IQDKEY SDI Keyer Module

$C\epsilon$

Module Description

The IQDKEY provides a straightforward keying capability for 10 bit SDI video streams.

A Background (BKGD) Input provides the background source. The Key Input provides the shape of the object to be keyed over the background, and the Fill Input provides the video with which the key shape is filled. The Fill source can be replaced with an internally generated Matte, and the key signal can be derived from the Fill Input or Matte, allowing self keying.

There are two keying modes:
1) O/P = K*Fill + (1-K)*BKGD   Luma Key mode
2) O/P = Fill + (1-K)*BKGD   Linear Key mode

Linear key mode is for use when the Fill Source is pre-keyed.

Key Lift & Gain allow Key shaping of a non-ideal key. This feature is mainly used for self-keying in Luma key mode. A proc amp is provided for both the Background and Fill inputs, for adjustment of the video inputs prior to keying.

In order to ensure that the bandwidth of the key signal used for the chroma data is not aliased, it is filtered before it is sub-sampled.

A full frame Matte store / generator is provided. Matte's can be captured from either the Background or Fill inputs. A single color matte can be internally generated on the module.

A mix mode is provided to perform a full screen dissolve or cut between the background and fill inputs.

Two types of output are provided, Program Output and Preview Output.

On the program output, the key layer may be faded up and down, cut on and off and may also be faded to black. The preview output can display any of the three inputs, the matte source, the processed key or the keyed output. This allows the operator to check that each source is satisfactory before putting it on air. The preview output features an on-screen caption to identify the viewed source and indicate loss of each input.

In the event of a loss of the Fill or Key input with the key layer turned on, the program output will automatically revert to the background input. With the loss of the background input both the program and preview outputs can be set to default color bars, black or matte, with the additional option of default fill on the program output.

There is the option of passing ancillary data from the background input, fill input or blanking the data during the horizontal and vertical intervals. During the vertical interval the ancillary data source can be set on a line by line basis. Under the default fill condition the ancillary data is automatically passed from the fill input.

The delay through the unit is adjustable from ½ line to 1½ lines when locked to the analog reference or 4 µs when locked to the background input, avoiding the need for audio compensation delays. A crystal locked output helps in reducing incoming jitter and together with sync insertion provides a continuous output in the event of input loss. The unit automatically detects 525 and 625 line inputs, is SMPTE RP168 switching compatible and fully supports EDH.

Full RollCall remote control and RollTrack are included as are three fully assignable GPI inputs / outputs. GPI Inputs recall user memories, which allows pre-programming of preferred settings. Outputs can indicate the loss of background input or the current Key Tally state.

REAR PANEL VIEWS
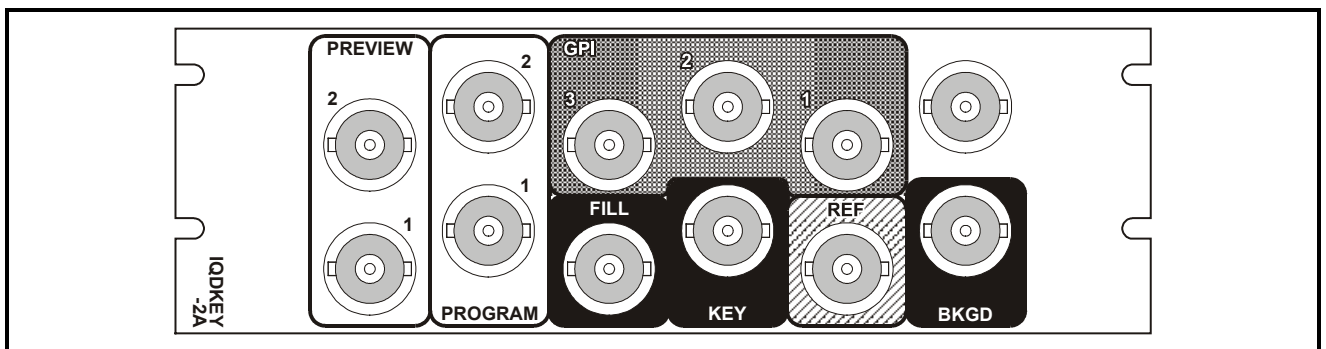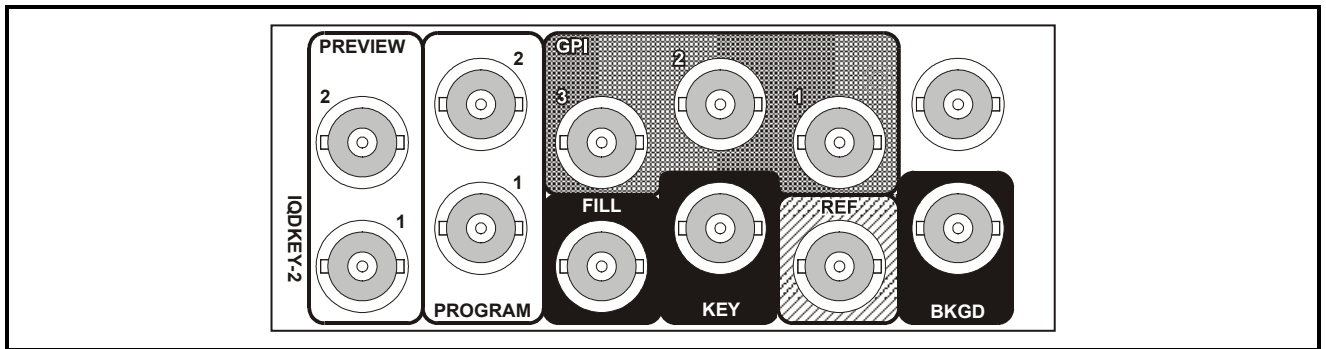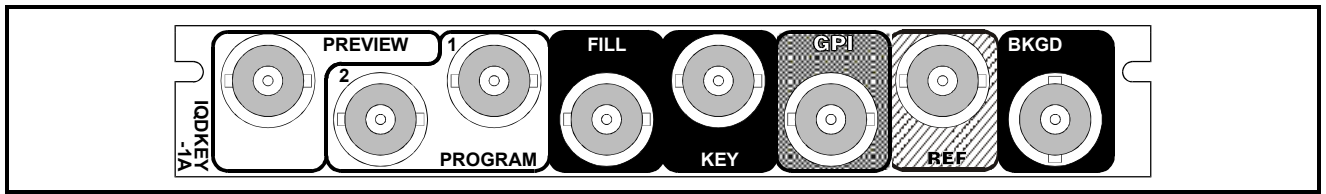

Versions of the module cards available are:

IQDKEY-1A	SDI Keyer Module	Single width module
IQDKEY-2A	SDI Keyer Module	Double width module
IQDKEY-2	SDI Keyer Module	Double width module

Only use single width modules with single width rears. Only use double width modules with double width rears.

Note that there are two styles of rear panels available. They are not interchangeable between the two styles of enclosures. However, the cards may be fitted into any style of enclosure.
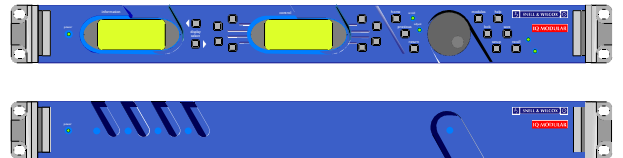
'A' Style Enclosure

Rear panels **with** the suffix A may only be fitted into the 'A' style enclosure shown below.
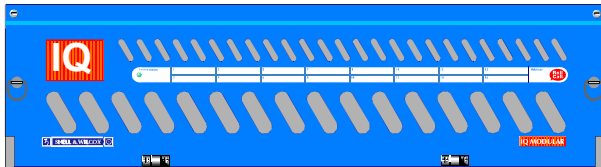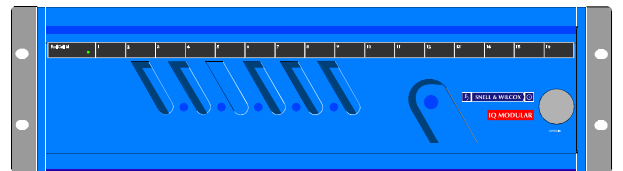

(Enclosure order codes IQH3A-E-O, IQH3A-E-P, IQH3A-N-O, IQH3A-N-P)

'O' Style Enclosures

Rear panels **without** the suffix A may only be fitted into the 'O' style enclosures shown below.

(Enclosure order codes IQH1S-RC-O, IQH1S-RC-AP, IQH1U-RC-O, IQH1U-RC-AP, Kudos Plus Products)

(Enclosure order codes IQH3N-O, IQH3N-P)

(Enclosure order codes IQH3U-RC-O, IQH3U-RC-P)

BLOCK DIAGRAM
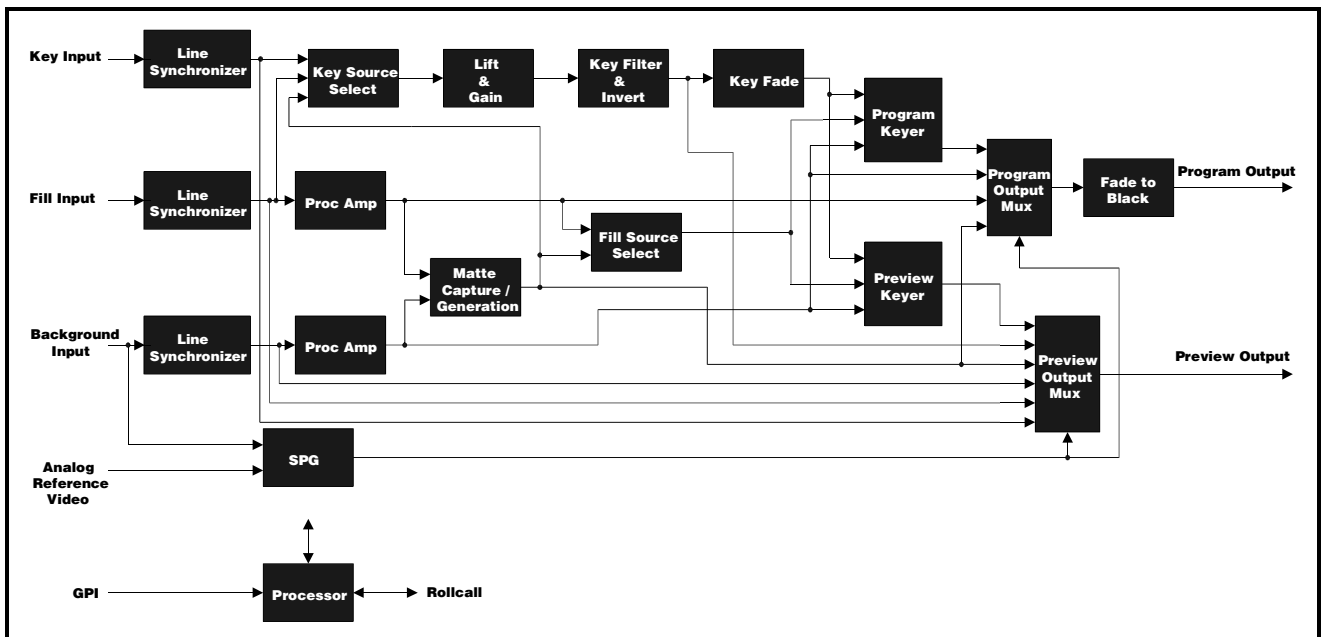
Features

- Background, Fill, and Key Inputs

- Program and Preview Outputs

- Linear and Luma Key Modes

- Auto Fade Up/Down

- Matte generation and capture

- Dissolve/Cut Mix mode

- Keyed output always available on Preview Output

- Background, Fill, Key, Matte and Processed Key sources can be viewed on Preview Output

- Fade to black on Program Output

- Internal Processing to at least 12-bit accuracy

- Maintains valid output with background input fail, with option of switching to Fill input or Matte source

- Ancillary data can be passed from the Background input, the Fill input or blanked

- RollCall remote control and monitoring

Technical Profile

Features

Signal Inputs

Serial Digital Background... 1 x BNC Terminated in 75 Ohms

Serial Digital Key .... 1 x BNC Terminated in 75 Ohms

Serial Digital Fill .... 1 x BNC Terminated in 75 Ohms

Standards .... SMPTE 259M-C-1997

Analog Reference .... 1 x BNC Terminated in 75 Ohms

Communication

GPI .... 3 Closing Contact style Inputs / Outputs via BNC (-2 Versions)

.... 1 Closing Contact style Input / Output via BNC (-1 Versions)

Signal Outputs

Serial Digital...................... 2 x SDI Program

Serial Digital...................... 2 x SDI Preview (-2 versions)
1 x SDI Preview (-1A version)

Controls

Keyer Enable .... Off / On

Keyer Mode .... Linear, Luma

Fade Enable .... Off / On

Fade Time......................... 0 – 2047 Fields

Mix Enable........................ Off / On

Mix Level .... 0 – 100% in 1% steps

Key Source .... Key Input / Matte / Fill Input (Self-Key)

Fill Source......................... Fill Input / Matte

Bkgd / Fill Luma Gain Adjust
$\pm$ 6dB in 0.1dB steps

Bkgd / Fill Chroma Gain Adjust
$\pm$ 6dB in 0.1dB steps

Bkgd / Fill Black Level Adjust
$\pm$100 mV in 0.8mV steps

Fill Picture Position .... $\pm$ 592ns in 148ns steps

Key Picture Position........... $\pm$ 592ns in 74ns steps

Key Gain........................... 0 – 15.999 in 0.001 steps

Key Lift.............................. -10% - +110% in 0.1% steps

Key Invert .... Off / On

Matte Select...................... Frame Store / Single Color

Frame Capture.................. Capture / Background Input / Fill Input

Matte Hue .... 0 - 360 degrees

Matte Saturation .... 0 - 100%

Matte Luminance .... 0 - 100%

Fade To Black.................... Off / On

Fade Time.......................... 0 – 2047 Fields

Default Program Output ..... Black, Color Bars, Matte, Default Fill

Preview Output Select........ Bkgd / Fill / Key I/P, Matte, Processed Key, Keyed Output, Color Bars, Black

Preview Caption................. On / Off

Default Preview Output ...... Matte, Color Bars, Black

Genlock Mode.................... Analog Reference / Background Input

Genlock H Phase
(Analogue Reference) .... -26.751µs to +36.741us in 37µs steps for 525;

.... -27.195µs to +36.851µs in 37µs steps for 625

Ancillary data select .... Background Input / Fill Input / Blank for HANC and each VANC line

Memory............................. Store / Name / Recall

GPI/O function .... GPI – Programmable to recall any memory

.... GPO –Key Tally On, Key Tally Off, Key Fade Up, Key Fade Down, Bkgd Lost, Fill Lost and Key Lost.

Preset Unit .... Returns all settings to factory defaults

Indicators

Input Loss .... Background, Key and Fill Reference Loss

Additional Controls via RollCall™ Remote Control System

Logging............................. Input present, input standard for background, fill, key and reference inputs. EDH status and errors for the SDI inputs. Reference Genlock status.

RollTrack........................... Set up to 32 unit destinations for Key Tally On, Key Tally Off, Key Enable On, Key Enable Off, Key Fade Up, Key Fade Down, Background Lost, Background Present, Fill Lost, Fill Present, Key Lost and Key Present.

Technical Profile

Specifications

Serial Input Return Loss..... Better than 15 dB to 270 MHz

Maximum Input Cable length
> 200m (PSF1/2 or equiv. Cable)

Serial Output Level .... 800 mV ±10%

Output Overshoot............... < 70 mV

Output Return Loss............ Better than 15 dB to 270 MHz

Output Jitter .... < 0.2 UI

Insertion Delay:

Analog Reference .... Adjustable from (1 line - 27 μs) to
(1 line + 37 μs)

Digital Reference .... 4 μs

EMC Performance Information

Environment   Commercial and light industrial E2

Peak Mains Inrush Current following a 5 second mains
interruption .... No Mains Input

Performance Information.... No performance degradations or
cable length limitations

Power Consumption

Module Power Consumption
6.1 W max.

INPUT CONNECTIONS

Serial Digital Background

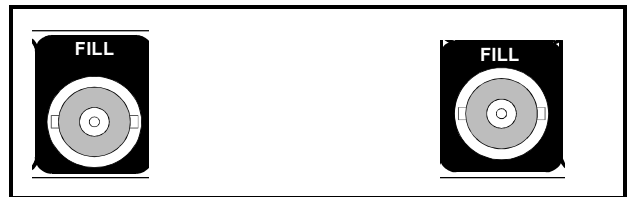The **Background** signal should be connected to this BNC connector.

Serial Digital Key

The **Key** signal should be connected to this BNC connector.

Serial Digital Fill

The **Fill** signal should be connected to this BNC connector.

Reference

This BNC connection is terminated in 75 Ohms for a black burst reference signal that locks the synchronizer.
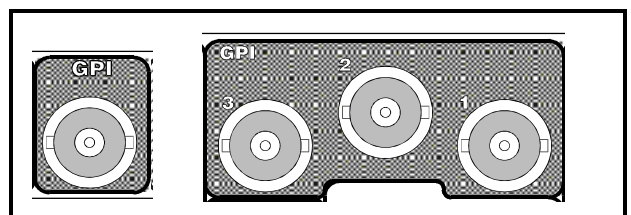
GPI (-2 versions)

There are 3 GPI connections via BNC connectors that may be configured as inputs or outputs.

GPI (-1A version)

There is one GPI connection via a BNC connector that may configured as an input or output.

OUTPUT CONNECTIONS

Program

These connectors provide 2 outputs of Program serial component video.

On the Program Output the key layer can be faded up or down or cut on and off and it is possible to mix between the fill and background inputs. The output can also be faded or cut to black.

In the event of the loss of the background input the program output can be set to revert to default color bars, default black or default fill. In the case of default fill, the fill input, including ancillary data is passed to the program output.
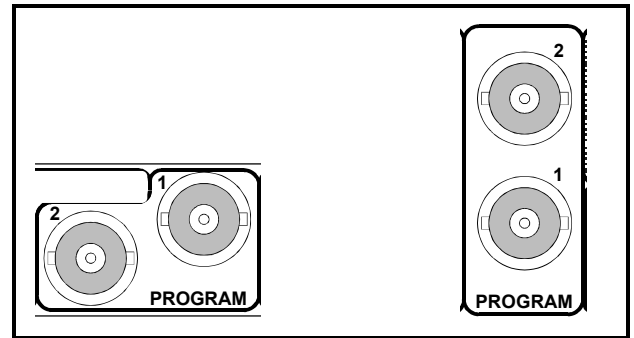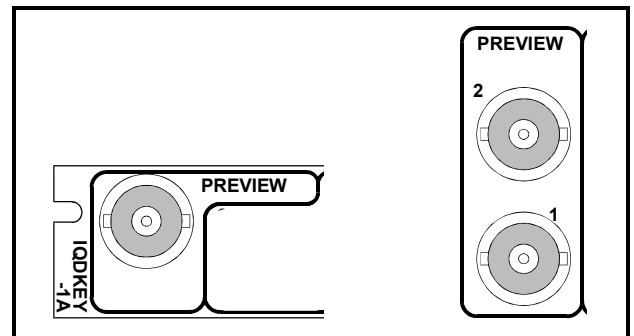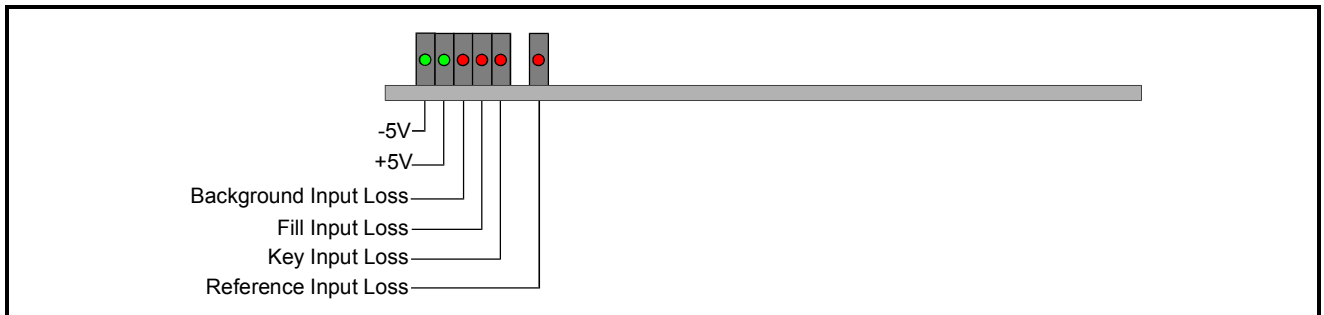
Preview

These connectors provide 1 or 2 outputs of Preview video.

