HD9626DSK
High Definition Downstream Keyer

Instruction Manual

Version 1.0, March 2006

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Version 1.0 March 2006

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
1.0	First revision	Mar 06

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1 GETTING STARTED

1.1 OVERVIEW

The Evertz HD9626DSK Downstream Keyer system incorporates the latest technology to provide an advanced fully digital keyer. The Evertz HD9626DSK Downstream Keyer is ideal for bug keying, side by side comparison applications, etc. The system also features letter boxing, a safe area/safe title, wipes, fades and more. The Evertz HD9626DSK Downstream Keyer consists of a one RU frame with front panel control, optional remote control panel, and GPI control for stored pre-sets. The HD9626DSK provides storage and retrieval capabilities of several user setups and presets. Evertz automation protocol allows control from 3 party sources for life line monitoring as well as function control. Contact your Automation provider for driver availability.

Features:

A video bypass failure protection for on-air applications.
Both Mix and additive keying modes provided.
Auto-timing of key, fill, and background inputs (+/- 66us).
GPI inputs for fade/transition control.
Internal black generator for fade to black applications.
Built-in letter box generator for non 4x3 aspect ratio cropping.
Safe area/ safe title marker on preview channel.
Control of key gain and offset, and key inversion are provided.
12 bit processing linear keying providing high quality results for both transparency and soft edges.
Full control and status is provided from front panel display, remote panel or automation.
User programmable presets are provided.
Automation Support.
Standard HD preview output
Active Temperature Monitoring
Power Voltage Monitoring
Optional remote panel chassis-desk top or rack mount.
Optional secondary redundant power supply.
ByPass Relay.

1.2 GETTING HELP

The documentation included with your Downstream Keyer includes installation instructions, operating information for each hardware and software feature, and troubleshooting information. Additional documentation, white papers, FAQs are provided on the Evertz web site as they become available.

If you require Technical support from the factory you can contact our technical support department by one of the following methods.

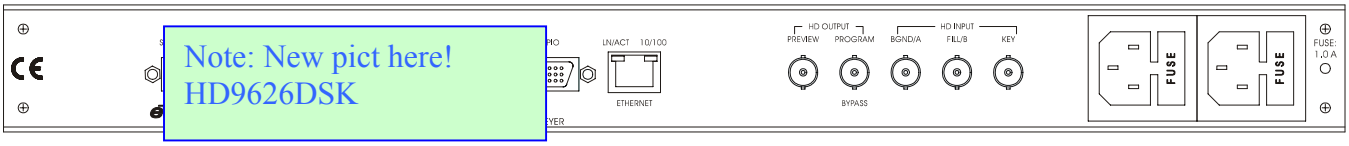
Email	mailto:service@evertz.com	
Fax	**+1 (905) 335-7571**	Phone **+1 (905) 335-7570**

Please include a detailed description of the problem you are having, the model number of your unit, serial number and Build Number. The Build Number can be obtained from the "On Screen Menu" system. Press "Setup" then select "General" then select " Update Code".
You can also consult the FTP site (**http://www.evertz.com/ftp.html**) on our web page for the latest patches, upgrades and lists of Frequently Asked Questions.

The DCP instructions are included in Chapter **Error! Reference source not found.** of this manual. The DCP is optional and only ships with orders purchased with this option. DCP stands for Desktop Control Panel. Please refer to that document for button descriptions as it replaces section 2.4 of this manual. The DCP option is not field upgrade-able, if you wish to operate the unit with the DCP option, and you didn't specify this at the time you placed your order, you will be required to send your unit back to the factory for a retrofit.

1.3 FIRST TIME SETUP

1.3.1 Rear Panel Hook Up



Connect the incoming video signals to the A and B, input BNC connectors for HD serial digital SMPTE 292M video. A video signal should be supplied prior to applying power to the box.

Connect the main HD serial digital video output, *HD Output PROGRAM* to the next device in the video path. There are 2 BNC connectors to output program video compatible with SMPTE 292M video. One output is wired as a bypass output and will provide video pass through in the event of power loss to the unit.

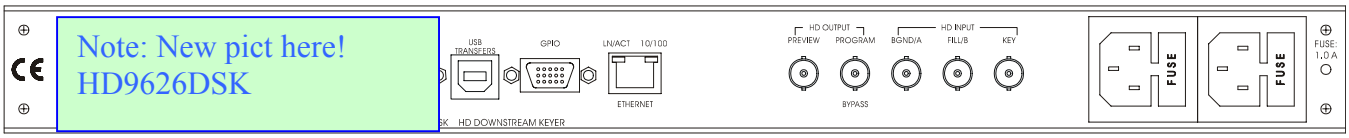
The *BYPASS* output is the only output BNC that is connected to the bypass relay. This output will be connected to the program input in the event of a power failure or a bypass command as issued from the front panel button press. This is labeled as *BYPASS* on the rear panel.

The *UPGRADE RS232* is an RS-232 serial interface used for updating firmware in the HD9626DSK model. Connect this using a standard 9pin straight through serial cable, to the PC. Automation control will be available on the DB9 connector labeled SERIAL CONTROL providing automatic control of the unit.

The HD9626DSK has a universal power supply that operates on either 115 Volt / 60 Hz or 230 Volt / 50 Hz AC. The power supply auto switches between the voltages. A second redundant power supply purchase option operates in conjunction with the original power supply.

2 HD9625DSK Hardware

2.1 REAR PANEL OVERVIEW



- *SERIAL CONTROL* is an RS-422 OR RS-232 serial interface used for controlling the unit through automation. Operational mode (422 or 232) can be set from the front panel. Pin out configurations are supplied later in the chapter. The pin out configuration will change depending on the operational mode selected. Default mode from the factory is RS-422.

- *REMOTE PANEL* is an RS-422 serial interface used for connecting the RCP (remote control panel) or DCP (desktop control panel). This DB9 connector will only be installed if you purchased either of these options. Please refer to the DCP/RCP section of this manual for pin out information for this port.

- *UPGRADE RS232* is an RS-232 serial interface used for connecting the unit to a PC for firmware updates. Please use the straight though 9 pin serial cable supplied with your unit. Please refer to the firmware upgrade section of this manual for pin out information for this port, and instructions on performing a firmware upgrade.

- COM D is a serial interface (RS232/422) which can be used for automation

- *GPIO* Connector is used to provide Preset selection commands to the DSK. Please refer to the GPIO section of the manual for pin out and connection information. Preset information is available in the On Screen Section of the manual.

- *ETHERNET* Connector is used for automation control and firmware upgrade connections. Initial product release does not support this option, however the firmware will be upgraded shortly to provide user access to these functions, and as such the hardware is provided with all units.

- *HD OUTPUT PREVIEW,* output BNC connector for serial component SMPTE 292M video. This is the preview output connector that should be connected to an appropriate HD monitor. This output is not ByPass protected.
- *HD OUTPUT PROGRAM,* output BNC connector for serial component SMPTE 292M video. This is the program output connector that should be connected to an appropriate HD downstream device. This output is ByPass protected and will pass video in the event of a power loss to the unit. Please connect your downstream devices to the PROGRAM output connector.

- *HD INPUT A and B*, These BNC connectors allows you to supply 2 video feeds to the DSK. Thes connectors supplies the A and B source video for side by side compares. The A input is the ByPass protected input for the unit. In the event of power loss, the video source from this BNC will

automatically be transferred to the ByPass protected output BNC. This is background for all DSK functions. Serial component SMPTE 292M video required.

