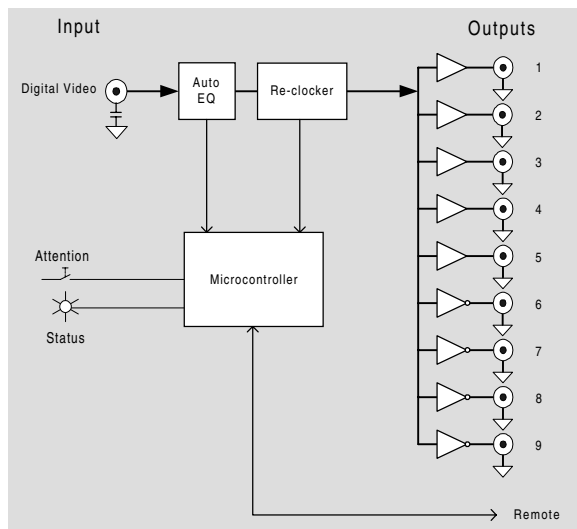# Miranda

(DENSITÉ) SERIES

SDA-1111

DESCRIPTION

The SDA-1111 is a reclocked serial digital video distribution amplifier supporting a wide variety of compressed and uncompressed serial digital video signals. The SDA-1111 provides 9 reclocked outputs with automatic equalization for up to 350 meters of cable (Belden 1694A). The amplifier also offers signal presence detection and remote reporting. The SDA-1111 includes reclocking, providing an additional level of signal integrity in longcable length applications The SDA-1111 supports DVB-ASI 270 Mbps compressed bit streams as well as serial digital video at bit rates of 143, 177, 270, 360 and 540 Mbps. The SDA-1111 is designed to be used in a *DENSITÉ* frame. A single (for 4 outputs) or double (for 9 outputs) rear connector panel is required.

FEATURES

- (1) 75Ω isolated Digital video input
- (9) 75Ω Digital video outputs
- Auto-detects 525 or 625-line format
- Compatible with SMPTE-259M (143-360 Mbps) and SMPTE-344M (540 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

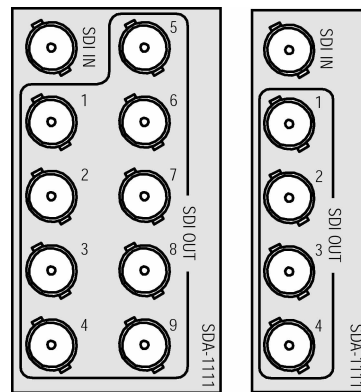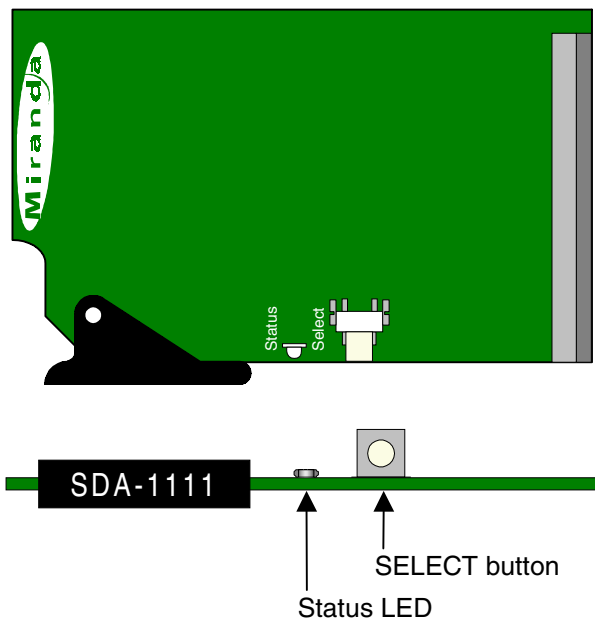|	
Signal:	SMPTE-259M (143, 177, 270, 360 Mbps)
	SMPTE-344M (540 Mbps)
	DVB-ASI (270Mbps)
	DVB-SSI/SMPTE-310M (Any rate)
Cable length:	350 m (1148') @ 270Mbps for Belden 1694A
Return loss:	> 15 dB up to 540Mbps

OUTPUTS (4 or 9)

Signal:	SMPTE-259M (143, 177, 270, 360, 540 Mbps)
	SMPTE-344M (540 Mbps)
	DVB-SSI/SMPTE-310M (Any rate)
	DVB-ASI (270Mbps) outputs 1 to 5 only
Return loss:	> 15 dB for up to 540Mbps
Jitter (wideband):	< 0.2 UI p-p

PROCESSING PERFORMANCE

Signal path:	10 bits
Processing delay:	10.5 ns
Power:	1.5 W (single), 2 W (double)

Double   Single
SDA-1111 Rear Connector Panels

SELECT button

Status LED

UNPACKING

Make sure the following items have been shipped with your SDA-1111. If any of the following items are missing, contact your distributor or Miranda Technologies Inc.

*   SDA-1111 Reclocked Digital Video DA
*   SDA-1111 rear panel (single or double)

INSTALLATION

The SDA-1111 must be mounted in a DENSITÉ frame. The installation includes both the SDA-1111 module, and the rear panel module. It is not necessary to switch off the power from these frames when installing or removing the SDA-1111.

Detailed instructions for installing cards and their associated rear panels in the Densité frame are given in the Densité Frame manual. Specific points to note for the SDA-1111 are the following.

Rear panel installation

The SDA-1111 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 is also available.

In the case where a double 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 function. Should it be installed in the wrong slot, the front panel LED will flash red (see *OPERATION* for a discussion of the LED functionality). Move the card to the other slot for correct operation. No damage will result to the card should this occur.

OPERATION

Overview

Distribution amplifiers require a minimal operator interface. The SDA-1111 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-1111 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-1111. 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.

The communications protocol and functionality are described elsewhere.

Status Monitor LED

The status monitor LED is located on the front card-edge of the SDA-1111 module, and is visible through the front access door of the DENSITÉ frame.

This is a multi-color LED, which indicates module status by color, and by flashing/steady illumination. The SDA-1111 uses three of the available modes. They are summarized in the following table. The table also indicates that a serial report will be filed for the indicated error condition, through the remote reporting protocol of the DENSITÉ frame if it is operative.

Status Indicator

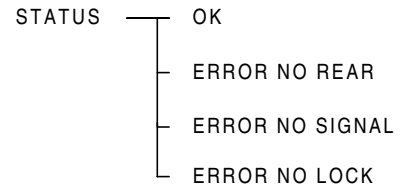|	REPORT		COLOR (F=flashing)			
	SERIAL	GPI	G	Y	R	FR
No errors			✪			
No Input Signal	✪				✪	
No rear panel						✪
No lock on input signal	✪				✪	

✪ : 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 via the communications protocol. 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-1111 to see a report of the current error status on the DENSITÉ frame's controller card display. The SDA-1111 has four possible status messages, as indicated in the following figure:

```
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	1	1								
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	1	1								
N	O		S	I	G	N	A	L							

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	222, 226 Rue De Rosny 93100 Montreuil France	Mita Nexux Bldg. 2F 1-3-33 Mita, Minato-Ku Tokyo, Japan 108-0073
Tel (514) 333 – 1772 *Fax* (514) 333 – 6914	+33 1 55 86 87 88 +33 1 55 86 00 29	81 3 5730 2988 81 3 5730 2973

Toll free: 1-800-224-9828