The preview output can display any of the 3 SDI inputs, the keyed output, the processed key signal, the matte source, color bars or black.

The preview default output can be set to matte, color bars or black.

CARD EDGE INDICATORS

LED INDICATORS

+5V and -5V

When illuminated these LED's indicate that the +5 V and -5 V supplies are present.

Background / Fill / Key Input Loss

These **Input Loss** LED's will be continuously illuminated when the unit is not receiving a valid input signal.

Reference Input Loss

This LED will be illuminated when the unit is not receiving a valid reference signal.

RollCall Control via a PC

*For full details please see the operator's manual for the IQSPCR, **RollCall™ Software Installation Guide & Operational Overview***

IQSPCR is a PC application that runs under Windows 3.1x or 95. It allows full remote control of RollCall for this and other compatible units.

SOFTWARE INSTALLATION GUIDE

System Requirements

The minimum requirement for installing the RollCall software is:
RollCall PC Control Software (IQSPCR).
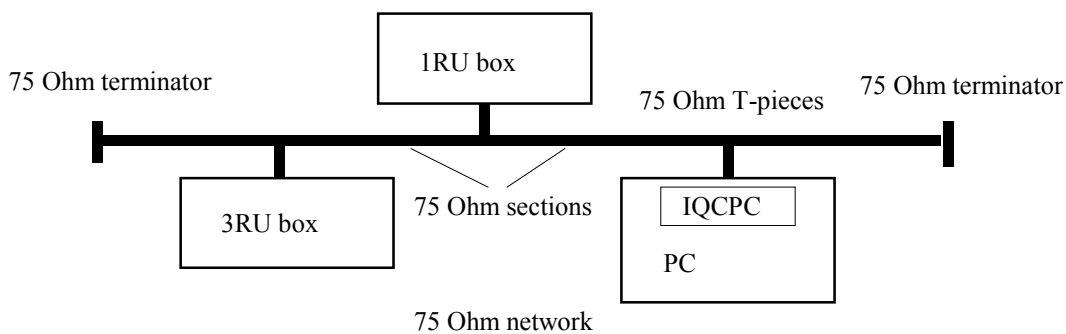IQ Modular 1RU or 3RU rack with Gateway card installed.
PC running Microsoft Windows 3.1x or Windows '95 .
Either a RollCall PC card (IQCPC) or a RS232 to RS422 9 way converter fitted to the PC.

Connecting the hardware:
There are two choices for connecting the PC to the Modular IQ System:
1.   75 Ohm co-axial cable BNC for box-to-box connections running at 2.5 Mbs.


Each unit is physically joined via a T-piece connector. Each T-piece is connected by 75 Ohm co-ax cable to create a section. Each section of cable can be up to 400m. Each end of the network is terminated by a 75 Ohm terminator.

2.   RS422 running at 38.4 kbs asynchronous:
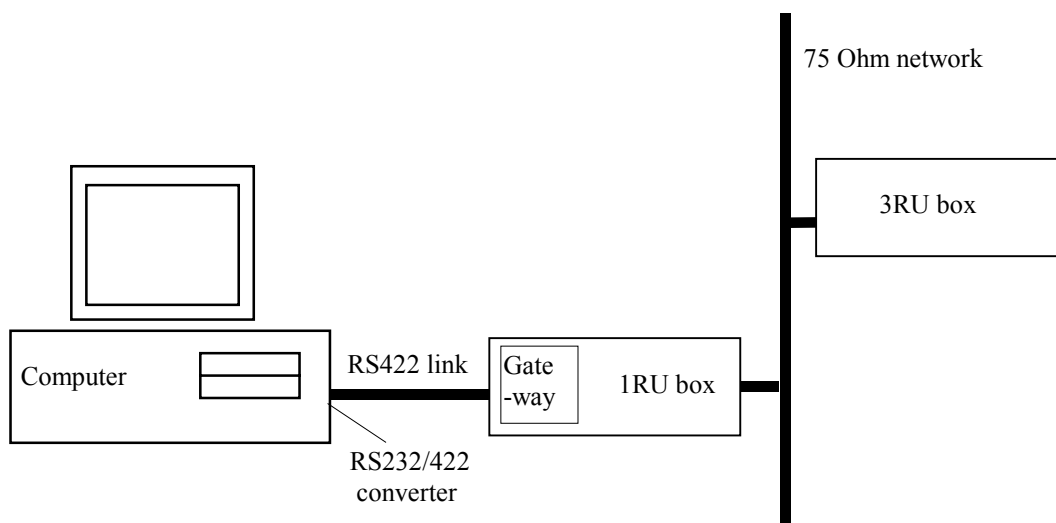
Connect the RS232/RS422 converter to COM1 or COM2 of the PC and connect this via RS422 cable to the 9 pin 'D' on the IQ modular unit. This interface is specifically designed for third party connections into the system. This allows PC's or any other serial device access to any of the units within the system. Every active 1RU or 3RU box has one of these ports.

Physical Interface - RollCall RS422

RxB Pin 3   TxA Pin 2   GND Pin 1

RxA Pin 8   TxB Pin 7
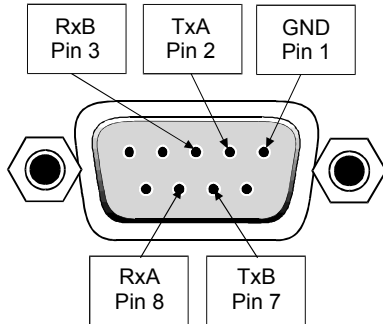
N.B. Connector is a socket, viewed from mating face. Equivalently, this is a plug, viewed from the rear, cable face.

For reference, the A signal is at 0V at line idle, and the B signal at 5V.

5 4 3 2 1
9 8 7 6

5 9 4 8 3 7 2 6 1

9-Way Ribbon connections
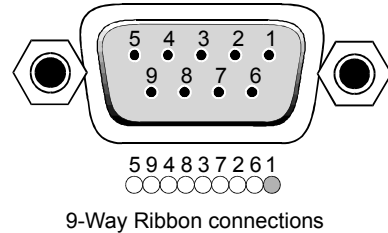
Standard Connections

| 9-way Connector	FUNCTION
1	Frame Ground
2	Transmit A (Tx-)
3	Receive B (Rx+)
4	Receive Common
5	[No connection]
6	Transmit Common
7	Transmit B (Tx+)
8	Receive A (Rx-)
9	Frame Ground

N.B. The D connector on the Gateway card could also be configured as RS485.
Selection of the interface format is by a switch on the card.
Note that RS485 interconnections should be pin to pin and only be used for Snell & Wilcox RollNet applications.
DOWN i.e. towards the PCB selects RS422
UP   i.e. away from the PCB selects RS485
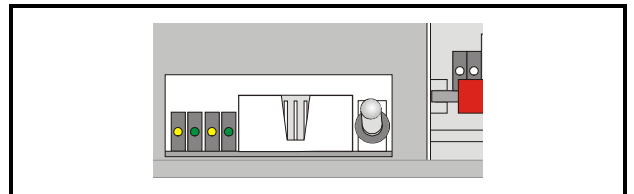
Switch set to RS485

Software Installation

Run SETUP.EXE from the installation diskette to install the suite of Rollcall programs. Product code IQSPCR contains the Rollcall Remote Control (rollcall.exe) and communications driver (commtrol.exe) programs. Product code IQSPCD contains the Rollcall Remote Control (rollcall.exe), communications driver (commtrol.exe), logserver (rolllog.exe) and logviewer (rollview.exe) programs.

On startup, the setup program prompts for an installation directory. The default installation directory is C:\ROLLCALL. The set-up procedure will copy all the necessary files to this directory. Set-up will also create a Windows Group called RollCall.

Depending on the product code of the diskette, Either two icons (RollCall and Commtrol for IQSPCR) or four icons (RollCall, Commtrol, LogServer and LogViewer for IQSPCD) will appear in the group.
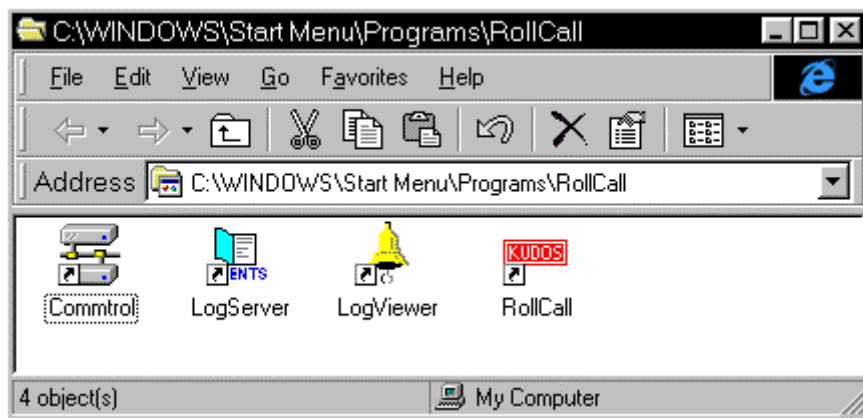
Overview

ROLLCALL.EXE:
This program allows control of RollCall compatible units. (IQ Modules, Supervisor, other S&W units with RollCall gateway). Each unit has a 'control template' window for control of that device. The user can configure the program for USER, ENGINEER or SUPERVISOR access levels with password protection. It can install "template" files from new units automatically or by user request.

ROLLLOG.EXE:
This is the Log Server application that collects logging information from units on the network. Keeps a running log file of every event received. Writes a current status file for configured units and allows the LogViewer program to display the information.

ROLLVIEW.EXE:
This program displays the current status file written by ROLLLOG.EXE in a tabulated form. Coloured conditions highlight warning and failure states. Can be configured for network access for remote monitoring using share information from the LogServer program.

COMMTROL.EXE:
This program is called automatically by ROLLCALL.EXE or ROLLLOG.EXE and normally runs minimized. Usually, there is no need to run this program by itself. This program provides the basic communications with the PC card, serial comms ports or TCP/IP protocols. It also has monitoring facilities for data analysis.

For more details see the operator's manual for the IQSPCR Section 3

RollCall Control Templates for the IQDKEY

Control

This menu controls the main key and mix operations. The IQDKEY can operate in two independent modes. As a keyer where the key layer can be faded up or down or cut on and off. And as a simple mixer with either a dissolve or cut to the set Mix Level.

Fade

The fade control setting is used in both Keyer and Mixer modes. When selected the Key layer is faded up and down (except in linear mode) and the mixer performs a dissolve to the set mix level. The unit will also fade when switching between Keyer and Mixer modes. The time for the fade is set using the Fade Time control.
When not selected the Key Layer is cut on and off and the mixer cuts to the set Mix Level.
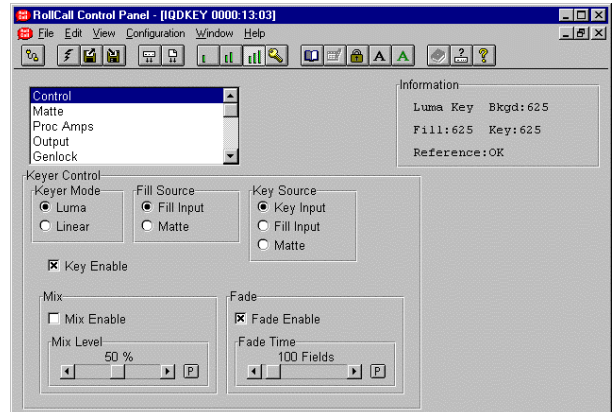
☒ Fade Enable

When this item is selected the fade function is enabled.

Fade Time

The time taken to fade the Key Layer up or down, or dissolve to the set Mix level.

The time may be adjusted from 0 fields (an instant cut) to 2047 fields in steps of 1 field. Preset is to 100.

Control (continued)

Keyer Mode

⊙ Luma

This mode should be used when a normal, non-keyed video signal is used at the fill source.
This is demonstrated in the example opposite.

Background Signal

Fill Signal

Key Signal

Program Output Signal

Control (continued)

⊙ Linear

This mode is used when the fill source has already been keyed, such as the output from a character generator, where video outside the key area is black.

Note it is not possible to fade the key layer up or down in linear key mode. The key layer is cut on and off regardless of the Fade Enable setting.

Background Signal
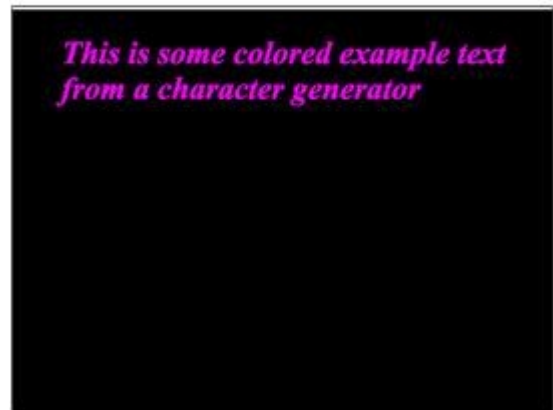
Fill (Main output from Character Generator)
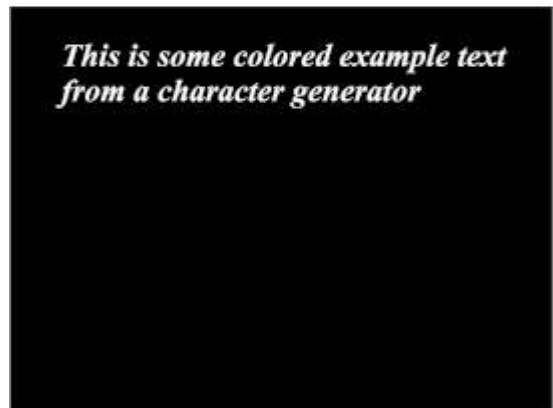
Key Signal
(Alpha output from Character Generator)

Program Output Signal

Control (continued)

⊙ Linear (continued)

Note that if the fill input is not black outside the key area the result will be as shown opposite.

Background Signal

Fill Signal

Key Signal

Program Output Signal

Control (continued)

Fill Source

The source of the Fill signal may be selected as either the **Fill input** or the **Matte** source.

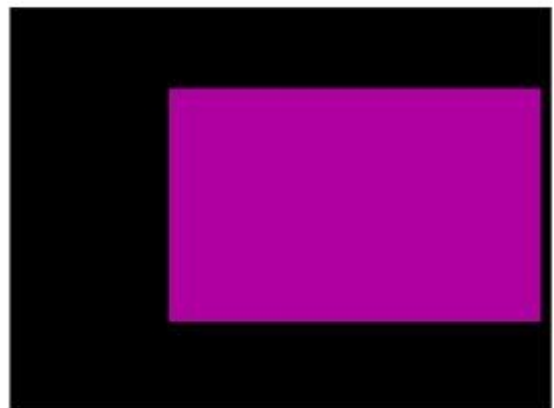When Matte is selected as the fill source, keying will still take place even if the fill input is lost, **Mat*** will then be shown as the Fill Input Status in the information window.

Key Source

The source of the Key signal may be selected as either the **Key Inpu**t, the **Fill Input** or the **Matte** source.
When Matte or Fill is selected as the key source keying still takes place when the key input is lost. **Fill*** or **Mat*** is then shown as the Key Input Status in the information window.

Self Keying is possible by setting the Key source and Fill sources to the same selection.

☒ Key Enable

When this item is selected the unit will cut on or fade up the key layer. When de-selected the key layer is cut off or faded down.

Note Mix Enable and Key Enable can not be selected at the same time. Selecting Key Enable will over ride the Mix Enable setting, disabling it if selected.
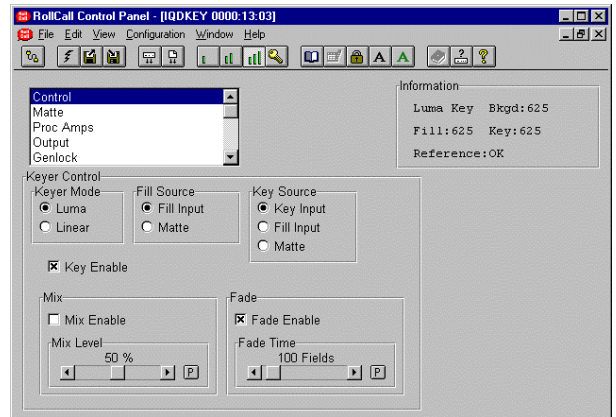
Control (continued)

Mix

In Mix mode the unit performs a mix between the background input and the selected Fill source. A key input is not required in mix mode.

☒ Mix Enable

When this item is selected the unit will either dissolve or cut to the set Mix level.

Note Mix Enable and Key Enable can not be selected at the same time. Selecting Mix Enable will over ride the Key Enable setting, disabling it if selected.

Mix Level

The Mix Level controls the proportion of background signal and fill signal in the output picture. When Mix Enable is selected the unit will dissolve or cut to the set level. The Mix Level can also be adjusted manually when enabled.

The level may be adjusted from 0% (background signal) to 100% (fill signal) in steps of 1%. Preset is to 50%.

Matte

This function provides either a single color full frame of video, or a full frame of video that can be captured from the Background and Fill inputs.

Note that the captured data will be lost when the card is powered down.

On unit start up the Single Color matte is automatically selected. Frame Store should not be selected as the matte source until a frame of video from either the Background or Fill input has been captured.

Single Color Setup

The Hue, Saturation and Luminance controls set the color of the Single Color Matte source.

Hue

This control has a range of 0 to 360° in 1° steps. Preset is to 0°.

Saturation

This control has a range of 0 to 100% in 1% steps. Preset is to 0%.

Luminance

This control has a range of 0 to 100% in 1% steps. Preset is to 0%.

Matte Source

The source of the matte signal may be chosen as either:

Frame Store   The captured full frame picture.

Single Color   The single color picture as setup with the above controls. This is the default selection.

Frame Store Status

This item will show if the frame store has a picture stored (CAPTURED) or not (EMPTY).

Frame Capture Select

The frame may be captured from either the **Background Input** signal or the **Fill Input** signal. This input should be selected before the capture function is operated.

Capture

When selected a frame of the current background or fill input will be captured and stored in the frame store.