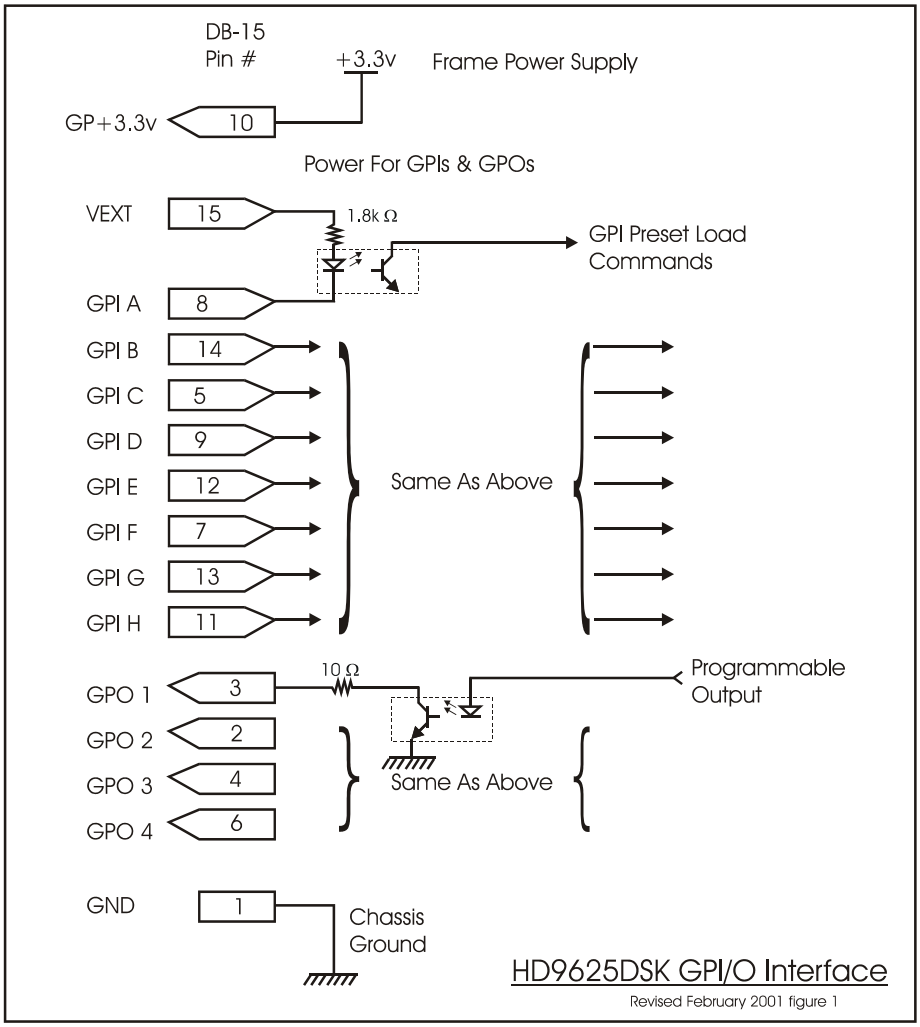
- *HD INPUT FILL*, This BNC connector allows you to supply 1 separate video feed to the DSK. This connector supplies the B source video for side by side compares or the video can be used as the fill video depending on the operational mode of the DSK. As fill video this source will be keyed over the background video mixing at the level defined by the video signal you input into the *HD INPUT KEY*. Serial component SMPTE 292M video required.

- *HD INPUT KEY*, This BNC connector allows you to supply 1 separate video feed to the DSK. This connector supplies the KEY source video to be used in the DSK mode of operational of the DSK. As key video this source will be referenced for mixing the FILL input video over the background video. Serial component SMPTE 292M video required.

- The HD9626DSK has a universal power supply that operates on either 115 Volt / 60 Hz or 230 Volt / 50 Hz AC. The power supply auto switches between the voltages. A second redundant power supply is optional and operates in conjunction with the original power supply.

2.2 GPI/O CIRCUITRY AND OPERATION

The following drawing is a simplified schematic illustrating the General Purpose Inputs and Outputs. The HD9626DSK supports GPI input and output using the rear panel GPIO port high density DB-15 connector. The following diagram illustrates the connection:



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 preset load controls. When one of these GPI inputs are activated, the corresponding preset configuration is loaded. If multiple inputs are active both commands are ignored until a single input is recognized.

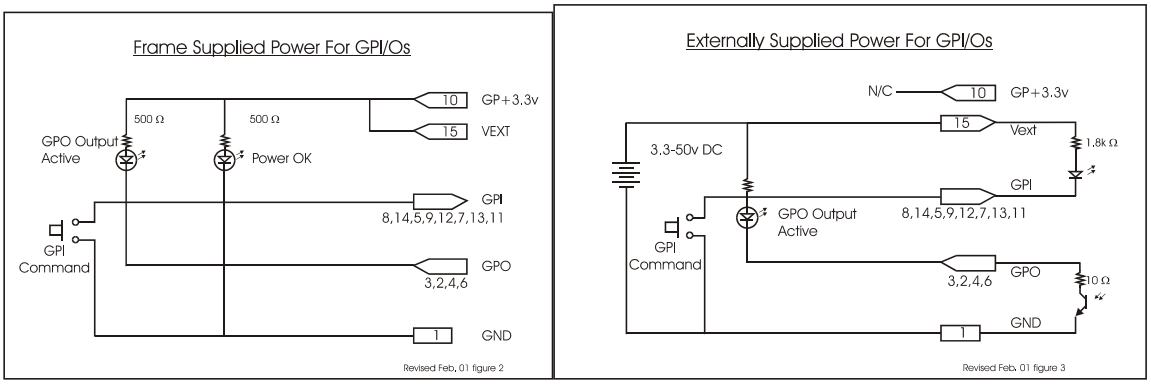
The GPI to preset map is programmable from the front panel of the HD9625DSK. Please see the Front Panel Controls section for information on assigning GPIs to presets.

GPI A -H => Load assigned preset.

HD9626DSK "GPIO" Pin-Out definition table.

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

The user can connect GP+3.3V supplied from the frame into the Vext pin powering up the external GPIO circuitry. In this configuration the user can activate GPIs simply by connecting the GPI input pins to Ground (see figure 2). This can be done with a button, switch, relay or an open collector transistor. 3.3 volts is available to the user to be used for driving external circuitry. Care must be taken to not affect the power supply source in the frame. Please limit the load to 0.5W.

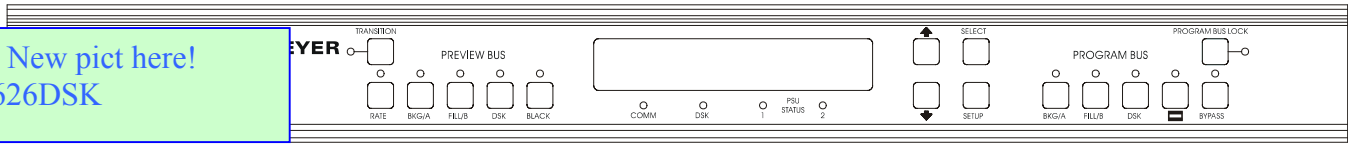


Alternately, an external voltage source may be applied (see figure 3). The Vext voltage must be greater than the voltage supplied to GPI by at least 3v.

Warning: Do not connect GP+3.3V from one frame to another frames GP+3.3V.

2.3 FRONT PANEL CONTROLS DSK

Note: New pict here!
HD9626DSK



TRANSITION

This button is used to transfer the PREVIEW BUS material to the PROGRAM BUS using the pre-configured transition type. For information on Transition Types refer to the "Transition" section of the "On Screen Menu" chapter. This is similar to the “Take” command on other products.

