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Find the *General Photonics PCD-001* at our website: *Click HERE*

3–Channel Piezo Driver



The PCD-001 is a precision, low noise, low drift, high-voltage 3-channel driver for piezo actuators. This instrument provides both manual and electronic control of piezo drive voltages. It is an ideal driver for use with General Photonics' polarization controllers and scramblers. Other applications include remote alignment of single-mode fiber couplers, high-resolution translation, microscopy, remote positioning, etc. Each of the three piezo drive voltages can be controlled independently. Precision 10-turn potentiometers on the front panel allow for precise manual setting of the outputs over the full operating range. This allows for hands-off control of the piezo translators, to take full advantage of the inherently high resolution of the piezo elements. The driver voltages can also be controlled externally by applying analog control voltages (0 to 10V) to the front panel BNC inputs or to the rear panel male DB9 connector. These voltages are multiplied by a gain of 15V/V and added to the manual control voltages. Finally, the output voltages can be set by remote control through a computer RS-232 interface.

Specifications:

Electrical Characteristics	
Number of PZT Channels	3
EXT. Input Voltage Range	0 ~ 10 volts
EXT. Input Resistance	20 kΩ
Rise Time	15 µs @ 10 Vp-p
Output Voltage Range	0 ~ 150 volts VDC ± 1%
EXT. Input Gain	15 V/V ± 1%
Noise[1]	< 40 mV (rms)
-3 dB Bandwidth[2]	40 kHz
Stability	< 0.01% over 5 hours
Operating Temperature	0 ~ 40 °C
Storage Temperature	-20 ~ 60 °C
Physical Features	
Dimensions	6.75" (W) × 6.25" (D) × 2.5" (H)
EXT. Input Connectors	BNC (front panel) and male DB9 (rear panel)
Output Connectors	BNC and female DB9 (rear panel)
Manual Control	10-turn potentiometers
RS-232 Interface	Male DB9
Number of Channels	3
Number of Displays	3
Display Type	5 digit LCD
Power Supply	100 ~ 120 VAC 50 ~ 60 Hz, or 200 ~ 240 VAC 50 ~ 60 Hz
Maximum Ratings	
Max. Output Current	60 mA per channel (continuous) 120 mA per channel (peak)
Max. EXT. Input Voltage	10 VDC
Fuse Rating	1000 mA @ 115 VAC or 500 mA @ 230 VAC

Notes:
1. The noise was measured with the output set to 150V and an output capacitance of 0.18 µF (capacitance of PolaRITE II's piezo actuator). It may decrease with higher output capacitance and increase with no output capacitance.
2. The bandwidth was measured at 150V output without load. Any piezo added to the output may decrease the bandwidth.

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3–Channel Piezo Driver

Typical Performance Data: (Ch 1 is EXT. input, Ch 2 is output)

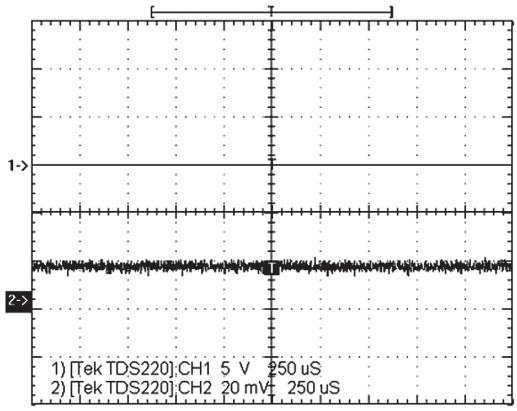


Figure 1. Noise: Vout = 150 V, Vrms = 2.8 mV with PolaRITE II load

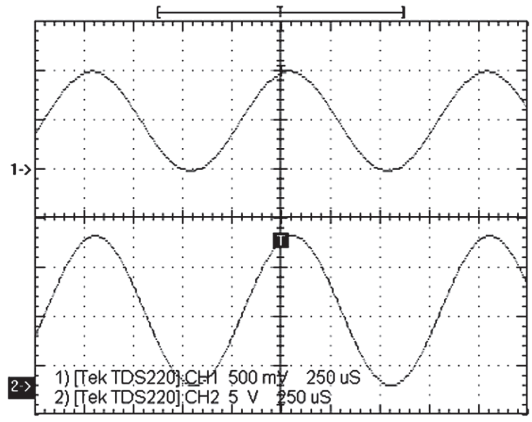


Figure 2. Vout = 15 V, Sine wave, with load

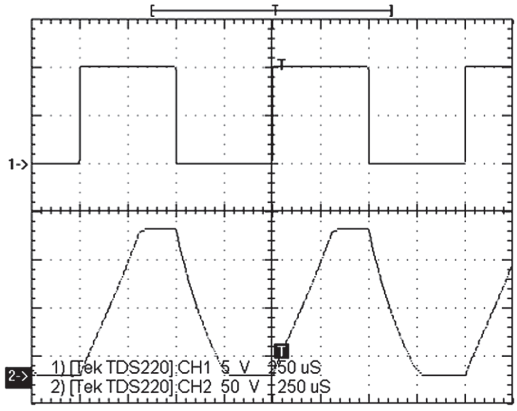


Figure 3. Vout = 150 V, Square wave, with load

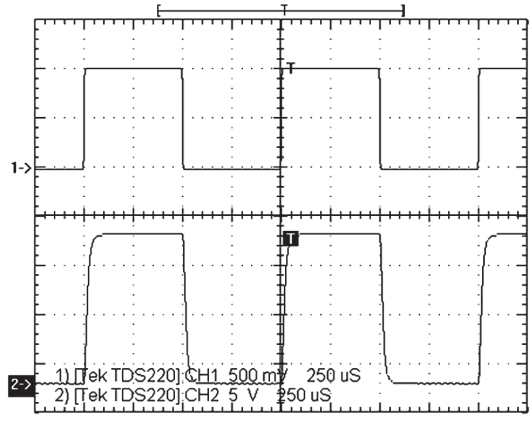


Figure 4. Vout = 15 V, Square wave, with load

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Ordering Information:

PCD — 001

Please specify the power supply type:
115 VAC 50 ~ 60 Hz or 230 VAC 50 ~ 60 Hz

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