Note that this picture frame will be lost when the card is powered down.
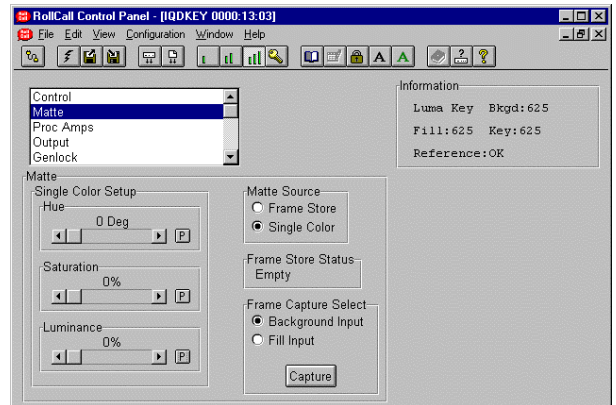
Proc Amps

This screen allows the processing controls for the Background, Fill and Keyer signals to be adjusted.

Note that for this and other screens the following applies:

The [P] symbol represents the Preset function and will return the function to the default setting.

The ◄ and ► symbols at the ends of the scroll bar allow the value to be adjusted in discrete steps.

The numerical value is shown above the scroll bar.

Background

This item allows the processing controls for the Background signal to be adjusted.

Proc Amp Enable

When selected the Processing Amplifier functions will be activated. When not selected the preset values of the controls will be used.

Luma Gain

This item allows the gain of the luminance signal to be adjusted.

By using the scrollbar the gain may be adjusted by ± 6 dB in steps of 0.1 dB. Preset is to 0.0 dB.

Black Level

This item allows the Y pedestal or black level to be adjusted.

By using the scrollbar the pedestal may be adjusted by 100mV in steps of 0.8 mV. Preset is to 0 mV

Chroma Gain

This item allows the gain of the chrominance signal to be adjusted.

By using the scrollbar the gain may be adjusted by ± 6 dB in steps of 0.1 dB. Preset is to 0.0 dB.

Fill

These controls are the same as those for the Background signal with the addition of a Picture Position control.
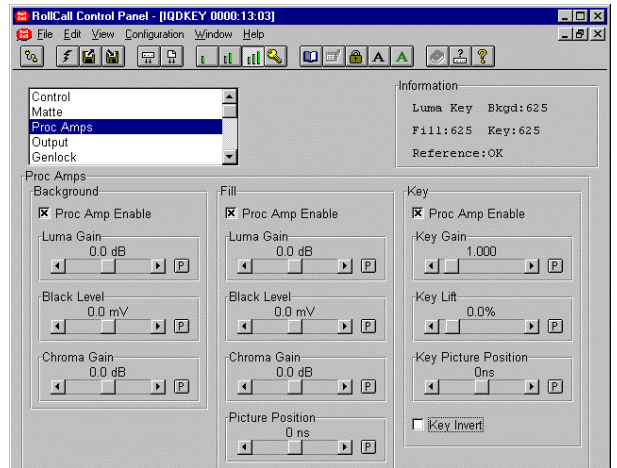
Picture Position

This item allows the fill picture position to be changed.

By using the scrollbar the timing may be adjusted by ± 592 ns in 148 ns steps. Preset is to 0 ns.

Key

Key Proc Amp Block Diagram
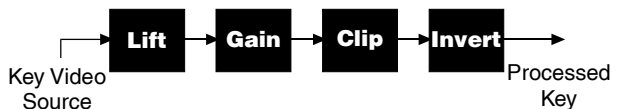
In the diagram below the Key lift is set to 50.0 % and the Key gain to 4.000. The resultant key signal is in the region from 50 to 75 % of the original video signal.
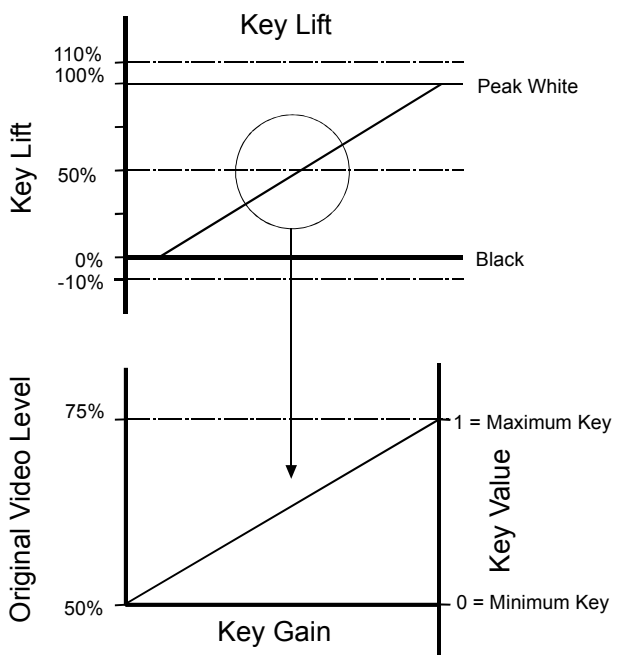
Key Gain Control

The key input signal is multiplied by the gain about the key lift point.

By using the scrollbar the value may be adjusted from 0.000 to 15.999 in steps of 0.001. The preset value is 1.000.

Key Lift Control

This adjusts the level of the key input signal that gives no keying action. The gain then works about this point.

By using the scroll bar the value may be adjusted from –10% to +110% in steps of 0.1%. The preset value is 0.0%.

Key Picture Position

This item allows the timing of the Key signal to be adjusted relative to the Background signal.

By using the scroll bar the timing may be adjusted by ±592 ns in 74 ns steps. The preset value is 0 ns.

⊠ Key Invert

When selected this will invert the key signal as shown below.

Normal   Invert

Output

This function allows the Preview and Program output signals to be chosen.

Program

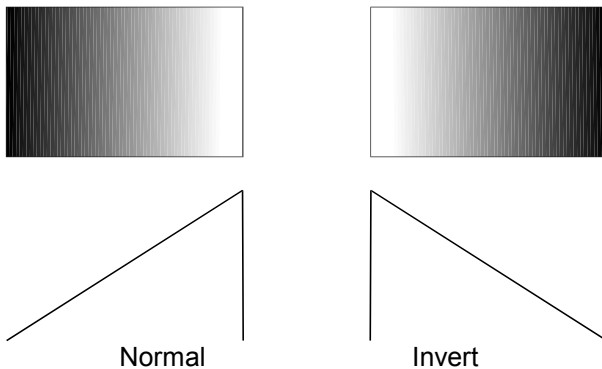The Program Output keyer and mixer operation is controlled by the key enable and mix enable functions in the Control template.

If the fill or key inputs are lost the program output will automatically revert to the background source, and ***Bkgd** will then be shown as the program output status in the information area.

Program Fade

This menu controls fading of the program output to and from black.

☒ Fade Enable

When this item is selected the program output is faded down to black. De-selecting fade enable will fade back up to the normal program output.

Fade Time

The time taken to fade from the background signal to and from black is set with this control.

The time may be adjusted from 0 fields (an instant cut) to 2047 fields in steps of 1 field. Preset is to 100.

Default Program

If the background input is lost the program output will revert to the signal selected in the **Default Program** item. This may be Black, Color Bars, Matte or Default Fill.
*Fill, *Black, *Matte or ***CBars** will then be shown in the information area.

If the default fill input is selected and both the background and fill inputs are lost, the program output will revert to Black and ***Black** will be shown in the display window or information area.

If the key or fill inputs are of a different standard to the background input, ***525** or ***625** will be shown as the input status in the display window or information area and the program output will revert to the background signal. If the background input is lost, then when the Key or Fill inputs are of different standard to the analog reference, ***525** or ***625** will be shown.

Note that the information shown in the information window will depend on which status item has been selected. (See page 32 for details)
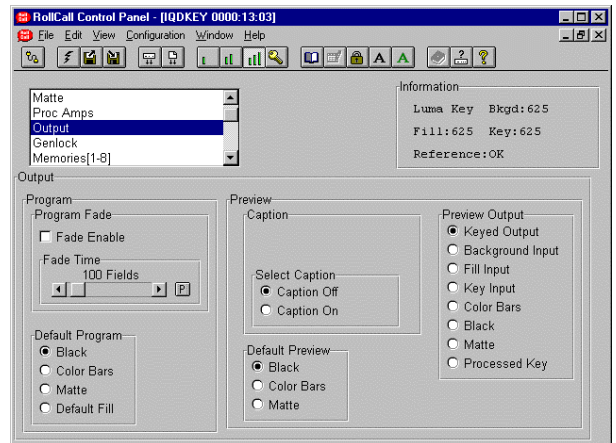
Preview Output

The Preview output may be selected from eight different sources.

The **Keyed Output** selection has the key layer permanently turned on allowing a preview of the main program output in keyer mode.
The **Background**, **Fill** and **Key** input selections display the inputs to the unit prior to passing through the proc amps.
The **Color Bars** selection displays a color bar signal.
The **Black** selection displays a black picture.
The **Matte** selection displays the currently selected matte source.
The **Processed Key** selection displays the signal output from key proc amp that will be used for keying.

Preview Caption

The preview output has an on screen display, that indicates the source currently being viewed on the Preview output. This is the same information that is displayed in the information window, see page 32 for a description of the information displayed.
The on screen caption is turned on by selecting **Caption On** and turned off by selecting **Caption Off**. Preset is to Caption Off.

Default Preview

If the selected preview output source is lost the output will revert to the signal selected in the **Default Preview** item. This may be Black, Color Bars or the Matte signal. ***Black, *CBars** or ***Matte** will then be shown in the display window, information area and on screen display.
If the keyed output is displayed and the selected fill or key sources are lost, the key layer is turned off and ***Keyed** is shown in the display window, information area and on screen display.

Genlock

The unit can be set to genlock to the analog reference or the background input. The delay through the unit and allowable offset of the input signals relative to the selected reference is different for the two genlock modes.

Lock Mode

⊙ Lock to Reference

When this item is selected the unit will lock to a valid signal connected to the Reference input.
When locked to reference the Background, Fill and Key inputs must be between 30 µs earlier than the reference and 34 µs later than the reference. If the video inputs are outside this range the keyer will not operate correctly, and a vertical shift in the keyed output is likely.

Lock to Reference Timing
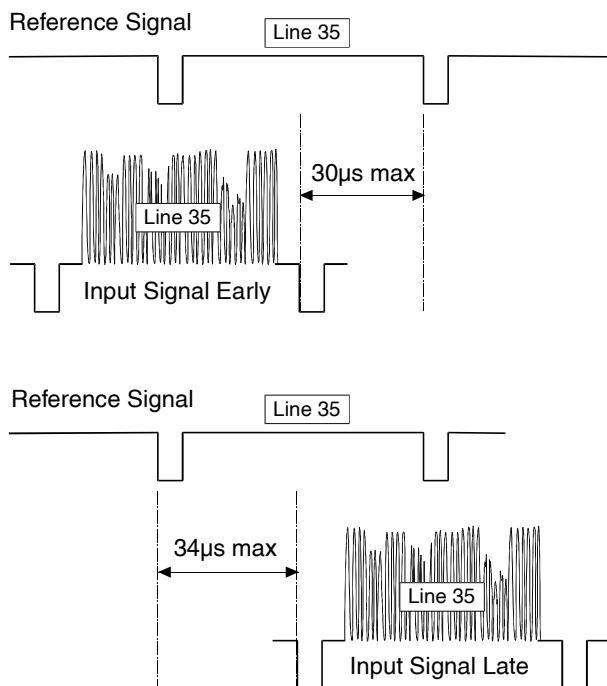
Reference Signal

Input Signal Early

Reference Signal

Input Signal Late

When locked to reference the standard delay through the unit is 1 line. This Genlock H Phase control allows adjustment about this point.

⊙ Lock to Background

When this item is selected the unit will lock to a valid background input signal.

When locked to background the Fill and Key inputs can be up to 1 line earlier, but not later than the background input. If the Fill and Key inputs are outside this range the keyer will not operate correctly, and a vertical shift in the keyed output is likely.
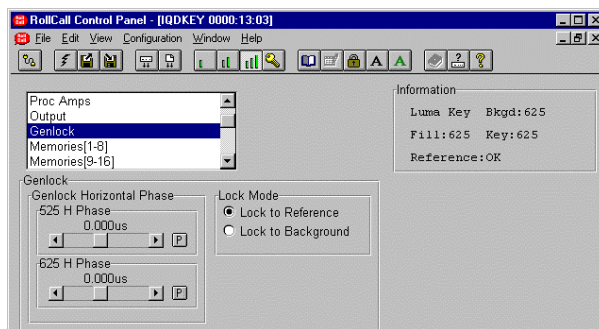
Lock to Background Timing
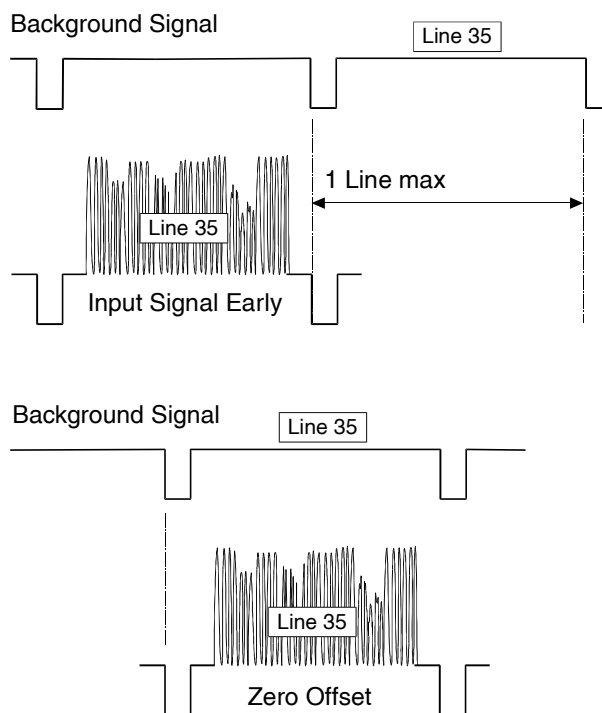
Background Signal

Input Signal Early

Background Signal

Zero Offset

Selecting lock to background genlock mode provides the minimum delay through the unit for both the program and preview outputs of approximately 4 µs.
Note Genlock H Phase adjustment is not available in this mode.

Genlock Horizontal Phase
(525 and 625 H Phase)

This item allows adjustment of the horizontal timing of the Program output signal in Lock to Reference mode relative to the analog reference sync. The standard offset is 1 line, the Genlock H Phase control provides adjustment about this point. The preview output has a fixed offset of 1 line.

The value may be adjusted over a range of:
-26.751µs to +36.741µs in 37ns steps for 525
-27.195µs to +36.851µs in 37ns steps for 625

Selecting Preset returns the setting to zero (delay through unit of 1 line).

Memories

This function allows the settings of the unit to be saved and recalled. There are 16 memory locations available.

To change the memory name, type the new name

in the text area and then select [→] (return).

Selecting Preset [P] will return the text to the default name.
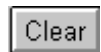
[Clear]

Selecting Clear returns the contents of the memory location to the default (factory) values.
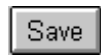
[Save]

Selecting save stores the current settings in the memory location.
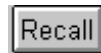
[Recall]

Selecting recall applies the settings stored in the memory location to the unit.

Note that all the above functions are a momentary action.
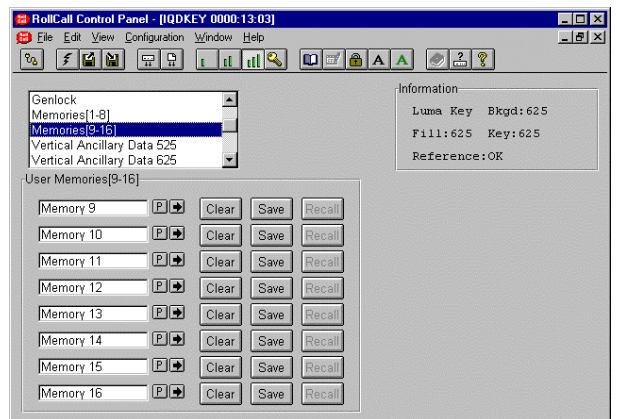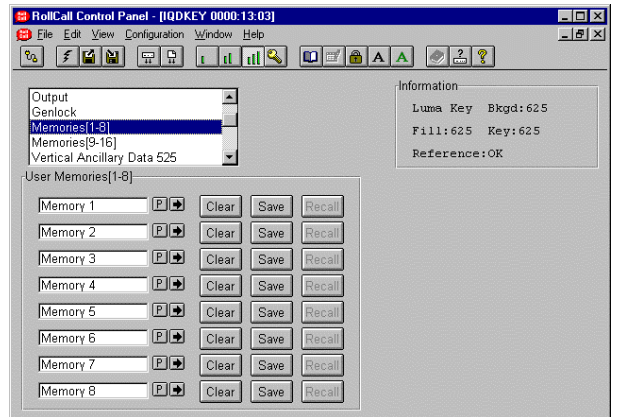
Vertical Ancillary Data

Ancillary Data

There is the option of passing ancillary data from the background input, fill input or blanking the data during the horizontal and vertical intervals. During the vertical interval the ancillary data source can be set on a line by line basis.
Under the default fill condition all ancillary data selected from the background input is automatically replaced by data from the fill input.

Note any lines that are blanked will remain blanked.

Vertical Ancillary Data 525

This menu allows the vertical interval data in a 525 line signal to be selected and processed.

Field 1

This item allows the vertical interval data in field 1 of a 525 line signal to be selected and processed.

Blank

This allows individual data lines (lines 11 to 21 inclusive) in field 1 of the output signal to be blanked.

Pass Bkgd

This allows individual data lines (lines 11 to 21 inclusive) in field 1 of the output signal to be passed from the background input.

Pass Fill

This allows individual data lines (lines 11 to 21 inclusive) in field 1 of the output signal to be passed from the fill input.

Field 2

This item allows the vertical interval data in field 2 of a 525 line signal to be selected and processed in a similar way to field 1.

525 Presets

Blank All

When selected all data lines will be blanked.

Pass All Bkgd

When selected all data lines of the background signal will be passed.

Pass All Fill

When selected all data lines in the Fill signal will be passed.
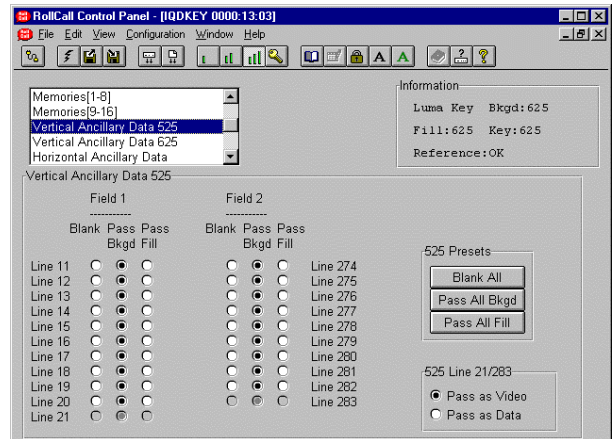
525 line 21/283

Pass as Video

When selected lines 21 and 283 are treated as active picture. The lines are processed as video with all keyer, mixer and proc amp functions taking place on these lines. When selected the ancillary data settings for these lines are ignored.

Pass as Data

When selected lines 21 and 283 are treated as ancillary data. They can be derived from the background input, fill input or blanked.

Vertical Ancillary Data 625

This allows the vertical interval data in a 625 line signal to be selected and processed in a similar way to 525 line signals.

