

# FRS-1101

## DESCRIPTION

The FRS-1101 is an SDI frame synchronizer used to solve timing issues in a digital facility. The card can be set in delay or synchronizer mode. When adding the proc-amp option, the card becomes a high quality processing amplifier providing control and adjustment of the digital video signal for applications such as incoming feeds. VANC data is passed or blanked, while the VBI can be passed, blanked or processed on a line-by-line basis.

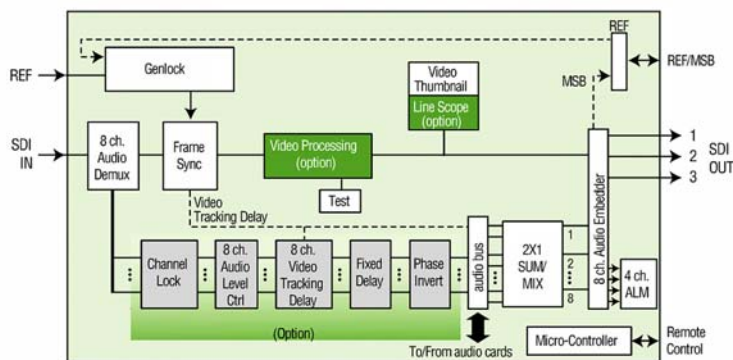
When the audio processing option is added, the card allows de-embedding of 8 channels of audio, processing (gain, delay, and phase) and then re-embedding into the SDI. When the FRS-1101 is combined with one or multiple audio cards, the operator can select any of the audio channels for embedding into the SDI signal. Each audio output channel can be composed of a mix of any two audio input channels. New technology includes Thumbnail & ALM (audio level meter) generation and an optional Waveform/Vectorscope over IP of the output signal which allows the operator to control and see the changes made to the signal.

This card operates with the MSB-1121 Monitoring Switching Bridge which allows the output of any module in a Densité frame to be monitored. Multiple MSB-equipped frames may be cascaded, eliminating the need for dedicated monitoring routers.

## Features and Benefits

- SDI isolated input with auto-detection 525/625
- Reference input
- 10-bit processing
- Handles hot switching
- Frame Sync: timing, full phasing and freeze modes
- Additional delay of up to 2 frames
- Line sync operation mode removes input timing glitches for a continuous output signal
- Freeze or black on input error detection
- Video processing control (option)
- Ancillary Data Blanking or pass-through
- Audio processing of 8 channels of embedded audio (option)
- Thumbnail & ALM generation
- Waveform/Vectorscope over IP option (operates with iControl)
- Provides output to Monitoring Switching Bridge option (MSB-1121)

## FUNCTIONAL BLOCK DIAGRAM



## SPECIFICATIONS

### INPUT

SIGNAL: SMPTE 259M-C (270 Mbps)  
EMBEDDED AUDIO: SMPTE 272M-C  
CABLE LENGTH: 300m (900') of Belden 1694A  
RETURN LOSS: >15 dB up to 270 MHz

## SPECIFICATIONS (cont'd)

### EXTERNAL REFERENCE

SIGNAL: NTSC SMPTE 170M, PAL  
ITU 624-4 or Composite sync  
RETURN LOSS: > 35 dB up to 5.75 MHz

### VIDEO OUTPUTS

SIGNAL (3): SDI SMPTE 259M-C (270 Mbps)  
RETURN LOSS: > 15 dB up to 270 MHz  
JITTER: < 0.2 UI (0.74ns) pp (WIDEBAND)

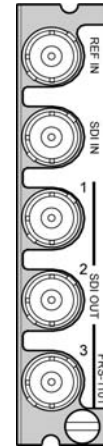
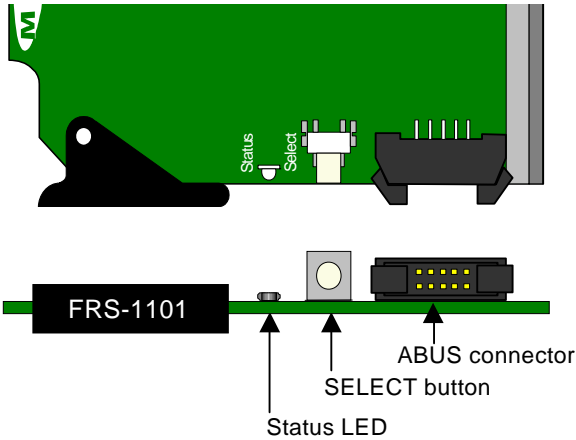
### VIDEO PROCESSING PERFORMANCE

SIGNAL PATH: 10 bits  
PROCESSING: 12 bits  
PROCESSING DELAY: 10 µs (min)  
TEST GENERATOR: 75 % color bars with  
100 % white bars  
POWER: 3.5 W

### AUDIO PROCESSING PERFORMANCE (OPTION)

SIGNAL PATH: 20 or 24 bits  
SAMPLING: 48 kHz  
PROCESSING DELAY: 20 µs (min)  
TEST GENERATOR: 1 kHz, as per EBU

# FRS-1101 SDI Frame Synchronizer/Processor Guide to Installation and Operation



**FRS-1101 Rear Connector Panel**

## INSTALLATION

Make sure you have ordered and received the FRS-1101 and its associated rear panel. If any of the following items are missing, contact your distributor or Miranda Technologies Inc.

- \* FRS-1101 SDI Frame Synchronizer/Processor
- \* FRS-1101-SRP Rear Panel (see figure)

The FRS-1101 must be mounted in a DENSITÉ frame. The installation includes both the FRS-1101 module, and the rear panel module. It is not necessary to switch off the power

from these frames when installing or removing the FRS-1101.

When the FRS-1101 is used in conjunction with an audio module such as the UAP-1781, the ABUS flat cable must be installed between the ABUS connector of the FRS-1101 and the connector on the audio module. The ABUS flat cable is supplied with the audio module.

Detailed instructions for installing cards and their associated rear panels in the Densité frame are given in the Densité Frame manual.

## OPERATION

### Overview

The primary control interface for the FRS-1101 is Miranda's iControl system. The iControl interface is explained in detail beginning on the next page.

The DENSITÉ frame incorporates a controller card, located in the center of the frame. It is equipped with an LCD display and a control panel. The controller handles error reporting and local and remote control for all cards installed in the frame. The display and control panel are assigned to the card in the frame whose SELECT button has been pushed.

### Local User Interface – status reporting and control

The status monitor LED is located on the front card-edge of the FRS-1101 module, and is visible through the front access door of the DENSITÉ frame.

The FRS-1101 STATUS LED is green under normal operation. When the FRS-1101 detects an error, the STATUS LED turns yellow or red. Pushing the SELECT

button will cause the STATUS LED to flash yellow, and the card identification and the current status message will be shown on the controller card's display. The STATUS LED will revert to its normal state upon a second push of the button, or after a short delay. The color of the status LED and the reporting of errors are user-configurable via the Log Config panel of the iControl interface. See page 13 for details.

After pressing the SELECT button on the FRS-1101 card, use the keys on the local control panel (described in the Controller card manual) to step through the displayed status messages. The message structure is shown below.

