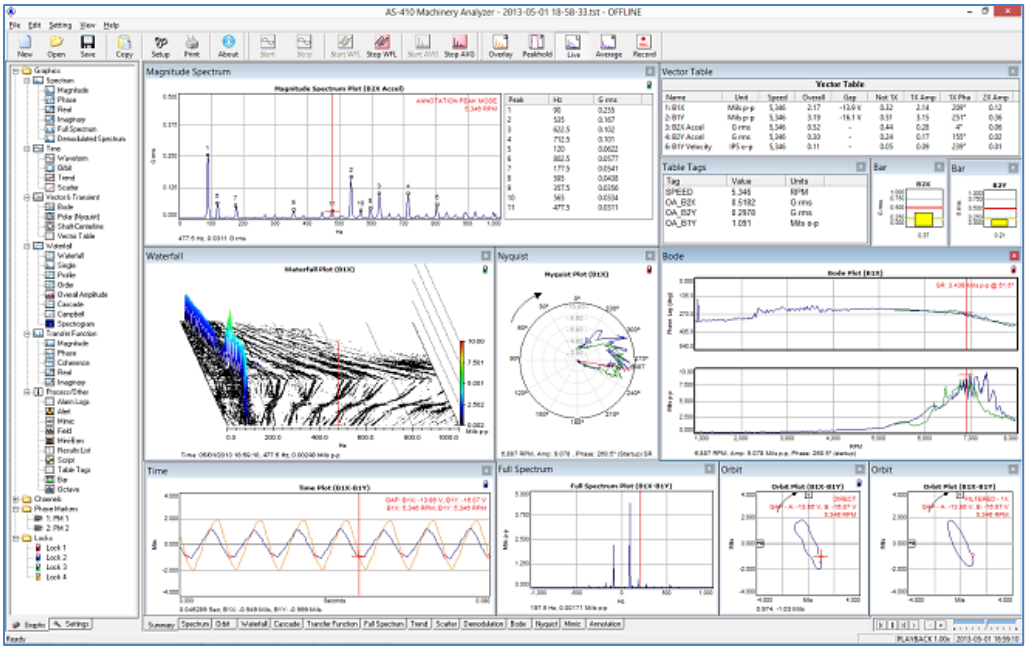
AS-410 Datasheet

Real-time Vibration Analyzer Software



POWERFUL AND VERSATILE ANALYSIS TOOL

The AS-410 Vibration Analyzer software merges the best features of real-time machinery analyzer, dynamic signal analyzer, transient capture device, modal capture tool, and digital recorder into one powerful package.

REAL-TIME DATA CAPTURE AND ANALYSIS

The AS-410 captures, analyzes, presents, and stores the real-time data from the Alta Solutions hardware platforms.

DIGITAL RECORDING AND PLAYBACK

The AS-410 has the ability to record data to a hard drive based on events or defined intervals. It maintains a large data buffer, which allows storage of pre-triggered data before an event. This data can be played back and analyzed off-site. The AS-410 can change the analysis parameters (spectral lines, overlap, etc.) during playback; thereby, avoiding potential travel to re-record the data.

ALARMING CRITERIA

The AS-410 has the powerful capability to act as a monitoring system, and has over 50 analysis criteria built-in. This feature allows the users to extract the different machinery features from the dynamic data. These criteria can be used to trigger data capture and alert the operator.

CORRELATE WITH EXTERNAL PROCESS DATA

For machinery diagnostics, it is important to understand the operating conditions of the machine under test. The AS-410 allows external process data (pressures, temperatures, flows, load, etc.) to be correlated with real-time dynamic data.

INTUITIVE USER INTERFACE

The AS-410 has a very intuitive user interface in which a user can quickly open plots, change channels, and modify settings by simply dragging and dropping the different screen elements. The software also allows vibration analysts to quickly navigate and visualize collected data.

RICH SET OF DISPLAYS

The AS-410 has a rich set of available graphical representations of collected data, including time, spectrum, orbits, waterfall (cascade, profile, order), transient/vector (Bode, Nyquist, shaft centerline), transfer functions (magnitude, phase, coherence), trends, scatter, and HMI screen elements (alarm logs, bars, field values, tables, mimics, script buttons).

DATA REPORTING FEATURES

The AS-410 has many features to allow the user to quickly annotate and document their analysis. Locking cursors allow the user to correlate and analyze data across multiple pages. Each graphical plot or table can be quickly copied into a word processor or spreadsheet for final report presentation.