Field 1

This item allows the vertical interval data in field 1 of a 625 line signal to be selected and processed.

Blank

This allows individual data lines (lines 7 and 23 inclusive) in field 1 of the output signal to be blanked.

Pass Bkgd

This allows individual data lines (lines 7 and 23 inclusive) in field 1 of the output signal to be passed from the background input.

Pass Fill

This allows individual data lines (lines 7 and 23 inclusive) in field 1 of the output signal to be passed from the fill input.

Field 2

This item allows the vertical interval data in field 2 of a 625 line signal to be selected and processed in a similar way to field 1.

625 Presets

Blank All

When selected all data lines in field 1 will be blanked.

Pass All Bkgd

When selected all data lines of the background signal will be passed.

Pass All Fill

When selected all data lines of the Fill signal will be passed.

Horizontal Ancillary Data

This item allows horizontal source data to be either blanked or passed from the background or fill signal.
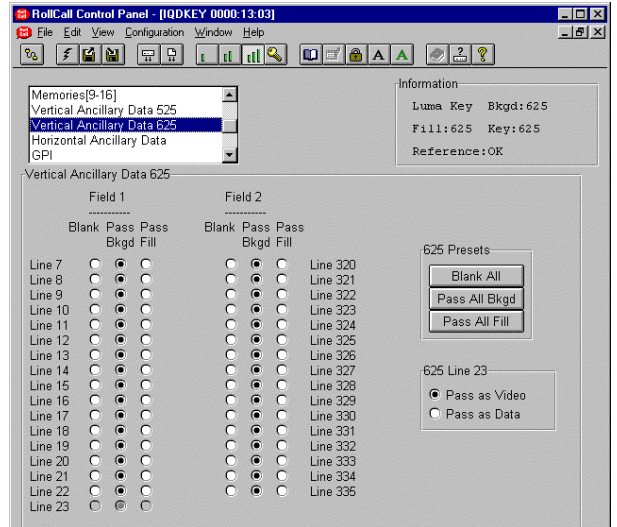
625 Line 23

Pass as Video

When selected line 23 is treated as active picture and is processed as video with all keyer, mixer and proc amp functions taking place. When selected the ancillary data setting for Line 23 is ignored.

Pass as Data

When selected line 23 is treated as ancillary data and can be derived from the background input, fill input or blanked.
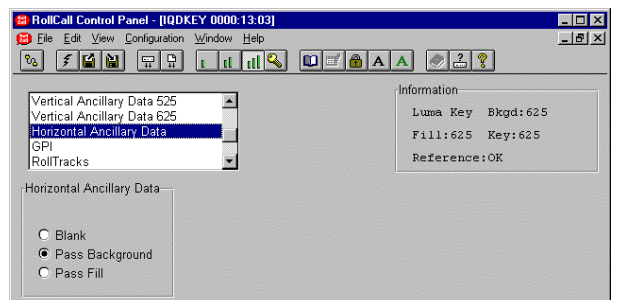
GPI

This screen allows the GPI functions to be configured and their actions defined.

The function of each GPI connection when operating as an input is set using the **GPI In** and the **Input Functions** controls.
The function when operating as an output is set using the **GPI Out** and the **Output Functions** controls.
GPI I/O Direction is used to configure each GPI connection to operate as an input or an output.

Note that on the single width version there is only one GPI connection. This is designated GPIO In/Out 1 on the template. On the double width versions there are three GPI connections designated GPIO In/Out 1, 2 and 3.

GPI In

This allows the GPI input (1 to 3) to be selected.
Preset is to GPIO In 1.

Input Functions

When configured as an input the GPI connection may be used for accepting GPI information (from mechanical switch contacts, relay contacts etc.)
The resulting action that the unit takes is selected using this item.

The Input functions are as follows:

Unused   The unit will perform no function. This is also the Preset Setting.

Mem 1-16   The unit will use the settings in the selected memory location when the input changes from open to closed.

Mem 1-2, 3-4, 5-6, 7-8, 9-10, 11-12, 13-14, 15-16:

Mem x-y   The unit will toggle between the settings of memory locations x and y.
Open to Closed selects Memory x settings.
Closed to Open selects Memory y settings.
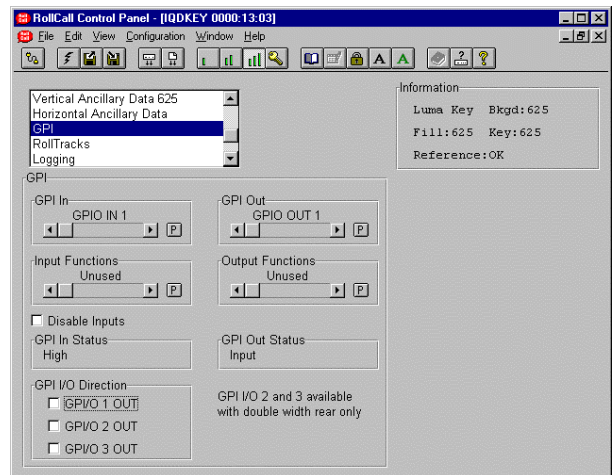
Disable Inputs

When selected all GPI input functions will be disabled.

GPI In Status

This displays the current status of the selected GPI input.

This shows either High (open circuit) or Low (closed circuit).

GPI I/O Direction

When unchecked the selected GPI is configured as an input.

When checked the selected GPI is configured as an output.

GPI (continued)

GPI Out

This allows the GPI output (1 to 3) to be selected. Preset is to GPIO Out 1.

Output Functions

The selected GPI out may be configured to produce an output corresponding to one of the following conditions:

Unused Key	Key Fade Down
Key Tally On	Bkgd Lost
Key Tally Off	Fill Lost
Key Fade Up	Key lost
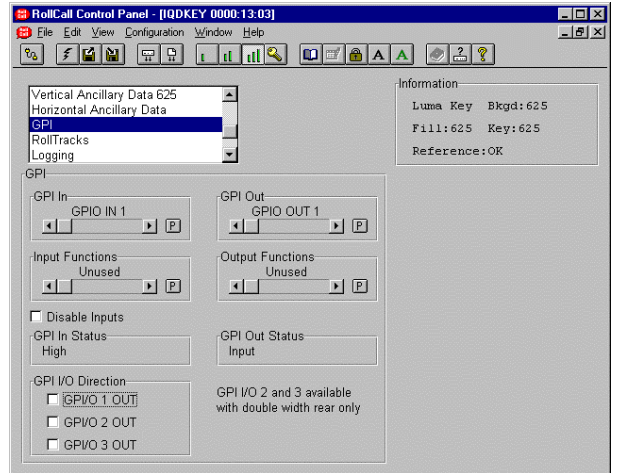
When the condition is not true the output will float but when the condition is true the output is closed to ground via a transistor.

The preset setting for the output is Unused.

GPI Out Status

This displays the current status of the GPI output.

This shows Input, Unused, Open or Closed.
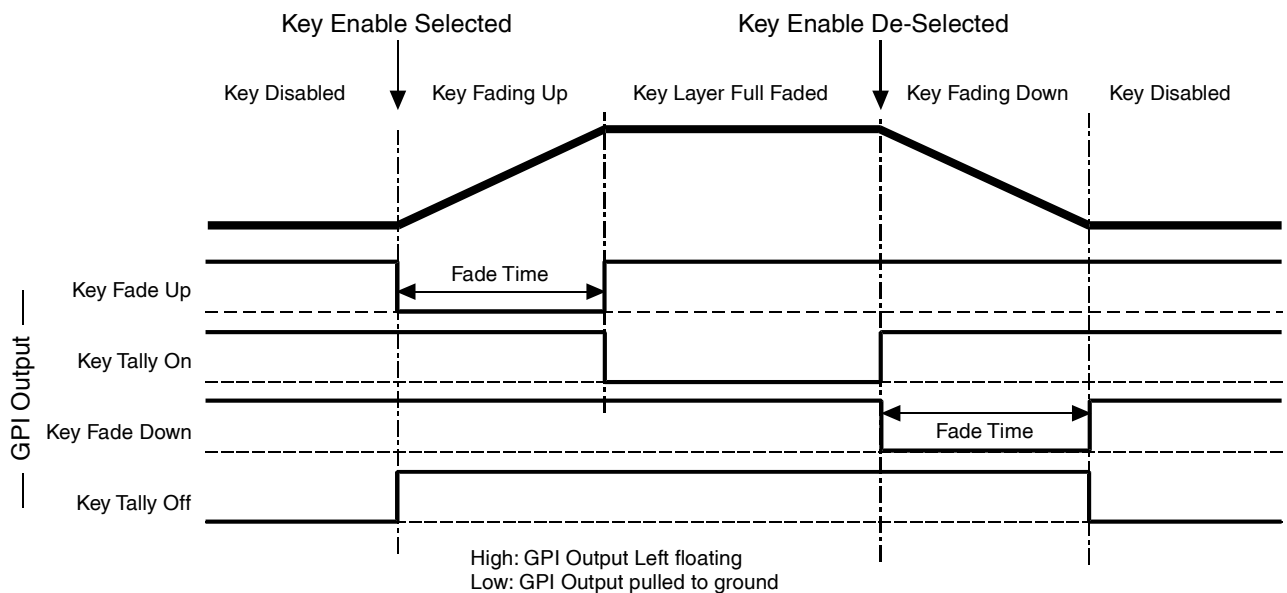
GPI Output Example

RollTrack

This function allows information about the status of the module to be communicated to other RollTrack compatible units connected to the network. This message can then be used to cause another unit to perform a specific action. For example, it can be used to control the switching of a router or changeover module on loss of input.

RollTrack Source

This selects the source of information that triggers the transmission of the RollTrack data.

Options are:

Unused (off &Preset)	
Key Tally On	Bkgd Lost
Key Tally Off	Bkdg Present
Key Enable On	Fill Lost
Key Enable Off	Fill Present
Key Fade Up	Key Lost
Key Fade Down	Key Present

Note that Key Tally On is triggered when the Key Enable control is set, Key Tally Off when it is disabled.
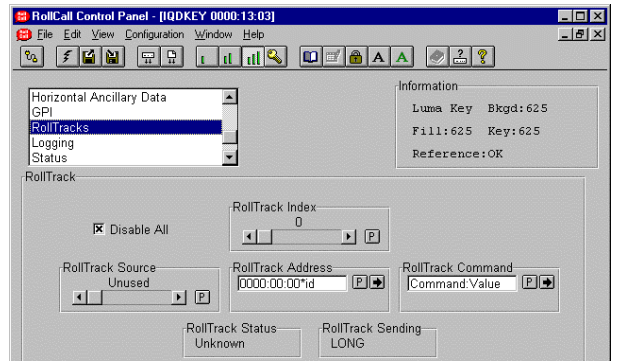
Example of RollTrack Source Commands
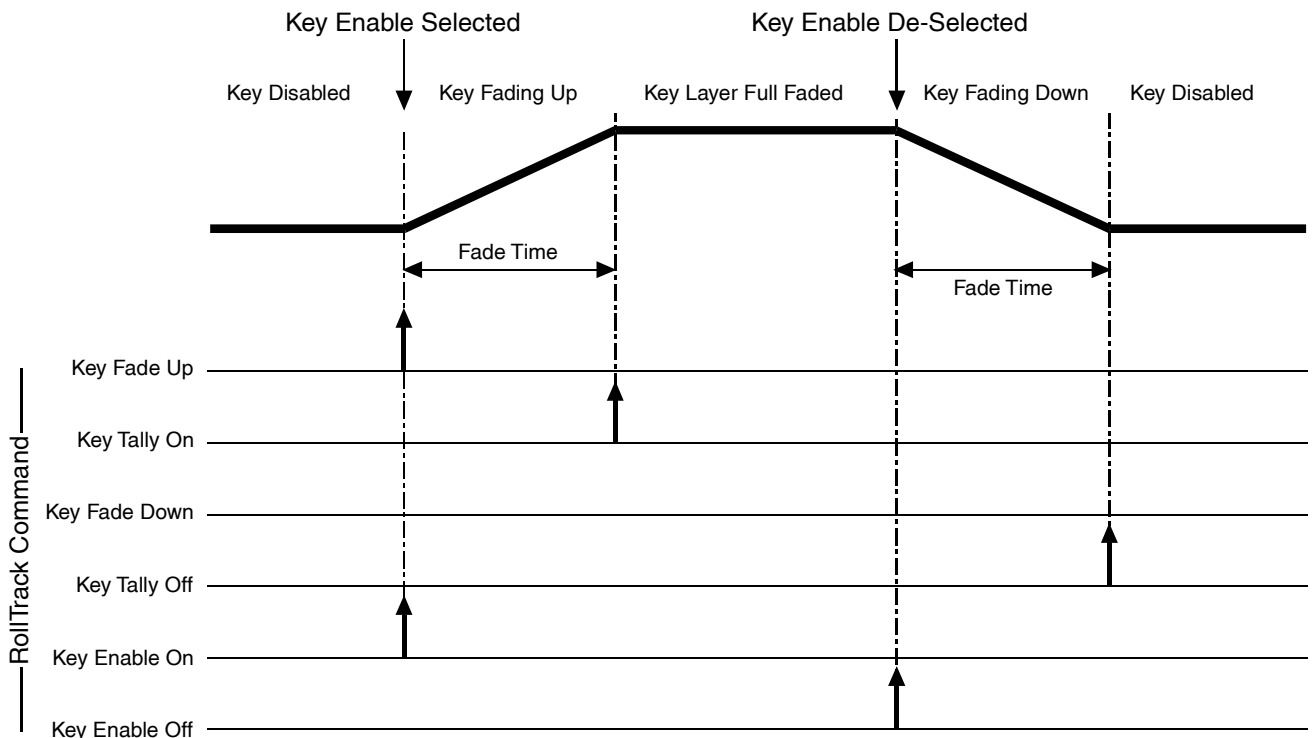
Note when Keying is not allowed by the unit, e.g. due to a lost input. Initially the key layer will be turned off (triggering Key Tally Off) but then only the Key Enable On and Key Enable Off RollTracks are triggered.

RollTrack (continued)

The destination for the information is set by the network code address as follows:

RollTrack Index

There are 32 (0 to 31) RollTrack destinations available. This item is used to select which RollTrack Index is set up using the RollTrack Source, RollTrack Address and RollTrack Command functions.

RollTrack Address

This item allows the address of the destination unit to be set.

To change the address, type the new destination in the text area and then select [image] (return).

[image] (Preset) returns to the default destination.

The full **RollTrack** address has four sets of numbers.

For example: 0000:10:01*99

The first set (0000) is the network segment code number.

The second set (10) is the number identifying the enclosure/mainframe.

The third set (01) is the slot number in the enclosure.

The fourth set (99) specifies which type of unit will respond to the command. For example setting to 158 will ensure only an IQDRT8 will respond. This feature can be used to protect against a different type of unit responding incorrectly.
Setting to 00 allows any type of unit to respond to the command.

For a list of unit IDs, please contact your local Snell & Wilcox agent.
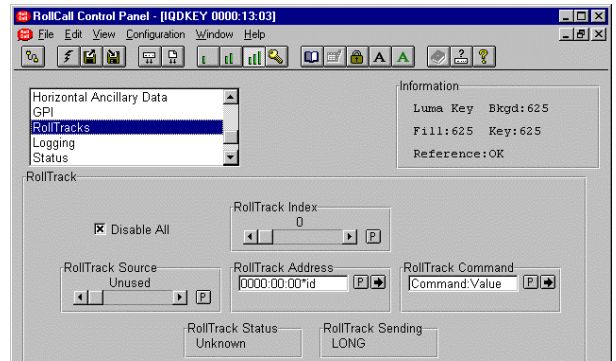
RollTrack Command

The full **RollTrack** command has two sets of numbers.

For example: 84*156

The first set (84) is the **RollTrack** command number.

The second set (156) is the value sent with the **RollTrack** command number.

For details of the RollCall command values for specific units please contact your local Snell & Wilcox agent.

Disable

When this item is checked all RollTrack items will be disabled.

RollTrack Status

This item displays the status of the RollTrack system. It can show OK, Bad, Unknown, Timeout or Error.

RollTrack Sending

This will show whether or not the selected RollTrack command is being sent.

Logging

Information about various parameters can be made available to logging devices via the RollCall network.

The parameters available for logging are:

Input present and input standard for the background, fill, key and reference inputs.

EDH status and errors for the 3 SDI inputs.

Reference Genlock status.

When each item is selected, the information is available for the logging device.

Preset is to all items selected.
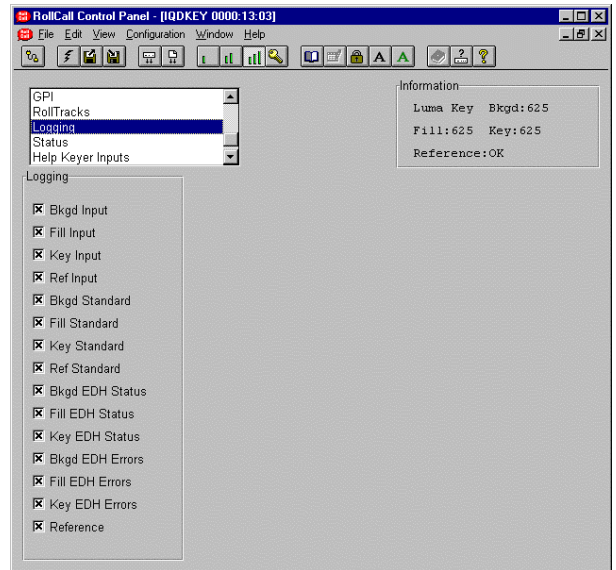
Status

Information Window

This function selects the status information displayed in the information area or the display window.

⊙ Input Status (Default Setting)

This will provide information about the input signals.

Keyer Mode

This indicates the selected keyer mode. It will show one of the following:

Linear Key   Luma Key

Background Input Status

This indicates the status of the background input signal:

625   625 line standard.
525   525 line standard.
***   Signal error.

Fill Input Status

This indicates the status of the fill input signal:

625   Line standard same as reference signal
         standard.
525   Line standard same as reference signal
         standard.
***   Input lost.
*625   Line standard different to reference signal
         standard.
*525   Line standard different to reference signal
         standard.
Mat   Matte is selected as fill source.
Mat*   Matte is selected as fill source, but fill input
         is lost.

Key Input Status

This indicates the status of the key input signal:

625   Line standard same as reference signal
         standard.
525   Line standard same as reference signal
         standard.
***   Input lost.
*625   Line standard different to reference signal
         standard.
*525   Line standard different to reference signal
         standard.
Fill   Fill is selected as key source.
Fill*   Fill is selected as key source and key input
         is lost.
Mat   Matte is selected as key source.
Mat*   Matte is selected as key source and key
         input is lost.

