9625DSK-LGA
Downstream Media Keyer

Instruction Manual

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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	Dec 02
0.2	Updated to new menu structure, separated InstaLogo™ into Keyer Toolkit manual	Nov 03
0.3	Added info for Crawl logos.	Dec 03
1.0	Updated for features in firmware version 1.01 build 409 Added Audio Swap. and mapping of Voice over input	Jan 04

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REVISION HISTORY

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CHAPTER 1
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1. OVERVIEW

1.1. OVERVIEW

The Evertz 9625DSK-LGA Downstream Media Keyer is a complete package that will key 1 to 16 simultaneous static or animated logos over a full bandwidth SDI program video signal. These units incorporate the best switching technology with the proven transition and channel branding techniques that has brought Evertz to the forefront of digital television technology. Add to these, time and temperature logos, audio voice overs and optional Emergency Alert Services support, and you have the most advanced media keyer available today.

The 9625DSK-LGA has been designed to manage and store multiple media objects. Logos and audio clips are stored in non-volatile Flash memory and may be downloaded to the hardware via an RS-232 serial interface or via Ethernet FTP using the Nomad™ software (included). One animated logo or up to 16 static logos can be keyed simultaneously with independent fade control for each static logo. EAS enabled units have 1 logo reserved for the "crawl" text, thus leaving a maximum of 15 simultaneous logos. The size of each logo is variable and ranges from 1/25th to full screen. The position of the logo, fade rates, clip association and animation rates are also user controllable. The onboard preview allows you to cue your logos for position and content verification prior to going "On Air". Audio clips are stored as stereo 16-bit, 48kHz WAV format.

Features

- SDI mixer or downstream keyer with full preview
- Full 4 AES channel audio mixing plus full 4 AES channel voice over for Dolby 5.1 audio
- Supports 525i/59.94, 625i/50, 16x9 525i/59.94 video formats.
- Variety of smooth transitions including cut, fade and 8 angles of wipes
- Full 12 bit linear keyer with video fade-in and fade-out processing
- Eight AES stereo pair inputs and eight AES stereo pair outputs
- Includes embedded audio mixing with 4 AES channel de-embedding and re-embedding for voice over and clip inserts
- Audio bypass mode for passing Dolby E
- Stores and inserts 1 animated or up to 16 static logos with independent control of logo position, transparency and offset. Independent control of fade in and fade out for static logos.
- Download logos and audio clips from a standard PC using ethernet using Evertz Nomad™ or InstaLogo™ Software (included).
- Standard unit has 128 Mbytes of internal media storage.
- Optional 1 Gigabyte of internal flash storage
- Optional front panel Compact Flash for additional 128MB or 1GB storage
- LTC input for analog or digital 'Breakfast Clock' logos
- Built-in Black Generator
- Automatic equalization up to 250m (Belden 8281 or equivalent cable)
- Video and audio input bypass relays for power failure bypass protection
- Multiple control interface options including GPI, RS232 automation control,
- Optional rack mount or desktop remote control panel versions available
- Optional temperature probe for temperature logos
- Optional redundant power supply for broadcast applications

EAS Option:
- Emergency alert crawls
- Interfaces to TFT and Sage EAS decoders.
- Maximum number of static logos reduced to 15
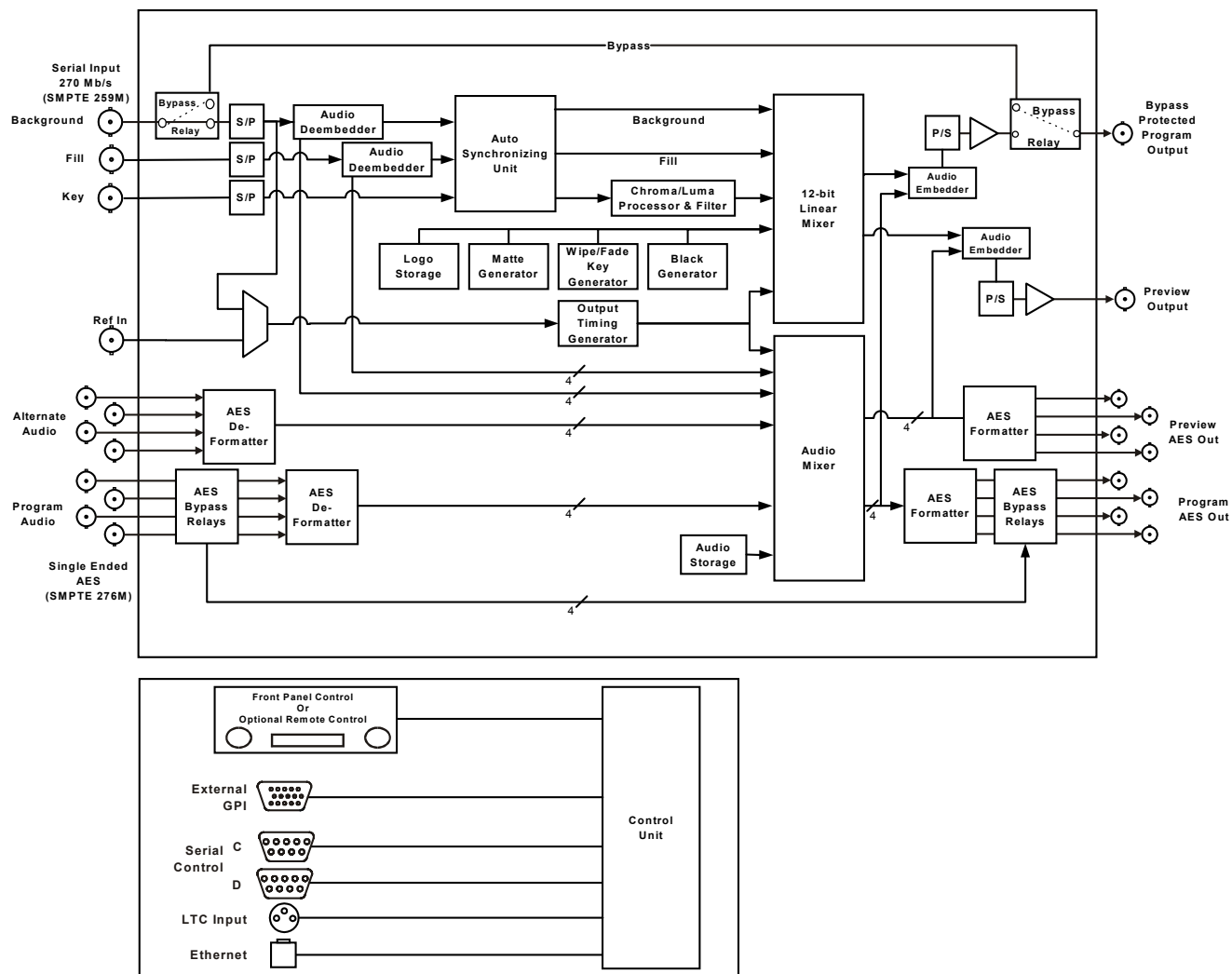
Figure 1-1: 9625DSK-LGA Block Diagram
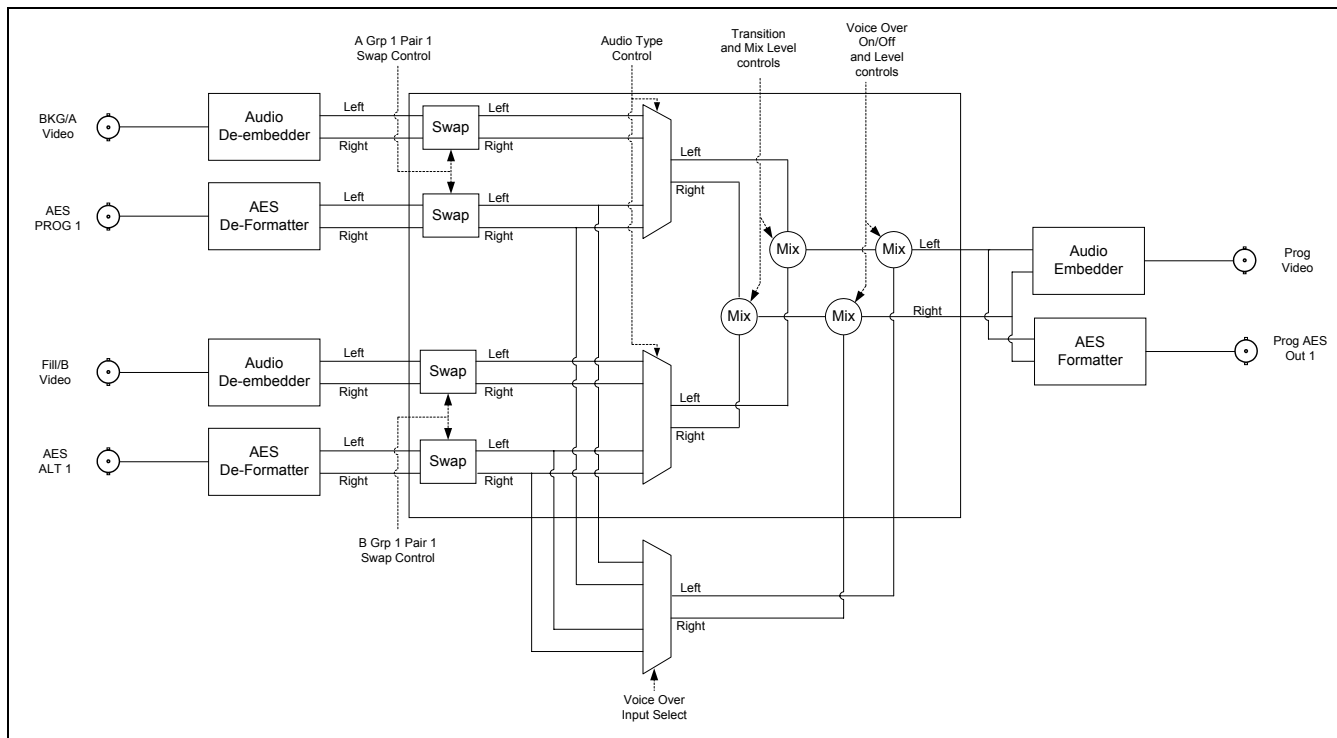
Figure 1-2: Simplified Audio Processing Block Diagram – One Pair of Channels

1.2.   HOW TO USE THIS MANUAL

This manual is organised into 6 chapters: Overview, Installation, Front Panel Operation, Desltop Remote Panel Operation, Optional EAS Features, and Technical Description. The overview section contains a brief overview of the 9625DSK-LGA operation and features and 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 rest of the manual.

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

Chapter 3 shows how to operate the 9625DSK-LGA using the Front panel controls or Rackmount Remote Control Panel. This chapter also includes information on the Setup Menu system

Chapter 4 shows how to control the 9625DSK-LGA using the Desktop Remote Control panel.

Chapter 5 describes how to set up the 9625DSK-LGA for use with an EAS decoder (EAS option required).
Chapter 6 gives technical information such as the specifications and how to update the firmware in the 9625DSK-LGA.

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 synchronising information.

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

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.

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 125M: The SMPTE standard for bit parallel digital interface for component video signals. SMPTE 125M defines the parameters required to generate and distribute component video signals on a parallel interface.

SMPTE 259M: The SMPTE standard for 525 and 625 line serial digital component and composite interfaces.

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 276M: The SMPTE standard for transmission of AES/EBU Digital Audio Signals Over Coaxial Cable

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.

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.)

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Figures

Tables

2. INSTALLATION

2.1. REAR PANEL OVERVIEW

Figure 2-1: 9625DSK-LGA Rear Panel

Figure 2-1 shows the rear panel of the 9625DSK-LGA units. Sections 2.1.1 to 2.1.8 describe the specific video, audio, and control signals that should be connected to the 9625DSK-LGA units. Sections 2.4 to 2.9 describe how to connect them into your system.

2.1.1. Video Connections

BKG/A This BNC connector is the background or program SDI input to the 9625DSK-LGA.

FILL/B and KEY/C These BNC connectors are the key and fill SDI inputs to the 9625DSK-LGA. The **FILL/B** input can also be used as an alternate video input for switching applications.

SDI PREV OUT This output BNC connector is the serial component SMPTE 259M preview video output from the 9625DSK-LGA. This preview output connector is normally connected to a SDI preview monitor.

SDI PROG OUT This output BNC connector is the serial component SMPTE 259M program video output from the 9625DSK-LGA. Connect this output to the next video device in your output path. This output is protected by a bypass relay to the adjacent **BKG/A** input BNC. When the bypass relay is activated on power loss to the keyer the **SDI PROG OUT** will be a direct relay connection to the **BKG/A** input.

2.1.2. Reference Video Connections

REF IN This 75 ohm terminated input is for connecting an analog video reference. Connect the **REF IN** connector to the reference input sync. The 9625DSK-LGA can also be set to derive its timing from the input video connected to the **BKG/A** input using the *REFERENCE* menu.

2.1.3. AES AUDIO Connections

AES PROG IN These 4 input BNC connectors provide inputs for the 4 levels of main program AES audio associated with the video connected to the **BKG/A** video input.

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. In a switcher application these 4 inputs are for the audio associated with the video

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connected to the **FILL/B** video input.   If you are performing voice overs, then connect the voice over audio to the **ALT 4** AES input. The audio provided on this input will be mixed with the program output audio at the specified levels when the **VOICE OVER** button is pressed.

AES PROG OUT   These 4 BNC connectors provide outputs for the 4 levels of main program AES audio and should be connected to the main broadcast chain of your plant. These outputs are protected by bypass relays to the **AES PROG** input BNCs. When the bypass relay is activated on power loss to the keyer the **AES PROG OUT** will be a direct relay connection to the **AES PROG** inputs.

AES PREV OUT   These 4 input BNC connectors provide outputs for the 4 levels of preview AES audio.

2.1.4. 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.

2.1.5. 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 9625DSK-LGA. The pin definitions are shown in Table 2-1. See section 6.2 for more information on upgrading firmware.
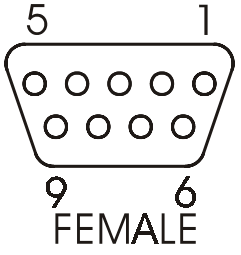
	Pin #	Name	Description
	1	GND	Chassis ground
5 1	2	TxD	RS-232 Transmit Output
○ ○ ○ ○ ○	3	RxD	RS-232 Receive Input
	4		
○ ○ ○ ○	5	Sig Gnd	RS-232 Signal Ground
	6		
9 6	7	RTS	RS-232 RTS Input
FEMALE	8	CTS	RS-232 CTS Output
	9		

Table 2-1: Upgrade RS232 Port A Pin Definitions

REMOTE PANEL (B) This connector is only available on units shipped with the rack mount or desktop remote control panels. This 9 pin female D connector provides an RS-422 serial interface for connection to the Remote Control Panel. This port is wired as a SMPTE 207M Tributary as shown in Table 2-2. See section 2.4 for information on connecting the remote control panel.
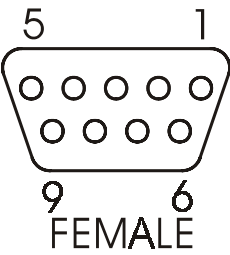
Pin #	Name	Description
1	GND	Chassis ground
2	Tx-	RS-422 Tx-(A) Output
3	Rx+	RS-422 Rx+(B) Input
4	GND	
5		
6	GND	
7	Tx+	RS-422 Tx+(B) Output
8	Rx-	RS-422 Rx-(A) Input
9	GND	

Table 2-2: Remote Panel Port Pin Definitions

SERIAL CONTROL C, COM D   These 9 pin female D connectors provide serial interfaces designed for connection to Automation Systems including the Evertz MetaCast 2 software. The ports are also used to interface to the EAS Decoder (EAS optioned units) or optional temperature probe. These ports can be individually changed to run in either RS422 or RS232 mode by reconfiguring jumpers J19 or J20 on the 7700FC card inside the unit. The SERIAL CONTROL C port is controlled with jumper J19 and the COM D port is controlled with jumper J20. When they are set for the RS-232 mode of operation, the ports have the same pinout as Port A (shown in Table 2-1). When they are set for the RS-422 mode of operation the ports have the pinout shown in Table 2-3.