Here is an example of a status message when no input is detected

F	R	S	-	1	1	0	1								
N	O	S	I	G	N	A	L								

See page 14 for a detailed explanation of how to use the local control panel and menu to configure the FRS-1101, as an alternative to configuration via iControl.

**iControl Interface**

The operation of the FRS-1101 may be controlled using Miranda's iControl system. This manual describes the control panels associated with the FRS-1101 and their use. Please consult the iControl User's Guide for information about setting up and operating iControl.

In *iControl Navigator* or *iControl Websites*, double-click on the FRS-1101 icon to open the control panel.



Note the following features of this panel:

**Status Icons** - At the top, to the left of the Miranda logo, are five status icons that report various aspects of the card's operation:



(a) (b) (c) (d) (e)

- (a) this icon shows whether manual card configuration of this DCP-1721 is on [LOC] or off [REM]
- (b) this icon reports the input format (525 or 625 lines)
- (c) reference status – green if OK, red if an error has been detected, white if the reference is absent
- (d) Audio/video test – green during normal operation, yellow (as shown) when Test Mode is activated
- (e) ABUS multiple card configuration – green if configuration and card setup are OK; red if there is a mismatch between the FRS-1101 configuration and the actual card setup

Move the cursor over an icon to see its current status in the **message area** below the icons. If there is an error status,

the message will appear automatically. If there are multiple error messages, the display will cycle through them

**Panel selection buttons** – the buttons on the left side of the panel are used to select the contents of the main portion of the screen. The selected button is highlighted, and the main screen heading matches the button name. The column of buttons can be hidden/revealed by clicking the arrow icon at the left-hand side.

**User Presets** – the buttons at the bottom left control the saving and recovery of sets of user-defined card configurations

All of the individual control panels are described in detail below.

Panel	See Page
Video Processing .....	4
Audio Processing .....	4
Audio Output .....	5
Thumbnail .....	6
RALM .....	6
Blanking .....	8
Timing .....	8
Reference Input.....	8
Input Error .....	9
Test .....	9
Operation Mode .....	9
Options.....	9
ABUS .....	11
Info .....	11
Factory .....	11
User Presets .....	11
Profiles .....	11

See page 13 for instructions on how to set up error reporting for the FRS-1101.

# FRS-1101 SDI Frame Synchronizer/Processor Guide to Installation and Operation

## Video Processing

This panel is available when the Video Procamp Option is enabled. See **Options** section for more details.

**ALL GAIN:** -800, -799, ..., 799, 800: Sets luma and chroma gains to a specific value. When other gains are individually set, **ALL GAIN** reflects the average value of the combined gains for a given output format.

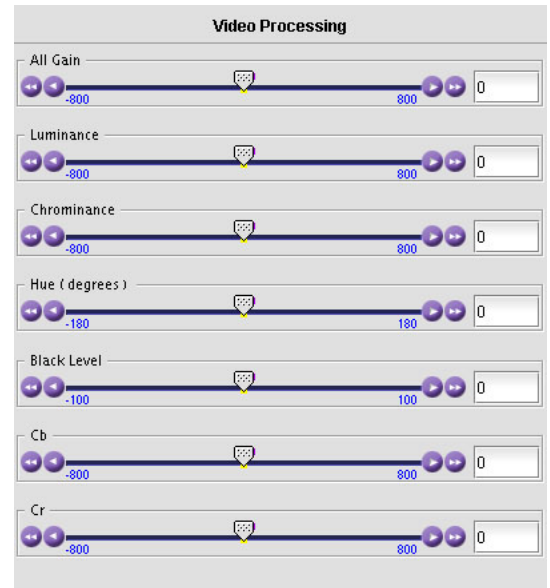
**LUMA GAIN:** -800, -799, ..., 799, 800: sets luma gain to a specific value.

**CHROMA GAIN:** -800, -799, ..., 799, 800: sets chroma gain to a specific value.

**HUE:**-180, -179, ..., 179, 180: sets hue to a specific value in degrees.

**BLACK LEVEL:** -100, -99, ..., 99, 100: in NTSC mode, sets Black level to a specific value.

**Cb ; Cr :** -800, -799, ..., 799, 800: sets the gains for the individual components of the video signal to a specific value.



## Audio Processing

This panel is available when the Audio Procamp Option is enabled. See **Options** tab section on page 9 for more details.

**Audio De-Embedding** sub section:

**Group Detected:** If an embedded audio group is detected on the input signal, its icon is green.

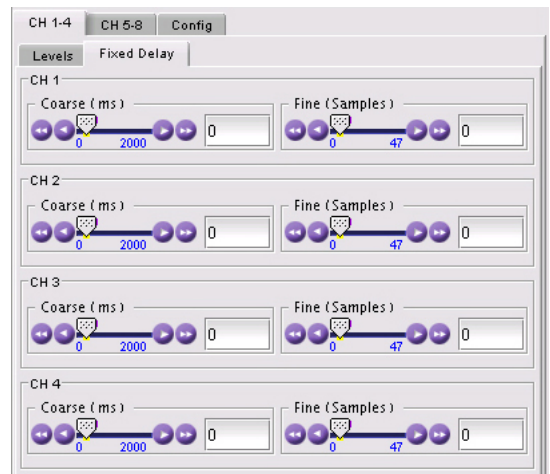
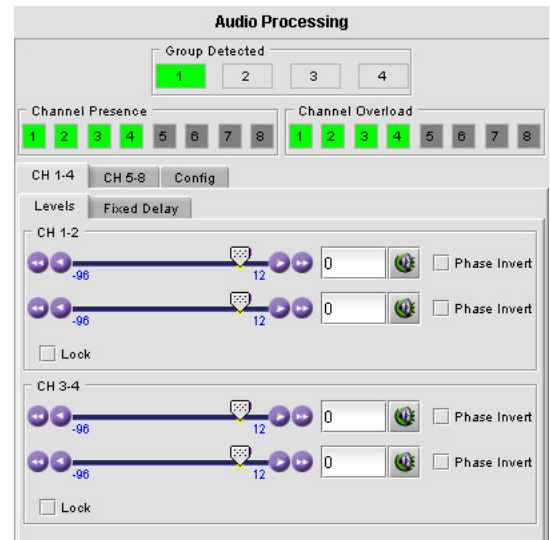
**CH 1-4, and CH 5-8** pull-down boxes: select the AES group to be used as source for channel 1 to 4 and 5 to 8.

**CH 1-4** and **CH 5-8** tabs:

Each of these tabs controls **Levels** and **Fixed Delays** for two pairs of channels; each channel is provided with a set of controls.

**Levels** sub-tab: grouped by pair of channels, each channel has the following controls: a **Level** slider (from -96 to 12 dB), an input box where the desired level may be input directly, a **Mute** icon button and a **Phase Invert** checkbox. At the bottom is a **Lock** checkbox that “locks” both channel sliders together for levels and delay, so that moving one slider moves the other one as well.

**Fixed Delay** sub-tab : inserts an audio delay offset from the nominal value. For each channel, two sliders allow delay to be adjusted. The **Coarse** slider adjusts the delay in ms, from 0 ms to 2000 ms while the **Fine** slider provides sample increments, from 0 to 47.



