

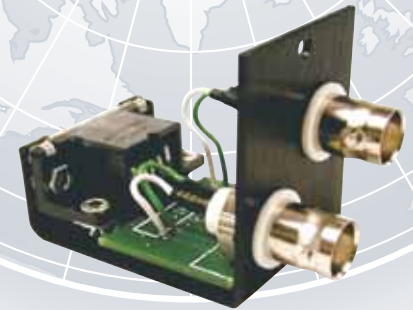
Roush Industries provides engineering tools related to test, measurement and control. Through the use of software and modular electronic hardware components, we are able to provide fully functioning tools that have been customized for a specific engineering task. Roush provides many standard commercial software and hardware systems for noise and vibration applications such as brake NVH testing, vehicle dynamics data acquisition, vehicle dynamics data analysis, and sound intensity data acquisition and analysis.

LapDAQ™ — 5B Signal Conditioning Enclosures and DAQ Systems

- Roush LapDAQ™ is a compact, rugged enclosure designed specifically to house 5B signal-conditioning modules. The enclosure handles up to sixteen (16) modules providing protection from industrial or other harsh environments in a highly-compact configuration. The Roush LapDAQ system's power supply handles all the power requirements for up to 16 of even the most power-hungry 5B modules.
- The Roush LapDAQ™ system's modular architecture makes this unit an ideal solution for a variety of applications. The system is a ruggedized, laptop-sized unit that runs off of a battery, 12-volt DC or 110-volt AC power source. It is configurable up to 16 channels of variable inputs such as voltage, current, RTDs, thermocouples, strain gauges (including excitation voltages), load cells and pressure transducers; virtually any type of signals for which 5B modules can be utilized.
- The flexibility of the Roush LapDAQ™ system is further enhanced by connector "panellettes". These specially designed plug-in modules provide connectivity for BNC, Lemo, thermocouple mini, and banana-plug connectors; enabling the user to mix and match cable connectors and providing greater reliability, accuracy and durability over wire screw terminals. These user-configurable connector panels allow the use of standard cables and connectors for any sensor.



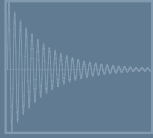
Inside this compact package is room for up to 16 5B signal-conditioning modules. A highly adaptable power supply is also built into the Roush LapDAQ™ enclosure.



BNC Panellette. The Roush LapDAQ™ panellettes are easily interchangeable and handle special signal requirements such as CJC for thermocouples, and excitation voltages for a variety of transducers.



The size of a laptop computer, the Roush LapDAQ™ enclosure is an ideal, portable, ruggedized enclosure for your 5B signal-conditioning modules.



ENGINEERING TEST TOOLS

- TRIGGERING** LapDAQ provides an external trigger input and the optional software offers a variety of triggering options.
- FLEXIBLE** 5B signal conditioning modules are available in a wide range of signal input and output configurations. Analog voltage ranges from +10mV to $\pm 20V$; process current 0-to-20mA and 4-to-20mA; thermocouples, RTD, strain gauge, frequency 0-500Hz up to 0-250kHz; and more. Narrow and wideband voltages up to 10kHz bandwidth for dynamic signals.
- PORTABLE** It's 3.5 lbs empty, up to 6.0 lbs fully loaded for 16 channels. It will fit in most briefcases and laptop PC cases.
- RUGGED** Operating temp.: -40 C to $+85\text{ C}$. 4 mm (5/32") thick enclosure.
- OPEN-ENDED** The LapDAQ systems can be stacked using an extension chassis to accommodate up to 64 channels.



Dimensions:
W: 12" x L: 10" x H: 1.75"
19" Rackmount Kit
available (one slot)
Weight:
3.5 lbs excluding 5B
modules, 6.0 lbs fully
loaded with 16 5B
modules



The back of the Roush LapDAQ enclosure is completely configurable for your needs. Connector panellettes for anything from thermocouple to BNC to banana connectors are available for your specific application. If your needs change, it only takes a minute to change your connector panellettes.

Power Connection

- 12 V DC vehicle battery
- "Cigarette Lighter" adapter
- AC Adapter (110V or 220V)

Power Supply

- 5 Volt, 3 Amp — 5B style module source
- Variable 5V to 10V, +/- 15V excitation source (optional)

Roush DAQ Card Support And Interface

- National Instruments E-series Cards or equivalent

I/O Connectivity

- Input: 2-channel panellettes for BNC, Lemo, thermocouple, or banana plugs. Other types available as special order
 - Blank panellettes: Spacers only, or populated with internal 15-pin D-sub connector and circuit board — put your own connectors on the front
 - Panellette input types include analog voltage, current, digital TTL state*, digital/frequency, counter/timer*
 - Panellette output: digital* and analog* available
 - Extra E-series connector passes extra DAQ Card channel functions (counter/timer, digital I/O, analog output) through to other devices.
- *Require appropriate DAQ card capability and optional Roush LapDAQ configuration.

I/O Special Features

- Thermocouple panellettes include Cold Junction Compensation
- Lemo connectors include connectivity to excitation voltage

Signal Conditioning

- 5B input/output modules. Up to 16 modules per Roush LapDAQ enclosure. Available modules include:
- Analog voltage input, narrow bandwidth, wide bandwidth
- Linearized 2- or 3-wire RTD input
- Linearized 4-wire RTD input
- Potentiometer input
- Thermocouple input
- Linearized thermocouple input
- Strain gauge input
- Current output (0-20mA, 4-20mA)
- Frequency input
- DC Voltage output
- Displacement Transducer input
- Many more...
- Inquire for detailed specifications of individual 5B signal conditioning modules.

Environmental

- Operating temperature: -40 C to $+85\text{ C}$

Software Options

- Roush offers a standard, general purpose, LabVIEW-based data acquisition software package for use with a DAQ card and the Roush LapDAQ.
 - Roush also offers custom software development to meet your specific needs.
- Inquire about our complete, turnkey, portable, Roush LapDAQ-based data acquisition systems. 16-channels, 10 lbs, rugged.

ROUSH®

12249 Levan Rd.
Livonia, MI 48150
Phone: 734-779-7877 or
734-779-7805
Fax: 734-779-7902
ETTsals
@roushind.com

www.roushind.com