



**BAK ELECTRONICS, INC. Biomedical Instrumentation**

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## ***EMG PAYNTER FILTER***

Model PF-1



3-POLE FILTER SMOOTHES ENVELOPE WHILE PRESERVING RISE TIME

GAIN AND LEVEL CONTROLS

USER SPECIFIABLE INTEGRATION TIME CONSTANT

### **Description:**

The Model PF-1 was specifically designed to smooth EMG signals thus producing an integrated profile proportional to the total amount of EMG activity\*. The EMG signal is first input buffered and full wave rectified so that no information is lost. It is then integrated by a 3 pole filter circuit designed to preserve the dynamic modulation of the EMG envelope. The integrated signal is then amplified and DC level adjusted. The user is given front panel controls so that these two parameters may be selected for proper interfacing to a recorder or computer input. The output utilizes a high quality current driver amplifier so that no additional driving circuitry should be needed. The time constant of the integrator is nominally designed for 50 msec. However, any time constant may be specified in the purchase order at no extra cost. The Model PF-1 is of modular construction and slides easily into the Model RP- 1 rack mount power supply module cage system.

\* Gottlieb, G.L. and Agarwal, G.C. "Filtering of electromyographic signals." Amer. J. Physiol. Med., 1970, 49:142-146.

### **Specifications:**

Input Resistance:	100 kilohms
Input Coupling:	AC
Low Frequency Cut-Off:	5 Hertz
Input Dynamic Range:	20 volts peak to peak maximum
Integrator Time Constant:	50 msec (may be specified)
DC Level:	(adjustable)- DC to 12V
Gain	X1 to X10 nominal
Signal Polarity:	Full wave rectified positive-up
Output Resistance:	100 ohms
Power Requirements:	+/-15 volts @ 120 ma
Size:	2.8"w x 5.25"h x 7.25"d
Weight:	1 lb.