Information Window

| Keyer Mode | Background Input Status |

| Fill Input Status | Key Input Status |
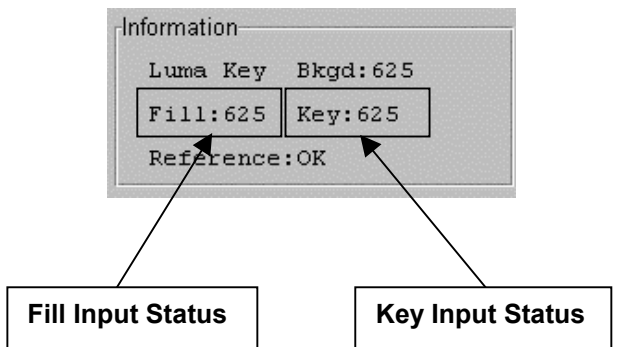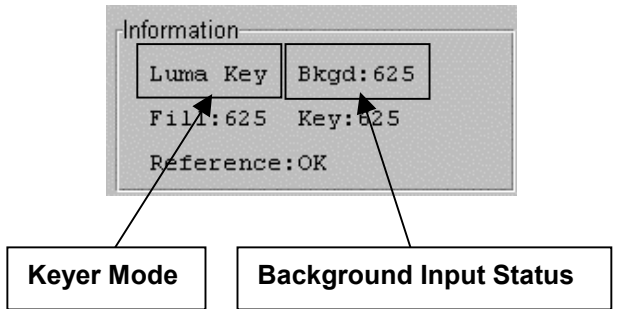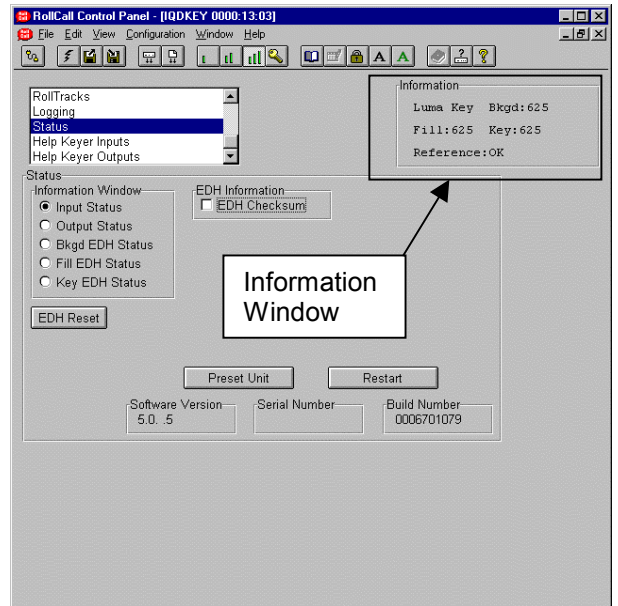
Status (continued)

Reference Status

This indicates the system genlock status:

OK   Unit correctly genlocked.

*Bkgd   When genlock mode is set to Lock to
         Reference but the input is lost. This
         indicates that the unit is automatically
         locked to background input.

*Ref   When genlock mode is set to Lock to
         Background but the input is lost. This
         indicates unit automatically locked to
         reference input.

***   This indicates there is no valid reference
         input present.

⊙ Output Status

This will provide information about the output signals.

Program Output Status

This indicates the status of the program output:

Key Enabled   Key layer present.

KeyDisabled   No Key Layer present.

Key Up/Down   Key Layer fading.

Fade Up   Fading from Black.

Fade Down   Fading to Black.

Faded   Faded to Black.

Mix   Mix Mode part mixed.

Bkgd   Mix Mode 0% Mix Level.

Fill   Mix Mode 100% Mix Level.

*Bkgd   Program output is background
               signal on loss of Fill or Key input.

*Fill   Program output is default fill on
               loss of Background input.

*Black/*CBars Program output is default output
               (black or color bars) on loss of
               Background input.

*Faded   Program output is faded to black
               but with default output.
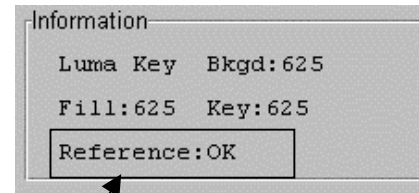
Reference Status
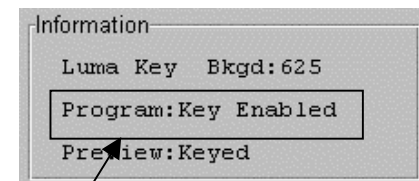
Program Output Status

Status (continued)

Preview Output Status

This indicates the status of the preview output:

Key   Preview output is key input signal.

Fill   Preview output is fill input signal.

Bkgd   Preview output is background signal.

Keyed   Preview output is keyed signal.

Black/CBars   Preview output is black or color bars.

Matte   Preview output is matte source.

ProcKey   Preview output is the output from the Key Proc Amp.

*Black/*CBars   Preview output is default black or color bars on loss of selected input.

*Matte   Preview output is default matte on loss of selected input.

*Keyed   Preview output is keyed signal with loss of fill or key input.
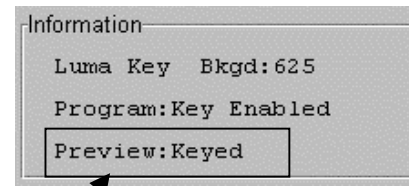
⊙ **Bkgd / Fill / Key EDH Status**

This shows the EDH status of the selected signal (background, fill or key):

OK: This indicates that EDH is present and has valid checksums.

Fail: This indicates that EDH is present but has invalid checksums.

None: This indicates that there is no EDH present.

```
┌Information──────────────────┐
│  Luma Key   Bkgd:625        │
│                             │
│  Program:Key Enabled        │
│  ┌───────────────────┐      │
│  │Preview:Keyed      │      │
│  └───────────────────┘      │
└─────────────────────────────┘
```

Preview Output Status

Status (continued)

EDH Errors

Err: This shows the number of EDH errors
         that have occurred since the last EDH
         reset.

E-Time

This   is   time   since   EDH   was   reset   in
Hours:Minutes:Seconds.

EDH Status   EDH Errors

Information

Luma Key   Bkgd:625

Bkgd:OK   Err:130

E-Time:3:29:48

E-Time
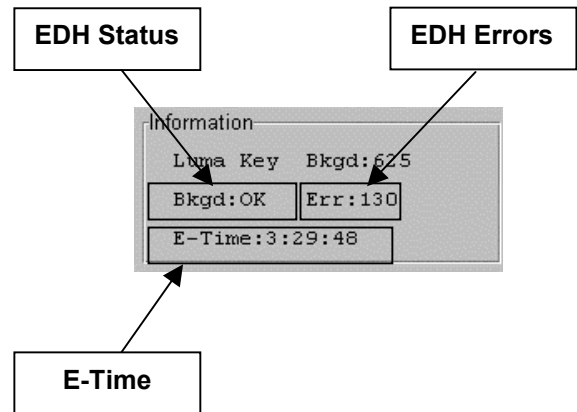
EDH Information

☒ **EDH Checksum**

If checked when Bkgd, Fill or Key EDH Status is
selected, the corresponding full field (FF) and
active picture (AP) EDH checksums are shown in
the information window, rather than the EDH error
status.

*Note that first checksum is for Field 1, second
checksum for field 2.*

If the signals are not present the checksums will be
replaced with None.

EDH Reset
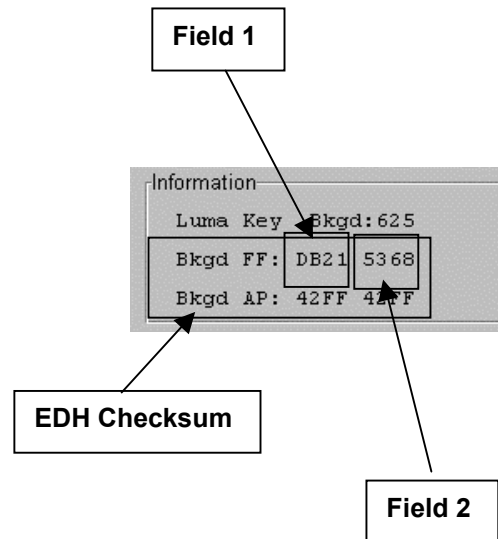
Selecting this item resets the EDH error count and
error time to zero.
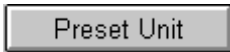
Field 1

Information

Luma Key   Bkgd:625

Bkgd FF: DB21 5368

Bkgd AP: 42FF 42FF

EDH Checksum

Field 2

Status (continued)

Selecting this item sets all functions to their factory default values.

Note that this is a momentary action.

This function restarts the unit, restoring all power up settings. This is equivalent to switching the mains power off and on.

Software version

This item shows the version of the software fitted in the module.

Serial Number

This item shows the serial number of the module.

Build Number

This shows the factory build number. This number defines all parameters of the unit (software versions, build level etc.) for identification purposes.

Help Keyer Inputs/Outputs

This screen provides explanations of abbreviations used in the PC Template.

IQDKEY MAIN MENU
- ◄ Control...   Output... ►
- ◄ Matte...   Memories... ►
- ◄ Genlock...   Proc Amps... ►
- ◄ Setup...   Status... ►

Matte
- ◄ Frame Store
- ◄ Single Color
- ◄ Capture Frame...
- ◄ Single Color Setup...
- ◄ Frame Store Status

Frame Store Status

Frame Store Status
xxxx

OK ►

Single Color Setup
- ◄ Saturation
- ◄ Luminance
- ◄ Hue

Hue

Hue
240 deg
◄ Preset

Luminance

Luminance
67%
◄ Preset

Saturation

Saturation
67%
◄ Preset

Capture Frame
- ◄ Capture
- ◄ Background
- ◄ Fill

Control
- ◄ Fade Enable
- ◄ Fade Time
- ◄ Mix Enable
- ◄ Mix Level
- ◄ Key Enable
- ◄ Key Setup...

Key Setup
- ◄ Keyer Mode...
- ◄ Key Source...
- ◄ Fill Source...
- ◄ Key Proc Amp...

Key Proc Amp
- ◄ Key Proc Amp Enable
- ◄ Key Gain Control
- ◄ Key Lift Control
- ◄ Key Picture Pos.
- ◄ Key Invert

Key Picture Pos.

Key Picture Pos.
148ns
◄ Preset

Key Lift Control

Key Lift Control
70.1%
◄ Preset

Key Gain Control

Key Gain Control
10.666
◄ Preset

Fill Source
- ◄ Fill Input
- ◄ Matte

Key Source
- ◄ Key Input
- ◄ Fill Input
- ◄ Matte

Keyer Mode
- ◄ Luma
- ◄ Linear

Mix Level

Mix Level
67%
◄ Preset

Fade Time

Fade Time
1365 Fields
◄ Preset

Genlock
- ◄ Lock to Reference
- ◄ Lock to Background
- ◄ Genlock Phase...

Genlock Phase
- ◄ H 525 Phase
- ◄ H 625 Phase

H 525/625 Phase

H 525/625 Phase
15.577µs
◄ Preset

RollTrack
- ◄ RollTrack Index
- ◄ RollTrack Source
- ◄ Rolltrack Disable
- ◄ RollTrack Address
- ◄ RollTrack Command
- ◄ RollTrack Sending
- ◄ RollTrack Status

RollTrack Status

RollTrack Status
OK

OK ►

RollTrack Sending

RollTrack Sending
OK

OK ►

RollTrack Command

RollTrack Command
- ◄ Command Value   ►
- ◄ Clear
- ◄ Preset   OK ►

RollTrack Address

RollTrack Address
- 0000:00:00'id   ►
- ◄ Clear
- ◄ Preset   OK ►

RollTrack Source

RollTrack Source
Bkgd Present
◄ Preset

RollTrack Index

RollTrack Index
10
◄ Preset

Logging
- ◄ Bkgd Input
- ◄ Fill Input
- ◄ Key Input
- ◄ Ref Input
- ◄ Bkgd Standard
- ◄ Fill Standard
- ◄ Key Standard
- ◄ Ref Standard
- ◄ Bkgd EDH Status
- ◄ Fill EDH Status
- ◄ Key EDH Status
- ◄ Bkgd EDH Errors
- ◄ Fill EDH Errors
- ◄ Key EDH Errors
- ◄ Reference

GPI Input
- ◄ Disable All
- ◄ GPI In
- ◄ Input Selection...
- ◄ GPI In Status

GPI In Status

GPI In Status
High

OK ►

Input Selection

Input Selection
Unused
◄ Preset

GPI In

GPI In
GPIO In1
◄ Preset

Setup
- ◄ RollTrack...
- ◄ Logging...
- ◄ GPI I/O...
- ◄ ANC Data

ANC Data
- ◄ VANC Source 525...
- ◄ VANC Source 625...
- ◄ HANC Source...

HANC Source
- ◄ Blank
- ◄ Background
- ◄ Fill

VANC Source 625
- ◄ 625 Field 1...
- ◄ 625 Field 2...
- ◄ Pass Video Line 23
- ◄ Pass Data Line 23

625 Field 2
- ◄ 625 Blank All
- ◄ 625 Pass Bkgd
- ◄ 625 Pass Fill
- ◄ Line 320 to 335 Blank
- ◄ Line 320 to 335 Background
- ◄ Line 320 to 335 Fill

625 Field 1
- ◄ 625 Blank All
- ◄ 625 Pass Bkgd
- ◄ 625 Pass Fill
- ◄ Line 7 to 23 Blank
- ◄ Line 7 to 23 Background
- ◄ Line 7 to 23 Fill

VANC Source 525
- ◄ 525 Field 1...
- ◄ 525 Field 2...
- ◄ Pass Video 21 & 283
- ◄ Pass Data 21 & 283

525 Field 2
- ◄ 525 Blank All
- ◄ 525 Pass Bkgd
- ◄ 525 Pass Fill
- ◄ Line 274 to 283 Blank
- ◄ Line 274 to 283 Background
- ◄ Line 274 to 283 Fill

525 Field 1
- ◄ 525 Blank All
- ◄ 525 Pass Bkgd
- ◄ 525 Pass Fill
- ◄ Line 11 to 21 Blank
- ◄ Line 11 to 21 Background
- ◄ Line 11 to 21 Fill

GPI I/O
- ◄ GPI Input...
- ◄ GPI Output...
- ◄ GPI Input/Output...

GPI Input/Output
- ◄ GPI/O 1 Out
- ◄ GPI/O 2 Out
- ◄ GPI/O 3 Out

GPI Output
- ◄ GPI out
- ◄ Output Selection...
- ◄ GPI Out Status

GPI Out Status

GPI Out Status
Unused

OK ►

Output Selection

Output Selection
Unused
◄ Preset

GPI Out

GPI Out
GPIO Out 1
◄ Preset

Memories
- ◄ Memory 1...
- to
- ◄ Memory 16...

Memory 1 to 16
- ◄ Save 1-16   Recall 1-16 ►
- ◄ Clear 1-16   Name 1-16 ►

Name Memory 1-16

Name Memory 1-16
- ◄ memory_name   ►
- ◄ Clear
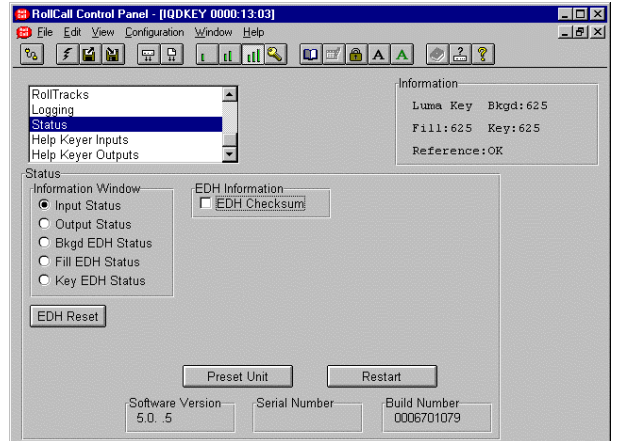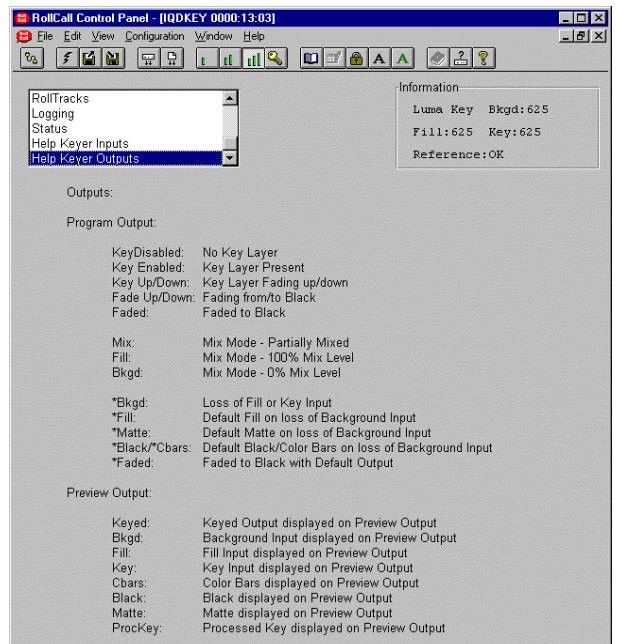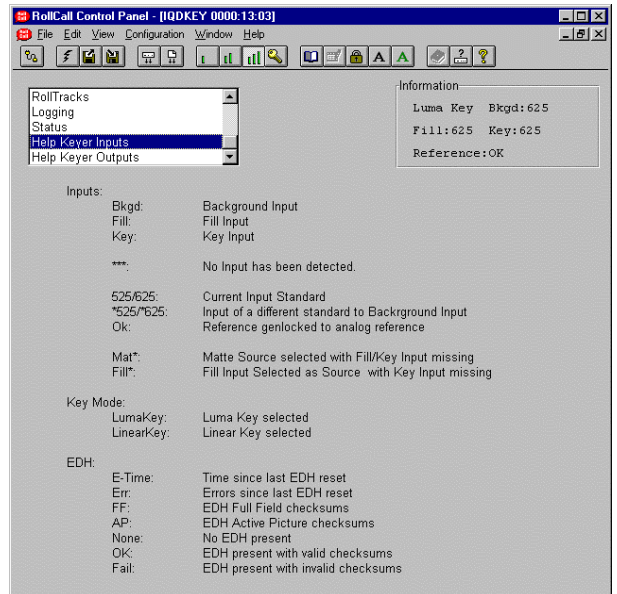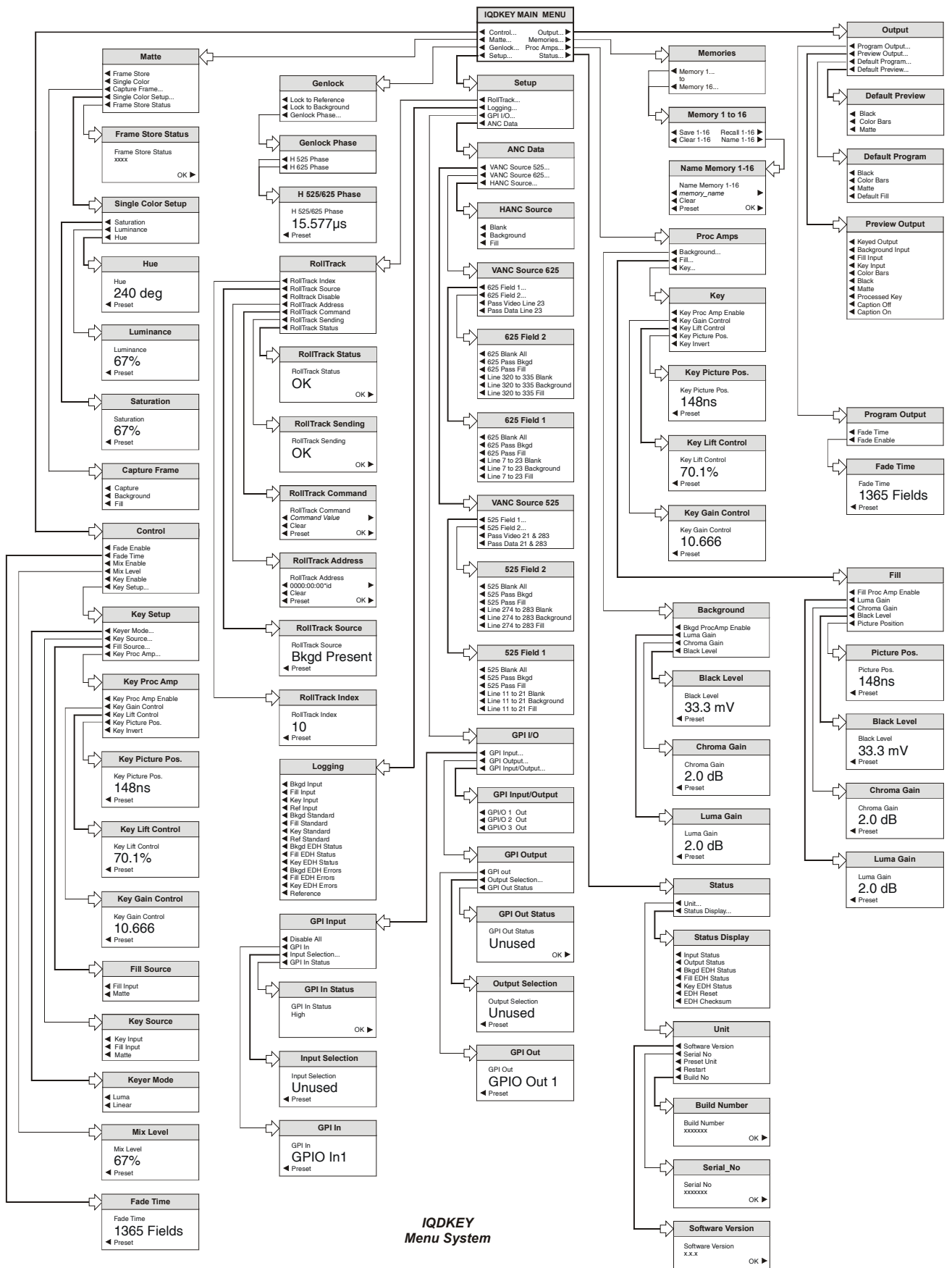- ◄ Preset   OK ►

Proc Amps
- ◄ Background...
- ◄ Fill...
- ◄ Key...

