

ALERT 5 / TRIO 5

ALERT 5 is a single application for desktop and TRIO that makes it easier for users to manage their software licenses, lower the cost for standard functionality, and integrate the Expert Automated Diagnostic System (EADS) as a feature option. ALERT 5 & TRIO 5 is feature-rich, supportive of fully automated analysis objectives, and drives a better awareness for managing your vibration analysis program.

These are the main improvements to the ALERT 5:

- **ExpertALERT™** – Azima DLI’s cloud-based, premier automated vibration diagnostic application. The software used by Azima DLI Watchman Services.
- **StandardALERT™** – One application for desktop and TRIO. StandardALERT includes all the functionality to build assets, asset templates and baselines, ideal for users who primarily perform manual analysis against a statistical baseline.
- **EADS Feature License** – Add the Expert Automated Diagnostic System (EADS) rulebase engine to any StandardALERT desktop or TRIO license to increase the analysis efficiency with fault-specific, prioritized repair recommendations.
- **Automated Updates** – ALERT 5 uses a modern, automated delivery and management system to deliver software updates to TRIO and desktop users.
- **Vibration AI Initiative** – ALERT 5 is part of Azima DLI’s automation initiative to improve fully autonomous vibration analysis with diagnostic confidence scoring, automated fault code finder, automated normalization with more accurate running speed detection, and better analysis predictions.
- **New TRIO User Interface** – TRIO 5 has an improved layout to help field users understand what assets are expected for collection to support a compliance metrics, including planned exceptions for seasonal or extended outages, period exceptions to annotate assets not available or accessible during the period, and feedback with the analysis for retest assets as required.
- **Calendar-based Compliance** – ALERT 5 better prepares field collectors with an expectation of collection due to meet compliance. A new calendar-based periodicity setting gives field visibility to when assets are due with options to report exceptions in lieu of data for the compliance reports in PredictivePortal.
- **Impact Demod and other diagnostic rules** – ALERT 5 includes new rulebase diagnostics for Impact Demod, early bearing wear detection and emerging faults.
- **Order-tracking** – TRIO 5 supports order tracking of machines that change speed as part of the process during data collection.
- **Wireless Sensors** – ALERT 5 supports Watchman AIR™ wireless vibration sensors.

StandardALERT™ with optional EADS License

SINGLE APPLICATION

What is it:

A single product line for desktop or TRIO installation. StandardALERT includes a perpetual, non-transferrable license that supports the long-term vision of the customers, but requires an optional, renewable license to use the Expert Automated Diagnostic System (EADS).

ExpertALERT-Cloud Subscription (StandardALERT + EADS) is available for hosted programs, accessible through a web-interface. EA-cloud is the premier software application used by all Azima DLI analysts and available to customers with databases on the Azima DLI platform.



Why is this valuable:

- StandardALERT is a single, low-cost application that is available for desktop or TRIO.
- StandardALERT includes all the functionality to manage a vibration analysis program, including the ability to add machines, create Machine Internal Design (MID) templates, build average baselines, and perform manual analysis against a statistical average.
- StandardALERT is easy to manage with a new license management portal for registering and activating all software licenses. Ideal for IT departments that manage multiple users.
- Add EADS only as needed for individual users, lowering the overall costs for a program. EADS is enabled as an annual term license, user-managed through the license portal.

Expert Automated Diagnostic Engine & Vibration AI

ANALYST EFFICIENCY

What is it:

The Expert Automated Diagnostic System (EADS) includes over 6000 trained, diagnostic rules covering over 1200 unique component-level fault conditions of approximately 40 component types. EADS will evaluate vibration waveforms, spectrum, and impact demod to return an evaluation of emergent, component level faults with severity along with a plain language, prioritized recommended repair action.



EADS can be enabled as a term-license to StandardALERT to improve the efficiency of the analyst by prioritizing the volume of data to analyze. EADS can support full autonomy to deliver result based on asset health, validated setups, and other criteria.

Vibration AI leverages the historical knowledge of 100 trillion data points in the Azima DLI massive data lake. ALERT 5 can leverage this data to train wireless sensor, provide better prescription to the analysis, forecast trends based on similar patterns, and increase the diagnostic accuracy.

Why is this valuable:

- Faster time to analysis
- Lower false positives and false negatives
- More efficient and effective use of analytical staff

Software Update Manager

AUTOMATED UPDATES

What is it:

This tool allows customer to self-register their products and receive automated updates when available. The software update manager delivers StandardALERT and the TRIO applications as a modern application, with an online license management portal to active the product, without requiring Technical Support.

This license management tool also periodically checks and delivers software updates as they become available. Users can install the updates right away, perform in the background, or defer until later.

Why is this valuable:

- Easy to keep software up-to-date
- Updates are managed in small incremental changes
- Licenses and applications are more secure and IT ready



TRIO® 5 – New User Interface

EXPECTATION OF WHAT'S DUE

What is it:

TRIO 5 can display only remaining assets that are due for collection as defined by the asset's periodicity settings. This allows field users to know what is expected and for how long until the asset is past due.

TRIO 5 and ALERT 5 support the Compliance metric on the PredictivePortal™ and includes the ability to enter exceptions, such as Planned Exceptions for assets that are down for extended periods of time like for recurring seasonal outages or for extended repairs. TRIO users can also enter Period Exceptions to annotate assets that could not be tested for defined reasons. This allows managers to understand compliance of the collection as well as the gap in data capture.

For programs with separate collection and analysis personnel, analysts have a simple mechanism to trigger a retest of collected data with reason or comments.

