SDA-1142

DESCRIPTION

The SDA-1142 is a reclocked serial digital video distribution amplifier with analog video monitoring outputs. The SDA-1142 handles V-bit and provides 5 reclocked outputs and 4 copmposite analog video monitoring outputs; it also provides automatic equalization for up to 350 meters of cable (Belden 1694A), and signal presence detection and remote reporting. The SDA-1142 includes reclocking, providing an additional level of signal integrity in longcable length applications. The SDA-1142 supports serial digital video (SMPTE 259M) at 270 Mbps. The SDA-1142 is designed to be used in a *DENSITÉ* frame. A "single" or "double" rear connector panel is required.
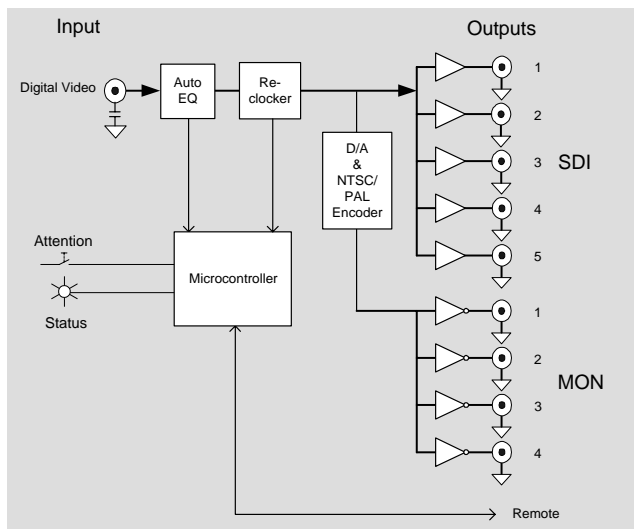
This card operates with the MSB-1121 Monitoring Switching Bridge which allows the output of any module in the Densité frame to be monitored.

Multiple MSB equipped frames may be cascaded to form a large monitoring bus, eliminating the need for dedicated monitoring routers.

FEATURES

- (1) 75 ohms isolated Digital video input
- (9) 75 ohms Digital video outputs
- Auto-detects 525 or 625-line format
- Compatible with SMPTE-259M-C (270 Mbps) digital video signals
- Compatible with DVB-ASI (270 Mbps)
- Reclocking of outputs
- Signal presence detection and remote reporting
- Automatic cable equalization.

FUNCTIONAL BLOCK DIAGRAM

SPECIFICATIONS

INPUT
Signal:	SMPTE-259M-C (270 Mbps)
Cable length:	350 m (1148') @ 270Mbps for Belden 1694A
Return loss:	> 15 dB up to 270 Mbps

SPECIFICATIONS (cont'd)

DIGITAL OUTPUTS
Signal (5):	SMPTE-259M-C (270 Mbps)
Return loss:	> 15 dB for up to 270 Mbps
Jitter (wideband):	< 0.2 UI p-p

ANALOG OUTPUTS
Signal (4):	NTSC (525/60) SMPTE 170M
	PAL-M (525/60) ITU R BT.470-6
	PAL-N (625/50) ITU R BT.470-6
Return Loss:	>35 dB up to 5.75 MHz

PROCESSING PERFORMANCE
Digital
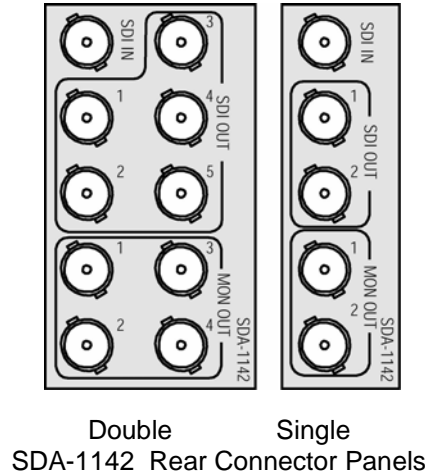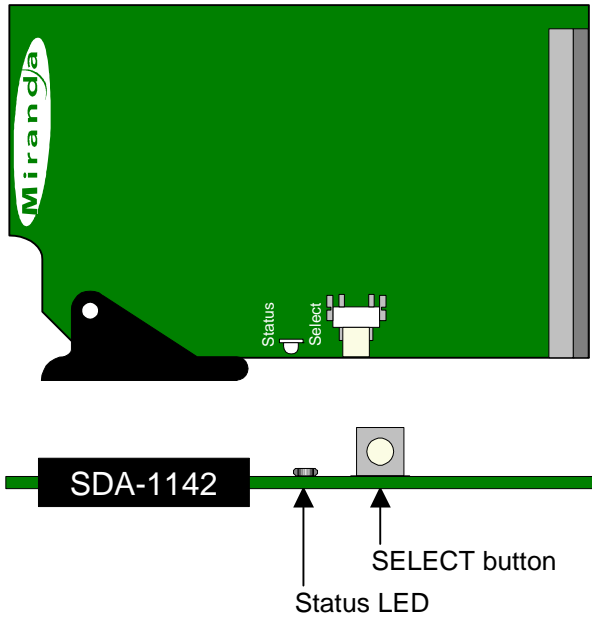|	
Signal path:	10 bits
Processing delay:	10.5 ns

