picoLink Series

ASD-271p

Composite Decoder

Guide to Installation
and Operation

M143-9900-202

ASD-271p

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1.0 ASD-271p

1.1 Introduction

The ASD-271p is the industry's smallest composite decoder. This product automatically detects NTSC, PAL, PAL-M, PAL-N, or SECAM composite signals and provides a 4:2:2 serial digital signal conforming to the SMPTE 259M-C standard. The supported inputs range from stable, studio-type sources to satellite and VTR-type sources. This feature-packed unit delivers ease-of-use, a simplified design, easy installation and operation.
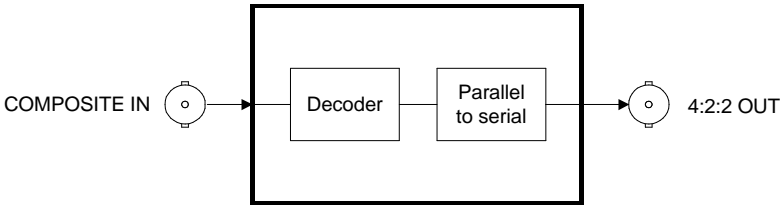
COMPOSITE IN (o) → [Decoder] [Parallel to serial] (o) 4:2:2 OUT

Figure 1: ASD-271p functional block diagram

1.2 Features

- Automatic input detection of NTSC, PAL, PAL-M, PAL-N, and SECAM composite signals
- 4:2:2 output
- Input setup selection: 7.5 or 0 IRE
- Input signal stability selection: VTR, Tuner (satellite), and Studio
- Bi-color LED providing error status on input composite signal
- Very small packaging aluminum extruded body

2.0   Overall View

Figure 2 illustrates the ASD-271p's major parts and their locations. The video source is connected to the composite input BNC and the decoded signal is provided by the 4:2:2 output. Error status is provided by the status LED and mode settings are configured by two 3-position slide switches. Finally, the power source is connected to the power connector.
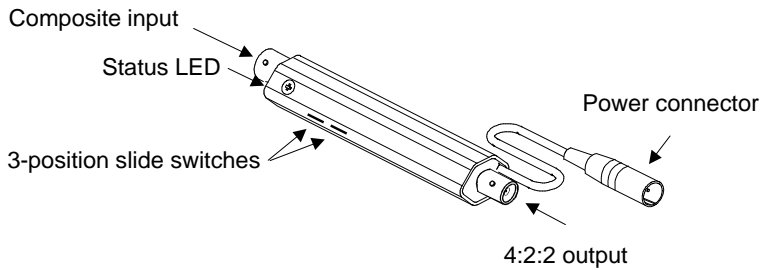
Composite input

Status LED

Power connector

3-position slide switches

4:2:2 output

Figure 2: Overall view of the ASD-271p

3.0   Installation

3.1   Power Supply

The power supplies LKS-WSA and LKS-WSE, for 110 V and 220 V operation respectively, are used to power the ASD-271p. Each power supply provides a regulated +5 VDC@750 mA power source. The ASD-271p employs a mini XLR-3 connector for its power needs. Figure 3 provides a detailed pinout of the male connector.
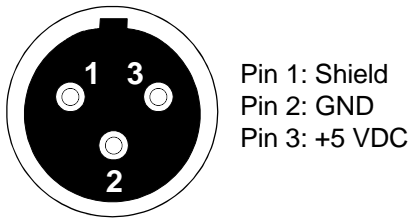
(male connector-facing)

Pin 1: Shield
Pin 2: GND
Pin 3: +5 VDC

Figure 3: Power connector pinout

3.2   Composite Input

Connect a NTSC or PAL, PAL-M, PAL-N, SECAM composite signal conforming to the SMPTE 170M or ITU (CCIR) 624-4 standard respectively to the BNC labeled COMPOSITE IN.

3.3   4:2:2 Output

The 4:2:2 serial digital output signal is provided by the BNC labeled 4:2:2 OUT. The 4:2:2 output signal conforms to the SMPTE 259M-C standard.

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4.0 Operation

4.1 Switch Settings

Figure 4 outlines the slide switch functions.

Input setup (SW1)
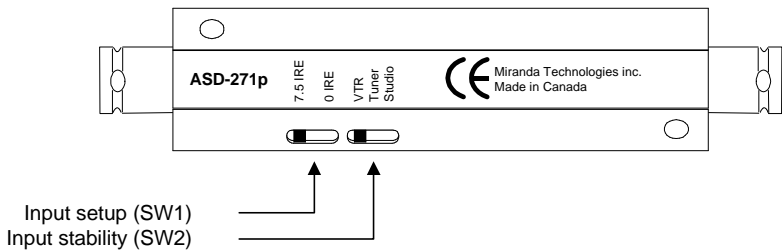Input stability (SW2)

Figure 4: ASD-271p switch settings

Input setup switch (SW1)

7.5 IRE: For composite sources with 7.5 IRE setup, set SW1 to this position.
0 IRE: For composite sources with 0 IRE setup, set SW1 to this position.

Input stability switch (SW2)

VTR: This position should be set for non-time based corrected sources.
Tuner: Decoding satellite sources or sources with unpredictable voltage levels is improved with the Tuner setting.
Studio: Set this position when using stable composite sources.

Note: *NTSC/PAL-M Input Detection*

If switching from an NTSC source to a PAL-M source which are both synchronized, the picoLink units may interpret the PAL-M source as an NTSC source. If so, the unit will not switch to PAL-

M. In order to recover from this problem, disconnect the source from the input BNC and reinstall it.

4.2 Status LED

The bi-colored status LED, located next to the composite input BNC, is provided to identify any input errors. The following lists the possible situations.

Green: Indicates the ASD-271p is powered and has
               detected a valid composite signal.
Red: Indicates an error with the input signal has been
               detected or simply, there is no input signal installed.

5.0   Specifications

Input

Signal:	NTSC-M (525/60) SMPTE 170M or
	PAL (625/50) ITU (CCIR) 624-4
	PAL-M (525/60) ITU (CCIR) 624-4
	PAL-N (625/50) ITU (CCIR) 624-4
	1 Vpp nominal
Return loss:	> 35 dB up to 5 MHz
Connector :	75 Ω BNC

Output

Signal:	4:2:2 SMPTE 259M-C (270 Mbps)
Return loss:	> 15 dB up to 270 MHz
Jitter:	< 10 ns p-p
Connector :	75 Ω BNC

Processing performance

Quantization:	8 bits
Freq. response:	±0.5 dB to 5 MHz
Processing delay:	4.5 us

Electrical

Voltage requirement:	+5 VDC
Power consumption:	3 W
Power connector:	Mini XLR-3

Mechanical

Overall size:	102 mm x 25 mm x 18 mm
	(4" x 1" x 0.7")
Power cable length:	127 mm (5")
Full spec. temp. range:	0° C (32° F) to 30° C (86° F)