



1010 Amplifier (P/N AM-0007)

Low Noise Amplifier

Technical Description:

The Model 1010 amplifier is a DC coupled amplifier that is compact, rugged and battery powered. The amplifier circuit and batteries are housed in a die casted aluminum case. The micro powered circuit design gives a **continuous operating life of more than one year** from the two internal batteries (included). BNC connectors are used for signal input and output connections.

The very low voltage noise and current noise in the critical low frequency region of 0.1 Hz to 10 Hz makes the Model 1010 ideal for use with thermopile detectors. To prevent accidental damage to the input transistors the input is diode protected.



1010 Amplifier

Not Currently RoHS Compliant

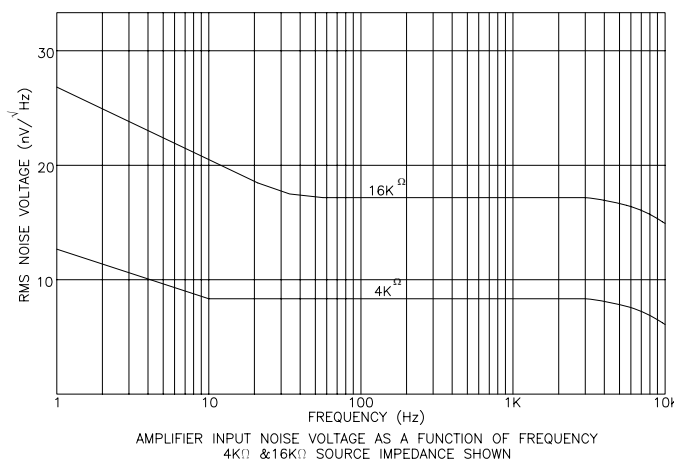
Features

- DC Coupled
- Low Noise
- DC offset Adjustment
- Micro Power
- 100% Electrostatic Shielding
- Battery Powered
- Gain of 1000

Technical Specifications

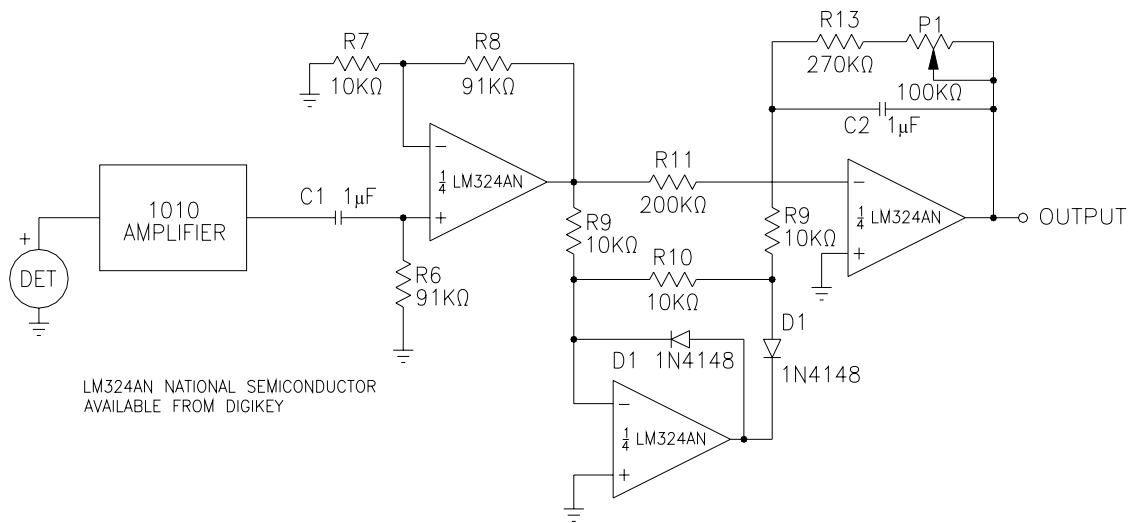
Specifications apply at 23°C

Parameter	Specification	Units	Comments
Gain	1000	V/V	60dB
Bandwidth (-3dB)	≤1	mV _{peak to peak}	DC input to 10KHz
	8	mV _{peak to peak}	DC input to 3KHz
	15	mV _{peak to peak}	DC input to 1.7KHz
Noise (.1Hz to 10Hz)	250	nV _{peak to peak}	
Maximum Output	±7.0	V	
Input Impedance	1	MΩ	
Output Impedance	300	Ω	
Output Load Minimum	10	kΩ	
Operating Temperature	0-70	°C	
Power Requirements	25	μA	From 2 internal 9V batteries
Package Size	1.4 x 2.5 x 3.9	inches	





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TYPICAL MODULATED SIGNAL RECTIFIER FOR 10 Hz (Full Wave) USING 1010 AMPLIFIER
Adjust RC circuit (C1 & R6) for modulation frequency

Operating Instructions:

INPUT CONNECTOR: A shorting type BNC cap is used to protect the amplifier input. When the amplifier is not connected to an input source this cap should be reconnected to prevent draining the batteries.

OFFSET ADJUSTMENT: The amplifier DC offset can be adjusted with a small screwdriver through an access hole in the side of the housing. This adjustment is by means of a 22 turn cermet potentiometer. Adjust offset with detector connected. Blinded detector should be at thermal equilibrium for at least 15 minutes. Then adjust offset to your reference voltage (zero in most cases).

BATTERY REPLACEMENT: Remove the top cover by loosening the four screws. These screws are held captive to the cover. Replace the batteries with 9-Volt alkaline batteries. Replace cover.

CAUTION: Do not allow inner flange of cover to pinch the battery wires or the batteries.