Analog
Quantization:	10 bits
Sampling:	27 MHz (2X oversampling)
Freq. Response:	±0.5 dB to 4.2 MHz
Noise (unweighted):	<54 dB to 5.75 MHz
Processing Delay:	1.4 µs
VBI:	passed

Double   Single
SDA-1142 Rear Connector Panels

SELECT button

Status LED

UNPACKING

Make sure the following items have been shipped with your SDA-1142. If any of the following items are missing, contact your distributor or Miranda Technologies Inc.

*   SDA-1142 Reclocked Digital Video DA
*   SDA-1142 rear panel (single or double)

INSTALLATION

The SDA-1142 must be mounted in a DENSITÉ frame. The installation includes both the SDA-1142 module, and the rear panel module. It is not necessary to switch off the power from these frames when installing or removing the SDA-1142.

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

Rear panel options

The SDA-1142 has nine outputs, and making these available on BNC connectors at the rear of the frame requires a double-width rear panel. Should the intended use require a smaller number of outputs, a single-width rear panel with four BNC output connectors (two SDI and two Analog Video Monitoring) is also available.

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

OPERATION

Overview

The SDA-1142 is equipped with an on-board LED status indicator, mounted on the front edge of the card so as to be visible from the front of the card

frame, even when the frame door is closed. The functionality of this status monitor is described below.

The DENSITÉ frame incorporates a central controller card, located in the center of the frame, which is equipped with an LCD display. The card handles error reporting and remote control for all cards installed in the frame. The display shows the error

status of any card in the frame whose SELECT button has been pushed.

The SDA-1142 is also equipped with the remote reporting and control capabilities of the DENSITÉ series. Fault reporting is carried out on a frame-wide basis. There is no individual rear-panel access to the fault and status reporting port of the SDA-1142. Interfacing to the outside world is handled by the frame's contoller card. The fault reporting protocol is standardized across the DENSITÉ series of modules.

Status Monitor LED

The status monitor LED is located on the front card-edge of the SDA-1142 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 illuminationaccording to the following chart. The chart also indicates fault reporting for this card on the DENSITÉ frame's serial and GPI interfaces.
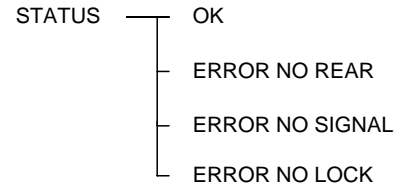
Status Indicator

	REPORT		COLOR (F=flashing)			
	SERIAL	GPI	G	Y	R	FR
No errors			✪			
No Input Signal	✪				✪	
No rear panel						✪
No lock on input signal	✪				✪	

✪ : Factory default.

NOTE: A "Flashing Yellow" Status LED indicates that the SELECT button on the front panel has been pushed, and the card is being accessed by the controller. The LED color assignments for the various error conditions can be reconfigured by the user.

User Interface

Push the SELECT button on the front edge of the SDA-1142 to see a report of the current error status on the DENSITÉ frame's controller card display. The SDA-1142 has four possible status messages:

```
STATUS ─── OK
         ├─ ERROR NO REAR
         ├─ ERROR NO SIGNAL
         └─ ERROR NO LOCK
```

Pushing the SELECT button will cause the on-card STATUS LED to flash yellow, and the card identification and the current error message 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 otherwise.

Example:

SELECT button pushed when the status LED is green:

S	D	A	-	1	1	4	2							
S	T	A	T	U	S		O	K						

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

S	D	A	-	1	1	4	2							
N	O		S	I	G	N	A	L						

The SDA-1142 has operating parameters which may be adjusted using menus operated at the controller card interface. After pressing the SELECT button on the SDA-1142 card, use the keys on the local control panel to step through the menu and adjust these parameters. The menus, including the parameters which can be adjusted, and the options which are available, are shown on page 4.

