Video ADC

ADC-191p

Guide to Installation and Operation

M825-9800-100

ADC-191p

Miranda

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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1.0 ADC-191p

1.1 Introduction

The ADC-191p is the industry's smallest component analog video to 4:2:2 serial digital video ADC. This product automatically detects 525-line and 625-line CAV signals and provides a 4:2:2 serial digital output signal conforming to the SMPTE 259M-C standard. Both SMPTE/EBU and Betacam CAV sources are supported. In addition, this feature-packed unit delivers ease-of-use, a simplified design, easy installation and operation.
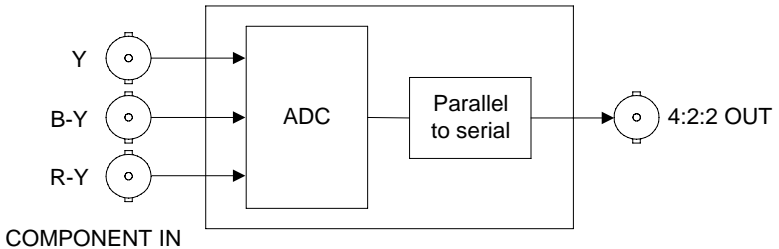
Y

B-Y   ADC   Parallel   4:2:2 OUT
                                    to serial

R-Y

COMPONENT IN

Figure 1: *ADC-191p functional block diagram*

1.2 Features

- Automatic 525-line and 625-line format input detection
- Input standards supported: SMPTE/EBU and Betacam
- Time-base corrected and VTR-type sources supported
- Bi-color LED providing error status on input 4:2:2 signal
- Very small packaging aluminum extruded body

2.0   Physical Layout

Figure 2 illustrates the ADC-191p's major parts and their locations. SMPTE/EBU or Betacam sources are connected to the CAV input BNCs and the 4:2:2 serial digital output is provided by the 4:2:2 output BNC. 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.
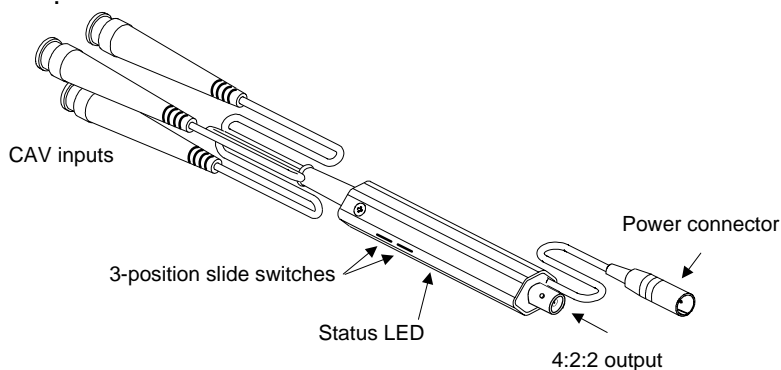
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CAV inputs

Power connector

3-position slide switches

Status LED

4:2:2 output

Figure 2: *Physical layout of the ADC-191p*

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 ADC-191p. Each power supply provides a regulated +5 VDC@750 mA power source. The ADC-191p employs a mini XLR-3 connector for its power needs. Figure 3 provides a detailed pinout of the male connector.
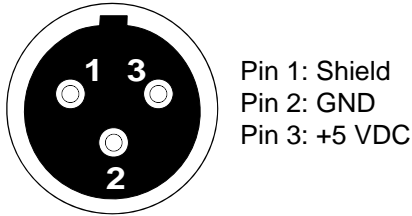
(male connector-facing)

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

Figure 3: *Power connector pinout*

3.2 CAV Inputs

The CAV inputs consist of green, blue, and red color coded male BNC connectors. Male connectors are provided so as to connect the ADC-191p directly to source equipment. The supported CAV input standards are SMPTE/EBU and Betacam. The Betacam standard can be set with or without setup. The input Y/B-Y/R-Y signals are to be connected to the green, blue, and red BNCs respectively

Refer to section 4.0, Operation in order to select the desired input CAV standard.
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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..

4.0 Operation

4.1 Switch Settings

Figure 4 shows the slide switch locations and functions.
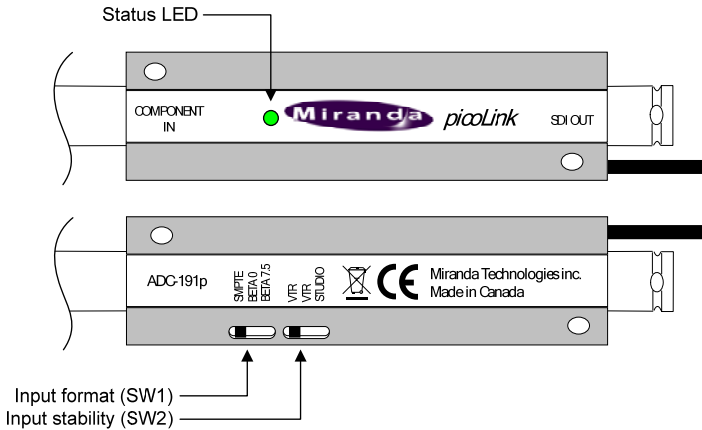

Figure 4: *ADC-191p switch settings*

Input format switch (SW1)

SMPTE: For SMPTE/EBU CAV inputs, set SW1 to
         this position. The Y/B-Y/R-Y inputs are to
         be connected to the green, blue, and red
         connectors respectively.
BETA 0: For BETA sources with 0 IRE setup, set
         SW1 to this position.
BETA 7.5: For BETA sources with 7.5 IRE setup, set
         SW1 to this position.

Input stability switch (SW2)

VTR: Set SW2 to VTR if the CAV inputs are VTR-
         type or non-time based corrected signals.
Studio: For stable studio CAV sources, set SW2 to
         this position.

4.2   Status LED

The bi-colored status LED is provided to identify any input errors. The following lists the possible situations.

Green: Indicates the ADC-191p is powered and has detected a valid CAV input 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: Y, B-Y, R-Y 1 Vp-p nominal
                                 with sync
Return loss: > 35 dB up to 5 MHz
Connector: 3 captive cables with 75 Ω male
                                 BNCs

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

Signal path: 10 bits
Quantization: 12 bits
Freq. response: ±0.5 dB to 5 MHz
Processing delay: 3 lines

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)