

picoLink Series

SDM-871p

Guide to Installation
and Operation
M277-9900-101

HD Serial Digital
Component Analog
Video Converter

SDM-871p

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Miranda Technologies Inc.

Specifications may be subject to change.

Printed in Canada

August 2002



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Warranty Statement

Miranda Technologies Inc. warrants that the equipment it manufactures shall be free from defects in material and workmanship for a period of two (2) years from the date of shipment from the factory. If equipment fails due to such defects, Miranda Technologies Inc. will, at its option, repair or provide a replacement for the defective part or product. Equipment that fails after the warranty period, has been operated or installed in a manner other than that specified by Miranda, or has been subjected to abuse or modification, will be repaired for time and material charges at the Buyer's expense.

All out-of-warranty repairs are warranted for a period of ninety (90) days from the date of shipment from the factory.

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Effective January 1, 2002

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for the delivery of the loaner or exchange products or parts. Freight and insurance charges for the return of the defective product or part will also be paid by Miranda Technologies.

Out-Of-Warranty Repair Policy

Miranda will repair equipment which is out of Warranty. The current pricing structure for this service is available from the Miranda web site at www.miranda.com or from Miranda Technical Support Services at (514) 333-1772. All out-of-warranty repairs are warranted for a period of 90 days from the date of shipment from the factory. Before returning the equipment to Miranda Technologies Inc., for any reason, the Buyer must first obtain a Return Authorization Number from Miranda Technologies Inc. In the case of a product deemed by Miranda to be beyond repair, the customer must purchase a new product at current retail prices.

The Buyer will pay freight and insurance charges for the return of the defective product or part to the manufacturer for repair. Miranda Technologies will pay freight and insurance charges for the return of the repaired product or part to the Buyer.

Out-Of Warranty Equipment Updates and Spare Parts Policy

Miranda Technologies' current pricing structure for out-of-warranty equipment updates, or the sale of spare parts, is available from Miranda Technical Support Services at (514) 333-1772.

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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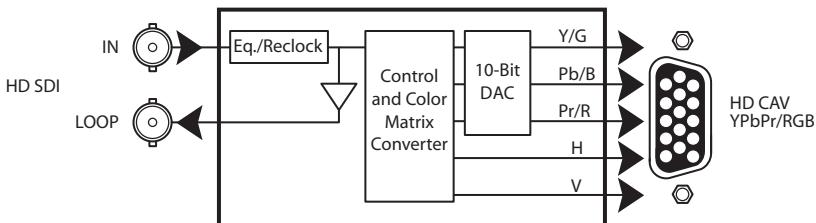
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1 SDM-871p HD Serial Digital to Component Analog Video Converter

1.1 Introduction

The SDM-871p is a miniature stand-alone high definition DAC converting serial digital HDTV (SMPTE 292M) to high definition component analog (Y/Pb/Pr or GBR user selectable). The SDM-871p provides automatic input scan rate detection and supports a wide variety of input formats including 720p, 1035i and 1080i standards at multiple frame rates. The SDM-871p's flexible sync output supports both traditional studio and computer monitors. The HD15 (SVGA) output connector's standard pin assignment allows easy connection to monitor using standard cables. The built-in test generator provides a 100% color bar for monitor calibration.

Figure 1 Functional Block Diagram



1.2 Features

- HD SDI input with active loop-through
- User selectable GBR/YPbPr output
- Supports 720p, 1035i and 1080i formats
- Composite sync on components or separate H/V sync outputs
- Built-in test signal
- Compact stand-alone package

