

VIBRATION DATA ANALYSIS SOFTWARE (ViDAS)



Honeywell
DISTRIBUTOR

"IN-HOUSE" DATA MANAGEMENT AND ANALYSIS TOOL

VIBRATION DATA ANALYSIS SOFTWARE (VibDAS)

VIBDAS IS DIAGNOSTIC SOLUTIONS INTERNATIONAL'S "IN-HOUSE" DATA MANAGEMENT & ANALYSIS TOOL.

The Vibration Data Analysis Software automates the entire process from data upload to generating event (vibration and parameter exceedance) reports. VibDAS condenses the inherent abundance of data that HUMS systems produce into digestible summaries for the customer.

SOME OF THE FULLY AUTOMATED CAPABILITIES AND FEATURES:

- Data management - file extraction, data validity and "cross-checking," database import and archiving, etc.
- Dynamic Data Structures - enables DSI to segregate aircraft type/model/series data using specific details and relationships
- Event Processing (aircraft advisories, faults, etc.) - event recognition techniques are used to quickly extract aircraft events and exploit valuable information contained in the submitted flight data
- Trending - detailed usage, engine performance, and vibration flight-averaged data is trended and can be used for aircraft/engine health monitoring and diagnostics
- Statistical Limit Generation and Analysis – facilitates a sound means of complementing OEM established limits, as well as derive new limits as applicable
- Gearbox Health Assessments - performed using multiple parameter comparisons to help quickly exploit issues that may be occurring or are imminent
- Unsurpassed Turnaround Time – automated feedback on submitted data in 4 hours or less (from time of post flight download and website uploading until output reports are sent) via email
- Empowers operators with valuable information in order to quickly identify potential problems and allow for improved safety
- Data collector integrity also evaluated and customers alerted to hardware issues that may be present which could generate false alarms, missing potential issues and/or degrading system potential - prevents unwarranted maintenance actions thus saving maintenance man-hours and dollars
- Aircraft Configurable – DSI can customize the tool to support new aircraft types, change the look and feel of reports and change the data management support to meet the customer's needs and expectations to include:
 - Aircraft tailoring for trend reports, usage reports, textual component relationship reports, etc.
 - Supports new aircraft configuration and limitation files that can be used to reconfigure onboard systems such as VXP and EVXP
 - Supports export of setup and limits files to other ground stations such as VibReview
 - Can be used to predict aircraft component failure so that sales and supply systems can be updated – "just in time" parts supply chain
 - Minimizes need for local users to stock pile spare parts for onboard system support
 - Can prepare reports and data documentation to help present issues to OEM's on component problems identified by onboard systems.

STATISTICAL ANALYSIS

- Facilitates a sound means of complementing OEM established limits, as well as derive new limits as applicable
- Statistical limits can be computed based upon individual aircraft or fleet data
- "What if" scenarios are possible by replaying old data against newly created limits
- Different on-board triggering limits and intervals can be simulated



AUTO IMPORT AND DATA MANAGEMENT

- File extraction, data validity and "cross-checking," database import and archiving, etc.
- Auto-emailing report summarizing data processed

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REPORT NAME: D2147(BL-427_Event_Report_07_03_2012)
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AC Ids Processed: 56051, 56037, 56053, 56062, 56046, 56050

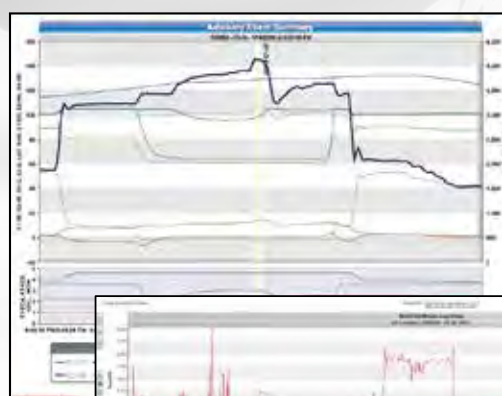
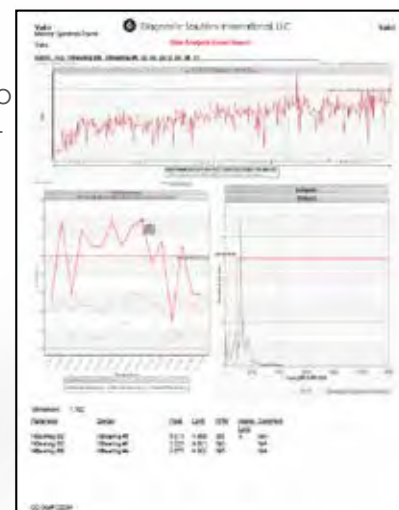
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AC Ids Processed: 49109, 49102, 49126
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TRENDING

