs to output 1 of the A and B router electronics sections of audio breakout panel 1. Connect the ABO2 1A and 1B inputs to output 1 of the A and B router electronics sections of audio breakout panel 2.

AES PROG OUT These 4 input BNC connectors provide outputs for the 4 levels of main program AES audio. In Voice Over mode they will contain the contents from the specified voice over input mixed with the program audio at the specified levels. Custom audio routings can also be set from the HTML audio setup page.

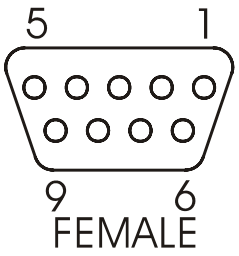
AES PREV OUT These 4 input BNC connectors provide outputs for the 4 levels of the preview AES audio. In Voice Over mode they will contain the contents from the specified voice over input mixed with the preview audio at the specified levels. Custom audio routings can also be set from the HTML audio setup page.

2.2.5. Linear Timecode

LTC IN This female XLR connector is an input for SMPTE/EBU linear time code for driving the internal clock for the insertion of “Breakfast” clock style logos.

2.2.6. Serial I/O Connections

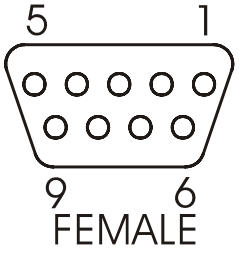
UPGRADE RS232 (A), This 9 pin female 'D' connector provides an RS-232 serial interface for connection to a computer and is used for firmware upgrades to the 9625SW. The pin definitions are shown in Table 2-3. See section 5.2 for more information on upgrading firmware.



Pin #	Name	Description
1	GND	Chassis ground
2	TxD	RS-232 Transmit Output
3	RxD	RS-232 Receive Input
4		
5	Sig Gnd	RS-232 Signal Ground
6		
7	RTS	RS-232 RTS Input
8	CTS	RS-232 CTS Output
9		

Table 2-3: Upgrade RS232 Port A Pin Definitions

REMOTE PANEL (B), This 9 pin female D connector provides an RS-422 serial interface for connection to the Evertz Remote Control Panel supplied with the switcher package. This port is wired as a SMPTE 207M Tributary as shown in Table 2-4. See section 2.5 for information on connecting the Evertz remote control panel.



Pin #	Name	Description
1	GND	Chassis ground
2	Tx-	RS-422 Tx-(A) Output
3	Rx+	RS-422 Rx+(B) Input
4	GND	
5		
6	GND	
7	Tx+	RS-422 Tx+(B) Output
8	Rx-	RS-422 Rx-(A) Input
9	GND	

Table 2-4: Remote Panel Port Pin Definitions

SERIAL CONTROL C This 9 pin female D connector provides an RS-232 serial interface between the router and keyer electronic units. This port has the same pinout as Port A (shown in Table 2-3). Connect one end of the special Null Modem cable provided (Part # 9600SW-1-0) to the **SERIAL CONTROL C** port on the keyer unit and the other end to the **REMOTE CTL** port on the router unit.

COM D This 9 pin female D connector provides a serial interface designed for connection to Automation Systems including the Evertz MetaCast 2 software. This port can be changed to run in either RS422 or RS232 mode by reconfiguring jumper J20 on the 7700FC card inside the unit. When it is set for the RS-232 mode of operation the port has the same pinout as Port A (shown in Table 2-3). When it is set for the RS-422 mode of operation the port has the pinout shown in Table 2-5.

The RS422 pinout for the COM D port is not a standard SMPTE RS422 pinout. You will have to make a custom cable in order to use this port in the RS422 configuration.

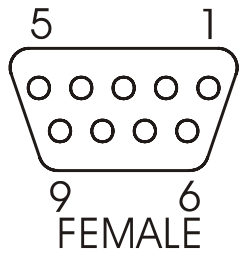
	Pin #	Name	Description
	**1**	GND	Chassis ground
	2	Tx-	RS-422 Tx-(A) Output
	3	Rx-	RS-422 Rx-(A) Input
	4		
	5	GND	
	6		
	7	Rx+	RS-422 Rx+(B) Input
	8	Tx+	RS-422 Tx+(B) Output
	9	GND	

Table 2-5: Serial Port D – RS422 Pin Definitions

As multiple devices can be connected to this port, the function of the port must be configured using the *Setup* menu. See section 3.6.6 for more information on configuring port D.

2.2.7. GPI/O Connections

GPI/O This 15 pin female high density 'D' connector contains several general purpose control inputs and outputs. The inputs are used to connect manual or automatic triggers for the display or insertion of media. The outputs provide feedback on internal unit status of the switcher. See section 2.11 for information on connecting the general purpose inputs and outputs. For information on the GPI and GPO functions see the *Preset* menu item in the *Setup* menu (See sections 3.11.3 and 3.11.4 respectively).

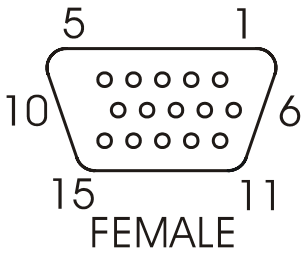
	Pin #	Name	Description
	**1**	GND	Chassis ground
	2	GPO2	General purpose output 2
	3	GPO1	General purpose output 1
	4	GPO3	General purpose output 3
	5	GPIC	General purpose input Load assigned preset
	6	GPO4	General purpose output 4
	7	GPIF	General purpose input Load assigned preset
	8	GPIA	General purpose input Load assigned preset
	9	GPID	General purpose input Load assigned preset
	10	GP+3.3V	+3.3V from general purpose interface board
	11	GPIH	General purpose input Load assigned preset
	12	GPIE	General purpose input Load assigned preset
	13	GPIG	General purpose input Load assigned preset
	14	GPIB	General purpose input Load assigned preset
	15	Vext	External voltage source for GPI's

Table 2-6: GPI/O Connector Pin Definitions

Pin 10 and Pin 15 can be jumped in order to provide a VEXT (IN) voltage of 3.3v for the GPI source voltage.

2.2.8. Ethernet Network Connections

ETHERNET This RJ-45 connector is an Ethernet Port used for high speed firmware upgrades as well as FTP logo transfers. See section 2.10 for information on connecting to an Ethernet network. See section 3.6.5 in the *General* menu descriptions for information on configuring the network addresses for the switcher.

2.2.9. Power Connections

The keyer has one or two (redundant supply is optional) universal power supplies that operate on 100 to 240 Volts 50/60 Hz AC.

2.3. MOUNTING

Each of the 9625SW units are equipped with rack mounting angles and fit into a standard 19 inches by 1.75 inches (483 mm x 45 mm) rack space. Normally the keyer electronics will be mounted adjacent to the router unit occupying 2 rack units by 17.75 inches (451mm) of depth. The audio breakout panels occupy one rack unit each and are normally mounted on the rear of the equipment rack. They can be conveniently mounted up to 3 feet away from the router electronics. The Remote control panel is equipped with rack mounting angles and fits into a standard 19 inches by 1.75 inches by 3.75 inches (483 mm x 45 mm x 150mm) rack space. The mounting angles may be removed if rack mounting is not desired. The length of the cable connecting the remote panel to the keyer electronics must not exceed 1000 feet.

2.4. POWER REQUIREMENTS

Power requirements are 100 to 240 volts AC at 50 or 60 Hz. The 9625SW units have universal power supplies that automatically sense the input voltage. Power should be applied by connecting a 3-wire grounding type power supply cord to the power entry module on the rear panel. The power cord should be minimum 18 AWG wire size; type SVT marked VW-1, maximum 2.5 m in length. If the units are fitted with the redundant power supply there will be an additional IEC-320 connector on the rear panel.

The power entry module combines a standard power inlet connector, two 5 x 20 mm fuse holders and an EMI line filter.

The Remote Control panel is supplied with a universal input (100 to 240 volts AC at 50 or 60 Hz) 12 VDC power adapter. Power should be applied by connecting a 3-wire grounding type power supply cord to the power adapter. Plug the 12 VDC output of the power adapter into the DC power jack on the rear of the Remote panel, and secure it by turning the fastening nut.

2.4.1. Changing the Fuse

The fuse holder is located inside the power entry module. To change the fuses, disconnect the line cord from the power entry module and pull out the fuse holder from the power entry module using a small screwdriver. The fuse holder contains two fuses, one for the line and one for the neutral side of the mains connection. Pull out the blown fuse and place a fuse of the correct value in its place. Use slo blo (time delay) 5 x 20 mm fuses rated for 250 Volts with a current rating of 1 amp. Carefully reinsert the fuse holder into the power entry module.

Never replace with a fuse of greater value.

2.5. TYPICAL CONNECTIONS

Figure 2-6 shows how to interconnect the router unit with its audio breakout panels, the keyer unit and the remote control panel.

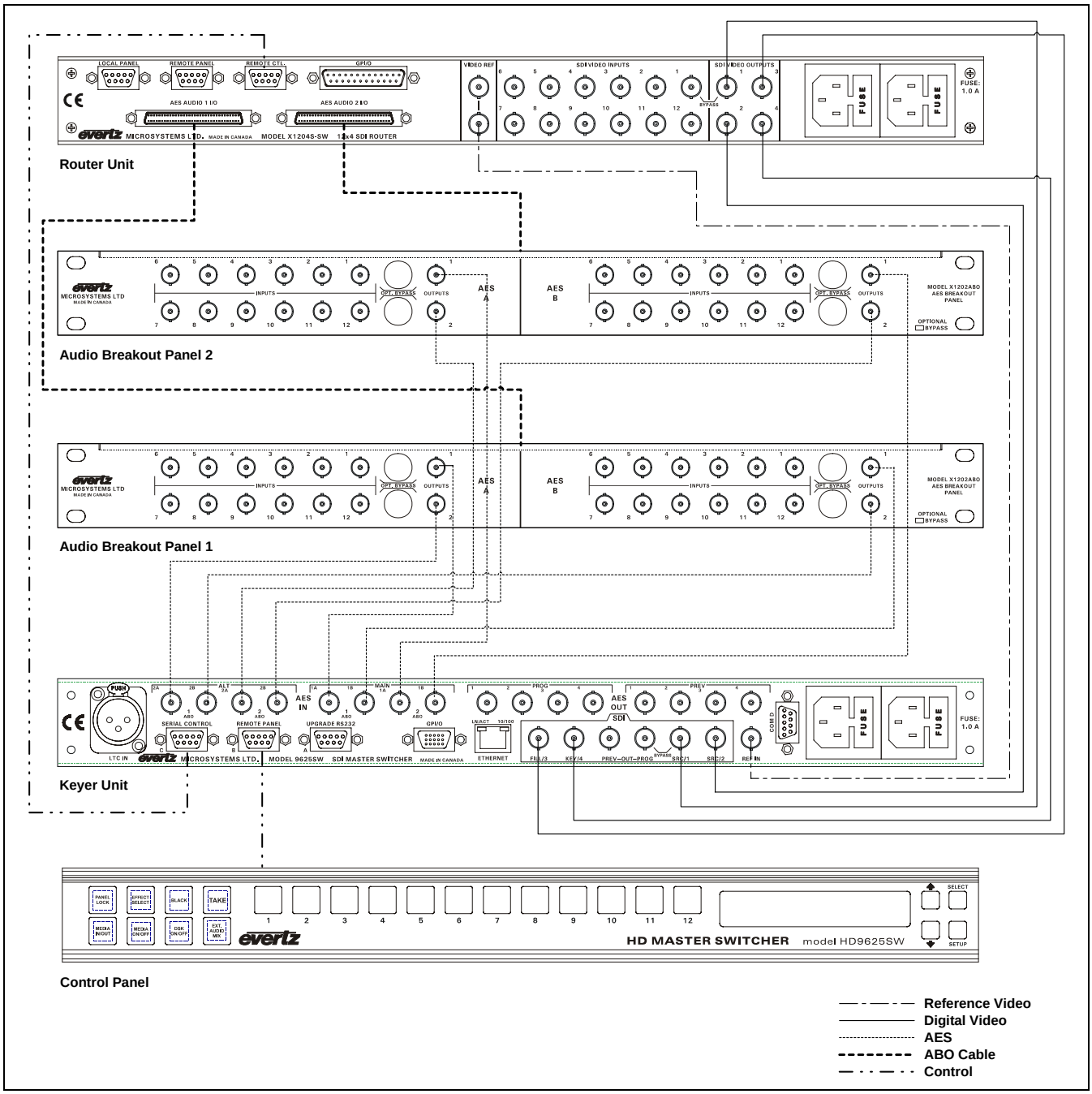


Figure 2-6: Typical System Interconnect

2.6. CONNECTING THE REMOTE CONTROL PANEL

The 9625SW Series switchers are sold with a rack mountable remote control panel. The remote control panel is connected to the **REMOTE PANEL** connector on the Keyer unit using the straight through cable provided. For longer distances, simply make your own cable of the required length according to the diagram in Table 2-7. Communications to the remote panel is through a standard straight-through RS-422 connection, so the panel can be located up to 1000 feet from the main electronics unit.

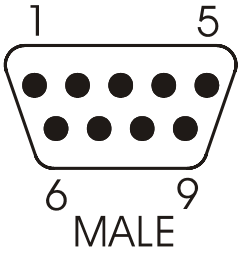
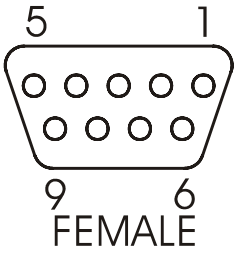
9625SW End				Remote Panel End		
	9 pin D Male	Pin	Belden 9729	9 pin D Female	Pin	
		1			1	
	Tx-	2	-------1a------	Rx-	2	
	Rx+	3	-------2b------	Tx+	3	
	Rx Gnd	4	---drain 2----	Rx Gnd	4	
		5				
	Tx Gnd	6	---drain 1----	Tx Gnd	6	
	Tx+	7	-------1b-----	Rx+	7	
	Rx-	8	-------2a------	Tx-	8	
		9			9	
	Frame Gnd	Shield	---drain 1----	Frame Gnd	Shield	

Table 2-7: Remote Control Panel Extender Cable

2.7. CONNECTING THE VIDEO

2.7.1. Standard Definition Video Inputs (PKG9625SW only)

The standard definition program video sources should be connected to the **SDI VIDEO INPUT 1 to 12** BNCs on the X-1204S-SW router unit. The 9625SW supports standard definition digital video in the formats shown in Table 2-8. The video standard must be set manually to match the incoming video type using the *Video Standard* menu item on the *General* menu (see section 3.6.1).

Common Name	Pixels / Active Lines	Frame Rate	Progressive /Interlace	Standard	Valid Genlock Types
525i/59.94	720 x 486	29.97 (30/1.001)	I	SMPTE 125M	NTSC
625i/50	720 x 576	25	I	EBU TECH 3267-E	PAL

Table 2-8: Standard Definition Video Input Formats

Connect the four video outputs of the X-1204S-SW router unit to the video inputs with the same numbers on the 9625SW keyer unit.

2.7.2. Standard Definition Video Outputs (PKG9625SW only)

The **PROG** output contains the video output from the program bus and should be connected to the main broadcast chain of your plant. The **PROG** output is protected by a bypass relay. When the relay is active, the **PROG** output is directly connected to the **SRC/1** input.

The **PREV** output contains the video output from the preview bus and will normally be connected to a SDI monitor to allow you to view the preview output before it goes on air. When the bypass relay is active, the **PREV** output will not have any video on it.

2.7.3. High Definition Video Inputs (PKGHD9625SW only)

The high definition program video sources should be connected to the **HD VIDEO INPUT 1 to 12** BNCs on the X-1204H-SW router unit. The HD9625SW supports high definition digital video in the formats shown in Table 2-9. The video standard must be set manually to match the incoming video type using the *Video Standard* menu item on the *General* menu (see section 3.6.1).

Common Name	Pixels / Active Lines	Frame Rate	Progressive /Interlace	SMPTE Standard	Valid Genlock Types
1080i/59.94	1920 x 1080	29.97 (30/1.001)	I	274M	NTSC
1080i/50	1920 x 1080	25	I	274M	PAL
720p/59.94	1280 x 720	59.94 (60/1.001)	P	296M	NTSC

Table 2-9: High Definition Video Input Formats

*(tri-level sync not supported at this time)

Connect the four video outputs of the X-1204H-SW router unit to the video inputs with the same numbers on the HD9625SW keyer unit.

2.7.4. High Definition Video Outputs (PKGHD9625SW only)

The **PROG** output contains the video output from the program bus and should be connected to the main broadcast chain of your plant. The **PROG** output may be protected by an optional bypass relay (+HBP option). When the relay is active, the **PROG** output is directly connected to the **SRC/1** input.

The **PREV** output contains the video output from the preview bus and will normally be connected to an HD SDI monitor to allow you to view the preview output before it goes on air. If your unit is fitted with the optional bypass relay (+HBP option), then when the relay is active, the **PREV** output will not have any video on it.

2.7.5. Gen Lock Reference

For proper switching of the video and audio signals an analog video genlock reference must be supplied to both the router and the keyer units. Connect a composite analog NTSC or PAL colour black video signal to one side of the VIDEO REF loop on the switcher unit. Connect the other side of this loop to the REF IN connector on the keyer unit. Make sure that the signal type is correct for the video standard in use. (See Table 2-8 and Table 2-9.)

2.8. CONNECTING THE AUDIO

The 9625 series switchers are capable of working with either embedded audio or discrete AES audio. The source of the audio which is to be associated with each video input is selected via the HTML Audio Setup page (see section 3.16). The audio will be output both as discrete audio and as embedded audio.

The source of the audio that will be used for voiceovers (ex. Audio Mix) is also selected via the HTML Audio Setup page.

2.8.1. AES Inputs

Connect the AES audio that is associated with the video inputs to the breakout panels for the router. The router supports 4 levels of AES for each video input. AES 1 and 2 are connected to the A and B sides respectively of the breakout panel which is connected to the **AES Audio 1 I/O** SCSI connector of the router. AES 3 and 4 are connected to the A and B sides respectively of the breakout panel connected to the **AES Audio 2 I/O** SCSI connector of the router.

Connect the four audio outputs (labelled 1) of the router unit to the **MAIN** audio inputs with the corresponding numbers on the keyer unit. Connect the four audio outputs (labelled 2) of the router unit to the **ALT** audio inputs with the corresponding numbers on the keyer unit.

2.8.2. AES Outputs

The **PROG AES OUT** connectors contain the audio outputs from the program audio bus and should be connected to the main broadcast chain of your plant. The **PROG AES OUT** outputs are protected by bypass relays (optional on HD Switchers). When the relays are active, the **PROG AES OUT** outputs are directly connected to the four **AUDIO 1** inputs on the breakout panels.

The **PREV AES OUT** connectors contains the audio outputs from the preview audio bus and will normally be connected to your audio monitoring system to allow you to hear the preview audio output before it goes on air. If your unit is fitted with the bypass relays, then when the relays are active, the **PREV AES OUT** outputs will not have any audio on them.

2.8.3. Connecting Voice Over or EAS Audio

Connect the AES audio source, used for mixing (voice over, EAS, etc.), to input 12B of the breakout panel connected to the AES2 Audio connector of the router. This audio will be mixed with the program audio at the mix level set by the *Audio Mix Level* menu item.

2.9. CONNECTING THE LINEAR TIME CODE

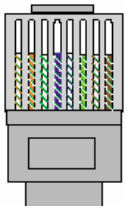
The Keyer unit has a linear time code (LTC) input used to provide time information for the analog or digital clock logos. Connect the LTC output from your house master time code source to the LTC IN XLR connector. When using an unbalanced input to the reader, the signal should be applied to pin 3 of the reader input connector. Normally, the unused input (pin 2) should be connected to ground (pin 1).

2.10. CONNECTING TO AN ETHERNET NETWORK

The 9625SW is designed to be used with either 10Base-T (10 Mbps) or 100Base-TX (100 Mbps) also known as *Fast Ethernet*, twisted pair Ethernet cabling systems. When connecting for 10Base-T systems, category 3, 4, or 5 UTP cable as well as EIA/TIA – 568 100Ω STP cable may be used. When connecting for 100Base-TX systems, category 5 UTP cable is required. The cable must be "straight through" with a RJ-45 connector at each end. Make the network connection by plugging one end of the cable into the RJ-45 receptacle of the 9625SW and the other end into a port of the supporting network hub switch.

The straight-through RJ-45 cable can be purchased or can be constructed using the pinout information in Table 2-10. A colour code wiring table is provided in Table 2-10 for the current RJ 45 standards (AT&T 258A or EIA/TIA 258B colour coding shown). Also refer to the notes following the table for additional wiring guide information.

Pin 1



Pin #	Signal	EIA/TIA 568A	AT&T 258A or EIA/TIA 568B	10BaseT or 100BaseT
1	Transmit +	White/Green	White/Orange	X
2	Transmit –	Green/White or White	Orange/White or Orange	X
3	Receive +	White/Orange	White/Green	X
4	N/A	Blue/White or Blue	Blue/White or Blue	Not used (required)
5	N/A	White/Blue	White/Blue	Not used (required)
6	Receive –	Orange/White or Orange	Green/White or Green	X
7	N/A	White/Brown	White/Brown	Not used (required)
8	N/A	Brown/White or Brown	Brown/White or Brown	Not used (required)

Table 2-10: Standard RJ45 Wiring Color Codes

Note the following cabling information for this wiring guide:

- Only two pairs of wires are used in the 8-pin RJ 45 connector to carry Ethernet signals.
- Even though pins 4, 5, 7 and 8 are not used, it is mandatory that they be present in the cable.
- 10BaseT and 100BaseTX use the same pins, a crossover cable made for one will also work with the other.
- Pairs may be solid colours and not have a stripe.
- Category 5 cable must use Category 5 rated connectors.

The maximum cable run between the switcher and the supporting hub is 300 ft (90 m). The maximum combined cable run between any two end points (i.e. switcher and PC/laptop via network hub) is 675 feet (205 m).

Devices on the Ethernet network continually monitor the receive data path for activity as a means of checking that the link is working correctly. When the network is idle, the devices also send a link test signal to one another to verify link integrity. The switcher rear panel is fitted with two LEDs to monitor the Ethernet connection.

10/100 This Amber LED is ON when a 100Base-TX link is last detected. The LED is OFF when a 10Base-T link is last detected (the LINK LED is ON). Upon power-up the LED is OFF as the last detected rate is not known and therefore defaults to the 10Base-T state until rate detection is completed.

LN/ACT This dual purpose Green LED indicates that the 9625SW has established a valid linkage to its hub, and whether the 9625SW is sending or receiving data. This LED will be ON when the 9625SW has established a good link to its supporting hub. This gives you a good indication that the segment is wired correctly. The LED will BLINK when the 9625SW is sending or receiving data. The LED will be OFF if there is no valid connection.

