(DENSITÉ) SERIES

ADX-1121

Description

The ADX-1121 is a high-quality disembedder designed to extract up to two AES/EBU 24-bit 48kHz digital audio signals from a single SMPTE 259M component serial digital video signal. The module supports signal presence detection and remote reporting, and local or remote configuration and control. The card has built-in audio tone test signals.

The ADX-1121 is designed for use in the DENSITÉ frame, and uses either a single or double-width rear panel.

Video Features

- Isolated serial SDI input with automatic equalization for up to 350m of cable.
- Automatic detection of loss of SDI input and switchover to audio silence
- Auto-detects video input format (525 or 625 lines)
- Three SDI pass-through outputs when using double rear panel

Audio Features

- AES/EBU outputs: either 110 Ω balanced or 75 Ω unbalanced, depending on rear panel in use
- Selectable audio delay up to 6 fields
- 20 or 24-bit digital audio disembedding
- Outputs audio silence if SDI input is lost
- Left/Right channels may be swapped on each of the AES/EBU output signals
- Selectable routing of audio groups to AES audio outputs
- All audio outputs are co-phased
- Dolby-E compatible
- Up to 48 AES/EBU signals can be disembedded from the active data area using multiple disembedders

Other Features

- Linear Time Code (LTC) output reconstructed from ANC data inserted by the embedder

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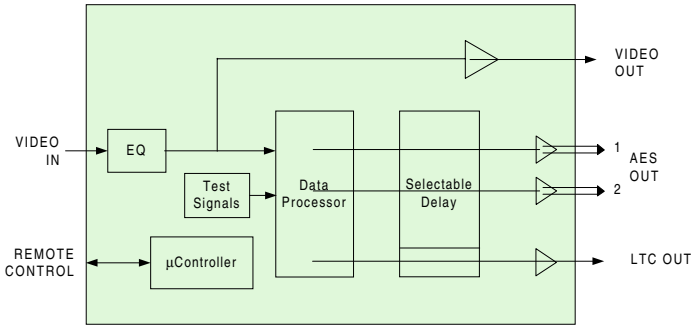
FUNCTIONAL BLOCK DIAGRAM



SPECIFICATIONS

VIDEO INPUT

Video Signal:	SDI SMPTE 259M-C (270 Mbps)
Cable Length:	up to 350m of Belden 1694A
Return Loss:	>15 dB, 5 MHz to 270 MHz

AUDIO AES-3id OUTPUT

Signal:	AES-3id (SMPTE 276M)
Level:	1.0 Vp-p ±10%
Impedance:	75 Ω unbalanced

AUDIO AES3 OUTPUT

Signal:	AES3
Level:	3.0 Vp-p ±10%
Impedance:	110 Ω balanced

SPECIFICATIONS(cont'd)

AUDIO AES SIGNAL

Sampling Rate:	48kHz synchronous
Bits:	20 or 24-bit (other bit resolutions padded to 20 or 24-bit)

LTC SIGNAL

Signal:	Reconstructed LTC from sampled input to Embedder
Impedance:	< 55 ohm source for Hi-Z termination
Level:	1.0 Vp-p

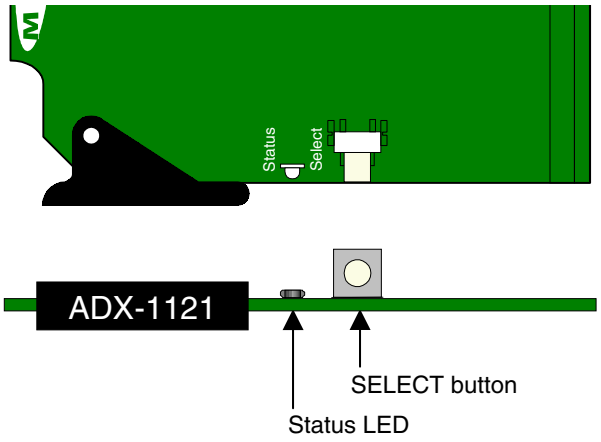
VIDEO OUTPUT (Input active loop-through)