**Config tab:**

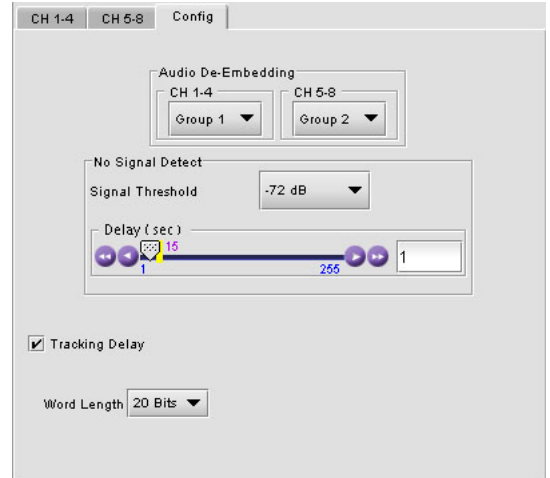
This tab sets the card's behavior in the event of a loss or absence of audio signal .

**Signal Threshold:** *-72, -66, -60, -54, -48 dB:* Signal absence is declared when the signal level is lower than the signal threshold during the selected period. The threshold can be set through the pull-down box. The default value is  $-60$  dBFS.

**Delay:** The signal absence period can be adjusted from 0 to 255 seconds. The default value is set to 15 s.

**Tracking Delay:** use this checkbox to enable fixed delay tracking.

**Word Length 20 bits, 24 bits:** sets embedded audio resolution.



**Audio Output**

When the FRS-1101 is combined with up to two audio cards such as the UAP-1781 Universal Audio Processor, these parameters provide extended controls over audio embedding.

**CH 1-2, CH 3-4, CH 5-6, CH 7-8 Tabs:** each of these tabs controls a pair of channels; each channel is provided with a set of controls.

**Operation Mode:** *Off, A, SUM (A+B), Mix:* This menu allows for each output signal the source selection between single channel and the sum or mix of two channels.

**Off:** The output channel is muted.

**A:** Output a single channel, as selected in the *Source A* section.

**SUM (A+B):**Output the sum of the two channels selected in the *SOURCE A* and *SOURCE B* sections.

**Mix:** Output a mono mix of the two channels selected in the *SOURCE A* and *SOURCE B* sections.

**SUM (A+B) Level:** *-6 dB, -3 dB, 0 dB:* apply the selected attenuation to the output when the SUM (A+B) mode is selected.

**MUTE:** to mute this channel check this box.

**Source A & Source B: ABUS Select:** *A1, A2:* selects the Audio Bus to be used for this channel (A1 or A2).

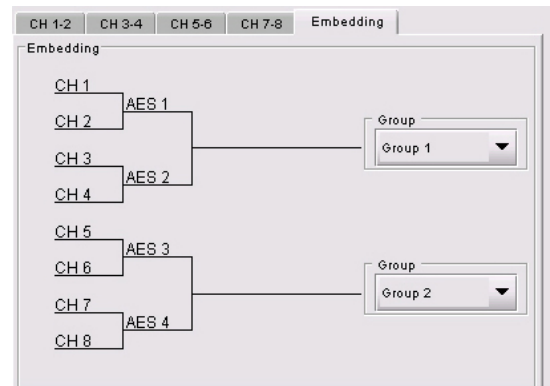
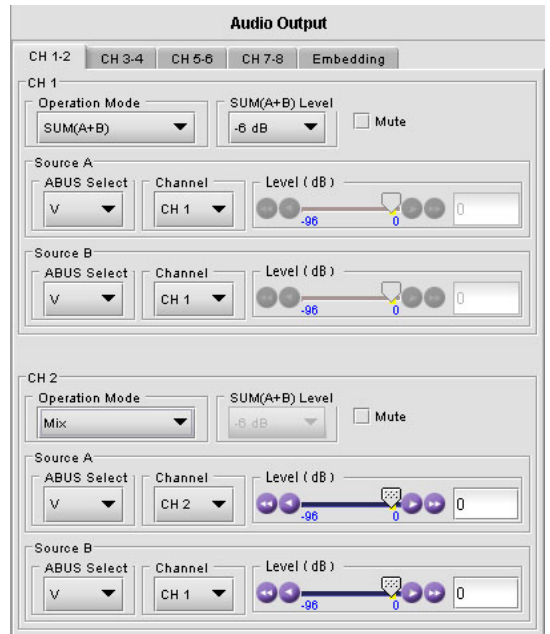
**Channel:** *Channel 1, ..., Channel 8:* selects the source channel to be used from the Audio Bus.

**Level (dB):** *-96, -95, ..., -1, 0:* applies an attenuation to the source.

**Note:** to be available, **SOURCE A** and **SOURCE B** must be made available through **Multiple Cards config**, in the **ABUS** tab (see page 11).

**EMBEDDING Tab:**

**CH1,2,3,4, and CH 5,6,7,8:** the pulldown box allows to choose the AES audio group to be used for embedding audio channels 1 to 4 and 5 to 8.



# FRS-1101 SDI Frame Synchronizer/Processor Guide to Installation and Operation

## Thumbnail

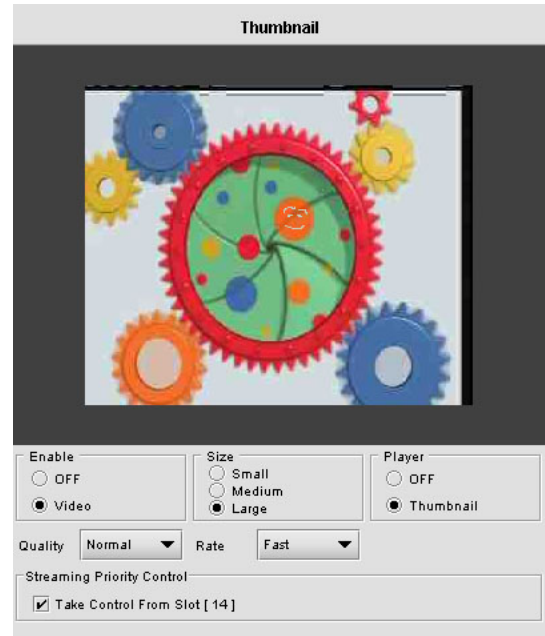
Thumbnails are used to monitor the video output signal of the FRS-1101. Streaming parameters are set using these controls.

**ENABLE:** OFF, VIDEO: enables thumbnail streaming or turn streaming OFF

**SIZE:** SMALL, MEDIUM, LARGE: select the size of the thumbnail image to be sent by the streaming encoder.

**PLAYER:** OFF, THUMBNAIL: Click on the Thumbnail box to enable the thumbnail Player. A window opens in the top section and shows a thumbnail associated with the SDI video stream that is being encoded by the FRS-1101.

Note: you must check the VIDEO box in the ENABLE section to see the video image.



### Quality and Refresh Rate:

- Use the left-hand pulldown to select the video quality to be sent by the streaming encoder. The choices are Poor, Normal and HiQ (e.g. high quality).
- Use the right-hand pulldown to select the refresh rate for the transmitted thumbnails. The choices are: Fast, 1 sec, 2 sec, ... 10 sec.

