ALERT™
Vibration Diagnostic Software
Proven Technology for Machinery Condition Assessment
UNMATCHED CAPABILITIES WITH ALERT™ AUTOMATED DIAGNOSTIC SOFTWARE

ExpertALERT™ AUTOMATED DIAGNOSTIC SOFTWARE
ExpertALERT provides critical machinery health information in addition to vibration data, by rapidly screening vibration measurements and applying over 6000 unique rules to identify over 1200 individual faults in a wide variety of machine types. Our proven automated machinery condition assessment system can process hundreds of vibration measurements in just a few minutes leaving you with a fault diagnosis, fault severity and repair priority and action. Instead of overwhelming you with data that is difficult to interpret, ExpertALERT provides fast and accurate screening that will lead to better diagnostic results. TRIO X-series data collectors include embedded ExpertALERT software.

ExpertALERT™ Cloud Subscription
CLOUD-BASED AUTOMATED DIAGNOSTIC SOFTWARE
All of the same great features of ExpertALERT without the cost of a local IT infrastructure, database management, and software maintenance costs. ExpertALERT-Cloud operates through Azima’s secure, web-accessible terminal servers. Fast and convenient, users can access their data at the office or on the go. ExpertALERT-Cloud works with all portal-enabled data collectors and the WATCHMAN Reliability Portal™.

StandardALERT™ MANUAL ANALYSIS SOFTWARE
StandardALERT contains all of the manual analysis tools found in ExpertALERT. The software automatically screens your data for alarms or exceedances in up to 63 alarm bands per test location and up to 99 test locations per machine. This software is appropriate for those on a budget or who have machines or applications that lend themselves better to manual analysis.

ViewALERT™ READ-ONLY VIEWER SOFTWARE
ViewALERT is a read-only version of ALERT. Users have access to all reports and analysis tools but they cannot add, edit, delete or modify any information. ViewALERT is typically used when your data is transmitted elsewhere for analysis or as a license on an Enterprise network. TRIO A-series data collectors include embedded ViewALERT software.

GETTING MORE FROM YOUR PROGRAM
## ALERT Diagnostic Software Specifications

### PARTIAL LIST OF MACHINE TYPES

- **Bearings**
  - Ball / Roller Contact
  - Axial
  - Tapered
  - Multiple pad / shoe
- **Compressors**
  - Centrifugal / Axial Flow
  - Piston
  - Single Stage
  - Magnetic
  - Fluid
  - Solid
  - Flexible
- **Engines**
  - 4 Stroke
  - Turbocharged
  - V8
  - V12
- **Fans**
  - Axial Flow
  - Centrifugal
  - Single Stage
- **Gears / Shafts**
  - Worm Wheel
  - Spur
  - Helical

### SOFTWARE AND USER INTERFACE BENEFITS

- Intuitive user interface that is simple to learn and operate
- Setup wizards reduce set up time and improve configuration accuracy
- Rapid automated data screening using sensitive narrow-band techniques
- Sophisticated automated rotational or linear speed entry and detection
- Early detection of machine faults through average sigmas relative criteria
- Integrated bearing fault identification
- Multi-level fault severity and prioritized repair recommendations
- Advanced reporting tools that produce professional reports
- Machine performance determination through ALERT’s calculated process points
- Integration of other PdM technologies, reports, documents, inspections, etc.
- Integrated online monitoring, walk-around vibration collection and operating logs
- Enhanced visualization of dynamic data
- Includes 75,000 bearing asset library; 15,000 motor asset library

### SOFTWARE AND USER INTERFACE SPECIFICATIONS

#### Vibration Diagnostics Software

- **Graphical Analysis**
  - Amplitude Alarm Triggering
  - Impact/Demod Spectra and Waveform
  - Overall Values
  - Spectrum
  - Waveform
- **Markers**
  - Reference Cursor Detal
  - Spectrum
  - Time
  - Frequency
- **Analysis**
  - Peak Analysis and Identification Functions
  - Phase Analysis
  - Cross Channel
  - Pulse Phase Plot
- **Time Synchronous Averaging**
  - Waveform
  - autocorrelation
  - Spectral Waterfall
  - Single Axis
  - Double-Axis
  - Triaxial
  - Single Axis
- **Customized Baseline Setup**
  - Reference Cursor Detal
  - Spectrum
  - Time
  - Frequency