Key
- ◄ Key Proc Amp Enable
- ◄ Key Gain Control
- ◄ Key Lift Control
- ◄ Key Picture Pos.
- ◄ Key Invert

Key Picture Pos.

Key Picture Pos.
148ns
◄ Preset

Key Lift Control

Key Lift Control
70.1%
◄ Preset

Key Gain Control

Key Gain Control
10.666
◄ Preset

Background
- ◄ Bkgd ProcAmp Enable
- ◄ Luma Gain
- ◄ Chroma Gain
- ◄ Black Level

Black Level

Black Level
33.3 mV
◄ Preset

Chroma Gain

Chroma Gain
2.0 dB
◄ Preset

Luma Gain

Luma Gain
2.0 dB
◄ Preset

Status
- ◄ Unit...
- ◄ Status Display...

Status Display
- ◄ Input Status
- ◄ Output Status
- ◄ Bkgd EDH Status
- ◄ Fill EDH Status
- ◄ Key EDH Status
- ◄ EDH Reset
- ◄ EDH Checksum

Unit
- ◄ Software Version
- ◄ Serial No
- ◄ Preset Unit
- ◄ Restart
- ◄ Build No

Build Number

Build Number
xxxxxxx

OK ►

Serial_No

Serial No
xxxxxxx

OK ►

Software Version

Software Version
x.x.x

OK ►

Output
- ◄ Program Output...
- ◄ Preview Output...
- ◄ Default Program...
- ◄ Default Preview...

Default Preview
- ◄ Black
- ◄ Color Bars
- ◄ Matte

Default Program
- ◄ Black
- ◄ Color Bars
- ◄ Matte
- ◄ Default Fill

Preview Output
- ◄ Keyed Output
- ◄ Background Input
- ◄ Fill Input
- ◄ Key Input
- ◄ Color Bars
- ◄ Black
- ◄ Matte
- ◄ Processed Key
- ◄ Caption Off
- ◄ Caption On

Program Output
- ◄ Fade Time
- ◄ Fade Enable

Fade Time

Fade Time
1365 Fields
◄ Preset

Fill
- ◄ Fill Proc Amp Enable
- ◄ Luma Gain
- ◄ Chroma Gain
- ◄ Black Level
- ◄ Picture Position

Picture Pos.

Picture Pos.
148ns
◄ Preset

Black Level

Black Level
33.3 mV
◄ Preset

Chroma Gain

Chroma Gain
2.0 dB
◄ Preset

Luma Gain

Luma Gain
2.0 dB
◄ Preset

IQDKEY
Menu System

OPERATION FROM AN ACTIVE CONTROL PANEL

The card may be operated with an active control panel via the RollCall™ network. The menus available for this card are shown above and will appear in the Control display window. Operational details for the remote control panel can be found in the Modular System Operator's Manual.
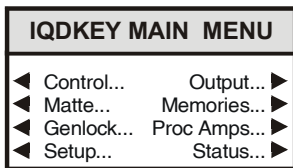
The Menu System

The system may be considered structured as a set of menus and sub-menus that are displayed in the LCD window.
If necessary a sub-menu may be then be selected by pressing the push button adjacent to the arrowhead in the text line of the menu name.
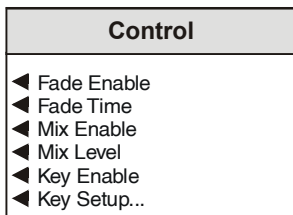This sub-menu will then be displayed in the window and will have the option of selecting another sub-menu in the same manner, or allow the adjustment of a particular parameter. Parameters enabled will appear as highlighted reverse text (white text on a black background)

MAIN MENU

```
┌─────────────────────────────────┐
│     IQDKEY MAIN  MENU           │
├─────────────────────────────────┤
│ ◄ Control...        Output... ► │
│ ◄ Matte...        Memories... ► │
│ ◄ Genlock...     Proc Amps... ► │
│ ◄ Setup...          Status... ► │
└─────────────────────────────────┘
```

◄ Control

This menu controls the main key and mix operations. The IQDKEY can operate in two independent modes. As a keyer where the key layer can be faded up or down or cut on and off. And as a simple mixer with either a dissolve or cut to the set Mix Level.

```
┌─────────────────────────────────┐
│            Control              │
├─────────────────────────────────┤
│ ◄ Fade Enable                   │
│ ◄ Fade Time                     │
│ ◄ Mix Enable                    │
│ ◄ Mix Level                     │
│ ◄ Key Enable                    │
│ ◄ Key Setup...                  │
└─────────────────────────────────┘
```
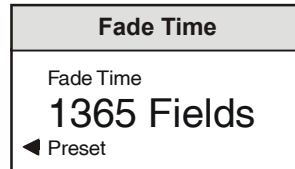
Fade Operation

The fade control setting is used in both Keyer and Mixer modes. When selected the Key layer is faded up and down (not available in linear mode) and the mixer performs a dissolve to the set mix level. The unit will also fade when switching between Keyer and Mixer modes. The time for the fade is set using the Fade Time control.
When not selected the Key Layer is cut on and off and the mixer cuts to the set Mix Level.

◄ Fade Enable

When this item is selected the fade function is enabled.

◄ Fade Time

```
┌─────────────────────────────────┐
│           Fade Time             │
├─────────────────────────────────┤
│  Fade Time                      │
│  1365 Fields                    │
│ ◄ Preset                        │
└─────────────────────────────────┘
```

The time taken to fade the Key Layer up or down, or dissolve to the set Mix level.

The time may be adjusted from 0 fields (an instant cut) to 2047 fields in steps of 1 field. Preset is to 100.
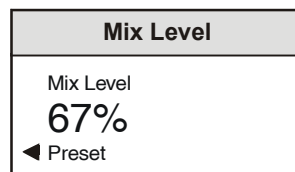
Mix Operation

In Mix mode the unit performs a mix between the background input and the selected Fill source. A key input is not required in mix mode.

◄ Mix Enable

When this item is selected the unit will either dissolve or cut to the set Mix level.

Note Mix Enable and Key Enable can not be selected at the same time. Selecting Mix Enable will over ride the Key Enable setting, disabling it if it had been selected.

◄ Mix Level

```
┌─────────────────────────────────┐
│           Mix Level             │
├─────────────────────────────────┤
│  Mix Level                      │
│  67%                            │
│ ◄ Preset                        │
└─────────────────────────────────┘
```

The Mix Level controls the proportion of background signal and fill signal in the output picture. When Mix Enable is selected the unit will dissolve or cut to the set level. The Mix Level can also be adjusted manually when enabled.

The level may be adjusted from 0% (background signal) to 100% (fill signal) in steps of 1%. Preset is to 50%.

◄ **Key Enable**

When this item is selected the unit will cut on or fade up the key layer. When de-selected the key layer is cut off or faded down.

Note Mix Enable and Key Enable can not be selected at the same time. Selecting Key Enable will over ride the Mix Enable setting, disabling it if selected.

◄ **Key Setup…**

Key Setup
◄ Keyer Mode...
◄ Key Source...
◄ Fill Source...
◄ Key Proc Amp...

◄ **Key Mode…**

This item allows the keyer mode to be selected.

Keyer Mode
◄ Luma
◄ Linear

◄ Luma

This mode should be used when a normal, non-keyed video signal is used as the Fill source.

This is demonstrated in the example opposite.

Background Signal

Fill Signal

Key Signal

Program Output Signal

◄ Linear

This mode is used when the fill source has already
been keyed, such as the output from a character
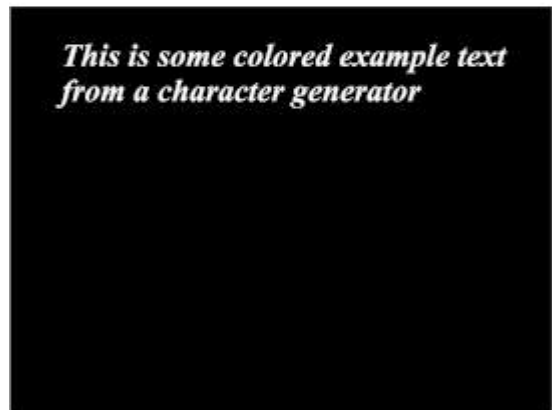generator, where video outside the key area is
black.

*Note it is not possible to fade the key layer up or
down in linear key mode. The key layer is cut on
and off regardless of the Fade Enable setting.*
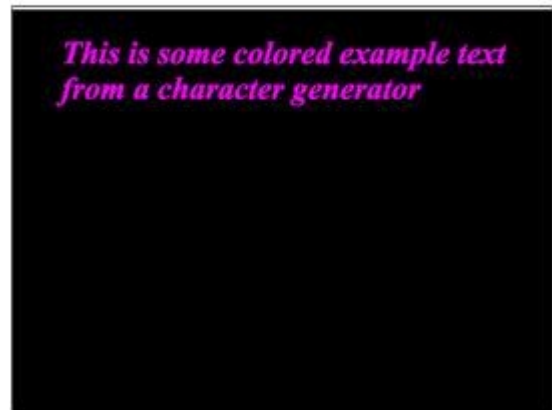
Background Signal

Fill (Main output from Character Generator)

Key Signal
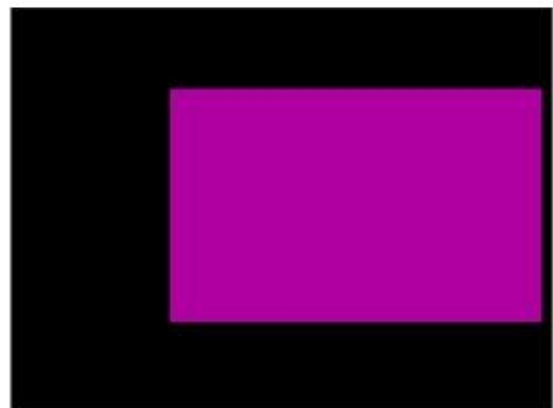(Alpha output from Character Generator)

Program Output Signal

◄ Linear (continued)

Note that if the fill input is not black outside the key area the result will be as shown opposite.

Background Signal

Fill Signal

◄ **Key Source**

Key Source
◄ Key Input
◄ Fill Input
◄ Matte

The source of the Key signal may be selected as either the **Key Inpu**t, the **Fill Input** or the **Matte** source.
When Matte or Fill is selected as the key source, keying still takes place when the key input is lost. **Fill*** or **Mat*** is then shown as the Key Input Status in the information window.

Key Signal

◄ **Fill Source**

Fill Source
◄ Fill Input
◄ Matte

The source of the Fill signal may be selected as either the **Fill input** or the **Matte** source.
When Matte is selected as the fill source, keying will still take place even if the fill input is lost, **Fill*** will then be shown as the Fill Input Status in the information window.
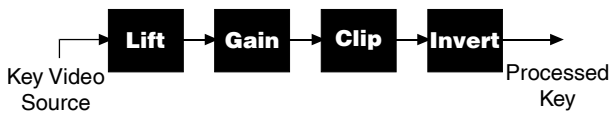
Self Keying is possible by setting the Key source and Fill sources to the same selection.

Program Output Signal
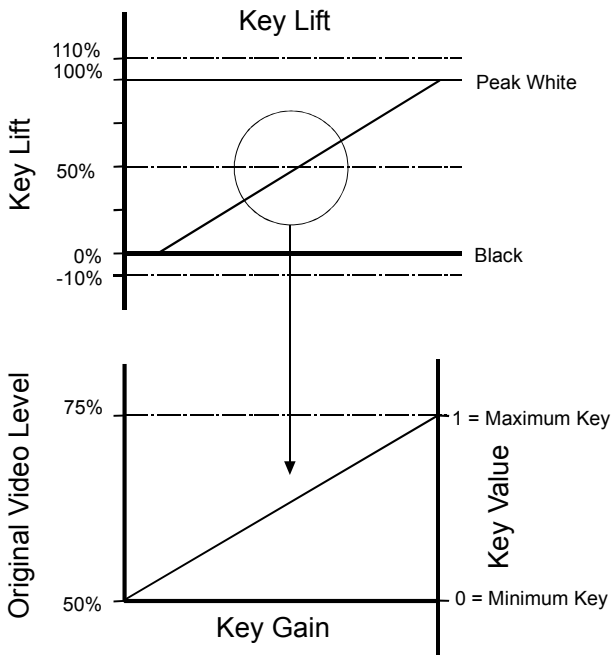
◄ **Key Proc Amp…**

This menu allows the keyer processing controls to be adjusted.

Key Proc Amp
◄ Key Proc Amp Enable
◄ Key Gain Control
◄ Key Lift Control
◄ Key Picture Pos.
◄ Key Invert

Key Proc Amp Block Diagram

Key Video Source → **Lift** → **Gain** → **Clip** → **Invert** → Processed Key

In the diagram below the Key lift is set to 50.0 % and the Key gain to 4.000. The resultant key signal is in the region from 50 to 75 % of the original video signal.

Key Lift

Original Video Level

Key Gain

◄ Key Proc Amp Enable

When selected the Key Processing Amplifier functions will be activated.

◄ Key Gain Control

The key input signal is multiplied by the gain about the key lift point.

Key GainControl
Key Gain Control
10.666
◄ Preset

The value may be adjusted from 0.000 to 15.999 in steps of 0.001.
The preset value is 1.000.

◄ Key Lift Control

This adjusts the level of the key input signal that gives no keying action. The gain then works about this point.

Key Lift Control
Key Lift Control
70.1%
◄ Preset

The value may be adjusted from −10% to +110% in steps of 0.1%.
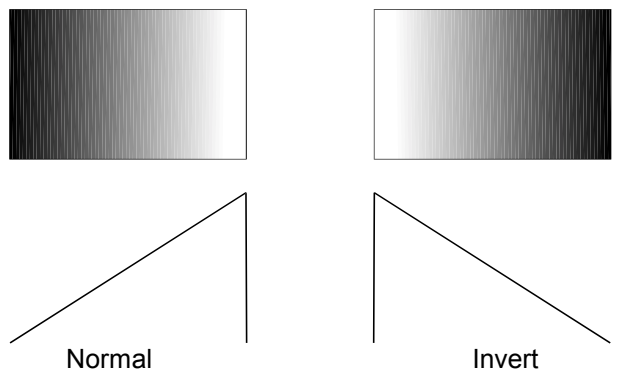The preset value is 0.0%.

◄ Key Picture Pos.

This item allows the timing of the Key signal to be adjusted relative to the Background signal.

Key Picture Pos.
Key Picture Pos.
148ns
◄ Preset

The timing may be adjusted by ±592 ns in 74 ns steps.
The preset value is 0 ns.
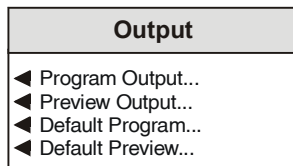
◄ Key Invert

When selected this will invert the key signal as shown below.

Normal   Invert

Output ▶

This function allows the Preview and Program output signals to be chosen.

Output
◀ Program Output...
◀ Preview Output...
◀ Default Program...
◀ Default Preview...

◀ Program Output

The Program Output keyer and mixer operation is controlled by the key enable and mix enable functions in the Control menu.
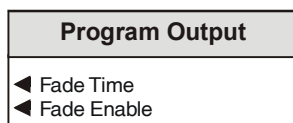
Program Output
◀ Fade Time
◀ Fade Enable

This menu controls fading of the program output to and from black.

◀ Fade Time

Fade Time
Fade Time
1365 Fields
◀ Preset
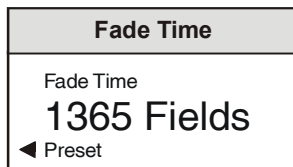
The time taken to fade the background signal to and from black is set with this control.

The time may be adjusted from 0 fields (an instant cut) to 2047 fields in steps of 1 field. Preset is to 100.

◀ Fade Enable

When this item is selected the program output is faded down to black. De-selecting fade enable will fade back up to the normal program output.

◄ **Preview Output…**

The Preview output may be selected from 8 different sources of picture.

Preview Output
◄ Keyed Output
◄ Background Input
◄ Fill Input
◄ Key Input
◄ Color Bars
◄ Black
◄ Matte
◄ Processed Key
◄ Caption Off
◄ Caption On

The **Keyed Output** selection has the key layer permanently turned on allowing a preview of the main program output in keyer mode.

The **Background**, **Fill** and **Key** input selections display the inputs to the unit prior to passing through the proc amps.
The **Color Bars** selection displays a color bar signal.
The **Black** selection displays a black picture.
The **Matte** selection displays the currently selected matte source.
The **Processed Key** selection displays the signal output from key proc amp that will be used for keying.

Preview Caption

The preview output has an on screen display, that indicates the source currently being viewed on the Preview output. This is the same information that is displayed in the information window, see page 32 for a description of the information displayed. The on screen caption is turned on by selecting **Caption On** and turned off by selecting **Caption Off**. Preset is to Caption Off.

◄ **Default Program…**

Default Program
◄ Black
◄ Color Bars
◄ Matte
◄ Default Fill

If the selected fill or key sources are lost the program output will automatically revert to the background source, and ***Bkgd** will then be shown as the program output status in the display window and information area.

If the background input is lost the program output will revert to the signal selected in the **Default Program** item. This may be Fill, Matte, Black or Color Bars. ***Fill, *Matte, *Black** or ***CBars** will then be shown in the display window or information area.