**Streaming Priority Control:** Click the *Take control from Slot [##]* checkbox to force the Densité Controller for this frame to assign more bandwidth for this card's streaming output. Only one card in the frame can use this feature. It has no effect unless you have selected *Fast* for the refresh rate. The actual slot number of this card, as shown in the window title bar, will appear when the checkbox is ticked.

## RALM

The Real-time Audio Level Meter (RALM) visually displays the status of each audio channel present. The window displays four 2-channel meters.

**RALM Connections sub-tab:**

(applies to local display in the iControl panel)

**CH 1&2, CH 3&4, CH 5&6 and CH 7&8:** audio meters for each pair of channels may be turned on (RALM) or OFF. Note: you need to check the desired channels in the *RALM Remote Control* sub-section below in order to enable the RALM button.

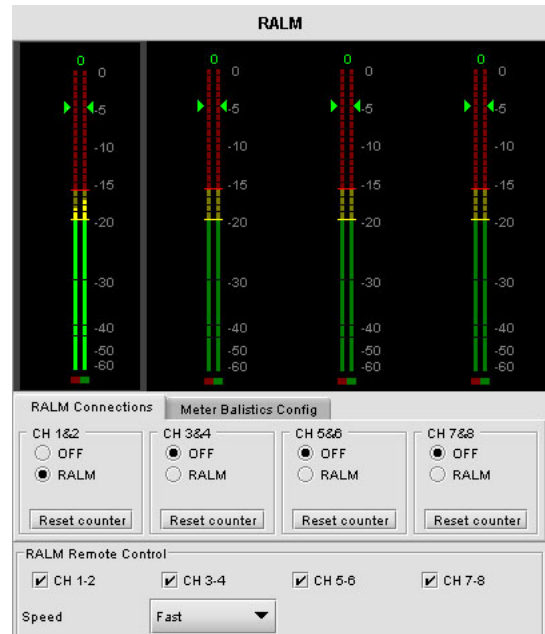
**Reset counter** button resets the overload counter.

**RALM Remote Control sub-section:**

allows the transmission of RALM data to the iControl server.

**CH 1-2, CH 3-4, CH 5-6, CH 7-8** checkboxes: turn the meter off or on.

**Speed: Slow, Medium or Fast:** select the meter refresh rate from the pull-down list, either fast, medium or slow.



Meter Ballistic Config sub-tab:

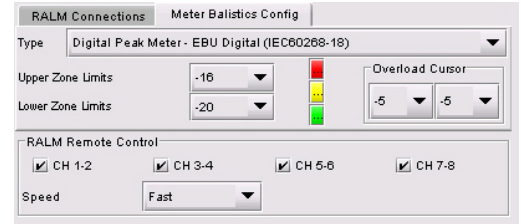
*Type* pull-down box: this pull-down offers a list of the available meter types, whose ballistics are identified by the standard to which they conform.

*Upper Zone Limits (dB)* :select the crossover level between the upper and middle zones of the meter (the range of values shown in the pull-down list depends on the type of meter selected)

*Lower Zone Limits (dB)*: select the crossover level between the middle and lower zones of the meter (the range of values shown in the pull-down list depends on the type of meter selected)

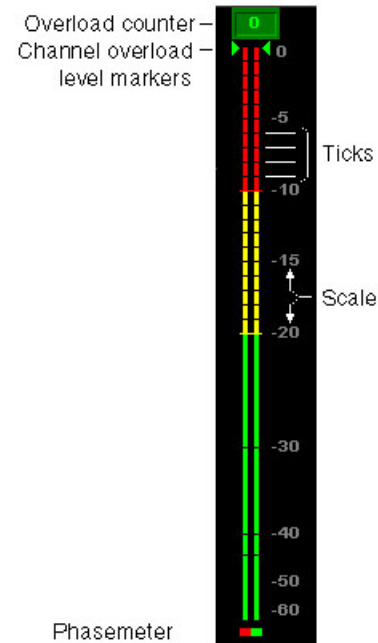
*Color samples* : the three samples show the current selected color for the upper, middle and lower zones of the meter. Click on the color sample of a zone to open a color selection panel to choose a different color for that zone.

*Overload Cursor (dB)*:The overload cursor appears on the meter as an arrowhead in the meter scale. The two pulldown boxes set the position of the overload cursor on the left and right meters (the range of values shown in the pull-down list depends on the type of meter selected).



Meter functionality:

- The meter is divided into three zones:
- The dividing points are specified in the Upper Zone Limits and Lower Zone Limits boxes. Click in the box and scroll to the desired value.
- The color of the meter in each zone is selectable. Click on the colored square corresponding to the zone to open a color selection dialog.
- The level at which the channel is to be considered in Overload can be specified using the Channels Overload boxes. Click in the box to see a scrollable list, and select the desired level.
- The Overload Counter shows a running count of the number of overloads detected.
- The Phasemeter is a small meter that represents the phase correlation factor. Nominal position is in the center, which indicates the absence of signal. The red side, up to the left end of the meter indicates the level of phase opposition and the green side, up to the right end indicates the level of phase amplitude.



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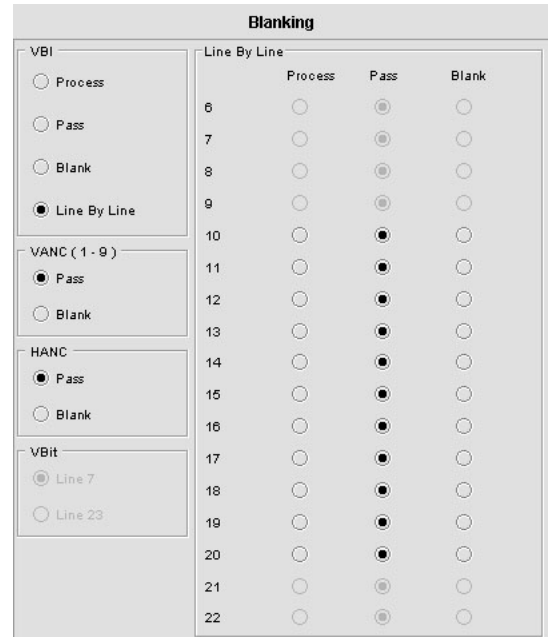
## Blanking

This panel sets up the handling of VBI data.

**VBI: PROCESS, PASS, BLANK, LINE BY LINE:** select whether the overall VBI data field will be processed, will pass or be blanked. If *Line By Line* is selected, use the right-side panel to set each line individually.

**VANC, HANC:PASS, BLANK:** select whether the vertical ancillary data field and horizontal ancillary data field will pass or be blanked.

**LINE BY LINE:** Available when Line by Line is checked in the previous section. Radio buttons allows the selection of conditions for each line of the VBI data field.



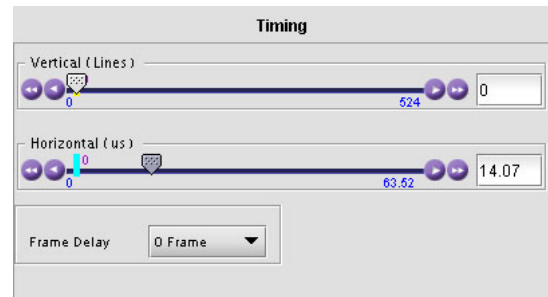
## Timing

These controls provide access to timing adjustments which affect the signal outputs. There are two slider controls, each with a data reporting box which shows the current value, and into which values can be typed directly. If the Frame Sync option is not enabled, only the Horizontal delay may be accessed.

