

81 Series High Performance Dual 1x4 Composite Video Distribution Amplifier Rev B

Part Number

81-211-104	Dual 1x4 Single Ended Input
81-221-104	Dual 1x4 Differential Input
81-231-104	Dual 1x4 Single Ended Input with Loop-Thru
81-241-104	Dual 1x4 Differential Input with Loop-Thru

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Two Year Limited Warranty

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Document History

REV	Date	Action
A	May 27, 2014	Initial Release
B	Nov 10, 2014	Updated Specifications data to remove TBDs

1 Overview

The 81 Series Dual Composite Distribution Amplifier “DA” included in this manual provides a method to distribute two composite video signals to up to four other devices. Typical use would be distribution of a Y/C or S-Video signal. Two fully isolated 1x4 DA channels are combined into one compact package. Additional ordering options permit the user to specify: The desired input signal type (Single ended or Differential) and desired termination (75Ω internal or external termination via loop-thru BNC)

- 81-211-104 (Dual 1X4 Single Ended Input)
- 81-221-104 (Dual 1X4 Differential Input)
- 81-231-104 (Dual 1X4 Single Ended Input, w/ Loop-Through)
- 81-241-104 (Dual 1X4 Differential Input, w/ Loop-Through)

The internal power supply is fully isolated to permit the user to control ground loops. The power connection has an integrated threaded/screw flange for shock and high vibration environments.

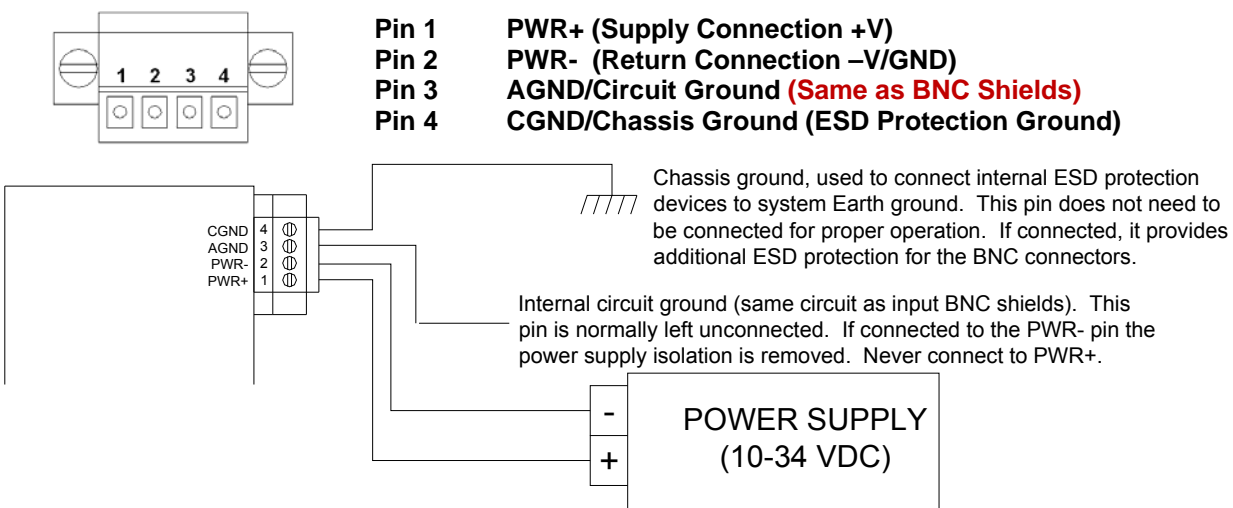
2 Basic Functions

All video input and output connections use precision 75Ω BNC connectors. Loop-Thru (LT) models terminate the input signal externally using the Loop-Out connector. VAC includes a 75Ω BNC terminator for all units configured with the Loop-Through option.

Output signals are **unity gain** (x1) and buffered using very high bandwidth amplifiers to duplicate the input signal. Each output is 75Ω series terminated.

3 Power Requirements

These units have an internal switching supply that isolates supply power from the internal power and I/O. Units will operate correctly when powered by 12-24 VAC or 10-34 VDC. Units are equipped with full wave rectification, so power may be applied between Pins 1 & 2 using either polarity.



Internal Circuit ground (AGND/Pin-3) is the ground reference for the internal circuits. It is NOT the input voltage return path of pins 1 and 2. The user has the option of floating internal circuits, with respect to any system ground, by not connecting to this pin. The user also has the option to

connect the circuit ground to the chassis ground or the input power ground (or both). This power connector pin-out permits the user to define the grounding environment the unit is used in.

Chassis ground (CGND/Pin-4) is connected to internal ESD protection devices. The chassis ground does not need to be connected for proper operation. Secondary ESD protection connections exist between the input and output video signals and internal circuit ground.

The power connector (J7) is a 4 pin 3.5mm center header (Phoenix Contact #1897267) and mating power plug (Phoenix Contact #1847071) with screw flanges for vibration and shock resistance.

The unit has a LED (green) to show power is connected and unit is operational.