### PARTIAL LIST OF EXPERT AUTOMATED DIAGNOSTIC SYSTEM (EADS) FAULTS

#### Electric Motors
- Motor Winding and Stator Faults
- Motor Overload
- Motor Vibration
- Motor Harmonic Problems
- Motor Bearing Problems

#### Rotating Equipment
- Fan Dirt Buildup or Blading Clearance Problem
- Fan Blading Problem
- Fan Air Flow Problem
- Exciter Commutator or Exciter Problem
- Electrical Phase Imbalance
- Drive Sheave Runout or Wobble
- Drive Belt/Chain Irregularity
- Coupling Wear
- Compressor Rotor and/or Idler Wear
- Cooling Fan
- Compressor Impeller Wear
- Clutch Misalignment
- Camshaft Drive Gear Problem
- Blower Shaft Ball Bearing Wear
- Bearing Misalignment or Shaft Runout
- Auxiliary Gear Mesh Problem or Wear
- Auxiliary Gear Mesh Problem or Wear Bearing Fitting Problem

#### Fluid Coupling
- Fluid Coupling Malalignment
- Fluid Coupling Imbalance
- Fluid Coupling Wear
- Fluid Coupling Misalignment or Radial Clearance
- Proximity Probes Rubbing and/or Impacting
- Planetary Drive Gear Mesh Problem
- Planet Gearbox
- Gearbox Oil Pump Internal Wear
- Gearbox Oil Pump Internal Wear
- Gearbox Oil Pump Internal Wear

#### Gearboxes
- Worm Wheel Gear Mesh Problem or Tooth Wear
- Worm Wheel Gear Tooth Wear
- Worm Wheel Gear Flank Wear
- Worm Wheel Gear Root Wear
- Worm Wheel Gear Tooth Spacing Wear
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ExpertALERT is connected to the WATCHMAN Data Center, delivering results to all decision makers through the WATCHMAN Reliability Portal.

Vibration analysis of complex machinery is not an exact science which requires skilled, seasoned analysts to decipher patterns and trends within multiple types of data. ExpertALERT provides the starting point to allow analysts to be more efficient in scrubbing through data and prioritizing their workload.

Local analysts can get the assistance they need by utilizing the WATCHMAN Expert Review. This Second Opinion function will notify the Azima Domain Experts to provide technical guidance on machinery diagnostics.

DESIGNED FOR WORLD-CLASS PdM PROGRAMS

Designed to meet the best practices of world-class PdM programs, ALERT 4.0’s flexible design is easily scalable and integrates seamlessly with reliability programs of all sizes and geographic diversity. It can be installed on an office PC, embedded on a TRIO™ portable vibration data collector, or accessed remotely over the Internet via a cloud subscription with no software to manage. It is also the core of vibration diagnostics for Azima’s WATCHMAN™ Online Systems and is used by Azima’s machinery experts to perform vibration analysis for WATCHMAN Service customers.

ALERT™ IS WATCHMAN RELIABILITY PORTAL™ ENABLED

ALERT incorporates multiple technologies into a single database for a complete understanding of your condition based maintenance program.

- With ALERT’s User-Defined Points, plant managers can easily integrate content from other condition assessment programs and service centers directly into ALERT.
- Use ALERT as an information manager to track content such as reports, IR, oil analysis results, procedures, logs and more.
- ALERT synchronizes the data to other locations using Azima’s database replication capability, offering you the power to distribute any document or CBM report to everyone in your replicating network.
- Event tracking lets others get more involved to ensure priorities are set, maintenance is planned, and repairs are successful.

✓ Advanced Vibration Analysis
✓ Infrared Technology
✓ Oil Analysis
✓ Reciprocating Engine / Compressor Analysis
✓ Remote & Critical Machine Monitoring
✓ Motor Electrical Testing