This button is used to quickly access the rate variable stored for the loaded preset. The variable defines the number in frames that a transition will take and is a measure of time. For information on Transition Types refer to the "Transition" section of the "On Screen Menu" chapter.

PREVIEW BUS

Items selected on the PREVIEW BUS consist of A, B, DSK, and BLACK. Items selected in the PREVIEW BUS are automatically routed to the preview output BNCs on the rear panel.
The A, B DSK and BLACK buttons are mutually exclusive. This means that if you select one, the other items are automatically deselected. The A button selects the video source from the HD INPUT A connector on the rear panel. The source for the B is the HD INPUT B connector. The DSK button displays the background video with the selected Fill video mixed, based on the selected Key video. For more information please refer to the "DSK" section of the "On Screen Menu" chapter.
The BLACK button selects the internal black generator. Selecting BLACK deselects all other buttons in the PREVIEW BUS button field.

ARROWS

The arrow keys are used to scroll through the setup menu to choose setup options and change setup option values.

SELECT

Select is similar to the “enter” key on a standard PC keyboard. The button is used to confirm operations, save settings, confirm choices etc.

SETUP

Press the setup button to enter the setup menu. Options will be displayed on the front panel as well as On Screen of the PREVIEW OUT. Use the arrow buttons to cycle through the available setup options. Press the select button to choose the currently displayed setup option; the current value for that setup option will be displayed. Use the arrow keys to change the value. Press the select button to save the change or the setup button to cancel the change or exit that setup option. Press the setup button again to exit the setup menu completely.

PROGRAM BUS

Items selected on the PROGRAM BUS consist of A, B, DSK and MATTE. Items selected in the PROGRAM BUS are automatically routed to the HD OUTPUT PROGRAM output BNC on the rear panel.
The A, B and DSK buttons are mutually exclusive. This means that if you select one, the other items are automatically deselected. The A button selects the video source from the HD INPUT A connector on the rear panel. The source for the B is the HD INPUT B connector. The DSK button displays the background video with the selected Fill video mixed, based on the selected Key video. For more information please refer to the "DSK" section of the "On Screen Menu" chapter.
The standard DSK unit uses the MATTE button. This is a Toggle for the user configurable MATTE. For more information please refer to the "MATTE" section of the "On Screen Menu" chapter. Note that the MATTE is enabled and disabled in both the PREVIEW and PROGRAM outputs.

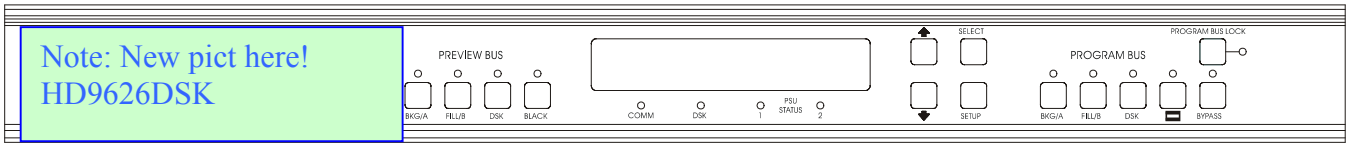
PGM BUS LOCK

This button toggles the lock status of the output video. Transitions will be enabled while the PROGRAM BUS is locked however button presses on the PROGRAM BUS will be ignored.

BYPASS

Pressing the bypass button will force the relay on the input of the I/O module to disengage. This will route the incoming video directly out through the relay bypass output connector. The LED above the Bypass button illuminates to indicate that the unit is in manual Bypass. Pressing the button once again energizes the relay allowing the input video to pass through the unit. The bypass relay will disengage if the frame loses power preserving the video output stream. Note: Only the bypass output connector is bypass relay protected, all other outputs will not function on a power loss.

2.4 FRONT PANEL INDICATORS DSK



MAIN DISPLAY

This, sixteen character display is used to show menu items, setting values, mode selections etc.

TRANSITION

When illuminated, this LED indicates that a transition from the preview bus to the program bus is in progress. Transitions are configured from the on screen menus and can be invoked from the front panel, gpi, or automation. Please see the appropriate sections for more information.

PREVIEW BUS

A LED ON indicates the preview output is set to HD INPUT A
B LED ON indicates the preview output is set to HD INPUT B
DSK LED ON indicates the preview output is set to HD INPUT A orB and FILLKEY inputsBLACK LED ON indicates the preview output is set to Black

COMM

When illuminated, this LED indicates that the communications circuitry is active. The communications circuitry is active when one or more external applications are sending or receiving data from the DB9 connectors on the rear of the unit. Examples of external applications could be Automation systems or Monitoring devices.

DSK

When illuminated, this LED indicates that the unit is actively using the Fill Key and Background video inputs.

PSU STATUS

When the LED is on it indicates that the associated power supply is plugged in and the 12V DC main is functioning.

PROGRAM BUS

A LED ON indicates the program output is set to HD INPUT A
B LED ON indicates the program output is set to HD INPUT B
DSK LED ON indicates the program output is set to HD INPUT A or B and FILL/KEY inputs

PGM BUS LOCK

Indicates that the panel is locked. In this state all front panel buttons are disabled except for the panel lock button.

BYPASS

Indicates that the unit is in bypass mode i.e. the program video is passing directly through the bypass relay to the bypass video output BNC

Menu Structure

Initial release does not include the On Screen portion of the menu system. All function feedback is provided on the 16 character front panel display screen. Please substitute Front Panel display for On Screen menu for this section.

Use the SETUP button to access the On Screen Menu. You are presented with the following choices.

GENERAL
MATTE
DSK
TRANSITION
PRESET

Each of the above options are outlined in the following section with in depth descriptions of functionality.

2.5 GENERAL

Select Standard: Select the desired video standard by using the up down arrow keys to highlight the appropriate choice. The choices are;

1080i/59.94
1080p/50

720p/59.94

Update Code: This control displays the current firmware version in the DSK, and the model number. You can also put the DSK in receive mode when you need to upgrade the flash programmable chip inside the box. Refer to Firmware Upgrade section of this manual.

This menu also contains options for displaying the Boot Code version.

2.6 MATTE

The Matte is a black overlay that blacks out video and produces a letterbox effect for the output video. Use this control to set the aspect ratio of the video. The Matte starts at the end of the VBI.

Matte Enable: Toggles the Matte on or off.

Matte Aspect: Selects from a pre-stored aspect ratio configuration. Options available are:
1.77
1.85
2.35
USER only displayed if the Matte is configured for a customized configuration by manually changing the Top or Bottom setting. Switching to a pre-configured aspect ratio will lose any manual changes unless they are stored using the user presets.

Matte Top: Sets the stop line for the top portion of the Matte.
Matte Bottom: Sets the start line for the bottom portion of the Matte.

2.7 DSK

Key Type: Input or Self. Select Input to use the Input Key from the Key Source or select Self to use the settings provided in the Threshold, Sharpness, and Filter settings that follow.

