

picoLink Series

SDM-277p SDM-277p/U

Guide to Installation
and Operation
M694-9900-201

SDI to NTSC/PAL & Analog Audio Converter

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Specifications may be subject to change.

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**Miranda
Technologies inc.**

3499 Douglas-B. Floreani
St-Laurent, Québec, Canada H4S 1Y6

Tel. 514-333-1772
Fax. 514-333-9828
www.miranda.com

SDM-277p
SDM-277p/U

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

For technical assistance, please contact the Miranda Technical Support centre nearest you:

Americas

Telephone:

+1-800-224-7882

e-mail:

techsupp@miranda.com

Asia

Telephone:

+81-3-5730-2987

e-mail:

asiatech@miranda.com

Europe, Middle East, Africa, UK

Telephone:

+44 (0) 1491 820222

e-mail:

eurotech@miranda.com

France (only)

Telephone:

+33 (0) 1 55 86 87 88

e-mail:

francetech@miranda.com

Visit our web site at www.miranda.com

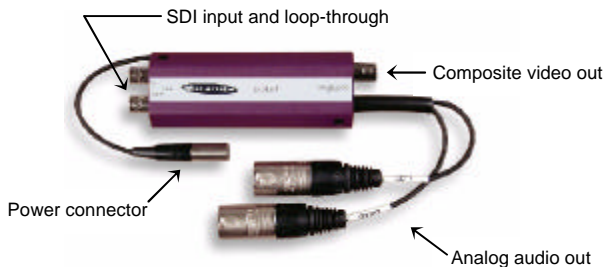
SDI to Composite and Analog Audio Converter

The SDM-277p and p/U are compact encoders that convert an SDI signal to NTSC, PAL or PAL-M (with optional timecode burn-in) and analog audio. The SDM-277p and p/U provide monitoring of an SDI signal and embedded audio. They automatically detect 525 or 625 line formats from incoming SDI signals and provide a convenient built-in color bar generator. The SDM-277p and p/U provide a reclocked serial digital video output (loop) and are ideal for stand-alone composite video monitoring and DEMUX applications.

The SDM-277p and p/U perform audio extraction with a 20 bit quality D to A conversion. The SDM-277p and p/U can extract either AES pair from any of the 4 embedded audio groups in an SDI stream.

The SDM-277p provides balanced outputs on XLR connectors. The full scale output level (0 dBFS) can be set to +12, 15, 16, 18, 20, 22 or 24 dBu or muted.

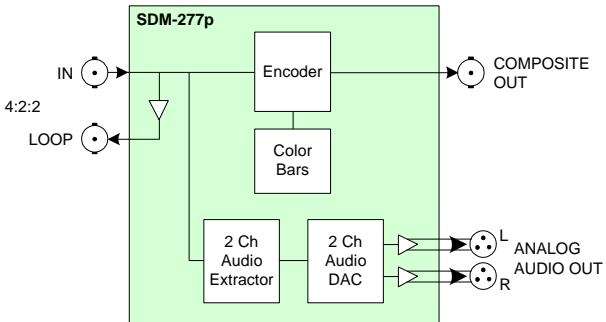
The SDM-277p/U provides unbalanced outputs on RCA connectors. The output may be Stereo, L+R on both, L on both, R on both, or Mute.



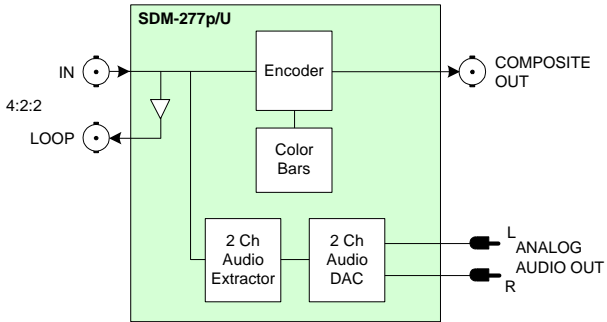
Device configuration – SDM-277p

NOTE: The appearance of the SDM-277p/U is the same except :

- the analog audio output connectors are RCA plugs
- the composite video out is supplied on a short coax cable with a male BNC connector



Functional Block Diagram – SDM-277p



Functional Block Diagram – SDM-277p/U

Installation

Connect the Power connector to the power supply. The SDM-277p and p/U turn ON automatically when power is connected.