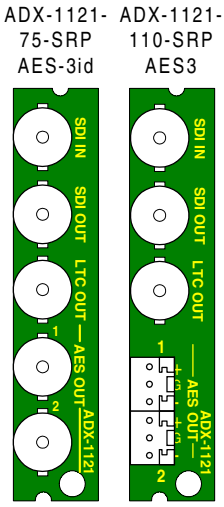
Video Signal:	SDI SMPTE 259M-C
Return Loss:	>15 dB up to 270 MHz
Wideband Jitter:	< 0.2 UI p-p

PROCESSING PERFORMANCE

Signal Path:	10-bit video / 20/24 bit audio
Audio Processing Delay:	600 µs audio insertion delay (combined embedding and extraction ‡‡)
Audio Delay:	Up to 6 video fields (one field steps)
LTC Processing Delay:	8 video lines (combined embedding and extraction ‡‡)
LTC Delay:	None or tracking of audio delay
Test Signals:	Audio - 1 kHz tone (R steady, L pulsed) -18dBFS (EBU R49, R68)
Power:	5 W

Note ‡‡: Applicable to combinations of AMX-1121/1141 & ADX-1121/1141





ADX-1121 Rear Connector Panels

INSTALLATION

Make sure the following items have been shipped with your ADX-1121. If any of the following items are missing, contact your distributor or Miranda Technologies Inc.

* ADX-1121 Digital Audio Disembedder
* ADX-1121 rear panel (see figure for options)

The ADX-1121 and its associated rear connector panel must be mounted in a DENSITÉ frame. It is not necessary to switch off the frame's power when installing or removing the ADX-1121. See the DENSITÉ Frame manual for detailed instructions for installing cards and their associated rear panels..

Overview

The DENSITÉ frame incorporates a central controller card, located in the center of the frame, which 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.

Status Monitor LED

The status monitor LED is located on the front card-edge of the ADX-1121 module, and is visible through the front access door of the DENSITÉ frame. This multi-color LED indicates module status by color, and by flashing/steady illumination, according to the following chart (which also indicates fault reporting for this card on the DENSITÉ frame's serial and GPI interfaces).

	REPORT		COLOR (F=flashing)			
	SERIAL	GPI	G	Y	R	FR
No errors			✪			
No signal	✪				✪	
No rear						✪
Test mode				✪		

✪ : Factory default. User configurable

A "Flashing Yellow" Status LED indicates that the SELECT button on the front panel has been pushed, and the controller display and control panel are now assigned to this card.

The LED color assignments for some error conditions can be reconfigured by the user (see the chart and menu for details).

User Interface

Pushing the SELECT button will cause the on-card STATUS LED to flash yellow, and the card identification and the current status will be shown on the controller card's display. The STATUS LED will revert to it's normal state upon a second push of the button, or after a short delay. The messages which may appear are shown in the top line of the menu chart on page 3

Example :

SELECT button pushed twice when there is no input signal connected to the rear panel and the LED is steady red:

