



eZ-TOMAS™

Machine Vibration Monitoring Software

Compatibility: ✓ WaveBook ✓ ZonicBook

Features

- Monitor, record, analyze, store machine transient and long-term vibration data
- Reduces the need for personnel to enter hazardous areas
- Monitor operations via Ethernet
- Set up and start monitoring in minutes
- Rotating machinery analysis

eZ-TOMAS™ is the economical solution to rotating machinery monitoring and analysis. eZ-TOMAS will monitor your machines on a 24 hour basis. Data is continuously acquired and limit checked. eZ-TOMAS retains the change in vibration condition and quickly provides you with the information you need to make critical decisions.

eZ-TOMAS can be quickly setup to measure rotating machinery vibration data. Machine configuration and acquisition information can be copied from templates or copied from existing projects. Accessing rotating machinery displays are as simple as *double-clicking* on the desired input channel.

eZ-TOMAS checks vibration data at both alert and alarm levels. Alarm levels can either be set by you; or eZ-TOMAS can automatically calculate alarm levels based on past machine operation. Changes in vibration levels indicate changes in a machine's operating condition, which are warning signs of potential machine failure.

24 Hour Monitoring. eZ-TOMAS automatically stores data based on change in machine condition such as speed, vibration level, and alarm condition. A circular FIFO file, with automatic backup, records the data. If an alarm condition occurs, eZ-TOMAS can automatically notify you.

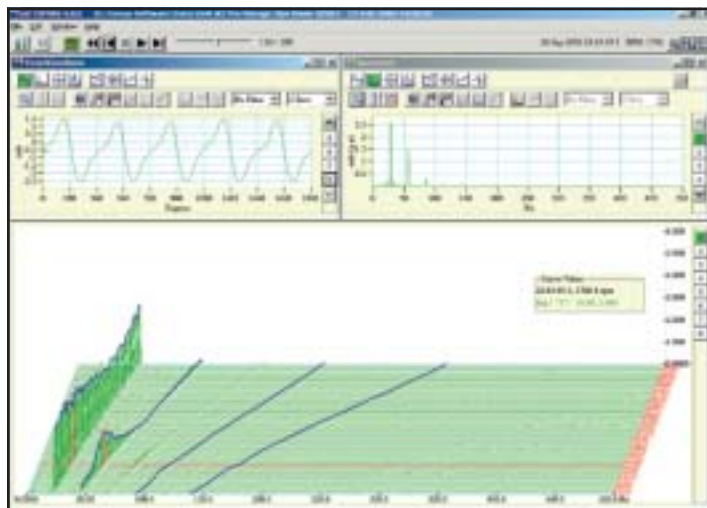
Analysis Tool for Rotating Machinery. You can display and analyze historical data while eZ-TOMAS continues to collect, monitor, and



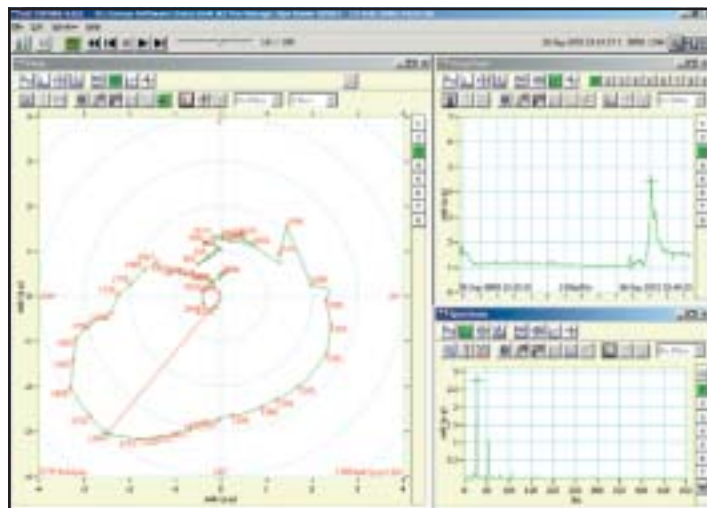
View Time-Domain, Spectrum, Waterfall, and Trend simultaneously on one screen with eZ-TOMAS

store data. Displays include Waterfall, Spectrum, Bode, Polar, Orbit, Time Waveform, Shaft Center Line, and Trend displays.

Portability. A ZonicBook and notebook PC running eZ-TOMAS can be easily moved from machine to machine with very short setup times. Use it to reduce downtime, improve data collection, and troubleshoot problems, while maximizing inventory utilization by intelligently projecting down time for parts replacement. With minimal training, you can set up eZ-TOMAS, start monitoring, perform data reduction, and prepare reports all in the same day.