2.11. CONNECTING THE GENERAL PURPOSE INPUTS AND OUTPUTS

Figure 2-7 shows a simplified schematic diagram of the GPIO circuitry. The user can connect GP+3.3V supplied from the keyer unit into the Vext pin to provide power to the GPIO opto-isolator circuitry. In this configuration the user can activate GPIs simply by connecting the GPI input pins to Ground (see Figure 2-8). This can be done with a button, switch, relay or an open collector transistor. The GPO's are active low and require an external pull up resistor (See Figure 2-10). 3.3 volts is available to the user to be used for driving external circuitry. Care must be taken to limit the load to 0.5W so there is no affect on the power supply source on the unit.

Warning: Do not connect GP+3.3V from one unit to another unit's GP+3.3V output.

Alternately, the user can connect an external power source for the opto-isolator circuitry. The Vext voltage must be greater than the voltage supplied to GPI by at least 3v. Figure 2-9 and Figure 2-11 show how to wire the GPIs and GPOs from an external power supply.

The tally outputs are active low. When active, the output will go low and is able to sink up to 10mA. When inactive, the signal will go high (to the voltage applied to the Vext pin). Do not attempt to source more than 100μA from the output.

Table 2-11 shows the maximum limits that the user must adhere to so that no circuitry is damaged.

Description	Name	Value
Maximum GP+3.3V current load	$I_{GP+3.3V}$ max	100 mA
Minimum input voltage for a high	V_{gpi} high min	3 V
Maximum input voltage for a low	V_{gpi} low max	0.8 V
Maximum GPO sink current	I_{gpo} max	25 mA

Table 2-11: GPIO Maximum Ratings

All GPI inputs are level triggered. Lowering the GPI input to a potential below Vext will select the allocated preset definition. The 8 GPIs (A through H) can be used to activate various functions such as logo control, voice over, transition, etc. If multiple inputs are active both commands are ignored until a single input is recognized.

The GPI to logo allocation is programmable from the front panel of the 9625SW.

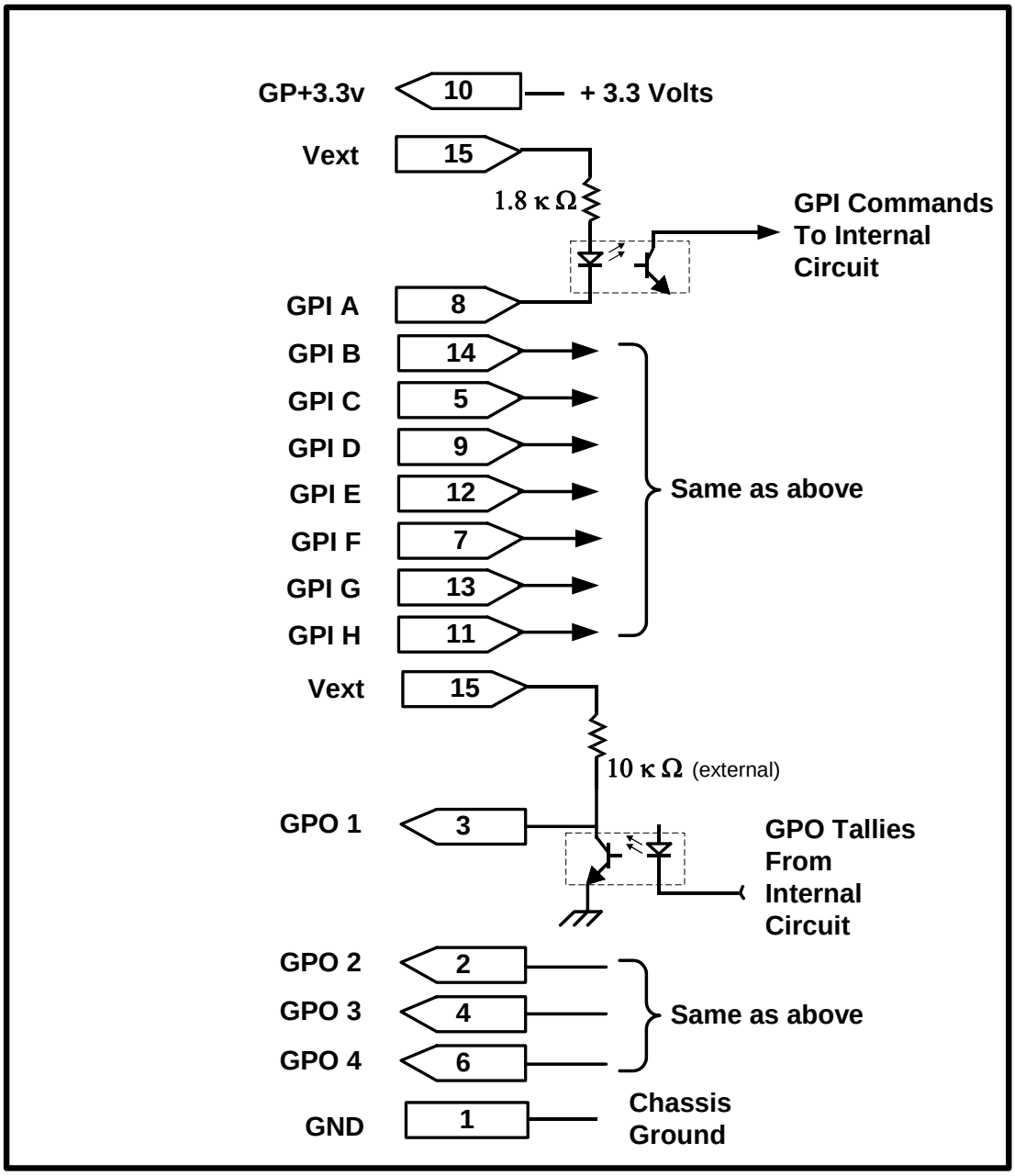


Figure 2-7: Keyer GPIO Opto Isolator Circuitry

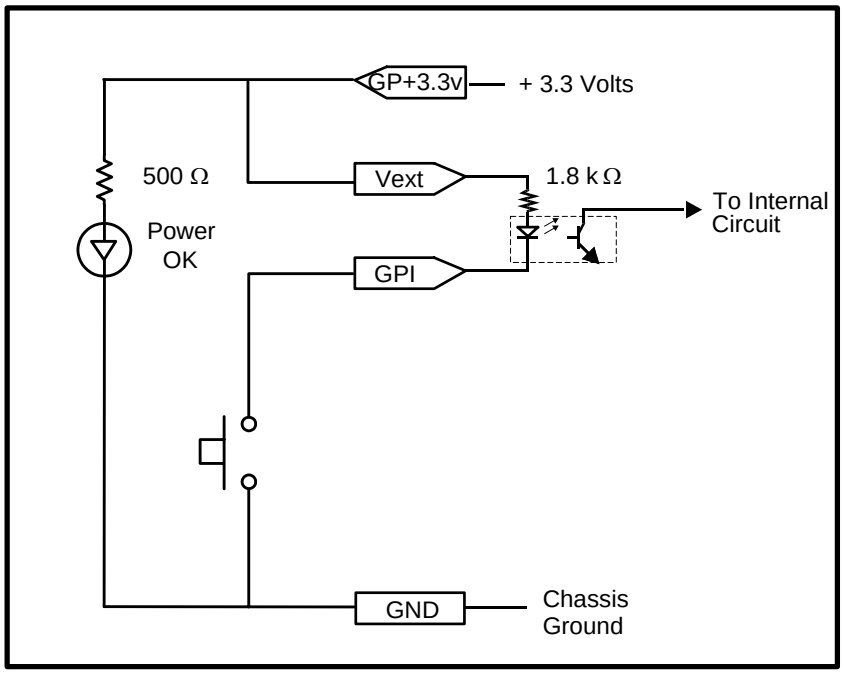


Figure 2-8: Powering the General Purpose Input Opto Isolators from the Unit

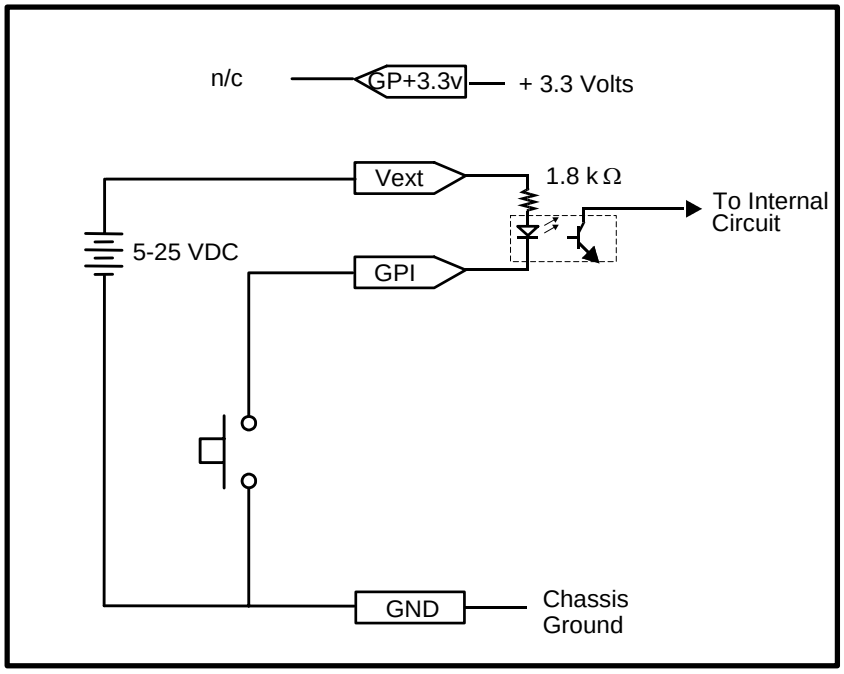


Figure 2-9: Powering the General Purpose Input Opto Isolators from an External Power Supply

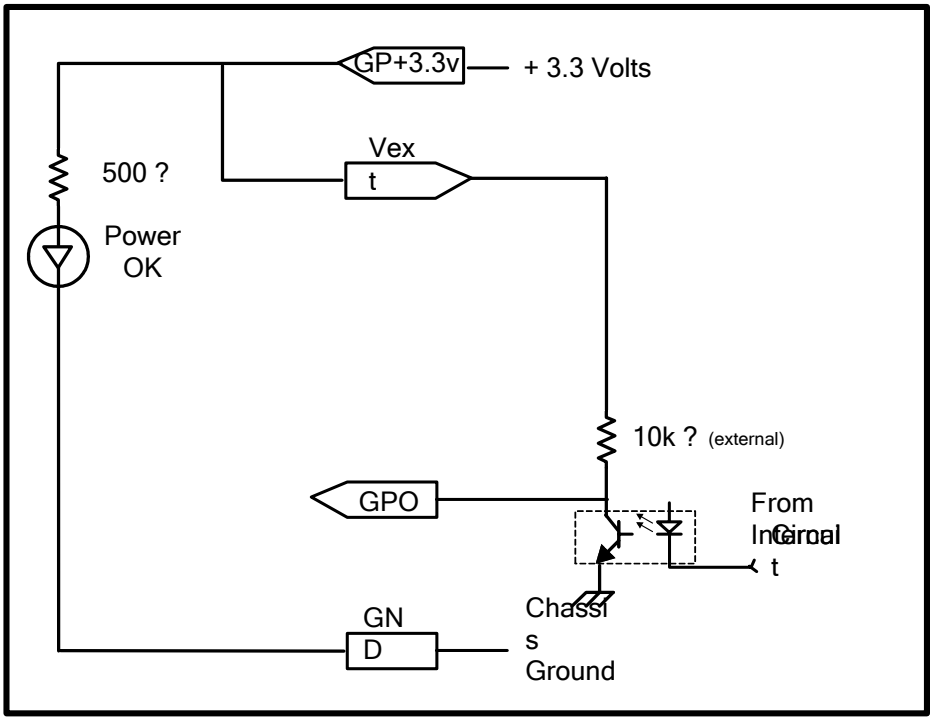


Figure 2-10: Powering the General Purpose Output Opto Isolators from the Unit

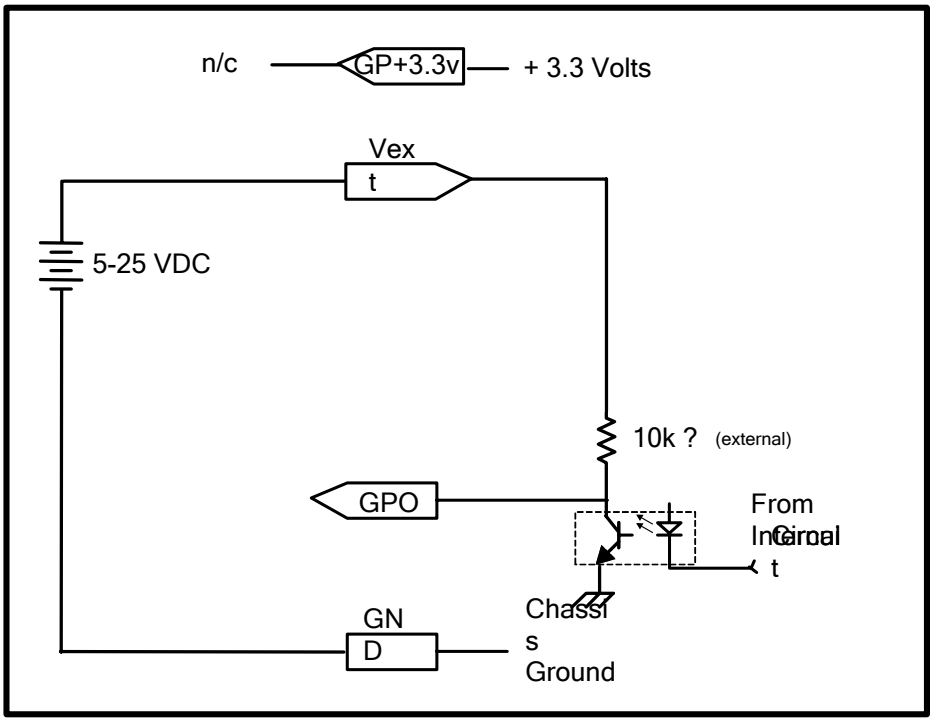


Figure 2-11: Powering the General Purpose Output Opto Isolators from an External Power Supply

2.12. CONNECTING THE OPTIONAL TEMPERATURE PROBE

The 9625SW Series switchers are available with an optional temperature probe that is used to input data for display in a temperature logo. Consult the temperature probe manual for information on installing the temperature probe. Connect the temperature probe power adapter to the probe unit. The temperature probe can be connected to the keyer electronics either via the **COM D** connector or via the **COM E (NET)** port by using a serial to Ethernet converter (see section 2.12.1). The temperature probe ships with an adapter cable to convert its RJ45 connector to a standard 9 pin D connector. The RJ45 plugs into the temperature probe. You will need to create a straight through 9 pin male to female cable of the desired length according to the diagram in Table 2-12 to connect the probe to the Keyer unit. The serial port on the Keyer unit must be set for RS-232 operation as described in section 2.2.6.

The temperature probe cable should not exceed 1000 feet.

In order for the temperature probe to communicate with the 9625SW Series switchers you must configure the **COM D** or **COM E (NET)** port for the correct protocol. The *COM D* or *COM E (NET)* menu item on the *General* menu is used to accomplish this (depending on which communications port is used for the temperature probe). Set this menu item in order for the temperature probe to communicate with the Keyer unit. See section 3.6.6 for information on setting the serial port protocol.

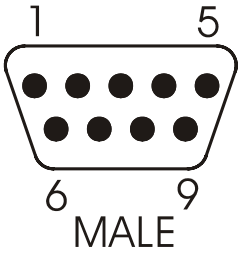
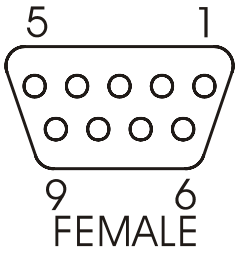
9625SW End				Temperature Probe End		
	9 pin D Male	**Pin**	**Belden 9729**	**9 pin D Female**	**Pin**	
		1			1	
	TxD	2	-------1a------	RxD	2	
	RxD	3	-------1b------	TxD	3	
		4		Rx Gnd	4	
	Gnd	5	---drain 1----	Gnd		
		6			6	
		7			7	
		8			8	
		9			9	
	Frame Gnd	Shield	---drain 2----	Frame Gnd	Shield	

Table 2-12: Temperature Probe Extender Cable

2.12.1. Connecting the Temperature Probe via Ethernet (COM E)

Newer firmware for the 9625SW series products contain a new virtual serial port (COM E). This serial port is enabled on the Ethernet connector and requires a valid network connection to an Ethernet enabled device for functionality. Evertz does not recommend any particular brand of serial to Ethernet adapter, however the Lantronix UDS-10 has been tested and confirmed to work with the 9625 series products.

To connect the virtual serial port of the unit to the desired device, you must first select the **COM E (net)** menu item under the **GENERAL** menu items of the unit setup menu. Press **SELECT** to enter the **COM E (net)** sub-menu and use the up and down arrows to scroll through the list of available protocols that can be allocated to the port. For this example we will be using the Temperature Probe configuration, so scroll to the Temperature option and press the **SELECT** button. The front panel should now show an E on the far right beside the Temperature protocol selection. This indicates that the protocol for communicating with the temperature probe is now allocated to the virtual port E. This concludes the configuration on the 9625 Unit.

Next you must install and configure the Lantronix or other serial to Ethernet adapter. In order to do this, you must either connect to the device using the device's Telnet Server, or connect a communications program (such as Hyperterminal) to the serial side of the device. It is usually easier to use the Hyperterminal mode on the serial side as the default IP address of the unit will probably not match your network configuration. Refer to the Lantronix manual for information on configuring the device.

The Lantronix must be on your network with a valid IP. Assign the device an IP to send the serial information to (this would be the IP address of the 9625 unit) and determine the Ethernet port to make the connection on (3001). Finally, configure the Lantronix device to accept the serial data in the correct format. This will include setting such things as baud rate (1200 for the temp probe), flow control (00) etc. See below for all the parameters required.

A good test for connectivity is to use a PC on the network to ping the IP address of the 9625 unit and the IP address of the Lantronix device. If you cannot ping either device, the network is not configured properly. Also be sure the IP addresses used are unique on the network. If you get a ping response and the connection still does not seem to be working, try unplugging the devices from the network and pinging again. If you still get a ping response, there is another device somewhere on the network with the same IP.

The Lantronix device has been tested with the TFT and Sage decoders, and both decoders work correctly. The user should be able to configure automation to run on the virtual port; however TCP/IP traffic does not guarantee frame accurate control. **We recommend that automation be connected to a dedicated serial port and not the virtual port.** See section 4 of the Lantronix manual for details.

Remote IP Address should be set to the IP address of the 9625 unit.
Remote IP Port should be set to 3001 (for Com E).
Connect mode should be set to 05.

If one end loses power and the other does not, expect some delay before the system can recover.
Here is the output from the telnet setup session (new values are entered after the question marks). The IP addresses used here are examples only, consult your network administrator for appropriate IP addresses for your configuration.

*** **basic parameters for the Temperature Probe**
Hardware: Ethernet Autodetect
IP addr - 0.0.0.0/DHCP/BOOTP/AutoIP, no gateway set
DHCP device name : not set
********** Security **********
SNMP is enabled
SNMP Community Name:
Telnet Setup is enabled
TFTP Download is enabled
Port 77FEh is enabled
Web Server is enabled
Enhanced Password is disabled
********** Channel 1 **********
Baudrate 1200, I/F Mode 4C, Flow 00
Port 03001
Remote IP Adr: 192.168.008.123, Port 03001
Connect Mode : 05 Disconn Mode: 00 Disconn Time: 02:00
Flush Mode : 77
********** Expert **********
TCP Keepalive : 45s
Change Setup : 0 Server configuration
1 Channel 1 configuration
5 Expert settings
6 Security
7 Factory defaults
8 Exit without save
9 Save and exit Your choice ? 1
Baudrate (1200) ?
I/F Mode (4C) ?
Flow (00) ?
Port No (03001) ?
ConnectMode (05) ?
Remote IP Address : (192) .(168) .(008) .(123)
Remote Port (03001) ?
DisConnMode (00) ?
FlushMode (77) ?
DisConnTime (02:00) ?:
SendChar 1 (00) ?
SendChar 2 (00) ?

CHAPTER 3
TABLE OF CONTENTS

Figures

Tables

3. HOW TO OPERATE THE MINI MASTER CONTROL SWITCHER USING THE RACK MOUNT CONTROL PANEL

The standard Mini Master Control Switcher consists of two 1 RU units with a 1RU rack mountable remote control panel as well as two 1 RU AES audio breakout panels. For information on connecting the rack mount remote panel to the switcher electronics see section 2.6.

3.1. AN OVERVIEW OF KEY AND DISPLAY FUNCTIONS

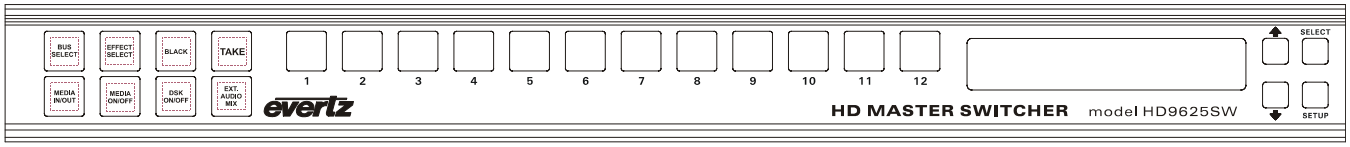


Figure 3-1: HD9625SW Front Panel Layout

The front panel controls consist of a 16 digit alphanumeric display, 20 illuminated pushbuttons and 4 non-illuminated pushbuttons.

The illuminated keypad enables the user to control the switcher and switch the various input sources. The non-illuminated keypad is used to navigate the front panel *Setup* menu system, a quick and simple method of configuring the 9625SW Switcher for your application. The front panel layout for the 9625SW and HD9625SW are identical except for the model number silkscreen.

3.1.1. Input Selection Button Group

A button LED that is on solid indicates that it is the selected input for the program bus. A button LED that is flashing on and off indicates that it is the selected input for the preview bus.

1 to 12 These twelve buttons allow the user to select between the 12 available video inputs for the two video output buses, as well as selecting the 12 associated audio inputs for the four AES buses. The button caps can be removed to allow the user to provide his own legends for the buttons.

BLACK This button selects the internal black generator as the source for the applicable video bus.

3.1.2. The Function Button Group

This group of six buttons is used to control objects on either the program bus or the preview bus.