> **The RS-422 pinout for the SERIAL CONTROL and COM D ports is not a standard SMPTE RS422 pinout. You will have to make a custom cable in order to use these ports in the RS422 configuration.**
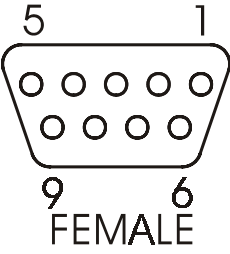
Pin #	Name	Description
1	GND	Chassis ground
2	Tx-	RS-422 Tx-(A) Output
3	Rx-	RS-422 Rx-(A) Input
4		
5	GND	
6		
7	Rx+	RS-422 Rx+(B) Input
8	Tx+	RS-422 Tx+(B) Output
9	GND	

Table 2-3: Serial Port C and D – RS422 Pin Definitions

The function of each port must be configured using the *Serial Control* and *Com D* menu items on the *GENERAL* menu. (See section 3.6.6)

2.1.6. 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 downstream keyer.   See section 2.9 for information on connecting the general purpose inputs and outputs. For information on configuring the GPI and GPO functions, see the *GPI Setup* and *GPO Setup* menu items on the *PRESET* menu (sections 3.12.3 and 3.12.5).
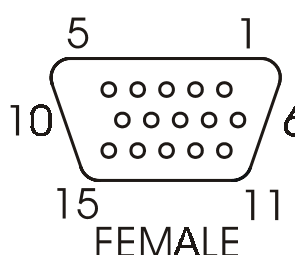
Pin #	Name	Description
1	GND	Chassis ground
2	GPO 2	General purpose output 2
3	GPO 1	General purpose output 1
4	GPO 3	General purpose output 3
5	GPI C	General purpose input Load assigned preset
6	GPO 4	General purpose output 4
7	GPI F	General purpose input Load assigned preset
8	GPI A	General purpose input Load assigned preset
9	GPI D	General purpose input Load assigned preset
10	GP+3.3V	+3.3V from general purpose interface board
11	GPI H	General purpose input Load assigned preset
12	GPI E	General purpose input Load assigned preset
13	GPI G	General purpose input Load assigned preset
14	GPI B	General purpose input Load assigned preset
15	Vext	External voltage source for GPI's

Table 2-4: GPI/O Connector Pin Definitions

2.1.7. 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 2.8 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 downstream keyer.

2.1.8. Power Connections

The 9625DSK-LGA main unit has one or two (redundant supply is optional) universal power supplies that operate on 100 to 240 Volts 50/60 Hz AC. The optional Remote Control panels are supplied with a universal input (100 to 240 volts AC at 50 or 60 Hz) 12 VDC power adapter.

2.2. MOUNTING

The 9625DSK-LGA is equipped with rack mounting angles and fits into a standard 19 inches by 1.75 inches (483 mm x 45 mm) rack space. The optional rack mount Remote Control Panel (RCP) 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 optional Desktop Remote Control Panel (DCP) is designed to be mounted on a control panel desk and is fitted with rubber feet to keep it from sliding on the desktop.

2.3. POWER REQUIREMENTS

Power requirements are 100 to 240 volts AC at 50 or 60 Hz. The 9625DSK-LGA has 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.

2.3.1. 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 fuseholder into the power entry module.

✍	**Never replace with a fuse of greater value.**

2.4. CONNECTING THE REMOTE CONTROL PANEL

The 9625DSK-LGA is available with a rack mountable or desktop remote control panel. The remote control panel is connected to the **REMOTE PANEL** connector on the Keyer units using the straight through cable provided. For longer distances, simply make your own cable of the required length according to the diagram in Table 2-5. 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.
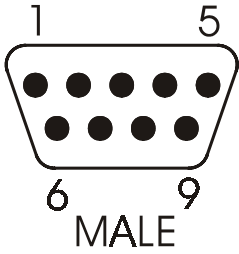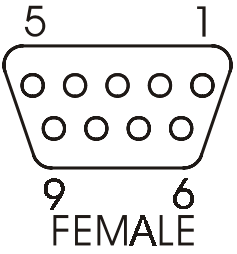
9625DSK-LGA End				Remote Panel End		
	9 pin D Male	**Pin**	**Belden 9729**	**9 pin D Female**	**Pin**	
		1			1	
	Tx-	2	-------1a------	Rx-	2	
	Rx+	3	-------2b------	Tx+	3	
	Rx Gnd	4	---drain 2----	Rx Gnd	4	
		5			5	
	Tx Gnd	6	---drain 1----	Tx Gnd	6	
	Tx+	7	-------1b-----	Rx+	7	
	Rx-	8	-------2a------	Tx-	8	
		9			9	
	Frame Gnd	Shield	---drain 1----	Frame Gnd	Shield	

Table 2-5: Remote Control Panel Extender Cable

2.5. CONNECTING THE VIDEO

2.5.1. Video Inputs

The standard definition program video source should be connected to the **BKG/A** BNC. If you are using the 9625DSK-LGA as a two input standard definition video switcher, the alternate video source should be connected to the **FILL/B** BNC. If you are using a downstream key source for the downstream keyer the Key video should be connected to the **KEY/C** BNC and the fill should be connected to **FILL/B** BNC. The 9625DSK-LGA supports standard definition digital video in the formats shown in Table 2-6. 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 2-6: Video Input Formats

2.5.2. Video Outputs

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

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

2.5.3. Gen Lock Reference

For proper switching of the video and audio signals an analog video genlock reference must be supplied. Connect a composite analog NTSC or PAL colour black video signal to the REF IN connector. Make sure that the signal type is correct for the video standard in use. (See Table 2-6)

2.6.   CONNECTING THE AUDIO

The 9625DSK-LGA is capable of working with either embedded audio or discrete AES audio. If you are using embedded program audio then you will have to set the *Prog Audio Type* menu item to *Embedded.* (See section 3.7.2) If some of your embedded audio channels are being used for non-PCM audio data such as Dolby E, then you will have to configure those channels for non-PCM processing using the *EA Non-PCM* menu items. (See section 3.7.4) When the 9625DSK-LGA is used as a two input audio follow video switcher, the group 1 and 2 embedded audio from the video input selected for the program output buss of will be de-embedded, passed through the audio switcher, and re-embedded on the PROG video output. The same audio will be output on the AES PROG outputs. The group 1 and 2 embedded audio from the video input selected for the preview output buss of will be de-embedded, passed through the audio switcher, and re-embedded on the PREV video output. The same audio will be output on the AES PREV outputs.

If you are using discrete AES audio then you will have to set the *Prog Audio Type* menu item to *Discrete.* (See section 3.7.2) When the 9625DSK-LGA is used as a two input audio follow video switcher, the AES audio associated with the video input selected for the program output buss (AES PROG for the BKG/A input, AES ALT for the FILL/B input) will be passed through the audio switcher, and embedded on the PROG video output. The same audio will be output on the AES PROG outputs. The AES audio associated with the video input selected for the preview output buss of will be passed through the audio switcher, and embedded on the PREV video output. The same audio will be output on the AES PREV outputs.

When the 9625DSK-LGA is used as a downstream media keyer, the audio associated with the BKG/A video (embedded or AES PROG depending on the setting of the *Prog Audio Type* menu setting) will be passed through the audio switcher and mixed with the alternate audio according to the mix level set by the *Audio Mix Level* menu setting. If the *Mix Audio Type* menu setting is set to embedded, the mix audio will be the group 1 and 2 embedded audio from the FILL/B video. If the *Mix Audio Type* menu setting is set to embedded, the mix audio will be the AES ALT audio. The same audio will be output on the AES PROG outputs. The AES audio associated with the video input selected for the preview output buss of will be passed through the audio switcher, and embedded on the PREV video output. The same audio will be output on the AES PREV outputs.

The 9625DSK-LGA has two modes of AES audio processing set by the *AES Audio Mode* menu item. (See section 3.7.1).   The *4+0* mode processes all 4 AES inputs (8 channels of audio) as program audio. The *3+1* mode processes 3 AES inputs (6 channels of audio) as program audio. The 4th AES PROG input is not used in the *3+1* mode. The 4th ALT AES input (2 channels of audio) is used as a voice over audio source for mixing with the program audio when the **VOICE OVER** button is pressed. It is also used as the audio input for Emergency Alerts when the EAS option is fitted. Make sure that the *AES Audio Mode* menu item is set correctly or you may not achieve the desired results when you switch the audio. See section 2.6.3 for information on connecting the audio that will be mixed in to the program audio.

2.6.1. Connecting Program Audio

If you are using discrete AES program audio, connect up to 4 channels of AES audio that is associated with the program video input (connected to the **BKG/A** input) to the **AES PROG** audio inputs with the same numbers. If you are using the 9625DSK-LGA as a two input standard definition video switcher connect up to 4 channels of AES audio that is associated with the alternate video input (connected to the **FILL/B** input) to the **AES ALT** audio inputs with the same numbers. If you are using embedded program audio then you do not need to connect any program audio to the AES inputs. The *Prog Audio Type* menu on the *AUDIO* menu is used to select the program audio type. (See section 3.7.2)

2.6.2. Connecting Mix Audio

When the downstream keyer is active you can mix up to 4 channels of AES or embedded audio with the program audio. If your are using discrete AES mix audio, connect up to 4 channels of AES audio to the **AES ALT** audio inputs with the same numbers. If you are using embedded mix audio then the mix audio will be de-embedded from the **FILL/B** video input. The *Mix Audio Type* menu on the *AUDIO* menu is used to select the mix audio type. (See section 3.10.1)

2.6.3. Connecting Voice Over or EAS Audio

Connect the AES audio source that you want to use for mixing (voice over, EAS, etc.) to the **ALT 4** AES input. The 9625DSK-LGA can only accept AES audio as a voice over source. The *AES Audio Mode* menu item must be set to the *3 + 1* mode in order to perform voice overs. (See section 3.7.1) If you are using the 9625DSK-LGA as a two input video switcher then you will also have to connect this audio to the **ALT 4** AES input. This audio will be mixed with the program audio at the mix level set by the *Audio Mix Level* menu item. (See section 3.7.3)

2.6.4. Connecting the Audio Outputs

The **AES PROG OUT** connectors contain the audio outputs from the program audio buss and should be connected to the main broadcast chain of your plant. The **AES PROG OUT** outputs are protected by bypass relays. When the relays are active, the **AES PROG OUT** outputs are directly connected to the four **AES PROG IN** inputs.

If the *Prog Audio Type* menu item on the *AUDIO* menu is set to *discrete* then these outputs will contain the contents from the AES PROG inputs when the BKG/A input is selected on the program output buss or from the AES ALT inputs when the FILL/B input is selected on the program output buss.

When DSK is selected on the program buss, the audio will be a mix of the AES PROG and AES ALT inputs as set by the *Mix Audio Level* menu time on the *AUDIO* menu. (See section 3.10.2)

If the *Prog Audio Type* menu item on the *AUDIO* menu is set to *embedded* then these outputs will contain the audio deembedded from video source selected for the program output buss. When DSK is selected on the program buss, the audio will be a mix of the audio deembedded from the BKG/A and either the audio de-embedded from the FILL/B video input or the AES ALT audio as set by the *Mix Audio Type* and *Audio Mix Level* menu items on the *AUDIO* menu.

The **PREV AES OUT** connectors contains the audio outputs from the preview audio buss and will normally be connected your audio monitoring system to allow you to hear the program audio output before it goes on air. When the bypass relays are active, the **PREV AES OUT** outputs will not have any audio on them.

2.7.   CONNECTING THE LINEAR TIME CODE

The 9625DSK-LGA 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).

2.8.   CONNECTING TO AN ETHERNET NETWORK

The 9625DSK-LGA 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 9625DSK-LGA and the other end into a port of the supporting.

The straight-through RJ-45 cable can be purchased or can be constructed using the pinout information in Table 2-7. A color code wiring table is provided in Table 2-7 for the current RJ 45 standards (AT&T 258A or EIA/TIA 258B color coding shown). Also refer to the notes following the table for additional wiring guide information.
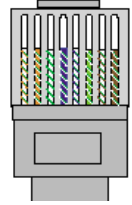
	Pin #	Signal	EIA/TIA 568A	AT&T 258A or EIA/TIA 568B	10BaseT or 100BaseT
Pin 1	1	Transmit +	White/Green	White/Orange	X
	2	Transmit –	Green/White or White	Orange/White or Orange	X
	3	Receive +	White/Orange	White/Green	X
	4	N/A	Blue/White or Blue	Blue/White or Blue	Not used (required)
	5	N/A	White/Blue	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 2-7. 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 100BaseT use the same pins, a crossover cable made for one will also work with the other.
- Pairs may be solid colors and not have a stripe.
- Category 5 cable must use Category 5 rated connectors.

The maximum cable run between the downstream keyer and the supporting hub is 300 ft (90 m). The maximum combined cable run between any two end points (i.e. downstream keyer 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 downstream keyer 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 9625DSK-LGA has established a valid linkage to its hub, and whether the 9625DSK-LGA is sending or receiving data. This LED will be ON when the 9625DSK-LGA 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 9625DSK-LGA is sending or receiving data. The LED will be OFF if there is no valid connection.

2.9.   CONNECTING THE GENERAL PURPOSE INPUTS AND OUTPUTS

Figure 2-2 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 2-3). This can be done with a button, switch, relay or an open collector transistor. In this configuration the GPOs will be internally pulled up to 3.3 volts. (See Figure 2-5) 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 2-4 and Figure 2-6 show how to wire the GPIs and GPOs from an external power supply.

The tally outputs are active low with an internal pull up (10k Ohm) resistor to the Vext pin. 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.
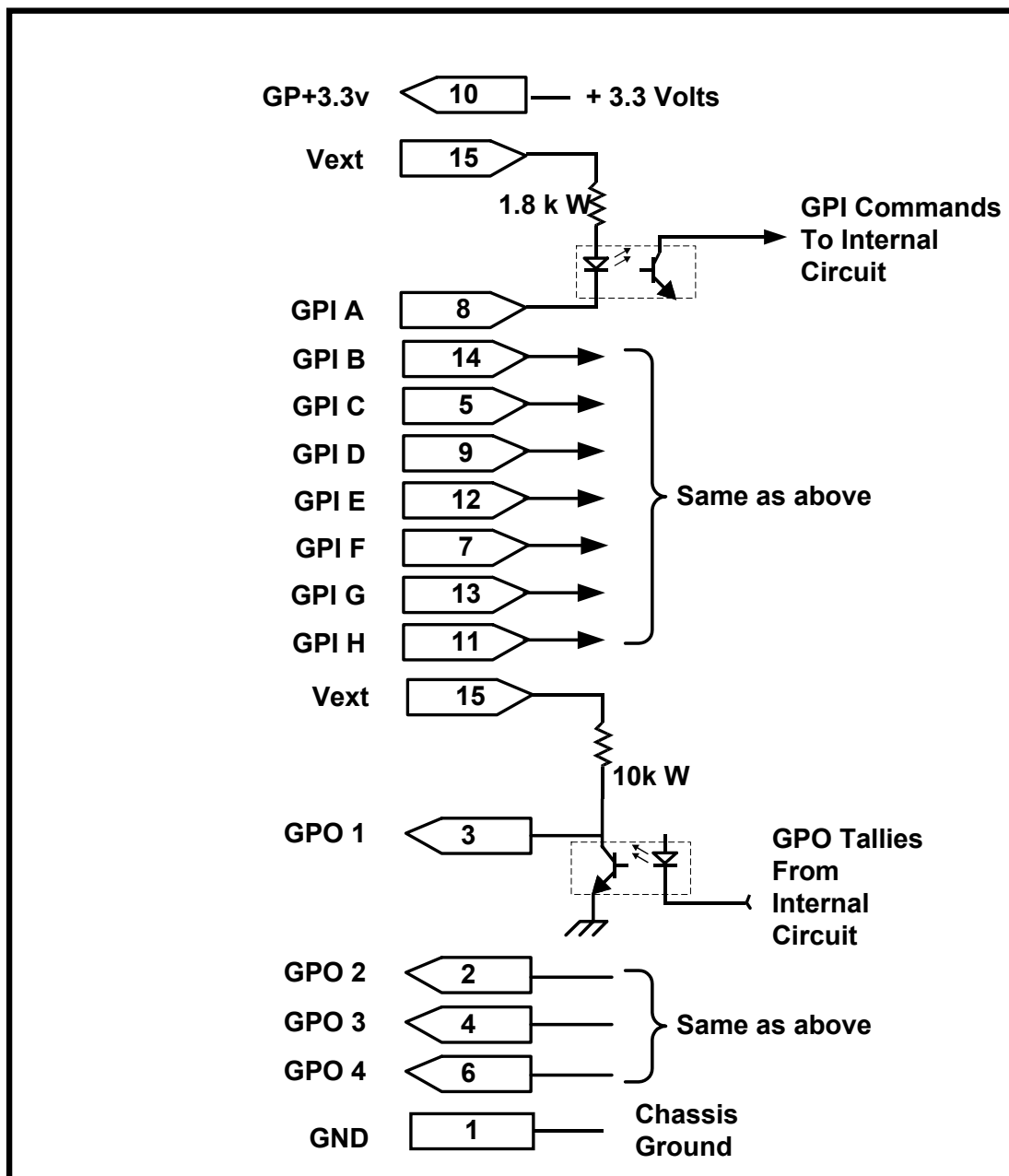
Figure 2-2: Keyer GPIO Opto Isolator Circuitry

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) are dedicated as load logo controls. When one of these GPI inputs are activated, the corresponding logo is loaded into active video. If multiple inputs are active both commands are ignored until a single input is recognized.

