

# Microphone Preamplifier Power Supply

## Model 2221

Larson  
Davis



### Typical Applications

- Powering precision microphones and preamplifiers
- Signal conditioning and amplification for use with recorders, data loggers, and frequency analyzers



### Features

- Internal battery power with low power consumption
- 0 and 200 volt polarization voltage
- Selectable Flat (Z), A, and C-weighting
- 0 to 50 dB gain
- Both instantaneous and latching overload indicators
- LED indicators for output signal, internal battery voltage, and external power
- Drives long cables (500 foot), input and output
- High preamplifier current capability to drive Larson Davis PRM903 preamplifier with internal heater
- Compatible with ICP® powered transducers (using PRA951 adaptor)
- Recalls last active setup upon power-up

The Model 2221 provides the highly stable DC polarization voltage required by precision microphones along with low noise amplification enabling it to drive input and output cables as long as 500 feet. It is rugged, lightweight and will provide up to forty hours of continuous operation (with PRM902 Microphone Preamplifier) using six AA internal batteries. It can also provide sufficient current to power the PRM903 Microphone Preamplifier, which has an internal heater.

# Model 2221 Microphone Preamplifier Power Supply

## Technical Specifications

<b>Frequency Response</b>	(0 to 40 dB gain, 1 Vrms output)	10 Hz to 100 kHz ( $\pm 0.2$ dB)			
	Flat (Z-weight)	2 Hz to 150 kHz (-3 dB)			
	Z, A and C-weight filters	Conform to IEC 61672-1:2002 "Sound Level Meters" Class 1			
	A-weight	20 Hz to 20 kHz ( $\pm 0.2$ dB)			
	C-weight	10 Hz to 20 kHz ( $\pm 0.2$ dB)			
<b>Microphone bias voltage</b>	0 and 200 Volts; $\pm 0.25$ V				
<b>Preamplifier supply</b>	$\pm 18$ Volts				
<b>Output signal weighting</b>	Flat (Z), A and C-weighted				
<b>Gain settings</b>	0 to 40 dB in 10 dB steps, plus 0 to 10 dB vernier				
<b>Maximum input level</b>	18 Vpeak				
<b>Maximum output current</b>	25 mA				
<b>Output noise</b>	input shorted to ground, 20 Hz to 20 kHz	Gain	Flat (Z-wt)	A-wt	C-wt
		0	1.9 $\mu$ V	5.9 $\mu$ V	4.4 $\mu$ V
		20	7.8 $\mu$ V	20 $\mu$ V	6.6 $\mu$ V
<b>Overload indicators</b>	Instantaneous	Blinking LED			
	Latched	Solid LED, reset on keypad			
<b>Operating temperature range</b>	$<\pm 0.03$ dB @ 1 kHz	-40 to +60 °C (-40 to +140 °F)			
<b>Humidity range</b>	$<\pm 0.03$ dB @ 1 kHz	0 to 90% RH, non-condensing at 40 °C (104 °F)			
<b>Dimension</b>	Height	32.8 mm (1.29 in)			
	Width	104 mm (4.10 in)			
	Depth	204 mm (8.02 in)			
<b>Connectors</b>	Input	7-Pin LEMO 1B female			
	Output	BNC Female			
<b>Weight</b>	425 gram (15 oz)				
<b>Power requirements</b>	internal batteries	6 $\times$ AA; 40 hrs with PRM902 preamp			
	external DC	10.5 to 30V; 65ma @ 12 V with PRM902 connector 2.5 $\times$ 5.5 coax, center positive			
<b>Power adaptor (provided)</b>	Larson Davis PSA017; 115Vac to 9Vdc, 500mA				
<b>Cable driving capability: 30 pF/ft cable</b>	Length	14 Vpeak	4.2Vpeak	1.4Vpeak	
	250 ft	38 kHz	120 kHz	300 kHz	
	500 ft	19 kHz	62 kHz	180 kHz	
<b>CE</b>	CE-mark indicates compliance with the EMC Directive				

All values are at 20 °C, 50% RH, 12 V supply, <3 m (10 ft) cable, and a direct input from a 50 ohm generator, unless otherwise specified.

## Accessories and Related Products

<b>PRM902</b>	½" Microphone Preamplifier
<b>PRM903</b>	½" Microphone Preamplifier with internal heater
<b>CBL097</b>	7-Pin LEMO to BNC cable, 6 ft
<b>PSA021</b>	230Vac to 9Vdc, 500mA power adaptor
<b>PRA951-2</b>	2 mA ICP® current source
<b>PRA951-4</b>	4 mA ICP® current source
<b>CAL200</b>	Class 1 acoustic calibrator 94/114 dB @ 1 kHz
<b>CAL250</b>	Class 1 acoustic calibrator 114 dB @ 250Hz

## Input Connector Pinouts

Pin	Signal
1	No connection
2	Signal ground
3	Microphone polarization voltage 0 or 200 Volts
4	Signal input
5	No connection
6	Power supply positive voltage +18 Volts
7	Power supply negative voltage -18 Volts
Shell	Connected to Case ground



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Larson Davis provides a complete line of acoustic measurement tools including dosimeters, sound level meters, real time analyzers, preamplifiers, calibrators, and microphones.