

# *ProSeries™ 1x4 Composite Video Distribution Amplifiers, Differential Input Rev B*

<b>Part Number</b>	<b>Brief Description</b>
11-121-104 Rev B	Unity Gain, BNC Connectors, 12VAC with P5 Power Connector
11-121-204 Rev A	Unity Gain, RCA Connectors, 12VAC with P5 Power Connector
11-123-104 Rev B	Global Variable Gain, BNC Connectors, 12VAC with P5 Power Connector
11-123-204 Rev A	Global Variable Gain, RCA Connectors, 12VAC with P5 Power Connector
11-124-104 Rev C	Individual Variable Gain, BNC Connectors, 12VAC with P5 Power Connector
11-124-204 Rev A	Individual Variable Gain, RCA Connectors, 12VAC with P5 Power Connector
11-521-104 Rev J	Unity Gain, BNC Connectors, FlexPwr
11-521-204 Rev A	Unity Gain, RCA Connectors, FlexPwr
11-523-104 Rev B	Global Variable Gain, BNC Connectors, FlexPwr
11-523-204 Rev A	Global Variable Gain, RCA Connectors, FlexPwr
11-524-104 Rev B	Individual Variable Gain, BNC Connectors, FlexPwr
11-524-204 Rev A	Individual Variable Gain, RCA Connectors, FlexPwr

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### *Two Year Limited Warranty*

All Video Accessory Corporation (VAC) products have a full two year limited warranty. Exclusion to the warranty include but are not limited to damage to external components, power LED failure where the product continues to functions, electrical damage due to lightning or ESD, and minor cosmetic imperfections in the epoxy that do not affect the unit's performance. The warranty shall be void if any alteration or repair of the VAC product is attempted by anyone not authorized by VAC. This warranty is expressly in lieu of all other warranties expressed or implied, including warranties of merchantability and fitness for use, and of all other obligation or liabilities on the part of VAC, and it neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of this product. This warranty shall not apply to the product or any part thereof subjected to accident, negligence, alteration, abuse or misuse. No warranty whatsoever is made with respect to accessories or parts supplied by anyone other than VAC, and this warranty shall extend only to the original purchaser of the product. The warranty provided in this article is exclusive and in lieu of, and buyer hereby waives, all other remedies, express or implied, arising by law or otherwise, including consequential damages, where or not occasioned by negligence of VAC. This warranty shall not be extended, altered or varied except by written instrument signed by VAC and buyer, and shall only apply within the boundaries of the continental United States. Liability of VAC is limited repair or replacement at the option of VAC. Warranty work is to be sent to VAC. Freight charges will be the responsibility of the purchaser.

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## *Document History*

<u>REV</u>	<u>Date</u>	<u>Action</u>
B	Nov 11, 2014	Converted from previous manual format

## 1 Overview

The 11 Series Distribution Amplifier (DA's) provide composite video 1x4 distribution amplifiers in a rugged and low-cost package. It is the ideal solution where a small number of video channels are required. The units may be configured to have either BNC or RCA connectors. Unused outputs are not required to be terminated; nor will a short or open circuit condition on any output affect any other output.

## 2 Power Requirements

Two power formats are available supporting 11-13VAC (P5) or 10-28VAC/12-32VDC (FlexPwr). All ProSeries units are shipped with a 120VAC to 12VAC@600mA (P5 or Flex) power wall transformer adapter. The wall transformer provides a floating power supply and ground-loop isolation through the power supply connection. Be sure to specify the power configuration (P5 or FlexPwr) when ordering.



Figure 1: Power Configuration (12V AC 2.1mm P5 Connector on left, FlexPwr with Terminal Block Connector on right)

**12V AC “P5”** – The 12V AC Brick™ is designed to function properly with an input power of 11-13V AC. The Brick will not operate from a DC voltage. A 2.1mm P5 style connector is used for the power input. If the input voltage is a grounded system, the center pin of the P5 is the power connection and the barrel is the ground side. All ProSeries units are shipped with a 12V AC, 600mA floating power supply that eliminates any ground loops through the power supply connection.

**FlexPwr** – The FlexPwr Brick™ is designed to function properly with an input power of 10-28V AC (ungrounded) or 12-32V DC (grounded or ungrounded). A 2-pin header (Phoenix Contact #1881448) style connector is used for the power input. The 12V AC, 600mA wall transformer provided with the product provides a floating power source that has been designed to eliminate any ground loops through the power supply connection.

## 3 Video Inputs

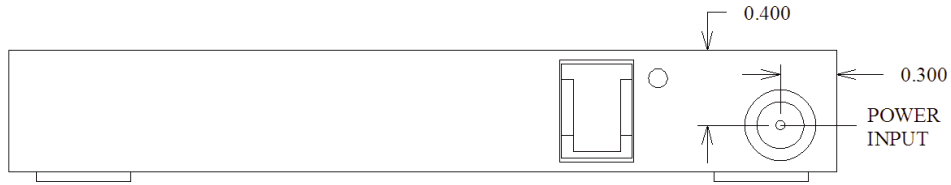
Each input is internally terminated to 75Ω. Short or open circuit on any input has no effect on any other input. Video signals with excessive DC component (or offset) such as those generated by many computer video boards should be avoided or may require the input to be AC coupled to block the DC component and prevent clipping of the signal. The 1Vpp video signal should be within ±1V. Ideally the video signals blanking level should be clamped to 0 Volts, although an AC coupled signal is also acceptable.

