

**MODEL 99531  
LOW NOISE TRANSDUCER  
PREAMPLIFIER**

**DL Instruments**

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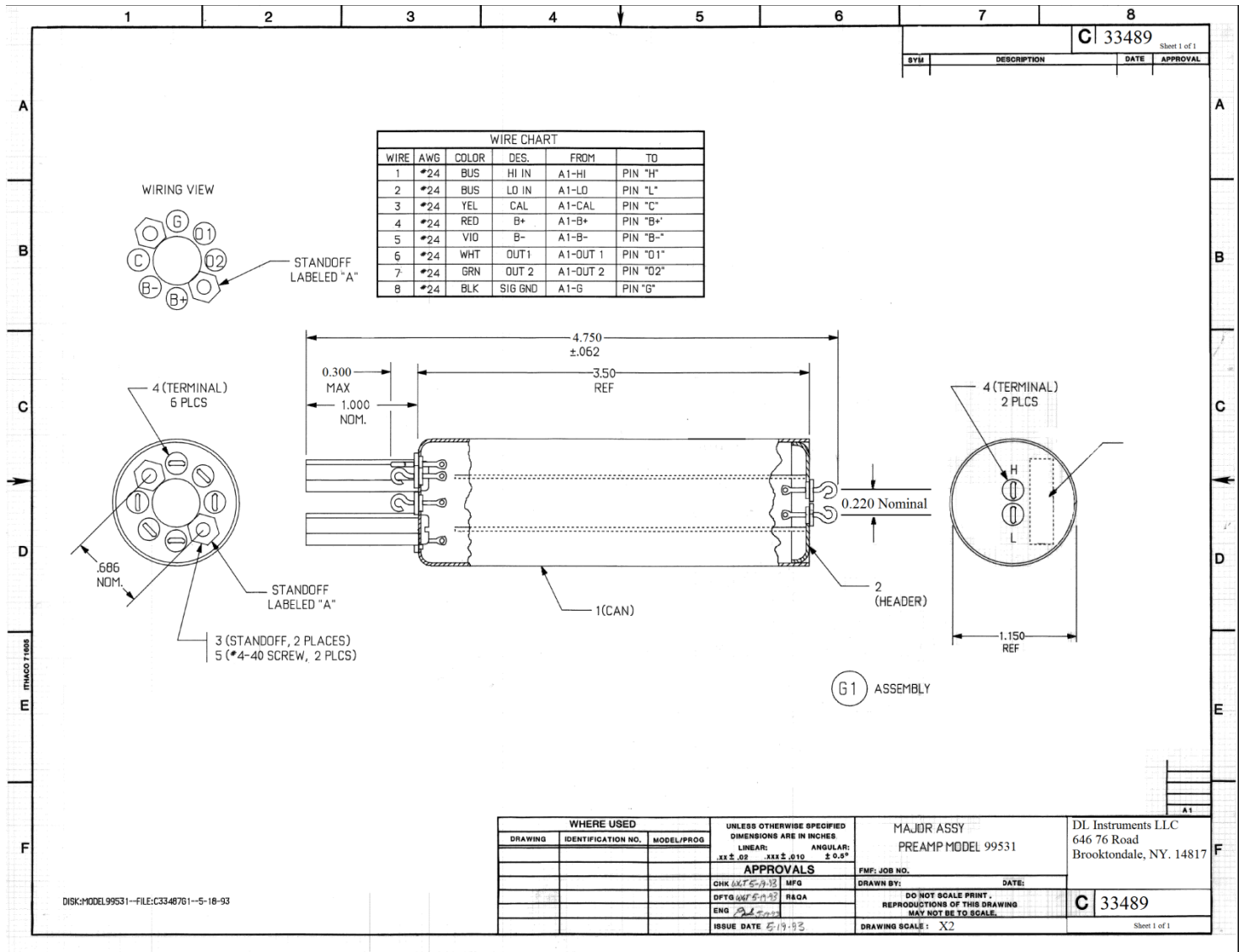
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The Model 99531 is designed to provide high performance, including gain stability phase stability, and noise over the 10Hz to 50 kHz band while providing a balanced line driving capability. It is designed to work with small capacitance transducers and provide adequate input overload protection.



# OUTLINE DRAWING

1.141 inch diameter X 3.5 inch long hermetically sealed cylindrical module. Input on one end, all other functions on opposite end to make it convenient for applications where signal flow is in a straight line.



