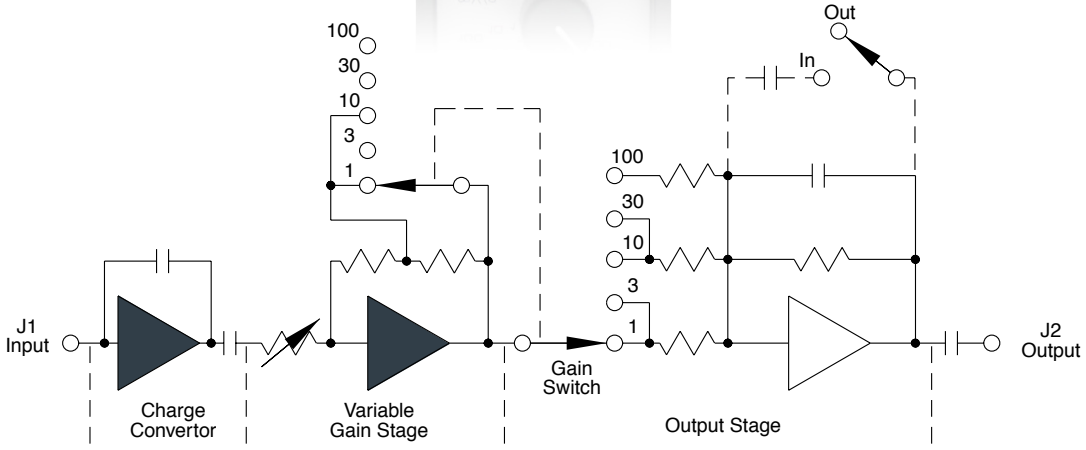
ENDEVCO
AN AMPHENOL COMPANY

Laboratory charge amplifier

Model 2721B



The Endevco® model 2721B is a charge amplifier for use with piezoelectric transducers with resistance as low as 1kΩ. Its small size and ±15 VDC operation are suited to laboratory and field use. The output voltage of the amplifier is proportional to the charge at the input.

This amplifier features a flat frequency response from 3 Hz to 10 kHz, output signal decoupling, front panel switchable filter and range switching in mVg. Operation is simple, just dial for the transducer sensitivity and select the desired gain switch position. The output is then normalized in mV/g. Up to nine model 2721B's may be powered from a single Endevco model 4221A AC operated power supply.

Key features

- Front panel selectable filter
- Dial-in sensitivity for set output in mV/g
- Small unit for laboratory and field use
- Optional 19" rack mountable with adapter

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Specifications

Inputs

Type	Piezoelectric single-nnded with one side connected to circuit common
Impedance	1000 Ω minimum, 30 000 pF maximum
Input without overload	30 000 pC minimum
Input slew rate	1000 pC/µs

Outputs

Type	AC voltage, single-ended with one side connected to ground
Impedance	10 Ω ±10% in series with at least 8 µF
Linear voltage	10.0 V pk minimum for output loads of 5000 Ω or greater
Linear current	2.0 mA maximun
DC offset	50 mVDC maximum

Transfer characteristics

Gain accuracy	±1% (±2% with source impedance less than 10 kΩ or greater than 10 kpF)	
Gain stability vs temperature	±0.02%/°F max	
Range		
High sensitivity transducers	100 to 1100 pC/g range	100, 300, 1K, 3K, 10K mV/g (green scale)
Medium sensitivity transducers	10 to 110 pC/g range	10, 30, 100, 300, 1K mV/g (red scale)
Low sensitivity transducer	1 to 11 pC/g range	1, 3, 10, 30, 100 mV/g (black scale)
Residual noise	Q noise (rms) = √(Qa² + Qb²) RTI or 100 µV maximum RTO where Qa = .03 pC rms + .008 pC rms/1nF of input shunt capacitance, Qb = 100 ÷ √(Rs) = pC rms (for shunt resistance (Rs) <100 kΩ)	
Frequency response	Flat within its bandwidth. The gain at the upper and lower cutoff frequency is 5% lower than the gain at 1 kHz.	
Lower cutoff frequency	The lower cutoff frequency is dependent on the input shunt resistance as follows:	

Maximum frequency	2721B
1 Hz	N/A
2 Hz	› 100 kΩ
5 Hz	10 kΩ to 100 kΩ
50 Hz	1 kΩ to 10 kΩ

Upper cutoff frequency 10 kHz

Environmental

Temperature	Operating: 32°F to 167°F (0°C to 75°C) Storage: -67°F to 185°F (-55°C to 85°C)
Humidity	95% R.H. maximum

Power:

This signal conditioner has been designed for use with the Endevco model 4221a power supply.

Supply voltage	±15 Vdc (±14 Vdc minimum, ±18 Vdc maximum)
Supply current	±7.5 mA DC (±9 mA maximum)

Physical

Dimensions	3.00" h x 1.75" w x 5.125" d (76.2 mm x 44.5 mm x 130.2 mm)
Weight	1 lb (450 gm) typical
Connectors	Input: Microdot type 10-32 Output: BNC type coaxial receptacle Power: Terminal strip with three #2-56 screw terminals.
Front panel controls	
Range	Five position rotary switch selects the mV output per g input range.
Sensitivity	A potentiometer and a turns counting dial set transducer pC/g sensitivity
Filter enable/disable switch	Toggle switch selects an internal, single pole low pass filter.

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Accessories

21732	Accessory kit includes: EH200—screw, mach, #4-40 x 1/4" (4 each) EHR77—rubber stand-off feet (4 each)

Optional accessories

4221A	Power supply-

Notes

1. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

Contact

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