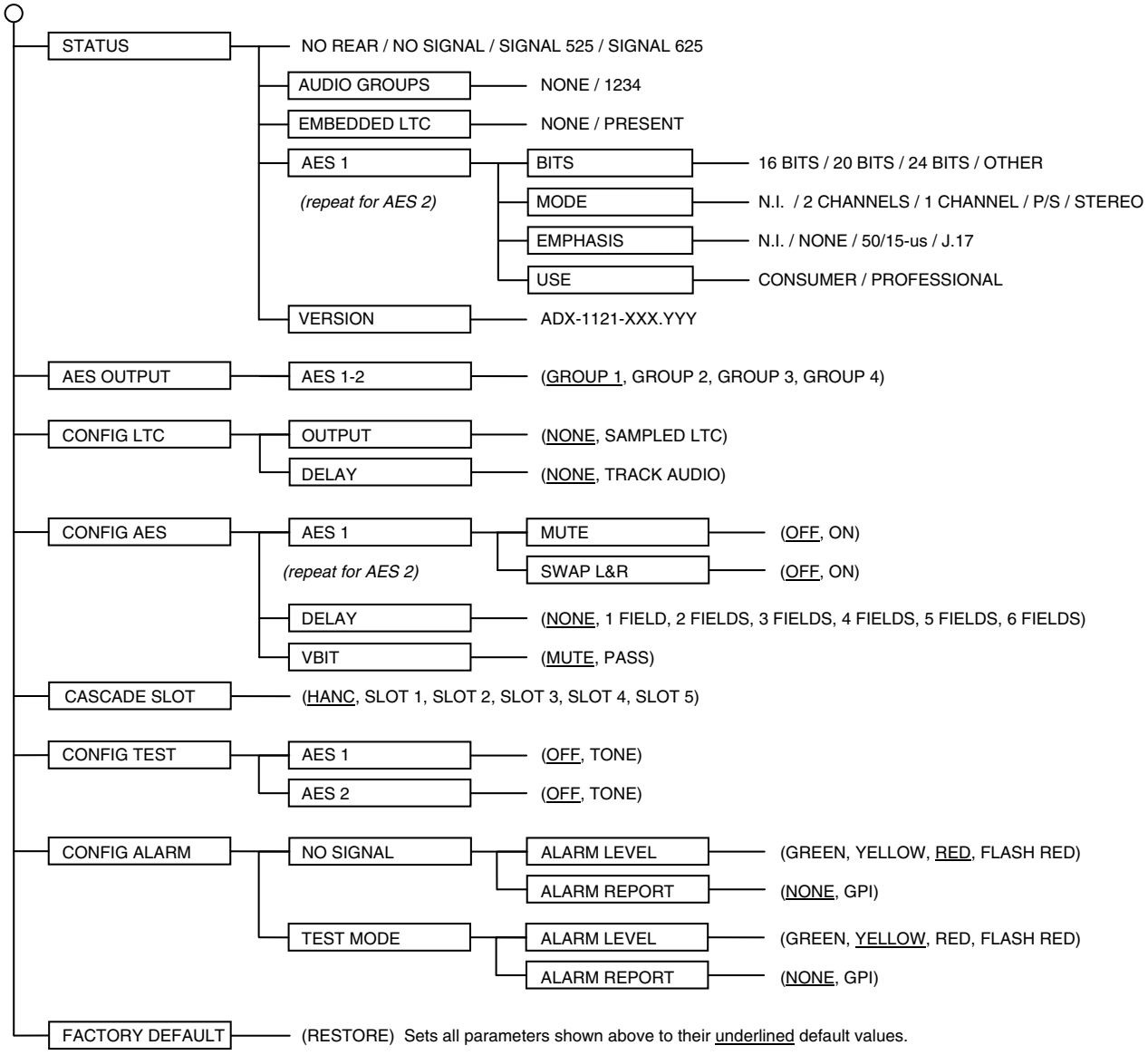
A	D	X	-	1	1	2	1								
N	O		S	I	G	N	A	L							

Use the local control panel to access the detailed status report shown in the STATUS menu on page 3.

Operating Parameter Adjustment

The ADX-1121 has operating parameters which may be adjusted at the controller card interface. After pressing the SELECT button on the ADX-1121 card, use the keys on the local control panel (described in the Controller card manual) to step through the displayed menu and adjust the parameters. The menus are shown on the next page.

ADX-1121 Menus



AES OUTPUT menu

AES 1-2: Selects which embedded audio group will appear at the indicated outputs of the ADX-1121

CONFIG LTC menu

OUTPUT: Permits the user to select the source of the time code appearing at the LTC output - either NONE or SAMPLED LTC (reconstructed from the embedded ANC data).

DELAY: set the delay of the time code as it passes through the disembedder. May be set to NONE, or TRACK AUDIO to track the audio delay set in the *CONFIG AES* menu.

CONFIG AES menu

AES 1, 2: Select MUTE ON or OFF, and SWAP L&R ON or OFF, for each of the two AES data streams.

