picoLink Series

Video DAC

DAC-191p

Guide to Installation and Operation

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DAC-191p

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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 DAC-191p

1.1 Introduction

The DAC-191p is the industry's smallest 4:2:2 serial digital video to component analog video DAC. This product automatically detects 525-line and 625-line 4:2:2 signals conforming to the SMPTE 259M-C standard and provides BETA/EBU or GBR output signals. An internal test pattern generator provides a color bars test signal for both BETA/EBU and GBR outputs. In addition, this feature-packed unit delivers ease-of-use, a simplified design, easy installation and operation.

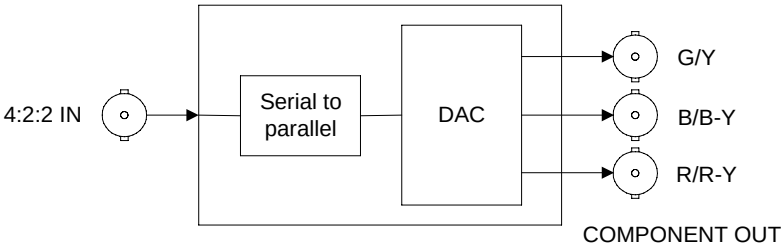

Figure 1: *DAC-191p functional block diagram*

1.2 Features

- Automatic 525-line and 625-line format input detection
- Output standard selection: BETA/EBU or GBR with or without setup
- Color bars generator
- Bi-color LED showing error status on input 4:2:2 signal
- Very small packaging with aluminum extruded body

2.0 Physical Layout

Figure 2 illustrates the DAC-191p's major parts and their locations. The video source is connected to the 4:2:2 input BNC and the component analog output signals are provided by the CAV outputs. 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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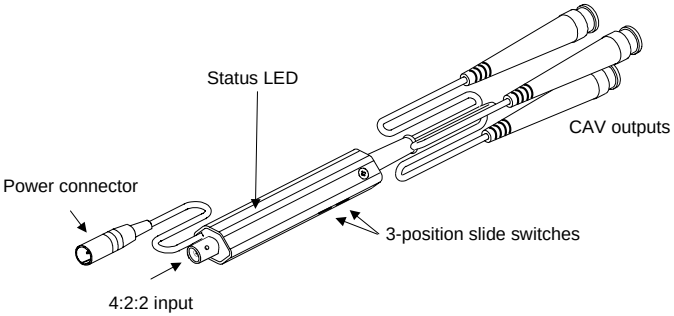


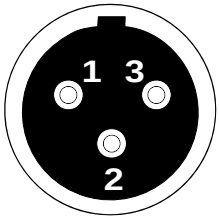
Figure 2: *Physical layout of the DAC-191p*

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 DAC-191p. Each power supply provides a regulated +5 VDC@750 mA power source. The DAC-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 4:2:2 Input

Connect a 4:2:2 serial digital signal to the BNC labeled 4:2:2 IN. The 4:2:2 input signal must conform to the SMPTE 259M-C standard.

3.3 CAV Outputs

The CAV outputs consist of green, blue, and red color coded male BNC connectors. Male connectors are provided so as to connect the DAC-191p directly to monitoring equipment. Available CAV output standards are:

- BETA/EBU

  BETA/EBU operation provides Y/B-Y/R-Y signals on the green, blue, and red BNCs respectively (BETA = 60Hz; EBU = 50Hz.).

- GBR

  The GBR format can be with or without setup.

Refer to Section 4.0 *Operation* in order to select the desired output CAV standard.

4.0 Operation

4.1 Switch Settings

Figure 4 shows the slide switch locations and functions.

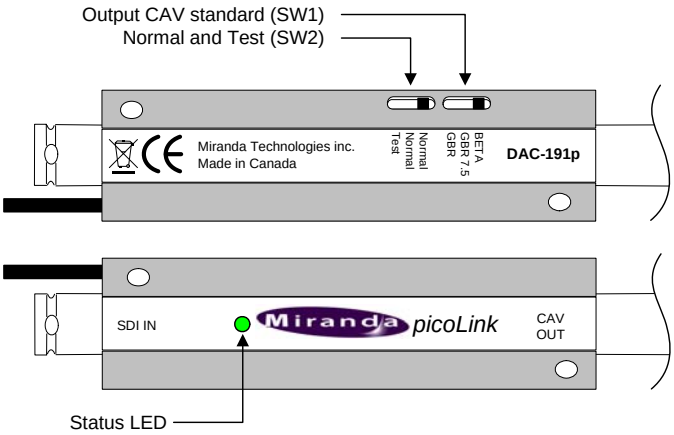


***Figure 4**: DAC-191p switch settings*

Output CAV standard switch (SW1)

BETA: For BETA/EBU CAV outputs, set SW1 to this position. The Y/B-Y/R-Y outputs are provided by the green, blue, and red connectors respectively.

GBR 7.5: With 525-line inputs, set SW1 to this position for GBR outputs with 7.5 IRE setup. There is no setup for 625-line GBR outputs.

GBR: For GBR outputs with 0 IRE setup, set SW1 to this position.

Normal and test pattern switch (SW2)

Normal: For normal operation, set SW2 to this position.

Test: Set SW2 to Test in order to enable the test pattern generator. Make sure a valid 4:2:2

input signal is installed. 525-line outputs produce a 75% color bars signal whereas 625-line outputs produce a 75% color bars with 100% white bar signal.

4.2 Status LED

The bi-colored status LED, located next to the CAV output cable, is provided to identify any input errors and the selection of the test pattern. The following lists all possible situations.

Green:	Indicates the DAC-191p is powered and has detected a valid 4:2:2 serial digital signal.
Red:	Indicates an error with the input signal has been detected or simply, there is no input signal installed.
Yellow:	The test pattern is selected.

If an input signal error is detected during a test pattern selection, the status LED will remain red.

5.0 Specifications

Input

Signal:	4:2:2 SMPTE 259M-C (270 Mbps)
Cable length:	250 m (850')
Return loss:	> 15 dB up to 270 MHz
Connector :	75 Ω BNC

Output

Signal:	G/Y, B/B-Y, R/R-Y 700 mV
nominal	with 280 mV sync
Return loss:	> 35 dB up to 5 MHz
Connector:	3 captive cables with 75 Ω male
BNCs	

Processing performance

Signal path:	10 bits
Quantization:	12 bits
Sampling:	216 MHz (16X oversampling)
Freq. response:	±0.5 dB to 5 MHz
Processing delay:	3.9 µsec

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)