The GPI to logo allocation is programmable using the *GPI Setup* menu item on the *PRESET* menu. (See section 3.12.3).
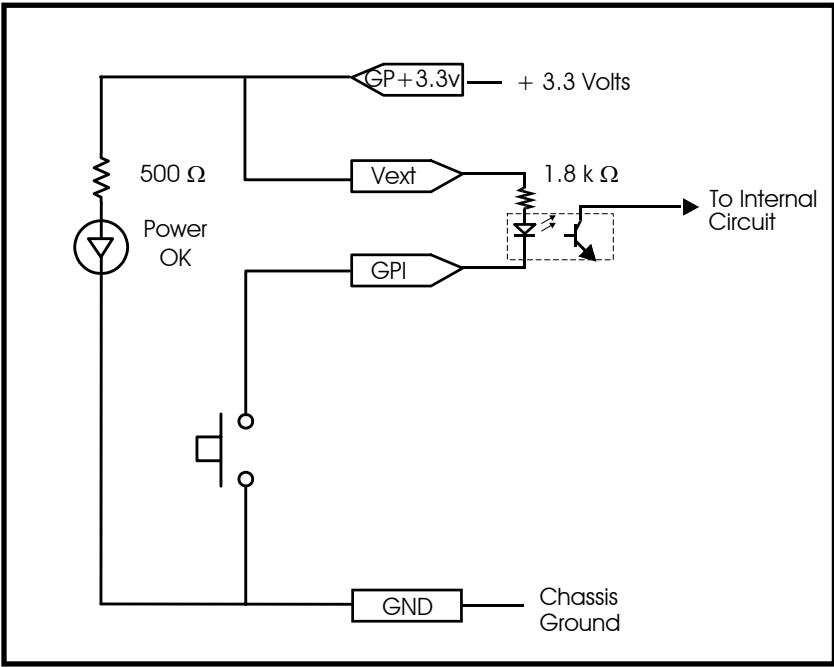
Figure 2-3: Powering the General Purpose Input Opto Isolators from the Unit
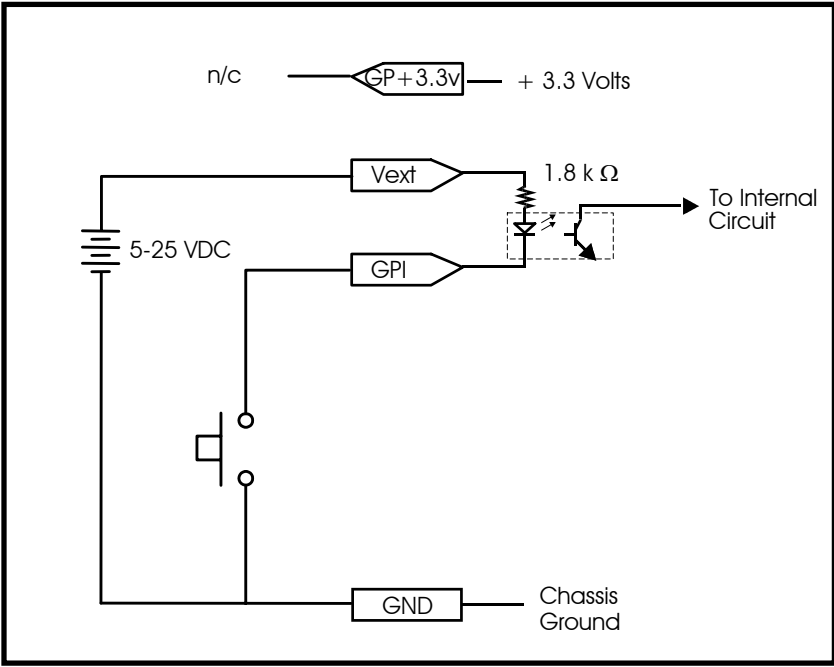
Figure 2-4: Powering the General Purpose Input Opto Isolators from an External Power Supply
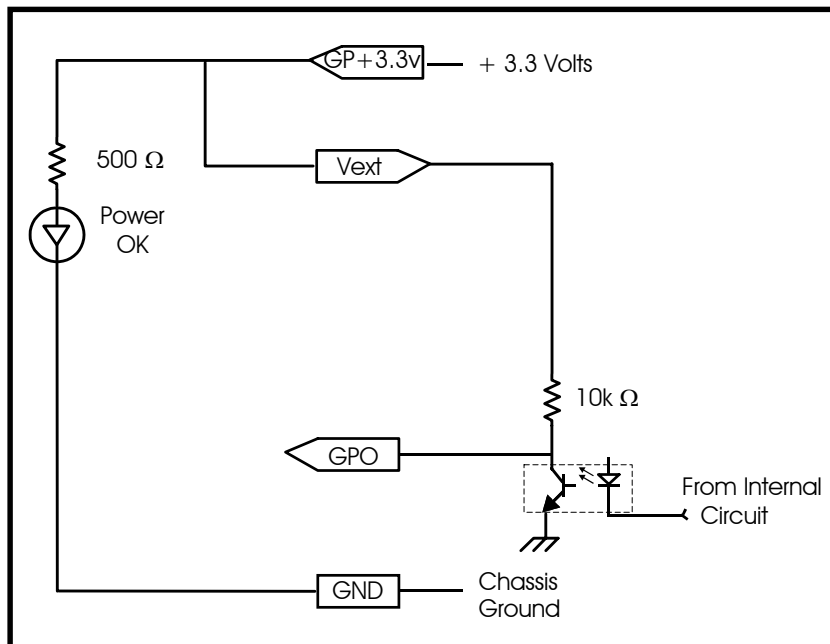
Figure 2-5: Powering the General Purpose Output Opto Isolators from the Unit
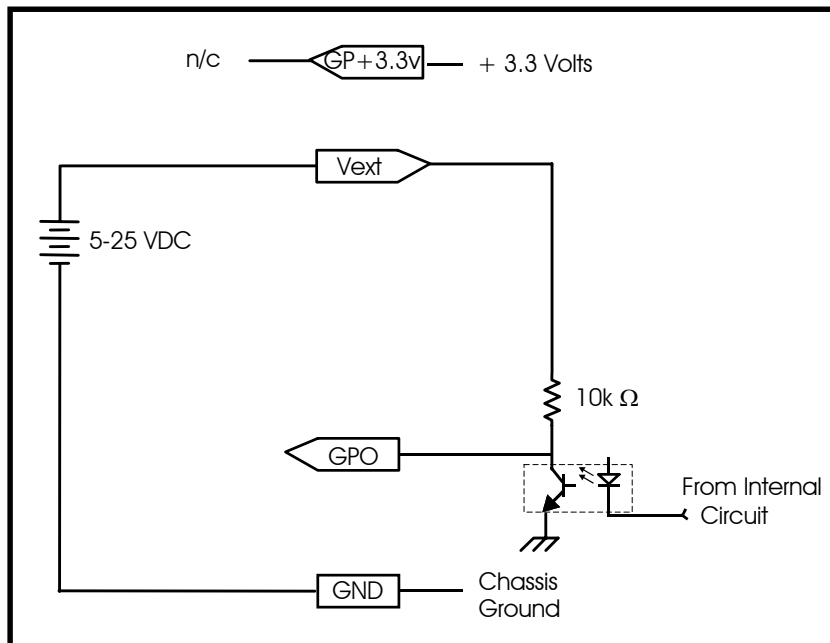
Figure 2-6: Powering the General Purpose Output Opto Isolators from an External Power Supply

Table 2-8 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 2-8: GPIO Maximum Ratings

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3. HOW TO OPERATE THE DOWNSTREAM KEYER USING THE RACK MOUNT CONTROL PANEL

The standard 9625DSK-LGA is a 1 RU chassis with an integrated front control panel. The 9625DSK-LGA is also available as a 1RU chassis with a separate 1RU rack mountable or desktop remote control panel. This chapter describes the operation of the 9625DSK-LGA using either the integrated control panel or the rack mount control panel. For information about controlling the 9625DSK-LGA using the desktop control panel see chapter 4. For information about connecting the either remote control panel to the 9625DSK-LGA electronics see section 2.4

When the 9625DSK-LGA is fitted with the compact flash (+CF) option a different front panel is fitted on the main electronics unit. This front panel provides access to insert the compact flash memory device to allow you to quickly add or remove logos or audio clips to the system.

3.1. AN OVERVIEW OF KEY AND DISPLAY FUNCTIONS
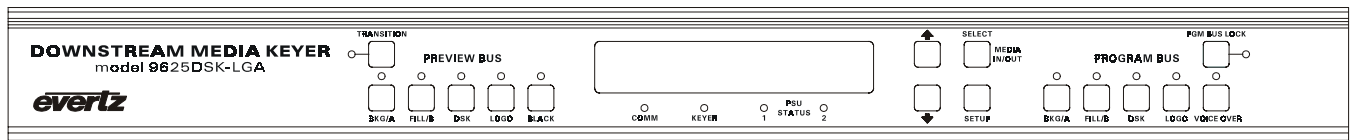
Figure 3-1: 9625DSK-LGA - Front Panel Layout
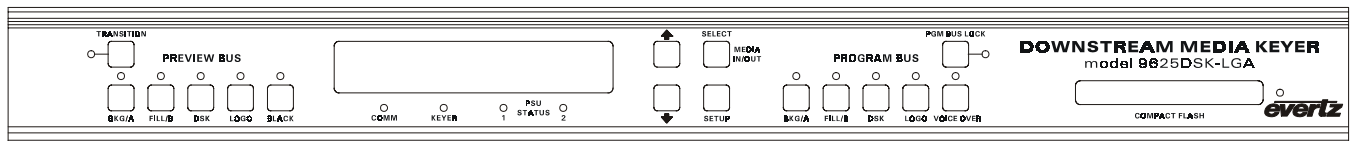
Figure 3-2: 9625DSK-LGA with Compact Flash - Front Panel Layout

The front panel controls consist of a 16 digit alphanumeric display, 16 buttons and 16 LED status indicators.

The buttons are used to provide control of the 9625DSK-LGA, to switch the various input sources, and to navigate the front panel *Setup* menu system, a quick and simple method of configuring the 9625DSK-LGA Downstream Keyer for your application.

3.1.1. Preview Bus Button Group

BKG/A This button selects the video from the BKG/A input for the preview video output buss, as well as selecting the associated audio for the AES PREV outputs. The AES PREV audio will be from the four AES PROG inputs (if the *Prog Audio Type* menu setting is set to *discrete*) or audio deembedded from the BKG/A video input (if the *Prog Audio Type* menu setting is set to *embedded*).

FILL/B This button selects the video from the FILL/B input for the preview video output buss, as well as selecting the associated audio for the AES PREV outputs. The AES PREV audio will be audio from the four AES ALT inputs (if the *Prog Audio Type* menu setting is set to *discrete*) or audio deembedded from the BKG/A video input (if the *Prog Audio Type* menu setting is set to *embedded*).

DSK   This button controls the downstream keyer layer for the preview video output buss. If the LED is not illuminated, then the downstream keyer layer is not active on the preview buss. If the LED is On then the downstream keyer layer is enabled on the preview buss.

When the downstream keyer layer is enabled, the video present on the FILL/B video input is mixed with the background video (on the BKG/A input) based on the key signal provided on the KEY/C video input, or it can be self-keyed, using user defined thresholds. See section 3.10 for information about setting up the *DSK MODE* and other settings.

LOGO   This button controls the complete media key layer for the preview output buss. The media key layer includes the logo layer for the video and the voiceover layer for the audio. Logos can not be displayed and voice overs can not be performed when the media key layer is off. If the LED is not illuminated, then the media key layer is not active. If the button LED is On then the media key layer is enabled on the preview output buss.

BLACK   This button selects the internal black generator as the source for the applicable video output buss. When the LED above the Black button is On then the black generator is the source for the preview video output buss. When the LEDs above the Program Bus **BKG/A, FILL/B** and **DSK** buttons are Off then the black generator is the source for the program video output buss. This can be accomplished by selecting Black as the preview buss source and then pressing the **TRANSITION** button.

3.1.2. Program Bus Button Group

BKG/A   This button selects the video from the BKG/A input for the program video output buss, as well as selecting the associated audio for the AES PROG outputs. The AES PROG audio will be audio from the four AES PROG inputs (if the *Prog Audio Type* menu setting is set to *discrete*) or audio deembedded from the BKG/A video input (if the *Prog Audio Type* menu setting is set to *embedded*) for the AES PROG outputs.

FILL/B   This button selects the video from the FILL/B input for the program video output buss, as well as selecting the associated audio for the AES PROG outputs. The AES PROG audio will be audio from the four AES ALT inputs (if the *Prog Audio Type* menu setting is set to *discrete*) or audio deembedded from the BKG/A video input (if the *Prog Audio Type* menu setting is set to *embedded*) for the AES PROG outputs.

DSK   This button controls the downstream keyer layer for the program video output buss. If the LED is not illuminated, then the downstream keyer layer is not active on the program buss. If the LED is On then the downstream keyer layer is enabled on the program buss.

When the downstream keyer layer is enabled, the video present on the **FILL/B** video input is mixed with the background video (on the **BKG/A** input) based on the key signal provided on the **KEY/C** video input, or it can be self-keyed, using user defined thresholds. See section 3.10 for information about setting up the *DSK MODE* and other settings.

LOGO   This button controls the complete media key layer for the program output buss. The media key layer includes the logo layer for the video and the voiceover layer for the audio. Logos can not be displayed and voice overs can not be performed when the media key layer is off.

If the LED is not illuminated, then the media key layer is not active. If the button LED is On then the media key layer is enabled on the program output buss.

3.1.3.   The Function Button Group

TRANSITION This button starts a transition of what is displayed on the preview buss to the program buss. The transition *Type, Rate* and *Swap Mode* are set using the menu items in the *Transition* menu item (See sections 3.11). Transitions can also be triggered using GPI, or automation control. The 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 buss and the program buss will be swapped at the end of the transition. Logos and other media being keyed on the respective busses 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 buss will be transferred to the program buss. Logos and other media being keyed on the preview buss will also be transferred to the program buss. The preview buss will remain unchanged.

PGM BUS LOCK   This button will lock the front panel PROGRAM BUS controls so that changes can not be made to the program output buss. The **PGM BUS LOCK** LED will turn On indicating that the front panel PROGRAM BUS buttons are disabled. When any of these buttons are pressed, the front panel display will show the message `Pgm Bus Locked` for a few seconds. Pressing the **PGM BUS LOCK** button again will return the front panel keys to their normal functions and the LED key will go Off indicating that the front panel controls can now affect the program buss.

> ⚠️ **The 9625DSK-LGA may still be controlled from the GPI inputs or the automation when the PROGRAM BUS is Locked. Transitions will also be allowed using the TRANSITION button.**

VOICE OVER This button will mix the AES audio connected to **ALT 4** AES input the program audio. The *AES Audio Mode* menu setting must be set to *3 + 1* to configure the 9625DSK-LGA for 3 AES channels (6 channels of audio) of program audio and 1 AES channel (2 channels of audio) of voice over audio. (See section 3.7) The voice over audio gets mixed with all channels of program audio at the level set by the *Audio Duck Level* menu item. (See section 3.7.3)

> ✍️ **You can not activate the VOICE OVER when the *AES Audio Mode* is set to 4+1.**

MEDIA IN/OUT This button (Also labelled **SELECT**) controls whether a selected logo (the logo shown on the front panel display) is being keyed into the video on the busses with the media key layer enabled. To control whether a logo is keyed or not, you must first enable the media key layer by pressing the **LOGO** button for the buss you want the logo to appear on. The **LOGO** LED for the respective buss must be illuminated for logos to display on that buss. 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 output video busses with the media layer enabled, 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. To remove a keyed logo from the output video busses, press the **MEDIA IN/OUT** button when the logo name is flashing. The logo will fade out according to its programmed fade out time and the logo name display will stop flashing.

3.1.4. Setup Button Group

SETUP This button is used to enter *Setup* menu that is used to configure the operating modes of the 9625DSK-LGA. (See section 3.2 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 choose a submenu 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 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 buss.

↑, ↓ 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.

When not in the *Setup* menu, the ↑ and ↓ arrow keys are used to select a logo to display.