DELAY: set the delay of the AES audio as it passes through the disembedder. Selectable between NONE, and a number of video fields (1 to 6).

VBIT: when VBIT is selected to MUTE and an audio error is detected, the ADX-1121 will force the AES VBIT status; when PASS is selected the VBIT will be passed unchanged.

CASCADE SLOT menu

Allows the user to select the location from which this ADX-1121 will extract data – either the HANC or one of 5 slots in the active video area. Up to 48 AES signals can be embedded in the active area slots.

CONFIG TEST menu

AES 1, 2: User can enable or disable a test tone (1 KHz, R-steady, L-pulsed, at –18dBFS) on each of the two AES data streams individually

CONFIG ALARM menu

The user can configure the status LED presentation (ALARM LEVEL) and fault reporting (NONE or GPI) for some of the fault conditions of the ADX-1121. Those not listed here are factory-set and cannot be user-modified.

NO SIGNAL: Errors include no signal attached to the card input, or faulty incoming SDI signal.

TEST MODE: Indicates whether test signals are present on any of the ADX-1121 audio outputs.

FACTORY DEFAULT menu

Select *RESTORE* to reset all of the menu-adjustable parameters to a factory-preset state (indicated in the menu by an underline in the list of available choices).

WARRANTIES

Miranda's Warranty and Warranty Policy are explained in full detail in the Warranty Information Sheet.

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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(DENSITÉ) SERIES

ADX-1141

Description

The ADX-1141 is a high-quality disembedder designed to extract up to four AES/EBU 24-bit 48kHz digital audio signals from a single SMPTE 259M component serial digital video signal. The module supports signal presence detection and remote reporting, and local or remote configuration and control. The card has built-in audio tone test signals.

The ADX-1141 is designed for use in the DENSITÉ frame, and uses either a single or double-width rear panel.

Video Features

- Isolated serial SDI input with automatic equalization for up to 350m of cable.
- Automatic detection of loss of SDI input and switchover to audio silence
- Auto-detects video input format (525 or 625 lines)
- Three SDI pass-through outputs when using double rear panel

Audio Features

- AES/EBU outputs: either 110 Ω balanced or 75 Ω unbalanced, depending on rear panel in use
- Selectable audio delay up to 6 fields
- 20 or 24-bit digital audio disembedding
- Outputs audio silence if SDI input is lost
- Left/Right channels may be swapped on each of the AES/EBU output signals
- Selectable routing of audio groups to AES audio outputs
- All audio outputs are co-phased
- Dolby-E compatible
- Up to 48 AES/EBU signals can be disembedded from the active data area using multiple disembedders

Other Features

- Linear Time Code (LTC) output reconstructed from ANC data inserted by the embedder

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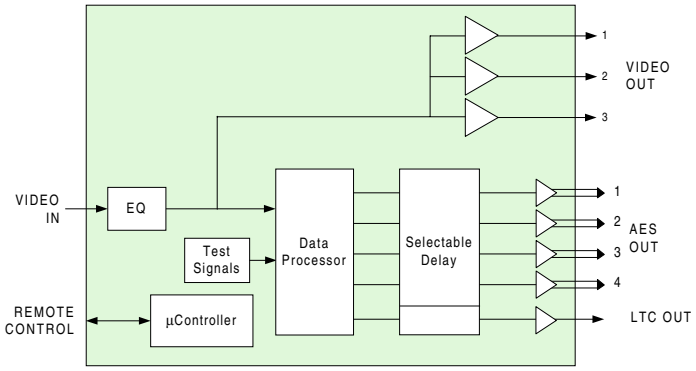
FUNCTIONAL BLOCK DIAGRAM



SPECIFICATIONS

VIDEO INPUT

Video Signal:	SDI SMPTE 259M-C (270 Mbps)
Cable Length:	up to 350m of Belden 1694A
Return Loss:	>15 dB, 5 MHz to 270 MHz

AUDIO AES-3id OUTPUT

Signal:	AES-3id (SMPTE 276M)
Level:	1.0 Vp-p ±10%
Impedance:	75 Ω unbalanced

AUDIO AES3 OUTPUT

Signal:	AES3
Level:	3.0 Vp-p ±10%
Impedance:	110 Ω balanced

SPECIFICATIONS(cont'd)