BUS SELECT This button (which may be labelled **PANEL LOCK** on older versions of the front panel) controls whether the numbered input buttons and the other buttons in the Function control group, operate on the preview bus or the program bus.

If the button LED is flashing then the **MEDIA IN/OUT**, **MEDIA ON/OFF, DSK ON/OFF,** input selection buttons **1-12** and **BLACK** are controlling the preview bus. The Function button LEDs will be flashing if they are active. The Input button LED that is flashing indicates the input that is currently assigned to the preview bus.

If the button LED is on solid, then the **MEDIA IN/OUT**, **MEDIA ON/OFF, DSK ON/OFF,** input selection buttons **1-12** and **BLACK** are controlling the program bus. The Function button LEDs will be on solid also if they are active. The Input button LED that is on solid indicates the input that is currently assigned to the program bus.

Pressing the **BUS SELECT** key and holding it for three seconds will lock the front panel. The **BUS SELECT** key LED will turn off indicating that the front panel keys are disabled. When any of the other front panel buttons are pressed the front panel display will show the message `Panel Locked` for a few seconds. Pressing the **BUS SELECT** key again and holding it for three seconds will return the front panel keys to their normal functions and the **BUS SELECT** LED key will begin flashing to indicate that the front panel controls will affect the preview bus.

The switcher may still be controlled from the GPI inputs or the serial remote control protocol when the front panel is Locked.

MEDIA ON/OFF This button controls the complete logo key layer for the selected output bus. If the button LED is not illuminated, then the logo key layer is not active and no logos can be displayed. If the button LED is flashing then the logo key layer is enabled on the preview bus. If the button LED is on solid then the logo key layer is enabled on the program bus. You can use the **BUS SELECT** button to toggle control/status between the two buses to verify the logo key layer status for each bus.

To control the logo key layer, first select the bus you want the logo to appear on using the **BUS SELECT** key. To enable the logo key layer on the selected output video bus, press the **MEDIA ON/OFF** button. The button LED will be illuminated (on solid for program bus, flashing for preview bus). To disable the logo key layer on the selected output video bus, press the **MEDIA ON/OFF** button. The button LED will be off.

MEDIA IN/OUT This button controls whether a selected logo (the logo shown on the front panel display) is being keyed into the video on the respective bus. To control whether a logo is keyed or not, first select the bus you want the logo to appear on using the **BUS SELECT** key. The **MEDIA ON/OFF** button LED must be illuminated (on solid for program bus, flashing for preview bus) for logos to display. Scroll to the logo required using the ↑ & ↓ buttons. If the logo is currently being keyed its name will flash in the front panel display. To key the logo into the selected output video bus, press the **MEDIA IN/OUT** button. The logo will fade in according to its programmed fade in time and the logo name display will begin flashing. If the logo is not currently loaded into memory, a progress indicator will appear to the right of the logo name while it is loading into memory. The button LED will be illuminated (on solid for program bus, flashing for preview bus) and the logo name display will be flashing. To remove a keyed logo from the selected output video bus, press the **MEDIA IN/OUT** button when the logo name is flashing. The logo will fade out according to its programmed fade out time, the button LED will be off and the logo name display will stop flashing.

DSK ON/OFF This button controls the downstream keyer layer for the selected output bus. If the button LED is not illuminated, then the downstream keyer layer is not active. If the button LED is flashing then the downstream keyer layer is enabled on the preview bus. If the button LED is on solid then the downstream keyer layer is enabled on the program bus. You can use the **BUS SELECT** button to toggle control/status between the two buses to verify the downstream keyer layer status for each bus.

To control the downstream keyer layer, first select the bus you want the downstream key to appear on using the **BUS SELECT** key. To enable the downstream keyer layer on the selected output video bus, press the **DSK ON/OFF** button. The button LED will be illuminated on solid for program bus and flashing for preview bus. To disable the downstream keyer layer from the selected output video bus, press the **DSK ON/OFF** button. The button LED will be off.

When the downstream keyer layer is enabled, the video present on video input 12 is mixed with the background video of the selected bus based on the key signal provided on video input 11, or it can be self-keyed using user defined thresholds. See section 3.9 for information about setting up the *DSK MODE* and other settings.

TAKE This button starts a transition of what is displayed on the preview bus to the program bus. Transitions can also be triggered using GPI, or automation control. The button LED indicates that a transition from the preview bus to the program bus is in progress when it is illuminated, regardless of how the transition was triggered.

When the *Transition Swap Mode* is set to *Swap* the input video and audio of the preview bus and the program bus will be swapped at the end of the transition. Logos and other media being keyed on the respective buses will also be swapped with the inputs.

When the *Transition Swap Mode* is set to *No Swap* the input video and audio of the preview bus will be transferred to the program bus transition. Logos and other media being keyed on the preview bus will also be transferred to the program bus. The preview bus will remain unchanged.

EFFECT SELECT This button provides a quick access into the *Transition* menu item. The *Transition Type*, *Transition Rate* and *Transition Swap Mode* are configured using the *Transition* menu items. See section 3.10 for more information.

EXT AUDIO MIX This button will mix the alternate audio with the program audio. The source for the alternate audio and the audio mix levels are selected via the HTML Audio Setup page (see section 3.16).

3.1.3. Setup Key Group

SETUP This button is used to enter the *Setup* menu, which is used to control various setup options to configure the operating modes of the switcher. (See section 3.3 for an overview of the *Setup* menu.) When you are in the *Setup* menu, this button is also used to back out of menu selections to the next higher menu level or to exit the *Setup* menu and return to normal panel operation.

SELECT When in the *Setup* menu, this button is used to select a sub-menu and navigate to the next level down in the menu structure. When you are at the bottom level of the menu system it is also used to accept numeric values or to make the displayed menu choice the active value for that menu item. When not in the *Setup* menu, this button is also used to fade logos in and out on the selected output bus.

↑, ↓ When in the *Setup* menu, the ↑ and ↓ arrow keys are used to move to various items at the current menu level in the menu system. The ↑ and ↓ arrow keys are also used to enter numeric values for menu choices at the bottom level of the menu system.

3.1.4. Control Panel Status Indicators

The buttons in the Function group and the Input group are all fitted with internal status LEDs that illuminate to show operational status of the switcher at a glance. When a button is flashing on and off it most commonly indicates that the associated function is active on the preview bus. When a button is on solid it most commonly indicates that the associated function is active on the program bus. The **BUS SELECT** button is used to switch the control and status indications between the two buses.

BUS SELECT This button LED indicates that the control and status functions of the Front Panel are delegated to the preview bus when it is flashing and to the program bus when it is on solid. When it is off it indicates that the *Panel Lock* function is active and the remainder of the front panel buttons are disabled.

MEDIA IN/OUT This button LED indicates that the logo whose name appears on the front panel is being keyed on the preview bus when it is flashing and to the program bus when it is on solid. When it is off it indicates that the logo whose name appears on the front panel is not being keyed on the bus indicated by the **BUS SELECT** LED.

MEDIA ON/OFF This button LED indicates that the logo key layer is enabled on the preview bus when it is flashing and is enabled on the program bus when it is on solid. When it is off it indicates that the logo key layer is disabled on the bus indicated by the **BUS SELECT** LED.

DSK ON/OFF This button LED indicates that the downstream keyer layer is enabled on the preview bus when it is flashing and is enabled on the program bus when it is on solid. When it is off it indicates that the downstream keyer layer is disabled on the bus indicated by the **BUS SELECT** LED.

EXT AUDIO MIX This button LED indicates that the audio mix function is enabled on the preview audio bus when it is flashing and is enabled on the program audio bus when it is on solid. When it is off it indicates that the audio mix function is disabled on the audio bus indicated by the **BUS SELECT** LED.

TAKE This button LED indicates that a transition from the preview bus to the program bus is in process when it is on solid. When it is off it indicates that no transition is currently in progress.

BLACK This button LED indicates that the internal black video generator is selected as the source for the preview video bus when it is flashing and for the program video bus when it is on solid.

1 to 12 These twelve button LEDs indicate that the video inputs and the associated audio are selected for the preview bus outputs when it is flashing and for the program video bus outputs when it is on solid.

3.1.5. Electronics Unit Status Indicators

PSU STATUS 1, 2 These green LEDs indicate that the corresponding power supply is functioning normally. On units fitted with a single power supply the **PSU STATUS 2** LED will be off all the time.

3.1.6. Front Panel Display Functions

The 16 character alphanumeric display is used to show the name of the logo that will be faded in or out by pressing the **MEDIA IN/OUT** button. The display is also used to show the *Setup* menu items to configure the switcher.

3.2. OVERVIEW OF FRONT PANEL OPERATION

3.2.1. Audio Follow Video Switching

The 9625SW Mini Master Control Switchers have two video buses and two sets of four audio buses (1A, 1B, 2A and 2B). The 9625SW switchers have a quad 12 x 2 AES configuration and are shipped with two breakout panels (X1202ABO). On these units output 1 from audio buses 1A, 1B, 2A and 2B will follow the program video bus and output 2 from audio buses 1A, 1B, 2A and 2B will follow the preview video bus.

To select an input for the preview bus, you must first select the preview bus using the **BUS SELECT** button. The preview bus is selected when the **BUS SELECT** button LED is flashing. Select desired input for the preview bus by pressing the **BLACK** button or one of the input buttons **1** to **12.** When the desired input is selected the button LED for that bus will flash.

To transition the preview bus to the program bus press the **TAKE** button. The transition type and duration are set using the *Transition* menu items. When the *Transition Swap Mode* is set to *Swap* the input video and audio of the program bus as well as logos and other media being keyed on program bus will be swapped back to the preview bus at the end of the transition. When the *Transition Swap Mode* is set to *No Swap* the input video and audio of the preview bus will remain unchanged.

To manually select an input for the program bus, you must first select the program bus using the **BUS SELECT** button. The program bus is selected when the **BUS SELECT** button LED is on solid. Select the desired input for the program bus by pressing the **BLACK** button or one of the input buttons **1** to **12.** When the desired input is selected the button LED for that bus will be on solid.

3.2.2. Displaying Logos

To control whether a logo is keyed or not, first select the bus you want the logo to appear on using the **BUS SELECT** key. The **MEDIA ON/OFF** button LED must be illuminated (on solid for program bus, flashing for preview bus) for logos to display. Scroll to the logo required using the ↑ & ↓ buttons. If the logo is currently being keyed its name will flash in the front panel display. To key the logo into the selected output video bus, press the **MEDIA IN/OUT** button. The logo will fade in according to its programmed fade in time and the logo name display will begin flashing. If the logo is not currently loaded into memory, a progress indicator will appear to the right of the logo name while it is loading into memory. The button LED will be illuminated (on solid for program bus, flashing for preview bus) and the logo name on the display will be flashing. To remove a keyed logo from the selected output video bus, press the **MEDIA IN/OUT** button when the logo name is flashing. The logo will fade out according to its programmed fade out time, the button LED will be off and the logo name on the display will stop flashing.

3.3. AN OVERVIEW OF THE SETUP MENU SYSTEM

The *SETUP* menu system uses the 16 digit alphanumeric display and provides a quick, intuitive method of configuring the Router. The *SETUP* Menu contains items that pertain to the overall operation of the router. These items are normally only required to be set up at installation time, and do not pertain to the day-to-day operation of the unit. Figure 3-2 provides an overview of the *Setup* menu system.

GENERAL
- Select Standard
- Reference Timing
- Update Code
- Time Setup
- Network Info
- DCP IP Address
- Serial Control
- COM D
- COM E (net)
- Line 21 Protect
- Unit Name
- Up Down Timer
- Automation Debug
- M2100 Auto Debug

MANAGE FILES
- Media
- File
- To
- Copy
- Delete
- Format

MATTE
- Matte On/Off
- Aspect
- Top
- Bottom

DSK
- Key Type
- Key Gain
- Key Offset
- Key Threshold

TRANSITION
- Transition Type
- Transition Rate
- Transition Mode
- Transition Pause
- Prog Bus Change

PRESET
- Recall Preset
- Store Preset
- Export Preset
- Preset Source
- GPI Setup
- GPO Setup

EAS
- Type
- Vert Pos'n
- Font
- Font Height
- Rate
- Warning BG
- Warning FG
- Watch BG
- Watch FG
- Test BG
- Test FG

Media
- H Position
- V Position
- Fade In
- Hold
- Fade Out
- Gain
- UD Timer
- Rate
- Repeat
- Pause
- Font Hei
- Font
- Bg Opacity
- Fg Opacity
- Crawl BG
- Crawl FG
- CL Repeat

Audio Over Trans
- VO In Rate
- VO Out Rate

Temperature
- Temp Source
- Set Temperature
- Temp Format

Figure 3-2: Overview of the Setup Menu

3.4. NAVIGATING THE SETUP MENU

To enter the *Setup* menu, press the **SETUP** button. This will bring you to the main *Setup* menu where you can use the ↑ & ↓ buttons to move up and down the list of available sub-menus. Top level menu items are shown in UPPERCASE. Once you have chosen the desired sub-menu, press the **SELECT** button to select the next menu level.

Once in a sub-menu, there may be another menu layer (shown in Title Case), or there may be a list of parameters to adjust (shown in lower case). If there is another set of menu choices, use the ↑ & ↓ buttons to select the desired menu item and press the **SELECT** button. Continue this process until you get to the bottom of the menu tree where the list of parameters to be adjusted is shown.

To adjust any parameter, use the ↑ & ↓ buttons to move up or down the parameter list to the desired parameter. To view the possible values for that item, press the **SELECT** button. The current value for that parameter will be blinking. Pressing the ↑ & ↓ buttons allows you to show the possible values for the selected parameter. The various parameter values that are not currently selected will NOT be blinking. When you have stopped at the desired value, press the **SELECT** button to save your selection. The value shown will begin blinking; indicating that it is now the current value. To move up one level in the menu press the **SETUP** button.

You can select other parameters from that sub-menu by using the ↑ & ↓ buttons, followed by the **SELECT** button. Alternately you can move up one menu level by pressing the **SETUP** button.

When you have made all the desired changes, press the **SETUP** button one or more times until you return to the top of the Menu tree and exit the *Setup* menu.

Each of the menu items, with function explanations, are described in the following sections.

3.5. FRONT PANEL SETUP MENU – MAIN MENU

The Front panel *Setup* menu is arranged in a layered structure that groups similar configuration items together. The following section provides a brief description of the first level of menus that appear when you enter the Setup menu. Selecting one of these items will take you to the next menu level. Sections 3.6 to 3.15 provide detailed descriptions for each of the sub-menus. The tables in these sections are arranged in an indented structure to indicate the path taken to reach the control. Menu items or parameters that are underlined indicate the factory default values.

GENERAL	This menu is used to set up the video standard, COM ports, network address, time and other miscellaneous settings, as well as updating firmware
MANAGE FILES	This menu is used to manage logos and other media files – to copy them from one media device to another, to delete them, etc.
MATTE	This menu is used to configure the matte attributes.
DSK	This menu is use to configure the DSK functions – key type, gain, and thresholds.
TRANSITION	This menu is used to set up the transition type, rate and switcher swap mode.
PRESET	This menu is used to save and recall user presets, and to configure the General Purpose inputs and outputs.
EAS	This menu is used to configure the EAS crawl functions – speed, position, font type and height, and colours (only available when the EAS option is enabled).
MEDIA	This menu is used to position logos and to set their fade in, hold and fade out time.
AUDIO OVER TRANS	This menu is used to set the voice over transition fade in and fade out rates.
TEMPERATURE	This menu is used to configure parameters relating to the temperature, which is displayed in a temperature logo.

3.6. GENERAL CONFIGURATION ITEMS

The *GENERAL Setup* menu is used to set up various items related to the overall operation of the 9625SW such as Video standard, Time settings, Network info, COM port settings and firmware versions. Table 3-1 shows the items available in the *GENERAL Setup* menu. Sections 3.6.1 to 3.6.10 give detailed information about each of the sub-menus.

Select Standard	Sets the video standard
Reference Timing	Sets the timing of the output video with respect to the genlock reference input
Update Code	Displays the current firmware version and initiates firmware upgrades
Time Setup	Configures the real time clock
Network Info	Configures the network settings
DCP IP Address	Configures the IP address for the desktop control panel
Serial Control	Configures the Serial Control port (cannot be modified)
Com D	Configures the Com D port
Com E (net)	Configures the virtual serial port (Com E)
Line 21 Protect	Configures whether or not logos can appear on line 21
Unit Name	Sets the switcher unit name when used with a M2100 control panel
Up Down Timer	Configures the two up/down timers for time logos
Automation Debug	Debugging tool for the Evertz automation protocol
M2100 Auto Debug	Debugging tool for the M2100 automation protocol

Table 3-1: Top Level of the General Setup Menu

3.6.1. Selecting the Video Standard

GENERAL
Select Standard
525i
16x9 525i
625i

The *Select Standard* menu item is used to set the video standard in use. For standard definition switchers the following video standards are supported.

Select *525i* for operation with 4 x 3 aspect ratio 525i/59.94 video conforming to SMPTE 125M.

Select 16x9 *525i* for operation with 16 x 9 aspect ratio 525i/59.94 video conforming to SMPTE 125M. This setting is used where the picture has been anamorphically compressed into a 4 x 3 raster.

Select *625i* for operation with 4 x 3 aspect ratio 625i/50 video conforming to EBU TECH 3267-E.

GENERAL	Select Standard	1080i/59.94 1080i/50 720p/59.94

The *Select Standard* menu item is used to set the video standard in use. For high definition switchers the following video standards are supported.

Select *1080i/59.94* for operation with 1080i/59.94 video conforming to SMPTE 274M.

Select *1080i/50* for operation with 1080i/50 video conforming to SMPTE 274M.

Select *720p/59.94* for operation with 720p/59.94 video conforming to SMPTE 296M.

3.6.2. Setting the Video Output Timing With Respect To Reference

The output stage of the switcher contains a line buffer so that the output video can be timed with respect to the reference applied to the **GENLOCK** input loop.

The *H and V Phase Offset* adjustment is a REAL TIME ADJUSTMENT and will affect the output video timing immediately. These settings should not be adjusted when the output video is in the broadcast chain.

GENERAL	Reference Timing	H: 0 to max samples

This menu item allows you to set the horizontal timing of the output video with respect to the genlock reference input. Setting this control to 0 keeps the output video in time with the Genlock reference.

Increasing the value will delay the output video in one-sample increments.

GENERAL	Reference Timing	V: 0 to max lines

This menu item allows you to set the vertical timing of the output video with respect to the genlock reference input. Setting this control to 0 keeps the output video in time with the Genlock reference.

Increasing the value will delay the output video in one-line increments.

3.6.3. Viewing and Updating the Firmware Version

GENERAL
Update Code
1.0 build 100 *boot 1.01* *Upgrade firmware*

The *Update Code* menu item allows the user to update the firmware and view the firmware version that is installed in the 9625SW.

When you press the **SELECT** pushbutton, the display shows the software version which will look similar to the following:

```
1.0 build 100
```

Use the ↑ or ↓ pushbuttons to display the boot code version which will look similar to the following:

```
Boot 1.01
```

Select *Upgrade firmware* to upgrade the firmware in the switcher. For information on completing the firmware upgrade see the Firmware Upgrade section 5.2.7 of this manual.

3.6.4. Configuring the Real Time Clock in the Switcher

The switcher contains a real time clock that is used to drive the clock display logos that can be placed on the screen. This battery backed up real time clock (known as RTC) free runs on an internal oscillator and can be set from the front panel. When the switcher is powered up with a valid video input, a separate clock (known as the UTC) is initialized from the RTC and maintains Universal Co-ordinated time (UTC) accurately from the video input so that it will not drift. The switcher automatically updates the RTC clock from the UTC clock to minimize long term time drift. In order to keep the UTC clock in sync with your house master time code it must also be locked to incoming linear time code connected to the LTC IN connector. The UTC clock time is internally maintained as Universal Co-ordinated time (UTC) but can also be adjusted for time zone offsets from UTC and for daylight saving time, and displayed as local time (Local). The *Time Setup* sub-menus of the *General* setup menu are used to configure the real time clock and display the UTC and Local times.

3.6.4.1. Setting the Real Time Clock

GENERAL
Time Setup
RTC 12:34:56

This menu item is used to display and set the hardware real time clock in the switcher. The time displays are always shown in the 24 hour time format.

When you press the **SELECT** button, the display shows the current real time clock time which will be look similar to the following:

```
12:34:56
```

To set the time press the **SELECT** button and the hours digits will be flashing to indicate that they are in entry mode. Use the ↑ or ↓ pushbuttons to change the hours to the desired value. Then press the **SELECT** button and the minute's digits will be flashing to indicate that they are in entry mode. Set the minutes and seconds in the same way. When you have entered the correct time press the **SELECT** button to update the hardware real time clock. The seconds digits will stop flashing and the time will begin incrementing to indicate that the Real Time Clock has been set. When you set the hardware real time clock the UTC clock time will automatically be adjusted.

When there is a valid LTC input to the switcher, the LTC time will overwrite the Real Time clock that has been entered.

3.6.4.2. Displaying the UTC Time

GENERAL
Time Setup
UTC 12:34:50

This menu item is used to display the UTC time clock. The time displays are always shown in the 24 hour time format.

3.6.4.3. Displaying the Local Time

GENERAL
Time Setup
Local 12:34:50

This menu item is used to display the clock time as local time. (UTC time adjusted for the time zone offset and DST adjustment) The time displays are always shown in the 24 hour time format.

3.6.4.4. Setting the LTC Date Format

GENERAL
Time Setup
LTC Date Encode
Auto
Skotel

This menu item is used to select the format of the date encoded in the user bits of the LTC. For Skotel time code generators, choose *Skotel.* For all other time code generators choose *Auto.*

3.6.4.5. Setting the Real Time Date

GENERAL
Time Setup
RDate 00:12:30

This menu item is used to display and set the real time date in the switcher.

When you press the **SELECT** button, the display shows the current real time date in yy:mm:dd format.

To set the date press the **SELECT** button and the year digits will be flashing to indicate that they are in entry mode. Use the ↑ or ↓ pushbuttons to change the year to the desired value. Then press the **SELECT** button and the month digits will be flashing to indicate that they are in entry mode. Set the month and day in the same way. When you have entered the correct date press the **SELECT** button to update the real time date. When you set the real time date the UTC date will automatically be adjusted.

When there is a valid LTC input to the switcher with the date encoded in the userbits, the LTC date will overwrite the Real Time date that has been entered.

3.6.4.6. Displaying the UTC Date

GENERAL
Time Setup
UDate 00:12:30

This menu item is used to display the UTC date in yy:mm:dd format.

3.6.4.7. Displaying the Local Date

GENERAL
Time Setup
LDate 00:12:30

This menu item is used to display the local date which is the UTC date adjusted by the time zone in yy:mm:dd format.