Why is this valuable:

- Simple understanding of what is done and what is due
- Ability to enter exceptions to data collection for compliance reporting
- Quick visual to find asset with requested actions or retest requests
- Sortable list of assets by days remaining in the collection period
- Search and filter options to best manage programs with large number of assets



TRIO® 5 – Order Tracked Data Collection

ORDER TRACK VARIABLE SPEED MACHINES

What is it:

This native data collection setup allows for users to capture data on variable speed machines and still utilize the automate diagnostic engine. ALERT 5 includes improved order normalization that performs more advanced, automated review of the captured data to best identify running speed. With Order Tracking enabled for an asset, and using a tachometer input, assets that change in running speed during collection, will have analyzable vibration results.



Why is this valuable:

- Native data collection setup to define order tracked parameter
- Adds capability to portable data collection previously only available in online systems
- Can support critical assets in paper, steel, and aluminum plants
- Can support VFD machines that change on process demand

Data Quality Filters

ENSURE ANALYZABILITY OF CAPTURED DATA

What is it:

In field during data collection on TRIO or within ExpertALERT as data arrives onto the Eureka AI platform, vibration spectra and waveform is evaluated to ensure data can adequately be analyzed for component level faults.

Why is this valuable:

- Data collectors in the plant will have an understanding if the collection is adequate prior to leaving the machine
- Data arriving in the platform from any data source will be evaluated and return a data quality report, including cause, to drive next steps.



Impact Demod Rules

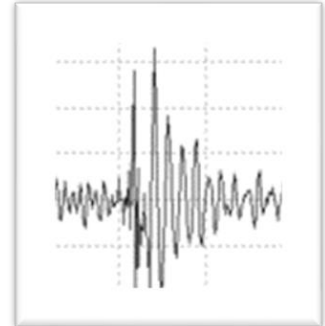
EARLY BEARING FAULT DETECTION

What is it:

Azima DLI's proprietary algorithm used to capture and display impacts allows users to identify the very early stages of bearing faults are now part of the diagnostic rules' engine allowing users to get prioritized actions based on impact demod.

Why is this valuable:

- Impact Demod plays an important role in identifying emergent faults in bearings and slow-speed machinery
- Impact Demod can be applied to wireless, online, and portable data acquisition systems



Watchman AIR™ Wireless Sensors

HIGH RESOLUTION WIRELESS FOR PREDICTION & PRESCRIPTION

What is it:

ALERT 5 supports the all-new Watchman AIR wireless solution. This includes the ability to associate and orient the Accel 310™ triaxial sensors to asset locations, receive full diagnostic data per the sensor collection schedule, and process that data for analysis.

Watchman AIR utilizes the feature-enabled, EADS rulebase for component-fault analysis of high-resolution wireless vibration data.



Why is this valuable:

- Multiple data source options feed into a common database and diagnostic system
- Users gain valuable insights and prioritized recommendations from wireless program

Top 45 of 302 other improvements:

- AL-569 Prevents duplicate expert system results and reviewed results
- AL-556 Documentation to create Impact Demod Process Points for Watchman AIR
- AL-555 New TRIO 5 admin user and general user default credentials (AL-514)
- AL-542 NEW ALERT 5 admin user and general user default credentials (AL-513)
- AL-549 Can build automated baseline using SIAI Analyst tools
- AL-546 Fixed Impact Demod waveform view if Impact Demod spectra does not exist (AL-530)
- AL-545 Fixed "Unknown" Fault Code Forcing Frequencies
- AL-533 Added Serious and Extreme to QRT
- AL-528 Improved time to open machine dialog windows in large databases
- AL-523 TRIO can support order tracking setup as native test (AL-521, AL-412)
- AL-518 New Data Collection Type button for assets (Portable, Online, Wireless) (AL-489)
- AL-516 Regroup tests and Reset Online settings requires Edit plant/area/machine permissions
- AL-509 New TRIO 5 filter options for Requested Actions, Exceptions, Compliance (AL-377)
- AL-504 Update to Normalization Screening rules to support Impact Demod
- AL-502 Update to hierarchy indication of asset complete, based on compliance
- AL-495 Test configuration settings for Wireless collection type set from PredictivePortal (AL-477)
- AL-483 All Demod spectra speeds set by low range power spectra
- AL-479 New machine status icon (AL-383, AL-333)
- AL-473 ViewALERT users migrating to TRIO 5 will have limited permissions to edit system
- AL-467 Integration of ALERT Software License Portal (AL-465)
- AL-462 Update to units' table
- AL-459 New TRIO location UI view (AL-381)
- AL-446 TRIO Order Tracked special test to standard test (AL-412)
- AL-445 Removed "Overdue" machine status icon (AL-439)
- AL-442 Can lock and unlock MID from machine dialog or right-click from tree (AL-348)
- AL-440 All new User Guide and Quick-start Guide for ALERT 5 / TRIO 5 (AL-417)
- AL-438 Hierarchy status based on compliance check
- AL-433 Supports 3-tier replication to root master (AL-430)
- AL-426 New reject test functionality (AL-329)
- AL-420 New Period Exception functionality (AL-384)
- AL-402 New Planned Exception functionality
- AL-371 Create MIDs using RPSA
- AL-364 Create Machines and Locations using RPSA (AL-365)
- AL-362 Create Plans and Areas using RPSA (AL-363)
- AL-341 ALERT 5 supports backwards compatibility with TRIO 4.0
- AL-340 Removes dependency of Routine Collection in Days field
- AL-320 Corrects zero amplitude in spectrum error
- AL-263 Updated Fault Code tables
- AL-68 Presents machine tests due per calendar-based periodicity
- AL-42 Display certified MID status in results and graph views
- AL-29 Add user credentials to support Locking MID (AL-14)
- AL-25 Develop the single application StandardALERT for desktop and TRIO
- AL-22 Create self-service ALERT Software License Portal
- AL-21 Enable Expert Automated Diagnostic System license option for StandardALERT
- AL-20 Support user credential replication



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