

These outputs are affected by the X and Y offsets and expands. The actual outputs are

$$X \text{ Output} = (X/\text{sensitivity} - \text{offset}) \times \text{Expand} \times 10V$$

$$Y \text{ Output} = (Y/\text{sensitivity} - \text{offset}) \times \text{Expand} \times 10V$$

where the offset is a percentage of full scale and the expand is an integer from 1, 10 or 100. The offsets and expand are set from the front panel.

## MONITOR OUT

This BNC provides a buffered output from the signal amplifiers and prefil- ters. This is the signal just before the A/D converter and PSD. The output impedance is  $<1\Omega$  and the output current is limited to 10 mA.

The gain from the signal input to the monitor output is the overall gain minus the dynamic reserve minus 3dB. The overall gain is 10V divided by the sensitivity. The actual dynamic reserve is specified in the descrip- tion of the [Reserve] key. For example, if the sensitivity is 10 mV, the gain is 60dB. If the dynamic reserve is 20dB, then the gain from the input to the monitor output is  $60-20-3=37\text{dB}$  or a gain of 71. A 10 mV (rms) input will result in a .7 Vrms or 1 Vpk output. The gain is only accurate to about 1.5dB or 20%.

This output is useful for determining the cause of input overloads and the effects of prefiltering. However, because the analog gain never exceeds 2000, very small signals may not be amplified enough to viewed at the monitor output.

## TRIG IN

This TTL input may be used to trigger stored data samples and/or to start data acquisition. If Trigger Start is selected, then a rising edge will start data storage. If the sample rate is also Trigger, then samples are record- ed at every subsequent trigger. (The first trigger starts the scan and takes the first data point, subsequent triggers record the rest of the data points.) When the sample rate is set to Trigger, samples are recorded whenever there is a rising edge at the Trigger input. The maximum sample rate is 512 Hz. Data storage is available through the computer interface only.

## TTL OUT

This output is the TTL sync output for the internal oscillator. The output is a square wave whose edges are linked to the sine wave zero crossings. This is useful when the sine output amplitude is small and a synchronous trigger is required (to a scope for example). This output is active even when locked to an external reference.

## PREAMP CONNECTOR

This 9 pin "D" connector provides power and control signals to external preamplifiers such as the SR550 and SR552. The power connections are described below.

<u>Pin</u>	<u>Voltage</u>
1	+20V
2	+5V
6	-20V
7	Signal Ground
8	Ground