



# Preamplifier Power Supply

Single Channel, Standalone Power Supply to Power Low Noise and 200V Microphones

## Highlights

- 6 x AA batteries or DC adapter powered
- 0 & 200 volt polarization
- Selectable weighting (A, C or Z)
- Drive long cables up to 500 ft (150 m)
- Settings retained when powered off
- Selectable gain (0 - 40 dB in 10 dB steps)
- Overload indicator

## Applications

- Power a variety of precision microphones and preamplifiers
- Signal conditioning for use with recorders, data loggers and analyzers



The Model 2221 is an excellent choice for when you need a traditional preamplifier power supply. The Model 2221 includes all the features needed for demanding applications such as low noise amplification and the ability to drive long cables up to 500 feet. It includes built-in A, C and Z weighting filters and can be powered from internal AA batteries or an external AC adapter.

Combine the Model 2221 power supply with a traditional preamplifier like the model PRM902 and an externally polarized microphone to make a complete analog front-end. The Model 2221 will operate on batteries for 40 hours and includes A, C and Z-weighting filters which makes it an excellent choice for portable applications. Signal is output on a BNC connector making it easy to interface with a variety of data acquisition devices.

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# Preamplifier Power Supply – Model 2221

## Specifications

Frequency Response	
A-weighted	63 Hz to 20 kHz ( $\pm 0.3$ dB)
C-weighted	25 Hz to 20 kHz ( $\pm 0.3$ dB)
Z-weighted	10 Hz to 100 kHz ( $\pm 0.2$ dB) 1 Hz to 150 kHz (-3 dB)

With respect to response at 1000 Hz

## Electrical Specifications

Microphone Bias	0 and 200 V ( $\pm 0.25$ V)
Pre-amplifier Voltage	$\pm 18$ V
Output Current (Max)	25 mA
Input Level (Max)	18 Vpeak
Overload Indicators	Blinking LED = Instantaneous Solid LED = latched
Overload Level	$\pm 16.5$ Vpeak
Gain	0 to 40 dB in 10 dB steps
Fine Gain Adjustment	-10 to 0 dB

## Electrical Output Noise (with input shorted)

20 Hz to 20 kHz	Gain	A	C	Z
	0	5.9 $\mu$ V	4.4 $\mu$ V	1.9 $\mu$ V
	20	20 $\mu$ V	6.6 $\mu$ V	7.8 $\mu$ V

## Cable Length (capacitance = 30 pF/ft)

Length	14 Vpeak	4.2 Vpeak	1.4 Vpeak
250 ft (76 m)	38 kHz	120 kHz	300 kHz
500 ft (152 m)	19 kHz	62 kHz	180 kHz

## Power Supply

Internal Batteries	6 x AA cells
Battery Runtime	40 hours with PRM902
DC Input Voltage	10.5 to 30 V
DC Input Current	65 mA @ 12 V with PRM902

## Input Connector

PIN	SIGNAL
1	No connection
2	Signal ground
3	Microphone polarization voltage
4	Signal input
5	No connection
6	Power supply (+18 V)
7	Power supply (-18 V)
Shell	Connected to case ground

## Environmental Specifications

Operating Temperature	- 40 °F to 140 °F (- 40 °C to 60 °C)
Operating Humidity	0 to 90% relative humidity, non-condensing

## Physical Specifications

Height	8.02 in (204 mm)
Width	4.10 in (104 mm)
Depth	1.29 in (32.8 mm)
Weight (incl. batteries)	15 oz (425 grams)
Input Connector	7-pin LEMO® 1B Female
Output Connector	BNC Female
Power Connector	2.5 x 5.5 circular, center positive

## Accessories

Included Accessories	
PSA027	90 - 264 VAC to 12 VDC power adapter
Optional Accessories	
CBL093	5-pin Switchcraft® male to BNC plug, 6 ft (2 m)
CBL097	7-pin LEMO® to BNC plug, 6 ft (2 m)

## Related Products

PRM902	½" microphone preamplifier
377A45	Low noise microphone & preamplifier
CAL200	Class 1 acoustic calibrator
ADP097	BNC input adapter for Model 831
831	Model 831 sound level meter

## Ordering Information

2221	Environmental Protection System for ½ inch microphones and preamplifiers
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## Compliance

IEC 61672-1 (2002) Class 1 and ANSI S1.40-1984
IEC 61010-1 (2001) Safety
CE



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