## 4 Video Outputs

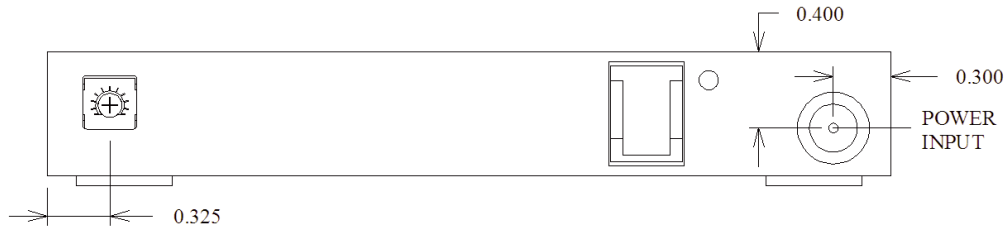
Each output has a series impedance of 75Ω BNC or RCA connectors. Unused outputs are not required to be terminated for proper operation; nor will a short or open circuit condition on any output affect any other output. Use of terminators on unused outputs provides additional protection from Electro-Static Discharge (ESD) events.

## 5 Gain Control

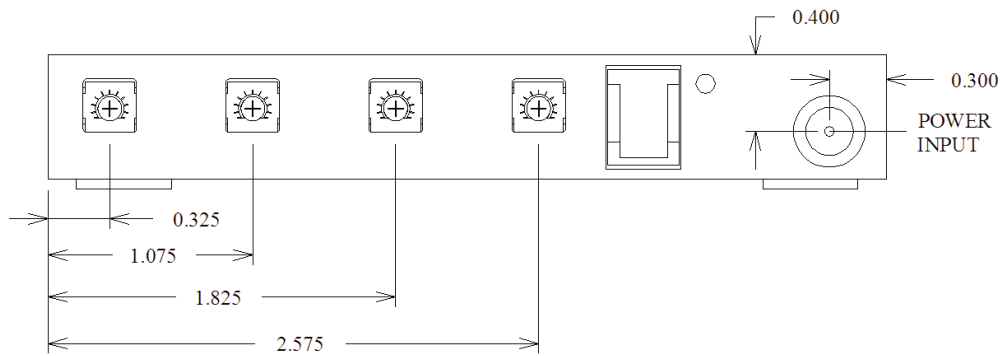
There are three gain configurations; Unity, Global, and Individual.



**Figure 2: Unity Gain**



**Figure 3: Global Variable Gain**



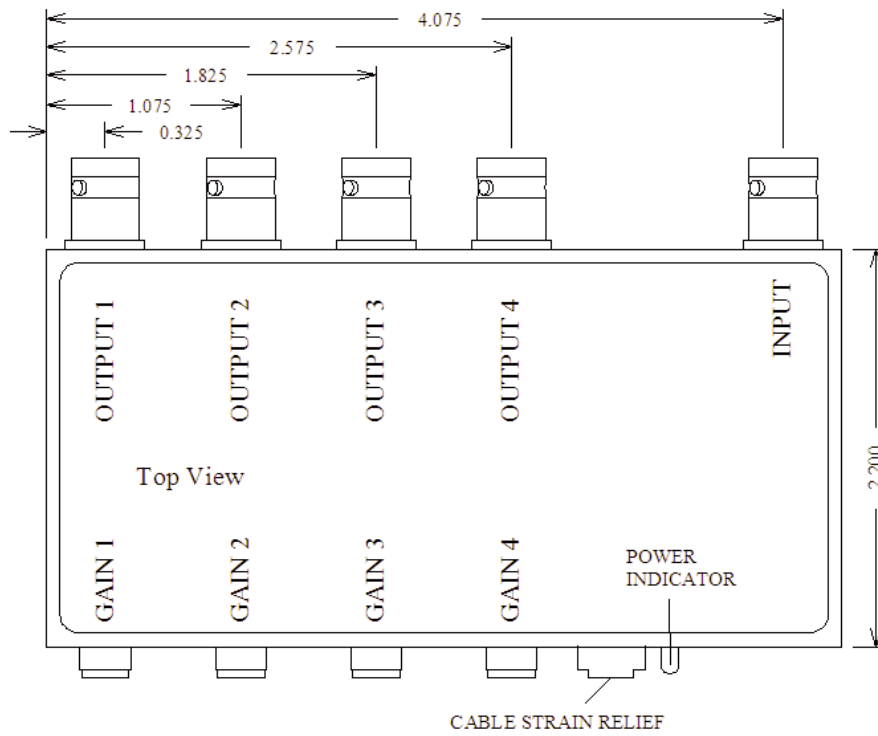
**Figure 4: Individual Gain**

As shown in figure 3, Unity/1X gain does not require any controls. In figure 4, Global Gain uses one trim pot to adjust gain (0.75X-1.75X) of each output group. Individual gain further expands control permitting (0.75X-1.75X) adjustment for each output as shown in figure 5.