3.1.5. Control Panel Status Indicators

3.1.5.1. Preview Bus Status Indicators

BKG/A This LED indicates that the Background/A video input is selected as the source for the preview video buss.

FILL/B This LED indicates that the Fill/B video input is selected as the source for the preview video buss.

DSK This LED indicates that the downstream keyer layer is enabled on the preview buss when it is On. When it is Off it indicates that the downstream keyer layer is disabled on the preview buss.

LOGO This LED indicates that the media key layer is enabled on the preview buss when it is On. When it is Off it indicates that the logo key layer is disabled on the preview buss.

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

3.1.5.2. Program Bus Status Indicators

BKG/A   This LED indicates that the Background/A video input is selected as the source for the program video buss.

FILL/B   This LED indicates that the Fill/B video input is selected as the source for the program video buss.

DSK   This LED indicates that the downstream keyer layer is enabled on the program buss when it is On. When it is Off it indicates that the downstream keyer layer is disabled on the program buss.

LOGO   This LED indicates that the media key layer is enabled on the program buss when it is On. When it is Off it indicates that the logo key layer is disabled on the program buss.

VOICE OVER This LED indicates that the audio mix function is enabled on the on the program audio buss when it is On.

3.1.5.3. Function Status Indicators

PGM BUS LOCK   This LED indicates that the *Panel Lock* function is active and the remainder of the front panel buttons are disabled.

TRANSITION This LED indicates that a transition from the preview buss to the program buss is in process when it is On. When it is Off it indicates that no transition is currently in progress

KEYER   This LED indicates that the downstream keyer layer is enabled the program buss when it is On and on the preview buss when it is flashing. When it is Off it indicates that the downstream keyer layers are disabled on both busses.

COMM   This LED indicates is used to signal two types of communication to the 9625DSK-LGA. When it is flashing On approximately every 1.5 seconds, that indicates that the control panel is communicating with the main microprocessor in the unit. When the 9625DSK-LGA is under automation control, or logos or other media files are being transferred to or from the unit using the Nomad software, the LED will be on when the unit is receiving data from the control source.

   If it is Off continuously that means that the control panel has lost communications with the main unit. In that case check the cabling if you are using a remote control panel. Otherwise the unit may require a reboot if the control buttons on the control panel are not responding.

3.1.6. 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. These LEDs are the only ones present on the electronics units of the remote control versions.

3.1.7. 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 downstream keyer.

3.2. OVERVIEW OF FRONT PANEL OPERATION

3.2.1. Audio Follow Video Switching

The 9625DSK-LGA has two video busses two four level audio busses. When the 9625DSK-LGA is operated as a simple two input audio follow video switcher. In this mode the audio on the AES PROG audio inputs will follow the BKG/A video input and the audio on the AES ALT audio inputs will follow the FILL/B video input when the *Prog Audio Type* menu item is set to *Discrete.*

The PREVIEW BUS buttons select what inputs will be routed to the preview buss outputs. When you select one of the **BKG/A**, **FILL/B**, **DSK** or **BLACK** buttons, the other buttons are automatically deselected. The **BKG/A** button selects the video source from the BGND/A video input. If you are using embedded program audio mode, then the audio embedded on the BGND/A video will also be present on the AES PREV outputs. If you are using discrete AES program audio then the audio from the AES PROG inputs will be present on the AES PREV outputs. The **FILL/B** button selects the video source from the FILL/B video input. If you are using embedded program audio mode, then the audio embedded on the FILL/B video will also be present on the AES PREV outputs. If you are using discrete AES program audio then the audio from the ALT AES inputs will be present on the AES PREV outputs. The **DSK** button displays the background video mixed with the selected FILL/B video (based on the Key video or self keyed). For more information about the DSK function refer to section 3.10. If you are using embedded program audio mode, then the audio embedded on the BGND/A video will also be present on the AES PREV outputs. If you are using discrete AES program audio then the audio from the AES PROG inputs will be present on the AES PREV outputs. When the DSK layer is active you can also mix either the audio embedded on the FILL/B video or the ALT AES audio with the program audio. The resulting mixed audio is embedded on the PROG video output and will also be present on the AES PREV outputs. The **BLACK** button selects the internal black generator.

The PROGRAM BUS buttons select what inputs will be routed to the program buss outputs. When you select one of the **BKG/A**, **FILL/B** or **DSK** buttons, the other buttons are automatically deselected. The **BKG/A** button selects the video source from the BGND/A video input. If you are using embedded program audio mode, then the audio embedded on the BGND/A video will also be present on the AES PROG outputs. If you are using discrete AES program audio then the audio from the AES PROG inputs will be present on the AES PROG outputs. The **FILL/B** button selects the video source from the FILL/B video input. If you are using embedded program audio mode, then the audio embedded on the FILL/B video will also be present on the AES PROG outputs. If you are using discrete AES program audio then the audio from the ALT AES inputs will be present on the AES PROG outputs. The **DSK** button displays the background video mixed with the selected FILL/B video (based on the Key video or self keyed). For more information about the DSK function refer to section 3.10. If you are using embedded program audio mode, then the audio embedded on the BGND/A video will also be present on the AES PROG outputs. If you are using discrete AES program audio then the audio from the AES

PROG inputs will be present on the AES PROG outputs. When the DSK layer is active you can also mix either the audio embedded on the FILL/B video or the ALT AES audio with the program audio. The resulting mixed audio is embedded on the PROG video output and will also be present on the AES PROG outputs. See section 3.7 for information on configuring the audio modes.

To transition the preview buss to the program buss press the **TRANSITION** button. The transition type and rate are set using the *Transition* menu items. When the *Transition Swap Mode* is set to *Swap* the input video and audio of the program buss as well as logos and other media being keyed on program buss the will be swapped back to the preview buss at the end of the transition. When the *Transition Swap Mode* is set to *No Swap* the input video and audio of the preview buss will remain unchanged. See section 3.11 for information on configuring transition modes.

3.2.2. Displaying Logos

To control whether a logo is keyed or not, you must first enable the media key layer by pressing the **LOGO** button for the buss you want the logo to appear on. The **LOGO** LED for the respective buss must be illuminated for logos to display on that buss. 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 output video busses with the media layer enabled, 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. To remove a keyed logo from the output video busses, press the **MEDIA IN/OUT** button when the logo name is flashing. The logo will fade out according to its programmed fade out time and the logo name 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 9625DSK-LGA. These items are often only required to be set up at installation time, and do not pertain to the day to day operation of the unit. Figure 3-3 gives an overview of the *Setup* menu system.

GENERAL
- Video Standard
- Reference
- Time Setup
- Output H Offset
- Network Info
- COM C
- COM D
- Line 21 Protect
- B Blanking
- Firmware

AUDIO
- AES Audio Mode
- Prog Audio Type
- Audio Duck Level
- EA 1-1 non PCM
- EA 1-2 non PCM
- EA 2-1 non PCM
- EA 2-2 non PCM
- EA 3-1 non PCM
- EA 3-2 non PCM
- EA 4-1 non PCM
- EA 4-2 non PCM
- A Grp 1 P1 Swap
- A Grp 1 P2 Swap
- A Grp 2 P1 Swap
- A Grp 2 P2 Swap
- B Grp 1 P1 Swap
- B Grp 1 P2 Swap
- B Grp 2 P1 Swap
- B Grp 2 P2 Swap
- Voiceover Input

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

MATTE
- Matte Enable
- Matte Aspect
- Matte Top
- Matte Bottom

DSK
- Mix Audio Type
- Audio Mix Level
- Key Type
- Key Gain
- Key Offset
- Key Threshold

TRANSITION
- Transition Type
- Transition Rate
- Transition Swap

PRESETS
- Recall Preset
- Store Preset
- Export Preset
- GPI Setup
  - GPI
  - Cload Prest
  - CTransition
  - CAction
  - CVoIn
  - CLogo
  - Oload Prest
  - OTransition
  - OAction
  - Ologo
  - OVoIn

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

Figure 3-3: Overview of the Setup Menu (continued on next page)

MEDIA
  (Static Logos)
─   H Position
─   V Position
─   Logo Gain
─   Fade In Time
─   Hold Time
└   Fade Out Time

MEDIA
  (Animated Logos)
─   H Position
─   V Position
└   Logo Gain

MEDIA
  (Crawl Logos)
─   H Position
─   V Position
─   Logo Gain
─   Fade In Time
─   Hold Time
─   Fade Out Time
─   Crawl Rate
─   Crawl Repeat
─   Crawl Pause
─   Crawl Height
─   Crawl Font
─   BG Opacity
─   FG Opacity
─   Crawl BG
└   Crawl FG

MEDIA
  (Audio Clips)
─   Clip Gain
─   Clip Duck Level
─   Clip Repeat
└   Clip Pause

MEDIA
  (Playlists)
─   Logo Name
└   Audio Name

Figure 3-3: Overview of the Setup Menu

3.4. NAGIVATING 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 shown with an asterisk (*). 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 have an asterisk (*). When you have stopped at the desired value, press the **SELECT** button to save your selection. The value will be shown with an asterisk (*), 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 item 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 is described in the following sections, with an explanation of what each choice does.

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 gives a brief description of the first level of menus that appear when

you enter the menu. Selecting one of these items will take you to the next menu level. Sections 3.6 to 3.14 provide detailed descriptions of 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 and to update firmware
AUDIO	This menu is use to configure the Audio functions – Mode, embedded or discrete and Non PCM audio
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 black overlay matte attributes.
DSK	This menu is used to configure the DSK functions – key type, gain, and thresholds
TRANSITION	This menu is used to set up the transition type, rate and 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 on EAS optioned units)
LOGO	This menu is used to position logos and to set their fade in, hold and fade out time

3.6.   GENERALCONFIGURATION ITEMS

The *GENERAL Setup* menu is used to set up various items related to the overall operation of the 9625DSK-LGA 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 3.6.3.4 give detailed information about each of the sub menus.

Video Standard	Sets the video standard
Reference	Selects whether the timing reference will be the Input video or Genlock
Time Setup	Configures the real time clock and LTC timecode input
Output H Offset	Sets the output H phase offset to the timing reference
Network Info	Configures the Ethernet Network Address for FTP uploads
COM C	Configures the function of the SERIAL CONTROL (C) serial Port
COM D	Configures the function of the COM D serial Port
Line 21 Protect	Controls whether logos can be placed on Line 21
B Blanking	Selects the source of the blanking information for the B video input
Firmware	Displays the current firmware version, and initiates firmware upgrades

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

3.6.1. Selecting the Video Standard

```
GENERAL
   Video Standard
      Vstd: 525i
      Vstd: 16x9 525i
      Vstd: 625i
```

The *Video Standard* menu item is used to set the video standard in use.

Select *525i/59.94* 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/50* for operation with 4 x 3 aspect ratio 625i/50 video conforming to EBU TECH 3267-E.

3.6.2. Selecting the Video Timing Reference

```
GENERAL
   Reference
      Ref: input video
      Ref: ref in
```

The *Reference* menu item is used to select the timing reference for the 9625DSK-LGA.

Select *Input Video* to use the SDI video connected to the BKG/A video input as the timing reference.

Select *Ref In* to use the analog video connected to the REF IN BNC as the timing reference.

3.6.3. Configuring the Real Time Clock

The 9625DSK-LGA 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 9625DSK-LGA 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 9625DSK-LGA automatically updates the RTC clock from the UTC clock to minimize long term time drift. In order to keep the UTC clock can in sync with your house master time code it should 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.

3.6.3.1. 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.

3.6.3.2. 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.

3.6.3.3. Setting the Real Time Clock

```
GENERAL
  Time Setup
    RTC  12:34:50
```

This menu item is used to display and set the hardware real time clock in the 9625DSK-LGA. 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 something like:

```
12:34:50
```

To set the real time clock press the **SELECT** button and the hours digits will be flashing to indicate that they are in entry mode. Use the ↑ or ↓ buttons 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 second's digits will stop flashing and the time will begin incrementing indicating 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 9625DSK-LGA, the LTC time will overwrite the Real Time clock that has been entered.**

3.6.3.4. Setting the Time Zone Offset

```
GENERAL
  Time Setup
    Zone  -05:00:00
```

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 3.6.3.5) 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 be flashing to indicate that they are in entry mode. Use the ↑ or ↓ buttons to change the hours to the desired value. To set negative time zone offsets continue pressing the ↑ or ↓ buttons until the hours values show a negative sign. Then press the **SELECT** button and the minutes digits will be flashing to indicate that they are in entry mode. Set the minutes and second in the same way. When you have entered the correct time press the **SELECT** button to the set the time zone offset. The seconds digits will stop flashing to indicate that the time zone offset has been set.

3.6.3.5. Enabling Daylight Saving Time Compensation

```
GENERAL
  Time Setup
    DST Active
      Dst active : off
      Dst active : on
```

This menu item allows the user to control whether Daylight Saving Time (DST) compensation will be applied to the to derive 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 9625DSK-LGA must be manually changed from Daylight Saving time to Standard time using this menu setting. If you want to automatically keep the time clock in the 9625DSK-LGA 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 3.6.3.6**

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

```
GENERAL
  Time Setup
    LTC Time Zone
      Ltc zone : local
      Ltc zone: utc
```

This menu item allows the user to select whether 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.

3.6.3.7. Synchronizing the Real Time Clock to the UTC Time

```
GENERAL
  Time Setup
    Jam RTC from UTC
      RTC force jam
```

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 `RTC force jam` is shown on the display. The front panel display will show `RTC JAMMED` for 1 second after the time has been synchronized.

3.6.4. Setting the Video Output Timing

The output stage of the 9625DSK-LGA contains a line buffer so that the output video can be timed with respect to the reference applied to the **RED IN** input.

⚠ **The *H 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
Output H Offset
0
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.

3.6.5. Setting Up the Network Addresses

The *Network Info* sub-menus of the *General* Setup menu are used to configure the 9625DSK-LGA 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 ↓ buttons 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 return to 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 9625DSK-LGA within the network. 192.168.1.XXX is an example of an IP address in a private (internal) network. If connecting multiple 9625DSK-LGAs, 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 9625DSK-LGA. This parameter us 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 9625DSK-LGA and running the network application software (i.e. 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 can not be changed).

3.6.6. Setting the Serial Protocol for COM Ports C and D

The four serial ports on the 9625DSK-LGA are used for various functions. The UPGRADE (A) port is used as a console port for upgrading firmware and other utility functions. The REMOTE PANEL (B) port is only available on remote control versions of the 9625DSK-LGA and is used to connect the remote control panel. The SERIAL CONTROL (C) port and COM D ports are programmable and can be used for a variety of functions. There are two identical menu items on the *GENERAL* menu that are used to configure the COM C and COM D ports. For simplicity only one of these menu items will be shown in the manual.

GENERAL
COM D
none
eas cg
temperature
evertz-auto
m2100-auto
xy-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 COM port D

Select *eas cg* when you have the EAS option (+EAS) enabled and have an EAS decoder connected to the port. See section 5.1 for more information about connecting the EAS decoder. See sections 5.2 and 3.13 for information about configuring the EAS functions of the 9625DSK-LGA.

Select *temperature* when you have the temperature probe option (+TP) enabled and have the 9600LG-TP temperature probe connected to the port. See section xxx for more information about connecting the temperature probe. See section xxx for information about configuring the temperature functions of the 9625DSK-LGA.

There are three settings that are used when the 9625DSK-LGA is under automation control. See your automation vendor for information about the protocols that are supported.

Select *evertz-auto* when you want to control the 9625DSK-LGA using the Evertz automation protocol. This is the setting you should use when you are controlling the 9625DSK-LGA from the Evertz MetaCast 2 software.

Select *m2100-auto* when you want to control the 9625DSK-LGA using the Grass Valley M2100 9625DSK-LGA automation protocol. See section xxx for information about M2100 automation control functions of the 9625DSK-LGA.

Select *xy-auto* when you want to control the 9625DSK-LGA using the xy logo inserter automation protocol.   Note that only logo functions of the 9625DSK-LGA can be controlled using the xy automation protocol. See section xxx for information about XY automation control functions of the 9625DSK-LGA.

3.6.7. Protecting Line 21 Captions

GENERAL
Line 21 Protect
L21 protect: off
L21 protect: on

This menu item allows the user to control 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 *off*, logos can be placed vertically beginning at line 21.

When set to *on*, logos can be placed vertically beginning at line 22, preserving any closed caption information that is encoded on line21.

3.6.8. Setting the B Blanking

GENERAL
B Blanking
B blanking: a
B blanking: b

This menu item allows the user to set the B Blanking source.

When set to *A*, the blanking source will be the BKG/A video input.

When set to *B*, the blanking source will be the FILL/B video input.