3.6.4.8. Setting the Time Zone Offset

GENERAL
Time Setup
zone 12:34:56

This menu item allows the user to set a time zone offset between the UTC time and the Local time. This time zone offset will be added to the UTC time along with the Daylight Saving time correction (see section 3.6.4.9) to obtain the Local time. Time zones are normally in one hour or 30 minute increments and can be + or – from UTC. (Time zones east of Greenwich are +, and time zones west of Greenwich are -)

To set the time zone, press the **SELECT** button and the hours digits will begin flashing to indicate that the user is in entry mode. Use the ↑ or ↓ pushbuttons to change the hours to the desired value. To set negative time zone offsets continue pressing the ↓ pushbutton until the hours value shows a negative sign. Then press the **SELECT** button and the minutes digits will begin flashing to indicate that the user is in entry mode. Set the minutes and seconds in the same way. When you have entered the correct time zone offset press the **SELECT** button. The seconds digits will stop flashing to indicate that the time zone offset has been set.

3.6.4.9. Enabling Daylight Saving Time Compensation

- *GENERAL*
  - *Time Setup*
    - *DST Active*
      - *off*
      - *on*

This menu item allows the user to control whether Daylight Saving Time (DST) compensation will be applied to the UTC time to get the local time.

When set to *off*, Daylight Saving Time compensation will not be applied.

When set to *on* Daylight Saving Time compensation will be applied and the local time will be adjusted back by 1 hour.

The switcher must be manually changed from Daylight Saving Time to Standard time using this menu setting. If you want to automatically keep the local time clock in the switcher in sync with the correct local time, connect a source of linear time code that contains local time to the LTC IN connector. See section 3.6.4.10

3.6.4.10. Selecting Whether the Time Code input is UTC or Local Time

- *GENERAL*
  - *Time Setup*
    - *LTC Time Zone*
      - *Local*
      - *UTC*

This menu item allows the user to select whether the incoming time code will be in UTC or local time. This information is necessary to correctly update the RTC clock from the time code.

Select *utc*, when the incoming LTC is Universal Co-ordinated time.

Select *local*, when the incoming LTC is local time.

3.6.4.11. Synchronizing the Real Time Clock to the UTC Time

- *GENERAL*
  - *Time Setup*
    - *Jam RTC from UTC*
      - *SELECT = Confirm*

The hardware real time clock (RTC) will drift slightly from the video rate UTC Clock time under normal operation. When this drift exceeds 5 seconds the RTC will be automatically resynchronized to the UTC time. This menu item allows the user to synchronize the RTC to the UTC Clock time immediately.

To synchronize the RTC time immediately, press the **SELECT** button when `SELECT = Confirm` is shown on the display.

3.6.5. Setting Up the Switcher Network Addresses

The *Network Info* sub-menu of the *General* Setup menu is used to configure the switcher for FTP uploads of logos and other media. In most cases you will only have to plug in your Ethernet cable and configure the network IP address (*A*) to contain an unused IP address in the valid range. Entries are made in standard IP address format. Please consult your Network administrator for IP address allocations, netmask and gateway requirements.

To set the various *Network Info* parameters, press the **SELECT** button when the desired parameter is shown on the front panel display (indicated by the letter on the left side of the display). The left group of digits will be flashing to indicate that they are in entry mode. Use the ↑ or ↓ pushbuttons to change this group to the desired value. Then press the **SELECT** button and the next group of digits will be flashing to indicate that they are in entry mode. Set the remaining groups of digits in the same way. When you have entered the correct value for the right group of digits, press the **SELECT** button to set the parameter. The display will stop flashing to indicate that the parameter value has been set. The settings become active immediately after you exit the *Network Info* menu level. A reboot is not required.

3.6.5.1. Setting Up the IP Address

GENERAL
Network Info
A 196.168.1.1

This menu item sets the unique IP address of the 9625SW within the network. 192.168.1.XXX is an example of an IP address in a private (internal) network. If connecting multiple switchers, take care not to use the same IP address for each.

3.6.5.2. Setting Up the Sub Net Mask

GENERAL
Network Info
M 255.255.255.0

This menu item sets the "subnet mask" of the network. Specifically, this parameter outlines all the IP addresses that can communicate with the 9625SW. This parameter is usually set to 255.255.255.0 for a private network. Normally you will not have to adjust this parameter from its default value.

3.6.5.3. Setting Up the Gateway

GENERAL
Network Info
G 192.168.1.1

This menu item identifies the IP address of the "gateway" (commonly referred to as the "firewall"). In its simplest sense the gateway could be the PC directly connected to the 9625SW and running the network application software (i.e. Overture, InstaLogo, or Nomad). In a private network, this gateway could be identified as 192.168.1.YYY. Normally you will not have to adjust this parameter from its default value.

3.6.5.4. Displaying the Ethernet Hardware Address

GENERAL
Network Info
0:2:C5:01:03:E2

This menu item displays the Ethernet hardware address of the unit (which cannot be changed).

3.6.6. Setting the IP Address of the Desktop Control Panel

GENERAL
DCP IP Address
A 196.168.1.1

When you are using a desktop control panel (DCP) to control the 9625SW, you must use this menu item to specify the IP address of the controlling DCP.

3.6.7. Setting the Serial Protocol for the Serial Ports

The serial ports on the 9625 switchers are used for various functions. The UPGRADE RS-232 (A) port is used for upgrading firmware and other utility functions. The REMOTE PANEL (B) port is used to connect the rack mount remote control panel. The SERIAL CONTROL (C) port is used for communications between the keyer electronics unit and the router electronics unit. The COM D port is programmable and can be used for a variety of functions.

On the 9625SW, the Serial Control (C) port is dedicated for communications between the keyer electronics unit and the router electronics unit therefore the protocol for this port is fixed to TEN XL ctl. This menu item cannot be changed on the 9625SW. It is present only to maintain consistency throughout the 9625 product series

- *GENERAL*
  - *COM D*
    - *None*
    - *EAS CG*
    - *Temperature*
    - *Automation*
    - *Control Panel*
    - *Console*
    - *TEN XL ctl*
    - *M2100_AUTO*
    - *XY_AUTO*
    - *10XL Auto*

This menu item allows you to set the communications protocol that will be used on COM port D.

Select *None* to disable the use of the COM D port.

Select *EAS CG* when you have the EAS option (+EAS) enabled and have an EAS decoder connected to port D. See section 4.1 for more information about connecting the EAS decoder. See sections 4.2 and 3.14 for information about configuring the EAS functions of the switcher.

Select *Temperature* when you have the optional temperature probe connected to the port. See section 2.12 for more information about connecting the temperature probe. The temperature is displayed using a preformatted temperature logo, which is created using the InstaLogo™ or Overture software. See the InstaLogo™ or Overture section of the Keyer Toolkit manual or the Temperature Probe addendum which is shipped with your temperature probe for information on creating the Temperature logo.

The Control Panel, Console and TEN XL ctl functions are dedicated to ports B, A and C respectively and cannot be selected for COM D. These items are included for information purposes only.

There are four settings that are used when the switcher is under automation control. See your automation vendor for information about the protocols that are supported.

Select *AUTOMATION* when you want to control the switcher using the Evertz automation protocol. This is the setting you should use when you are controlling the switcher from the Evertz MetaCast software.

Select M*2100_AUTO* when you want to control the switcher using the Grass Valley M2100 switcher automation protocol.

Select *XY_AUTO* when you want to control the switcher using the xy logo inserter automation protocol. Note that only logo functions of the switcher can be controlled using the xy protocol.

Select 10XL Auto when you want to control the switcher using the GVG 10XL automation protocol.

GENERAL	COM E (net)	None EAS CG Temperature Automation Control Panel Console TEN XL ctl M2100_AUTO XY_AUTO 10XL Auto

This menu item allows you to set the communications protocol that will be used on the virtual serial port COM E. The use of a serial to Ethernet converter is required to use COM E.

The same functions are available for COM E as for COM D however, it is not recommended to use COM E for any of the automation protocols since TCP/IP traffic does not guarantee frame accurate control.

See section 2.12.1 for information on configuring a serial to Ethernet converter to use COM E.

3.6.8. Protecting Line 21 Captions (standard definition units only)

GENERAL	Line 21 Protect	L21 prot: Yes L21 prot: No

This menu item allows the user to control whether or not logos can be placed on line 21 where closed captions are located in North American television systems. When the video standard is set to one of the 625 line standards, the setting of this menu item is ignored.

When set to *No*, logos can be placed vertically beginning at line 21.

When set to *Yes*, logos can be placed vertically beginning at line 22, preserving any closed caption information that is encoded on line 21.

3.6.9. Setting the M2100 Unit Name

GENERAL	Unit Name	EVZ1 … EVZ8

This menu item allows the user to set the switcher unit name required when the 9625 switcher is used in conjunction with a M2100 control panel. Each switcher connected to the panel must have a unique name assigned.

3.6.10. Configuring the Up/Down Timers

The 9625SW has the ability to insert a logo, which displays a count down or count up timer. The *Up Down Timer* menu is used to configure the timers that are used for this purpose. The following is a description of each of the sub-menus.

GENERAL	Up Down Timer	Timer:Timer1 Timer:Timer2

This menu item selects which of the 2 timers the rest of the sub-menu items will affect.

Timer 1 is selected by default. To select Timer 2 press the **SELECT** button and use the 🡻 pushbutton to scroll to *Timer2* then press the **SELECT** button again.

GENERAL *Up Down Timer* *Hour: 0*	This menu item sets the hours for the timer. It can be set to values from 0 to 23 hours. To change the value press the **SELECT** button then use the ↑ or ↓ pushbuttons to change the hours for the timer. Pressing **SELECT** again will set the value.
GENERAL *Up Down Timer* *Minute: 0*	This menu item sets the minutes for the timer. It can be set to values from 0 to 59 minutes. To change the value press the **SELECT** button then use the ↑ or ↓ pushbuttons to change the minutes for the timer. Pressing **SELECT** again will set the value.
GENERAL *Up Down Timer* *Second: 0*	This menu item sets the seconds for the timer. It can be set to values from 0 to 59 seconds. To change the value press the **SELECT** button then use the ↑ or ↓ pushbuttons to change the seconds for the timer. Pressing **SELECT** again will set the value.

3.6.11 Automation Debug Functions

Two automation debug functions are provided in the *GENERAL* menu. One is for the Evertz automation protocol and is called *Automation Debug*. The other is for the M2100 automation protocol and is called *M2100 Auto Debug*. Both work in essentially the same way. When you turn on one of the automation debug functions, the data packets being received from the automation system are output to the Upgrade RS-232 serial port. To view the data, use a terminal program with the following settings: baud rate: 57600, data bits: 8, parity: none, stop bits: 2, flow control: none.

These functions are used to view the commands that are being sent by the automation system. If you are having problems with a unit that is being controlled from automation, Evertz service personnel may ask you to provide a capture of the data being output on the serial port when the debug function is turned on.

GENERAL *Automation Debug* *On* *Off*	This control enables the user to turn the *Automation Debug* on or off.
GENERAL *M2100 Auto Debug* *On* *Off*	This control enables the user to turn the *M2100 Auto Debug* on or off.

3.7. FILE MANAGEMENT CONFIGURATION ITEMS

The 9625SW Mini Master Control Switchers come standard with a 128 MB internal flash memory for storing logos and other media files. This can be upgraded to 1 GB of internal flash memory. The switchers can also be fitted with a removable compact flash expansion drive that can be used with either 128 MB or 1 GB compact flash memory cards. The *MANAGE FILES Setup* menu is used to set up various items related to the moving logo files between these different media drives. Table 3-2 shows the items available in the *MANAGE FILES Setup* menu. Sections 3.7.1 to 3.7.6 provide detailed information about each of the sub-menus.

Media	Selects the source media for the file operation
File	Selects the media file for the file operation
To	Selects the destination media for the file operation
Copy	Copies the media *File* from the *Source* to the *Destination* media
Delete	Deletes the media *File* from the *Source* media
Format	Erases the *Destination* media

Table 3-2: Top Level of the Manage Files Setup Menu

3.7.1. Selecting the Source Media

MANAGE FILES
- *Media*
  - *[serial number]*

This menu item is used to select the source media drive that you are working with. Each media drive is identified by the serial number of the compact flash media that is currently in the drive. Units that are not fitted with a compact flash expansion drive will only have 1 item in this list.

Use the ↑ or ↓ pushbuttons to display the serial number of the media that will be the source for the file operation and press the **SELECT** button.

3.7.2. Selecting the Media File Name

MANAGE FILES
- *File*
  - *logo name*

This menu item is used to select the file name of the logo or other media file that you want to perform the file operation on.

Use the ↑ or ↓ pushbuttons to display a list of all the media files on the drive selected with the *Media* menu item. When you have selected the desired media file press the **SELECT** button.

3.7.3. Selecting the Destination Media

MANAGE FILES
To
[serial number]

This menu item is used to select the destination media drive that you are working with. Each media drive is identified by the serial number of the compact flash media that is currently in the drive. Units that are not fitted with a compact flash expansion drive will only have 1 item in this list.

Use the ↑ or ↓ pushbuttons to display the serial number of the media that will be the source for the file operation and press the **SELECT** button to choose the displayed item.

3.7.4. Copying a File from one Drive to Another

MANAGE FILES
Copy

This menu item is used to make a copy of the file specified by the *File* menu item from the source media (chosen by the *Media* menu item) to the destination media (chosen by the *To* menu item).

Press the **SELECT** button to initiate the copy function. If a file of the same name already exists on the destination media, it will be overwritten in the copy function. If the target item is active (e.g. the logo is being keyed), the copy function will fail.

3.7.5. Deleting a File

MANAGE FILES
Delete

This menu item is used to delete the file specified by the *File* menu item from the source media (chosen by the *Media* menu item).

Press the **SELECT** button to initiate the delete function. If the file is active (e.g. the logo is being keyed), the delete function will fail.

3.7.6. Erasing all the Files from a Media Disk

MANAGE FILES
Format

This menu item is used to delete all the files from the source media (chosen by the *Media* menu item).

Press the **SELECT** button to initiate the format function. If there are active files on the media (e.g. one or more of the logo files are being keyed), the format function will fail.

Warning, this function is not recommended but is provided as last resort. The FORMAT function will completely remove all Media items, logos etc from the device specified in the MEDIA sub-menu. There is no undo provided.

3.8. MATTE CONFIGURATION ITEMS

The 9625SW switchers have a black overlay matte that blacks out video and produces a letterbox effect on the output video. The *MATTE Setup* menu is used to configure the matte that can be applied over the program video. Table 3-3 shows the items available in the *MATTE Setup* menu. Sections 3.8.1 to 3.8.3 give detailed information about each of the sub-menus.

Matte On/Off	Selects whether the matte is being keyed over the video or not.
Aspect	Sets the aspect ratio of the matte.
Top	Sets the last line of the top matte in user defined aspect ratio mode.
Bottom	Sets the first line of the bottom matte in user defined aspect ratio mode.

Table 3-3: Top Level of the Matte Setup Menu

3.8.1. Turning the Matte On and Off

MATTE
- *Matte On/Off*
  - *Enable*
  - *Disable*

This menu item is used to turn the matte on and off.

Select *Enable* to turn on the black matte overlay. This matte is on the top layer of the keyer and will overwrite all the video on the respective lines of the active picture. The matte does not blank the lines in the vertical interval.

Select *Disable* to turn off the black matte overlay.

3.8.2. Setting the Matte Aspect Ratio

MATTE
- *Aspect*
  - *Aspect: 1.77*
  - *Aspect: 1.85*
  - *Aspect: 1.33*
  - *Aspect: 2.35*

This menu item is used to set the aspect ratio of the matte.

There are four pre-defined aspect ratios available. When you select one of these aspect ratios the 9625SW will automatically set the *Matte Top* and *Matte Bottom* menu items.

In addition you can set a user defined aspect ratio by manually changing the *Matte Top* and *Matte Bottom* menu items. (See section 3.8.3.)

3.8.3. Setting a User Defined Matte Aspect Ratio

There are two menu items that allow the user to define custom aspect ratios for the matte. Selecting a pre-defined aspect ratio will lose any changes you have made to the *Matte Top* and *Matte Bottom* menu items unless they are stored using the user presets. (See section 3.11)

MATTE
- *Top*
  - *Top: 50*

This menu item is used to set the bottom line of the top matte.

Use the ↑ or ↓ pushbuttons to change the line number to the desired value. Either field 1 or field 2 lines can be used.

MATTE *Bottom* *Bottom: 233*	This menu item is used to set the top line of the bottom matte. Use the ↑ or ↓ pushbuttons to change the line number to the desired value. Either field 1 or field 2 lines can be used.

3.9. DOWNSTREAM KEYER CONFIGURATION ITEMS

The 9625SW switchers have a downstream keyer layer that allows you to key objects into the output video. The *DSK Setup* menu is used to configure the downstream keyer functions – key type, gain, and thresholds. Table 3-4 shows the items available in the *DSK Setup* menu. Sections 3.9.1 to 3.9.5 give detailed information about each of the sub-menus.

Key Type	Selects whether the DSK will perform a self-key or use the supplied key and fill signals.
Key Gain	Adjusts the transparency of the keyed object with respect to the key input.
Key Offset	Shifts the base level for the entire range of colour values with respect to the key input.
Key Threshold	Sets the level of the signal where the self-key will occur.
Auto Key Enable	Selects whether automation can turn the Media layer on and off.

Table 3-4: Top Level of the Matte Setup Menu

3.9.1. Setting the Downstream Key Type

DSK *Key Type* *Type: input* *Type: self*	This menu item is used to select whether the downstream keyer will use the key and fill input to perform the keying function or whether it will perform a self-key. Select *input* to use the key and fill inputs provided on video inputs 11 and 12 of the switcher respectively. Select *self* to perform a hard self-key using the threshold value set in the *Key Threshold* menu item.

3.9.2. Setting the Downstream Key Object Transparency

DSK *Key Gain* *Gain: 100* *Gain: 50 to 170*	This menu item is used to modify the opacity (transparency) of the keyed object used in *input* key mode. Use the ↑ or ↓ pushbuttons to change the *Key Gain* value. The default *Key Gain* value of 100 will leave the transparency of the keyed object unmodified from that defined by the key signal. Lowering the *Key Gain* value will reduce the opacity of the keyed object (i.e. make it more transparent). Increasing the *Key Gain* value will increase the opacity of the keyed object (i.e. make it less transparent).

3.9.3. Setting the Downstream Key Object Offset

DSK
Key Offset
Offset: 0 *-4096 to 4095*

This menu item is used to modify the key offset value used in *input* key mode. This value is the level that will be considered as black on the key input, and should not normally be changed from its default value of 0.

3.9.4. Setting the Downstream Self Key Threshold

DSK
Key Threshold
Thresh: 4 *4 to 1020*

This menu item is used to modify the threshold value used in *Self Key* mode. The *Self Key* is a hard key based on the luminance value of the fill signal applied to video input 12. All luminance values that are above the *Key Threshold* will be keyed from the Fill signal. All values from the key that fall below the *Key Threshold* will be keyed from the background video.

The default value for the *Key Threshold* is 4, which is black.

3.9.5. Allowing Automation to Control the Media Layer

DSK
Auto Key Enable
Ctrl media: yes *Ctrl media: no*

Some automation systems do not make a distinction between the Media layer (used for keying logos) and the Downstream Keyer layer. This control is provided to prevent the automation from turning the Media layer on and off at the same time as the DSK layer. Verify the functionality of your automation system before changing this menu item.

3.10. TRANSITION CONFIGURATION ITEMS

The 9625SW switchers can transition between the video sources using a variety of standard transition types. The *TRANSITION Setup* menu is used to configure the transition type, rate and swap mode. Table 3-5 shows the items available in the *TRANSITION Setup* menu. Sections 3.10.1 to 3.10.5 give detailed information about each of the sub-menus. The front panel **EFFECT SELECT** button provides a quick access to the top of the *TRANSITION* menu branch.

Transition Type	Selects type of video transition.
Transition Rate	Adjusts the rate of the video transition.
Transition Swap	Selects whether the program and preview buses will swap after the transition.
Transition Pause	Selects whether the transition can be paused.
Prog Bus Change	Selects whether the program bus will perform a hard switch or a transition when crosspoints are selected.

Table 3-5: Top Level of the Transition Setup Menu

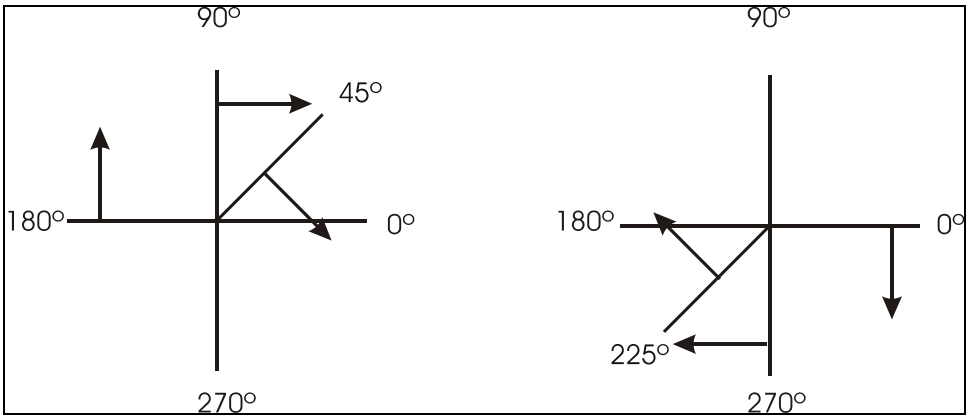
3.10.1. Setting the Transition Type

- *TRANSITION*
  - *Transition Type*
    - *fade*
    - *cut*
    - *fade-cut*
    - *fade-fade*
    - *cut-fade*
    - *diamond in*
    - *diamond out*
    - *circle in*
    - *circle out*
    - *box in*
    - *box out*
    - *TB split*
    - *LR split*
    - *TB curtain*
    - *LR curtain*
    - *TR box*
    - *TL box*
    - *BR right box*
    - *BL box*
    - *wipe xxx*

This menu item is used to select the type of transition you would like applied when the **TAKE** button is pressed. Transition effects only appear on the program output. Transitions on the Preview Output are always a Cut type performed at the end of the transition to program.

The *fade-cut, fade-fade,* and *cut-fade* transitions are two stage transitions. The transition shown first will be applied to the outgoing video, followed by the second transition. For example a *fade-fade* transition is a fade out to black followed by a fade in from black.

The numbers following the wipe patterns reference the angle of the wipe and direction of the wipe. Arrows indicate direction of wipe. For example a *Wipe 45* transition will start a 45 degree wipe that will progress from the top left of the screen to the bottom right of the screen.