Connect the SDI signal to the SDI IN connector. The SDI LOOP connector is available to send the SDI signal on to other devices.

Connect the analog video and audio outputs to their destination equipment.

Status LED

The Status LED is located on the end panel of the SDM-277p and p/U beside the output connectors. It monitors the status of the incoming SDI signal.

LED Color	Significance
Green	Incoming SDI signal status OK
Red	Incoming SDI signal is in error, or no signal is connected
Yellow	Color bars selected at the output using the pushbutton. <i>Note: if the status LED is red indicating a faulty input, no output will be produced, and the color bar selection is inhibited..</i>

User Controls

AUDIO SDM-277p **ROTARY SWITCHES**

*The rotary switches are adjusted using a screwdriver.
The arrow on the switch indicates the selection*

AES1 GROUP: 1/2/3/4:	Selects AES pair and audio group to be extracted
AES2 GROUP: 1/2/3/4:	Selects the analog audio output level which corresponds to 0 dBFS in the embedded audio.
+12 / +15 / +16 / +18 / +20 / +22 / +24 dBu / MUTE:	Selects the analog audio output level which corresponds to 0 dBFS in the embedded audio.

AUDIO SDM-277p/U **ROTARY SWITCHES**

*The rotary switches are adjusted using a screwdriver.
The arrow on the switch indicates the selection*

AES1 GROUP: 1/2/3/4:	Selects AES pair and audio group to be extracted
AES2 GROUP: 1/2/3/4:	Selects the analog audio output level which corresponds to 0 dBFS in the embedded audio.
Stereo, L+R, L, R, MUTE:	Selects the analog audio output level which corresponds to 0 dBFS in the embedded audio.

VIDEO **SLIDE SWITCH**

The SDM-277p and p/U will auto-select between NTSC and PAL output based on the incoming SDI signal. The user can select whether the NTSC signal will have set-up, and can also force the 525 / 59.94 output to be PAL-M instead of NTSC.

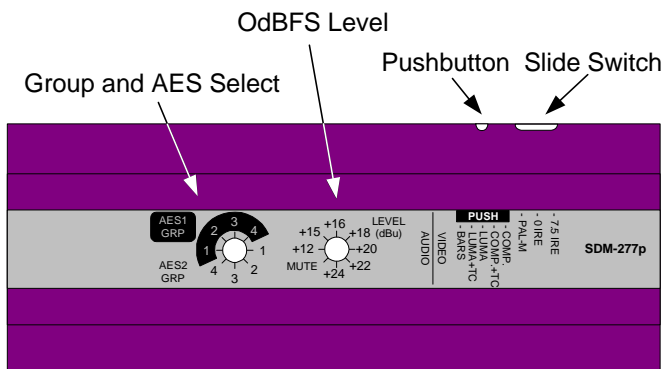
Switch Position	Output Standard
7.5 IRE:	Auto-selects between: <ul style="list-style-type: none">▪ NTSC (525 / 59.94) with 7.5 IRE units of set-up▪ PAL (625 / 50).