Machine Shutdown Transient is captured and analyzed

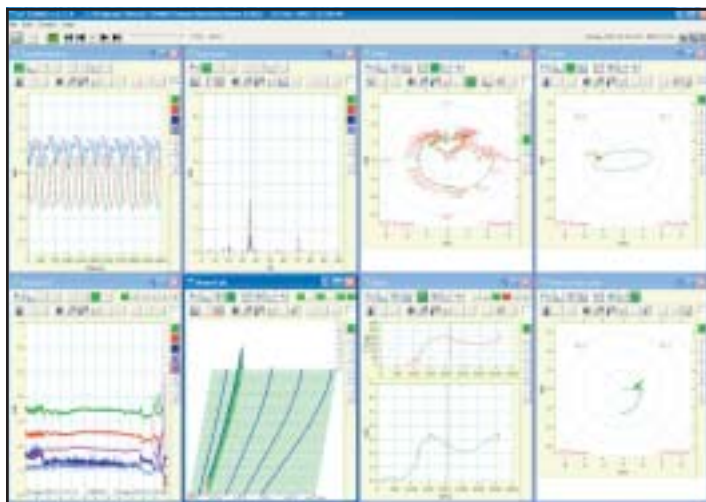


Polar, Trend, and Spectral Displays provide rotating machinery analysis

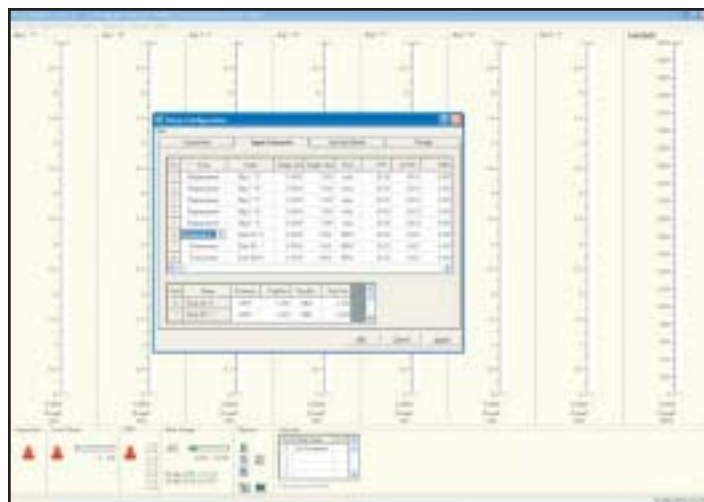


eZ-TOMAS™

General Information



Up to eight display windows with overlays for each window



Easy configuration of all channels

Acquisition

- Hardware: ZonicBook/618E or WaveBook
- Windowing: Hanning, Flat Top, Blackman Harris
- Multiple Tachs: Up to three dedicated tach channels for phase reference
- Up to 6400 spectral lines for high resolution
- Channel Coupling: AC, DC, ICP
- Input range from 25 mV to 25V
- Scale factors are user selectable
- Unit selection is english or metric
- Slew rates of 1000 RPM/sec on all channels for order tracking
- Up to 20-kHz analysis range
- From 8 to 56 channels expandable in the field and expanded in banks of 8 channels

eZ-TOMAS collects data from up to 56 channels of displacement, velocity, acceleration, tachometer, and other sensors. Any input channel can be referenced to multiple tachometer inputs.

Storage

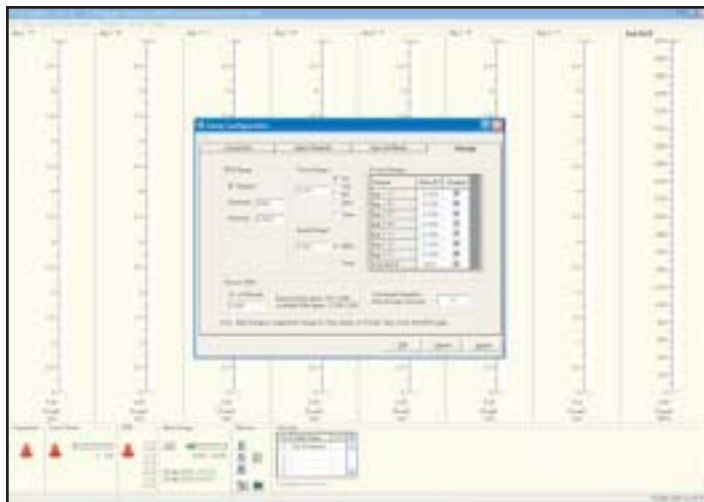
- Event driven FIFO circular files
- Snapshot recording at user selectable length
- Export while monitoring is active
- View historical data while monitoring is active
- Automatic backup of FIFO file prior to overwriting

Data is stored in a FIFO file based on machine transient or alarm conditions. The FIFO file can store up to 225,000 time waveforms. Examples of machine transient conditions include change in RPM, overall vibration level, or absolute time. A User Snapshot feature provides the ability to manually trigger data storage. You can also specify that eZ-TOMAS only store data while the machine is operating within machine speed range. These features allow you to record the important vibration condition of your critical machinery and to quickly review that information.