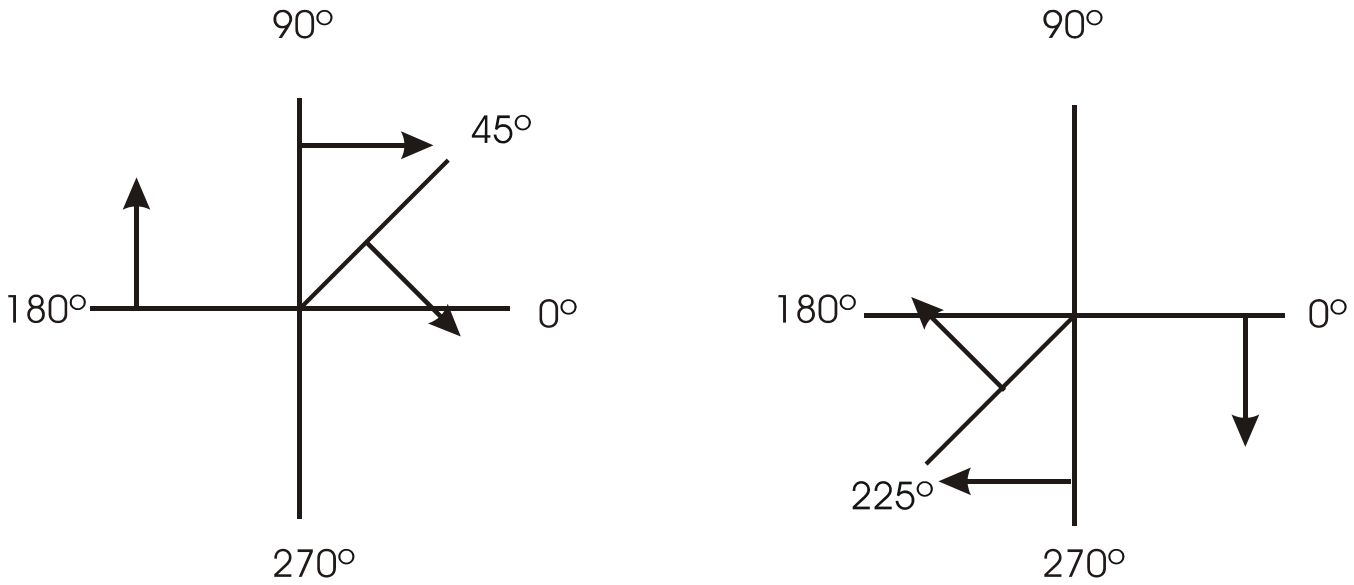
Key Gain: Range of values from 500 to 2000 (per thousand). This setting increase or decreases the entire range of color with respect to the key input. This will render the fill as more or less pronounced respectively.

Key Offset: Range of values from -4096 to +4095. This setting shifts the color values with respect to key input. This setting should not need to be changed in normal operation.

Key Threshold: Range from 4 Black to 1020 White. The Self Key is a hard key. All values from the key that fall above the Key Threshold will be keyed from Fill. All values from the key that fall below the Key Threshold will be keyed from Background.

2.8 TRANSITION

Transition Type: Select the type on transition you would like applied when the Transition button is pressed. Options are Cut, Fade, Fade-Cut, Fade-Fade, Cut-Fade, Diamond Out, Diamond In, Circle Out, Circle In, Box Out, Box In, TB Split, LR Split, TB Curtain, LR Curtain, TR Box, TL Box, BR Box, BL Box, Wipe 315, Wipe 270, Wipe 225, Wipe 180, Wipe 135, Wipe 90, Wipe 45 or Wipe 0. (item orders may vary). Transition effects only appear of the program output. Transitions on the Preview Output are always Cut type performed at the end of the transition to program. The numbers following the Wipe reference the angle of the wipe. This also indicates the direction of the wipe. For example a wipe of 45 will start a 45 degree wipe that will progress from the top left of the screen to the bottom right of the screen. See the diagram below for example. Arrows indicate direction of wipe.



Transition Rate: Set the time for the transition to take affect. The setting is referenced in frames. Quick access provide from front panel Rate button.

Swap Mode: Toggle Swap/No Swap setting for whether the program and preview channels are swapped after a transition command is issued.

Pause: When set to *On*, the transition may be paused by pressing the Transition button while the transition is being performed. To continue the transition press the Transition button again. When set to *Off, the transition cannot be paused.*

2.9 PRESET

Presets are pre-defined setups for such things as Matte settings, Safe Area/Title display, Transition settings and Key/Fill input. The parameters for the settings are stored based on the status of the program bus. Therefore if you would like to set a preset that has a mask aspect of 2.35, you must first set the mask. Then store the preset at the required address. All Recalled presets are recalled to the Preview Bus and will not show on the program bus until the Transition button is pushed, or a GPI trigger invokes the transition.

Recall Preset: Select from 1 to 10 to reload previously saved settings.

Store Preset: Select from 1 to 10 to save the current settings (Whatever the units preview bus is configured for will be saved).

Export Preset: 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. Then use the Text capture function of your terminal program to save the ASCII text.

Preset Source: This menu item is used to select the source of the preset settings. Select *store preview* to use the preview buss as the source of the preset settings. Select *store program* to use the program buss as the source of the preset settings.

GPI Setup: There are 2 types of GPI triggers. The “Mode” setting in each GPI can be set to either Level or Pulse. Level is the traditional setting for the GPI triggers, where the On Closure event happens when the GPI drives the input pin low to ground. The On Separation event occurs when the GPI releases the level to the +3.3 setting again.
The new Pulse mode toggles the On Closure and On Separation events whenever the pin signal is driven low. For example, drive the pin to ground and release the pin will invoke the On Closure event, then drive the pin to ground again and release the pin to invoke the on Separation event.

GPIs can be configured to trigger 2 events, On Closure and On Separation. Use the Up/Down arrow to move the cursor to the desired GPI A-H, and press the Select button to configure the desired GPI.
The On Closure event can be used to load a Preset and perform a transition. The On Separation event for the same GPI can be used to load a Preset and perform a transition. The menu system can be traversed using the Up/Down arrow to select the desired menu item and the Select button to jump to programmable options for that item. Use the Up/Down arrows to scroll the available options and press the Select key to accept your selection. When you are done press the Setup button to exit the configuration mode and press the Select button again to save the changes and exit the Preset setup page.

GPI A to H: All DSK units.

GPO Setup: GPO A - D: All DSK units.

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 BBLK* to activate the output when the program output bus input is the internal black generator.
Select *DSK statu* to activate the output when the DSK layer on the program output bus is active.
Select *PSU1 Okay* to make the GPO low when PSU1 is functioning.
Select *PSU2 Okay* to make the GPO low when PSU2 is functioning.
Select *PSUs Okay* to make the GPO low when both PSU1 and PSU2 are functioning.
Select *Power OK* to make the GPO low when either PSU1 or PSU2 are functioning.

3 Firmware Update Procedure

3.1 REQUIREMENTS:

PC with available communications port. The communication speed requirement is relatively high 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) or (DB25 female to DB9 male). At least five wires are required (shown in bold italic with an *); see chart below.

DB9 female	DB9 male	Description
1	1	
2*	***2****	***RX***
3*	***3****	***TX***
4	4	
5*	***5****	***Ground***
6	6	
7*	***7****	***RTS***
8*	***8****	***CTS***
9	9	

- Terminal program such as Hyper Terminal, Telix, Procomm etc.
- New firmware supplied by Evertz.

Note:

1. Firmware downloaded from the FTP section on the Evertz web page (www.evertz.com) it is stored in compressed form in a zip file. If the file extension is "*.exe" you must first run the self extracting zip file to extract the "*.bin" located within. If the file extension is "*.zip" you must use PKUNZIP or WINZIP to extract the "*.bin" located within.

3.2 UPDATE PROCEDURE:

3.2.1 Part I – Terminal program setup

1. Power-down the Evertz frame.

2. Connect the "straight-thru" serial cable from the PCs' RS-232 communications port to the UPGRADE RS-232 communications port on the back of the Evertz frame.