**VERTICAL (Lines):** 0, 1, ..., 523, 524 (for 525 operation), 623, 624 (for 625 operation): sets the number of lines of vertical delay. This control is available when the *Frame Sync mode* has been activated in the Operation Mode panel.

**HORIZONTAL (µs):** 0, 0.037, 0.064 ..., 63.5 (for 525 operation), ..., 64 (for 625 operation): set the horizontal delay in µs.

**FRAME DELAY Pulldown box:** set the delay to 0, 1 or 2 frames.

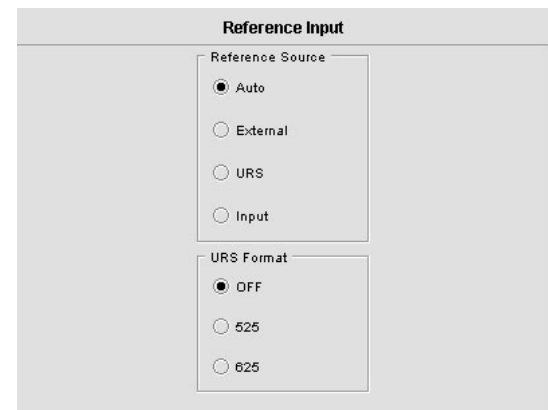


## Reference Input

These controls allow selection of the reference signal.

**REFERENCE SOURCE:** Select between *AUTO*, *EXTERNAL* (use the REF input signal connected to the rear panel), *URS* (see below) or *INPUT* (use the input video signal as reference) as the reference source. *AUTO* mode searches for available signal in this order: REF input, URS and finally video input signal.

**URS<sup>1</sup> FORMAT (not available at this time):** Select between *OFF*, *525* or *625* for the Universal Reference Signal format.



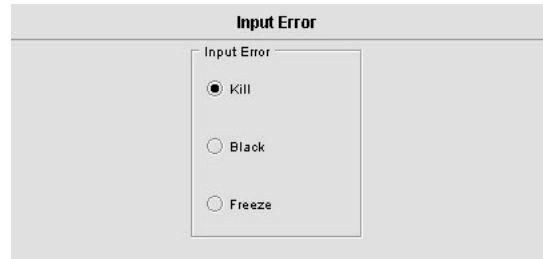
<sup>1</sup> The URS is a single signal that is capable of distributing to all cards in a Densité frame a frequency reference and frame alignment references for all video and audio signals.



## Input Error

Select the behavior of the SDI output in the event of an error in the input signal:

- If the KILL radio button is selected, the SDI output will be disconnected in case of an input error. The connector will carry no signal.
- If the BLACK button is selected, the SDI output connector will carry a signal with BLACK in the active picture area.
- If the FREEZE button is selected, the SDI output is frozen on the last video frame before the error was detected.



## Test

*Video sub-section:*

Click on the *Color Bars (75%)* checkbox to place a 75% color bar signal on the video output.

*Audio sub-section:*

Click on the *Tone* checkbox to place audio test tones on the audio outputs of the selected channels (if the Audio option has been enabled).

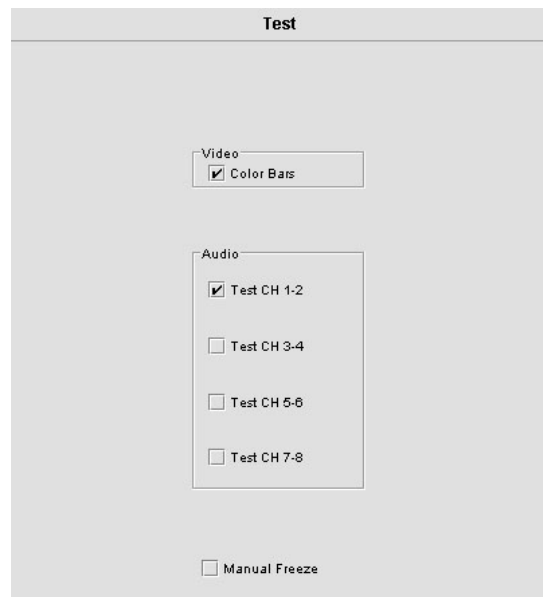
The test tone is a 1 KHz sine wave:

- left channel – pulsed 3 seconds ON, 250 ms OFF
- right channel – steady tone

The test tone will be placed on the AES (on the Audio Bus to other cards) and embedded outputs. The input groups that were not disembedded are blanked.

*Manual Freeze:*

Check this box to freeze the output in its current state.



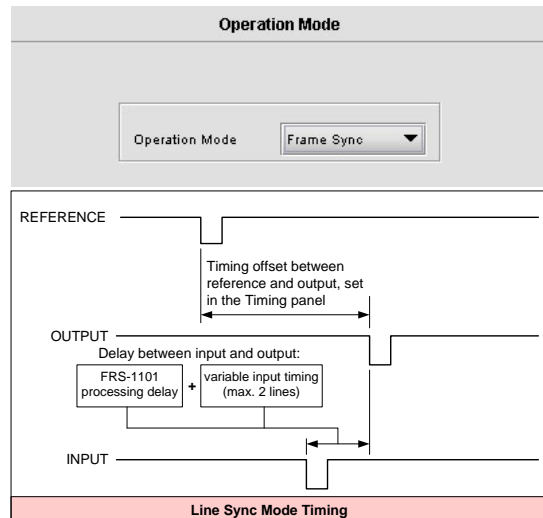
## Operation Mode

Using the pull-down box, select the operating mode from the following choices:

- **Frame sync:** lock the FRS-1101 output to the external reference signal
- **Line Sync:** Line Synchronizer Mode is a special operating mode that buffers the input signal and maintains horizontal timing alignment with the reference, absorbing the effect of small timing changes or switching glitches on the input and providing a continuous output that will not freeze.

The input should be synchronous with the reference, and horizontal timing of the input must remain within a 2-line window for the Line Sync mode to be effective.

This mode is most useful in applications where signal continuity is important, such as feeding VTRs or MPEG encoders



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## Options

Three options are available for the FRS-1101:

- the Video Procamp option (FRS-1101-OPT-PROC),
- the Audio Procamp option (FRS-1101-OPT-AUD8)
- the Line Scope over IP option (FRS-1101-OPT-LS).

### Video Procamp Option

Activate this option on the FRS-1101 card by entering the **activation key** into the Enter Key data box, and clicking the **Enable Option** button.

- The current status of the option is shown in the status box below the Enter Key data box.
- See the text message at the top of the tab for information about purchasing the Video Procamp option and obtaining the activation key.

### Audio Procamp Option

Activate this option on the FRS-1101 card by entering the **activation key** into the Enter Key data box, and clicking the **Enable Option** button.

- The current status of the option is shown in the status box below the Enter Key data box.
- See the text message at the top of the tab for information about purchasing the Audio Procamp option and obtaining the activation key.

### IP Scope Option

The IP Scope option adds a line scope output to the HDC-1861.

