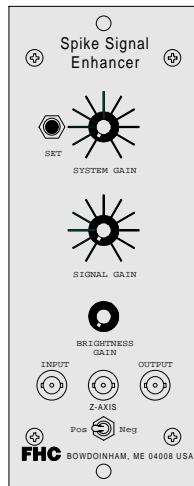


## Spike Signal Enhancer



- INCREASE SIGNAL TO NOISE RATIO
- BRIGHTEN SPIKES ON OSCILLOSCOPE

The **Spike Signal Enhancer** has been designed to allow the investigator to amplify a signal with respect to baseline noise as well as selectively brighten the Z-axis of the oscilloscope to provide better signal contrast.

These features will be especially useful in photographing action potentials where baseline noise tends to overexpose the film, and in discriminating signals from different cells.

The Spike Signal Enhancer connects to the output of the electrode amplifier. As the set button is depressed the System Gain Control is adjusted until the baseline noise is eliminated. The Signal Gain control is then set to give the required signal-to-noise ratio at the output.

### SPECIFICATIONS

**Input Dynamic Range:** +1 to 10V

**Signal Enhancement Gain:** 0-15 times baseline

**Z-Axis Intensification Range:** 0 -  $\pm 15V$

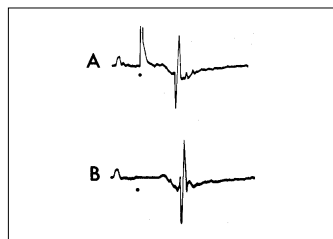
**Power Requirements:** +15V, -15V DC at 65mA, Molex connector on rear panel

**Dimensions:** 2.75" w x 7" h x 9" d (18 x 7 x 23cm), 1.5 lb. (680g)

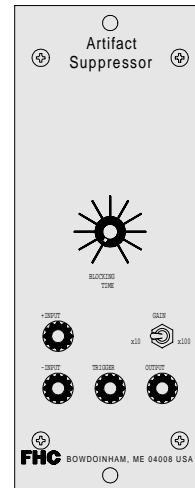
### ORDERING INFORMATION

40-46-1 Spike Signal Enhancer

*Response of Purkinje cell in frog cerebellum to surface stimulation of parallel fibers without (A) and with (B) the use of the Artifact Suppressor*



## Artifact Suppressor



- USED AS PREAMP OR SECOND STAGE
- ELIMINATES STIMULUS ARTIFACT
- VARIABLE BLOCKING TIME

The **Artifact Suppressor Module** provides a convenient method for eliminating artifacts produced by electrical stimulation.

This type of artifact can be troublesome because as it saturates high gain stages of amplification behind the initial preamplifier, it produces a slowly decaying potential as the amplifier unsaturates.

The Suppressor features a high resistance, differential input which can be connected directly to EEG, EMG, or even microelectrodes or it can be connected between a preamplifier and high gain amplifiers.

The instrument operates using a clamping circuit triggered by the stimulator. The circuit samples the output of the preamplifier and holds it for a time period continuously adjustable using the Blocking Time control. The control is adjusted to eliminate as much of the stimulus artifact as needed.

### SPECIFICATIONS

**Input:** Differential, AC coupled (1 Hz)

**Common Mode Rejection:** >60db at 60Hz

**Input Range:**  $\pm 1V$

**Input Impedance:**  $>10^9$  Ohms

**Output Range:**  $\pm 10V$  @ 10KHz

**Gain:** x20 or x100

**Output Impedance:** 50 Ohms max., short circuit protected

**Trigger:** TTL level, positive edge transition with a pulse width of 50usec (minimum). Trigger pulse amplitude limits are -1V and +15V, absolute maximum

**Blocking Time:** .15mSec to 5mSec  $\pm 10\%$

**Power Requirements:**  $\pm 15VDC$ , 50mA,

**Dimensions:** 2 3/4" w x 7" h x 9" d (18 x 7 x 23cm), 1lb. (450g)

### ORDERING INFORMATION

40-75-6 Artifact Suppressor Differential Input