Single Unit Discrimination & Data Processing System

The Modular Solution for Signal Analysis

A reliable description of the activity pattern of a single, well-isolated neuron is the key to many important experiments in neurophysiology. Once the quality of the recorded signal has been optimized and enhanced by the proper microelectrodes, amplification and band pass filtering, the yield is determined by the power and flexibility of the spike discrimination and processing system. The BAK modular signal conditioners have been optimized for this purpose.

Low Noise Modular Pack Power

The Popular "Analog Delay" Module

Versatile Event Counter and Latency Meter

Our Famous "Time Amplitude" Window Discriminator

Our Unique "Instant Frequencygram" Module

Continuously Variable "Pulse Delay" Module
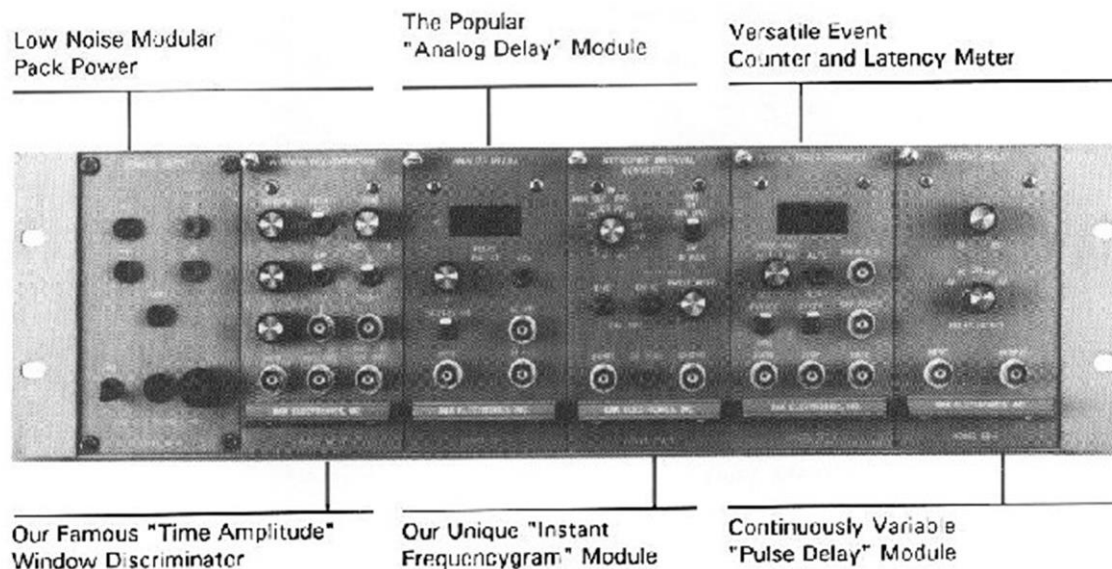
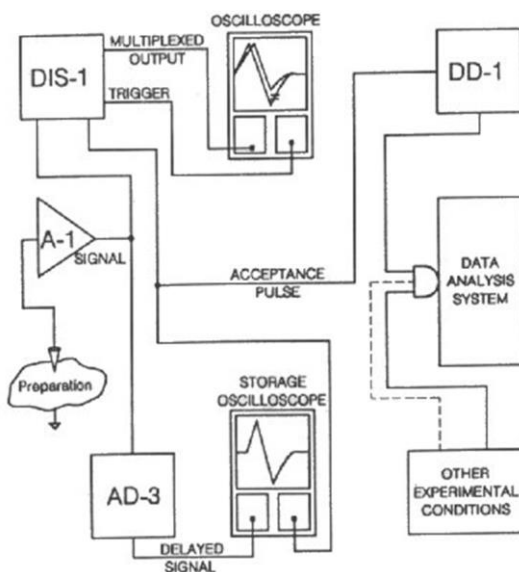**BAK . . . . UNCOMPROMISIN**

The figure at left shows the proper interconnections for discrimination and visual on-line inspection of extracellular unit records. The DIS-1 multiplexed output is viewed on one trace of an oscilloscope triggered by the threshold trigger output of the DIS-1. Small bars in the drawing appear much as shown, indicating the precise upper and lower bounds as well as the adjustable time of the discrimination, set by the user to coincide with the portion of the wave-form most distinctive from others exceeding the trigger level.

To be certain that only one unit has passed through the window and that others do not exist with waveforms differing before the trigger, trigger an oscilloscope trace (storage mode is particularly useful) from the acceptance pulse and look at a delayed version of the input to the discriminator which has passed through an Analog Delay (AD-3 and AD-6 dual delays now available). D1S-1's can be easily chained for forward or backward multi-point discrimination.

Other forms of data reduction can greatly enhance on-line appreciation of the course of the experiment and reduce or even eliminate the need for complex computer data processing or taping. The BAK 1S1-1 Interspike Interval Converter generates a dot or level display of the instantaneous frequency of firing (linear) of an accepted unit. The BAK DTC-1 Digital Timer Counter can accurately track both total events and latency from trigger events such as stimuli, with LED display and BCD outputs. The BAK RG-1 Raster Stepper produces direct dot restoring and chart recorder rate profiles plus analog contour displays. The DD-1 Digital Delay can let you look backwards at spike events preceding behavioral criteria as shown.

CALL US FOR ALL YOUR NEEDS... EVEN THE UNUSUAL ONES

<p style="text-align:center;color:red;font-weight:bold;font-size:larger;">Spike Sorting System</p>