



(DENSITÉ) SERIES

# SDA-1112

## DESCRIPTION

The SDA-1112 is a reclocked serial digital video distribution amplifier supporting a wide variety of compressed and uncompressed serial digital video signals. The SDA-1112 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-1112 includes reclocking, providing an additional level of signal integrity in longcable length applications. The SDA-1112 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-1112 is designed to be used in a *DENSITÉ* frame. A single (for 4 outputs) or double (for 9 outputs) rear connector panel is required.

This card operates with the MSB-1121 Monitoring

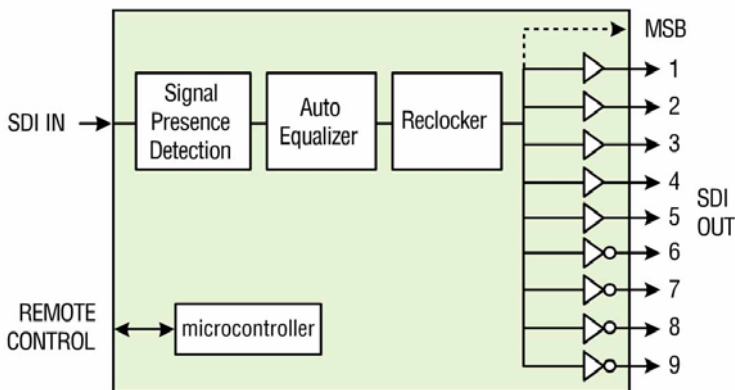
Switching Bridge which allows the output of any module in the Densité frame to be monitored.

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 (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)

## SPECIFICATIONS (cnt'd)

Cable length: 350 m (1148') @ 270Mbps  
 for Belden 1694A  
 Return loss: > 15 dB up to 540Mbps

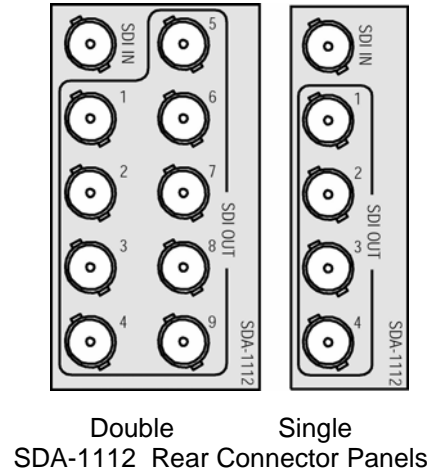
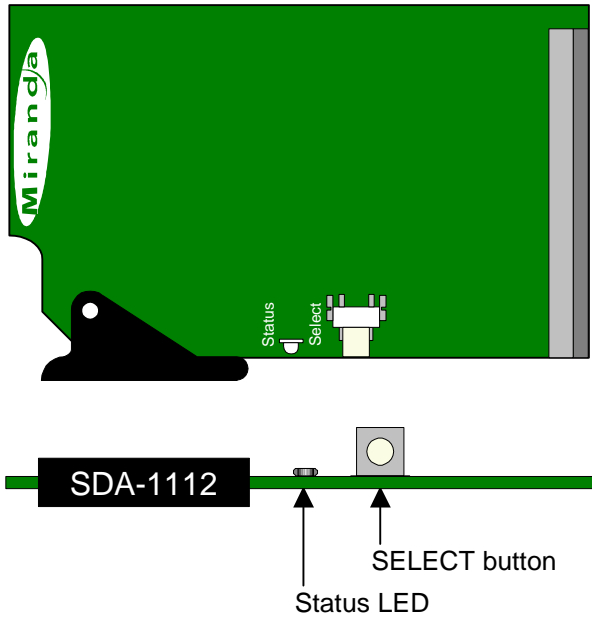
### OUTPUTS (4 or 9)

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)

# SDA-1112 Reclocked Digital Video Distribution Amplifier Guide to Installation and Operation



Double Single  
SDA-1112 Rear Connector Panels

## UNPACKING

Make sure the following items have been shipped with your SDA-1112. If any of the following items are missing, contact your distributor or Miranda Technologies Inc.

- \* SDA-1112 Reclocked Digital Video DA
- \* SDA-1112 rear panel (single or double)

## INSTALLATION

The SDA-1112 must be mounted in a DENSITÉ frame. The installation includes both the SDA-1112 module, and the rear panel module. It is not necessary to switch off the power from these frames when installing or removing the SDA-1112.

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-1112 are the following.

### Rear panel installation

The SDA-1112 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-1112 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-1112 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-1112. Interfacing to the outside world is handled by the frame's controller 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-1112 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-1112 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	✱				✱	

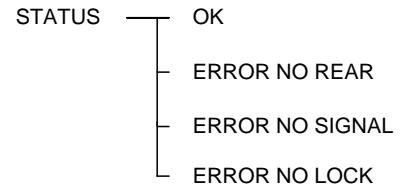
✱ : Factory default.

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-1112 to see a report of the current error status on the DENSITÉ frame's controller card display. The SDA-1112 has four possible status messages, as indicated in the following figure:



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 its 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	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	1	2								
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 Technologies Inc.  
3499 Douglas B. Floreani  
St. Laurent (Montreal), Que. H4S 2C6  
Canada

*Tel* +1 (514) 333-1772  
*Fax* +1 (514) 333-9828

*Toll free:* 1-800-224-7882

*Miranda Europe*

216 Rue De Rosny  
93100 Montreuil  
France

+33 1 55 86 87 88  
+33 1 55 86 00 29

*Miranda Asia*

Mita Nexux Bldg. 2F  
1-3-33 Mita, Minato-Ku  
Tokyo, Japan 108-0073

+81 3 5730 2988  
+81 3 5730 2973