4 Overall Specifications

Video Format:	NTSC/PAL
Inputs:	BNC
Input Termination:	75 Ω , Single Ended (SE) 75 Ω , Differential (Diff) External (LT)
Input Levels:	0.25 – 2.2 Vpp (RS-170)
Input Coupling:	DC
Input Bandwidth:	DC-440 MHz @-3dB (1 Vpp input signal)
Outputs:	BNC
Output Termination:	75 Ω (series)
Output Gain:	Unity (1x)
Power LED:	Green (Indicates unit running)
Operating Temperature Range:	-40C to +85C
Power:	12-24V AC, 10-34V DC (either polarity on PWR connector)
Supply Current:	81-211-104: 101mA @ 12 VDC
Power Connector:	3.5mm 4 pin terminal block (Phoenix Contact # 1843813) Mating plug (Phoenix Contact #1847071)
Package Dimensions:	4.4" x 2.2" x 1.4" (WxDxH)
Mounting:	Two 6-32 threaded inserts
Weight:	81-211-104: 13.8 oz
Package:	Epoxy/Encapsulation UL 94 V-O & UL 94 5VA rated.
Options:	Contact VAC for individual and multiple brick mounting solutions.

5 Package

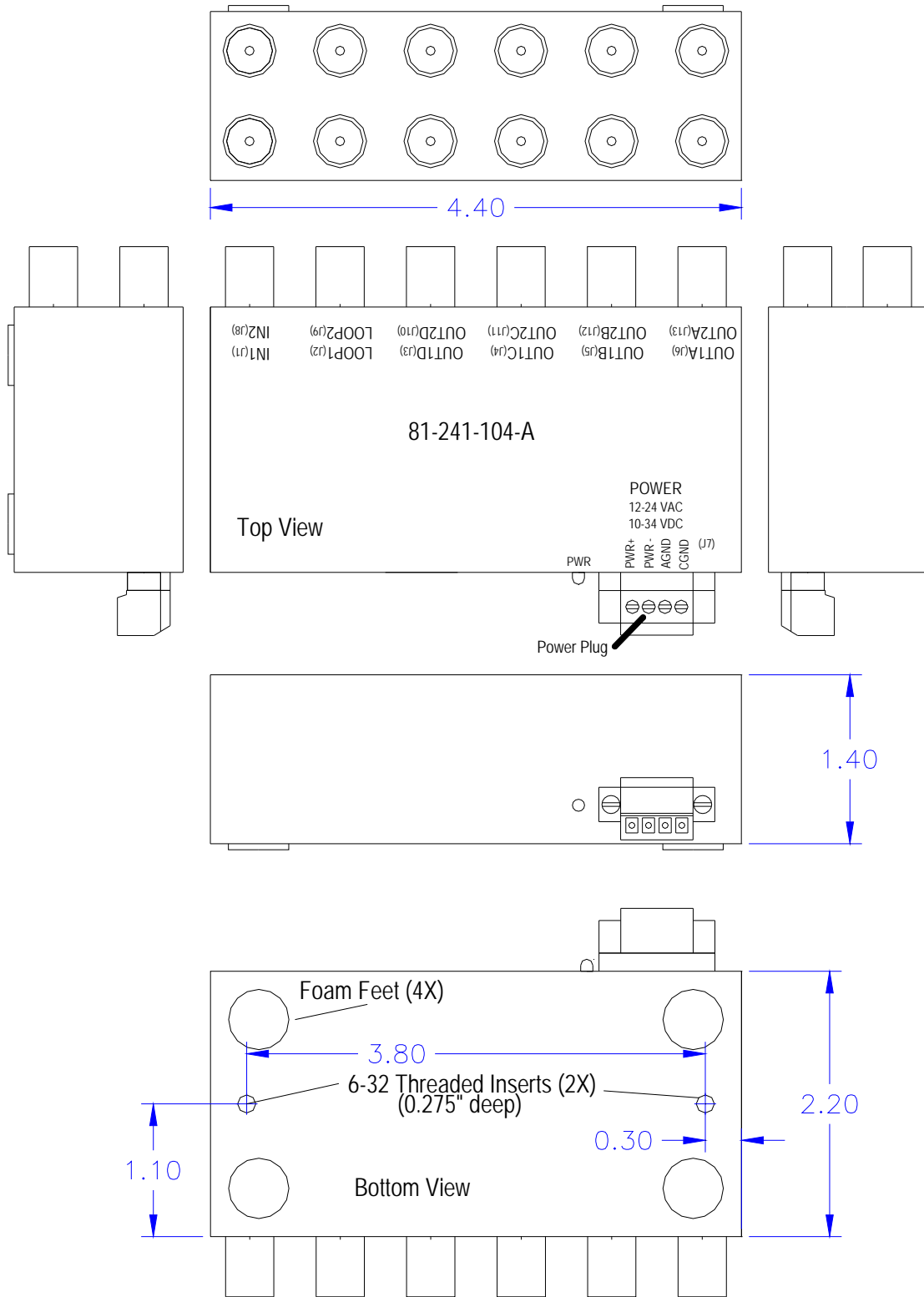


Figure 1: Dual 1x4 w/ Loop-Thru Configuration
 81-211-104 & 81-221-104 (Loop Connector not present)