3. Start the terminal program.

Configure the port settings of the terminal program as follows:

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

4. Power-up the Evertz frame.

3.2.2 Part II – Invoke upload mode via the front panel

Note: If you cannot invoke the upload mode via the front panel outlined in Part II then follow the steps in Part III.

- Press the *SETUP* button once.
- Press the *down arrow* until the main display reads *General*.
- Press the *SELECT* button once.
- Press the *down arrow* until the main display reads *Update code*.
- Press the *SELECT* button once.
- Press the *down arrow* until the main display reads *yes, upgrade code*.
- Press the *SELECT* button to confirm the *Upgrade* operation, press *Setup* to cancel.
- Skip to step 14.

3.2.3 Part III – Invoke upload mode via the terminal program

5. A banner with the boot code version information should appear in the terminal window.

For example:

```
EVERTZ 7700 MONITOR 1.0 Feb 2001
COPYRIGHT 2001 EVERTZ MICROSYSTEMS LTD.
9000DP COLD BOOT> |
```

6. The following is a list of possible reason for failed communications:

- Defective RS-232 “straight-thru” serial extension cable.
- Wrong communications port selected in the terminal program.
- Improper port settings in the terminal program. Refer to step 4 for settings.
- Evertz frame is off.

7. The cursor to the right of the word “**BOOT>**” should be spinning.

8. While the cursor is spinning press the <**CTRL**> and <**X**> keys, this should stop the cursor from spinning. If the Evertz frame continues to boot-up simply cycle the power on the Evertz frame and repeat this step.

9. Hit the <**ENTER**> key once.

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

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

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

    For example:

```
BOOT> upgrade
UPLOAD FLASH MAIN
ARE YOU SURE YOU WANT TO UPLOAD FLASH? [Y/N] Y

UPLOAD FILE FOR $08000 NOW, CONTROL-X TO CANCEL
```

3.2.4 Part IV – Uploading the new firmware

13. Upload the "***.bin**" file supplied using the **X-Modem** transfer protocol.

14. The boot code will indicate whether the operation was successful upon completion of the upload. For Example:

```
UPLOAD OKAY
BOOT>
```

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

If you get the message "transfer cancelled by remote" you must restart the terminal program and load the bin file using the method outlined in *Part III – Invoke upload mode via the terminal program*.
The supplied "***.bin**" file is corrupt.
Wrong file specified to be uploaded.
The PCs' RS-232 communications port can't handle a port speed of **57600**.
Noise induced into the RS-232 "straight-thru" serial extension cable.
To ensure proper communications use step 9 to break out of the boot up sequence and type the word ***help***. You should get back some text. This confirms that you are sending data, receiving data and are locked to 57600.

17. Power-down the Evertz frame.

18. Power-up the Evertz frame.

19. You can now close the terminal program and disconnect the RS-232 serial cable.

The update procedure is now completed.

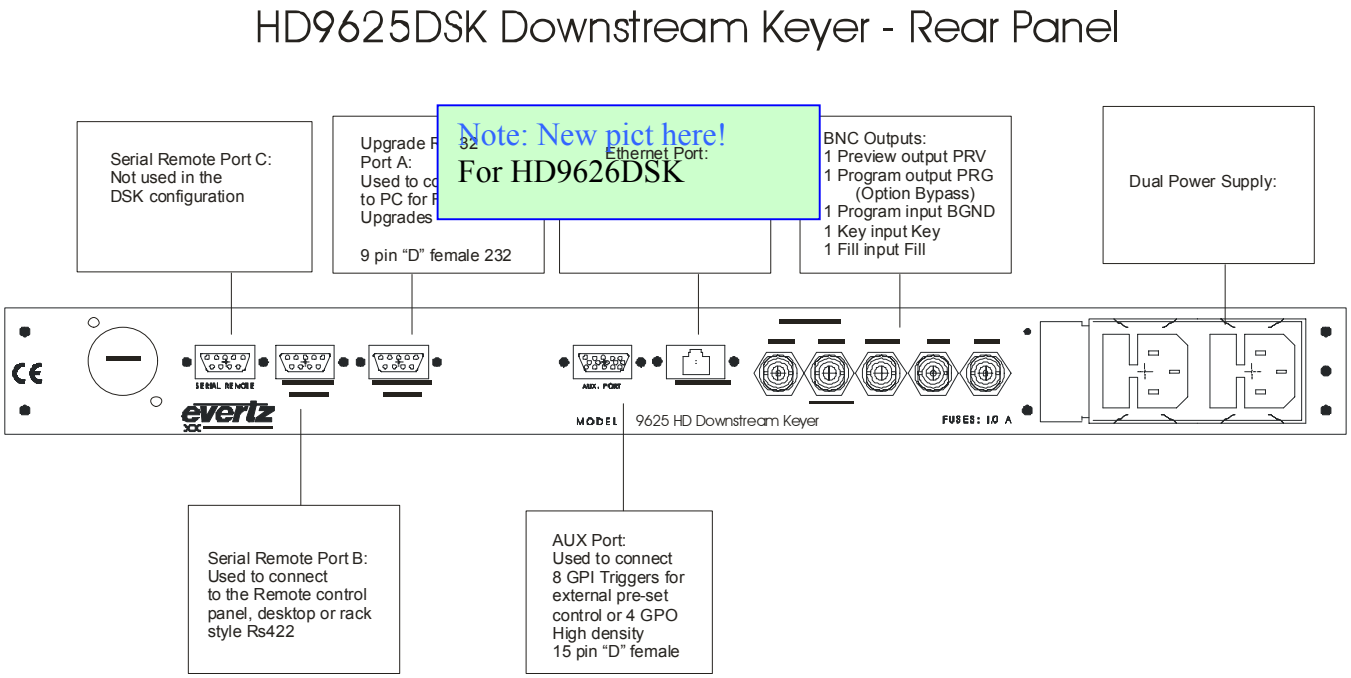
4 DCP ADDENDUM

4.1 OVERVIEW

The Evertz 9625 Downstream Keyer Desktop Control Panel (DCP) is a remote setup and control hardware interface for the Evertz 96xxDSK products. This addendum document is an accompaniment to the main manual and should be used to reference the buttons and control interface. This addendum replaces the front panel section 2.3 of the main manual. For connection, GPI, and other related questions, please see the main unit manual.

4.2 FIRST TIME SETUP

4.2.1 Rear Panel Hook Up



Pin #	HD9626DSK DB-9 Male	Connect Status RS422 Shielded cable Belden 9729	Remote Panel DB-9 Female	Pin #
1	GND	Chassis ground	GND	1
2	TX-	RS-422 pin	RX-	2
3	RX+	RS-422 pin	TX+	3
4	GND	Ground	GND	4
5				5
6	GND	Ground	GND	6
7	TX+	RS-422 pin	RX+	7
8	RX-	RS-422 pin	TX-	8
9	GND	Ground	GND	9

You have been supplied with a 6-foot cable to connect your Remote Front Panel option to your DSK unit. The 9 pin male connector plugs into the back of the main unit body. The 9-pin female plugs into the back of the Desktop or Rack-Mount remote. To move the Remote Panel to another location you will need to create a straight through 9 pin male to female cable of the desired length. Please note that the remote cable should not exceed 1000 feet. The proceeding cable pin-out table shows you the proper pin connections for creating the cable. The DB-9 connector on the back of the Remote Panel is connected to the DB-9 “Remote Panel port B” on the DSK. Also note that the "GPIO" port is used for the GPI triggers for the DSK presets. Refer to the GPIO section of the manual for configuration information regarding the GPIO inputs.

Cut wire to desired Length

Connect the DB9 Female connector-using Pin 2 and 7 with one twisted pair and pin 3 and 8 with the other twisted pair.