3.10.2. Setting the Transition Rate

- *TRANSITION*
  - *Transition Rate*
    - *1 to 600*

This menu item is used to set the time for the transition to complete. The duration is measured in frames.

Use the ↑ or ↓ pushbuttons to change the *Transition Rate* value and press the **SELECT** button.

3.10.3. Setting the Transition Swap Mode

TRANSITION
Transition Swap
Swap: Swap
Swap: No Swap

This menu item is used to set the time for the transition to complete. The duration is measured in frames.

When set to *Swap* the input video and audio of the preview bus and the program bus will be swapped at the end of the transition. Logos and other media being keyed on the respective buses will also be swapped with the inputs.

When set to *No Swap* the input video and audio of the preview bus will be transferred to the program bus transition. Logos and other media being keyed on the preview bus will also be transferred to the program bus. The preview bus will remain unchanged.

3.10.4. Pausing a Transition

TRANSITION
Transition Pause
Pause: Off
Pause: On

This menu item is used to set whether the Transition can be paused.

When set to *On*, the transition may be paused by pressing the **TAKE** button while the transition is being performed. To continue the transition, press the **TAKE** button again.

When set to *Off*, the transition cannot be paused.

3.10.5. Selecting How the Program Bus Handles Crosspoint Switching

TRANSITION
Prog Bus Change
Switch: Clean
Switch: Hard

This menu item is used to select how the program bus will act when the user selects the input via one of the crosspoint selection buttons (1-12).

When set to *Clean,* the 9625SW will first switch the preview bus to the selected input and then perform a transition to the program bus according to the settings in the TRANSITION menu. The preview bus is then switched back to its previous state. Note that you will see a quick flash on the preview bus when in this mode.

When set to *Hard,* the program bus will perform a cut to the selected input. No transition is performed.

3.11. PRESET CONFIGURATION ITEMS

The 9625SW switchers have 10 user presets that can store pre-defined configurations for such things as Matte settings, Transition settings and DSK settings. Therefore if you would like to store a preset that has a 2.35 matte applied, you must first configure the *Matte Aspect* and *Matte Enable* menu items. Then store the preset at one of the user preset addresses. When presets are recalled, the settings are recalled to the preview bus and will not show on the program bus until the TAKE button is pressed, or a GPI trigger invokes the transition.

The *PRESET Setup* menu is used to store and recall user presets as well as configure the GPI and GPO functions. Table 3-6 shows the items available in the *PRESET Setup* menu. Sections 3.11.1 to 3.11.6 provide detailed information about each of the sub-menus.

After upgrading the 9625SW with new firmware, all presets should be recalled using the *Recall Preset* menu item, the values for new features must be set, and the preset must be saved again using the *Store Preset* menu item.

IF THIS IS NOT DONE, OLD PRESETS COULD BE RECALLED WITH UNDESIRABLE SETTINGS.

Recall Preset	Recalls one of the 10 user presets to the Preview bus.
Store Preset	Stores the Program bus settings to one of the 10 user presets.
Export Preset	Dumps the preset settings to the Upgrade RS-232 serial port.
Preset Source	Selects whether the settings of the Preview bus or the Program bus will be saved as a preset.
GPI Setup	Configures the General Purpose Inputs.
GPO Setup	Configures the General Purpose Outputs.

Table 3-6: Top Level of the Preset Setup Menu

3.11.1. Recalling a User Preset

PRESET
- *Recall Preset*
  - *recall # 1*

This menu item is used to recall one of the ten user presets to the Preview bus.

Use the ↑ or ↓ pushbuttons to select the preset to recall. When you press the **SELECT** button the preset will be recalled to the preview bus overwriting the active settings. These settings will show on the program bus when the **TAKE** button is pressed, or a GPI trigger invokes the transition.

3.11.2. Storing a User Preset

PRESET
- *Store Preset*
  - *store # 1*

This menu item is used to store the preset settings to one of the ten user presets.

Use the ↑ or ↓ pushbuttons to select the preset to save the settings to. When you press the **SELECT** button the settings will be saved overwriting any preset that was previously stored at that location.

3.11.3. Viewing the Preset Settings

PRESET
- *Export Preset*
  - *dump preset # 1*

This menu item is used to dump the preset settings to the Upgrade RS-232 serial port.

Use the ↑ or ↓ pushbuttons to select the preset to dump. When you press the **SELECT** button the settings are output in readable text to the Upgrade RS-232 port. To view the settings, use a terminal program with the following configuration: baud rate: 57600, data bits: 8, parity: none, stop bits: 2.

This feature is used for information purposes only. The data cannot be used to send the preset to another unit.

3.11.4. Selecting the Source of the Preset Settings

PRESET
- *Preset Source*
  - *store preview*
  - *store program*

This menu item is used to select the source of the preset settings.

Select *store preview* to use the preview bus as the source of the preset settings.

Select *store program* to use the program bus as the source of the preset settings.

3.11.5. Configuring the GPI Inputs

The 9625 switchers are fitted with 8 general purpose inputs (GPIs) that can be configured to trigger 2 different actions - *On Closure* and *On Open*. For example, the *On Closure* event can be used to load a preset and perform a transition to the program bus. The *On Open* event for the same GPI can be used to load a different user preset and perform a transition to the program bus. For each event you can configure a preset to load, transition to perform and logo to display.

3.11.5.1. Selecting One of the GPI Inputs to Configure

PRESET
- *GPI Setup*
  - *GPI:A*
    - *GPI=A to H*

This menu item is used to select which of the GPI inputs will be configured using the other menu items in the *GPI SETUP* menu branch.

When you first enter this menu branch the selected GPI input will be shown. To change to configuring another GPI input press the **SELECT** button. The display will show `GPI=A` indicating that the GPI input can be changed. Use the ↑ or ↓ pushbuttons to select the GPI input you wish to configure and press the **SELECT** button. You can configure the preset to load, transition to make and logo to display when the selected GPI input is closed and opened using the other menu items in the *GPI SETUP* menu branch.

3.11.5.2. Configuring the GPI Actions

There are 4 menu items that configure what happens when the selected GPI closes (*CLoadPrest, CTransition*, *CAction* and *CLogo)*. There are also 4 menu items that configure what happens when the selected GPI opens (*OLoadPrest, OTransition*, *OAction* and *OLogo)*. For the sake of simplicity in the manual, only the *On Close* event menu items will be shown. The applicable GPI is shown on the left of the front panel display. Each GPI can be independently configured by first selecting the GPI using the *GPI* menu item described in section 3.11.5.1.

PRESET
GPI Setup
A CLoadPrest:1
NON
1 to 10

This menu item is used to select the preset that will be loaded when the GPI input is closed to ground.

Select *NON* to **not** load a user preset when the GPI is closed. The existing switcher settings will be used.

Select *1* to *10* to load a specific user preset when the GPI is closed.

Note that the preset is loaded on the Preview bus. If you want the preset to go to the Program bus, set CTransition to *Yes.*

PRESET
GPI Setup
A CTransition
A CTransition: No
A CTransition: Ye

This menu item is used to select whether a transition will occur when the GPI is closed to ground.

Select *No* to **not** perform a transition when the GPI is closed.

Select *Ye* to perform a transition when the GPI is closed.

PRESET
GPI Setup
A CAction
A CAction:TOGGLE
A CAction:DUCK I
A CAction:DUCK O
A CAction:DUCK
A CAction:ALL OU
A CAction:TIMER1
A CAction:TIMER2
A CAction:NONE
A CAction:CUE
A CAction:IN
A CAction:OUT

This menu item is used to select the action to occur when the GPI input is closed to ground.

Select *TOGGLE* to change the state of the logo selected by the CLogo menu item. If the logo is not faded in, it will fade in or if the logo is faded in it will fade out. This function is useful if you want to use a momentary contact closure as opposed to a maintained contact closure to trigger a logo, but the disadvantage is that the current state of the logo is not guaranteed.

Select *DUCK I* to begin a 'Duck Audio Insert'. This action is the same as pressing the **EXT AUDIO MIX** button when it is not illuminated.

Select *DUCK O* to end a 'Duck Audio Insert'. This action is the same as pressing the **EXT AUDIO MIX** button when it is illuminated.

Select *DUCK* to toggle the state of the 'Duck Audio Insert'. If a 'Duck Audio Insert' is in effect it will be stopped or if a 'Duck Audio Insert' is not in effect it will be started. This function is useful if you want to use a momentary contact closure as opposed to a maintained contact closure to trigger a voice-over, but the disadvantage is that the current state of the voice-over is not guaranteed.

Select *ALL OUT* to fade out all logos.

Select TIMER1 or TIMER2 to initiate a count up or count down function for a time logo.

Select *NONE* to not perform any action.

Select *CUE* to load the logo selected by the *CLogo* menu item into memory. The logo will be displayed only on the Preview bus.

Select *IN* to load the logo selected by the *CLogo* menu item into memory and fade it in.

Select *OUT* to fade out the logo selected by the *CLogo* menu item.

PRESET
GPI Setup
A CLogo:none
none
List of logos

This menu item is used to select the logo to be acted on if the *CAction* menu item is set to *CUE, TOGGLE, TIMER1, TIMER2, IN or OUT.*

Select *none* to disable any logo actions.

Use the ↑ or ↓ pushbuttons to select from the list of available logos and press the **SELECT** button to make this the active logo for the *CAction* menu item.

3.11.6. Configuring the GPO Outputs

The 9625 switchers are fitted with 4 contact closure general purpose outputs (GPOs) that can be used as tallies for various functions. Use the ↑ or ↓ pushbuttons to scroll through the list of available GPO's (A through D). The function of each GPO is displayed in brackets. To change the function of a GPO press the **SELECT** pushbutton. The GPO's are active low and require a pull-up resistor to make them high when not active. See section 2.11 for information on connecting the GPO's. All the GPO's have the same functions available. These functions are described below.

- *PRESET*
  - *GPO Setup*
    - *GPO A - D*
      - *None*
      - *Power OK*
      - *PSUs Okay*
      - *PSU1 Okay*
      - *PSU2 Okay*
      - *Voice Ove*
      - *Logo+Medi*
      - *Media Sta*
      - *Logo Stat*
      - *DSK Statu*
      - *Source 1 - 12*
      - *SOURCE BL*

Select *None* to disable the GPO

Select *Power OK* to make the GPO low when either PSU1 or PSU2 are functioning.

Select *PSUs Okay* to make the GPO low when both PSU1 and PSU2 are functioning.

Select *PSU1 Okay* to make the GPO low when PSU1 is functioning.

Select *PSU2 Okay* to make the GPO low when PSU2 is functioning.

Select *Voice Ove* to make the GPO low when a voice-over is active on the Program bus.

Select *Logo+Medi* to make the GPO low when the media layer is turned on and a logo is being keyed on the Program bus.

Select *Media Sta* to make the GPO low when the media layer is turned on for the Program bus.

Select *Logo Stat* to make the GPO low when there is a logo being keyed on the Program bus.

Select *DSK Statu* to make the GPO low when the Downstream Keyer function is active on the Program bus.

Select *Source 1 - 12* to make the GPO low when the specified source is being output on the Program bus.

Select *SOURCE BL* to make the GPO low when black is being output on the Program bus.

3.12. VOICE OVER TRANSITION CONFIGURATION ITEMS

The 9625SW switchers have the ability to mix audio from an external audio input (often referred to as voice overs) over the normal program audio. This audio can be emergency alerts such as required by the Emergency Alert System (EAS) or other information. For example, this feature could be used to give information about upcoming programs while the credits from the previous program are being played. See section 3.16 for information on selecting the source of the voice over audio as well as configuring the audio levels.

The *Audio Over Trans* setup menu is used to configure the fade in and fade out times for the voice over audio. Table 3-7 shows the items available in the *Temperature* menu. Sections 3.12.1 and 3.12.2 give detailed information about each of the sub-menus.

VO In Rate	Sets the Voice Over fade in rate.
VO Out Rate	Sets the Voice Over fade out rate.

Table 3-7: Voice Over Transition Setup Menu

3.12.1. Setting the Voice Over In Rate

Audio Over Trans
  VO In Rate
  VO In Rate: 100
  1 to 600
	This menu item is used to set the voice over fade in transition rate. The duration is measured in frames.
	
	Use the ↑ or ↓ pushbuttons to change the *VO In Rate* value and press the **SELECT** button.

3.12.2. Setting the Voice Over Out Rate

Audio Over Trans
  VO Out Rate
  VO Out Rate: 100
  1 to 600
	This menu item is used to set the voice over fade out transition rate. The duration is measured in frames.
	
	Use the ↑ or ↓ pushbuttons to change the *VO Out Rate* value and press the **SELECT** button.

3.13. TEMPERATURE CONFIGURATION ITEMS

The 9625SW switchers have the ability to insert a logo, which displays the current local temperature. The *Temperature* setup menu is used to configure parameters relating to these types of logos. The sub-menu items are described below. Table 3-8 shows the items available in the *Temperature* menu. Sections 3.13.1 to 3.13.3 provide detailed information about each of the sub-menus.

Temp Source	Configures the source of the temperature.
Set Temperature	Sets the static temperature.
Temp Format	Configures the format of the temperature.

Table 3-8: Top Level of Temperature Setup Menu

3.13.1. Setting the Temperature Source

Temperature
Temp Source
Source: Probe *Source: Manual* *Source: METAR*

This menu item is used to select the source of the temperature, which will be displayed in temperature type logos.

Select *Probe* to take the temperature from the optional temperature probe.

See section 2.12 for more information on using the temperature probe.

Select *Manual* to manually set the temperature via the *Set Temperature* menu item.

Select *METAR* to take the temperature from METAR data acquired via the Internet. See section 3.16.4 for more information on configuring the 9625SW to acquire METAR data.

3.13.2. Setting the Temperature

Temperature
Set Temperature
Degree: 20 *-600 to 600*

This menu item is used to set the temperature to be displayed in temperature type logos when the *Temp Source* menu item is set to *Manual.*

Use the ↑ or ↓ pushbuttons to change the temperature value and press the **SELECT** button.

3.13.3. Setting the Temperature Format

Temperature
Temp Format
Format: Fahrenhe *Format: Celsius*

This menu item is used to set the format of the temperature as set by the *Set Temperature* menu item.

Select *Fahrenhe* if the temperature entered is in degrees Fahrenheit.

Select *Celsius* if the temperature entered is in degrees Celsius.

Note: This menu item is only used when the *Temp Source* menu item is set to *Manual.* When you create a temperature logo, you select the format as well. If for example you have created a temperature logo, which is formatted for Celsius and you manually set the temperature in degrees Fahrenheit, the 9625SW will automatically convert the value to degrees Celsius so that the correct value is displayed in the logo.

3.14. EAS CONFIGURATION ITEMS (EAS OPTIONED UNITS ONLY)

When the EAS option is added to the 9625SW switchers, they have the ability to key Emergency Alert messages received from a Sage or TFT EAS Decoder over the program video and to insert the emergency audio over the program audio. In order to insert the audio you will have to convert the analog audio from the decoder to AES and connect it to the External Audio input of the switcher. See section 2.8.3 for more information on connecting and configuring the EAS decoder.

The *EAS Setup* menu is used to configure items related to the EAS option and is only available on units fitted with the option. Table 3-9 shows the items available in the *EAS Setup* menu. Sections 3.14.1 to 3.14.6 provide detailed information about each of the sub-menus.

Type	Selects how the EAS Crawl will transition onto the video
V	Sets the vertical position of the EAS crawl
Font	Sets the font used to display the EAS crawl
Font Hei	Sets the font size used to display the EAS crawl
Rate	Sets the crawl rate of the EAS crawl
Warning BG	Sets the colour of the background for EAS warning messages
Warning FG	Sets the font colour for EAS warning messages
Watch BG	Sets the colour of the background for EAS watch messages
Watch FG	Sets the font colour for EAS watch messages
Test BG	Sets the colour of the background for EAS test messages
Test FG	Sets the font colour for EAS test messages

Table 3-9: Top Level of the EAS Setup Menu

3.14.1. Setting the EAS Display Type

EAS
- *Type*
  - *Type: Ramp On*
  - *Type: Ramp Off*

This menu item is used to select how the EAS message will transition onto the video.

Select *Ramp On* to have the crawl background appear as the text scrolls from right to left across the screen.

Select *Ramp Off* to have the crawl background appear all at once.

3.14.2. Setting the Vertical Position of EAS Crawl Display

EAS
V
V : 21

This menu item is used to set the vertical position of the EAS scrolling text message. The *V* value is the video line where the top of the scrolling message will be placed. The range for placement is from 20 to 248 (SDSW) and 21 to 546 (HDSW) as set by the FCC rules.

When you first enter this menu branch the selected current position will be shown. To change the vertical position, press the **SELECT** button. The display will show *V = 21* indicating that the line number can be changed. Use the ↑ or ↓ pushbuttons to select the line number and press the **SELECT** button. The display will show *V : xxx* indicating that this is the new display position.

3.14.3. Setting the Font used for the EAS Crawl Display

EAS
Font
Font: fontname

This menu item is used to set the font that will be used for the EAS scrolling text message.

When you first enter this menu branch the current font name will be shown. To change the font to another true type font, press the **SELECT** button. The display will show `=fontname` indicating that the font can be changed. Use the ↑ or ↓ pushbuttons to select from the available true type fonts that have been loaded using the Nomad or Overture software. When you press the **SELECT** button the display will show `font:fontname` indicating that this is the new display font.

3.14.4. Setting the Font Size for the EAS Crawl Display

EAS
FontHei
FontHei: 60

This menu item is used to set the font size that will be used for the EAS scrolling text message.

The EAS height is the vertical size of the font measured in lines of video. To change the font size, press the **SELECT** button. The display will show `FontHei = xxx` indicating that the font size can be changed. Use the ↑ or ↓ pushbuttons to select the desired font size then press the **SELECT** button. The allowable range of lines is 5 to 100 for standard definition and 10 to 200 for high definition.

3.14.5. Setting the Crawl Rate for the EAS Crawl Display

EAS
Rate
Rate:6 *1 to 32*

This menu item is used to set the speed with which the scrolling text moves from right to left across the screen measured in samples per frame.

For example it will take 120 frames for the text to scroll across a 720 pixel wide standard definition image with a scroll rate of 6. This default value of 6 should provide a comfortable rate, however should you change the size of the font, you should also adjust the scrolling speed.

To change the scroll rate press the **SELECT** button. The display will show `Rate = xx` indicating that the scroll rate can be changed. Use the ↑ or ↓ pushbuttons to select the desired scroll rate then press the **SELECT** button.

3.14.6. Setting the Colours for the EAS Crawl Display

There are three different levels of EAS messages – warning messages, watch messages and test messages. Each message typically has a different background and foreground colour associated with it so that the viewer will immediately know the severity of the EAS alert. There are six menu items used to set the foreground and background colours. For the sake of simplicity only the menu item for setting the warning background colour will be shown in the manual. The other menu items are used in the same way.

EAS
Warning BG
R:255G: 0 B: 0

This menu item is used to set the background colour for the warning messages. When you first enter this menu item you will be shown a set of colour values for each of the RGB colour components. The display will be similar to:

```
R=255G:  0B:  0
```

To change the R value use the ↑ or ↓ pushbuttons. When you press the **SELECT** button the colon after the G will change to an equals sign indicating that you can change the G value. Proceed to set the G and B values in the same way. After changing the B value, press the **SELECT** button and the display will return to the *Warning BG* sub-menu.

3.15. MEDIA CONFIGURATION ITEMS

The *Media* Setup menu is used to configure items related to the positioning individual logos and adjusting their fade in and fade out rates. There are 5 types of media files that can be used by the 9625SW. These are: static logos, animated logos, time and temperature logos, crawls and audio clips. The sub-menu items available in the *Media* menu will be different depending on which type of media file was selected on the front panel before entering the setup menu. Changing the *Media* configuration items will only affect that particular file. Most of the items in the *Media* menu can be configured when the logo is created however the settings in the *Media* menu will override the pre-configured settings. Table 3-10 shows the items available in the *Media* Setup menu. Sections 3.15.1 to 3.15.16 provide detailed information about each of the sub-menus.

H	Sets the horizontal position of the selected logo
V	Sets the vertical position of the selected logo
Fade In	Sets the fade in duration for the selected logo
Hold	Sets how long the selected logo will be displayed
Fade Out	Sets the fade out duration for the selected logo
Gain	Sets the opacity (transparency) for the selected logo
UD Timer	Selects the timer to be used for the selected logo (available for time logos only)
Rate	Sets the crawl speed for the selected logo (available for crawls only)
Repeat	Sets how many times the crawl will be repeated (available for crawls only)
Pause	(Available for crawls only)
Font Hei	Sets the font size (available for crawls only)
Font	Selects the font (available for crawls only)
Bg Opacity	Sets the opacity (transparency) of the crawl's background (available for crawls only)
Fg Opacity	Sets the opacity (transparency) of the crawl's text (available for crawls only)
Crawl BG	Sets the colour of the crawl's background (available for crawls only)
Crawl FG	Sets the colour of the crawl's text (available for crawls only)
CL Repeat	Sets the repeat count for an audio clip

Table 3-10: Top Level of the Media Setup Menu

3.15.1. Setting the Logo Horizontal Position

Media
H
H : 0 *0 to max pixels*

This menu item is used to set the horizontal position for the current logo. The position is referenced to the left most edge of the logo. The range of values depends on the video standard in use.

Use the ↑ or ↓ pushbuttons to adjust the position and then press the **SELECT** button to make the change.

3.15.2. Setting the Logo Vertical Position

Media
V
V : 0 *0 to max lines*

This menu item is used to set the vertical position for the current logo. The position is referenced to the top edge of the logo. The range of values depends on the video standard in use.

Use the ↑ or ↓ pushbuttons to adjust the position and then press the **SELECT** button to make the change.

3.15.3. Setting the Logo Fade In Duration

Media
Fade In
Fade In : 30 f

This menu item is used to set the fade in rate for the current logo. The range of values is 1 to 600 frames. The *Fade In* menu item does not apply to animated logos.

Use the ↑ or ↓ pushbuttons to adjust the *Fade In* time and then press the **SELECT** button to make the change.

3.15.4. Setting the Logo Display Time

Media
Hold
Hold:30 f
1 to 600 *manual*

This menu item is used to set how long the current logo will be displayed. The range of values is 1 to 600 frames. The logo will automatically fade out after the *Hold Time* has expired. Setting *Hold* to manual will cause the logo to be displayed until it is manually faded out. The *Hold* menu item does not apply to animated logos.

Use the ↑ or ↓ pushbuttons to adjust the *Hold* time and then press the **SELECT** button to make the change.