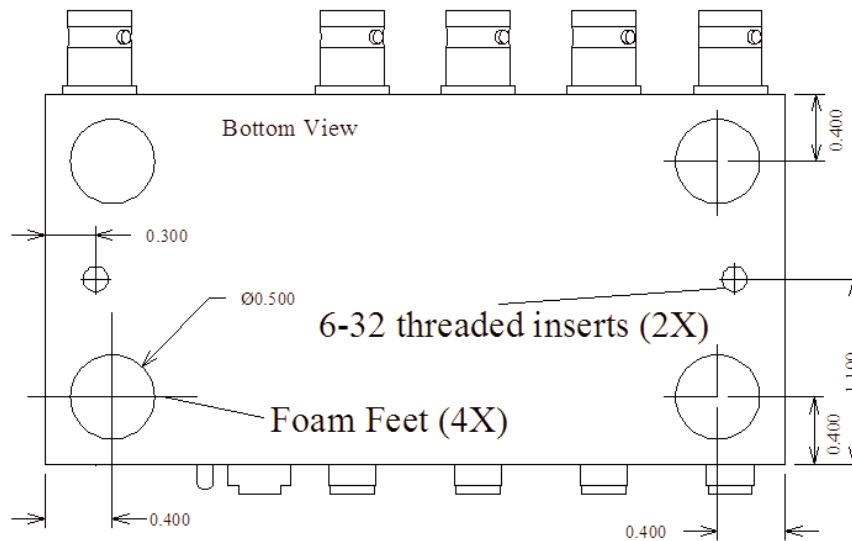
## 6 Specifications:

<b>Frequency Response:</b>	DC - 200 MHz @ -3dB, fully loaded over full voltage range (1Vpp input signal, 0V DC offset)
<b>Input Signal Level:</b>	0.1 - 2.0Vpp (within -1V to +1V range from ground)
<b>Input Impedance:</b>	75 Ohms
<b>Input Coupling:</b>	DC
<b>Input Connector(s):</b>	75 Ohm BNC or RCA (total of 1)
<b>Output Connectors:</b>	75 Ohm BNC or RCA (total of 2)
<b>Configuration:</b>	Standard input, two active outputs
<b>Gain:</b>	<b>Unity</b> - Unity <b>Global Variable</b> - 0.75X - 1.75X <b>Individual</b> - 0.75X - 1.75X
<b>Output Series Impedance:</b>	75 Ohms
<b>Package:</b>	Solid epoxy block 2.2" x 4.4" x 0.65" (not including connectors)
<b>Mounting:</b>	Two threaded 6-32 inserts
<b>Power:</b>	<b>12V AC</b> - 11-13V AC (grounded or ungrounded) (2.1mm P5 connector) <175mA input current  <b>FlexPwr</b> - 10-28V AC (ungrounded) or 12-32V DC (grounded or ungrounded) 2-pin header (Mating connector Phoenix Contact #1881325) <115mA input current @ 12V DC <135mA input current @ 10V AC (All currents measured with 2Vpp 1kHz sine wave fully loaded)
<b>Operating Temperature:</b>	<b>12V AC</b> -40C to + 50C <b>FlexPwr</b> -40C to + 80 C
<b>Operating Humidity:</b>	0% - 95%
<b>Shipping Weight:</b>	2lbs

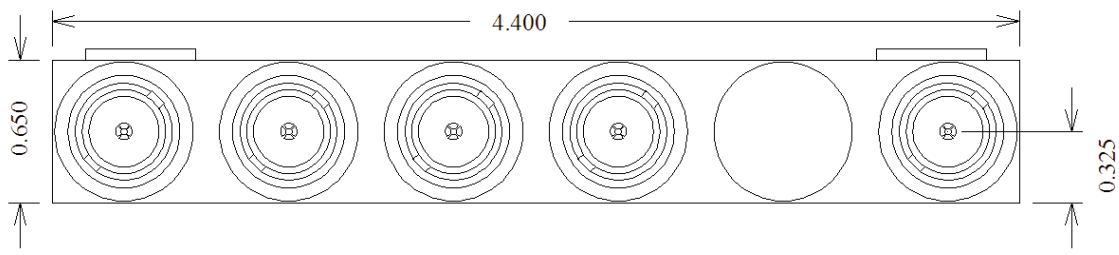
## 7 Mechanical



**Figure 5: Top View (BNC connectors)**



**Figure 6: Bottom view / mounting inserts (BNC connectors)**



**Figure 7: input / output connectors (BNC)**

