Test for I-deas Order Tracking software provides test engineers with comprehensive capabilities for collecting synchronously sampled real-time order data from rotating machinery. The power of the user interface, together with a unique implementation of geometry-based data management tools, provides a level of organisation and ease-of-use previously unavailable. Firmware available in the data acquisition hardware is exploited to maximise measurement performance.

Features
- Real-time displays
- Geometry-based measurement location
- Customisation options and programmability for specialised applications
- Setup and measurements managed via convenient forms and intelligent tables

User Interface
An advanced, Windows®-based user interface includes real-time displays, intelligent forms, geometry displays, and icons. This user interface provides a high level of ease-of-use in setting up and managing the measurement process while minimising the potential for error.

Up to 20 channels can be displayed simultaneously to view waveform, frequency, or order content. A time min/max display provides for monitoring up to 90 channels simultaneously. Real-time data can be monitored in a preview mode, as well as during the acquisition process.

Setup conditions are managed using intelligent tables that automatically handle the interaction of various parameters and present only choices appropriate for the selected measurement condition. Special geometry-picking features supplement traditional methods of associating instrument input channels with measurement locations on the test structure. Additionally, geometry-picking features can be used to display measurement results. Results can also be displayed by keying in channel or location identifiers and picking from a list.

Programmability provides great flexibility, enabling you to customise the software to meet specialised application requirements. Icons provide fast cursor-picked access to commands, command strings, and program files. Standard icons are included and customised icons can be conveniently established.

Measurement
The front-end measurement system is controlled to obtain data that is synchronous to the shaft rotation. The measurements may be processed in real-time to produce order-based spectra or may be written to a disk (in either throughput or Test for I-deas .adf format) for later post-processing. All of the orders or a selectable subset may be produced.

Instrument and Channel Setup
The menu leads the user through a logical progression of forms to set up the measurement conditions. The relationships between input channels, measurement locations, and transducers are conveniently assigned and managed using these forms. If you wish, the measurement locations may be cursor-picked from a geometric image of the structure.
Specifications – Test for I-deas Synchronous Order Tracking BZ-6009

- Instrument sample clock adjusted dynamically
- Live measurements
- Live-equivalent offline measurement processing from ATI
- Tach reference external to data channels required

PREREQUISITE
Test for I-deas Core Test BZ-6000

USER INTERFACE
Real-time Displays:
- Up to 20 channels can be displayed simultaneously to view waveform, frequency or order content
- A time min/max display provided for monitoring up to 90 channels simultaneously
- Real-time data can be viewed in preview mode and during acquisition process
- Display types: waterfall (order-based), time, order vs. RPM, spectra, time and spectra, and time min/max

Setup: Managed using intelligent tables and forms
Measurement: Geometry-based features to aid in associating input channels with measurement location on test structure
Commands: Icon-based, standard and customisable

 SETUP
A logical procession of forms are provided to set up the measurement.
Sampling: The following parameters can be set:
- Tracking ratio
- Frame size
- Maximum order
- Order resolution
- Subset of orders

AutoRange: Each channel’s input range can be set based on either the maximum amplitude encountered during an rpm sweep or frame-by-frame

Windows: Hanning narrow, Hanning broad, Flat top and No window

Measurements: Throughput, Time to .adf, Time average, and Spectra to .adf

Results: Written to disk, types include:
- Spectra
- Orders
- RPM vs. time
- Composite power

Setup Management: Multiple instrument setups can be stored and recalled.

Static Data: Linked with the dynamic data and can be used for searching data or as the Z-axis of a 3D graph. Dynamic data defining parameters include:
- Temperature
- Pressure
- RPM
- Frequency
- Time, etc.

Channel Assignment and Updating: A convenient form sets up the number of channels and the method of updating the channels with the next set of measurement locations, including manual keyboard entry, reassigning transducer locations by picking from a geometric image, coordinate trace input for automatic updating; and virtual channel table for use with scanner hardware

Channel Table: Each channel can be defined as dynamic or static. The User sets up key parameters:
- Input channel number
- Measurement coordinate and description
- Input voltage range
- Coupling
- Sensitivity

Transducer Table: A table defining each transducer type, serial number, and calibration information can be stored and linked to the setup conditions

Tracking: Enables management and retrieval of data from multiple runs of the same set of measurements. An attribute is automatically added indicating which groups of data were acquired during the same measurement

RESULTS
- Revolution-domain streaming to ATI
- Order spectrum sets to AFU

Display Types:
- Spectral map
- Campbell diagram
- Order
- Spectra
- Composite power
- Order and composite power
- RPM vs. time

TEST LOG
A test log can be written and retrieved providing complete documentation of all the test conditions including overall setup, channel assignments, transducer assignments, and function identification

Ordering Information

BZ-6009-F Test for I-deas Synchronous Order Tracking
SERVICES
M 1-6009-F Annual Software Maintenance and Support Agreement
M 2-6009-F Annual Software Maintenance and Support Agreement

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