

### FEATURES

- \* Ideal for Fast Solid State and Channel Plate Detectors
- \* Wideband Performance 100 KHz to 1.8 GHz
- \* Gains Available from 5 to 100
- \* Low Pulse Distortion
- \* Bipolar Operation

### DESCRIPTION

The Model 6954 is a fast risetime, bipolar preamplifier intended for use with fast Solid State and Channel Plate Detectors. Standard fixed voltage gains of 5, 10, 20, 50 or 100 are available to optimize system performance. The bipolar capability makes it useful for most detector types or beam pick-off schemes. The amplifier's design exhibits low noise, low distortion and excellent stability, making it ideal for both energy and timing measurements. Both the inputs and outputs are protected for reliable operation.

### SPECIFICATIONS

**Input** : One; AC Coupled, Impedance 50 ohms; Input protected with back to back diodes.  
**Output** : One; AC Coupled, Drives  $\pm 2$  Volts across single 50 ohm load.

<b>Voltage Gain</b>	: 5 or 10	20, 50 or 100
<b>Bandwidth (3db)</b>	: 100 KHz to 1.8 GHz	100 KHz to 1.5 GHz
<b>Risetime</b>	: 180 pSec	220 pSec
<b>Insertion Delay</b>	: Typically 1.0 nSec	Typically 1.2 nSec

**Wideband Noise** : Less than 40  $\mu$ Volts RMS referred to input, for gains of 10 or 100.  
Less than 70  $\mu$ Volts RMS for gains of 5, 20 and 50.

**Power Supply Requirements** : +10 Volts to +28 Volts @ 120 mA for gains of 10 and below.  
+10 Volts to +28 Volts @ 200 mA for voltage gains above 10.

\* **Note:** Internal supply is regulated. A heatsink is recommended for 24 Volts and above.

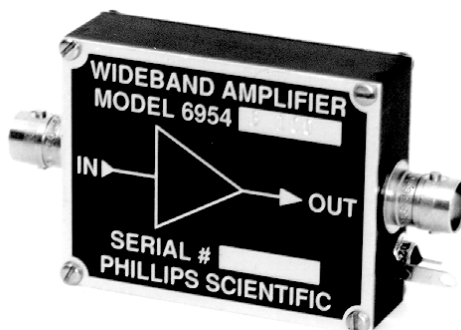
**Operating Temp.** : 0 °C to 60 °C ambient.

**Connector Type** : SMA female or BNC female. (Specify when ordering)

**Packaging** : Black anodized aluminum enclosure. 2.25" x 1.75" x .75", (5.72cm x 4.45cm x 1.9cm)

**Ordering Information** : Please specify **Model**, **Gain** and **Connector** type when ordering.

(e.g., Part Number **6954 - S - 20**), Connector: **SMA**, (B for BNC), Gain: 5, 10, **20**, etc.



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