

BOBCAT

Vibration & Acoustic Data Acquisition and Analysis System

BOBCAT utilizes **Spectral Dynamics'** innovative **Computer-Aided Test Suite™** architecture.

This architecture takes full advantage of both advanced hardware with distributed processing using powerful 128-bit Floating Point DSP's and the PC's powerful Intel processor, and software, using the latest advancements in Microsoft Windows XP technology. Optimized for multi-tasking, and founded on industry connectivity and data interchange protocols, **BOBCAT** makes your entire test and validation process more timely and efficient.



Versatile Test Capabilities

The **Computer-Aided Test Suite™** vibration analysis applications were designed to meet a wide range of environmental test requirements including Modal Analysis and Rotating Machinery Analysis. The **BOBCAT** Vibration Analysis System combines the simplicity of operation required for production screening with the power and versatility required for R&D testing.

User Friendly

BOBCAT's graphical user interface provides test operators with friendly operation from setup to report preparation. You can customize the interface so that it's easy to use whether you are a new user or an expert. In addition to normal Windows security, **BOBCAT** offers optional security levels, where you can protect against

unauthorized changes to the setup or test, with each user having their own security permissions.



S P E C T R A L
D Y N A M I C S

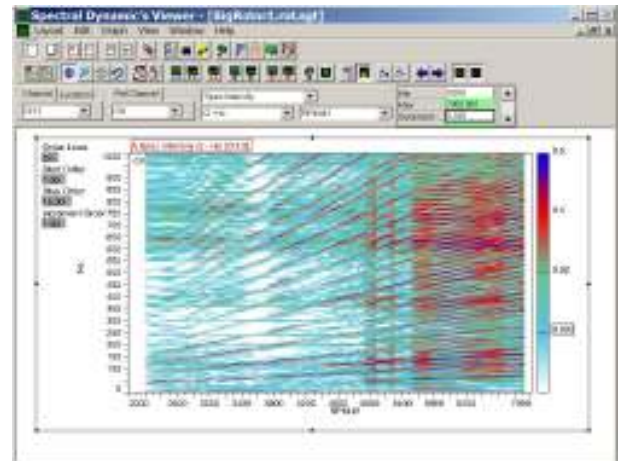
The **Computer-Aided Test Suite™** software provides incredible flexibility for display and analysis of data. Full documentation allows seamless report generation in the Windows Vista or XP environment.

Premium Performance

BOBCAT is no ordinary analyzer when it comes to vibration testing. To meet your most stringent test requirements, **BOBCAT** incorporates highest quality data acquisition, and signal generation hardware designed with the latest floating point DSP technology, and adjustable down loadable filters.

Dynamic Signal Analyzer is only the starting point

BOBCAT Analyzer software is available in either economic Foundation or advanced Premier capability. The Analyzer Software provides all of the most common features in one convenient point and click graphical interface.



BOBCAT ANALYZER IS ONLY THE STARTING POINT. IT PROVIDES ALL THE TESTING YOU NEED TODAY WITH SIMPLE SOFTWARE UPGRADE PATH TO THE MOST POWERFUL SOFTWARE OF THE CATS SUITE. WHILE LIMITED TO FOUR CHANNELS THE POWERFUL HARDWARE ALLOWS AN UPGRADE PATH AVAILABLE TO ADVANCED MODAL ANALYSIS, ACOUSTIC ANALYSIS, AND ROTATING MACHINERY ANALYSIS.

Technical Specifications

Hardware

Input Subsystems

| | |
|---------------------------------|---|
| Dynamic Range | >92dB |
| Analogue to Digital Converter | 24-bit |
| Amplitude Accuracy | Within $\pm 0.2\%$ of value or $\pm 0.03\%$ of full scale. |
| Amplitude linearity | $\pm 0.03\%$ of full scale or $\pm 0.2\%$ of measured value, whichever is greater. |
| Voltage Ranges | Application Dependent; 27mV to 10V full scale, in 3dB steps for Random and Shock, 12mV to 10V full scale in 1dB steps for Sine. |
| Overload detection | Full scale on all channels, analogue and digital detection. |
| Voltage coupling | AC or DC |
| ICP Power | 4 mA (20V maximum in open circuit) |
| Maximum rated input signal | ± 35 Volts peak. |
| Sampling rate | 102,400 samples per second. |
| Multi-channel sampling interval | Simultaneous sampling on all channels – no interval. |
| Frequency accuracy | ± 5 ppm |
| Frequency range reduction | Digital Decimation and filtering using on-board DSP's. |
| Anti-Aliasing Filters | |
| Analogue | |
| Type | Filter matches 64X over sampling ADC |
| Cut off frequency | Fixed at 225 kHz |
| Alias attenuation | >96dB |
| Pass band ripple | Within ± 0.1 dB |
| Digital | |
| Cutoff frequency | Variable |
| Stop band attenuation | >96dB at 1.56 times cutoff frequency |
| Pass band ripple | Within ± 0.15 dB |
| Channel to channel match | |
| Amplitude (compensated) | Better than ± 0.25 dB |
| Phase (compensated) | Better than ± 1.0 degree to 2kHz |
| Crosstalk | > -90dB below full scale. |
| Offset removal | |
| Type | Digitally controlled offset rejection |
| Accuracy (compensated) | Better than $\pm 0.5\%$ of full scale, for each input range. |
| Input impedance | 1 Meg Ohm shunted by <120 pf |
| Connector type | BNC |
| Connection type | Pseudo-differential, 10 Ohms to system ground, low side return. |
| Calibration | |
| Calibration Constants | Internal digital calibration, NIST referenced; Digital calibration constants stored in nonvolatile RAM |
| Hardware Processor | Dedicated Floating Point DSP hardware. |

Output Subsystem

| | |
|-------------------------------|--|
| Dynamic Range | >90 dB |
| Digital to Analogue Converter | Precision 16-bit |
| Maximum output amplitude | ± 12 Volts peak |
| Maximum output current | 16 mA |
| Voltage range attenuator | Programmable 48-bit |
| Attenuator range | 0 to -160dB |
| Attenuator step resolution | |
| 0 to -90dB | 0.05dB |
| -90 to -110dB | 0.10dB |
| -110 to -135dB | 0.2dB |
| Digital | |
| Cutoff frequency | Variable |
| Stop band attenuation | >96dB at 1.58 times cutoff frequency |
| Pass band ripple | Within ± 0.07 dB |
| Output offset removal | |
| Type | Digitally controlled rejection of internal and external offsets. Better than $\pm 0.5\%$ of full scale |
| Accuracy | 60 ohms |
| Output impedance | Signal available on separate BNC connector |
| Un-attenuated output | 1 Volt peak generated after analogue smoothing filter. |
| Un-attenuated output level | BNC |
| Output connector Type | Pseudo-differential, 10 Ohms to system ground, low side return. |
| Output type | Designed to drive up to 15 metres (50ft approx) of shielded 50-Ohm cable. |
| Output cable | Automatic internal digital calibration, NIST referenced. |
| Calibration | Digital calibration constants store in nonvolatile RAM |
| Calibration Constants | |
| General | |
| Power | |
| Voltage | 100 to 125 Volts or 200 to 240 Volts |
| Frequency | 50 Hz or 60 Hz |
| Typical power usage | 12.5 watts |
| Temperature (operating) | 10° C to 40° C (50° F to 104° F) |
| Temperature (non-operating) | -25° C to 60° C (-13° F to 140° F) |
| Humidity | 20% to 80% (non-condensing) |
| Connectivity | To PC via USB2 |

To find out how the **Bobcat** can offer you real value for money contact:

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