



**Description:**

Teledyne Judson's PA-101 preamplifiers are designed for use with low impedance infrared detectors where low noise, high gain, and wide bandwidths are required.

**Connections:**

Input and output connections are BNC feed-throughs as shown on the reverse side of this sheet.

Two bias pins allow for addition of an external resistor to provide bias current for a photoconductive detector. When the preamp is purchased with a detector, the resistor is selected at the factory to provide optimum bias for that detector.

Always check the detector bias (the voltage between the center and shield of the input BNC) to ensure that it does not exceed the detector maximum bias before connecting the detector. Turn off preamp power before connecting the detector.

To operate with an unbiased photovoltaic detector leave the bias pins unconnected.

**Specifications:**

Bandwidth.....1st stage 10Hz to 1MHz  
 .....2nd stage 10Hz to 200KHz  
 Gain.....1st stage 100X  
 .....2nd stage 10X  
 Input impedance.....10K through 100µF capacitor  
 Input Noise.....1.5 nV/ Hz  
 Output Impedance...Op-Amp Out through 0.1µF capacitor  
 Maximum Output Level  
 (High impedance Load).....10 V P-P  
 300KHz - 1MHz.....3 VP-P max  
 Operating Temperature.....0 to +70°C  
 Power Requirements  
 (excluding bias current).....±15 V DC @ 200 mA  
 Size.....4.125" x 2.5" x 1.75"  
 (including connectors)

**Cautions:**

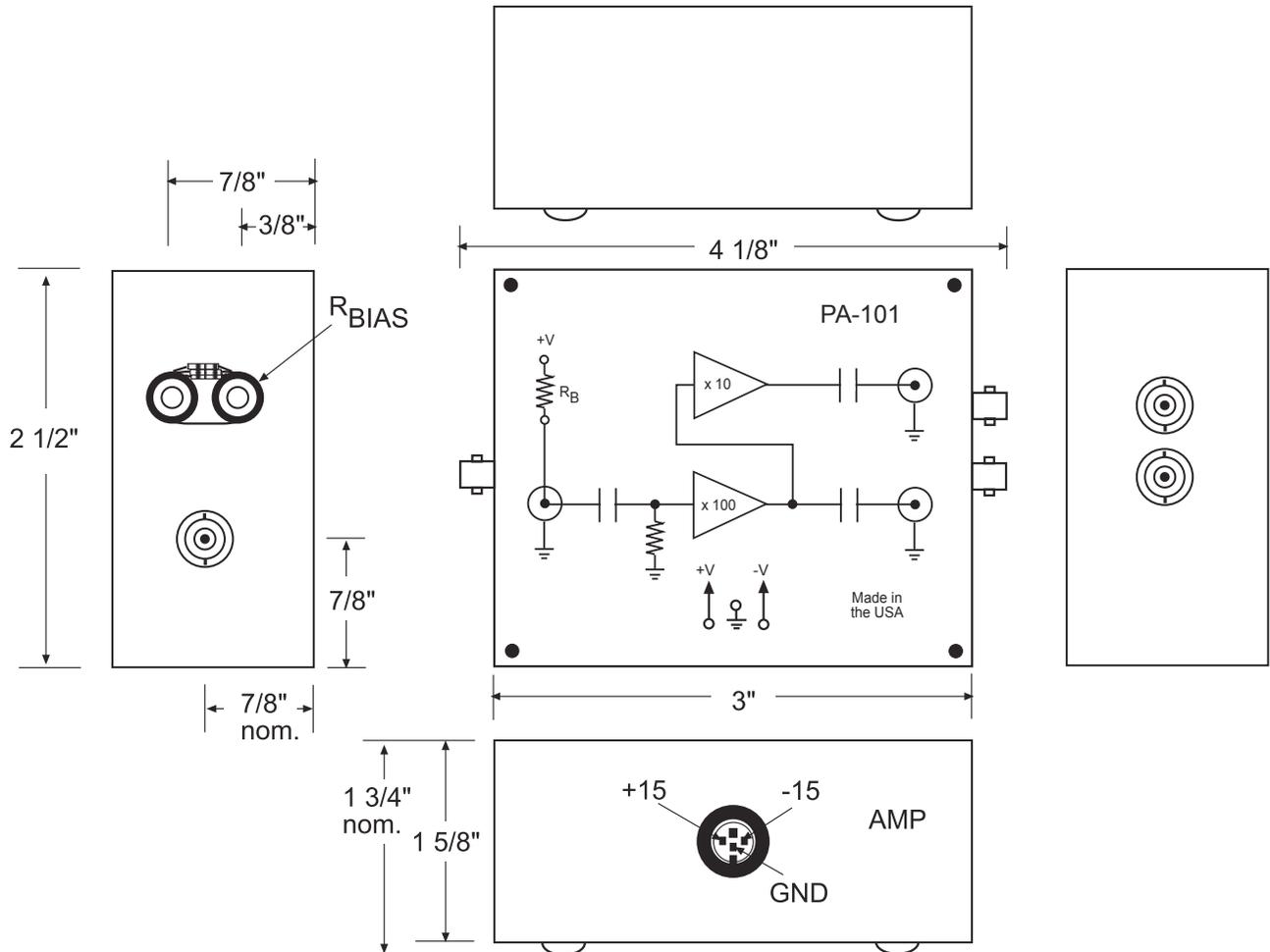
**Do not turn on the preamp power supply unless the detector is connected.**

**Do not exceed +15V on the supply pin +V.**

**Do not exceed the Maximum Bias Voltage for the detector (see detector test data sheet).**

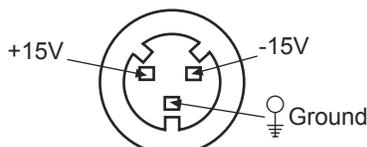
**Detector Matching Information**

Preamplifier Serial # _____	Matched to:
Customer Name: _____	Detector Model # _____
S/O #: _____	Detector Serial # _____
Data Approved By: _____	Bias Resistor _____
Date: _____	Bias Current @ +15 V Power Supply _____



**Power Requirements**

The PA-101 comes with a miniature DIN connector and is connected as follows.



The PA-101 is supplied with a cable where

Wire	Power
red	+15
black	-15
green	ground

Because the main power supply also provides the detector bias, a low-noise power supply is critical. Any fluctuations in the bias will appear as detector noise. **Batteries are strongly recommended.** A well-filtered power supply may also be used.

Information in this document is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.