2 Overall view

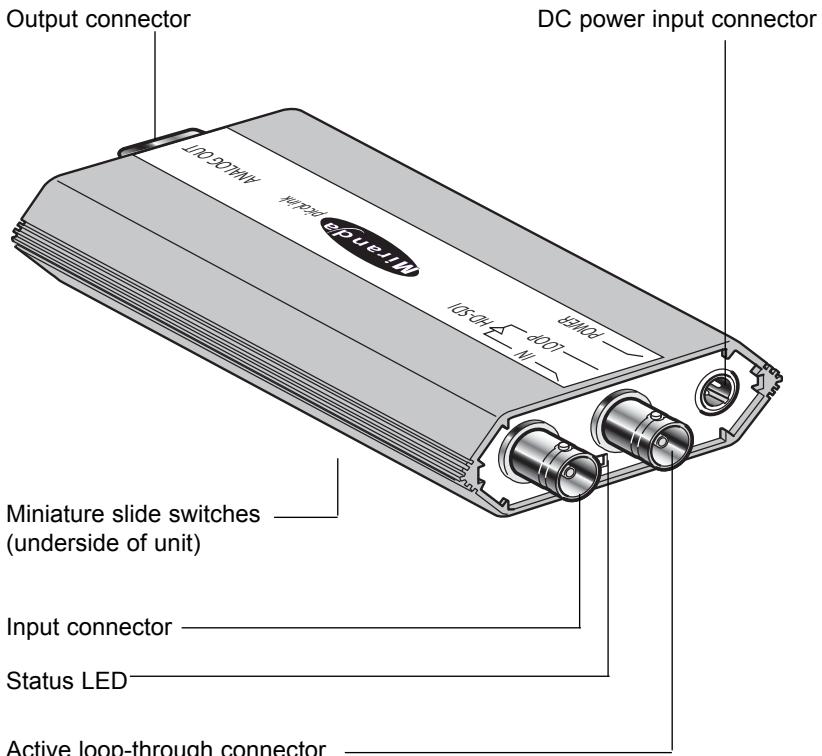
The figure below represents the SDM-871p. The high definition digital video source is connected to the BNC input connector. A reclocked signal is supplied by the active loop-through BNC connector.

A multicolor LED provides module statuses.

The high definition CAV output is provided by the HD-15S connector.

Power supply is connected to a mini-XLR type connector.

Figure 2.1 SDM-871p Components



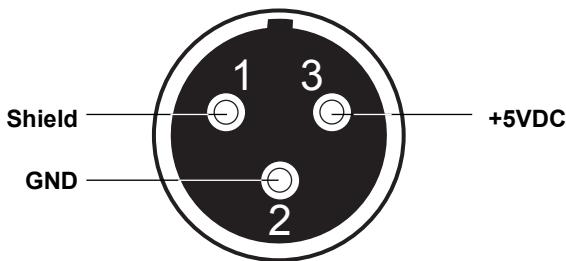
3 Installation

3.1 Power Supply

The power supplies LKS-WSA and LKS-WSE, for 110V and 220V operation respectively, are used to power the SDM-871p. Each power supply provides a regulated +5VDC@1A power source.

Plug the power supply into a wall or power bar outlet. The SDM-871p uses a mini XLR-3 connector for its power needs; figure 3.1 provides a detailed pinout of the male connector.

Figure 3.1 Power connector pinout



3.2 Serial Digital HDTV Input with active loop-through

Connect a high definition serial digital signal to the BNC labeled IN. The high definition serial digital input signal must conform to the SMPTE 292M (1.485, 1.485/1.001 Gbps) standard.

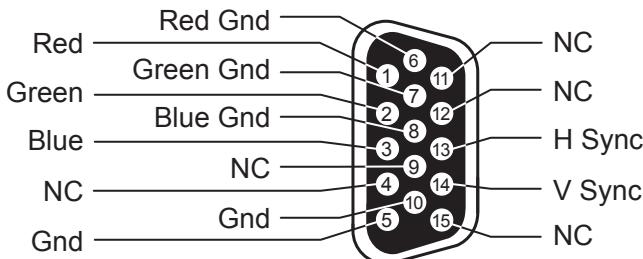
Make sure that the input signal cable has a maximum length of 100 m (350'). Also ensure that all serial digital video equipment are connected point-to-point. For instance, there must be a point-to-point connection between the IN BNC and the source equipment. If a T-connector is used to connect other equipment, the maximum specified cable length is no longer valid.