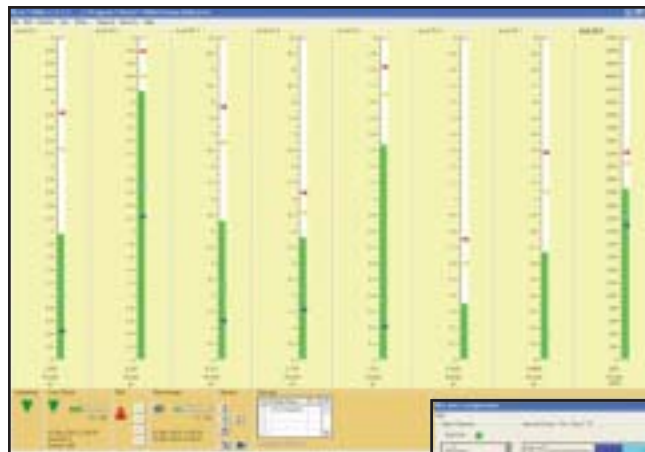


eZ-TOMAS™

General Information



Unparalleled event capture parameters are easily configured



Limit checks on up to 10 user defined parameters for each channel



Limit Checking

- Alerts and alarms in both color and audio
- Set points generated manually or automatically based on historical operating conditions
- All spectral data can be limit checked
- Peak, overall, and phase limit checking
- Output relay control

eZ-TOMAS continuously limit checks the acquired data. If the vibration level exceeds a limit set point, the event is recorded in the Alarm Log and the vibration data surrounding the alarm event is recorded in the Alarm Log. The vibration data is also stored in the FIFO file. The Alarm Log records the date and time of the alarm, input channel, spectral band, and limit type exceeded.

Like all other eZ-TOMAS features, Limit Checking is user configurable. Up to 4 limits can be defined for each spectral band (Alarm High and Low, and Alert High and Low). You can define the size of the Alarm Log file, a specific RPM range to enable limit checking, and the Alarm Delay time.

Display & Report

- Gauge displays with status indication and peak hold indicators
- Up to 8 multiple plot windows
- Plot types include Spectrum, Time, Polar, Orbit with Shaft Center Line, Trend, DC Gap Voltage, Waterfall, and Bode
- Order analysis displays
- Up to 8 multiple traces (overlays) per window
- Cursors: Single, Harmonic, Sideband, Peak
- Statistical reports
- Runout compensation
- Direct Microsoft Excel® data reporting
- Overlay baseline or limit data

The gauge displays allow you to quickly determine the real-time vibration levels and status of your rotating machinery. The Peak Hold indicators show maximum excursions for all spectral bands.

Simply double click on a gauge to open a display window. You can then analyze vibration condition using Realtime and/or Historical data. Predefined plot setups allow you to streamline the reporting process.



eZ-TOMAS™

Specifications & Ordering Information

Specifications

Acquisition Features

- Data collected from displacement, velocity, accelerometers, tachometers, and process probes
- Vibration data is referenced to up to 3 tachs
- AC or DC coupled
- User-defined spectral bands (peak, overall, or phase values in a user-defined spectral band recorded over time)
- Realtime data and status information can be sent to another computer on your network

Processing Characteristics

Analysis Frequency: DC to a user defined cutoff frequency, with all input channels synchronously sampled at the analysis rate times the Nyquist factor

Cutoff Frequency: 10 Hz to 50 kHz

Blocksize: 512 to 16,384 data samples per block of data (in powers of 2)

FFT Windows: None, Hanning, Flat Top, 3 Term Blackman Harris

Integration (in frequency domain): Single and double integration

Averaging: Linear, peak hold indicators

Storage Features

- FIFO Design: User specified size to 225,000 time waveforms
- Storage triggered on change in RPM, time, overall vibration, or alarm
- Storage enabled within an RPM range
- Continuous data storage can be manually triggered
- Automatic backup FIFO file prior to overwriting data

Limit Checking Features

- 4 limit set points per spectral band (alarm high and low, alert high and low)
- Alarm log records alarm events
- Output relays allow user control when event occurs
- Color status indication is shown on the gauge panels

Display & Report Features

- Gauge displays provide indication of current spectral band information and status
- Display Types Supported: Time, Spectrum, Waterfall, Orbit, Bode, Polar, Trend, and Shaft Center Line
- Limit values can be overlaid
- Up to 8 display windows; each window supports up to 8 traces
- Statistical reports provide minimum, maximum, average, and deviation values for each spectral band over time
- You can configure up to 4 predefined plot setups
- Overlap processing allows you to analyze transient data, with slew rates of 1000 RPM/sec
- Baseline and limit set points can be overlaid

Ordering Information

Description

Machine vibration monitoring software for the WaveBook and ZonicBook Automation module with 8 relay outputs

Part No.

eZ-TOMAS
NDTRelay2

Note: eZ-TOMAS is included with the ZonicBook/618EZT and ZonicBook/618EZAT packages.

For complete information on accessories and cables, visit www.iotech.com/acc

Related Products

Hardware

WaveBook	p. 17
ZonicBook	p. 59

Software

eZ-Analyst	p. 63
eZ-Rotate	p. 66
eZ-Balance	p. 72
eZ-NDT	p. 73