## PIN CONNECTIONS

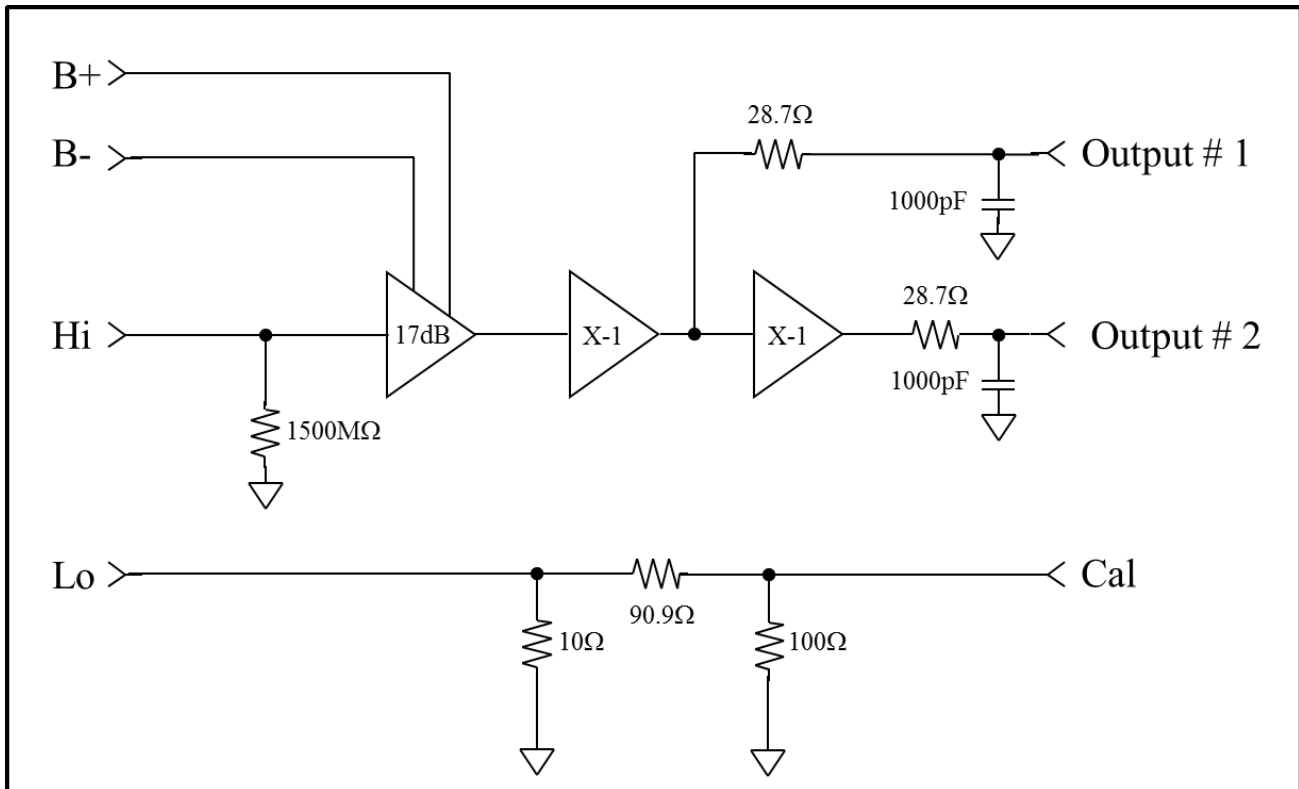
INPUT :

L INPUT LO

H INPUT HI

## OUTPUT:

- G** GROUND
- O1** OUTPUT 1
- O2** OUTPUT 2
- B+** POWER
- B-** POWER
- C** CALIBRATE



99531Block diagram

## SPECIFICATIONS

**GAIN** (1 kHz, 50Ω source, output unterminated):

- 17 dB Input to non-inverting output
- 23dB±0.1dB Input to balanced output

**FREQUENCY RESPONSE:** -3dB at 10 Hz, 6 dB min. slope below 10 Hz; 1 dB at 50 kHz min.

**INPUT R:** 1500 Meg  $\Omega$ // 20 pF

**INPUT PROTECTION:** Biased diode overload protection to prevent damage

**NOISE** (1 Hz BW, 100pF source)

10 Hz	-122 dB V
100 Hz	-142 dB V
1kHz	-160 dB V
10 kHz	-169 dB V
50 kHz	-169 dB V

**DISTORTION:** 0.1% 50 Hz to 50 KHz, 6V p-p output line to line open circuit  
Or 32V p-p total load including source resistors equal to 130 $\Omega$

**PHASE SHIFT:** Non-inverting output to inverting output  $180^{\circ}\pm 3^{\circ}$   
Input to NINV output  $\pm 2^{\circ}$

**OUTPUT TYPE:** balanced, referenced to signal ground

**OUTPUT CAPABILITY:** 8 Volt p-p unloaded

**OUTPUT IMPEDANCE:** 30  $\Omega \pm 2\Omega$  dc couple each side

**OUTPUT DRIVE:** 50 mA peak

**CAL:** Cal resistor divider 20dB CAL PAD

**POWER:**  $\pm 13$  V dc TO  $\pm 20$  V dc at 40 mA

**POWER SUPPLY REJECTION:**  $\geq 75$  dB 50 Hz -2 kHz

**OPERATING TEMPREATURE**

-25 °C to +55 °C operation  
-55 °C to +85 °C storage

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