3.3 HD CAV Output

The high definition component output signal is provided by the HD-15S (female) labeled ANALOG OUT. The high definition CAV output format is automatically selected according to the input signal; for a complete list of the output formats and related SMPTE standards refer to section **5 Specifications**.

Available CAV output standards are Y/Pb/Pr and GBR. Refer to section **4 Operation** in order to select the desired output CAV standard. Figure 3.2 below illustrates the HD-15S connector pinout.

Figure 3.2 SHD-15S Connector pinout (female)

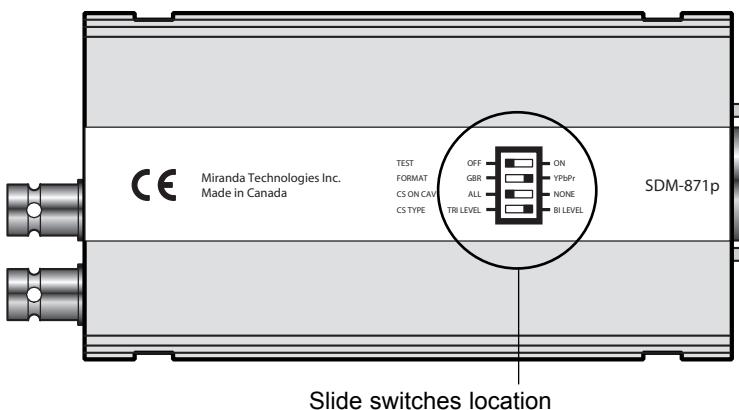


4 Operation

4.1 Switch Settings

Figure 4.1 outlines the slide switch functions.

Figure 4.1 SDM-871p Underside



Test Pattern Selection

On: Set the slide switch to this position to enable the test pattern on output. The test pattern consists of a 100% color bars.

Off: The test pattern is disabled.

Note: in order to output a test pattern, a valid input signal must be installed.

Output Format

GBR: For GBR CAV output, set the slide switch to this position.

YpbPr: For Y/Pb/Pr CAV output, set the slide switch to this position.

Sync selection on CAV output

CS On CAV

- All: Set the slide switch to this position to add sync to the color components of the signal.
- None: Set the slide switch to this position to output separate H and V sync.

CS Type

- Tri-Level: Set the slide switch to this position to output tri-level sync (not available when **None** is selected for CS On CAV).
- Bi-Level: Set the slide switch to this position to output bi-level sync.

4.2 Status LED

The multicolored status LED, located between the IN and LOOP BNC connectors, is provided to identify any input errors and the selection of the test pattern. The following lists all possible situations.

- Green:** Indicates that the SDM-871p is powered and has detected a valid input signal.
- Red:** Indicates an invalid input signal or simply, there is no input signal installed.
- Orange:** The test pattern is selected.

5 *Specifications*

INPUT

Signal:	SMPTE 292M (1.485, 1.485/1.001 Gbps) with reclocked active loop-through
Cable length:	100 m (350') (Belden 1694A)
Return loss:	> 15 dB up to 1.5 GHz
Connector:	75 Ω BNC

OUTPUT

Signal:	YPbPr or GBR, user selectable
Sync out:	Dedicated H/V (Bi-Level) CS on components (Bi or Tri-Level)
Format:	Auto select based on input signal 1280x720/60,59.94/1:1 SMPTE-296M 1280x720/50/1:1 SMPTE-296M 1920x1035/60,59.94/2:1 SMPTE-260M 1920x1080/60,59.94/2:1 SMPTE-274M 1920x1080/50/2:1 SMPTE-274M 1920x1080/50/2:1 (1250) SMPTE-295M 1920x1080/24/sF SMPTE-274M
Return loss:	> 20 dB up to 30 MHz
Connector:	HD-15S (SVGA pinout)

PROCESSING PERFORMANCE

Quantization:	10 bits
Frequency response:	±0.25 dB to 30 MHz
Noise (unweighted):	< -58 dB to 30 MHz
Test signal:	100% color bars
Processing delay:	3 µs
Power:	4W

6 Schematic Diagrams