If the Default Fill option is selected and both the background and fill inputs are lost, the program output will revert to Black and ***Black** will be shown in the display window or information area.

If the key or fill inputs are of a different standard to the background input, ***525** or ***625** will be shown as the input status in the display window or information area and the program output will revert to the background signal. If the background input is lost then when the Key or Fill inputs are of different standard to the analog reference ***525** or ***625** will be shown.

◄ **Default Preview…**

Default Preview
◄ Black
◄ Color Bars
◄ Matte

If the selected preview output source is lost the output will revert to the signal selected in the **Default Preview** item. This may be Black, Color Bars or the Matte signal. ***Black, *CBars** or ***Matte** will then be shown in the display window, information area and on screen display.
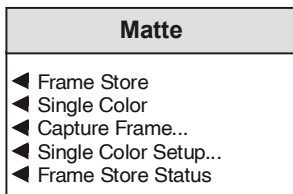If the keyed output is displayed and the selected fill or key sources are lost, the key layer is turned off and ***Keyed** is shown in the display window, information area and on screen display.

◄ Matte

This function provides either a single color full frame of video, or a full frame of video that can be captured from the Background and Fill inputs.

Note that the captured data will be lost when the card is powered down.

On unit start up the Single Color matte is automatically selected. Frame Store should not be selected as the matte source until a frame of video from either the Background or Fill input has been captured.

Matte
◄ Frame Store
◄ Single Color
◄ Capture Frame...
◄ Single Color Setup...
◄ Frame Store Status

The source of the matte signal may be chosen as either:

◄ Frame Store   The captured full frame picture.

◄ Single Color   The single color picture as setup with the above controls. This is the default selection.

◄ Capture Frame

Capture Frame
◄ Capture
◄ Background
◄ Fill
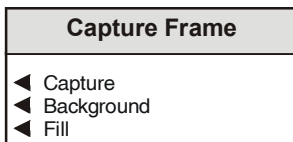
◄ Capture

When selected the current frame of the background or fill input will be captured and stored in the frame store.
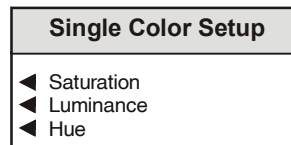
Note that this data will be lost when the card is powered down.

The frame may be captured from either the ◄ **Background** Input signal or the ◄ **Fill** Input signal by selecting the required item in the menu.
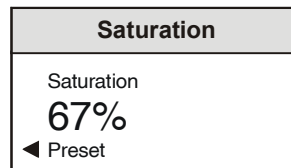
This input should be selected before the capture function is operated.

◄ Single Color Setup

The Hue, Saturation and Luminance controls set the color of the Single Color Matte source.
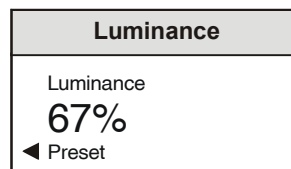
Single Color Setup
◄ Saturation
◄ Luminance
◄ Hue

◄ Saturation

Saturation
Saturation
67%
◄ Preset

This control has a range of 0 to 100% in 1% steps. Preset is to 0%

◄ Luminance

Luminance
Luminance
67%
◄ Preset

This control has a range of 0 to 100% in 1% steps. Preset is to 0%

◄ Hue

Hue
Hue
240 deg
◄ Preset

This control has a range of 0 to 360° in 1° steps. Preset is to 0°

◄ Frame Store Status

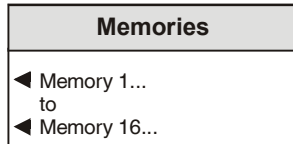| Frame Store Status |
|---|
| Frame Store Status |
| xxxx |
| OK ► |
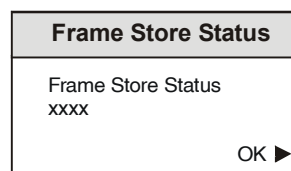
This item will show if the frame store has a picture stored (CAPTURED) or not (EMPTY).

Memories ▶

This function allows the settings of the unit to be saved and recalled. There are 16 memory locations available.

Memories
◄ Memory 1...
to
◄ Memory 16...

Selecting a memory location reveals the memory display. From this menu settings can be saved and recalled. The memory location can also be renamed, or its contents can be cleared.

Memory 1 to 16	
◄ Save 1-16	Recall 1-16 ▶
◄ Clear 1-16	Name 1-16 ▶
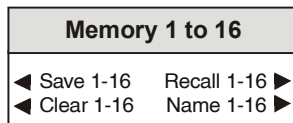
◄ Save 1-16

Selecting save stores the current unit settings in the memory location.
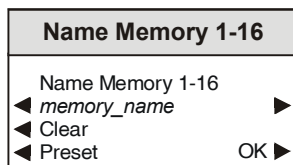
◄ Recall 1-16

Selecting recall applies the settings stored in the memory location to the unit.

◄ Clear 1-16

Selecting clear returns the contents of the memory location to the default (factory) values.

◄ Name 1-16

This selection allows renaming of the memory location.

Name Memory 1-16	
Name Memory 1-16	
◄ *memory_name*	▶
◄ Clear	
◄ Preset	OK ▶

To edit the memory name, use the left ◄ and right ▶ buttons to change the position of the cursor, and the spin wheel to select the character.

The ◄ **Clear** function blanks the selected character.

The ◄ **Preset** function loads the default text, for example, **Memory 1.**

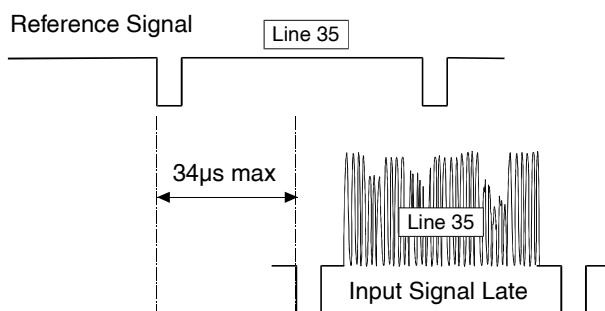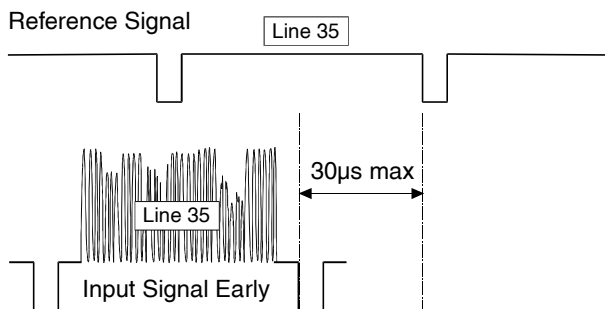**O.K.** ▶ saves the memory name text and returns to the main menu.

◄ Genlock

The unit can be set to genlock to the analog reference or the background input. The delay through the unit and allowable offset of the input signals relative to the selected reference is different for the two genlock modes.

> **Genlock**
>
> ◄ Lock to Reference
> ◄ Lock to Background
> ◄ Genlock Phase...

◄ Lock to Reference

When this item is selected the unit will lock to a valid signal connected to the Reference input.
When locked to reference the Background, Fill and Key inputs must be between 30 µs earlier than the reference and 34 µs later than the reference. If the video inputs are outside this range the keyer will not operate correctly, and a vertical shift in the keyed output is likely.
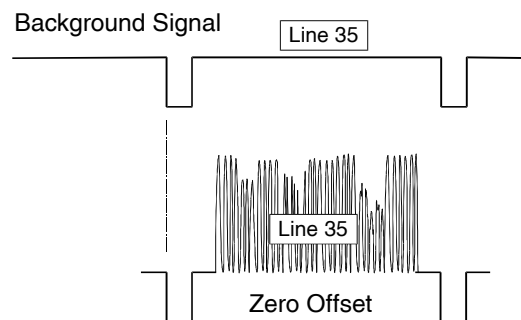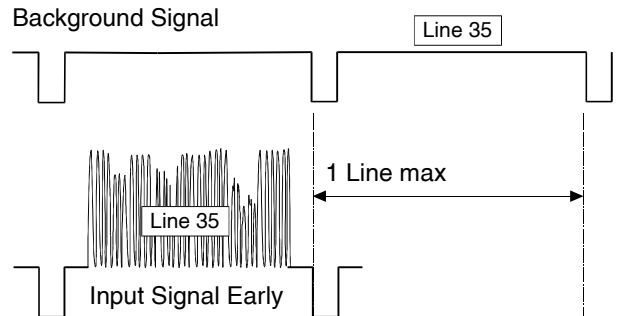
Reference Signal

Input Signal Early

Reference Signal

Input Signal Late

When locked to reference the standard delay through the unit is 1 line. This Genlock H Phase control allows adjustment about this point.

◄ Lock to Background

When this item is selected the unit will lock to a valid background input signal.

When locked to background the Fill and Key inputs can be up to 1 line earlier, but not later than the background input. If the Fill and Key inputs are outside this range the keyer will not operate correctly, and a vertical shift in the keyed output is likely.

Background Signal

Input Signal Early

Background Signal

Zero Offset

Selecting lock to background genlock mode provides the minimum delay through the unit for both the program and preview outputs of approximately 4 µs.

Note Genlock H Phase adjustment is not available in this mode.

The background input has the highest priority. If the background input is of a different standard to the reference signal, the keyer will automatically genlock to the background input.

◄ **Genlock Phase…**

This item allows adjustment of the horizontal timing of the Program output signal in Lock to Reference mode relative to the analog reference sync. The standard offset is 1 line, the Genlock H Phase control provides adjustment about this point. The preview output has a fixed offset of 1 line.

Genlock Phase
◄ H 525 Phase
◄ H 625 Phase
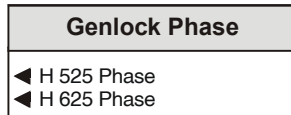
◄ H 525 and H 625 Phase

There are separate controls for 525 and 625 genlock phase adjustments.
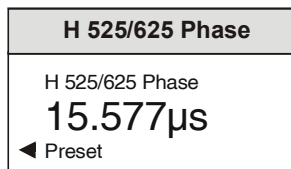
H 525/625 Phase
H 525/625 Phase
15.577µs
◄ Preset

The value may be adjusted over a range of:
-26.751 µs to +36.741 µs in 37 ns steps for 525
-27.195 µs to +36.851 µs in 37 ns steps for 625

Selecting Preset returns the setting to zero (delay through unit of 1 line).

Proc Amps ►

These processing amplifiers allow adjustments to be made to the Background, Fill and Key signals.

Proc Amps
◄ Background...
◄ Fill...
◄ Key...

◄ Background

This menu allows the background input signal processing controls to be adjusted.

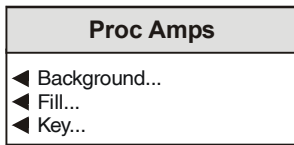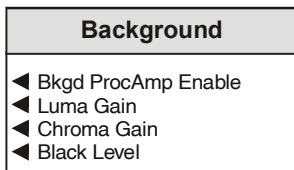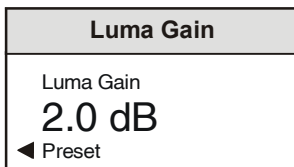| Background |
|---|
| ◄ Bkgd ProcAmp Enable |
| ◄ Luma Gain |
| ◄ Chroma Gain |
| ◄ Black Level |

◄ Bkgd ProcAmp Enable

Selecting this item will enable the background signal processing controls. When not selected the preset values of the controls will be used.

◄ Luma Gain

This item allows the gain of the luminance signal to be adjusted.

Luma Gain
Luma Gain
2.0 dB
◄ Preset

By using the spinwheel the gain may be adjusted by ± 6 dB in steps of 0.1 dB.

Preset is to 0.0 dB.

◄ Chroma Gain

This item allows the gain of the chrominance signal to be adjusted.
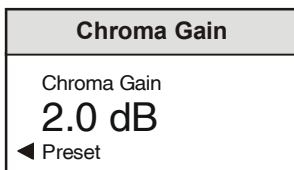
Chroma Gain
Chroma Gain
2.0 dB
◄ Preset

By using the spinwheel the gain may be adjusted by ± 6 dB in steps of 0.1 dB.

Preset is to 0.0 dB.

◄ Black Level

This item allows the Y pedestal or black level to be adjusted.

Black Level
Black Level
33.3 mV
◄ Preset
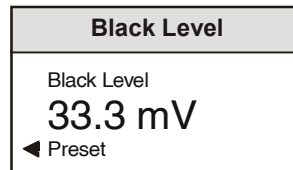
By using the spinwheel the pedestal may be adjusted by 100mV in steps of 0.8 mV.

Preset is to 0 mV

◄ Fill

This menu allows the Fill input signal processing controls to be adjusted.

Fill
◄ Fill Proc Amp Enable
◄ Luma Gain
◄ Chroma Gain
◄ Black Level
◄ Picture Position
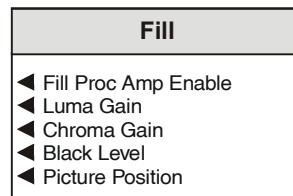
◄ Fill ProcAmp Enable

Selecting this item will enable the fill signal processing controls. When not selected the preset values of the controls will be used.

◄ Luma Gain
◄ Chroma Gain
◄ Black Level

These controls will have the same ranges as the background controls.

◄ Picture Position

This item allows the fill picture position to be changed.

Picture Pos.
Picture Pos.
148ns
◄ Preset

By using the spinwheel the timing may be adjusted by ± 592 ns in 148 ns steps.

Preset is to 0 ns.

◄ **Key**

This menu allows the Key signal processing controls to be adjusted.

The key proc amp menu is also accessible from the key setup menu.
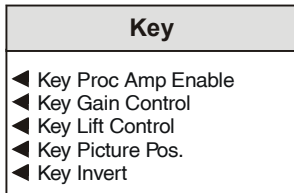
Key
◄ Key Proc Amp Enable
◄ Key Gain Control
◄ Key Lift Control
◄ Key Picture Pos.
◄ Key Invert
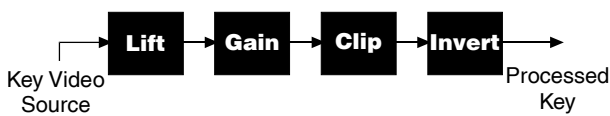
Key Proc Amp Block Diagram

In the diagram below the Key lift is set to 50.0 % and the Key gain to 4.000. The resultant key signal is in the region from 50 to 75 % of the original video signal.
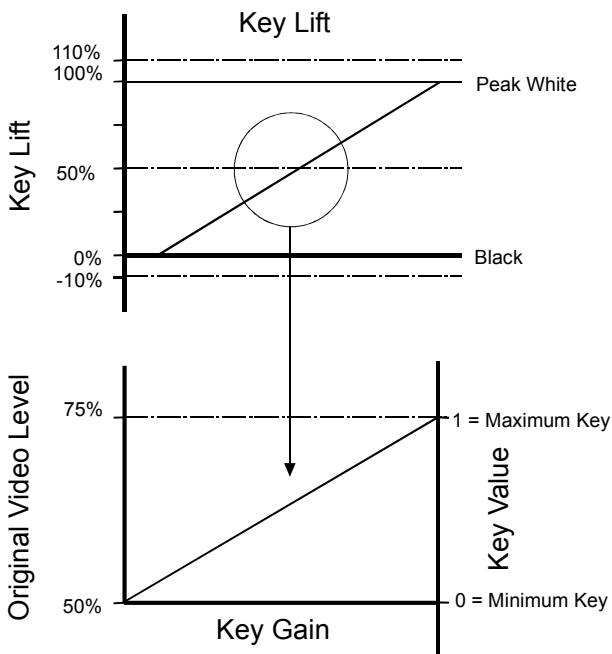
◄ Key ProcAmp Enable

Selecting this item will enable the Key signal processing controls. When not selected the preset values will be of the controls will be used.
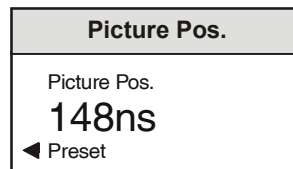
◄ Key Gain Control

The key input signal is multiplied by the gain about the key lift point.

Key Gain Control
Key Gain Control
10.666
◄ Preset

By using the spinwheel the value may be adjusted from 0.000 to 15.999 in steps of 0.001.
The preset value is 1.000.

◄ Key Lift Control

This adjusts the level of the key input signal that gives no keying action. The gain then works about this point.

Key Lift Control
Key Lift Control
70.1%
◄ Preset

By using the spinwheel the value may be adjusted from −10% to +110% in steps of 0.1%.
The preset value is 0.0%.
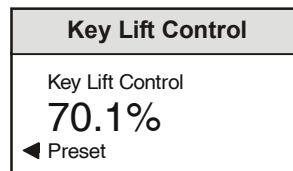
◄ Key Picture Position

This item allows the timing of the Key signal to be adjusted relative to the Background signal.

Key Picture Pos.
Key Picture Pos.
148ns
◄ Preset

By using the spinwheel the timing may be adjusted by ±592 ns in 74 ns steps.
The preset value is 0 ns.

◄ **Setup**

This item allows various functions to be set up.

Setup
◄ RollTrack...
◄ Logging...
◄ GPI I/O...
◄ ANC Data

◄ **RollTrack…**

This function allows information about the status of the module, to be communicated to other RollTrack compatible units connected to the network. This message can then be used to cause another unit to perform a specific action. For example, it can be used to control the switching of a router or changeover module on loss of input.

RollTrack
◄ RollTrack Index
◄ RollTrack Source
◄ Rolltrack Disable
◄ RollTrack Address
◄ RollTrack Command
◄ RollTrack Sending
◄ RollTrack Status

◄ RollTrack Index

RollTrack Index
RollTrack Index
10
◄ Preset

There are 32 (0 to 31) RollTrack destinations available. This item is used to select which RollTrack Index is set up using the RollTrack Source, RollTrack Address and RollTrack Command functions.

◄ RollTrack Source
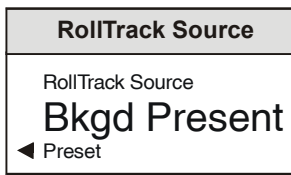
RollTrack Source
RollTrack Source
Bkgd Present
◄ Preset

This selects the source of information that triggers the transmission of the RollTrack data.

Options are:

> Unused (off and Preset)
> Key Tally On
> Key Tally Off
> Key Enble On
> Key Enble Off
> Key Fade Up
> Key Fade Down
> Bkgd Lost
> Bkdg Present
> Fill Lost
> Fill Present
> Key Lost
> Key Present

Note that Key Tally On is triggered when the Key Enable control is set, Key Tally Off when it is disabled.