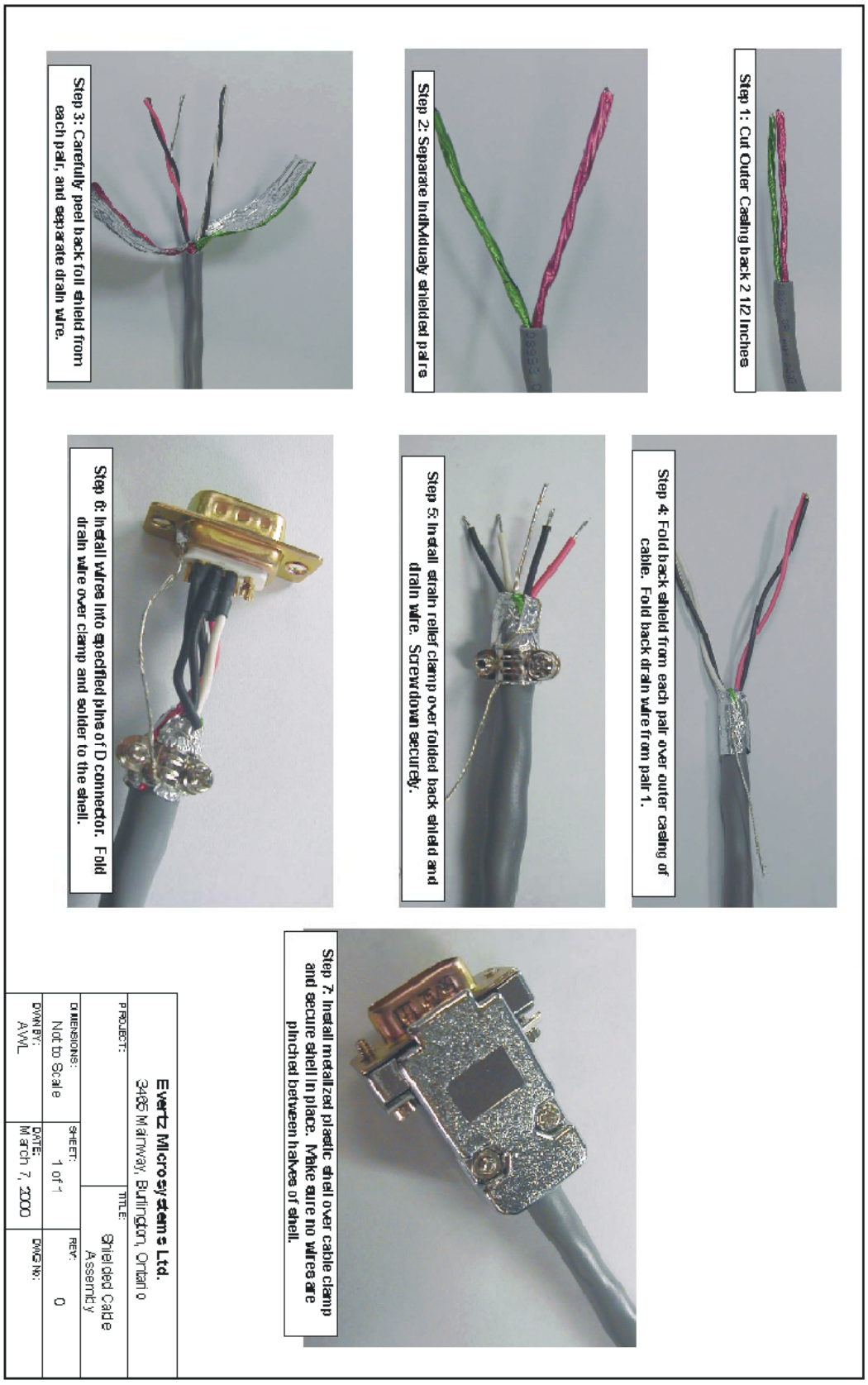
Connect the Cable Drain to the Shell of the female connector for ground.

Connect the other Drain to pin 6 on both ends

Connect the DB9 Male connector using the same wire pairs as for the female connector.

Connect the Cable Shield to the Shell of the Male connector.

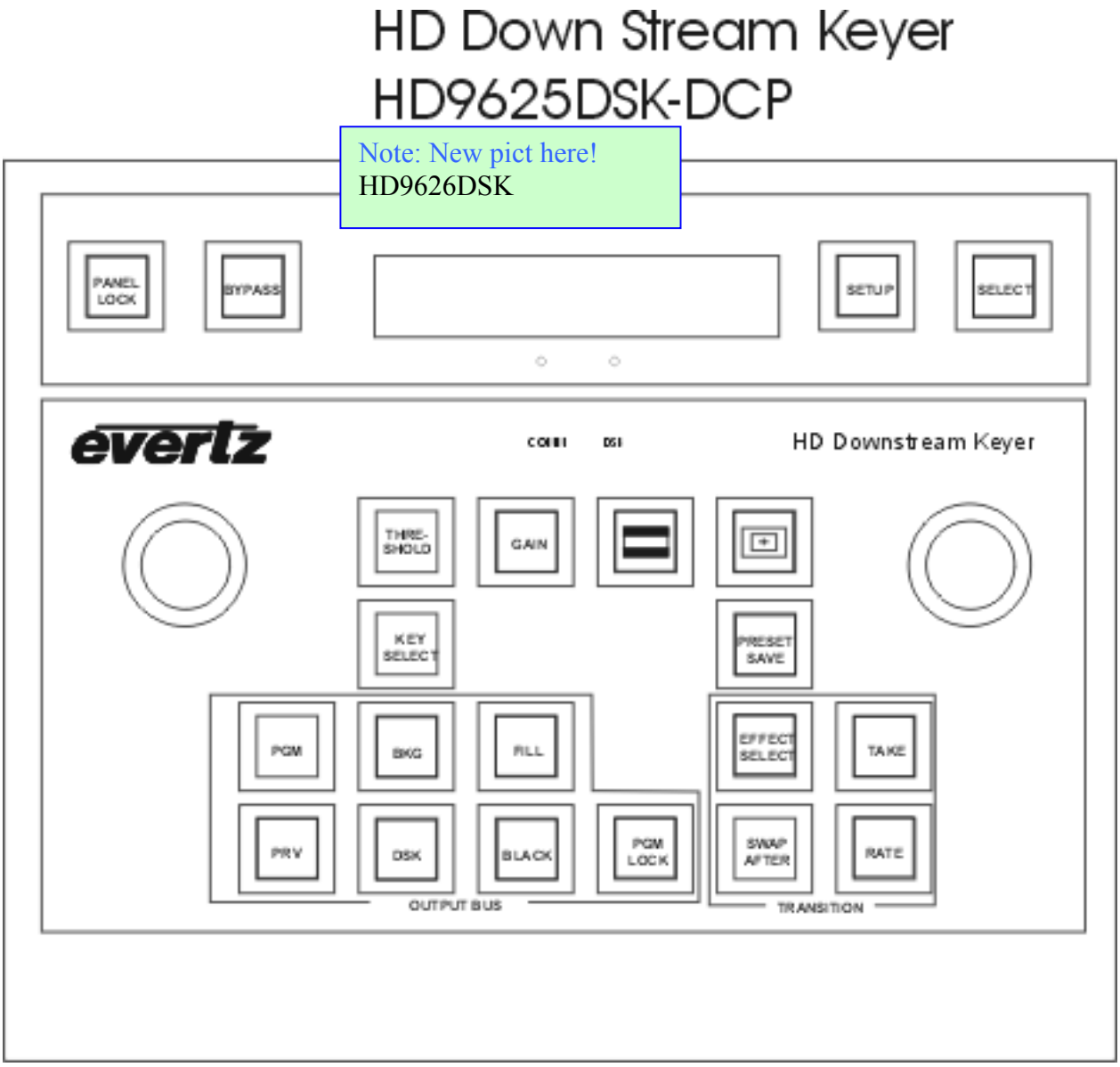
Test cable for straight through connections, i.e. pin 2 to pin 2 etc.