This output can be viewed on a standard PC using the iControl Streaming Player, which shows waveform monitor and vectorscope displays.

Activate the IP Scope option on the HDC-1861 card by entering the **activation key** into the Enter Key data box, and clicking the **Enable Option** button.

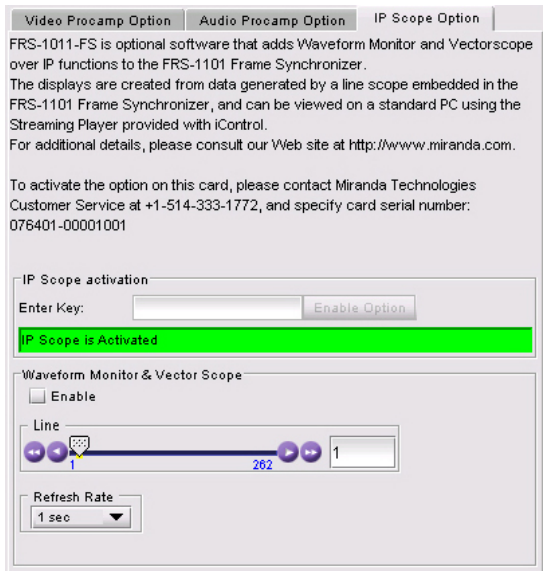
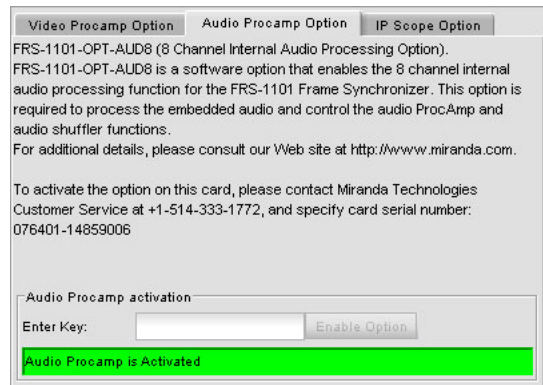
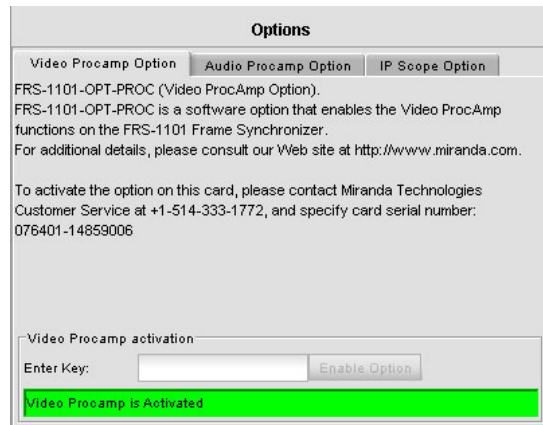
- The current status of the option is shown in the status box below the Enter Key data box.
- See the text message at the top of the tab for information about purchasing the IP Scope option and obtaining the activation key.

### Waveform Monitor and Vector Scope sub-section:

**Enable:** Click on the checkbox to turn the IP Scope output ON.

**Line:** Use the slider or type in the data box to select the video line that will be used by the line scope. The current selection is shown in the data box.

**Refresh Rate:** choose how often the line scope display will be refreshed. Options are 1 sec to 10 sec, and Fast.



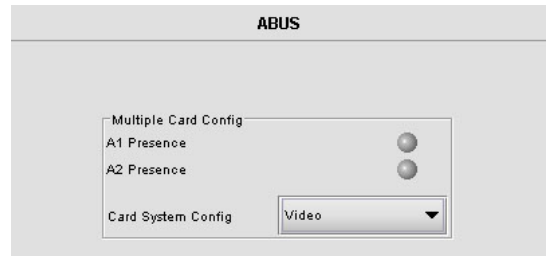
## ABUS

When optional audio cards such as the UAP-1781 are used to provide additional audio signals, the ABUS audio bus links installed audio cards and the FRS-1101. The ABUS panel is used to instruct the FRS-1101 about the presence of installed audio cards.

*Multiple Card Config* sub-section:

The indicators signal the presence of UAP-1781 installed in the chassis. To enable the audio bus, use the pulldown box and select your system's configuration.

Selecting *Video* restricts available audio signals to audio channels embedded in the SD input signal; *Video / A1* or *Video / A1 / A2* adds signals incoming from the installed audio cards that have been detected.



## Factory

Click on the *Load Factory* button to restore all parameter settings on the HDC-1861 to their factory default values.

The Menu shown in this manual lists all possible values for these parameters. The Factory Default values are underlined in the Menu.



## Info

The Info panel provides the user with information about the FRS-1101.

The boxes titled *Label*, *Short Label* and *Comments* are editable; the user can enter their own information.

The *Advanced* button displays the card's unique ID within the iControl system, identifying the FRS-1101 card, the slot and frame into which it is installed, and the URL and port of the frame on the network.

The *Remote System Administration* button at the bottom of the window opens a data entry box titled *Joining Locators*, in which the ADD option opens a dialog box in which the user can identify the Locator by its URL.

## User Presets

The FRS-1101 has memory registers which can hold up to 5 user-defined parameter settings.

The User preset registers are accessed from the *User Presets* controls at the bottom left of the control panel.



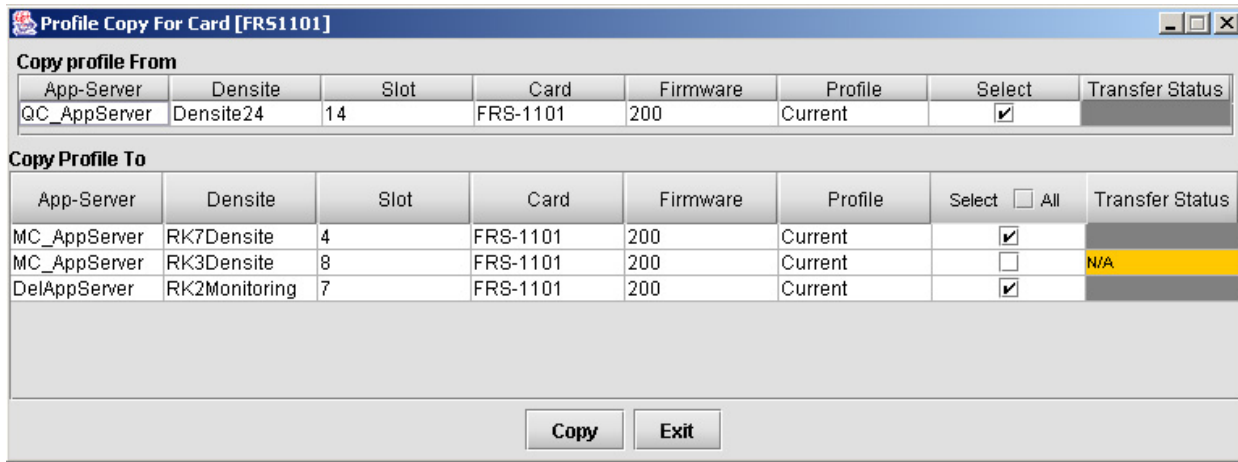
Select any one of the five presets using the pulldown list. The name of the currently-selected User Preset is shown on the on the pulldown icon (e.g. *User1*, *User2*,... *User5*)

- Click *Load* to load the contents of the selected User Preset into the FRS-1101. All parameter settings and values will be replaced by the contents of the selected User Preset.
- Click *Save* to store the current parameter settings and values from the FRS-1101 into the selected User Preset. The existing contents of the preset will be overwritten.

