

# ***PULSED SAMPLE/HOLD INTEGRATOR***

Model PSI-1



EXCELLENT FOR ACCURATELY QUANTIFYING EMG DATA \*

AUTOMATIC INTEGRATOR RESET

VARIABLE BIN WIDTHS

EXTERNAL RESET FOR STIMULUS SYNCHRONIZATION

## **Description:**

The Model PSI-1 is an instrument specifically designed for quantifying integrated EMG data into discrete bins. EMG data frequently requires rectification and integration to facilitate quantitative appreciation of overall amplitude for illustrations and for digitized data reduction. This novel pulsed integrator circuit allows the investigator to continuously adjust the time interval of integration from 1-10 msec and avoid the hysteresis and sampling time ambiguity of linear RC filters. A long time constant integrator is reset to zero after each sampling interval and the integral accumulated for that interval is saved by a sample and hold circuit for output during the next integration period. The investigator can also control overall signal gain, output DC level and input noise excluding level. The circuit features automatic gain control to stabilize output amplitude as the integration period is varied, and an external reset line to allow synchronizing the integration periods to an external event such as a stimulus pulse. The Model psi-1 is of modular construction and slides easily into the Model RP-1 rack mount power supply module cage system.

\* Bak, M.J. and Loeb, G.E., "A pulsed integrator for EMG analysis", *Electroenceph. and Clin. Neurophys.*, 1979, 47:738-741.

## **Specifications:**

Input Resistance	100 kilohms
Input Coupling	AC
Input Dynamic Range	8 volts peak to peak
Integration Time Constant	10 to 100 msec, continuously adjustable
Sample Time (Bandwidth)	1 to 10 msec, continuously adjustable
Low Frequency Cut-Off	2 Hz
Threshold Level Adjust (Noise Clipper)	Adjustable from calibrated zero to 10V
Gain	1 to 10 continuously adjustable for max. 10 volts output (nom.)
DC Level Adjust	Adjustable from calibrated zero to -10V
Reset Pulse	Requires +2 volt mm. 1 microsecond mm.
Output Impedance	100 ohms
Power Requirements	+15 volts @ +/-45 ma
Size	2.8"w x 5.25"h x 7.25"d
Weight	1 lb.

**Options:**

PSI-1 (1) Switch selects external interval control in place of internal clocking. One or more integrators can be synchronized to an external data collection device such as a computer by providing impulses at the desired rate to the RESET connector . . . .Price class C

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