AS-200 SpectralShield™

SOUND AND VIBRATION PRODUCTION LINE TEST SYSTEM

STATUS INDICATOR
PASS and FAIL Results,
Count Down Average

GRAPHICAL BARMETER
Channel Amplitude

HISTORICAL TEST LOG
Time, Date, Part Number,
and PASS/FAIL Results

SERIAL NUMBER GENERATION
Automatic/Manual
Sequencing

RESULT TREEVIEW
Pass/Fail Conditions,
Diagnosis Results, and
Criterion Values

RESULTS
Defect Description with
Collected Values

SpectralShield™ is designed to characterize the physical properties of manufactured products. It can reduce warranty costs by identifying defective products. This system can grade products directly on the production line, allowing products to be sold later by quality level. It provides quality metrics documentation, a key factor in improving manufacturing practices. **SpectralShield™** is an essential tool that monitors the manufacturing process, increases yields, and tightens product tolerances.

Most sensors that produce an analog signal can be connected to the **SpectralShield™** system. Flexible signal conditioning provides programmable gain, anti-alias filtering, overload protection, AC/DC coupling, and IEPE transducer power. The system supports a wide range of sensors including accelerometers, displacement sensors, pressure transducers, proximity probes, thermocouples, flow meters, and strain gauges.

Operators can easily configure tests by defining the acceptable time, frequency, and statistical limits for a product. Once configured, the system can detect transient events (spikes or glitches) and frequency components (unbalance, shaft misalignment, or defective bearings).

SpectralShield™ can be configured not only to measure the tested part, but also the test stand and surrounding environment. These other measurements enable the operator to both recognize and modify the external influences that cause part failure.

SpectralShield™ can run as a stand-alone system or with limited operator interaction. Data acquisition can be triggered by an operator, external relay, industrial computer, or control system. The system will acquire and process the incoming signals, then compare them against good product signatures and indicate if the part passed or failed.

Alta Solutions
Innovative Signal Processing Solutions

AS-200 SpectralShield™

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CHANNEL DISPLAY

SPECTRUM PLOT
Live, Average, Peakhold, Integration/ Differentiation

SPECTRUM CRITERIA
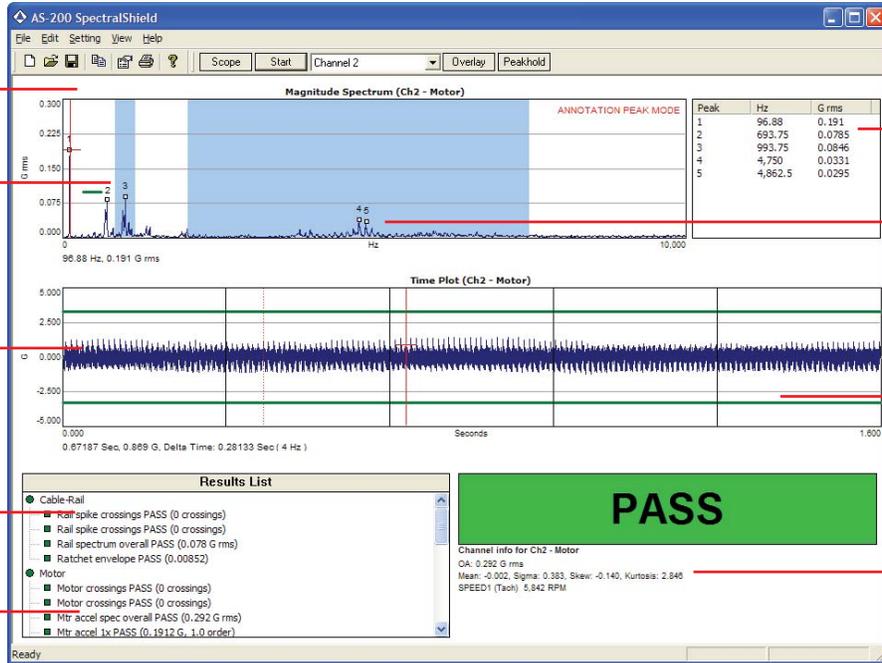Overall Amplitude, Window, Energy Band, Phase, Envelope, and Total Harmonic Distortion