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## Profiles

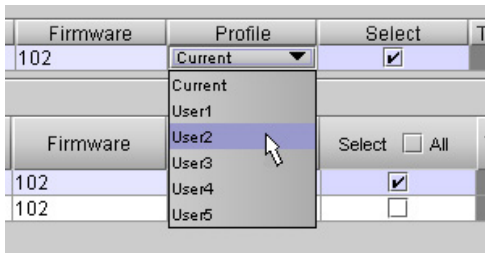
Click the Profiles button at the bottom left to open a window allowing parameter settings to be copied from this FRS-1101 card to other FRS-1101 cards.



The *Copy Profile From* line shows the current FRS-1101.

The *Copy Profile To* table shows all other FRS-1101 cards available in the local iControl environment

- Click in the individual *Select* boxes to select one or more destination FRS-1101 cards, or click *Select All* to select all of them at once. Those noted as not available (N/A) in the Transfer Status column cannot be selected.
- Click on the *Profile* entry in the source FRS-1101 line to see a pulldown listing the Current profile and all 5 user profiles



- Click on one to select it as the source profile
- Click Copy to copy the contents of the selected profile into the same-named profile on the destination FRS-1101 cards.

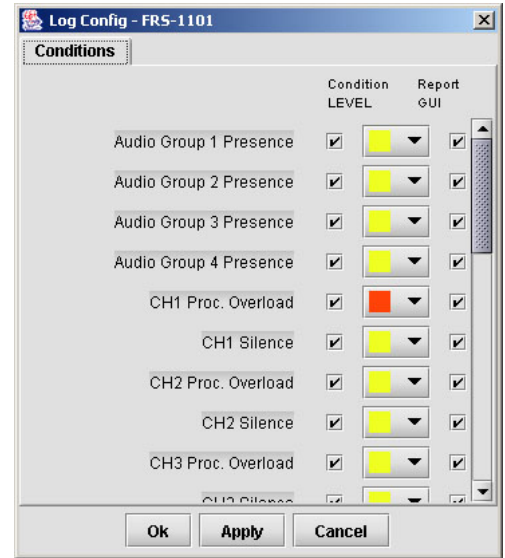
**CONFIGURING ERROR STATUS REPORTING**

The user can configure the response of the FRS-1101 to errors detected on any of its measured parameters.

- In iControl Navigator, right-click on the FRS-1101 icon, and select *Error/Warning Configuration* from the popup menu.

The Log Config panel opens, showing all measured parameters, and offering the following options for each:

- Select the checkbox between the Name and the Condition Level pulldown to enable reporting of that condition.
- Select the LEVEL that will be associated with a condition from the pulldown:
  - YELLOW = Warning
  - RED = Error
- Click the *Report GUI* checkbox to allow the status of this condition to be reflected in the FRS-1101's icon in iControl screens.



The following chart lists the parameters that are checked for errors, and shows the factory default settings:

	Green	Yellow	Red	Flashing Red
No input signal presence			✱	
Reference mismatch			✱	
No reference			✱	
No audio group 1		✱		
No audio group 2		✱		
No audio group 3		✱		
No audio group 4		✱		
Test		✱		
Card System			✱	
Silence Channel 1		✱		
Silence Channel 2		✱		
Silence Channel 3		✱		
Silence Channel 4		✱		
Silence Channel 5		✱		
Silence Channel 6		✱		
Silence Channel 7		✱		
Silence Channel 8		✱		
Overload		✱		

✱ : Factory default.

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**FRS-1101 Card Menu**

**Operating Parameter Adjustment**

The FRS-1101 has operating parameters which may be adjusted locally at the controller card interface. After pressing the SELECT button on the local control panel (described in the Controller card manual) to step through the displayed menu and adjust the parameters. The menus are as follows:

STATUS	NO SIGNAL / SDI 525 / SDI 625 NO EXTERNAL REF / EXTERNAL REF 525 / EXTERNAL REF 625 NO URS / URS 525 / URS 625 REF MISMATCH NO AES / AES GROUP: 1234 SILENCE CH 1 SILENCE CH 2 SILENCE CH 3 SILENCE CH 4 SILENCE CH 5 SILENCE CH 6 SILENCE CH 7 SILENCE CH 8 OVERLOAD CH 1 OVERLOAD CH 2 OVERLOAD CH 3 OVERLOAD CH 4 OVERLOAD CH 5 OVERLOAD CH 6 OVERLOAD CH 7 OVERLOAD CH 8 NO REAR / SINGLE REAR / DOUBLE REAR OUTPUT : 525 / 625 TEST A1 MISSING A2 MISSING CARD SYSTEM HARDWARE FAILURE
--------	--

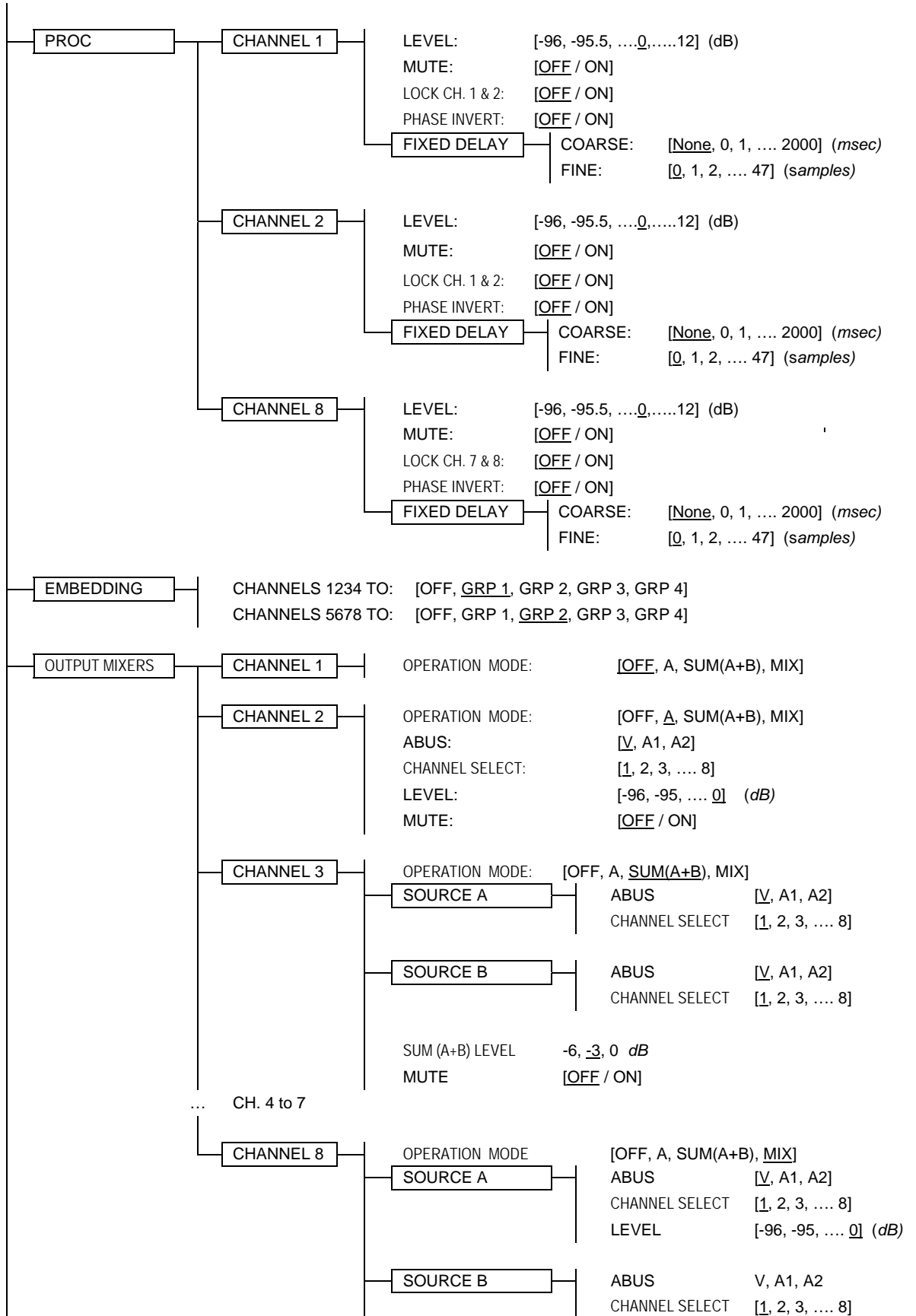
USER PRESET	LOAD:            [USER 1 ,USER 2, USER 3, USER 4, USER 5] SAVE:            [USER 1 ,USER 2, USER 3, USER 4, USER 5]
-------------	--