3.6.9. Viewing and Updating the Firmware Version

GENERAL
Firmware
1.01 build 100
boot 1.01
Upgrade firmware

The Firmware menu item allows you to view the firmware version that is installed in the 9625DSK-LGA and to update the firmware.

When you press the **SELECT** button, the display shows the software version which will be something like:

```
1.0 build 100
```

Use the ⬆ or ⬇ buttons to display the boot code version which will be something like:

```
Boot 1.01
```

Select *Upgrade firmware* to upgrade the firmware in the 9625DSK-LGA. For information on completing the firmware upgrade see section 6.2.

3.7. AUDIO CONFIGURATION ITEMS

The *AUDIO Setup* menu is used to set up various items related to the configuring the audio operation of the 9625DSK-LGA. Table 2-1 shows the items available in the *AUDIO Setup* menu. Sections 3.7.1 to 3.7.4 give detailed information about each of the sub menus.

AES Audio Mode	Sets the audio mode for AES inputs
Prog Audio Type	Sets whether the program audio is discrete AES or embedded audio
Audio Duck Level	Sets the mix levels for voice over and EAS operations
EA 1-1 non PCM	Selects whether Video A embedded audio group 1 pair 1 is non-PCM
EA 1-2 non PCM	Selects whether Video A embedded audio group 1 pair 2 is non-PCM
EA 2-1 non PCM	Selects whether Video A embedded audio group 2 pair 1 is non-PCM
EA 2-2 non PCM	Selects whether Video A embedded audio group 2 pair 2 is non-PCM
EA 3-1 non PCM	Selects whether Video B embedded audio group 1 pair 1 is non-PCM
EA 3-2 non PCM	Selects whether Video B embedded audio group 1 pair 2 is non-PCM
EA 4-1 non PCM	Selects whether Video B embedded audio group 2 pair 1 is non-PCM
EA 4-2 non PCM	Selects whether Video B embedded audio group 2 pair 2 is non-PCM
A Grp 1 P1 Swap	Selects whether Video A embedded audio group 1 pair 1 and PROG AES1 audio is swapped
A Grp 1 P2 Swap	Selects whether Video A embedded audio group 1 pair 2 and PROG AES2 audio is swapped
A Grp 2 P1 Swap	Selects whether Video A embedded audio group 2 pair 1 and PROG AES3 audio is swapped
A Grp 2 P2 Swap	Selects whether Video A embedded audio group 2 pair 1 and PROG AES4 audio is swapped
B Grp 1 P1 Swap	Selects whether Video B embedded audio group 1 pair 1 and ALT AES1 audio is swapped
B Grp 1 P2 Swap	Selects whether Video B embedded audio group 1 pair 2 and ALT AES2 audio is swapped
B Grp 2 P1 Swap	Selects whether Video B embedded audio group 2 pair 1 and ALT AES3 audio is swapped
B Grp 2 P2 Swap	Selects whether Video B embedded audio group 2 pair 1 and ALT AES4 audio is swapped
VoiceOver Input	Selects the Voiceover input source

Table 3-2: Top Level of the Audio Setup Menu

3.7.1. Selecting the Audio Mode

```
AUDIO
  AES Audio Mode
      AES mode: 4+0
      AES mode: 3+1
```

The *AES Audio Mode* menu item is used to set how the 4 AES audio inputs are used. This menu setting affects the program audio when the *Prog Audio Type* is set to *Discrete*. It also affects the mix audio when the *Mix Audio Type* is set to *Discrete*. When you are using embedded *Prog Audio* or *Mix Audio* this menu item still affects whether voice overs are allowed or not.

Select *4+0* if you are using all 4 AES inputs (8 channels of audio) as program or mix audio. The voice over function is disabled in this mode.

Select *3+1* if you are voice over audio. In this mode there are 3 AES inputs (6 channels of audio) of program or mix audio. The *Voice Over Input* menu item selects the voice over audio source for mixing with all channels of the program audio when the **VOICE OVER** button is pressed. The voice over mix level is set using the *Audio Duck Level* menu item on the *AUDIO* menu. See section 3.7.3

3.7.2. Selecting Whether you are using Discrete AES or Embedded Program Audio

```
AUDIO
  Prog Audio Type
      audio: discrete
      audio: embedded
```

The *Prog Audio Type* menu item is used to set whether the program audio is embedded or discrete AES.

Select *discrete* if you are using discrete AES program audio. The program audio associated with the BKG/A video input is connected to the AES PROG inputs. The program audio associated with the FILL/B video input is connected to the AES ALT inputs.

Select *embedded* if you are using embedded program audio. The program audio is de-embedded from groups 1 and 2 of the respective video input. When the DSK layer is active the program audio is de-embedded from groups 1 and 2 of the BKG/A video input.

3.7.3. Selecting the Voice Over Audio Mix Level

```
AUDIO
  Audio Duck Level
      Duck level: 50%
```

The *Audio Duck Level* menu item is used to set the level that the voice over audio will have when a voice over operation is being performed. The voice over audio will be at the percentage specified. The normal program audio will be at 100% - the voice over audio level. To have the voice over audio completely replace the normal program audio, specify an *Audio Duck Level* of 100%.

3.7.4. Selecting the Whether the Embedded Audio contains PCM or Non-PCM Audio

The *AUDIO* menu contains eight sub-menu items that select whether each of the 4 embedded audio pairs in video input A and B contain normal PCM audio or non-PCM audio. EA1-1 to EA2-2 refer to the four pairs embedded in video input A. EA3-1 to EA4-2 refer to the four pairs embedded in video

input B. For simplicity only the menu items for the Video A Group 1 Pair 1 (EA1-1) is shown in the manual.

```
AUDIO
  EA 1-1 non PCM
     ea 1-1 npcm: off
     ea 1-1 npcm: on
```

When the 9625DSK-LGA performs a switch of the audio following the video, it normally provides a cross fade for normal PCM audio sources. When there is non-PCM audio data such as Dolby E, the 9625DSK-LGA must perform a clean cut of the audio to avoid corrupting the non-PCM data. This menu item is used to select whether pair 1 of Embedded audio group 1 of the Video A input contains normal PCM audio data or non-PCM data.

Select *off* if the embedded audio is normal PCM linear audio

Select *on* if the embedded audio is non-PCM data such as Dolby E.

3.7.5. Swapping Left and Right Channels within an Audio Pairs

The *AUDIO* menu contains eight sub-menu items that select whether each of the 4 audio pairs in video input A and B will be processed normally or if the left and right channels will be swapped. Channel swapping applies to both the embedded audio pair and the corresponding AES input audio. (e.g. A input group 1 pair 1 corresponds to AES PROG 1 input) For simplicity only the menu items for the Video A group 1 pair 1 (embedded and discrete AES PROG 1) is shown in the manual.

```
AUDIO
  A Grp 1 P1 Swap
     A:G1 P1 no swap
     A:G1 P1 swap
```

This menu item is used to select whether pair 1 of embedded audio group 1 of the Video A input and the corresponding discrete AES PROG 1 input will be swapped before it is sent to the audio mixer.

Select *no swap* to pass the audio through on the assigned channel.

Select *swap* to reverse the left and right channels within the pair at the input to the audio mixer.

3.7.6. Selecting the Voice Over Input

```
AUDIO
  Voice Over Input
     VoIn: A:G1 P1
     …
     VoIn: B:G2 P2
```

This menu item is used to select which AES input will be used for the Voice Over audio when the *Audio Mode* menu item is set to *3 + 1*.

Select the AES input that you want to use for the voice over source. The *A: G 1 P1* to *A: G 2 P2* menu choices are used to select the AES PROG 1 to 4 inputs. The *B: G 1 P1* to *A: G 2 P2* menu choices are used to select the AES ALT 1 to 4 inputs.

3.8.   FILE MANAGEMENT CONFIGURATION ITEMS

The 9625DSK-LGA comes 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 9625DSK-LGA 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 3-3 shows the items available in

the *MANAGE FILES Setup* menu. Sections 3.8.1 to 3.8.6 give 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 3-3: Top Level of the Manage Files Setup Menu

3.8.1. 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 one of the compact flash expansion drive will only have 1 item in this list.

Use the ⬆ or ⬇ buttons to display the serial number of the media that will be the source for the file operation and press the **SELECT** button.

3.8.2. 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 ⬇ buttons 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.

3.8.3. 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 one of the compact flash expansion drive will only have 1 item in this list.

Use the ⬆ or ⬇ buttons 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.

3.8.4. 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.

3.8.5. 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.

3.8.6. 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 submenu. There is no undo provided.**

3.9.   MATTE CONFIGURATION ITEMS

The 9625DSK-LGA has 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 black overlay matte that can be applied over the program video. Table 3-4 shows the items available in the *MATTE Setup* menu. Sections 3.9.1 to 3.9.3 give detailed information about each of the sub menus.

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

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

3.9.1. Turning the Matte On and Off

MATTE
Matte On/Off
matte: enabled *matte: disabled*

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

Select *enabled* 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 *disabled* to turn off the black matte overlay.

3.9.2. Setting the Matte Aspect Ratio

MATTE
Matte Aspect (1:33)
aspect: 1.33 *aspect: 1.77* *aspect: 1.85* *aspect: 2.35* *aspect: user*

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

There are three pre-defined aspect ratios available. When you select one of these aspect ratios the 9625DSK-LGA 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 3.9.3.)

3.9.3. 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 3.12) When you manually change the *Matte Top* and *Matte Bottom* settings the *Matte Aspect* will show the aspect ratio as *(user).*

MATTE
Matte Top
top: 50

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

Use the ⬆ or ⬇ buttons to change the line number to the desired value. Either field 1 or field 2 lines can be used.

MATTE
Matte Bottom
bottom: 233

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

Use the ⬆ or ⬇ buttons to change the line number to the desired value. Either field 1 or field 2 lines can be used.

3.10. DOWNSTREAM KEYER CONFIGURATION ITEMS

The 9625DSK-LGA has 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 3-5 shows the items available in the *DSK Setup* menu. Sections 3.10.1 to 3.10.6 give detailed information about each of the sub menus.

Mix Audio Type	Sets whether the mix audio is discrete AES or embedded audio
Audio Mix Level	Sets the mix levels for audio mixing when the DSK is active
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 Fill signal where the self key will occur.

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

3.10.1. Selecting Whether you are using Discrete AES or Embedded Mix Audio

AUDIO
Mix Audio Type
audio: discrete
audio: embedded

The *Mix Audio Type* menu item is used to set whether the mix audio is embedded or discrete AES. Mix audio is mixed with the program audio when the DSK layer is active according to the mix level set by the *Audio Mix Level* menu item.

Select *discrete* if you are using discrete AES mix audio. The Mix Audio is connected to the AES ALT inputs.

Select *embedded* if you are using embedded mix audio. The Mix audio is de-embedded from the FILL/B video input.

3.10.2. Selecting the DSK Audio Mix Level

```
AUDIO
  Audio Mix Level
    Mix level:: 50%
```

The *Audio Mix Level* menu item is used to set the level that the alternate mix audio will have when the DSK layer is active and an audio mix is being performed. The alternate audio will be at the percentage specified. The normal program audio will be at 100% - the *Audio Mix Level*. To have the alternate audio completely replace the normal program audio, specify an *Audio Mix Level* of 100%.

3.10.3. Setting the Downstream Key Type

```
DSK
  Key Type
    key type: input
    key 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 the KEY/C and FILL/B video inputs of the 9625DSK-LGA respectively.

Select *self* to perform a hard self key of the FILL/B video input using the FILL/B luminance threshold value set in the *Key Threshold* menu item.

3.10.4. Setting the Downstream Key Object Transparency

```
DSK
  Key Gain
    100
    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 ↓ buttons 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).

3.10.5. Setting the Downstream Key Object Offset

```
DSK
  Key Offset
    0
    -1023 to 1023
```

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.

3.10.6. Setting the Downstream Self Key Threshold

DSK
Key Threshold
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 the FILL/B video input. 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.

3.11.   TRANSITION CONFIGURATION ITEMS

The 9625DSK-LGA 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 3-6 shows the items available in the *TRANSITION Setup* menu. Sections 3.11.1 to 3.11.3 give detailed information about each of the sub menus.

Transition Type	Selects type of video transition
Transition Rate	Adjusts the rate of the video transition
Swap Mode	Selects whether the program and preview busses will swap after the transition.

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

3.11.1. Setting the Transition Type

TRANSITION
Transition Type
fade
cut
wipe xxx

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

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.
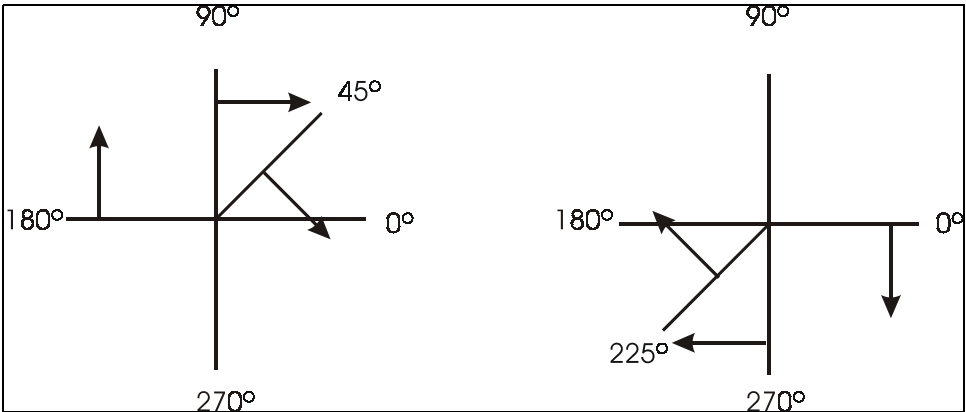
3.11.2. Setting the Transition Rate

TRANSITION
Transition Rate
0 to 90

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

Use the ⬆ or ⬇ buttons to change the *Transition Rate* value and press the **SELECT** button.

3.11.3. Setting the Transition Swap Mode

TRANSITION
Swap Mode
Swap mode: swap
Swap mode: off

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 buss and the program buss will be swapped at the end of the transition. Logos and other media being keyed on the respective busses will also be swapped with the inputs.

When set to *Off* the input video and audio of the preview buss will be transferred to the program buss transition. Logos and other media being keyed on the preview buss will also be transferred to the program buss. The preview buss will remain unchanged.

3.12. PRESET CONFIGURATION ITEMS

The 9625DSK-LGA has 10 user presets that can store pre-defined configurations for such things as Matte settings, Transition settings and DSK settings. The parameter values stored are the menu settings that are current based on the status of the program buss. 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 buss and will not show on the program buss until the **TRANSITION** 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 to configure the GPI and GPO functions. Table 3-7 shows the items available in the *PRESET Setup* menu. Sections 3.12.1 to 3.12.5 give detailed information about each of the sub menus.

> After upgrading the 9625DSK-LGA 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 buss
Store Preset	Stores the program buss settings to one of the 10 user presets
Export Preset	Exports the one of the 10 user presets to the COM A port as ASCII text
GPI Setup	Configures the actions triggered by the GPI inputs
GPO Setup	Configures the actions of the GPO outputs

Table 3-7: Top Level of the Preset Setup Menu

3.12.1. Recalling a User Preset

PRESETS
Recall Preset
Recall # 1

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

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

3.12.2. Storing a User Preset

PRESETS
Recall Preset
Recall # 1

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

Use the ⬆ or ⬇ buttons 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.

3.12.3. Exporting a User Preset

PRESETS
Recall Preset
Recall # 1

This menu item is used to send the settings to one of the ten user presets to the console serial port (UPGRADE 232) as ASCII text. This function is useful to archiving the settings of the presets or for diagnostic purposes.

Use the ⬆ or ⬇ buttons to select the preset that you want to export. When you press the **SELECT** button the settings will be sent as ASCII text to the UPGRADE 232 serial port. To capture these settings you can use any terminal program such as HyperTerminal. Connect the computer using the instruction in section 6.2.2. Then use the Text capture function of your terminal program to save the ASCII text.

3.12.4. Configuring the GPI Inputs

The 9625DSK-LGA is 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 buss. The *On Open* event for the same GPI can be used to load a different user preset and perform a transition to the program buss. For each event you can configure a preset to load, transition to perform and logo to display.

3.12.4.1. Selecting One of the GPI Inputs to Configure

PRESETS
GPI Setup
Configure GPI:A
GPI=A to H

This menu item is used to select one of the GPI inputs that 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 ⬇ buttons 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.