Step 1: Cut Outer Casing back 2 1/2 Inches
Step 2: Separate Individualy shielded pairs
Step 3: Carefully peel back foil shield from each pair, and separate drain wire.
Step 4: Fold back shield from each pair over outer casing of cable. Fold back drain wire from pair 1.
Step 5: Install strain relief clamp over folded back shield and drain wire. Screw down securely.
Step 6: Install wires into specified pins of D connector. Fold drain wire over clamp and solder to the shell.
Step 7: Install metallized plastic shell over cable clamp and secure shell in place. Make sure no wires are pinched between halves of shell.
Everlz Microsystems Ltd.
3486 Mainway, Burlington, Ontario
PROJECT:
TITLE:
Shielded Cable Assembly
DIMENSIONS:
Not to Scale
SHEET:
1 of 1
REV:
0
DRAWN BY:
AWL
DATE:
March 7, 2000
DWG No:

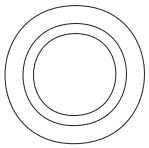
Order Information

Cable: WA-T51 Description: 50 Foot External Extender Cable for 9000 series RCP/DCP.
Cable: WA-T52 Description: 170 Foot External Extender Cable for 9000 series RCP/DCP.
Cable: WA-T53 Description: 200 Foot External Extender Cable for 9000 series RCP/DCP.

4.2.2 DCP Panel Button Description



Button descriptions are listed, as the buttons appear on the DCP panel itself, starting from the top left corner and working across and then down the unit from left to right.



The Shaft Encoders functions as a replacement for the up and down arrow keys described in the main DSK manual. This control knob is used to increment and decrement the values selected in the menu system. You can use the shaft encoder to adjust the values, or to change the current selection in the setup menus. There are 2 shaft encoders in the DSK configuration and they both do the same thing.

PANEL LOCK The Panel Lock button is used to lock the control panel interface from accidental changes. This is a toggle on/off type switch and is engaged when the buttons internal LED is illuminated.

BYPASS Pressing the bypass button will force the relay on the input of the I/O module to disengage. This will route the incoming video directly out through the relay bypass output connector. The LED inside the Bypass button illuminates to indicate that the unit is in manual Bypass. Pressing the button once again energizes the relay allowing the input video to pass through the unit. The bypass relay will disengage if the frame loses power preserving the video output stream. Note: Only the bypass output connector is bypass relay protected, all other outputs will not function on a power loss. The bypass option must be purchased for HD units and may not be installed in your unit. SD units have a bypass as a standard feature.

SETUP Press the setup button to enter the setup menu. Options will be displayed on the display panel. Use the shaft encoder to cycle through the available setup options. Press the select button to choose the currently displayed setup option; the current value for that setup option will be displayed. Use the shaft encoders to change the value. Press the select button to save the change or the setup button to cancel the change or exit that setup option. Press the setup button again to exit the setup menu completely. All buttons on the DCP panel are disabled when you enter the “On Screen Menu” system, with the exception of the Select, Setup and Panel Lock buttons.

SELECT Select is similar to the “enter” key on a standard PC keyboard. The button is used to confirm operations, save settings, confirm choices etc.

THRE-SHOLD This is a quick access into the internal menu system of the DSK unit. This button gives you access to the Threshold level of the menu system. This is similar to pressing the Setup button to access the menu system and then using the shaft encoders to select the Threshold option from the DSK sub menu. After pressing the threshold button you may use the shaft encoders to cycle through the range from 4 Black to 1020 White. The Self Key is a hard key. All values from the key that fall above the Key Threshold will be keyed from Fill. All values from the key that fall below the Key Threshold will be keyed from Background.. Press Select to accept the changes or Setup to escape without making any changes.

GAIN This is a quick access into the internal menu system of the DSK unit. This button gives you access to the Gain level of the menu system. This is similar to pressing the Setup button to access the

menu system and then using the shaft encoders to select the Gain option from the DSK sub menu. After pressing the gain you may adjust the range of values from 500 to 2000 (per thousand). This setting increase or decreases the entire range of color with respect to the key input. This will render the fill as more or less pronounced respectively. Press Select to accept the changes or Setup to escape without making any changes.

 This is a Matte On/Off button. A lit LED indicates that the Matte is enabled. Matte settings can be changed from the Matte menu option. Press the setup button and scroll to the Matte menu item to make changes to the aspect ratio and other aspects of the Matte.

 This is a Graticule On/Off button. A lit LED indicates that the graticules are on. Graticules are only visible on the preview output. Graticules are an SD feature only and not available on the HD version of the DSK.

This is a quick access into the internal menu system of the DSK unit. This button gives you access to the Key type level of the menu system. This is similar to pressing the Setup button to access the menu system and then using the shaft encoders to select the Key type option from the DSK sub menu. After pressing the Key Select you may adjust the value for either input or self. . Select Input to use the Input Key from the Key video input Source or select Self to use the settings provided in the Threshold, Sharpness, and Filter settings that follow. In the Self mode, the video on the fill input is used as a source for keying based on the other related parameters mentioned above. Press Select to accept the changes or Setup to escape without making any changes.

This is a quick access into the internal menu system of the DSK unit. This button gives you access to the Preset Save level of the menu system. This is similar to pressing the Setup button to access the menu system and then using the shaft encoders to select the Save Preset option from the Preset sub menu. After pressing the Preset Save button you may adjust the value from 1 to 10 to store the preview bus state into a storage file that can be recalled at a later time. This stored preset can be triggered from automation, or recalled from the preset recall option of the preset sub menu. Press Select to accept the changes or Setup to escape without making any changes.

The PGM and PRV buttons control which bus the button presses of the BKG, DSK, Fill and Black affect. If the PGM output bus is active (as indicated by a lit PGM button), then button presses on the above mentioned buttons will switch the output video of the program bus.

The PRV and PGM buttons control which bus the button presses of the BKG, DSK, Fill and Black affect. If the PRV output bus is active (as indicated by a lit PRV button), then button presses on the above mentioned buttons will switch the output video of the preview bus.

This button sets the output bus to display the video from the BGND/A input. If the button is flashing, the preview output is set to BKG, if the button is on solid the program output is set to BKG. If the preview and program are both set to display the BKG, then the button will be on solid.