CONFIG VIDEO menu:
Allows the user to enable or disable CHROMA (to yield a monochrome monitoring output) and NTSC set-up on the monitoring output.
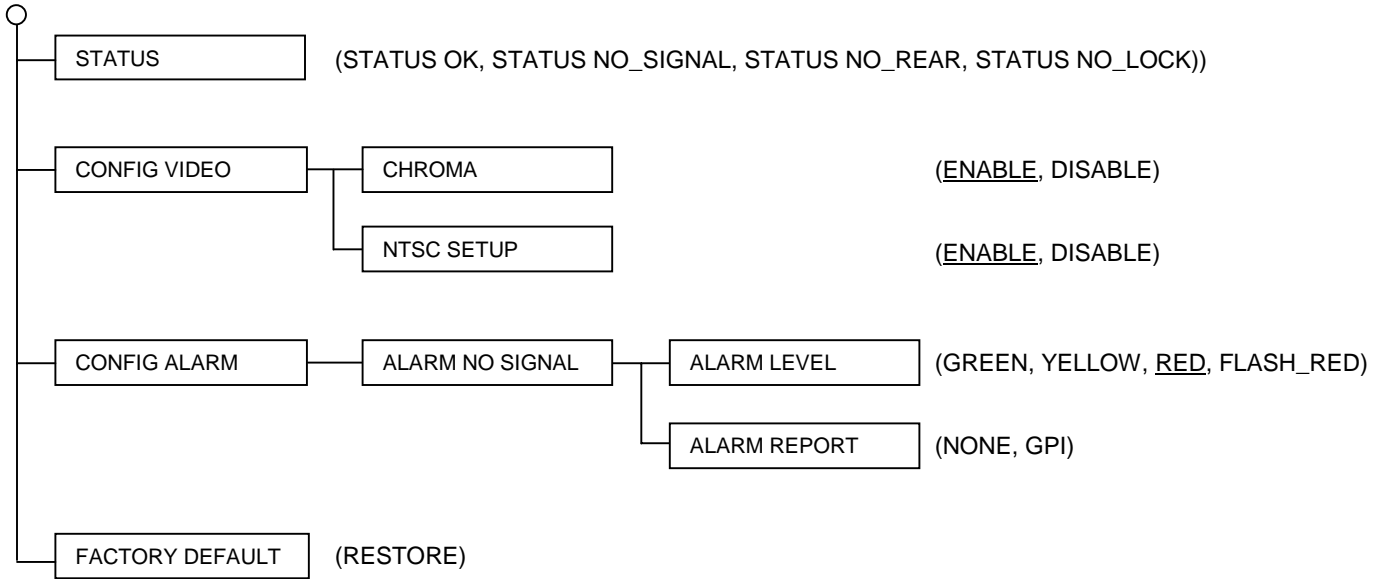
CONFIG ALARM menu:
Allows the user to set the Status LED display for the NO SIGNAL condition, and to determine whether a GPI alarm will be triggered.

FACTORY DEFAULT restores the SDA-1142 to the factory set-up conditions.

The use of the local control panel is described in the controller card manual.

SDA-1142 Menus

```
○
├── [ STATUS ]              (STATUS OK, STATUS NO_SIGNAL, STATUS NO_REAR, STATUS NO_LOCK))
│
├── [ CONFIG VIDEO ]──┬── [ CHROMA ]          (ENABLE, DISABLE)
│                     │
│                     └── [ NTSC SETUP ]      (ENABLE, DISABLE)
│
├── [ CONFIG ALARM ]── [ ALARM NO SIGNAL ]──┬── [ ALARM LEVEL ]   (GREEN, YELLOW, RED, FLASH_RED)
│                                           │
│                                           └── [ ALARM REPORT ]  (NONE, GPI)
│
└── [ FACTORY DEFAULT ]     (RESTORE)
```

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.

CONTACT MIRANDA

Head Office	*Miranda Europe*	*Miranda Asia*
Miranda Technologies Inc. 3499 Douglas B. Floreani St. Laurent (Montreal), Que. H4S 1Y6 Canada	216 Rue De Rosny 93100 Montreuil France	Mita Nexux Bldg. 2F 1-3-33 Mita, Minato-Ku Tokyo, Japan 108-0073

Tel	+1 (514) 333-1772	+33 1 55 86 87 88	+81 3 5730 2988
Fax	+1 (514) 333-9828	+33 1 55 86 00 29	+81 3 5730 2973

Toll free: 1-800-224-7882