3.15.5. Setting the Logo Fade Out Duration

Media
Fade Out
Fade Out : 30 f

This menu item is used to set the fade out rate for the current logo. The range of values is 1 to 600 frames. The *Fade out* menu item does not apply to animated logos.

Use the ↑ or ↓ pushbuttons to adjust the *Fade Out* time and then press the **SELECT** button to make the change.

3.15.6. Setting the Logo Transparency

Media
Gain
Gain: 100%

This menu item is used to adjust the opacity (the inverse of transparency) of the logo as a percentage of the original opacity when the logo was created. When the *Logo Gain* is set at its default value of 100% the logo will be displayed at its original opacity.

For example if the logo is created at 10% opaque, adjusting the *Gain* value to 200 will render the logo as 20% opaque. If the logo is created at 50% opaque, adjusting the *Gain* value to 200 will render the logo as 100% opaque. *Gain* values resulting in opacity levels above 100% are ignored.

Use the ↑ or ↓ pushbuttons to adjust the *Gain* and then press the **SELECT** button to make the change.

3.15.7. Selecting the Up/Down Timer for a Logo

Media
UDTimer
UDTimer: NONE
UDTimer:Timer1
UDTimer:Timer2

This menu item is used to select the Up/Down Timer that will be used for the selected time logo.

Select *NONE* to have the logo display the time based on the Real Time Clock.

Select *Timer1* or *Timer2* to have the logo perform a count down or count up based on the settings in the *Up Down Timer* sub-menu of the *GENERAL* menu.

3.15.8. Setting the Crawl Speed

Media
Rate
Rate: 1

This menu item is used to set the speed at which the crawl will move across the screen. The value ranges from 1 to 15.

This option will only be available for crawls.

3.15.9. Setting the Crawl Repeat Count

Media
Repeat
Repeat: 2

This menu item is used to set how many times a crawl will scroll across the screen. The value ranges from 0 to 30.

This option will only be available for crawls.

3.15.10. Setting the Interval Between Crawl Repeats

Media
Pause
Pause: 5

This menu item is used to set the interval in seconds between repeats of the crawl. The value ranges from 0 to 30 seconds.

This option will only be available for crawls.

3.15.11. Setting the Size of the Font for a Crawl

Media
Font Hei
Font Hei: 30

This menu item is used to set the size of the font for the crawl in lines of video.

This option will only be available for crawls.

3.15.12. Selecting the Font to be Used for a Crawl

Media
Font
Font: fontname

This menu item is used to select the font that will be used for the crawl. Press **SELECT** then use the ↑ or ↓ pushbuttons to select from the available true type fonts that have been loaded using the Nomad or Overture software.

This option will only be available for crawls.

3.15.13. Setting the Crawl Background Opacity

Media
BgOpacity
BgOpacity: 100

This menu item is used to adjust the opacity (the inverse of transparency) of the crawl's background as a percentage of the original opacity when the crawl was created. When *BgOpacity* is set at its default value of 100% the crawl's background will be displayed at its original opacity.

For example if the crawl background is created at 10% opaque, adjusting the *BgOpacity* value to 200 will render the crawl's background as 20% opaque. If the crawl's background is created at 50% opaque, adjusting the *BgOpacity* value to 200 will render the crawl's background as 100% opaque. *BgOpacity* values resulting in opacity levels above 100% are ignored.

3.15.14. Setting the Crawl Text Opacity

Media
FgOpacity
FgOpacity: 100

This menu item is used to adjust the opacity (the inverse of transparency) of the crawl's text as a percentage of the original opacity when the crawl was created. When *FgOpacity* is set at its default value of 100% the crawl's text will be displayed at its original opacity.

For example if the crawl's text is created at 10% opaque, adjusting the *FgOpacity* value to 200 will render the crawl's text as 20% opaque. If the crawl's text is created at 50% opaque, adjusting the *FgOpacity* value to 200 will render the crawl's text as 100% opaque. *FgOpacity* values resulting in opacity levels above 100% are ignored.

3.15.15. Setting the Colour for the Crawl Background

Media
Crawl BG
R:255G: 0 B: 0

This menu item is used to set the background colour for the crawl. When you first enter this menu item you will be shown a set of colour values for each of the RGB colour components. The display will look similar to the following:

```
R=255G:  0B:  0
```

To change the R value use the ↑ or ↓ pushbuttons. When you press the **SELECT** button the colon after the G will change to an equals sign indicating that you can change the G value. Proceed to set the G and B values in the same way. After changing the B value, press the **SELECT** button and the display will return to the *Crawl BG* sub-menu.

3.15.16. Setting the Colour for the Crawl Text

Media
Crawl FG
R:255G: 0 B: 0

This menu item is used to set the colour of the text for the crawl. When you first enter this menu item you will be shown a set of colour values for each of the RGB colour components. The display will look similar to the following:

```
R=255G:  0B:  0
```

To change the R value use the ↑ or ↓ pushbuttons. When you press the **SELECT** button the colon after the G will change to an equals sign indicating that you can change the G value. Proceed to set the G and B values in the same way. After changing the B value, press the **SELECT** button and the display will return to the *Crawl FG* sub-menu.

3.15.17 Setting the Repeat Count for an Audio Clip

Media
CL Repeat
CL Repeat: 0 *0 to 100*

This menu item is used to set the repeat count for an audio clip. To play the clip once, set *CL Repeat* to 0. The audio clip can be repeated up to 100 times.

This item will only be available for audio clips.

3.16. HTML SETUP PAGE

As of firmware version 2.0 the audio setup for the 9625SW is done via an HTML page. If the firmware version installed in your unit is less than 2.0 please upgrade to the latest version which is posted on the Evertz website. See section 5.2 for instructions on upgrading the firmware in your unit. The HTML page also allows you to label the router sources and configure the unit to acquire METAR data for use with temperature logos. You can access the HTML setup page by launching your Internet browser and entering the IP address of the 9625SW in the address bar. The following sections provide a description of the features available on the HTML setup page.

3.16.1. HTML Audio Setup Page

When you access the Audio Setup page, a screen similar to the one shown in Figure 3-3 will appear.

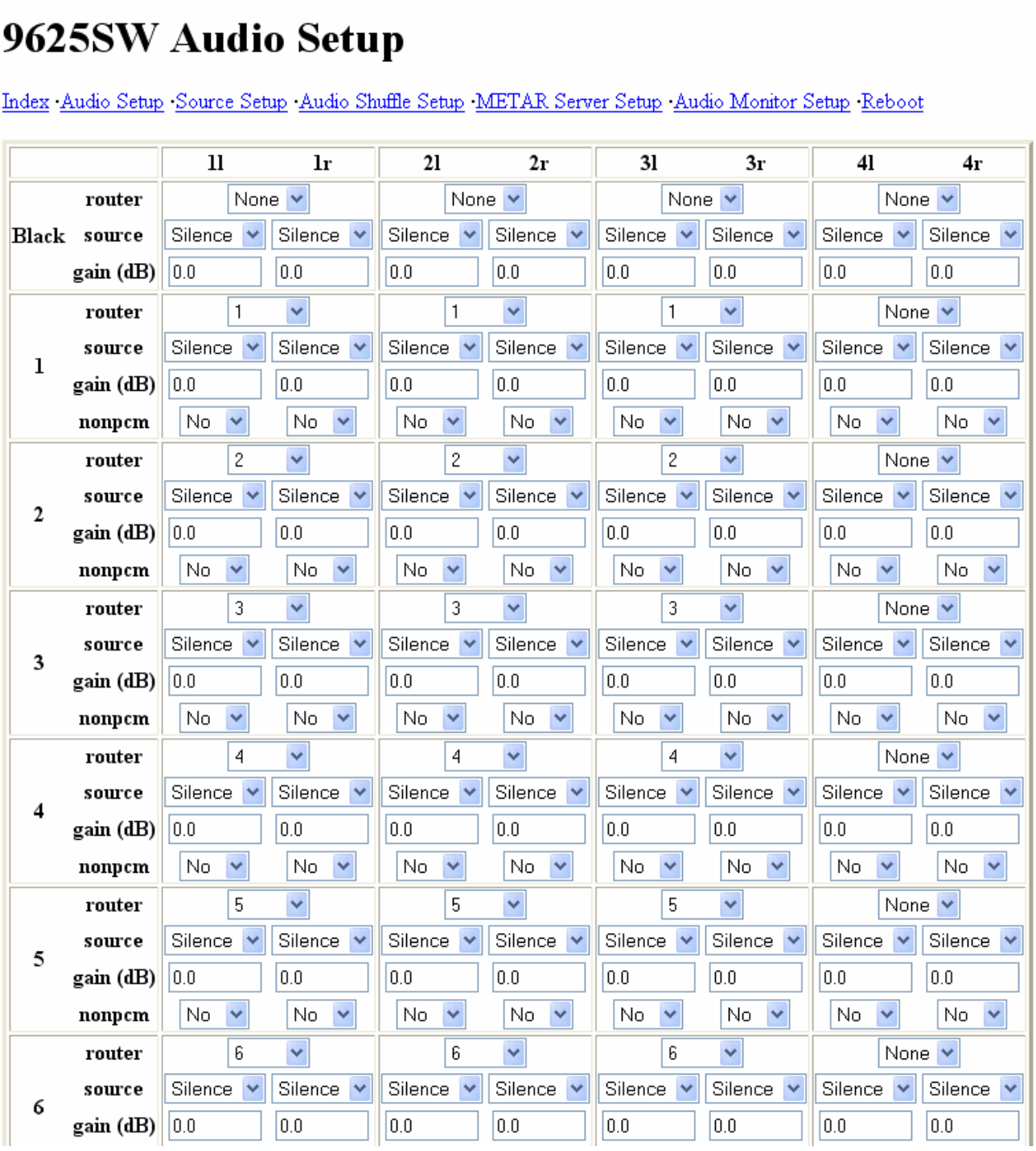


Figure 3-3: HTML Audio Setup Page

The first column represents the router video sources 1 through 12 as well as the internal black generator and internal white generator (only accessible through automation). The rest of the columns are used to configure the audio sources for each of the video sources.

router: Selects the router crosspoint which is to be used as the source for the audio. Normally this would be set to the same as the video source.

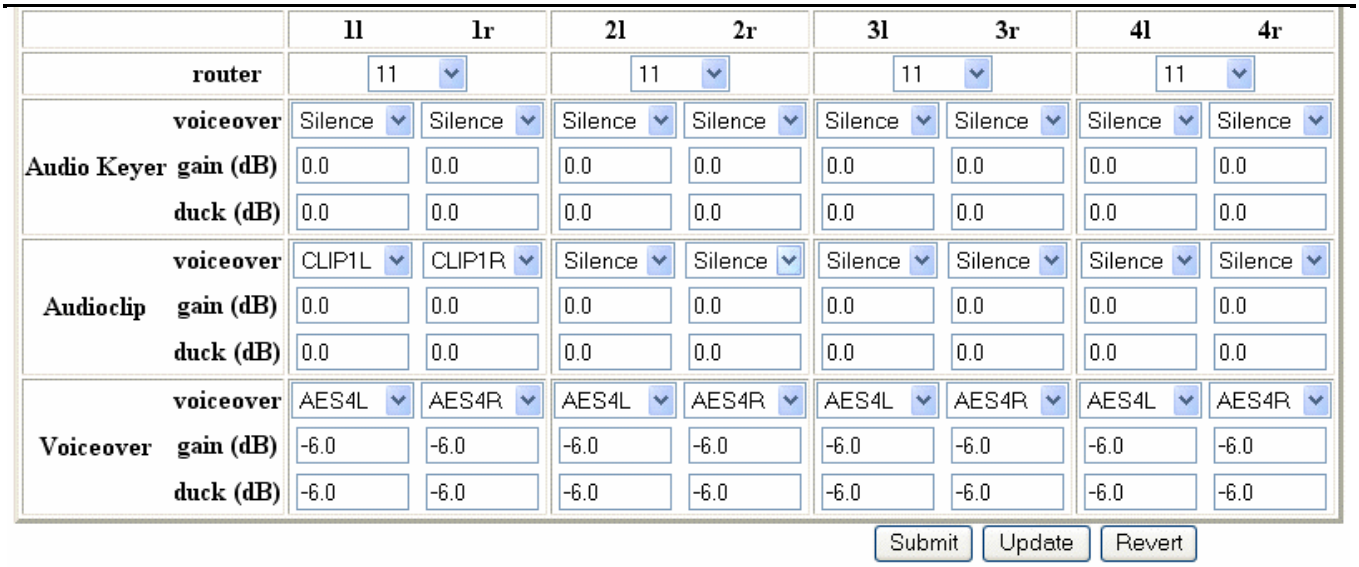
source: Selects the input source for the audio channel in question. The following is a brief description of each of the available selections:

AES1L - Left channel of AES audio connected to the A side of ABO1
AES1R - Right channel of AES audio connected to the A side of ABO1
AES2L - Left channel of AES audio connected to the B side of ABO1
AES2R - Right channel of AES audio connected to the B side of ABO1
AES3L - Left channel of AES audio connected to the A side of ABO2
AES3R - Right channel of AES audio connected to the A side of ABO2
AES4L - Left channel of AES audio connected to the B side of ABO2
AES4R - Right channel of AES audio connected to the B side of ABO2
EMB1L - Group 1 channel 1 of audio embedded in the program video
EMB1R - Group 1 channel 2 of audio embedded in the program video
EMB2L - Group 1 channel 3 of audio embedded in the program video
EMB2R - Group 1 channel 4 of audio embedded in the program video
EMB3L - Group 2 channel 1 of audio embedded in the program video
EMB3R - Group 2 channel 2 of audio embedded in the program video
EMB4L - Group 2 channel 3 of audio embedded in the program video
EMB4R - Group 2 channel 4 of audio embedded in the program video
AES1M - Mono mix of AES audio connected to the A side of ABO1
AES2M - Mono mix of AES audio connected to the B side of ABO1
AES3M - Mono mix of AES audio connected to the A side of ABO2
AES4M - Mono mix of AES audio connected to the B side of ABO2
EMB1M - Mono mix of group 1 channels 1 and 2
EMB2M - Mono mix of group 1 channels 3 and 4
EMB3M - Mono mix of group 2 channels 1 and 2
EMB4M - Mono mix of group 2 channels 3 and 4
Silence - Audio will be silent

gain: Sets the output gain for the audio channel in question. To pass the audio through at the received level, set the gain to 0. To boost the audio level sets the gain to a positive value. To reduce the audio level set the gain to a negative value.

nonpcm: Selects whether the audio is PCM. If the audio is PCM set nonpcm to No. If the audio is not PCM, such as Dolby-E, set nonpcm to Yes.

At the bottom of the Audio Setup page you will find a table, as shown in Figure 3-4, which is used to configure how audio mixes will be done.



		1l	1r	2l	2r	3l	3r	4l	4r
	router	11		11		11		11	
Audio Keyer	voiceover	Silence	Silence	Silence	Silence	Silence	Silence	Silence	Silence
	gain (dB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	duck (dB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Audioclip	voiceover	CLIP1L	CLIP1R	Silence	Silence	Silence	Silence	Silence	Silence
	gain (dB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	duck (dB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Voiceover	voiceover	AES4L	AES4R	AES4L	AES4R	AES4L	AES4R	AES4L	AES4R
	gain (dB)	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0
	duck (dB)	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0

Submit Update Revert

Figure 3-4: Bottom of HTML Audio Page

The Audio Keyer settings are applied when the unit is in DSK mode. The Audio clip settings are applied when an audio file which has been uploaded to the 9625SW's compact flash card as a ".wav" file is being played out. The Voiceover settings are applied when an "Ext. Audio Mix" is in effect.

router: Selects the router crosspoint which is to be used as the source for the audio that is to be mixed with the background audio.

voiceover: Selects the input source for the audio that is to be mixed with the background audio. See the previous section for a description of the available selections. For the Audioclip layer, only Clip1L, Clip1R or Silence may be selected. Currently the Clip2 selections are not used.

gain: Sets the gain for the audio that is to be mixed with the background audio. To pass the audio through at the received level, set the gain to 0. To boost the audio level set the gain to a positive value. To reduce the audio level set the gain to a negative value.

duck: Sets the gain for the background audio when the audio mix is in effect. To pass the background audio through at the received level, set the duck to 0. To boost the background audio level set the duck to a positive value. To reduce the background audio level set the duck to a negative value.

3.16.2. HTML Source Setup Page

The source setup page is used to label the video inputs. These labels are only used for a M2100 desktop control panel. The names entered here will show up on the source buttons of the control panel. The default source labels are shown in Figure 3-5.

Figure 3-5: Source Setup Page

3.16.3. HTML Audio Shuffle Setup Page

This feature has been implemented specifically for Harris automation systems, which have the ability to do audio shuffling. The audio channels are called by number (0 through 15). This menu allows you to assign an audio channel to each number.

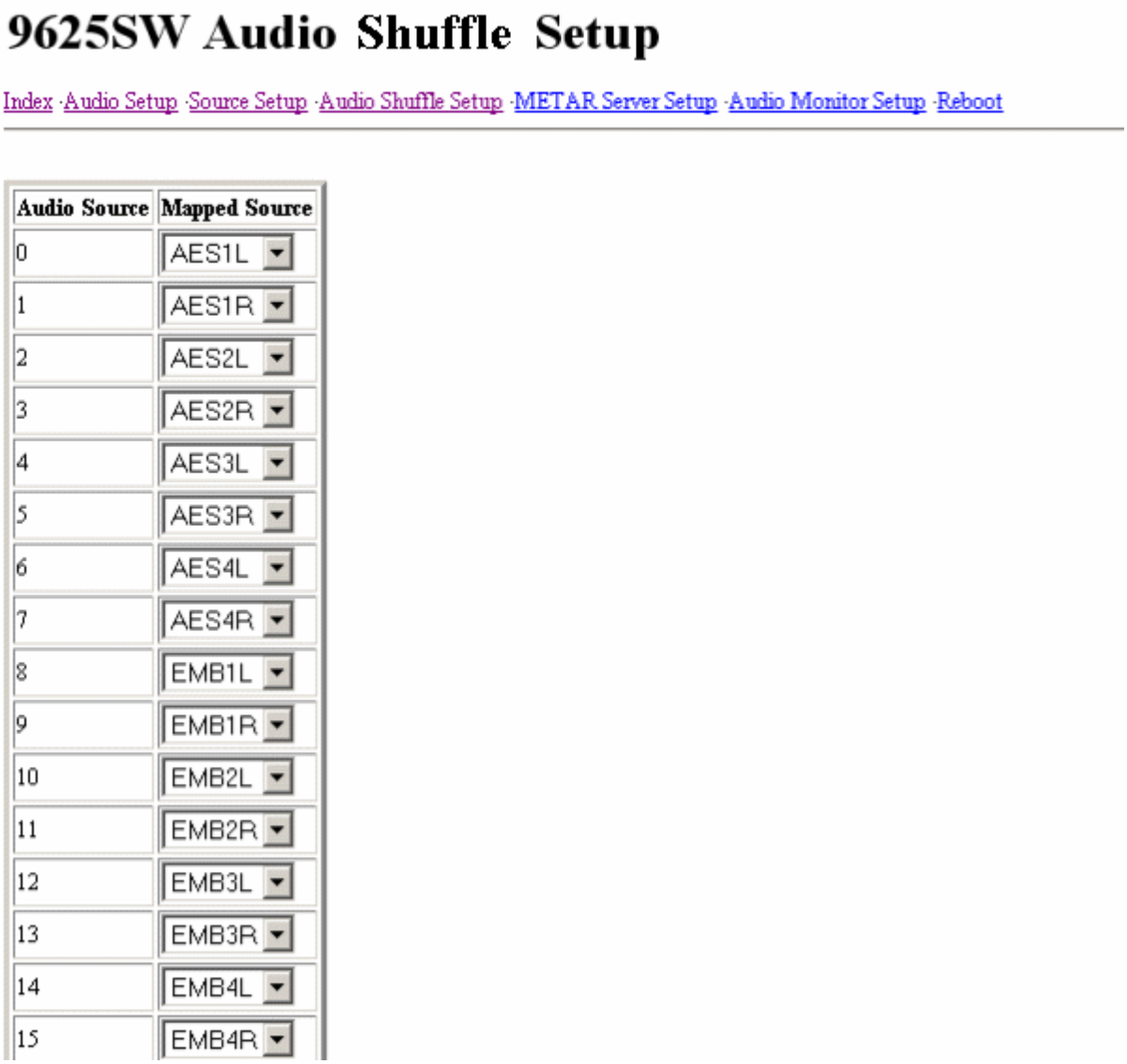


Figure 3-6: Audio Shuffle Setup Page

3.16.4. METAR Setup Page

METAR is widely used in the aviation industry to obtain meteorological data from airports. The 9625SW can extract the temperature from the data and use it for temperature logos. Use of this feature requires a connection to the Internet. When you access the METAR setup page a screen similar to the one in Figure 3-7 will be shown.

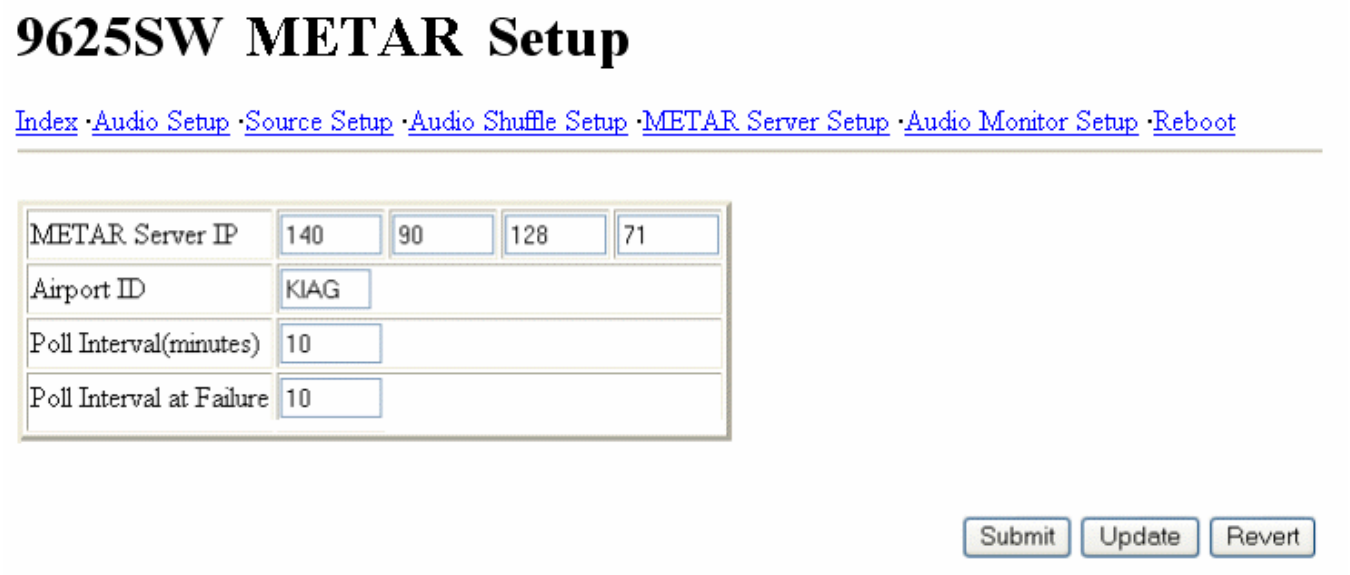


Figure 3-7: METAR Setup Page

METAR Server IP: Enter the IP address of the METAR server you would like to use. A known IP address for one METAR server is 140.90.128.71.