O IRE:	Auto-selects between: <ul style="list-style-type: none"> ▪ NTSC (525 / 59.94) with no set-up ▪ PAL (625 / 50)
PAL-M:	PAL-M (525 / 59.94)

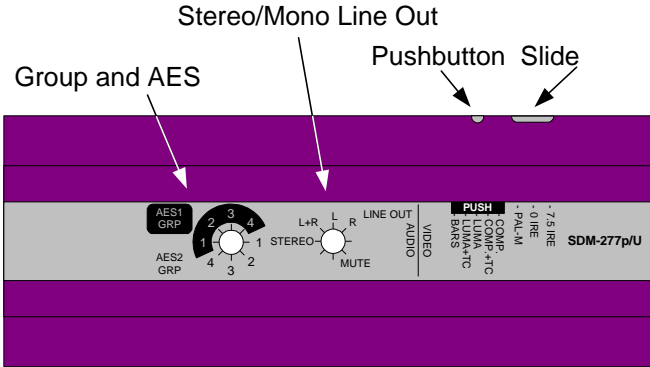
PUSHBUTTON

The pushbutton selects the output format. Successive pushes cycle through the following options:

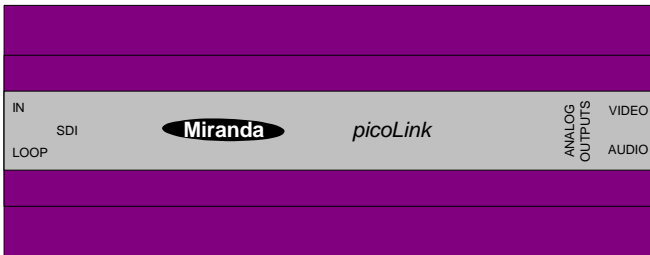
Option	Output Format
COMP:	Composite video.
COMP + TC:	Composite video with time code (extracted from the SDI input) burned into the image
LUMA:	Monochrome video
LUMA + TC:	Monochrome video with time code (extracted from the SDI input) burned into the image.
BARS:	75% color bars with 100% white <i>Note: status LED is yellow when BARS is selected.</i>



Control panel – SDM-277p



Control panel – SDM-277p/U



Top panel – SDM-277p and SDM-

Technical Specifications

INPUT

VIDEO:	SMPTE 259M-C (270 Mbps) with active loop-through embedded audio: SMPTE 272M-A
CABLE LENGTH:	200 m (640') (Belden 8281)
RETURN LOSS:	> 15 dB up to 270 MHz
CONNECTOR:	75 Ω BNC (2)

OUTPUT

VIDEO:	NTSC (525/60) SMPTE 170M or PAL (625/50) or
PAL-M (525/60)	
CONNECTOR:	75 Ω BNC
RETURN LOSS:	> 20 dB up to 5 MHz

AUDIO (SDM-277p):	1 stereo/2 monaural balanced audio
IMPEDANCE:	< 50 Ω
0 dBFS LEVEL:	+12, +15, +16, +18, +20, +22, +24 dBu, MUTE, selectable
CONNECTOR:	XLR (2)

AUDIO (SDM-277p/U):	1 stereo/2 monaural unbalanced audio
IMPEDANCE:	20K Ω
LINE OUT:	Stereo, L+R, L, R, MUTE, selectable
CONNECTOR:	RCA (2)

PROCESSING PERFORMANCE

VIDEO:	
SIGNAL PATH:	8 bits
QUANTIZATION:	10 bits
SAMPLING:	27 MHz (2X oversampling)
FREQ. RESPONSE:	\pm 0.5 dB to 4.2 MHz
PROCESSING DELAY:	1.5 μ s
TEST SIGNAL:	75% color bars with 100% white
SNR:	>58dB

AUDIO

QUANTIZATION: 20 bits
SAMPLING: 48 kHz
SNR: > 90 dB (A weighting)
DISTORTION: < -80 dB
CROSSTALK: < -80 dB
FREQ. RESPONSE: ± 0.3 dB (20 Hz to 20 kHz)
PROCESSING DELAY: < 450 μ s

POWER: 2.5 W

Ordering Information

SDM-277p Converter	SDI To NTSC/PAL and Analog Audio
SDM-277p/U Converter	SDI To NTSC/PAL and Analog Audio
LKS-WSA	Wall Plug-In Power Supply For 110 V
LKS-WSE	Wall Plug-In Power Supply For 220 V
LKS-CPS	Centralized Power Supply For Up To 10 units