AUDIO AES SIGNAL

Sampling Rate:	48kHz synchronous
Bits:	20 or 24-bit (other bit resolutions padded to 20 or 24-bit)

LTC SIGNAL

Signal:	Reconstructed LTC from sampled input to Embedder
Impedance:	< 55 ohm source for Hi-Z termination
Level:	1.0 Vp-p

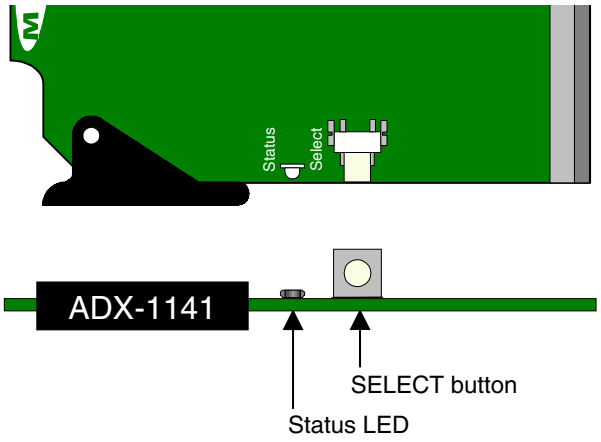
VIDEO OUTPUT (Input active loop-through)

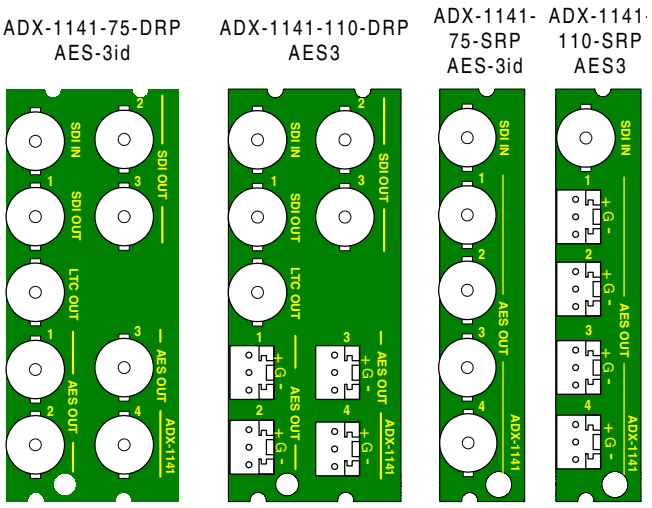
Video Signal:	SDI SMPTE 259M-C
Return Loss:	>15 dB up to 270 MHz
Wideband Jitter:	< 0.2 UI p-p

PROCESSING PERFORMANCE

Signal Path:	10-bit video / 20/24 bit audio
Audio Processing Delay:	600 µs audio insertion delay (combined embedding and extraction ‡‡)
Audio Delay:	Up to 6 video fields (one field steps)
LTC Processing Delay:	8 video lines (combined embedding and extraction ‡‡)
LTC Delay:	None or tracking of audio delay
Test Signals:	Audio - 1 kHz tone (R steady, L pulsed) -18dBFS (EBU R49, R68)
Power:	5 W

Note ‡‡: Applicable to combinations of AMX-1121/1141 & ADX-1121/1141





ADX-1141 Rear Connector Panels

INSTALLATION

Make sure the following items have been shipped with your ADX-1141. If any of the following items are missing, contact your distributor or Miranda Technologies Inc.

* ADX-1141 Digital Audio Disembedder
* ADX-1141 rear panel (see figure for options)

The ADX-1141 and its associated rear connector panel must be mounted in a DENSITÉ frame. It is not necessary to switch off the frame's power when installing or removing the ADX-1141. See the DENSITÉ Frame manual for detailed instructions for installing cards and their associated rear panels.