Example of RollTrack Source Commands
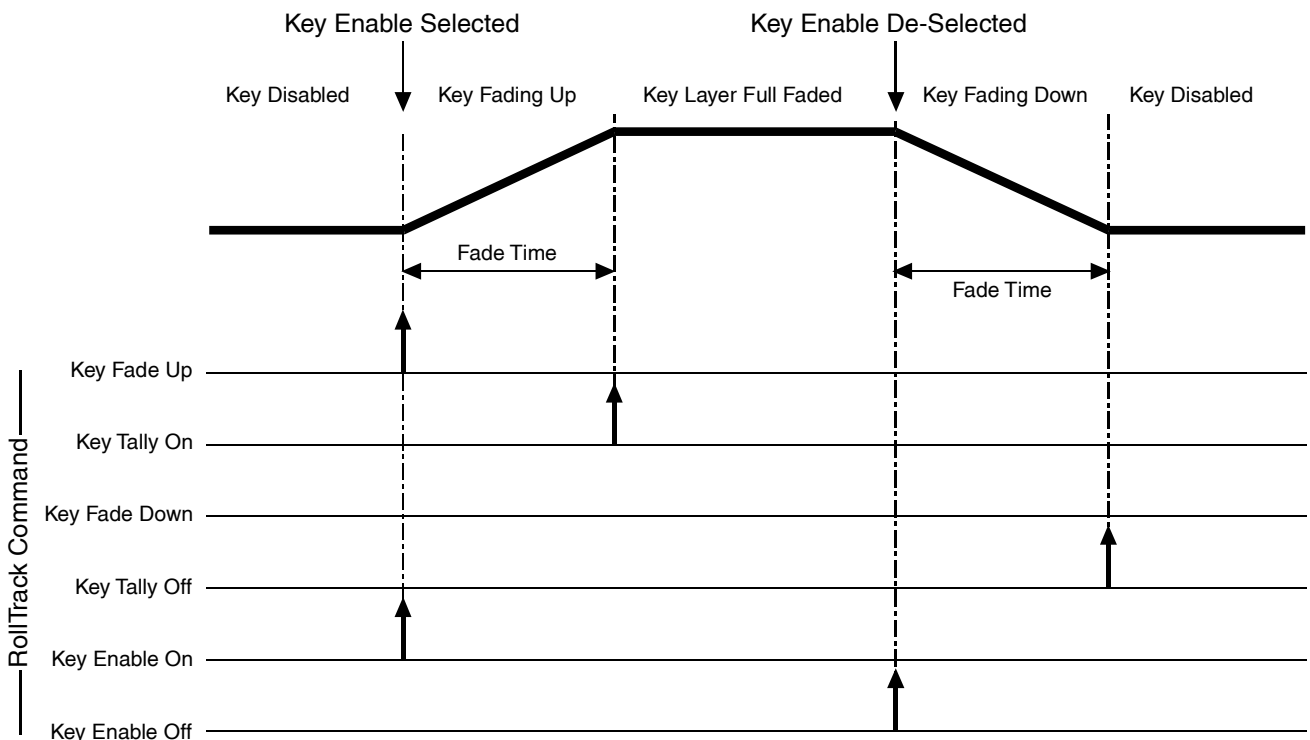
Note when Keying is not allowed by the unit, eg due to a lost input. Initially the key layer will be turned off (triggering Key Tally Off) but then only the Key Enble On and Key Enble Off RollTracks are triggered.

◄ RollTrack Address

```
┌─────────────────────────────┐
│      RollTrack Address      │
├─────────────────────────────┤
│   RollTrack Address         │
│ ◄ 0000:00:00*id           ► │
│ ◄ Clear                     │
│ ◄ Preset            OK ►    │
└─────────────────────────────┘
```

This item allows the address of the destination unit to be set.

To edit the address, use the left ◄ and right ► buttons to change the position of the cursor, and the spin wheel to select the character.

The ◄ **Clear** function blanks out the selected character, and the ◄ **Preset** function loads the default address.
Selecting **OK** accepts the address and returns to the RollTrack menu.

The full RollTrack address has four sets of numbers

For example: 0000:10:01*99

The first set (0000) is the network segment code number.

The second set (10) is the number identifying the enclosure/mainframe.

The third set (01) is the slot number in the enclosure.

The fourth set (99) specifies which type of unit will respond to the command. For example, setting to 158 will ensure only an IQDRT8 will respond. This feature can be used to protect against a different type of unit responding incorrectly.
Setting to 00 allows any type of unit to respond to the command.

For a list of unit IDs, please contact your local Snell & Wilcox agent.

◄ RollTrack Command

```
┌─────────────────────────────┐
│     RollTrack Command       │
├─────────────────────────────┤
│   RollTrack Command         │
│ ◄ Command Value           ► │
│ ◄ Clear                     │
│ ◄ Preset            OK ►    │
└─────────────────────────────┘
```
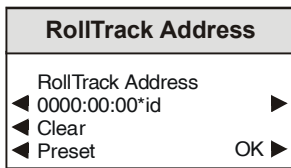
The full RollTrack command has two sets of numbers.

For example: 84*156

The first set (84) is the RollTrack command number.

The second set (156) is the value sent with the RollTrack command number.

For details of the RollCall command values for specific units please contact your local Snell & Wilcox agent.

◄ RollTrack Sending

```
┌─────────────────────────────┐
│     RollTrack Sending       │
├─────────────────────────────┤
│   RollTrack Sending         │
│        OK                   │
│                   OK ►      │
└─────────────────────────────┘
```

◄ RollTrack Status

This item displays the status of the RollTrack system.

```
┌─────────────────────────────┐
│      RollTrack Status       │
├─────────────────────────────┤
│   RollTrack Status          │
│        OK                   │
│                   OK ►      │
└─────────────────────────────┘
```

It can show OK, Bad, Unknown, Timeout or Error.

◄ **Logging…**

Information about various parameters can be made available to logging devices via the RollCall network.

Logging
◄ Bkgd Input
◄ Fill Input
◄ Key Input
◄ Ref Input
◄ Bkgd Standard
◄ Fill Standard
◄ Key Standard
◄ Ref Standard
◄ Bkgd EDH Status
◄ Fill EDH Status
◄ Key EDH Status
◄ Bkgd EDH Errors
◄ Fill EDH Errors
◄ Key EDH Errors
◄ Reference

The parameters available for logging are:

Input present and input standard for the background, fill, key and reference inputs.

EDH status and errors for the 3 SDI inputs.

Reference Genlock status.

When each item is selected, the information is available for the logging device.

Preset is to all items selected.

◄ GPI I/O…

This menu allows the GPI functions to be configured.

```
┌─────────────────────────────┐
│          GPI I/O            │
├─────────────────────────────┤
│  ◄ GPI Input...             │
│  ◄ GPI Output...            │
│  ◄ GPI Input/Output...      │
└─────────────────────────────┘
```

◄ GPI Input / Output…

This function configures each GPI connection as an input or output.

```
┌─────────────────────────────┐
│      GPI Input/Output       │
├─────────────────────────────┤
│  ◄ GPI/O 1  Out             │
│  ◄ GPI/O 2  Out             │
│  ◄ GPI/O 3  Out             │
└─────────────────────────────┘
```

When selected, the GPI is configured as an output.
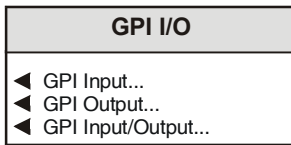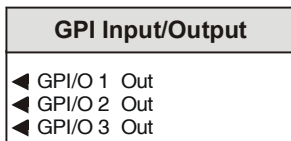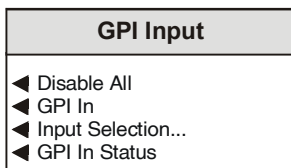
◄ GPI Input…

When configured as an input the GPI connection may be used for accepting GPI information from mechanical switch contacts, relay contacts etc.
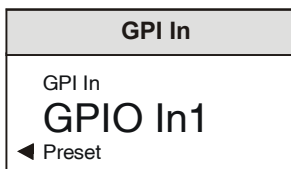
```
┌─────────────────────────────┐
│         GPI Input           │
├─────────────────────────────┤
│  ◄ Disable All              │
│  ◄ GPI In                   │
│  ◄ Input Selection...       │
│  ◄ GPI In Status            │
└─────────────────────────────┘
```

◄ Disable All
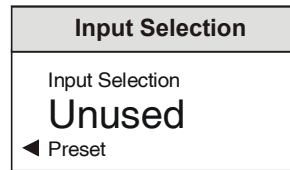
When selected all GPI input functions will be disabled.

◄ GPI In

This allows the GPI input to be selected. The **Input Selection…** and **GPI In Status** controls then apply to the selected input.

```
┌─────────────────────────────┐
│          GPI In             │
├─────────────────────────────┤
│   GPI In                    │
│   GPIO In1                  │
│  ◄ Preset                   │
└─────────────────────────────┘
```

Preset is to GPIO In 1.

Note that on the single width version there is only one GPI connection. This is designated GPIO In 1 in the above menu. On the double width versions there are three GPI connections designated GPIO In 1, 2 and 3.

◄ Input Selection

```
┌─────────────────────────────┐
│       Input Selection       │
├─────────────────────────────┤
│   Input Selection           │
│   Unused                    │
│  ◄ Preset                   │
└─────────────────────────────┘
```

This function determines what will happen when the selected GPI input condition changes.

The Input functions are as follows:

Unused   The unit will perform no function. This is also the Preset Setting.

Mem 1-16   The unit will use the settings in the selected memory location when the input changes from open to closed.

Mem 1-2, 3-4, 5-6, 7-8, 9-10, 11-12, 13-14, 15-16:

Mem x-y   The unit will toggle between the settings of memory locations x and y.
Open to Closed selects Memory x settings.
Closed to Open selects Memory y settings.

◄ GPI In Status

This displays the current status of the selected GPI input.

```
┌─────────────────────────────┐
│        GPI In Status        │
├─────────────────────────────┤
│   GPI In Status             │
│   High                      │
│                      OK ►   │
└─────────────────────────────┘
```
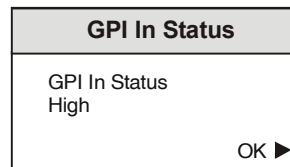
This shows either High (open circuit) or Low (closed circuit).

◄ GPI Output

This menu allows the GPI output function to be configured.

```
┌─────────────────────────────┐
│         GPI Output          │
├─────────────────────────────┤
│  ◄ GPI out                  │
│  ◄ Output Selection...      │
│  ◄ GPI Out Status           │
└─────────────────────────────┘
```
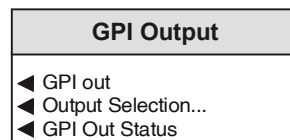
◄ GPI Out

This function allows the GPI output to be selected. The **Output Selection…** and **GPI Out Status** controls will then apply to the selected output.

```
┌─────────────────────────────────┐
│           GPI Out               │
├─────────────────────────────────┤
│  GPI Out                        │
│  GPIO Out 1                     │
│  ◄ Preset                       │
└─────────────────────────────────┘
```
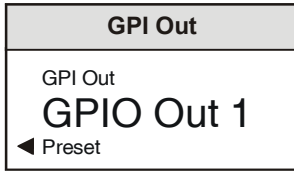
Preset is to GPIO Out 1.

Note that on the single width version there is only one GPI connection. This is designated GPIO Out 1 in the above menu. On the double width versions there are three GPI connections designated GPIO Out 1, 2 and 3.

◄ Output Selection…

```
┌─────────────────────────────────┐
│       Output Selection          │
├─────────────────────────────────┤
│  ◄ Key Tally                    │
│  ◄ Bkgd Lost                    │
│  ◄ Unused                       │
└─────────────────────────────────┘
```

The selected GPI out may be configured to produce an output corresponding to one of the following conditions:

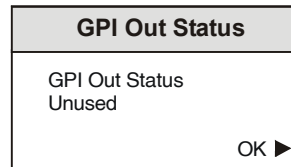|	
Unused Key	Key Fade Down
Key Tally On	Bkgd Lost
Key Tally Off	Fill Lost
Key Fade Up	Key lost

When the condition is not true the output will float. When the condition is true the output is closed to ground via a transistor.

The preset setting for the output is Unused.

◄ GPI Out Status

This displays the current status of the GPI output.

```
┌─────────────────────────────────┐
│        GPI Out Status           │
├─────────────────────────────────┤
│  GPI Out Status                 │
│  Unused                         │
│                                 │
│                          OK ►   │
└─────────────────────────────────┘
```

This shows Input, Unused, Open or Closed.
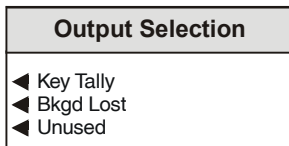
GPI Output Example

◄ ANC Data

This function deals with the ancillary data.

ANC Data
◄ VANC Source 525...
◄ VANC Source 625...
◄ HANC Source...

There is the option of passing ancillary data from the background input, fill input or blanking the data during the horizontal and vertical intervals. During the vertical interval the ancillary data source can be set on a line by line basis. Under the default fill condition all ancillary data selected from the background input is automatically replaced by data from the fill input.

Note that any lines that are blanked will remain blanked.

◄ VANC Source 525

This allows the vertical interval data in a 525 line signal to be selected and processed.

VANC Source 525
◄ 525 Field 1...
◄ 525 Field 2...
◄ Pass Video 21 & 283
◄ Pass Data 21 & 283

◄ 525 Field 1

This item allows the vertical interval data in field 1 of a 525 line signal to be selected and processed.

525 Field 1
◄ 525 Blank All
◄ 525 Pass Bkgd
◄ 525 Pass Fill
◄ Line 11 to 21 Blank
◄ Line 11 to 21 Background
◄ Line 11 to 21 Fill

◄ 525 Blank All

When selected all data lines in field 1 will be blanked.

◄ 525 Pass Bkgd

When selected all data lines in field 1 of the background signal will be passed.

◄ 525 Pass Fill

When selected all data lines in field 1 of the Fill signal will be passed.

◄ Line 11 to 21 Blank/Pass Bkgd/Pass Fill

This allows individual data lines (lines 11 and 21 inclusive) in field 1 of the signal to be selected and either blanked, derived from the Background signal or derived from the Fill signal.

◄ 525 Field 2

This item allows the vertical interval data in field 2 of a 525 line signal to be selected and processed in a similar way to field 1.

525 Field 2
◄ 525 Blank All
◄ 525 Pass Bkgd
◄ 525 Pass Fill
◄ Line 274 to 283 Blank
◄ Line 274 to 283 Background
◄ Line 274 to 283 Fill

◄ Pass Data 21&283

When selected lines 21 and 283 are treated as ancillary data. They can be derived from the background input, fill input or blanked.

◄ Pass Video 21&283

When selected lines 21 and 283 are treated as active picture. The lines are processed as video with all keyer, mixer and proc amp functions taking place on these lines. When selected the ancillary data settings for these lines are ignored.

◄ VANC Source 625

This allows the vertical interval data in a 625 line signal to be selected and processed in a similar way to 525 line signals.

```
┌─────────────────────────────────┐
│      VANC Source 625            │
├─────────────────────────────────┤
│ ◄ 625 Field 1...                │
│ ◄ 625 Field 2...                │
│ ◄ Pass Video Line 23            │
│ ◄ Pass Data Line 23             │
└─────────────────────────────────┘
```

◄ 625 Field 1

This item allows the vertical interval data in field 1 of a 625 line signal to be selected and processed.

```
┌─────────────────────────────────┐
│         625 Field 1             │
├─────────────────────────────────┤
│ ◄ 625 Blank All                 │
│ ◄ 625 Pass Bkgd                 │
│ ◄ 625 Pass Fill                 │
│ ◄ Line 7 to 23 Blank            │
│ ◄ Line 7 to 23 Background       │
│ ◄ Line 7 to 23 Fill             │
└─────────────────────────────────┘
```

◄ 625 Blank All

When selected all data lines in field 1 will be blanked.

◄ 625 Pass Bkgd

When selected all data lines in field 1 of the background signal will be passed.

◄ 625 Pass Fill

When selected all data lines in field 1 of the Fill signal will be passed.

◄ Line 7 to 23 Blank/Pass Bkgd/Pass Fill

This allows individual data lines (lines 7 and 23 inclusive) in field 1 of the signal to be selected and either blanked, derived from the Background signal or derived from the Fill signal.

◄ 625 Field 2

This item allows the vertical interval data in field 2 of a 625 line signal to be selected and processed in a similar way to field 1.

```
┌─────────────────────────────────┐
│         625 Field 2             │
├─────────────────────────────────┤
│ ◄ 625 Blank All                 │
│ ◄ 625 Pass Bkgd                 │
│ ◄ 625 Pass Fill                 │
│ ◄ Line 320 to 335 Blank         │
│ ◄ Line 320 to 335 Background    │
│ ◄ Line 320 to 335 Fill          │
└─────────────────────────────────┘
```

◄ Pass Data Line 23

When selected line 23 is treated as ancillary data and can be derived from the background input, fill input or blanked.

◄ Pass Video Line 23

When selected line 23 is treated as active picture and is processed as video with all keyer, mixer and proc amp functions taking place. When selected the ancillary data setting for Line 23 is ignored.
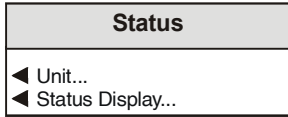
◄ HANC Source

```
┌─────────────────────────────────┐
│         HANC Source             │
├─────────────────────────────────┤
│ ◄ Blank                         │
│ ◄ Background                    │
│ ◄ Fill                          │
└─────────────────────────────────┘
```

This item allows horizontal source data to be either blanked or passed from the background or fill signal.

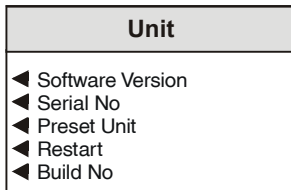| Status ► |
| --- |

This function allows information about the unit to be shown, and selects what is displayed in the information window.
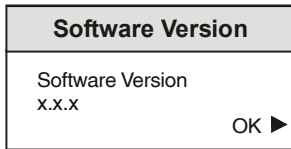
Status
◄ Unit...
◄ Status Display...

◄ Unit…

This menu allows information about the unit to be shown.

Unit
◄ Software Version
◄ Serial No
◄ Preset Unit
◄ Restart
◄ Build No

◄ Software version

Software Version
Software Version
x.x.x
OK ►

This item shows the version of the software fitted in the module.

◄ Serial No

Serial_No
Serial No
xxxxxxx
OK ►
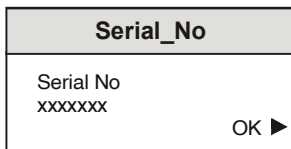
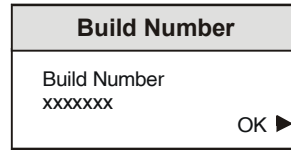This item shows the serial number of the module.

◄ Preset Unit

Selecting this item sets all functions to their factory default values.

Note that this is a momentary action.

◄ Restart

This function restarts the unit, restoring all power up settings. This is equivalent to switching the mains power off and on.

◄ Build Number

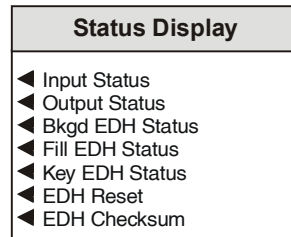| Build Number |
| --- |
| Build Number |
| xxxxxxx |
| OK ► |

This shows the factory build number. This number defines all parameters of the unit (software versions, build level etc.) for identification purposes.

◄ Status Display…

This function selects the status information displayed in the information area or the display window.

For details please refer to page 32.

Status Display
◄ Input Status
◄ Output Status
◄ Bkgd EDH Status
◄ Fill EDH Status
◄ Key EDH Status
◄ EDH Reset
◄ EDH Checksum

Manual Revision Record

Date	Version No.	Issue No.	Change	Comments
201102	1	1		First Issue
100403	1	2	Power consumption added to techspec	New manual issued
040803	1	3	New –2 and –2A rears added	New manual issued
190803	1	4	Old –2 and –2A rears and reference loop data removed	New manual issued
201003	1	5	For IQDEY (-R removed) many changes for new software	New manual issued