3.12.4.2. Configuring the GPI Actions

There are 5 menu items that configure that happens when the selected GPI closes (*Cload, Ctransition*, *Caction, Clogo* and *CVoIn)*. There are also 5 menu items that configure that happens when the selected GPI opens (*Oload, Otransition*, *Oaction*, *Ologo* and *OVoIn)*. For the sake of clarity 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 3.12.4.1.

```
PRESETS
  GPI Setup
    A Cload Prest:1
      none
      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 *none* to **not** load a user preset when the GPI is closed. The existing settings will be used

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

```
PRESETS
  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.

```
PRESETS
  GPI Setup
    A CAction
      A CAction:Toggle
      A CAction:Duck I
      A CAction:Duck O
      A CAction:Duck
      A CAction:All Ou
      A CAction:None
      A CAction:Cue
      A CAction:In
      A CAction:Out
```

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

Select *Toggle* when the GPI is closed.

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

Select *All Out* to fade out all logos.

Select *None* to not perform any action

Select *Cue* to load the logo selected by the *CLogo* menu item into memory. The logo will not be displayed by this action.

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.

PRESETS
GPI Setup
A CLogo:none
None
List of logos

This menu item is used to select a logo to be acted on if the *Caction* menu item is set to *Cue, In or Out*

Select *none* to disable any logo actions.

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

PRESETS
GPI Setup
A CVoIn
A CVoIn:A G1 P1
A CVoIn:A G1 P2
A CVoIn:A G2 P1
A CVoIn:A G2 P2
A CVoIn:B G1 P1
A CVoIn:B G1 P2
A CVoIn:B G2 P1
A CVoIn:B G2 P2

This menu item is used to select the Voice Over input that will be used when the GPI input is closed to ground. This menu item is only applicable when the *CAction* menu item is set to *Duck, Duck In* or *Duck Out.* For all other *CAction* menu settings, the voice over input will not be chaned when the GPI is closed.

Select the AES input that you want to use for the voice over source. The *A G1 P1* to *A G2 P2* menu choices are used to select the AES PROG 1 to 4 inputs. The *B G1 P1* to *B G2 P2*menu choices are used to select the AES ALT 1 to 4 inputs.

3.12.5. Configuring the GPO Outputs

The 9625DSK-LGA is fitted with four contact closure general purpose outputs (GPOs) that can be used as tallies for various functions. There are individual menu items to configure each of the GPOs. For simplicity only the menu for GPO 1 will be shown.

PRESETS
GPO Setup
GPO 1
Gpo 1:none
Gpo 1:prog A
Gpo 1:prog B
Gpo 1:prog Black
Gpo 1:DSK status
Gpo 1:logo status
Gpo 1:voice over

This menu item is used to select the function of the GPO 1 general purpose output. The output will be low when it is active.

Select *none* to disable the output.

Select *prog A* to activate the output when the program output bus input is BKG/A.

Select *prog B* to activate the output when the program output bus input is FILL/B.

Select *prog Black* to activate the output when the program output bus input is the internal black generator.

Select *DSK status* to activate the output when the DSK layer on the program output bus is active.

Select *Logo status* to activate the output when the media key layer on the program output bus is active.

Select *voice over* to activate the output when the voice over on the program output bus is active.

3.13. EAS CONFIGURATION ITEMS (EAS OPTIONED UNITS ONLY)

When the EAS option is added to the 9625DSK-LGA, it has 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 AES PREV 4 input of the 9625DSK-LGA. See chapter 5 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 3-8 shows the items available in the *EAS Setup* menu. Sections 3.13.1 to 3.13.6 give detailed information about each of the sub menus.

Menu Item	Description
EAS Type	Selects how the EAS Crawl will transition onto the video
EAS Vert Pos'n	Sets the vertical position of the EAS crawl
EAS Font	Sets the font used to display the EAS crawl
EAS Height	Sets the font size used to display the EAS crawl
EAS 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 3-8: Top Level of the EAS Setup Menu

3.13.1. Setting the EAS Display Type

EAS
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.

3.13.2. Setting the Vertical Position of EAS Crawl Display

```
EAS
  EAS Vert Pos'n
    Vert: pos'n:21
      Vert: pos'n=21
      21 to 379
```

This menu item is used to set the vertical position of the EAS scrolling text message. The *Vert Pos'n* value is the video line where the top of the scrolling message will be placed. The range for placement is from 21 to 379 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 `vert pos'n=21` indicating that the line number can be changed. Use the ⬆ or ⬇ buttons to select the line number and press the **SELECT** button. The display will show `vert pos'n:xx` indicating that this is the new the display position.

3.13.3. Setting the Font used for the EAS Crawl Display

```
EAS
  EAS Font
    Font:font
      Font=font
```

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. If there are no true type fonts loaded then the display will show *font* as the default font name. To change the font to another true type font press the **SELECT** button. The display will show `font=font` indicating that the font can be changed. Use the ⬆ or ⬇ buttons to select the from the available true type fonts that have been loaded using the Nomad™ software. When you press the **SELECT** button the display will show `font:fontname` indicating that this is the new the display font.

3.13.4. Setting the Font Size for the EAS Crawl Display

```
EAS
  EAS Height
    Height:30
    Height:45
    Height:60
    Height:75
```

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.

3.13.5. Setting the Crawl Rate for the EAS Crawl Display

```
EAS
  EAS Rate
    Rate:6
    1 to 13
```

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 fields.

For example it will take 120 fields 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.

3.13.6. 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:B  0 G:  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 show something like:

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

To change the colour value press the **SELECT** button. The colon (:) after the R will change to an equals (=) sign indicating that you can change the R value. Use the ↑ or ↓ buttons to change the red colour component value. 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 show something like:

```
        R:255G:B 128 G: 128
```

indicating that the warning background value has been changed.

3.14. MEDIA CONFIGURATION ITEMS

The *MEDIA Setup* menu controls all the parameters for individual logos and audio clips.. Table 3-9 shows the items available in the *MEDIA Setup* menu. Sections 3.14.1 to 3.14.3 give detailed information about each of the sub menus. Some of the menu items apply to certain media types only.

To configure a specific logo exit the *Setup* menu and use the ⬆ or ⬇ buttons to select a particular media item. If you want to see the logo as you are positioning it then press the **MEDIA IN/OUT** key to fade the logo in. The media key layer must be enabled for the output buss you are viewing for the logo to be visible. Then press the **SETUP** button to enter the *Setup* menu. Navigate to the *LOGO* menu using the ⬆ or ⬇ buttons, then press the **SELECT** button to enter the *LOGO* menu. If the media key layer is active on the program output buss and the PGM BUS LOCK LED is On, you will not be able to make changes to the logo settings.

H Position	Sets the horizontal position of the selected logo
V Position	Sets the vertical position of the selected logo
Fade In Time	Sets the fade in duration for the selected logo
Hold Time	Sets how long the selected logo will be displayed
Fade Out Time	Sets the fade out duration for the selected logo
Logo Gain	Sets the opacity (inverse of transparency) for the selected logo
Crawl Rate	Sets the crawl rate for the selected crawl logo
Crawl Repeat	Sets the repeat count for the selected crawl logo
Crawl Pause	Sets the pause time between repetitions of the selected crawl logo
Crawl Font	Sets the font used to display the text on the selected crawl logo
Crawl Height	Sets the font size used to display the text on the selected crawl logo
BG Opacity	Sets the background opacity for the selected crawl logo
FG Opacity	Sets the text opacity for the selected crawl logo
Crawl BG	Sets the colour of the background for the selected crawl logo
Crawl FG	Sets the font colour for the selected crawl logo
Clip Level	Sets the playback level for the selected audio clip
Clip Duck Level	Sets the mix level for the selected audio clip
Clip Repeat	Sets the repeat count for the selected audio clip
Clip Pause	Sets the pause time between repetitions of the selected audio clip

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

3.14.1. Setting the Logo Horizontal Position

```
MEDIA
   Logo H Position
      H Position: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 edge of the logo. The range of values depends on video standard in use.

Use the ↑ or ↓ buttons to adjust the position. The logo will move on the screen as you adjust its position.

3.14.2. Setting the Logo Vertical Position

```
MEDIA
   Logo V Position
      V Position: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 video standard in use.

Use the ↑ or ↓ buttons to adjust the position. The logo will move on the screen as you adjust its position.

3.14.3. 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%I are ignored.

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

3.14.4. Setting the Logo Fade In Duration

```
MEDIA
   Fade In
      Fade in:30
```

This menu item is used to set the fade in rate for the current logo. The range of values is 0 to 600 frames. The *Fade In* menu item only applies to static and crawl logos.

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

3.14.5. Setting the Logo Display Time

```
┌─────────────────────────┐
│ MEDIA                   │
│   ┌─────────────────────┤
│   │ Hold Time           │
│   │   ┌─────────────────┤
│   │   │ Hold:30         │
└───┴───┴─────────────────┘
```

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 been completed. Setting the value to *manual* will cause the logo to be displayed until it is manually faded out. The *Hold Time* menu item only applies to static and crawl logos.

Use the ⬆ or ⬇ buttons to adjust the *Hold Time* and then press the **SELECT** button to make the change.

3.14.6. Setting the Logo Fade Out Duration

```
┌─────────────────────────┐
│ MEDIA                   │
│   ┌─────────────────────┤
│   │ Fade Out            │
│   │   ┌─────────────────┤
│   │   │ Fade out:30     │
└───┴───┴─────────────────┘
```

This menu item is used to set the fade out rate for the current logo. The range of values is 0 to 600 frames. The *Fade out* menu item only applies to static and crawl logos.

Use the ⬆ or ⬇ buttons to adjust the *Fade Out* time and then press the **SELECT** button to make the change.

3.14.7. Crawl Logo Configuration Items (Crawl Optioned Units Only)

When the Crawl (CWL) option is added to the 9625DSK-LGA, it has the ability to key scrolling text messages over the program video. In order to set up the crawl logo and enter the text from the crawl logo you will need to use the Nomad™ software. The crawl is rendered by Nomad™ into a logo (EVL) file and sent to the 9625DSK-9625DSK-LGA. See the Nomad™ section of the Evertz Keyer Toolkit manual for more information on preparing crawl logos.

The *Logo Setup* menu has several items that are used to configure crawl logos, and these items are only available when you select a crawl logo on units fitted with the crawl option. Sections 3.14.7.1 to 3.14.7.7 give detailed information about each of the sub menus.

3.14.7.1. Setting the Crawl Logo Horizontal Crawl Rate

```
┌─────────────────────────┐
│ MEDIA                   │
│   ┌─────────────────────┤
│   │ Crawl Rate          │
│   │   ┌─────────────────┤
│   │   │ Rate:6          │
│   │   │ 1 to 13         │
└───┴───┴─────────────────┘
```

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 field.

For example it will take 120 fields 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.

3.14.7.2. Setting the Crawl Logo Repeat Count

```
MEDIA
  Crawl Repeat
    Repeat:0
    1 to 30
```

This menu item is used to set the number of times the text will scroll across the screen.

If you set the *Repeat* control to 0 the text will scroll continuously.

3.14.7.3. Setting the Crawl Logo Pause Time Between Repeats

```
MEDIA
  Crawl Pause
    Pause:0
    1 to 30
```

This menu item is used to set the length of time (in seconds) before a new crawl begins. The pause time is measured between the time that the text disappears on the left side of the screen until it appears back on the right side of the screen.

3.14.7.4. Setting the Crawl Logo Text Font

```
MEDIA
  Crawl Font
    Font:font
      Font=font
```

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

When you first enter this menu branch the current font name will be shown. If there are no true type fonts loaded then the display will show *font* as the default font name. To change the font to another true type font press the **SELECT** button. The display will show `font=font` indicating that the font can be changed. Use the ↑ or ↓ buttons to select the from the available true type fonts that have been loaded using the Nomad™ software. When you press the **SELECT** button the display will show `font:fontname` indicating that this is the new the display font.

3.14.7.5. Setting the Crawl Logo Text Font Size

```
MEDIA
  Crawl Height
    Height:30
    Height:45
    Height:60
    Height:75
```

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

The *Crawl Height* is the vertical size of the font measured in lines of video.

3.14.7.6. Setting the Crawl Logo Transparency

There are two menu items used to set the text (foreground) and background opacity (inverse of transparency) of the crawl logo. For the sake of simplicity only the menu item for setting the background opacity will be shown in the manual. The other menu item is used in the same way.

MEDIA
BG Opacity
BG Opacity:0-255

This menu item is used to set the background opacity (the inverse of transparency) for the crawl logo.

Setting the opacity to 255 makes the background completely opaque.

Setting the opacity to 0 makes the background completely transparent.

3.14.7.7. Setting the Crawl Logo Colours

There are two menu items used to set the text (foreground) and background colours of the crawl logo. For the sake of simplicity only the menu item for setting the background colour will be shown in the manual. The other menu item is used in the same way.

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

This menu item is used to set the background colour for the crawl logo. 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 show something like:

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

To change the colour value press the **SELECT** button. The colon (:) after the R will change to an equals (=) sign indicating that you can change the R value. Use the ⬆ or ⬇ buttons to change the red colour component value. 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 show something like:

```
        R:255G:B 128 G: 128
```

indicating that the background colour value has been changed.

3.14.8. Audio Clip Configuration Items (Media Keyer Units Only)

The 9625DSK-LGA has the ability to insert audio clips into the program audio path. These clips can be played by themselves or associated with logos in a playlists. In order to set up a playlist will need to use the Nomad™ software. The playlist file (EKP) is sent by Nomad™ to the 9625DSK-LGA. See the Nomad™ section of the Evertz Keyer Toolkit manual for more information on preparing playlists.

The *Logo Setup* menu has several items that are used to configure crawl logos, and these items are only available when you select a crawl logo on units fitted with the crawl option. Sections 3.13.1 to 3.13.6 give detailed information about each of the sub menus.

3.14.8.1. Selecting the Audio Clip Playback Level

```
MEDIA
  Clip Level
    Clip Level: 50%
```

The *Clip Level* menu item is used to set the playback level for the selected audio clip as a percentage of its original playback level.

This menu item allows you to reduce the playback level of a clip if it was recorded at a level that is too high. The playback level of a clip can not be increased from its original level.

The mix level of the clip as a percentage of the overall audio level can be set using the *Clip Duck Level* menu.

3.14.8.2. Selecting the Audio Clip Mix Level

```
MEDIA
  Clip Duck Level
    Clip Duck: 50%
```

The *Clip Duck Level* menu item is used to set the mix level that the selected audio clip will have as a percentage of the total audio when it is being played.

The audio clip will be at the percentage specified. The normal program audio will be at 100% - the *Clip Duck Level*. To have the audio clip completely replace the normal program audio, specify an *Clip Duck Level* of 100%.

The playback level of the clip as a percentage of its original level can be set using the *Clip Level* menu.

3.14.8.3. Setting the Audio Clip Repeat Count

```
MEDIA
  MEDIA
    Repeat:0
    1 to 30
```

This menu item is used to set the number of times the audio clip will play.

If you set the *Repeat* control to 0 the audio clip will play continuously.

3.14.8.4. Setting the Audio Clip Pause Time Between Repeats

```
MEDIA
  Clip Pause
    Pause:0
    1 to 30
```

This menu item is used to set the length of time (in seconds) before a audio clip will play again. The pause time is measured between the end of the clip playback and the beginning of the next repeat of the clip playback.

3.14.9. Playlist Configuration Items

The 9625DSK-LGA has the ability to run playlists that insert logos and associated audio clips. In order to set up a playlist will need to use the Nomad™ software. The playlist file (EKP) is sent by Nomad™ to the 9625DSK-LGA.   See the Nomad™ section of the Evertz Keyer Toolkit manual for more information on preparing playlists.

The *MEDIA Setup* menu has two items that are used to view the logo and audio file that will be played when the playlist is faded in. These items are only available when you select a playlist from the front panel. Sections 3.14.9.1 and 3.14.9.2 give detailed information about each of the sub menus.

3.14.9.1. Showing the Logo Name for a Playlist

MEDIA
Logo Name
LN: none
LN: Logo name

The *Logo Name* menu item is used to show the logo name for the playlist. In order to change the logo name for a playlist you will need to use the Nomad™ software.

3.14.9.2. Showing the Audio Clip Name for a Playlist

MEDIA
Audio Name
AN: none
AN: Logo name

The *Audio Name* menu item is used to show the audio clip name for the playlist. In order to change the audio clip name for a playlist you will need to use the Nomad™ software.