The ADX-1141 has multiple audio and video outputs, and making space for all the necessary connectors at the rear of the frame requires a double-width rear panel. If only the AES audio outputs are required, a single-width rear panel is available.

When a double–width rear panel has been installed, the ADX-1141 must be installed in the right-most of the two slots covered by the panel in order to mate with the panel's connectors. If it is placed in the wrong slot, the front panel LED will flash red. Move the card to other slot for correct operation. No damage will result to the card should this occur.

Overview

The DENSITÉ frame incorporates a central controller card, located in the center of the frame, which 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.

Status Monitor LED

The status monitor LED is located on the front card-edge of the ADX-1141 module, and is visible through the front access door of the DENSITÉ frame. This multi-color LED indicates module status by color, and by flashing/steady illumination, according to the following chart (which also indicates fault reporting for this card on the DENSITÉ frame's serial and GPI interfaces).

	REPORT		COLOR (F=flashing)			
	SERIAL	GPI	G	Y	R	FR
No errors			✪			
No signal	✪				✪	
No rear						✪
Test mode				✪		

✪ : Factory default. ▭ User configurable

A "Flashing Yellow" Status LED indicates that the SELECT button on the front panel has been pushed, and the controller display and control panel are now assigned to this card.

The LED color assignments for some error conditions can be reconfigured by the user (see the chart and menu for details).

User Interface

Pushing the SELECT button will cause the on-card STATUS LED to flash yellow, and the card identification and the current status will be shown on the controller card's display. The STATUS LED will revert to it's normal state upon a second push of the button, or after a short delay. The messages which may appear are shown in the top line of the menu chart on page 3

Example :

SELECT button pushed twice when there is no input signal connected to the rear panel and the LED is steady red:

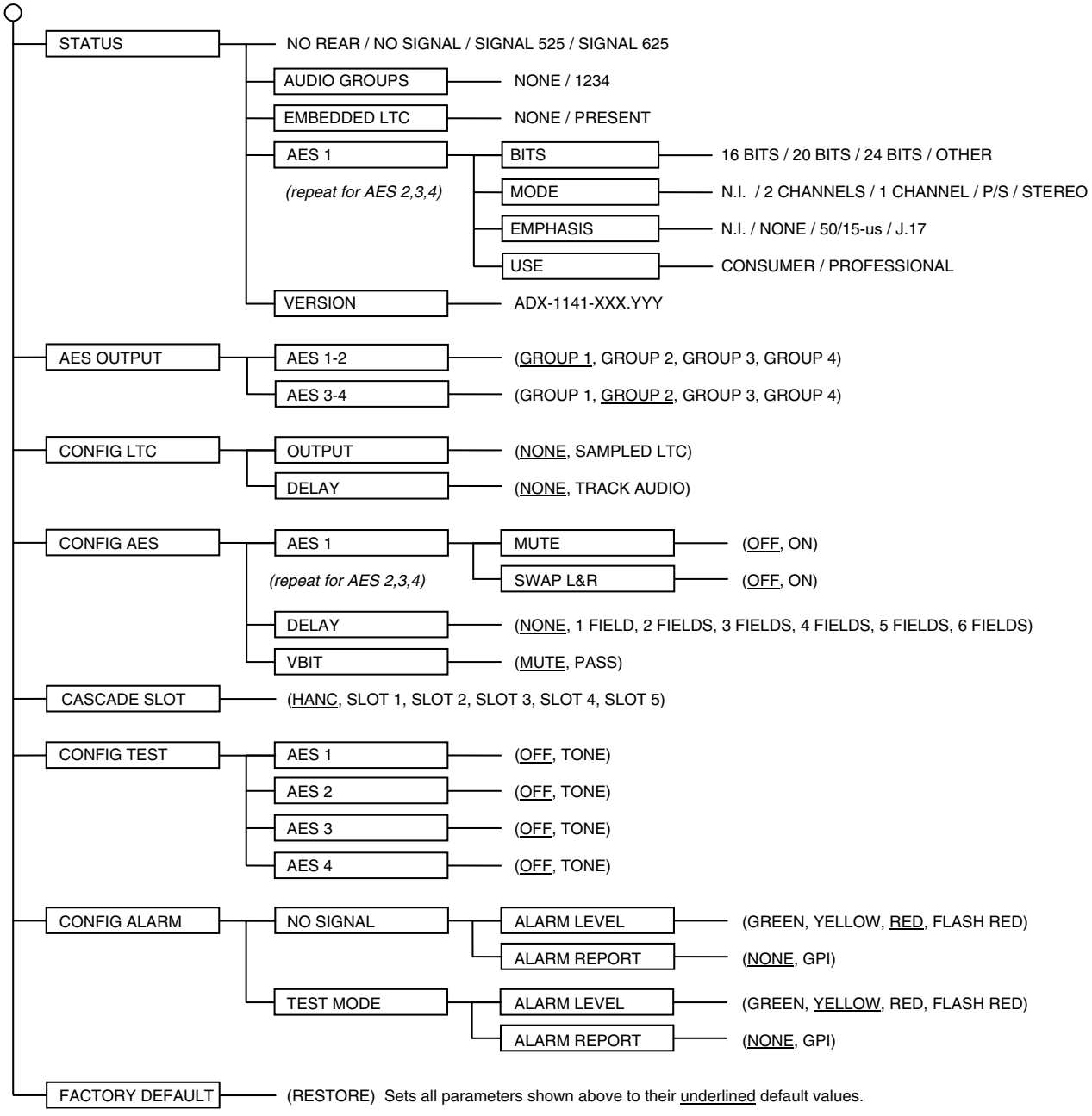
A	D	X	-	1	1	4	1								
N	O		S	I	G	N	A	L							

