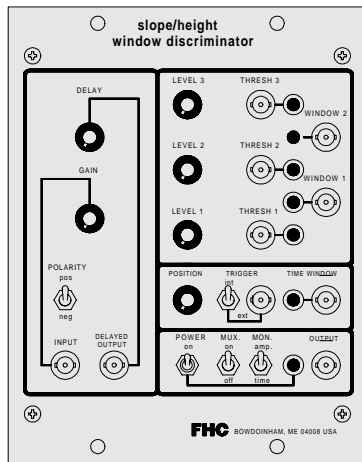


Slope/Height Window Discriminator

- SORTS EXTRACELLULAR SPIKES BASED ON AMPLITUDE AND WAVESHAPE
- THREE ADJUSTABLE LEVELS CAN BE USED FOR 2-WINDOW AMPLITUDE AND/OR TIME WINDOW DISCRIMINATION
- GENERATES 5 CHANNELS OF MULTIPLEXED DATA TO DISPLAY ON A SINGLE OSCILLOSCOPE CHANNEL
- INPUT GAIN AND POLARITY CONTROLS PROVIDED
- COMPACT SIZE WITH BUILT-IN POWER SUPPLY
- 74-60-1 FEATURES BUILT-IN VARIABLE ANALOG DELAY CIRCUITRY



ORDERING INFORMATION

- 74-60-1 S/H Window Discriminator w/ Delay Line
- 74-60-2 Delay Line Module
- 74-60-3 S/H Window Discriminator w/o Delay

Voltage levels (3): Adjustable over -5V to +5V

Time window position: Adjustable, 0.4-8mSec, from the time signal crosses Level 1 or the application of an external TTL pulse.

Multiplex frequency: 200KHz

Multiplexed output: Single oscilloscope channel displays over +12V:

1. Input signal (as amplified)
2. Level 1
3. Level 2
4. Level 3
5. Monitor channel

Time window is indicated by tick marks on Levels 2 and 3. Monitor channel can be switched to display either time window acceptance pulse or both amplitude window acceptance pulses. Multiplexer can be disabled so that output displays only the input signal.

TTL outputs (+5V, 0.15mSec, all with LED indicators):

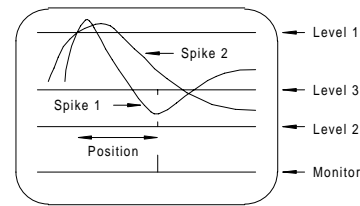
- Threshold 1, 2, 3
- Amplitude window 1, 2
- Time window

Delay variable (74-60-1): 1-15mSec

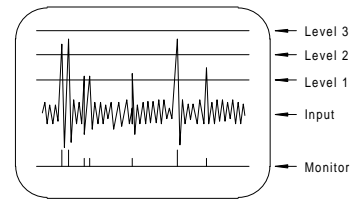
Power requirements: 115/230VAC, 50-60Hz, switch selectable

Dimensions: 5 1/2"w x 7"h x 9"d (18 x 14 x 23 cm) 4.5 lbs. (2kg)

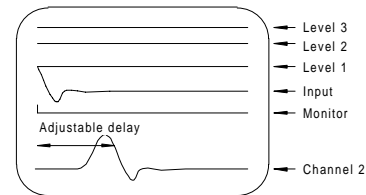
OPERATIONAL DESCRIPTION



Discriminate by waveshape: spikes 1 and 2 (shown here superimposed) can be resolved by waveshape if the position of the time window (triggered when the signal crosses LEVEL 1), is set so that spike 1 passes through the time window (indicated by marks between LEVEL 2 and LEVEL 3), generating a time window pulse. Spike 2, of similar amplitude but different waveshape, misses the window.



Or discriminate by amplitude: the discriminator can differentiate between those spikes which cross LEVEL 1 but not LEVEL 2, and those which cross LEVEL 2 but not LEVEL 3. On the Monitor channel, the amplitude of Window 2 pulse is twice that of Window 1.



Our Slope/Height Window Discriminator includes three adjustable voltage levels which determine two amplitude windows. In the time mode, a 20uSec wide time window can be positioned between levels 2 and 3 for resolution of signals which have similar amplitudes but different wave shapes.

This unique instrument includes many features which make it versatile and easy to use: 1) the multiplexed output permits display of the input, three voltage levels, and the window channels on a single oscilloscope trace, 2) TTL outputs, each with an LED, indicate when each level has been crossed and when the amplitude or time window criteria have been satisfied, 3) front panel gain and polarity controls are included, and 4) its compact size and line powered supply simplify installation.

An analog delay line is provided on model #74-60-1 to permit the investigator to examine the entire waveform on which he has triggered the oscilloscope sweep. (Please see Operational Description at right.)

SPECIFICATIONS

- Input Impedance:** 500 KOhm
- Input dynamic range:** 10V peak-to-peak @ voltage gain = 1
- Frequency response:** 5Hz-20KHz
- Voltage gain:** 0-10, continuously adjustable, Polarity Reversal Switch provided

The optional DELAY feature (74-60-1) permits display of pre-trigger information: trigger the oscilloscope on a time or amplitude window, and display the DELAYED output on a second channel. Adjusting the delay control positions the complete waveform.