Airport ID: Enter the airport code for the airport you would like to obtain the temperature from. The *Airport ID* must be entered in all upper case letters.

Poll Interval: Enter how often you would like the 9625SW to obtain the temperature. Temperature logos will be immediately updated each time the temperature is retrieved from the METAR server.

Poll Interval at Failure: Enter how long you would like the 9625SW to wait before trying to retrieve the temperature from the METAR server after a failed attempt.

3.16.5. Audio Monitor Setup

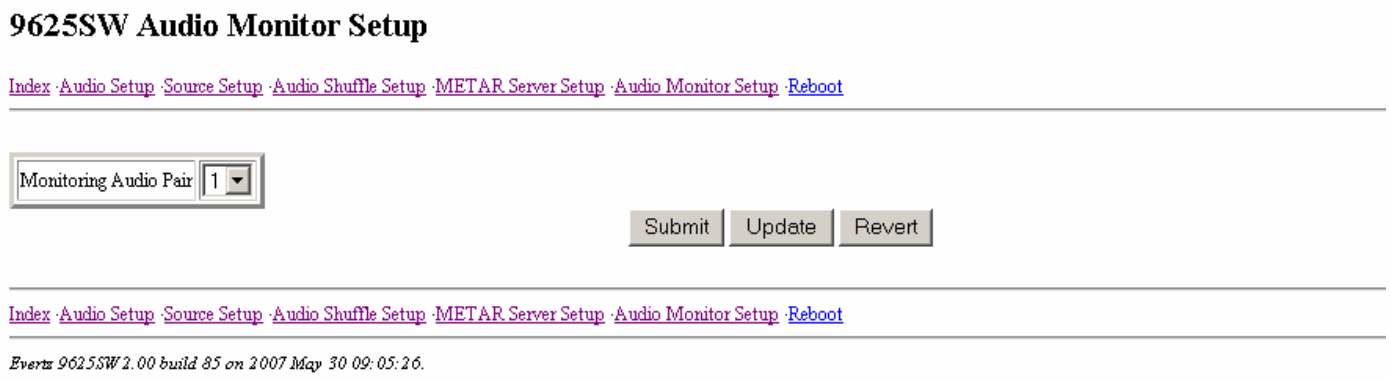


Figure 3-8: Audio Monitor Setup Page

3.17. GPI SCRIPTING

GPI script files are text-based files that can be programmed and sent to your unit by Nomad or Overture. The syntax is important as the script represents programming code that will be executed when the allocated GPI trigger event occurs. There are 8 GPI inputs. Each input has 2 events: close and open. You can program scripts for each of these 16 events. If a script file is present on the flash file system the unit will process the script when the event is triggered. If the script file is not present when a GPI event is triggered, then the internal GPI menu settings will be used.

The GPI script files are text files, so you can edit them very easily with notepad.

The title of a script is used by the system to figure out which GPI event this file is applicable to.

Ex. gpi-h-close, gpi-a-open

In this case, *gpi* states that the script will be running off the state of a GPI trigger. The *h* represents which specific GPI trigger the script will react to. GPI triggers range from A to H. *Close* shows that the script will run when the GPI is in a closed state.

In the programming language the script utilizes a comment, which is represented by the symbol #. Any text that follows this symbol on a line of code will not execute a command or conduct any sort of action.

Ex. # this file describes the complete state of the keyer

CMD represents a command that is meant to be executed by the script when it runs.

Ex. cmd load_preset(1)

There are many different kinds of commands that can be run, and each command will perform a specific action when the script is run.

• cmd load_preset(1) : This command will load preset 1 (not implemented)
• cmd udt_start(1) : This command will start up/down timer #1
• cmd media_all_out() :This command fades out all logos and audio clips
• cmd media_cue("02.evl"): This command will cue up logo “02.evl”
• cmd media_in("03.evl") : This command will fade in logo “03.evl”
• cmd media_out("04.evl"): This command will fade out logo “04.evl”
• cmd media_toggle("05.evl"): This command will toggle the state of logo “05.evl”, if the logo is faded out it will be faded in, if it is faded in then it will be faded out.
• cmd udt_stop(2): This command will stop up/down timer #2
• cmd udt_toggle(1): This command will toggle the start/stop state of the up/down timer #1, if the timer is started it will stop, if stopped it will start
• cmd udt_reload(2): This command will reset up/down timer #2 to the timer start time
• cmd voiceover_enable():This command will enable the voiceover function
• cmd voiceover_disable():This command will disable the voiceover function
• cmd voiceover_toggle():This command will toggle the state of the voiceover function, if the state is enabled it will be disabled, if disabled it will be enabled
• cmd transition("video"): This command will enable a video transition setting the preview bus to the program bus using the transition settings specified either in the script or from the panel
• cmd transition("audio"): This command will enable an audio transition from the device
• cmd transition("key,audio"): This command will enable the DSK layer and enable an audio transition from the device
• cmd transition("bg,audio"): This command will transition the background video and audio

The script can also direct the actions of channels coming from the device.

```
object bus_setup ("1") {
object channel ("1L") {
source = "AES1L" gain = 0 router = "1" }
}
```

In this case, the script is telling the channel “1L” of input 1 that both it’s sources will come from the discrete input 1L of ABO 1 side A and the gain on will be 0.

Transition options are as follows

- "Cut", mode_cut
- "Fade", mode_fade
- "BarWipeTopToBottom", mode_wipe_0
- "DiagonalWipeTopLeft", mode_wipe_45
- "BarWipeLeftToRight", mode_wipe_90
- "DiagonalWipeBottomLeft", mode_wipe_135
- "BarWipeBottomToTop", mode_wipe_180
- "DiagonalWipeBottomRight", mode_wipe_225
- "BarWipeRightToLeft", mode_wipe_270
- "DiagonalWipeTopRight", mode_wipe_315
- "BoxWipeBottomLeft", mode_wipe_blbox
- "BoxWipeBottomRight", mode_wipe_brbox
- "BoxWipeTopLeft", mode_wipe_tlbox
- "BoxWipeTopRight", mode_wipe_trbox
- "BarnDoorWipeVerticalClose", mode_wipe_lrcurt
- "BarnDoorWipeHorizontalClose", mode_wipe_tbcurt
- "BarnDoorWipeVerticalOpen", mode_wipe_lrsplit
- "BarnDoorWipeHorizontalOpen", mode_wipe_tbsplit
- "IrisWipeRectangleClose", mode_wipe_box_in
- "IrisWipeRectangleOpen", mode_wipe_box_out
- "IrisWipeCircleClose", mode_wipe_circle_in
- "IrisWipeCircleOpen", mode_wipe_circle_out
- "IrisWipeDiamondClose", mode_wipe_diamond_in
- "IrisWipeDiamondOpen", mode_wipe_diamond_out
- "CutFade", mode_cut_fade
- "FadeFade", mode_fade_fade
- "FadeCut", mode_fade_cut

Audio channel setups are handled as an object configuration

```
object bus_setup ("1") {
object channel ("1L") {
source = "AES1L" gain = 0 router = "1" }
object channel ("2R") {
source = "Silence" gain = 0 router = "none" }
object channel ("4L") {
source = "AES4L" gain = 0 router = "12"}
}
```

The values for the router property are "1", "2", ..., "12", "none". One router property is needed for each channel pair (the latter one overwrites the first if different router values are specified for both left and right channels).

This example sets the output audio channel 1L to the AES discrete input 1L, which is the first channel of the first AES BNC in the program BNC block on the rear of the unit. This input will be active whenever you select the Bkg/A from the front panel, gpi or automation. This will also be the source for the background audio when the unit is in DSK mode.

3.17.1. Scripting Object Syntax

object TYPE (name) {
object TYPE (name)
PROPERTY = value
command
}
Note: obj can be used in place of object

Defined TYPE
bus_setup
channel
router
transition
matte
key
audio
source
misc

Defined PROPERTY
pgm_source
pvw_source
key_source
fill_source
type
swap
rate
enable
top
bottom
source
router
mode
offset
threshold
gain
nonpcm
line21_protect
b_blanking

Individual object constructs

object bus_setup (“bus names”)
{
object channel (“channel names”)
{

source = “audio_source_name”
gain = “gain_db”
router = “1”, …, “12”, “none”
nonpcm = “1” or “0”
}
}
Note:
The source, gain, and router do not have to be specified all in one object
The left and right channels are routed in pairs. As a result, latter router definition for a pair overrides an earlier one if there is any present.

nonpcm is not implemented in current version
bus names
“black”
“white”
“1”, “2”, “3”, “4”, “5”, “6”, “7”, “8”, “9”, “10”, “11”, “12”

channel names
“1L”, “1R”, “2L”, “2R”, “3L”, “3R”, “4L”, “4R”

audio_source_names
AES1L, AES1R, AES2L, AES2R,
AES3L, AES3R, AES4L, AES4R,
AES1M, AES2M, AES3M, AES4M,
EMB1L, EMB1R, EMB2L, EMB2R,
EMB3L, EMB3R, EMB4L, EMB4R,
EMB1M, EMB2M, EMB3M, EMB4M
Silence

object router()
{
pgm_source = “bus_name”
pvw_source = “bus_name”
key_source = “bus_name”
fill_source = “bus_name”
}

Note:
Values for bus_name are the same as for object bus_setup.
key_source and fill_source are not implemented in current version
object transition()
{
type = “transition type”
rate = “integer number of fields”
swap = “1” or “0”
}
Note: “1” to enable swap

transition type
Cut, Fade,
BarWipeTopToBottom, DiagonalWipeTopLeft,
BarWipeLeftToRight, DiagonalWipeBottomLeft,

BarWipeBottomToTop, DiagonalWipeBottomRight,
BarWipeRightToLeft, DiagonalWipeTopRight,
BoxWipeBottomLeft, BoxWipeBottomRight,
BarnDoorWipeVerticalClose, BarnDoorWipeHorizontalClose,
BarnDoorWipeVerticalOpen, BarnDoorWipeHorizontalOpen,
IrisWipeRectangleClose, IrisWipeRectangleOpen,
IrisWipeCircleClose, IrisWipeCircleOpen,
IrisWipeDiamondClose, IrisWipeDiamondOpen,
CutFade, FadeFade, FadeCut

object matte()
{
enable = “1” or “0”
top = “integer number of lines”
bottom = “integer number of lines”
}
Note: “1” to enable matte

object key ()
{
mode = “input” or “self”
offset = “integer offset”
threshold = “integer threshold”
}

object misc ()
{
line21_protect = “1” or “0”
b_blanking = “1” or “0”
}
Note: “1” to enable line 21 protect or b_blanking.

3.17.2. Scenario Samples

3.17.2.1. SAP Programming

This means audio must always be present on audio channel 3 (group 1 Pair 2 channel 1)
Default operation is mono mix of 1 & 2 on 3

GPI scripts are used to configure the audio from automation control
GPI_A_Close Pass 3 to 3 – file name: gpi-a-close
# Source Bus A Config
object bus_setup ("a") {
object channel ("2L") {
source = "AES2L" gain = 0 }
}
GPI_A_Open Revert to Mono Mix of 1 & 2 on 3 – file name: gpi-a-open
# Source Bus A Config
object bus_setup ("a") {
object channel ("2L") {
source = "AES1M" gain = 0 }
}

GPI_B_Close Remap channel 4 to channel 3 – file name: gpi-b-close
# Source Bus A Config
object bus_setup ("a") {
object channel ("2L") {
source = "AES2R" gain = 0 }
}
GPI_B_Open Revert to Mono Mix of 1 & 2 on 3 – file name: gpi-b-open
# Source Bus A Config
object bus_setup ("a") {
object channel ("2L") {
source = "AES1M" gain = 0 }
}

3.17.2.2. Bring up a Trouble Slide Called "trouble"

These 2 GPI scripts will fade out all displayed logos and stop all audio clips as well as invoke a full screen logo called "trouble" or a trouble slide. The slide must first be prepared in InstaLogo or Overture and uploaded to the unit.

GPI_H_Close – file name: gpi-h-close
Logo commands
cmd media_all_out()
cmd media_in("trouble")
GPI_H_Open – file name: gpi-h-open
Logo commands
cmd media_all_out()

The Logo Layer must be enabled for logos and audio clips to playout on the desired output bus of DSK-LGA and SW units. If you want to preview an audio clip, make sure the logo layer for the preview bus is enabled and disable the logo layer on the program bus for the DSK-LGA and SW units. Use Cue in the LGA units, however there is a known bug in that cued audio clips playout on the program output.

3.17.2.3. EAS for Audio Voice Over

These 2 GPI scripts will enable and disable the voice over function mixing the output audio with the configurations set on the HTML voice over settings.
GPI_H_Close – file name: gpi-h-close
Voiceover Commands
cmd voiceover_enable()
GPI_H_Open – file name: gpi-h-open
Voiceover Commands
cmd voiceover_disable()

When the voice over is disengaged, the audio that was active will still be active as the background source selections are not affected.

3.17.2.4. EAS for Audio Voice Over using 1 other Voice Over

These 2 GPI scripts will enable and disable the voice over function mixing the output audio with the configurations set from the source selections in the file and then reset the voice over to the standard inputs. GPI H remaps and invokes the voice over and would be connected to the tally out from the EAS decoder, while GPI G will be used for normal voiceovers.

Warning, GPI G Open could disable the voice over function while the EAS voice over is active

GPI_G_Close – file name: gpi-g-close
Voiceover Commands
cmd voiceover_disable()
Insert appropriate VO audio source selection code here
cmd voiceover_enable()
GPI_G_Open – file name: gpi-g-open
Voiceover Commands
cmd voiceover_disable()
Insert appropriate VO audio source selection code here
GPI_H_Close – file name: gpi-h-close
cmd voiceover_disable()
Insert appropriate VO audio source selection code here
cmd voiceover_enable()
GPI_H_Open – file name: gpi-h-open
cmd voiceover_disable()
Insert appropriate VO audio source selection code here

When the voice over is disengaged, the audio that was active will still be active as the background source selections are not affected, however the voice overs will be off.

CHAPTER 4
TABLE OF CONTENTS

Figures

Tables

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4. OPTIONAL EAS DECODER INTERFACE (EAS OPTIONED UNITS ONLY)

The 9625SW switchers with the EAS option fitted are the perfect solution for on-air insertion of channel branding bugs and Emergency Alert System messages. The switcher is designed to receive Emergency Alert System message data and audio from a Sage or TFT EAS decoder unit and insert it over the program video and audio. This chapter describes how to connect your unit to your EAS decoder, configure the switcher and EAS decoder, and perform some tests to verify the unit is functioning properly.

4.1. CONNECTING THE SWITCHER TO THE EAS DECODER

Make sure that the basic video and audio connections are wired as recommended in section 2.5. You will also have to route the output program video to an appropriate monitor to view the on-screen scrolling messages generated by the switcher's built in character generator. Please ensure that your switcher is out of the broadcast path when testing functionality. Figure 4-1 provides a simplified connection overview.

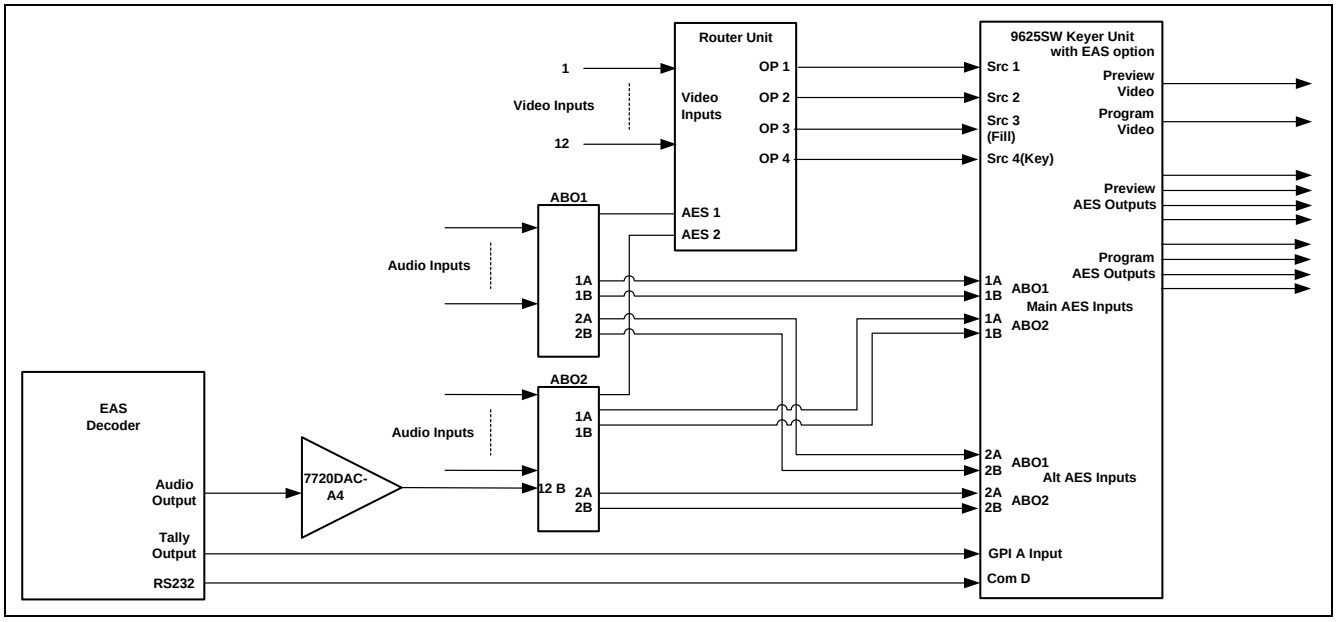


Figure 4-1: EAS Decoder Connection

4.1.1. Connecting the Serial Port

Connect a straight through RS232 cable (shipped with unit) to the COM D serial port on the keyer unit. The other end of the cable will connect to the EAS decoder. (See the section specific to your encoder manufacturer) For a permanent installation, you will require a custom length cable that fits between the EAS decoder unit and the 9625SW switcher electronics. You can purchase any off-the-shelf 9 pin straight through serial cable, or you may create this cable yourself according to the cable drawing in Table 4-1. This cable should not exceed 50 feet. Note that the COM D serial port must be set for RS-232 operation as described in section 2.2.6.

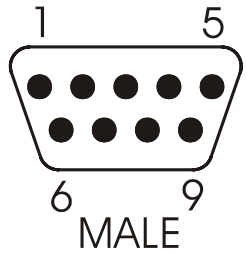
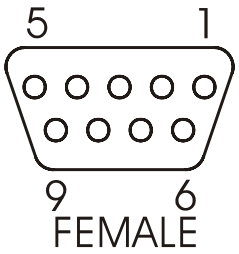
Switcher End				EAS Decoder End		
	9 pin D Male	Pin	Belden 9729	9 pin D Female	Pin	
		1			1	
	TxD	2	-------1a------	RxD	2	
	RxD	3	-------2b------	TxD	3	
		4		Rx Gnd	4	
	Sig Gnd	5	---drain 1----	Sig Gnd		
		6		Tx Gnd	6	
	RTS	7	-------1b-----	CTS	7	
	CTS	8	-------2a------	RTS	8	
		9			9	
	Frame Gnd	Shield	---drain 2----	Frame Gnd	Shield	

Table 4-1: EAS Decoder Extender Cable

If you are using a Sage model EAS decoder please see section 4.1.2 for port configuration information. If you are using a TFT model EAS decoder please see section 4.1.3 for port configuration information.

4.1.2. Sage Decoder Configuration

The Sage provides six serial ports that can be used for a variety of purposes. Each serial port is wired like a standard PC 9-pin connector. Refer to the Sage manual for specific port pin outs. (They are contained in section 12 of their manual at the time of this writing.) Plug the female end of the straight through RS232 cable into the COM 2 port of the Sage decoder. If this port is already in use you may use the COM 6 port.

The Sage port must be configured to output the type of data that the 9625SW unit is expecting. To do this, follow these steps on the Sage unit.

1) Press **Menu**
2) Scroll down to *Devices*
3) Press **Enter**
4) Scroll down to *COM2* or *COM6* (depending on the COM port you connected to)
5) Press **Enter**
6) Scroll down to *Device Type*
7) Press **Enter**
8) Scroll down to *Generic CGEN*
9) Press **Enter**
10) Enter *Password*
11) Scroll up to *Go Back*
12) Press **Enter**

Your Sage is now configured to work with the 9625SW. Proceed to section 4.1.4 to connect the audio and GPI controls, to configure the 9625SW and verify that the connections are functioning as expected.

4.1.3. TFT Decoder Configuration

The TFT unit has a number of communications ports on the rear of the unit marked as COM 1 to COM 3 and J103 and J104. The baud rate is fixed at 9600 within the 9625SW and it is configured to communicate using the *Alternate TFT I/F for Trilithic EAS Sytems ALT1 option*. This means you must plug the female end of the straight through RS232 cable into the COM 2 port of the TFT decoder and configure the port accordingly. The serial port is wired like a standard PC 9-pin connector. This will require that your TFT unit be equipped with the Four Port Expander Board option. If your unit is not equipped, please contact TFT and order this field installable option.

The TFT port must be configured to output the type of data that the 9625SW unit is expecting. To do this, follow these steps on the TFT unit.

1) Press **Password**
2) Enter *Primary Password*
3) Press **Password**
4) Enter *Setup Password*
5) Scroll down to item 18 *Enter Character Generator Interface*
6) Press **Enter**
7) Scroll down to *Alt1 Alternate TFT I/F for Trilithic EAS Systems*
8) Press **Enter**
9) Scroll down to item 27 *Enable CG Text for RWT*
10) Press **Enter**
11) Scroll up or down to *Yes*
12) Press **Enter**
13) Press **Exit**

Your TFT unit is now configured to work with the 9625SW. Proceed to section 4.1.4 to connect the audio and GPI controls, to configure the 9625SW and verify that the connections are functioning as expected.

