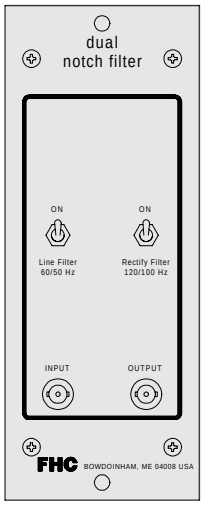
Notch Filter



- **FILTERS 60Hz PICK-UP AND 120Hz GROUND LOOP NOISE**
- **100:1(-40dB) ATTENUATION AT NOTCH FREQUENCIES**
- **50/100Hz VERSION AVAILABLE**

The **Dual Notch Filter** has been designed to eliminate troublesome 60Hz pick-up and 120Hz ground loop noise in electrophysiological recording set-ups. Designed to be used after input and conditioning amplifiers, before display and analysis instruments where line power related noise is troublesome.

The instrument has a wide dynamic range so as to be versatile enough to use with a variety of amplifiers. The 60 and 120Hz filters can be activated separately. The instrument can also be ordered as two independent circuits, each set at a selected frequency.

The Dual Notch Filter requires + and -15V power (cable provided). It can be ordered with 50 and 100Hz notch frequencies for areas with 50Hz frequencies.

SPECIFICATIONS

Input Impedance: 1MOhm
Input Dynamic Range: ±10V
Frequency Response: DC-20KHz
Passband Voltage Gain: Unity
Notch Width (-3dB): 57.2 - 62.9Hz, 114.3 - 125.7Hz
Signal Attenuation at 60 & 120Hz: >40dB
Power Required: +/-15V DC, 20mA
Dimensions: 7" x 2 3/4" x 9" (17.8 x 7 x 22.9 cm) 2 lbs. (0.9Kg)

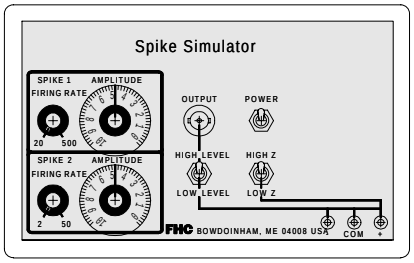
CONTROLS / CONNECTORS

Filter ON (2): 2-position toggle switches to independently activate or bypass the 60Hz and 120Hz notch filters
Input: BNC Connector
Output: BNC Connector
Power (Back Panel): 5-pin Molex receptacle for connecting +/-15V DC power (60cm mating cable provided)

ORDERING INFORMATION

74-78-1 Dual Notch Filter

Spike Simulator



- **TEST AMPLIFIER AND DATA COLLECTION INSTRUMENTS WITH REALISTIC WAVEFORMS, FREQUENCIES**
- **EVALUATE SYSTEM NOISE PICK-UP**

Our **Spike Simulator** generates two spikes, one .2mSec wide, the other 1mSec; the shorter spike can be adjusted at a rate to 500/sec, the longer to 50/sec. Each spike can be adjusted from 0-1 mV.

There are 3 output configurations: the low level output can be connected to the input of a microelectrode amplifier and the spikes used to demonstrate or verify filtering and gain adjustments. Switching in the high impedance output will show the effects of a high impedance source including noise pick-up and capacitance effects. The high level output (gain X1000) can be used to bypass the amplifier and connect directly to a window discriminator or other data collection equipment to demonstrate as well as calibrate system function.

The simulator is powered by a single 9V battery (Alkaline: approximately 60 hrs. life).

SPECIFICATIONS

Output amplitude -
High Level: 0-1V peak-to-peak
Low level: 0-1 mV peak-to-peak, differential
Pulse width -
Spike 1: 0.2 mSec
Spike 2: 1 mSec
Firing rate -
Spike 1: 20-500 pulses/second
Spike 2: 2-50 pulses/second
Output impedance -
High level: 500 Ohms
Low level -
Low Impedance: 75 Ohms
High Impedance: 2 MOhms, differential
1 MOhm, each output to common
Power: Battery, Alkaline, 9V transistor,
e.g. Duracell 1604 (60 hours life)
Dimensions: 4 1/8"x2 3/4" x 2 1/2" (10.3 x 6.7 x 6.3 cm) 12oz. (0.3Kg)

ORDERING INFORMATION

40-42-1 Spike Simulator