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CHAPTER 4
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4. HOW TO OPERATE THE DOWNSTREAM KEYER USING THE DESKTOP CONTROL PANEL

The 9625DSK-LGA is available as a 1RU chassis with a separate 1RU desktop remote control panel. This chapter describes the operation of the 9625DSK-LGA using the desktop remote control panel. For information about connecting the desktop remote control panel to the 9625DSK-LGA electronics see section 2.4.
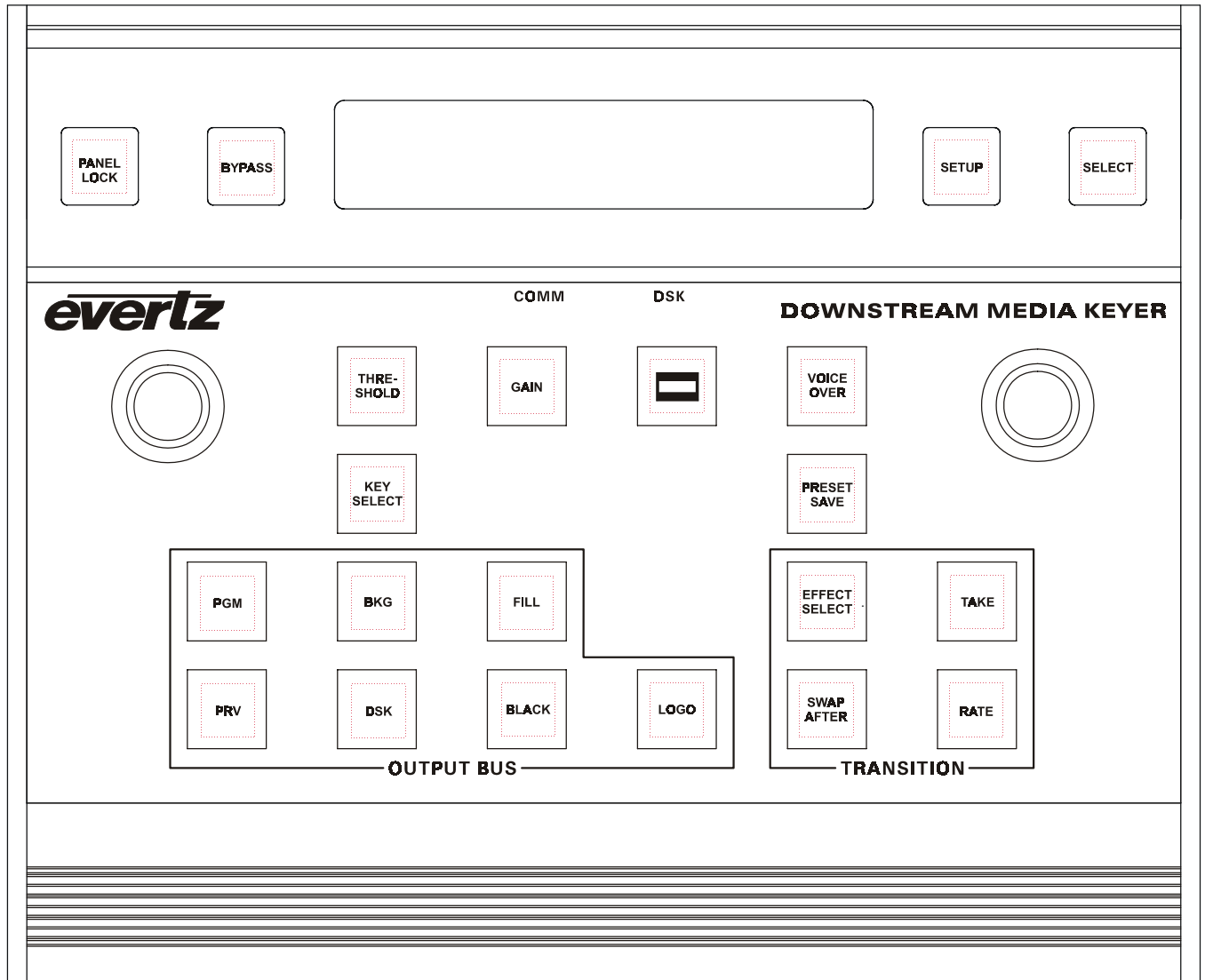

Figure 4-1: 9625DSK-LGA – Desktop Control Panel Layout

4.1. AN OVERVIEW OF KEY AND DISPLAY FUNCTIONS

The Desktop panel controls consist of two shaft encoder knobs, a 16 digit alphanumeric display, and 25 illuminated buttons. The illuminated buttons will come On to indicate that their controlled function is active.

The buttons are used to provide control of the 9625DSK-LGA, to switch the various input sources, and to navigate the front panel *Setup* menu system, a quick and simple method of configuring the 9625DSK-LGA Downstream Keyer for your application. See sections 3.3 to 3.14 for information on configuring the 9625DSK-LGA using the *Setup* menu system.

4.1.1. Output Bus Button Group

PGM   This button sets the other buttons in the Output Bus button group so that they operate on the program buss. If the button LED is On solid, then the then the **BKG**, **FILL, DSK, BLACK** and **LOGO** buttons are controlling the program buss. The LEDs in the **BKG**, **FILL, DSK, BLACK** and **LOGO** buttons will be On sold also if they are active on the program buss and flashing if they are active on the preview buss.

PVW   This button sets the other buttons in the Output Bus button group so that they operate on the preview buss. If the button LED is On, then the then the **BKG**, **FILL, DSK, BLACK** and **LOGO** buttons are controlling the preview buss. The LEDs in the **BKG**, **FILL, DSK, BLACK** and **LOGO** buttons will be flashing if they are active on the preview buss and On sold also if they are active on the program buss.

BKG   This button selects the video from the BKG/A input, as well as selecting the audio from the four AES PROG inputs (if the *Prog Audio Type* menu setting is set to *discrete*) or is deembedded from the video input (if the *Prog Audio Type* menu setting is set to *embedded*). If the button LED is flashing then the BKG/A video and associated audio is being output on the preview buss. If the button LED is On solid then the BKG/A video and associated audio is being output on the program buss. Selecting **BKG** deselects the **FILL**, **BLACK** and **DSK** buttons for the applicable buss. You can use the **PGM** and **PVW** buttons to toggle control/status between the two busses to verify the input status for each buss.

FILL   This button selects the video from the FILL/B input, as well as selecting the audio from the four AES ALT inputs (if the *Prog Audio Type* menu setting is set to *discrete*) or is deembedded from the video input (if the *Prog Audio Type* menu setting is set to *embedded*). If the button LED is flashing then the FILL/B video and associated audio is being output on the preview buss. If the button LED is On solid then the FILL/B video and associated audio is being output on the program buss. Selecting **FILL** deselects the **BKG**, **BLACK** and **DSK** buttons for the applicable buss. You can use the **PGM** and **PVW** buttons to toggle control/status between the two busses to verify the input status for each buss.

DSK   This button controls the downstream keyer layer for the selected output buss. 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 buss. If the button LED is On solid then the downstream keyer layer is enabled on the program buss. Selecting **DSK** deselects the **BKG, FILL** and **BLACK** buttons for the applicable buss. You can use the **PGM** and **PVW** buttons to toggle control/status between the two busses to verify the downstream keyer layer status for each buss.

To control the downstream keyer layer, first select the buss you want the downstream key to appear on using the **PGM** and **PVW** buttons. To enable the downstream keyer layer on the selected output video buss, press the **DSK** button. The button LED will be illuminated (On Solid for program buss, flashing for preview buss). To disable the logo key layer from the selected output video buss, press the **DSK** button. The button LED will be Off.

When the downstream keyer layer is enabled, the video present on the FILL/B video input is mixed with the background video (on the BKG/A input) based on the key signal provided on the KEY/C video input, or it can be self-keyed, using user defined thresholds. See section 3.10 for information about setting up the *DSK MODE* and other settings

BLACK This button selects the video from the built in Black generator. If the button LED is flashing then the Black video is being output on the preview buss. If the button LED is On solid then the Black video is being output on the program buss. Selecting **BLACK** deselects the **BKG**, **FILL** and **DSK** buttons for the applicable buss. You can use the **PGM** and **PVW** buttons to toggle control/status between the two busses to verify the input status for each buss.

LOGO This button controls the complete media key layer for the selected output buss. The media key layer includes the logo layer for the video and the voiceover layer for the audio. Logos can not be displayed and voice overs can not be performed when the media key layer is off. If the button LED is not illuminated, then the media key layer is not active. If the button LED is flashing then the media key layer is enabled on the preview buss. If the button LED is On solid then the media key layer is enabled on the program buss. You can use the **PGM** and **PVW** buttons to toggle control/status between the two busses to verify the downstream keyer layer status for each buss.

To control the media key layer, first select the buss you want the media key layer to appear on using the **PGM** and **PVW** buttons. To enable the media key layer on the selected output buss, press the **LOGO** button. The button LED will be illuminated (On Solid for program buss, flashing for preview buss). To disable the media key layer from the selected output video buss, press the **LOGO** button. The button LED will be Off.

.

4.1.2. Transition Button Group

TAKE This button starts a transition of what is displayed on the preview buss to the program buss. The transition *Type, Rate* and *Swap Mode* are set using the **EFFECT SELECT, RATE** and **SWAP MODE** buttons or using the menu items in the *Transition* menu item (See sections 3.11). Transitions can also be triggered using GPI, or automation control (See section 3.12.3). 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.

EFFECT SELECT This button provides immediate access to the *Transition Type* menu item of the *TRANSITION* menu. See section 3.11.1 for more information on the *Transition Type* menu item. After pressing the **EFFECT SELECT** button you may use the shaft encoders to cycle through the Transition types available. Press **SELECT** to accept the changes or **SETUP** to escape without making any changes.

RATE This button provides immediate access to the *Transition Rate* menu item of the *TRANSITION* menu. See section 3.11.2 for more information on the *Transition Type* menu item. After pressing the **RATE** button you may use the shaft encoders to cycle through the Transition rate range measured in video frames. Press **SELECT** to accept the changes or **SETUP** to escape without making any changes.

SWAP AFTER This button provides immediate access to the *Transition Swap* menu item of the *TRANSITION* menu. See section 3.11.3 for more information on the *Transition Swap* menu item. After pressing the **SWAP AFTER** button you may use the shaft encoders to choose

Swap or *No Swap* mode. Press **SELECT** to accept the changes or **SETUP** to escape without making any changes.

When the *Transition Swap Mode* is set to *Swap* the input video and audio of the preview buss and the program buss will be swapped at the end of the transition. Logos and other media being keyed on the respective busses 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 buss will be transferred to the program buss transition. Logos and other media being keyed on the preview buss will also be transferred to the program buss. The preview buss will remain unchanged.

4.1.3. DSK Button Group

KEY SELECT This button provides immediate access to the *Key Type* menu item of the *DSK* menu. See section 3.10.1 for more information on the *Key Type* menu item. After pressing the **KEY SELECT** button you may use the shaft encoders to choose *Input* or *Self Key* DSK *Key Type*. Press **SELECT** to accept the changes or **SETUP** to escape without making any changes.

GAIN   This button provides immediate access to the *Key Gain* menu item of the *DSK* menu. This menu item is used to adjust the transparency of the keyed image from the transparency of the Key signal when the *Key Type* is set to *Input*. See section 3.10.4 for more information on the *Key Gain* menu item. After pressing the **GAIN** button you may use the shaft encoders to cycle through the *Key Gain* values. Press **SELECT** to accept the changes or **SETUP** to escape without making any changes.

THRESHOLD This button provides immediate access to the *Key Threshold* menu item of the *DSK* menu. This menu item is used to set the luminance value of the Fill signal that will be used to key the image when the *Key Type* is set to *Self Key*. See section 3.10.6 for more information on the *Key Threshold* menu item. After pressing the **THRESHOLD** button you may use the shaft encoders to cycle through the *Key Threshold* values. Press **SELECT** to accept the changes or **SETUP** to escape without making any changes.

4.1.4. Function Button Group

VOICE OVER This button will mix the AES audio connected to **ALT 4** AES input the program audio. The *AES Audio Mode* menu setting must be set to *3 + 1* to configure the 9625DSK-LGA for 3 AES channels (6 channels of audio) of program audio and 1 AES channel (2 channels of audio) of voice over audio. (See section 3.7) The voice over audio gets mixed with all channels of program audio at the level set by the *Audio Duck Level* menu item. (See section 3.7.3)

> **You can not activate the VOICE OVER when the *AES Audio Mode* is set to 4+1.**

PRESET SAVE   This button provides immediate access to the *Store Preset* menu item of the *PRESETS* menu. This menu item is used to save the settings of the unit to one of ten user preset areas so they can be recalled later. See section 3.12.2 for more information on the

Store Preset menu item. After pressing the **PRESET SAVE** button you may use the shaft encoders to select the preset number 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. Press **SETUP** to escape without saving the preset.

PANEL LOCK This button is used to lock the control panel interface from accidental changes. The button LED will turn On indicating that the control panel keys are disabled. When any of the other panel buttons the panel display will show the message `Panel Locked` for a few seconds. Pressing the **PANEL LOCK** key again will return the front panel keys to their normal functions and the button LED key will go Off indicating that the panel controls are enabled.

BYPASS This button is used to operate the bypass relays in the 9625DSK-LGA. When the bypass relays are in Bypass mode, the BKG/A video input will be directly connected to the PROG SDI output, and the AES PROG inputs will be directly connected to the AES PROG outputs. The PREV SDI output and the PREV AES outputs will not have any signals on them when the bypass relays are active. The button LED will turn On when the bypass relays are in Bypass mode. Pressing the **BYPASS** button again will return the bypass relays to their normal mode and the button LED key will go Off indicating that the video and audio signals are being processed by the 9625DSK-LGA. The bypass relays will also operate in bypass mode if the 9625DSK-LGA loses power preserving the output video and audio paths.

MATTE This button allows you to turn the black overlay matte on and off. See section 3.9 for more information on the *MATTE* menu which is used to configure the aspect ratio of the matte.

4.1.5. Shaft Encoder Knobs

SHAFT ENCODER When the 9625DSK-LGA is in one of the *Setup* menus, the **SHAFT ENCODER** knob is used to move to various items in the menu system or change a menu item's parameter value. (See also section 3.2)

When the 9625DSK-LGA is not in one of the *Setup* menus, the **SHAFT ENCODER** knob is used to select logos and audio clips that are stored in the file system. When the desired logo or audio clip is shown on the display, press the **SELECT** button to fade in the logo or play the audio clip.

4.1.6. Setup Button Group

SETUP This button is used to enter *Setup* menu which is used to configure the operating modes of the downstream keyer. (See section 3.2 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 choose a submenu 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 accept numeric values or to make the displayed menu choice the active value for that menu item.

When you are not in the *Setup* menu, this button is also used to fade logos in and out on the selected output buss.

SHAFT ENCODER   When in the *Setup* menu, the **SHAFT ENCODERS** are used to move to various items at the current menu level in the menu system. The **SHAFT ENCODERS** are also used to enter numeric parameter values at the bottom level of the menu system. Both **SHAFT ENCODERS** operate the same when you are in the menu system.

4.1.7. Control Panel Status Indicators

The illuminated buttons show operational status of the 9625DSK-Lga at a glance. When they are On they indicate that the function associated with the button is active. On the Output Bus buttons, when they are On solid that indicates the status for the Program output buss, and when they are flashing that indicates the status for the preview output buss.

DSK   This LED indicates that the downstream keyer or media key layer is enabled on the program buss when it is On. When it is Off it indicates that the keyer layers are both disabled on the program buss.

COMM   This LED indicates is used to signal two types of communication to the 9625DSK-LGA. When it is flashing On approximately every 1.5 seconds, that indicates that the control panel is communicating with the main microprocessor in the unit. When the 9625DSK-LGA is under automation control, or logos or other media files are being transferred to or from the unit using the Nomad software, the LED will be on when the unit is receiving data from the control source.

If it is Off continuously that means that the control panel has lost communications with the main unit. In that case check the cabling if you are using a remote control panel. Otherwise the unit may require a reboot if the control buttons on the control panel are not responding.

4.2. OVERVIEW OF DESKTOP CONTROL PANEL OPERATION

4.2.1. Audio Follow Video Switching

The 9625DSK-LGA has two video busses two sets of four audio busses. The 9625DSK-LGA can be used as a simple two input audio follow video switcher. In this mode the audio on the AES PROG audio inputs will follow the BKG/A video input and the audio on the ALT AES audio inputs will follow the FILL/B video input when the *Prog Audio Type* menu is set to *Discrete.* The OUTPUT BUS buttons select what inputs will be routed to the preview and program buss outputs.