4.1.4. Connecting the Audio

The emergency audio from the Sage or TFT decoders must be converted to an AES audio stream before it can be used with the 9625SW switcher. You can use the Evertz 7720ADC-A4 Analog Audio to AES Converter module, or other suitable device to do this. Connect the AES1 output from the 7720ADC-A4 into input 12 on the B side of the 1202ABO router audio breakout panel that is connected to the AES Audio 2 I/O connector. You can select which audio input is to be used via the HTML audio setup page. See section 3.16.

4.1.5. Connecting the GPI Tally Control

The EAS decoders give out a tally control to indicate when an EAS alert message is to be inserted into the program video and audio. This tally output must be connected to one of the GPI inputs on the switcher to 'duck insert' the emergency audio into the program audio. For the sake of simplicity in this description connect the tally output from the decoder to the GPI A input on the keyer unit of the switcher. (See Table 2-6 for a pinout of the GPIO connector on the keyer unit.)

4.2. CONFIGURING THE 9625SW FOR EAS

4.2.1. Configuring the Serial Port

In order for the EAS decoder to communicate to the 9625SW you must configure the COM D port for the correct protocol. The *COM D* menu item in the *General* menu is used to accomplish this. Set this menu item to *EAS CG* in order for the EAS decoder to communicate to the 9625SW. See section 3.6.7 for information on setting the serial port protocol.

Alternatively you may also connect the EAS decoder to the 9625SW via the virtual COM E port using a serial to Ethernet converter in the same manner as you would to connect the optional temperature probe (see section 2.12.1). However, only one device may be connected to the COM E port.

4.2.2. Configuring the GPI Input

In order to use the GPI to signal the EAS alert you must configure the GPI A input as shown in Table 4-2. See section 3.11.5 for information on configuring the GPI inputs.

Menu Item	Setting
CLoadPrest	NON
CTransition	No
CAction	Duck I
CLogo	(none)
OLoadPrest	NON
OTransition	No
OAction	Duck O
OLogo	(none)

Table 4-2: GPI settings for EAS Tally Control

4.2.3. Configuring the EAS Controls

The EAS crawl is keyed in by the Media keyer, therefore ensure that the Media layer is activated for the program and preview output buses. Also ensure that all stored presets have the Media layer activated. See section 3.1.2 for information on turning on the Media layer. See section 3.11 for information on storing presets.

The EAS menu items are used to configure the EAS crawl position, size, and colours. See section 3.14 for a complete description of these menu items. The brief descriptions of the menu items will guide you in setting up the unit quickly.

V: Sets the vertical position of the scrolling text. The default value should be adequate but you need to ensure that the messages fall within the safe area of the video display so that the entire message is legible once the message is broadcast.

***FontHei*:** Sets the size of the Scrolling text.

***Rate*:** Sets the speed of the scrolling text message. 1 indicates the slowest possible scrolling speed. 32 represents the fastest scrolling speed. If you adjust the font size you will have to adjust the scroll rate. The smaller the font size the slower you will have to scroll the text box.

4.3. TESTING THE SYSTEM

Please ensure all output video from the 9625SW is out of your on-air broadcast path for this test.

4.3.1. Testing the Sage Decoder

On the Sage decoder.

1) Press **Week**
2) Enter *Password*
3) Press **Enter**

The video monitor should now show a scrolling EAS weekly test message. If you do not see the test message, double check your video connections, ensure that you have the correct video standard selected in the 9625SW. Ensure that you have configured the correct Sage port and the correct Device Type for the correct port. Also make sure that the serial cable is valid and connected to the correct ports. Check the Evertz Web site at www.evertz.com for any new firmware releases for the switcher. Check that you are running the most up-to-date firmware in your Sage decoder at www.broadcast.harris.com.

Evertz tested this configuration with the Sage decoder model 1822 with firmware version 5.111

4.3.2. Testing the TFT Decoder

On the TFT decoder

1) Press **Weekly Test** button

The monitor should now show a scrolling EAS weekly test message. If you do not see the test message, double check your video connections and ensure that you have the correct video standard selected in the 9625SW. Make sure that you have configured the correct CG Interface Type and that the serial cable is valid and connected to the correct ports. Check the Evertz Web site at www.evertz.com for any new firmware releases for the switcher. Check that you are running the most up-to-date firmware in your TFT decoder Phone: 1-800-347-3383.

Evertz tested this configuration with the TFT decoder model EAS 911 with firmware version T.838

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CHAPTER 5
TABLE OF CONTENTS

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5. TECHNICAL DESCRIPTION

5.1. SPECIFICATIONS

5.1.1. Video Specifications (PKG9625SW)

5.1.1.1. Standard Definition Serial Digital Video Input

Standard:	270 Mb/sec Serial digital component SMPTE 259M standards supported shown in Table 2-8, software selectable
Number of Inputs:	12
Connector:	BNC per IEC 61169-8 Annex A
Equalization:	Automatic to 100m @ 270 Mb/s with Belden 1694 or equivalent cable
Return Loss:	> 15 dB up to 270 Mb/s

5.1.1.2. Standard Definition Serial Digital Video Outputs

Standard:	SMPTE 259M, same as input
Number of Outputs:	1 Program, 1 Preview
Connectors:	BNC per IEC 61169-8 Annex A
Signal Level:	800mV nominal
DC Offset:	0V ±0.5V
Rise and Fall Time:	750ps nominal
Overshoot:	<10% of amplitude
Wide Band Jitter:	< 0.2 UI

5.1.2. Video Specifications (PKGHD9625SW)

5.1.2.1. HDTV Serial Digital Video Input

Standard:	1.485 Gb/sec HDTV Serial component digital SMPTE 292M standards supported shown in Table 2-9 - software selectable
Number of Inputs:	12
Connector:	BNC per IEC 61169-8 Annex A
Equalization:	Automatic to 25m @ 1.5Gb/s with Belden 1694 or equivalent cable
Return Loss:	> 15 dB up to 1.5Gb/s Mb/s

5.1.2.2. HDTV Serial Digital Video Outputs

Standard:	SMPTE 292M, same as input
Number of Outputs:	1 Program, 1 preview
Connectors:	BNC per IEC 61169-8 Annex A
Signal Level:	800mV nominal
DC Offset:	0V ±0.5V
Rise and Fall Time:	200ps nominal
Overshoot:	<10% of amplitude
Wide Band Jitter:	< 0.2 UI

5.1.3. Video Reference

Type:	Depends on video format NTSC or PAL Colour Black 1 V p-p
Connectors:	BNC per IEC 61169-8 Annex A
Termination:	High impedance loop through on router unit 75 ohm terminated on keyer unit

5.1.4. AES Audio Inputs

Standards:	SMPTE 276M single ended AES
Number of Inputs:	4 Groups of 12 (on two 1202ABO AES Breakout panels provided)
Connector:	BNC per IEC 61169-8 Annex A
Signal Level:	1 V p-p ± 10%

5.1.5. AES Audio Outputs

Standards:	SMPTE 276M single ended AES
Number of Outputs:	4 Program, 4 Preview
Connector:	BNC per IEC 61169-8 Annex A
Signal Level:	1 v p-p
Reference:	From Video Reference

5.1.6. LTC Reader

Standard:	SMPTE 12M
Frame Rate:	25 or 30 Fps nominal depending on video standard
Connectors:	3 pin female XLR type connector
Level:	0.2 to 4V p-p, balanced or unbalanced

5.1.7. Control

COM D Port:	9 pin female “D”, RS-232/422 8 bits, no parity, baud rate depends on protocol Selectable protocols: Automation, EAS Interface, temperature probe interface
Upgrade Port:	9 pin female “D”, RS-232 57600 baud, 8 bits, no parity firmware upgrade
Remote Panel Port:	9 pin female “D”, RS-422 9600 baud, 8 bits, no parity Rack mount control panel interface
Logo Transfers:	RJ-45 100Base T Ethernet, TCP/IP

5.1.8. General Purpose Inputs and Outputs

Number of Inputs: 8, programmable functions
Number of Outputs: 4
Type: opto-isolated, active low
Connector: 15 pin female High-density D
Signal Level: Pulled up to Vext supplied voltage. 3.3V DC provided

5.1.9. Processing Delay

Processing Delay: Delay is typically much less than a line. Probably less than 100 sample clocks. Maximum delay (in reference mode) is just over a line

5.1.10. Physical

Dimensions:
Switcher Electronics: 19“ W x 3.5” H x 18.75” D.
(483mm W x 90mm H x 477mm D)
Control Panel: 19“ W x 1.75” H x 4.25” D.
(483mm W x 45mm H x 110mm D)
Weight (total): 17 lbs. (7.8Kg)

5.1.11. Electrical

Power: Auto-ranging 100-240 VAC 50/60 Hz, 60 VA.
Safety: ETL listed.
Complies with EU safety directive
EMI/RFI: Complies with FCC Part 15 Class A,
EU EMC Directive

5.2. UPGRADING THE FIRMWARE

5.2.1. Overview

The firmware in the switcher units is contained on a FLASH EPROM. From time to time firmware updates will be provided to add additional features to the units. The router unit and the keyer unit each have their own firmware and each must be updated separately if required. The keyer unit update can be initiated using either the front panel or the terminal program method. As the router unit has no front panel it can only be initiated using the terminal program method.

You will need the following equipment in order to update the Firmware

- PC with available communications port. The communication speed is 57600 baud, therefore a 486 PC or better with a 16550 UART based communications port is recommended.
- "Straight-thru" serial extension cable (DB9 female to DB9 male).
- Terminal program that is capable of Xmodem file transfer protocol. (such as HyperTerminal)
- New firmware supplied by Evertz.

After upgrading the 9625SW with new firmware, all presets should be recalled using the *Recall Preset* menu item, the values for new features must be set, and the preset must be saved again using the *Store Preset* menu item.

IF THIS IS NOT DONE, OLD PRESETS COULD BE RECALLED WITH UNDESIRABLE SETTINGS.

5.2.2. Terminal Program Setup

1. If you are updating the keyer unit firmware, connect the serial cable to the **UPGRADE RS232** DB9 connector on the keyer unit rear panel. If you are updating the router unit firmware, connect the serial cable to the **REMOTE CTL** DB9 connector on the router unit rear panel.

2. Connect the 9 pin connector on the end of the serial update cable to the PCs' RS-232 communications port.

3. Start the terminal program.

4. Configure the port settings of the terminal program as follows:

Baud	**57600**
Parity	**no**
Data bits	**8**
Stop bits	**2**
Flow Control	**None**

5. Power up the unit.

5.2.3. Initiating Firmware Upgrade Mode via the Front Panel (Keyer units only)

This is the recommended method of updating the software in the keyer units. It is activated through the *GENERAL* Setup menu branch. If you cannot invoke the upload mode via the front panel as outlined in step 6 then follow the steps in section 5.2.4.

6. You can invoke the Firmware upgrade mode using the front panel Setup Menu. (See section 3.3 and 3.4 for information on how to operate the front panel menus.) Press the **SETUP** button to enter the top level of the Setup menu. Use the ↑ or ↓ pushbuttons to find the *GENERAL* menu item and then press the **SELECT** button. Use the ↑ or ↓ pushbuttons to find the *Update Code* menu item and then press the **SELECT** buttons. If you want to upgrade the operating firmware in the keyer unit scroll to *yes- upgrade now* then press the **SELECT** button or press the **SETUP** button if you want to abort the programming operation.

   When you press the **SELECT** button the keyer unit will be placed in programming mode and its serial port is opened to communicate with the terminal software program. The following message will appear on the terminal screen:

```
EVERTZ 7700FC BOOT MONITOR
MON8240 1.1 BUILD 9
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED
EXEC RESULT 0
UPLOAD MAIN PROGRAM
```

   If the file transfer has not started within 15 seconds the unit will automatically reboot.

   Proceed to section 5.2.4 for instructions on uploading the firmware using the terminal program.

5.2.4. Initiating Firmware Upgrade Mode from the Terminal Program

You may send commands to the keyer unit or router unit boot monitor in order to upgrade the application firmware in either unit.

7. Power up the unit. After the unit powers up, a banner with the boot code version information should appear in the terminal window.

   For example:

```
EVERTZ 7700FC BOOT MONITOR
MON8240 1.1 BUILD 9
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED
UPLOAD MAIN PROGRAM
```

The following is a list of possible reasons for failed communications:

- Defective Serial Upgrade cable.
- Wrong communications port selected in the terminal program.
- Improper port settings in the terminal program. (Refer to step 4 for settings). Note that HyperTerminal will not change port settings while connected. Click on HyperTerminal's "Disconnect" button, change the settings then click the "Call" button to activate changes to the port settings.

8. Within 15 seconds press the <CTRL> and <X> keys several times, this should stop the boot sequence and you should see a message saying "ENTERING COMMAND LOOP". If the unit continues to boot-up, simply cycle the power and repeat this step.

9. Type the word “upgrade”, without quotes, and hit the <ENTER> key once.

5.2.5. Uploading the New Firmware

10. You should now see a prompt asking you to upload the file.

14. Upload the “*.bin” file supplied using the X-Modem transfer protocol of your terminal program. If you do not start the upload within 10 minutes the unit’s Boot code will time out. You can restart the upgrade process by power cycling the unit.

    The application firmware is contained in a “bin” file and will have a name consisting of the version number and the product name.

    For the 9625SW keyer unit the name will be similar to: 2v00_76_9625SW.bin

    For the X-1204S-SW router unit the name will be similar to: S1204A4L_1v0_129.bin

    For the HD9625SW keyer unit the name will be similar to: 2v01_308_HD9625SW.bin

    For the X-1204H-SW router unit the name will be similar to: H1204A4L_1v0_128.bin

15. The boot code will indicate whether the operation was successful upon completion of the upload.

    For Example:

```
UPLOAD OKAY
```

16. The following is a list of possible reasons for a failed upload:

- If you get the message "transfer cancelled by remote" you must restart the terminal program and load the bin file again.
- The supplied “*.bin” file is corrupt.
- Wrong file specified to be uploaded.
- Wrong file transfer protocol used – make sure you specify Xmodem, not Xmodem 1K.
- The PCs’ RS-232 communications port cannot handle a port speed of 57600.
- Noise induced into the Serial Upgrade cable.

5.2.6. Completing the Upgrade

17. Power cycle the unit. The unit should now reboot.

18. You can now close the terminal program and disconnect the RS-232 serial cable from the PC.

5.2.7. Upgrading the Firmware via Overture

1. Once the firmware upgrade .zip file has been downloaded from the Evertz website (http://www.evertz.com/downloads/firmware), extract its contents. Overture software is required to successfully upgrade the device. If your PC is running Overture software and is connected to the device, launch Overture by double-clicking on the desktop icon (see Figure 5-1) or accessing it via **Start >All Programs > Overture**.

Figure 5-1: Overture Icon

2. Once Overture has been launched, right mouse click the device in the **Network** panel and select the **Upgrade…** option as shown in Figure 5-2.

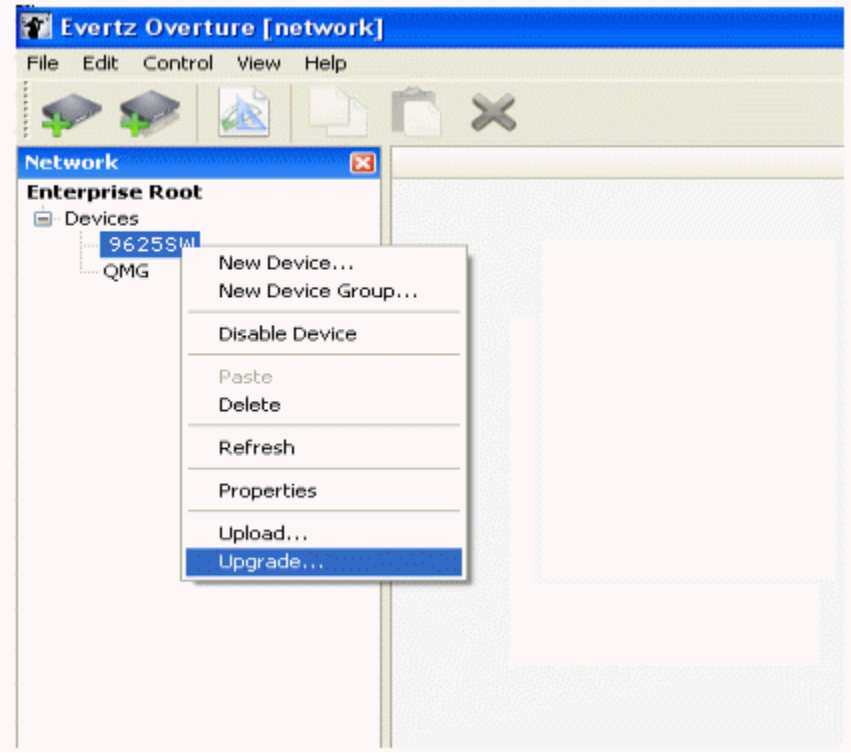

Figure 5-2: Select Device to Upgrade

3. A **Select Upgrade Binary** box will appear as shown in Figure 5-3. Locate the newly downloaded .bin file and select the **Open** button.

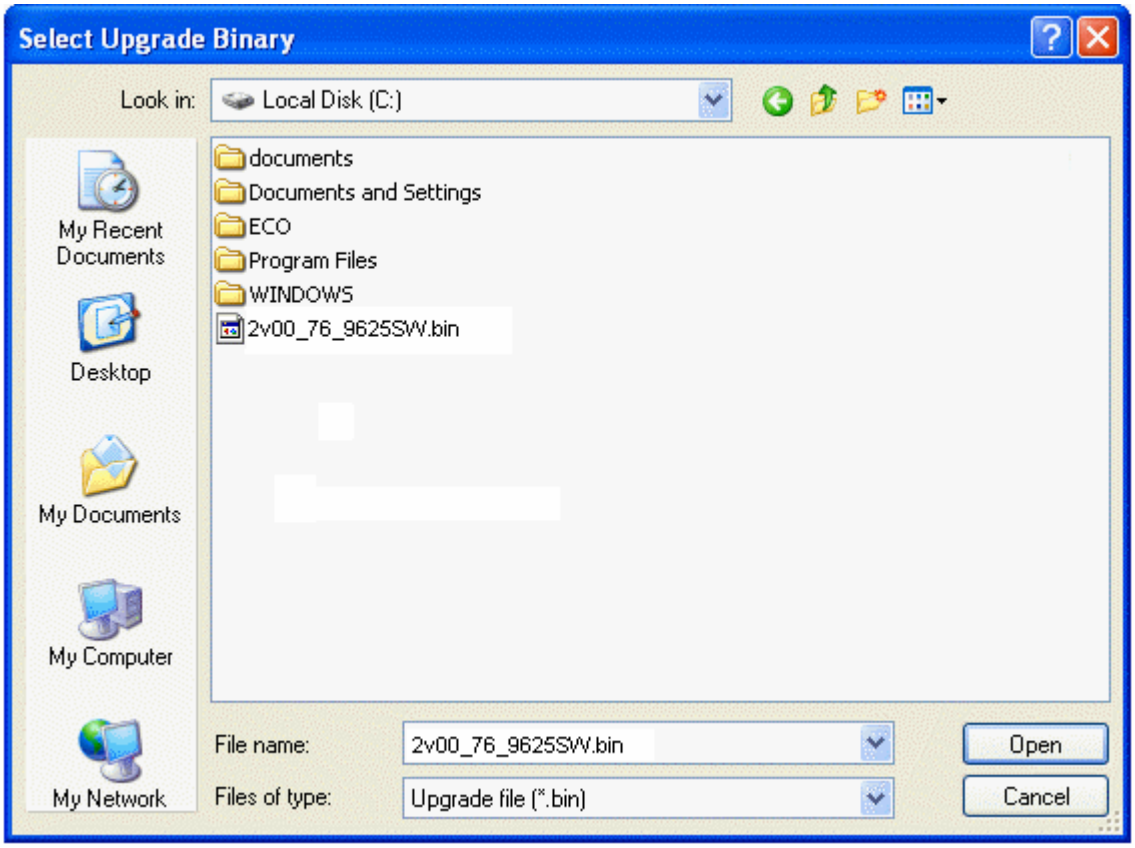

Figure 5-3: Select Upgrade Binary window

4. The file transfer status will be displayed under the **Transfer Queue**.

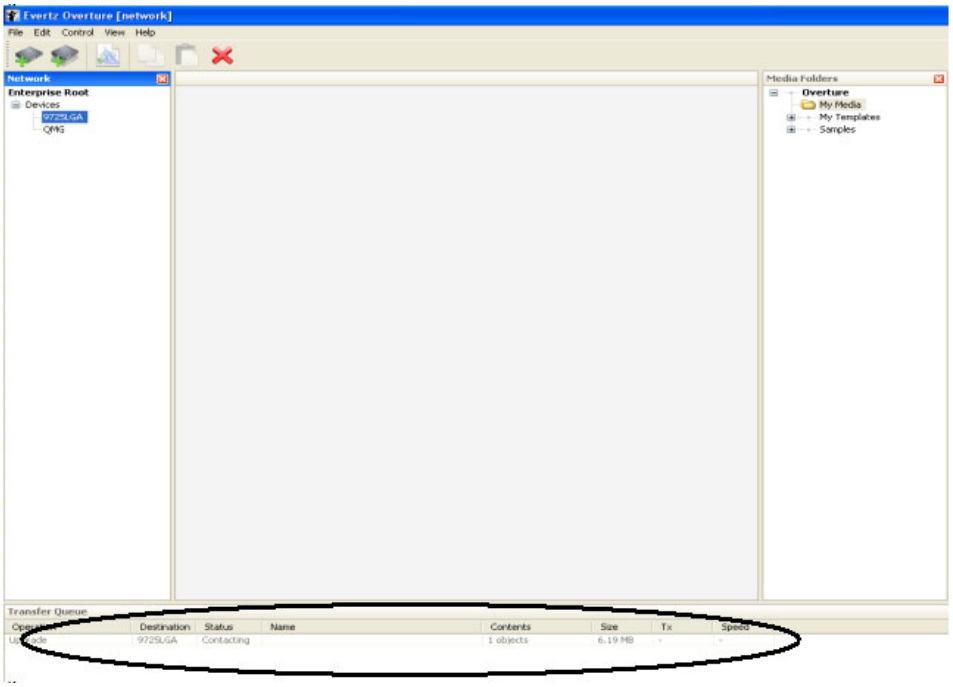

Figure 5-4: Transfer Queue

5. The transfer may take 5-10 minutes to complete.

6. Once the transfer is complete the device will automatically reboot.

When you download either the PKG9625SW or PSKHD9625SW .zip file from the Evertz website, an upgrade .bin file for the router will also be included in this zip package. Please ensure that the router is upgraded with the latest firmware in this package at the same time as the switcher.

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6. INDEX

F

G

H

I

L

M

N

O

P

R

S

T

U

V