VIDEO PROC	ALL GAIN:        [-800, -799, ...0...799, 800]        * Available with Video Proc Option LUMA GAIN:       [-800, -799, ...0...799, 800]        * Available with Video Proc Option CHROMA GAIN:    [-800, -799, ...0...799, 800]        * Available with Video Proc Option HUE:             [-180, -179, ...0, .... 179,180]      * Available with Video Proc Option BLACK LEVEL:    [-100, -99, ...0, ..., 99, 100]       * Available with Video Proc Option Cb:               [-800, -799, ...0...799, 800]        * Available with Video Proc Option Cr:               [-800, -799, ...0...799, 800]        * Available with Video Proc Option
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AUDIO*	DE-EMBED	CHANNELS 1234: [GRP 1, GRP 2, GRP 3, GRP 4] CHANNELS 5678: [GRP 1, GRP 2, GRP 3, GRP 4]
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\* Available with Audio Option or Audio Card connected

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			LEVEL	[ -96, -95, .... 0] (dB)
		MUTE:	[OFF / ON]	
	TRACKING DELAY*:	[OFF, ON]		
	NSD THRESHOLD*:	[ -72, -66, -60, -54, -48] (dB)		
	NSD DELAY*:	[OFF, 1, 2, 3, 4, ....255] (sec)		*Available with Audio option only
	WORD LENGTH*:	[20 bits, 24 bits]		
<b>BLANKING</b>	VBI (10-20):	PASS, BLANK, PROC, USER		(525)
	VBI (6-22):	PASS, BLANK, PROC, USER		(625)
	VANC1 (1-9):	PASS, BLANK		(525)
	VANC1 (1-6):	PASS, BLANK		(625)
	HANC:	PASS, BLANK		
<b>INPUT LOSS</b>	[KILL, BLACK, FREEZE FIELD]			
<b>TIMING</b>	FRAME DELAY:	[0, 1, 2]		
	VERTICAL:	[0, 1, 2, .... 523, 524] (lines)		(525)
		[0, 1, 2, .... 623, 624] (lines)		(625)
	HORIZONTAL:	[0, 0.037, 0.064, .... 63,5] (us)		(525)
		[0, 0.037, 0.064, .... 64] (us)		(625)
<b>REFERENCE</b>	SOURCE:	[AUTO, EXTERNAL, URS, INPUT]		
	URS FORMAT:	[OFF, 525, 625]		
<b>CARD SYSTEM</b>	[NONE, A1, A1 + A2]			
<b>TEST</b>	VIDEO	[OFF / ON]		
	AUDIO CH 1&2	[OFF / ON]		
	AUDIO CH 3&4	[OFF / ON]		
	AUDIO CH 5&6	[OFF / ON]		
	AUDIO CH 7&8	[OFF / ON]		
				* Available with Audio Option or Audio Card connected
<b>CONFIG ALARMS</b>	<b>NO SIGNAL</b>	ALARM LEVEL:	[GREEN, YELLOW, RED, FLASH RED]	
		ALARM REPORT:	[NONE, GPI]	
	<b>REF MISMATCH</b>	ALARM LEVEL:	[GREEN, YELLOW, RED, FLASH RED]	
		ALARM REPORT:	[NONE, GPI]	
	<b>NO REF</b>	ALARM LEVEL:	[GREEN, YELLOW, RED, FLASH RED]	
		ALARM REPORT:	[NONE, GPI]	
	<b>NO AUDIO GRP 1</b>	ALARM LEVEL:	[GREEN, YELLOW, RED, FLASH RED]	
		ALARM REPORT:	[NONE, GPI]	
	<b>NO AUDIO GRP 2</b>	ALARM LEVEL:	[GREEN, YELLOW, RED, FLASH RED]	
		ALARM REPORT:	[NONE, GPI]	
	<b>NO AUDIO GRP 3</b>	ALARM LEVEL:	[GREEN, YELLOW, RED, FLASH RED]	
		ALARM REPORT:	[NONE, GPI]	
				* Available with Audio Option or Audio Card connected



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NO AUDIO GRP 4	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
NSD CH 1	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
NSD CH 2	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
NSD CH 3	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
NSD CH 4	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
NSD CH 5	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
NSD CH 6	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
NSD CH 7	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
NSD CH 8	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
OVLD PROCESSING	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]
TEST	ALARM LEVEL ALARM REPORT	[GREEN, <u>YELLOW</u> , RED, FLASH RED] [ <u>NONE</u> , GPI]

\* Available with Audio Option or Audio Card connected

VERSION — FRS-1001: xxx

OPTIONS — VIDEO PROC ON/OFF: Key: xx.xx.xx.xx  
AUDIO ON/OFF: Key: xx.xx.xx.xx  
LINE SCOPE ON/OFF Key: xx.xx.xx.xx

FACTORY DEFAULT — [RESTORE]

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**COMPLIANCE**

**Radio Frequency Interference and Immunity**

This unit generates, uses, and can radiate radio frequency energy. If the unit is not properly installed and used in accordance with this guide, it may cause interference with radio communications. Operation with non-certified peripheral devices is likely to result in interference with radio and television reception. This equipment has been tested and complies with the limits in accordance with the specifications in:

FCC Part 15, Subpart B;

CE EN50081-1:1992;

CE EN50082-1:1992.

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