PACIFIC INSTRUMENTS

MODEL 6010
Compact Mainframe

The 6010 Mainframe enclosures are for desktop or rack mounting of smaller data acquisition systems. The USB version with four input/output slots accommodates up to 32 strain gage or bridge transducers, thermocouples, LVDTs, RTDs, voltage or current channels with amplifier per channel architecture. Systems can also be configured with test sequencers, digital inputs and outputs and a DSP control processor that can implement PID control loops and display and record derived measurement parameters.

The 6010U has a USB 2.0 control and data interface that achieves data rates in excess of 4 million samples per second and is compatible with the USB ports on most computers including laptops. Like other 6000 mainframes, it supports systems of up to 4096 channels using slave enclosures. An internal cable tray routes input and output wiring from the module connectors to exit the rear of the enclosure providing a neat and orderly installation without cable interference to adjacent equipment. Clear access is provided to input/output modules for installation and service.

The 3-slot 6010 mainframe with IEEE-488 GPIB interface achieves data rates to 800K samples per second. It includes a 2 million-word ring buffer for event data capture and supports PCM and SCRAMNet data output options. PCM output is IRIG 106, Ch. 4 compatible and SCRAMNet provides high-speed, low-latency, cross-platform data output. Either mainframe can be supplied shock-mounted in a ruggedized fiberglass enclosure that protects it during shipping and field use.

FEATURES

- **Desktop or rack mounting for small systems**
- **Compact, only 5-inches high**
- **4 Million samples per seconds using USB interface**
- **IEEE-488 interface with transient capture**
- **PCM telemetry and SCRAMNet data output options**
- **Built-in fan and cable tray**

SPECIFICATIONS

DATA FORMAT

Data Word .....16-bits, 2's complement binary, formatted in two bytes, low-byte followed by high-byte.
Scan Table .....Maximum format length is 65,536 samples.
Sample Rate.....Programmable with 1µS resolution.
Buffer (FIFO) .....A 1 Million word data buffer insures continuous data to computer or storage.

USB CONTROL/DATA INTERFACE (6010U)

Protocol .....USB 2.0
Output Rate .....In excess of 4M samples per second. Output rate is computer dependent and the full rate will not be achieved for all computers. Consult Pacific's Application Engineers for selecting computers that will provide the maximum rate.

GPIB CONTROL/DATA INTERFACE (6010)

Protocol .....IEEE-488.2 with high speed handshake. Includes 2 Meter Cable.
Output Rate .....Up to 800K samples per second.
Ring Buffer.....A 2 million sample buffer overwrites the oldest data until triggered. Trigger stores a specified amount of new data then freezes the memory. Any data not overwritten is pre-trigger. The ring buffer may be triggered by soft-ware instruction, alarms, digital inputs, or external TTL input.

CONTROL INPUTS

Ext. Clock.....TTL input synchronizes acquistion to an external clock.
Control .....TTL input starts and stops recording. TTL input triggers ring buffer data storage on systems with the GPIB interface.

PCM OUTPUT (Option for GPIB Interface)

Data .....Two independently buffered PCM data outputs. IRIG 106, NRZL-L, Class II.
Clock .....Two independently buffered PCM data clocks.
Output .....RS422, differential line drivers.
Bit Rate .....Up to 6.85 Mbits/second.
Connector .....DB-15 for data and clock.

SCRAMNET DATA OUTPUT (Option for GPIB Interface)

Connection .....Any Systran supported physical media.
Throughput .....16.7 MB/s maximum.
Memory .....1 MB, up to 8 MB is available.
Latency.....0.8 uS per node (typical) plus two sample periods of the highest sample rate.
Connector .....62.5/125 micron multi-node with ST connector.

GENERAL

Power .....115 or 230 VAC, ±10%, 47 to 63 Hz, 200 Watts.
Temperature .....0°C to +50°C operating.
Humidity .....95% without condensation.
Shock/Vibration .....Normal shipping and handling of laboratory instruments.
Size .....19 inches wide, 5 inches high, 18 inches deep (including connectors).
Weight .....Approximately 25 pounds with all channel modules.

ORDERING INFORMATION

6010 .....Mainframe, 3-slot, IEEE-488 data and control interface.
6010U .....Mainframe, 4-slot, USB 2.0 data and control interface.

OPTIONS

6000-S.....SCRAMNet Rehostable Adapter module with 1M memory. Requires one enclosure slot. GPIB interface required.
6010-P.....IRIG 106, Chapter 4 PCM data output. GPIB interface required.
9000-154 .....PCMCIA IEEE-488 Interface, Windows 2000/XP.
9000-156 .....PCI IEEE-488 Interface, Windows 2000/XP.
PS1 .....Auxiliary power supply for 6014
Add -115 for 115 VAC operation or -230 for 230 VAC operation.

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