The Model 143NM112 is a low noise, FET input Preamplifier typically used with piezoelectric transducers such as accelerometers, hydrophones and seismometers. It also provides excellent performance with high impedance bolometer type transducers and with pyroelectric photodetectors. It may also be used as gain blocks ahead of lock-in amplifier and other instrumentation such as oscilloscopes, spectrum analyzers and analog-to-digital converters. Its rugged design allows operation in severe environments such as encountered in underwater acoustics applications.
OUTLINE DRAWING

1.141 inch diameter X 2.25 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 END:
  L  LOW INPUT
  H  HIGH INPUT
  G  GROUND

OUTPUT END:
  C  CALIBRATION
  B  B+ (+24 V)
  O  OUTPUT
  G  GROUND
143NM112  Block diagram

**SPECIFICATIONS**

**GAIN:** 20 dB ±0.2dB

**GAIN STABILITY:** ±0.1dB

**FREQUENCY RESPONSE:** -1dB at 0.5Hz and 200Hz

**INPUT R:** 1000 Meg Ω // 15 pF

**TYPICAL SOURCE:** Rs < 100MΩ  Cs >50 PF

**MAXIMUM SAFE INPUT:** (ac+dc) ±75V

**NOISE**
- Shorted Input 2.4μ V rms -112dB V
- 100pF source 8μ V rms -102dB V

**DISTORTION:** (1 V rms into 5kΩ) 0.1%

**OUTPUT TYPE:** Non-inverted
OUTPUT CAPABILITY: V p-p 9V - 18V  
Ip 4 mA - 10mA

DC VOLTAGE AT OUTPUT: 0

DYNAMIC OUTPUT IMPEDANCE: 35 Ω in Series with 40μF

SUPPLY VOLTAGE: 15 V to 30 V (max)

SUPPLY CURRENT: (Quiescent) 10mA to 20mA

POWER SUPPLY ISOLATION, RTI: 65 dB

OPERATING TEMPERATURE: -25 °C to +55 °C operation  
-55 °C to +85 °C storage

HYDROSTATIC PRESSURE available rated to 1500 psi

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