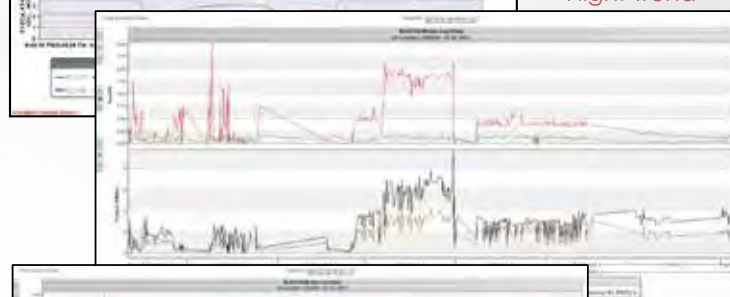
- Engine performance and vibration data is trended and can be used for aircraft/engine health monitoring and prognosis.
 - Engine and flight parameter trending (as supported by on-board collection box, e.g. EVXP)
 - Vibration Data trends – Surrounding exceedance event, Flight-averaged trends, Detailed Vibration Monitor trends over long time periods (Months as apposed to hours)
- Capability of adding Usage trends if supported by collection box.

EVENT PROCESSING (AIRCRAFT ADVISORIES, FAULTS, ETC.)

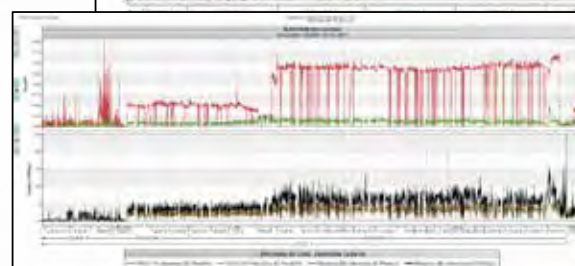
- Event recognition techniques are used to quickly extract aircraft events and exploit valuable information contained in the submitted flight data
 - Flight average plot over time
 - In-flight advisories (Alerts) correlated against sensor faults
 - Supporting spectral data plotted in report along with event trend
 - Supporting component data plotted with event (similar components, locations, etc.)
 - Textual advisory analysis (1 per rev versus 2 per rev, high RPM, etc.)



Engine Trend



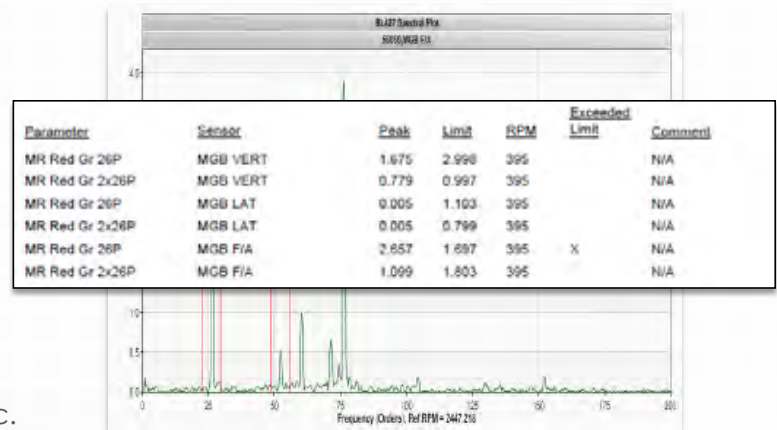
Flight Trend



Detailed Monitor Trend

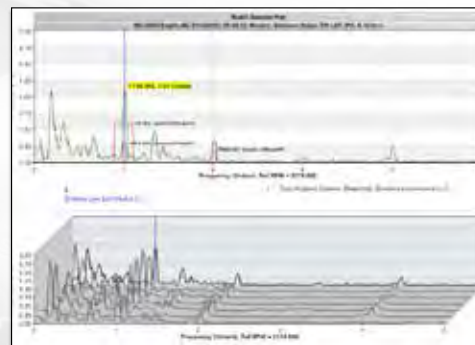
BEARING AND GEARBOX HEALTH ASSESSMENTS

- Performs multiple parameter comparisons to help quickly exploit issues that may be occurring or imminent
- Detailed frequency bands around bearing frequencies analyzed and compared (e.g. 1 per rev versus 2 per rev, RMS broadband, etc.)
 - Report comments will indicate potential problems such as looseness, misalignment, etc.



TREND WATERFALLS

- Help diagnose bearing, gear mesh and other issues over time
- Gives detailed picture of reading consistency and relationships.



Diagnostic Solutions International LLC is a veteran owned small business registered with the Small Business Administration and Central Contracting.

With more than 200+ years combined experience diagnosing and solving complex vibration, rotor track and balance, and engine performance issues, Diagnostic Solutions International LLC offers an extensive knowledge base and expertise, yielding reduced down time, repair costs, and reactive maintenance. We specialize in providing on-site technical support, training, and health and usage monitoring system data management and analysis.

Diagnostic Solutions International LLC is the Premiere Worldwide CBM HUMS Distributor.

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