Use the local control panel to access the detailed status report shown in the STATUS menu on page 3.

Operating Parameter Adjustment

The ADX-1141 has operating parameters which may be adjusted at the controller card interface. After pressing the SELECT button on the ADX-1141 card, use the keys on the local control panel (described in the Controller card manual) to step through the displayed menu and adjust the parameters. The menus are shown below.

ADX-1141 Menus



AES OUTPUT menu

AES 1-2; AES 3-4: Selects which embedded audio group will appear at the indicated outputs of the ADX-1141

CONFIG LTC menu

OUTPUT: Permits the user to select the source of the time code appearing at the LTC output - either NONE or SAMPLED LTC (reconstructed from the embedded ANC data).

DELAY: set the delay of the time code as it passes through the disembedder. May be set to NONE, or TRACK AUDIO to track the audio delay set in the *CONFIG AES* menu.

CONFIG AES menu

AES 1, 2, 3, 4: Select MUTE ON or OFF, and SWAP L&R ON or OFF, for each of the four AES data streams.
DELAY: set the delay of the AES audio as it passes through the disembedder. Selectable between NONE, and a number of video fields (1 to 6).

VBIT: when VBIT is selected to MUTE and an audio error is detected, the ADX-1141 will force the AES VBIT status; when PASS is selected the VBIT will be passed unchanged.

CASCADE SLOT menu

Allows the user to select the location from which this ADX-1141 will extract data – either the HANC or one of 5 slots in the active video area. Up to 48 AES signals can be embedded in the active area slots.

CONFIG TEST menu

AES 1, 2, 3, 4: User can enable or disable a test tone (1 KHz, R-steady, L-pulsed, at –18dBFS) on each of the four AES data streams individually

CONFIG ALARM menu

The user can configure the status LED presentation (ALARM LEVEL) and fault reporting (NONE or GPI) for some of the fault conditions of the ADX-1141. Those not listed here are factory-set and cannot be user-modified.

NO SIGNAL: Errors include no signal attached to the card input, or faulty incoming SDI signal.

TEST MODE: Indicates whether test signals are present on any of the ADX-1141 audio outputs.

FACTORY DEFAULT menu

Select *RESTORE* to reset all of the menu-adjustable parameters to a factory-preset state (indicated in the menu by an underline in the list of available choices).

WARRANTIES

Miranda's Warranty and Warranty Policy are explained in full detail in the Warranty Information Sheet.

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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