Star Tech Instruments

SC-1 SIGNAL CONDITIONER

The SC-1 Signal Conditioner (see Fig. 1) accepts two types of input signal; a voltage pulse from an electrically coupled probe and an optical pulse from a fiber-coupled probe.

SIGNAL IN

Use this BNC input terminal for probes with a COAX cable output.
The SIGNAL IN terminal specifications are the following:

Input impedance:	>1 GΩ
Max. linear input voltage:	200 mV peak
Max. repetition rate:	4 KHz
Min. signal to trigger:	5-10 mV peak

FIBER IN

Use this terminal for STI probes with a fiber optic cable. To remove the fiber optic cable, or lock it into place, adjust the set screw accessed through the hole in the cover near the FIBER IN input.

DC LEVEL OUT

The voltage at the DC LEVEL OUT terminal is a DC level that is proportional to the peak value of the input voltage with a gain of 10.
The output voltage is updated whenever a new pulse above the trigger level arrives at the input terminal. Example: a signal from an energy probe with peak output of 79.2 mV will produce a DC output of 0.792 V. When the SC-1 stops receiving data, the output voltage from the last pulse will be held at the DC LEVEL OUT terminal for about two seconds, and then reset to zero.

The DC output level range is 0 to 2 VDC. Output impedance is 100 Ω .
Use an external power amplifier for driving large loads.

SYNC OUT

The sync pulse from this terminal can be used for timing and triggering devices such as analog input boards. The output of this terminal is normally a CMOS logic high (5V) and goes low (0V) for about 10 µs immediately after the DC level output has been updated for the previous input pulse.

12 VDC IN

The power supply is a 12 VDC, 200 mA unregulated AC adapter. The power jack is a standard 5.5 mm X 2.1 mm male connector with a positive center pin.

Figure 1: The front panel of the SC-1 Signal Conditioner