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Analysis Parameters

Data Analysis

Live

Average

Waterfall

Math Operations

Integration

Differentiation

Spectral Resolution (lines)

100, 200, 400, 800, 1600, 3200, 6400, and 12800

Window Functions

Rectangular

Hamming

Hanning

Blackman-Harris

Flat-top

Exponential

Overlap Processing

0%, 25%, 50%, 75%, and 90%

Data Triggering

Freerun

Channel

Delta RPM

Trending

Any analog or process variable

Averaging Types

Linear

Exponential

Averaging Ensembles

1 to 1000

Vector Trigger Types

Free-Run

Delta RPM

Waterfall Storage

Time

Spectrum

Synthetic Tachometer

Waterfall Records

10 to 500

Waterfall Stop Condition

When Full

Continuous

Data Visualization

Plot Types

Spectrum

- Magnitude
- Phase
- Real
- Imaginary
- Full Spectrum
- Demodulated

Time

- Waveform
- Orbit
- Trend
- Scatter

Waterfall

- Cascade
- Single
- Spectrogram
- Profile
- Order
- Overall Amplitude
- Campbell

Transient/Vector

- Bode
- Polar (Nyquist)
- Shaft Centerline
- Vector Table

Transfer Function

- Magnitude
- Phase
- Coherence
- Real
- Imaginary

Other

- Mimic
- Bar
- Alert
- Alarm Log
- Field
- Table Tags
- Script (Buttons)

Cursor Features

- Select Data with Mouse/Keyboard
- Tracking Cursor (Spectrum)
- Numerical Cursor Readout
- Multi-Plot Cursor Locking

Data Markers

- Peak
- Harmonic
- Sideband
- Order
- Delta Time
- Delta Frequency
- User Defined

Analysis Criteria

Spectrum

- Overall Amplitude
- Spectrum Window
- Order Window
- Spectrum Envelope
- Energy Band
- Order Band
- Phase
- Order Phase
- Total Harmonic Distortion

Time

- Time Level Threshold
- Overall Amplitude (peak to peak)
- Time Signature
- Pulse Width
- Time Trigger
- Time Crossings
- Crest Factor
- K Factor
- Form Factor

Vector

- Gap Voltage
- Not 1X
- SMax

Statistical

- Mean
- Standard Deviation (sigma)
- Skew
- Kurtosis

Modal

- Damping (Q)
- Resonant Frequency
- Transfer Function Window
- TF Magnitude
- TF Phase
- Hammer Hits

Other

- Hilbert Envelope
- Speed
- Delta RPM
- Sound Pressure Level (SPL)

Digital Recording (FIFO)

Speed

- Data streaming (all channels)

Controls

- Playback
- Pause
- Step Forward
- Step
- Backward
- Slider Position

Playback Speed

- 1/4x to 4x speed

Triggering

- Manual or On Event

Pre-Trigger Samples

- 400,000 per channel

External Interfaces

Data Input

- Digital Inputs
- Modbus (Master and Slave)
- User Defined Tags

Data Output

- Electromechanical Relays
- Alarm (Event) Logging
- Time/Spectrum Logging
- Digital Recording (FIFO)
- Spreadsheet (Comma-Delimited)
- HTML Report
- E-Mail
- TCP/IP Socket Protocol
- Modbus (Master and Slave)
- OSI PI Historian
- Rockwell Automation EMonitor
- GE Proficy

Data Export Formats

- ASCII - Comma-Delimited
- Matlab (Mathworks)
- MEScope (Vibrant Technology)
- WAV
- UFF (Universal File Format)

Minimum PC Specifications

Operating System

- Windows XP Service Pack 2
- Windows 2003 Server

Processor

- Intel i3 3.0 GHz

RAM

- 2.0 GB

Video Card

- 256 MB

Disk Storage Space

- 320 GB

Video Display

- 800 x 600

Recommended PC Specifications

Operating System

- Windows 7 64-bit
- Windows 2008 Server

Processor

- Intel i5 3.3 GHz or better

RAM

- 4.0 GB

Video Card

- 1 GB

Disk Storage Space

- 500 GB or larger

Video Display

- 1024 x 768 or larger

ORDERING INFORMATION

AS-410 + Option Numbers

Example; AS-410-A is AS-410 software with analysis bundle "-A"

Analysis Options

Option -31, Digital Recording

Option -32, Trending

Option -33, Demodulation Analysis

Option -34, Modal Analysis

Option -35, Order Analysis

Option -36, Acoustic Analysis

Option -37, Octave Analysis

Option -71, Disk Management

Option -A, Analysis Bundle (includes -31 ,-32, -33, -34, and -35)

Interface Options

Option -22. OSI PI Historian

Option -24S, Modbus Slave (RTU)

Option -24T, Modbus Slave (TCP)

Option -24ST, Modbus Slave (RTU/TCP)

Option -25, Modbus Master (RTU)

Option -29, SQL Database

Option -51, InStep eDNA Historian

Option -52, RA Emonitor

Option -53, GE Proficy

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