To select an input for the preview buss, you must first select the preview buss pressing the **PVW** button. The preview bus is selected when the **PVW** button LED is On. Select desired input for the preview buss by pressing the **BKG/A**, **FILL/B**, **DSK** or **BLACK** buttons. When the desired input is selected the button LED for that bus will flash On and Off (if that input is not selected for the program buss). The button LED for the input that is active on the program buss will be On. When you select one of the **BKG/A**, **FILL/B**, **DSK** or **BLACK** buttons, the other buttons for the preview buss are automatically deselected. The **BKG/A** button selects the video source from the BGND/A video input. If you are using embedded program audio then the audio embedded on the BGND/A video will appear on the AES PREV outputs. If you are using discrete program audio then the audio from the AES PROG

inputs will appear on the AES PREV outputs. The **FILL/B** button selects the video source from the FILL/B video input and the Key is the KEY/C video input. The **DSK** button displays the background video with the selected FILL/B video mixed, based on the Key video. For more information about the DSK function refer to section 3.10. The **BLACK** button selects the internal black generator.

To select an input for the program buss, you must first select the program buss pressing the **PGM** button. The preview bus is selected when the **PGM** button LED is On. Select desired input for the program buss by pressing the **BKG/A**, **FILL/B**, **DSK** or **BLACK** buttons. When the desired input is selected the button LED for that bus will be On. The button LED for the input that is active on the preview buss will flash On and Off. When you select one of the **BKG/A**, **FILL/B** or **DSK** buttons, the other buttons for the program buss are automatically deselected. The **BKG/A** button selects the video source from the BGND/A video input. If you are using embedded program audio then the audio embedded on the BGND/A video will appear on the AES PROG outputs. If you are using discrete program audio then the audio from the AES PROG inputs will appear on the AES PROG outputs. The **FILL/B** button selects the video source from the FILL/B video input and the Key is the KEY/C video input. The **DSK** button displays the background video with the selected FILL/B video mixed, based on the Key video. For more information about the DSK function refer to section 3.10.

To transition the preview buss to the program buss press the **TAKE** button. The transition *Type, Rate* and *Swap Mode* are set using the **EFFECT SELECT, RATE** and **SWAP MODE** buttons or using the menu items in the *Transition* menu item (See sections 3.11). When the *Transition Swap Mode* is set to *Swap* the input video and audio of the program buss as well as logos and other media being keyed on program buss the will be swapped back to the preview buss at the end of the transition. When the *Transition Swap Mode* is set to *No Swap* the input video and audio of the preview buss will remain unchanged.

4.2.2. Displaying Logos

To control whether a logo is keyed or not, you must first enable the media key layer by pressing the **LOGO** button for the buss you want the logo to appear on. The **LOGO** LED for the respective buss must be illuminated for logos to display on that buss. (See section 4.1.1) Scroll to the logo required using the **SHAFT ENCODERS**. If the logo is currently being keyed its name will flash in the front panel display. To key the logo into the output video buss with the media layer enabled, press the **SELECT** button. The logo name display will be flashing. To remove a keyed logo from the selected output video buss, press the **SELECT** button. The logo name display will stop flashing.

4.3. 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 9625DSK-LGA. These items are often only required to be set up at installation time, and do not pertain to the day to day operation of the unit. Figure 3-3 gives an overview of the *Setup* menu system.

4.3.1. Nagivating 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 **SHAFT ENCODERS** 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 **SHAFT ENCODERS** 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 **SHAFT ENCODERS** 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 shown with an asterisk (*). Turning one of the **SHAFT ENCODERS** allows you to show the possible values for the selected parameter. The various parameter values that are not currently selected will NOT have an asterisk (*). When you have stopped at the desired value, press the **SELECT** button to save your selection. The value will be shown with an asterisk (*) 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 **SHAFT ENCODERS**, followed by the **SELECT** button. Alternately you can move up one menu item 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 is described sections 3.5 to 3.14, with an explanation of what each choice does.

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

The 9625DSK-LGA with the EAS option fitted is the perfect solution for on-air insertion of channel branding bugs and Emergency Alert Services messages. The 9625DSK-LGA is designed to receive Emergency Alerts 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 you unit to your EAS decoder, configure the 9625DSK-LGA and EAS decoder, and perform some tests to verify the unit is functioning properly.

5.1. CONNECTING THE 9625DSK-LGA TO THE EAS DECODER

Make sure that the basic video and audio connections are wired as recommended in section 2.5 and 2.6. You will also have to route the output program video to an appropriate monitor to view the on-screen scrolling messages generated by the 9625DSK-LGA's built in character generator. Please ensure that your 9625DSK-LGA is out of the broadcast path when testing functionality. Figure 5-1 gives a simplified connection overview.
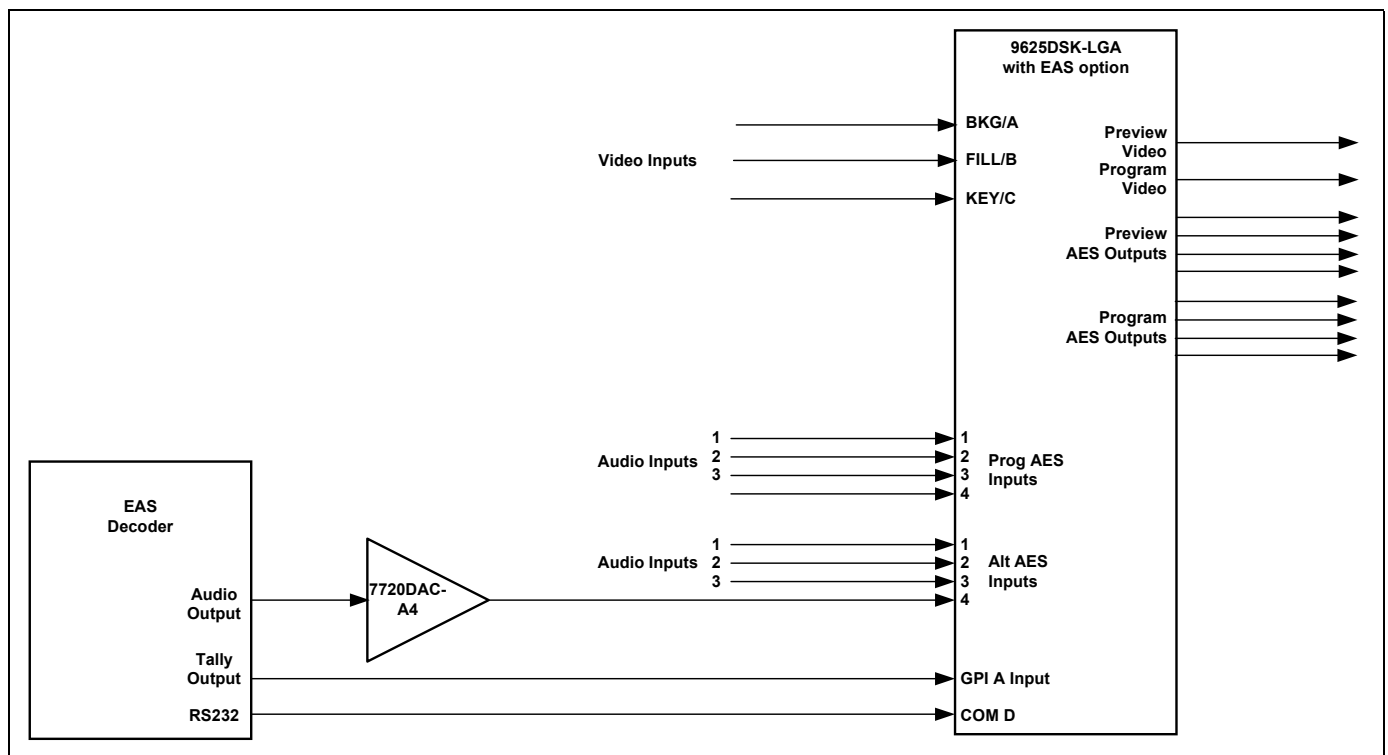
Figure 5-1: EAS Decoder Connection

5.1.1. Connecting The Serial Port

Connect a straight through RS232 cable (shipped with unit) to either the Serial Control C or COM D serial ports 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 9625DSK-LGA. 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 5-1. This cable should not exceed 50 feet. Note that the serial port on the keyer unit must be set for RS-232 operation as described in section 2.1.5.
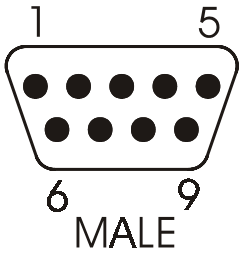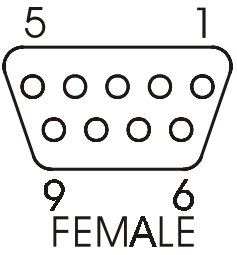
	9625DSK-LGA End			EAS Decoder End		
	9 pin D Male	**Pin**	**Belden 9729**	**9 pin D Female**	**Pin**	
		1			1	
	TxD	2	-------1a------	RxD	2	
	RxD	3	-------2b------	TxD	3	
		4		Rx Gnd	4	
	Sig Gnd	5	---drain 1----	Sig Gnd		
		6		Tx Gnd	6	
	RTS	7	-------1b-----	CTS	7	
	CTS	8	-------2a------	RTS	8	
		9			9	
	Frame Gnd	Shield	---drain 2----	Frame Gnd	Shield	

Table 5-1: EAS Decoder Extender Cable

If you are using a Sage model EAS decoder please see section 5.1.2 for port configuration information. If you are using a TFT model EAS decoder please see section 5.1.3 for port configuration information.

5.1.2. 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 9625DSK-LGA 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 9625DSK-LGA. Proceed to section 5.1.4 to connect the audio and GPI controls, to configure the 9625DSK-LGA and verify that the connections are functioning as expected.

5.1.3. 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 9625DSK-LGA 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 so equipped, please contact TFT and order this field installable option.

The TFT port must be configured to output the type of data that the 9625DSK-LGA 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 *Enable 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 9625DSK-LGA. Proceed to section 5.1.4 to connect the audio and GPI controls, to configure the 9625DSK-LGA and verify that the connections are functioning as expected.

5.1.4. 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 9625DSK-LGA. 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 the AES ALT 4 input on the 9625DSK-LGA. You will also need to configure the 9625DSK-LGA for *3+1 AES Audio Mode* using the *AES Audio Mode* menu item as described in section 3.7.1.

5.1.5. Connecting the GPI Tally Control

The EAS decoders give out a tally control when 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 9625DSK-LGA to signal it to key the EAS scrolling message and 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 9625DSK-LGA. (See Table 2-4 for a pinout of the GPIO connector on the keyer unit.)

5.2. CONFIGURING THE 9625DSK-LGA FOR EAS

5.2.1. Configuring the Serial Port

In order for the EAS decoder to communicate to the 9625DSK-LGA you must configure the SERIAL CONTROL C or COM D port for the correct protocol and baud rate. The *COM D* menu item on 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 9625DSK-LGA. See section 3.6.6 for information on setting the serial port protocol.

5.2.2. 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 5-2. See section 3.12.3 for information on configuring the GPI inputs.

Menu Item	Setting
Cprest	None
Ctransition	No
Caction	Duck In
Clogo	None
Oprest	None
Otransition	No
Oaction	Duck Out
Ologo	None

Table 5-2: GPI settings for EAS Tally Control

5.2.3. Configuring the EAS Controls

The EAS crawl is keyed in by the Logo keyer so ensure that the Logo layer is activated for the program and preview output busses, also ensure that all stored presets have the logo layer activated. See section 3.1.2 for information on turning on the Logo layer. See section 3.12 for information on storing presets.

The EAS menu items are used to configure the EAS crawl position, size, and colours. See section 3.13 for a complete description of these menu items. The brief descriptions of the menu items will guide you in setting up the unit quickly.

Vert Position. 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.

Height: Sets the size of the Scrolling text in video lines. For standard definition units 30 indicates the smallest font size. This is about 1/20 of the active picture area. 45 indicates the medium font size of 1/10 of the active picture area. 75 indicates the largest font size of 1/3 of the active picture area.

Rate: Sets the speed of the scrolling text message in pixels per field. Rate 1 is the slowest possible scrolling speed and 13 is 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.

5.3.   TESTING THE SYSTEM

> ✍ **Please ensure all output video from the 9625DSK-LGA is out of your on-air broadcast path for this test.**

5.3.1. 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 9625DSK-LGA. Double check that you have configured the correct Sage port and the correct Device Type for the correct port 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 9625DSK-LGA. 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

5.3.2. 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, ensure that you have the correct video standard selected in the 9625DSK-LGA. Double check 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 9625DSK-LGA. 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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6. TECHNICAL DESCRIPTION

6.1. SPECIFICATIONS

6.1.1. Serial Digital Video Input

Standard: 270 Mb/sec Serial digital component SMPTE 259M
                           standards supported shown in Table 2-6, software selectable
Number of Inputs: 1 Background, 1 Fill, 1 Key
Connector: BNC per IEC 60169-8 Amendment 2.
Equalization: Automatic to 100m @ 270 Mb/s with Belden 1694 or equivalent cable
Return Loss: > 15 dB up to 270 Mb/s

6.1.2. Serial Digital Video Outputs

Standard: SMPTE 259M, same as input
Number of Outputs: 1 Program, 1 preview
Connectors: BNC per IEC 60169-8 Amendment 2.
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

6.1.3. Video Reference

Type: Menu selectable - depends on video format
                           NTSC or PAL Colour Black 1 V p-p
Connectors: BNC per IEC 60169-8 Amendment 2.
Termination: 75 ohm

6.1.4. AES Audio Inputs

Standards: SMPTE 276M single ended AES
Number of Inputs: 2 Groups of 4
Connector: BNC per IEC 60169-8 Amendment 2.
Signal Level: 1 V p-p ± 10%

6.1.5. AES Audio Outputs

Standards: SMPTE 276M single ended AES
Number of Outputs: 4 Program, 4 preview
Connector: BNC per IEC 60169-8 Amendment 2
Signal Level: 1 v p-p
Reference: From Video Reference.

6.1.6. LTC Reader

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

6.1.7. Control

Upgrade 232 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
                       Remote control panel interface (only available on RCP or DCP versions)

Serial Control 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

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

Logo Transfers: RJ-45 100Base T Ethernet, TCP/IP,

6.1.8. General Purpose Inputs and Outputs

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

6.1.9. Physical

Dimensions:
   Electronics: 19" W x 1.75" H x 18.75" D.
                                (483mm W x 45mm H x 477mm D)
   Rack Mount Control Panel: 19" W x 1.75" H x 4.25" D.
                                (483mm W x 45mm H x 110mm D)
   Desktop Control Panel: 7.75" W x 2.0" H x 6.5" D.
                                (197mm W x 50mm H x 160mm D)

6.1.10. Electrical

Power:
   Electronics: Autoranging 100-240 VAC 50/60 Hz, 60 VA.
   Optional Remote Control Panel: 12 VDC 9 watts,
                                Autoranging 100-240 VAC 50/60 Hz power adapter provided

Safety: ETL listed.
                               Complies with EU safety directive
EMI/RFI: Complies with FCC Part 15 Class A,
                               EU EMC Directive

6.2.   UPGRADING THE FIRMWARE

6.2.1. Overview

The firmware in the 9625DSK-LGA is contained on a FLASH EPROM. From time to time firmware updates will be provided to add additional features to the unit.   The firmware update can be initiated using either the front panel or 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 9625DSK-LGA 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.**

6.2.2. 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.

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.

6.2.3. Initiating Firmware Upgrade Mode Via The Front Panel

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 6.2.4.

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 ↓ buttons to find the *GENERAL* menu item and then press the **SELECT** button. Use the ↑ or ↓ buttons to find the *Upgrade Code* menu item and then press the **SELECT** buttons. If you want to upgrade the operating firmware in the keyer unit 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
```

Proceed to section 6.2.5 for instructions on uploading the firmware using the terminal program.

6.2.4. 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. The cursor to the right of the word "BOOT>" should be spinning.

    For example:

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

8. 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 then click the "Reconnect" button to activate changes to the port settings.

9. While the cursor is spinning press the <CTRL> and <X> keys, this should stop the cursor from spinning. The spinning prompt will only remain for about 5 seconds. You must press <CTRL-X> during this 5 second delay. If the unit continues to boot-up, simply cycle the power and repeat this step.

10. Hit the <ENTER> key on your computer once.

11. Type the word "upgrade", without quotes, and hit the <ENTER> key once.

12. The boot code will ask for confirmation. Type "y", without quotes.

6.2.5. Uploading the new firmware

13. 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 will have a name consisting of the version number and the product name.

    For the 9625DSK-LGA keyer unit the name will be something like: 1v02_5_9625DSK-LGA.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, then remove and install the module 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 can't handle a port speed of 57600.
- Noise induced into the Serial Upgrade cable.

6.2.6. Completing the Upgrade

17. If you initiated the upload from the menu system, the 9625DSK-LGA will reboot automatically. If you initiated the upgrade using the terminal program then type the word "boot", without quotes, and hit the <ENTER> key once.. The unit should now reboot.

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

7. INDEX

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