TIME PLOT
Time Signature

TRANSFER FUNCTION CRITERIA
Magnitude, Phase, and Coherence

ADVANCED CRITERIA
Hilbert Envelope, Sound Pressure Level, Speed, and Wavelet

MARKER TABLE
Marker #, Frequency, and Value

DATA MARKERS
Peak, Harmonic, Sideband, Order, Delta Frequency, Delta Time, and User Defined

TIME CRITERIA
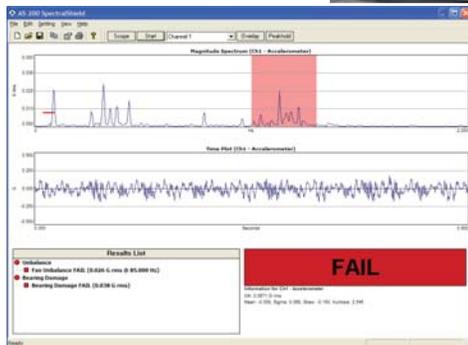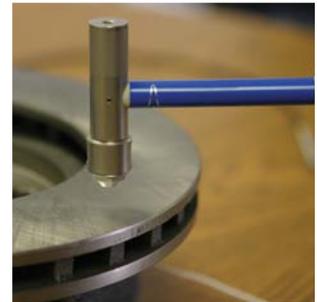Threshold, Trigger, Crossing, and Crest Factor

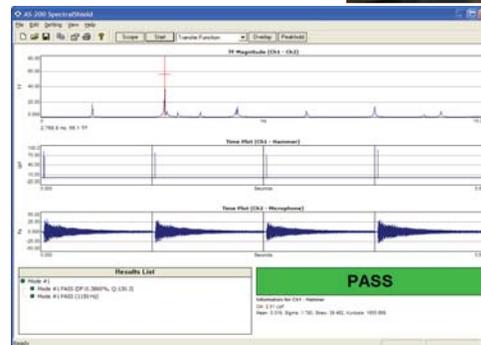**STATISTICAL CRITERIA**
Mean, Sigma, Skew, and Kurtosis

COMPONENT TESTING

Real-time Acquisition and Analysis with Multiple Test Criteria

IMPACT TESTING

Transfer Function Magnitude, Phase, Real, Imaginary, and Coherence

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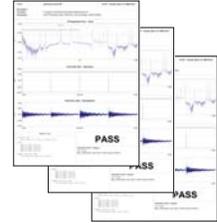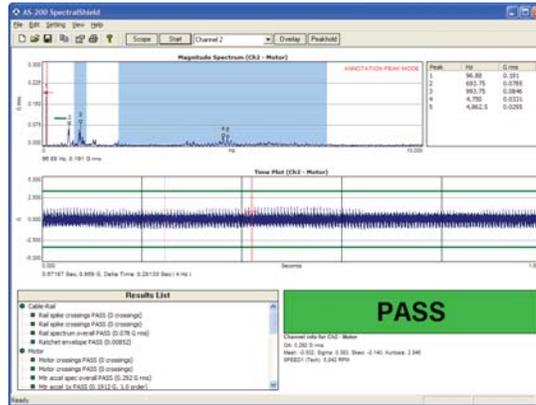**SENSOR SIGNALS**
Accelerometers, Proximity Probes,
Vibrometers, Pressure Transducers,
Velocity Probes, and Tachometers

REPORT GENERATION
Test Log, HTML Reports, E-mail,
Speadsheets, Time and Spectrum
Blocks, and Trending

CONTROL DEVICES
PLC and DCS, Network Sockets,
Digital Inputs, RS-232, Ethernet,
and Barcode Readers

OUTPUT DEVICES
Electromechanical Relays,
PLC and DCS,
Ethernet, RS-232, and Printers

DATA EXPORT
ASCII, Mathwork's Matlab, WAV, SQL,
Vibrant's MEScope, and UFF (Universal File Format)

Contact Alta Solutions for the latest specifications and ordering information.

Alta Solutions
Innovative Signal Processing Solutions

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