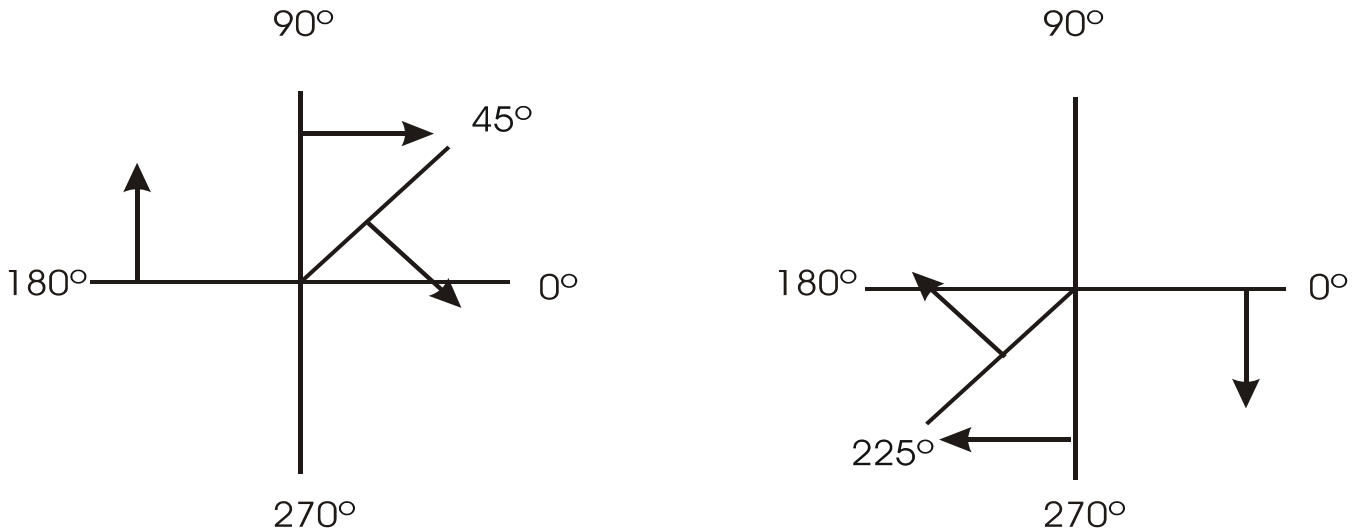
FILL This button sets the output bus to display the video from the Fill/B input. Button LED states as per the BKG button description.

DSK This button sets the output bus to display the video from the BKND/A input, mixed with the video from the Fill/B input, based on the settings from the Key setup menu. Button LED states as per the BKG button description.

BLACK This button sets the output bus to display the black video. Button LED states as per the BKG button description.

PGM LOCK This button locks manual changes to the output video on the program bus. Transition changes from the take button and GPI triggers are still active and can change program output.

EFFECT SELECT This is a quick access into the internal menu system of the DSK unit. This button gives you access to the Transition type level of the menu system. This is similar to pressing the Setup button to access the menu system and then using the shaft encoders to select the transition option from the DSK sub menu. Select the type on transition you would like applied when the Transition button is pressed. Options are Cut, Fade, Wipe 315, Wipe 270, Wipe 225, Wipe 180, Wipe 135, Wipe 90, Wipe 45 or Wipe 0. (item orders may vary). Transition effects only appear of the program output. Transitions on the Preview Output are always Cut type performed at the end of the transition to program. The numbers following the Wipe reference the angle of the wipe. This also indicates the direction of the wipe. For example a wipe of 45 will start a 45 degree wipe that will progress from the top left of the screen to the bottom right of the screen. See the diagram below for example. Arrows indicate direction of wipe.



Press Select to accept the changes or Setup to escape without making any changes.

TAKE When illuminated, this LED indicates that a transition from the preview bus to the program bus is in progress. Transitions are configured from the on screen menus and buttons described earlier. This button is used to transfer the PREVIEW BUS material to the PROGRAM BUS using the pre-configured transition type.

SWAP AFTER This is a quick access into the internal menu system of the DSK unit. This button gives you access to the Transition level of the menu system. This is similar to pressing the Setup button to access the menu system and then using the shaft encoders to select the transition option from the menu. Toggle Yes/No setting for whether the program and preview channels are swapped after a transition or take command is issued. Press Select to accept the changes or Setup to escape without making any changes.

RATE This is a quick access into the internal menu system of the DSK unit. This button gives you access to the Rate level of the menu system. This is similar to pressing the Setup button to access the menu system and then using the shaft encoders to select the transition option from the menu. Set the time for the transition to take affect. The setting is referenced in frames. Quick access provide from front panel Rate button. Press Select to accept the changes or Setup to escape without making any changes.

COMM

When illuminated, this LED indicates that the communications circuitry is active. The communications circuitry is active when one or more external applications are sending or receiving data from the DB9 connectors on the rear of the unit. Examples of external applications could be Automation systems or Monitoring devices.

DSK

When illuminated, this LED indicates that the unit is actively using the Fill Key and Background video inputs. Flashing indicates the DSK is only on the preview output bus.

5 Firmware Update Procedure

Firmware Update Procedure

5.1 REQUIREMENTS:

PC with available communications port. The communication speed requirement is relatively high 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) or (DB25 female to DB9 male). At least five wires are required (shown in bold italic with an *); see chart below.

DB9 female	DB9 male	Description
1	1	
2*	2*	RX
3*	3*	TX
4	4	
5*	5*	Ground
6	6	
7*	7*	RTS
8*	8*	CTS
9	9	

Terminal program such as Hyper Terminal, Telix, Procomm etc.
New firmware supplied by Evertz.

Note:
Firmware downloaded from the FTP section on the Evertz web page (www.evertz.com) it is stored in compressed form in a zip file. If the file extension is "*.exe" you must first run the self extracting zip file to extract the "*.bin" located within. If the file extension is "*.zip" you must use PKUNZIP or WINZIP to extract the "*.bin" located within.
There is a backup copy of the firmware for the 9625LG on the InstalogoHD installation CD-ROM in the "Firmware" directory; the file is called (#v#_###.bin).

5.2 UPDATE PROCEDURE:

Part I – Terminal program setup

Power-down the Evertz frame.

Connect the "straight-thru" serial cable from the PCs' RS-232 communications port to the RS-232 communications port on the back of the Evertz frame.

Start the terminal program.

Configure the port settings of the terminal program as follows:

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

Power-up the Evertz frame.

Part II – Invoke upload mode via the front panel

Note: If you cannot invoke the upload mode via the front panel outlined in Part II then follow the steps in Part III.

Press the *SETUP* button once.
Press the *down arrow* until the main display reads *General*.
Press the *SELECT* button once.
Press the *down arrow* until the main display reads *Update code*.
Press the *SELECT* button once.
The *main display* should now show the message **Select = Upgrade**.
Press the *SELECT* button to confirm the *Upgrade* operation, press *Setup* to cancel.
Skip to step 14.

Part III – Invoke upload mode via the terminal program

A banner with the boot code version information should appear in the terminal window.

For example:

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

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

Defective RS-232 “straight-thru” serial extension cable.

Wrong communications port selected in the terminal program.
Improper port settings in the terminal program. Refer to step 4 for settings.
Evertz frame is off.

The cursor under the line "Upload main program" should be replicating across the screen.

While the cursor is replicating press the <**CTRL**> and <**X**> keys, this should stop the cursor from replicating. If the Evertz frame continues to boot-up simply cycle the power on the Evertz frame and repeat this step.

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

You should now see a prompt asking you to upload the file. "Upload main program"

For example:

```
Upload cancelled
Entering command loop
>upgrade

Upload main program
```

Part IV – Uploading the new firmware

Upload the "***.bin**" file supplied using the **X-Modem** transfer protocol.

16. 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 reason for a failed upload:

If you get the message "transfer cancelled by remote" you must restart the terminal program and load the bin file using the method outlined in *Part III – Invoke upload mode via the terminal program*.
The supplied "***.bin**" file is corrupt.
Wrong file specified to be uploaded.
The PCs' RS-232 communications port can't handle a port speed of **57600**.
Noise induced into the RS-232 "straight-thru" serial extension cable.
To ensure proper communications use step 9 to break out of the boot up sequence and type the word ***help***. You should get back some text. This confirms that you are sending data, receiving data and are locked to 57600.

20. Power-down the Evertz frame.

21. Power-up the Evertz frame.

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

The update procedure is now completed.

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