

ChartView

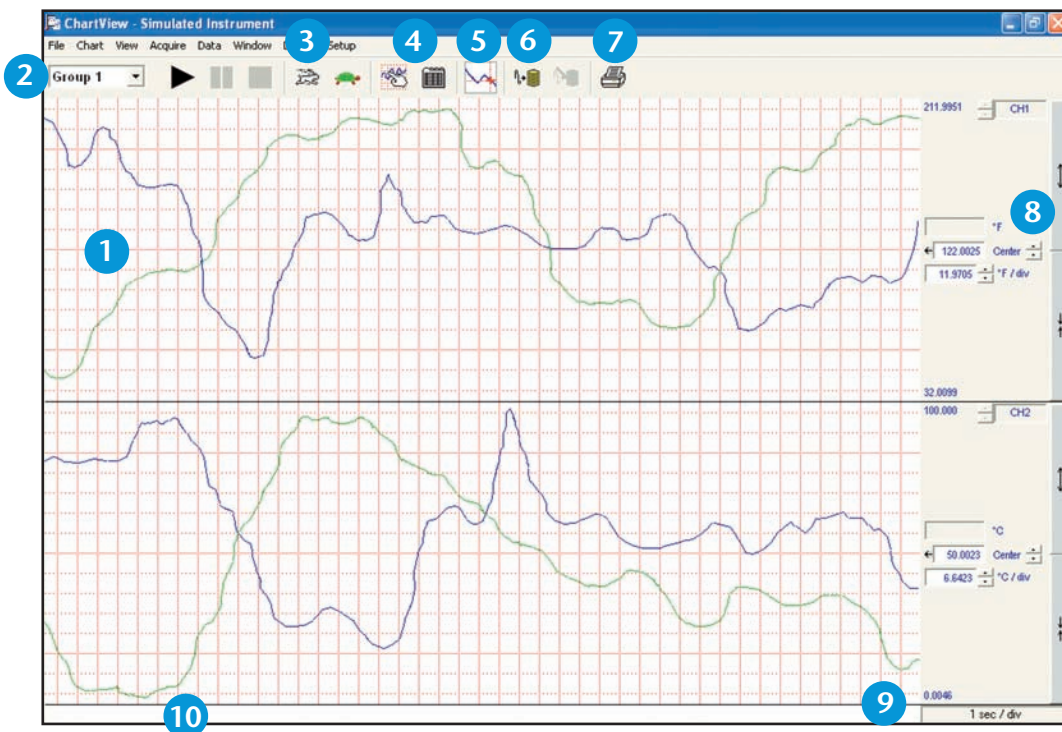
Out-of-the-Box Setup, Acquisition, & Real-Time Display Software

ChartView Software

- Display and record data in minutes, with no programming
- Display strip charts in real time
- Make on-screen measurements
- Scale readings to engineering units
- Display data in digital, analog, and bar meters
- Adjust scroll rate independently of sample rate
- Can run as server to Excel®*
- Supported Operating Systems: Windows 2000®, Windows Vista® x86 (32-bit), and Windows XP®

ChartView, IOtech's included *Out-of-the-Box* software, is an enhanced-capability option for the engineer who needs the trend and display ability of a chart recorder or logger without the inconvenience of paper. Its uniform grids capture the look and feel of real strip paper allowing visually intuitive analysis to be performed on the screen without sacrificing the benefits of PC acquisition, manipulation, storage, and report generation.

Unlike many waveform display packages with static data updates or jerky scrolling, ChartView provides a nearly smooth scroll of all data. In addition, all critical display controls, such as volts per division and trace positioning, are located next to each channel so there is no fumbling through menus or guessing at icons.



- 1 Uniform, strip chart-like grid allows easy measurements directly from the screen.
- 2 Groups: channels can be grouped, named and displayed in different formats for quick review.
- 3 Waveform scrolling rates are independent of sampling rates, allowing you to optimize for the best waveform display.
- 4 Hardware configuration menus are easily accessible.
- 5 PostView, a post-acquisition display and analysis package, is included. This software enables the viewing of data stored to disk.
- 6 Easily log data to disk for later review and analysis.
- 7 Print waveforms simply by clicking a button.
- 8 Intuitive channel controls enable the expansion and positioning of the channels anywhere in the chart area.
- 9 X-axis grids are uniform and in convenient increments for measurement. Running time is displayed across the bottom of the chart.
- 10 Convenient LEDs show hardware and application status.

NOTE: ChartView supports MCC and IOtech IEEE 488 boards only.

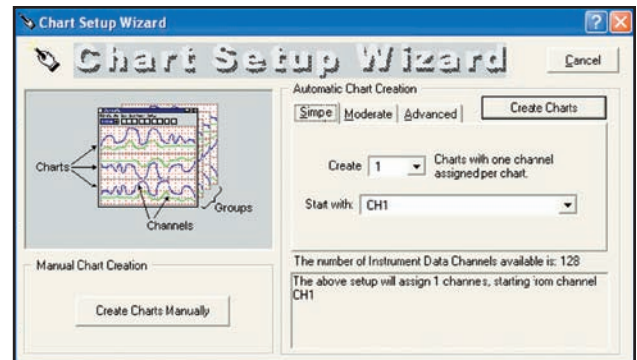
* Requires Excel® 2000 or higher to use XL integration

ChartView

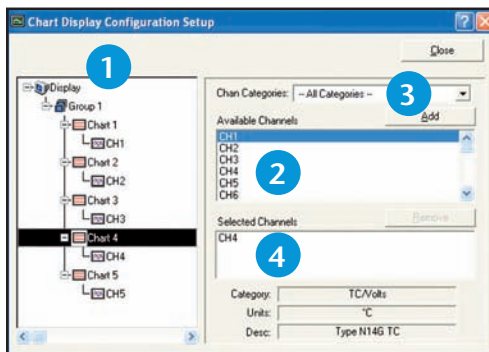
Out-of-the-Box Software

Setup Wizard

ChartView makes it easy to group channels for easy visual comparison. Whether you save multiple formats to disk or associate them all with one test, the Chart Setup Wizard will configure your display in seconds. From simple single-group, non-overlapped displays in the standard ChartView package, to the advanced multi-group overlapped displays, the Chart Setup Wizard automatically does it for you. You select which channels are displayed in separate charts, overlapped, or in combination. There is no need to search through complicated menus to configure your display.



ChartView's Chart Wizard allows for quick setup



ChartView's chart setup screen

Multiple Display Groups

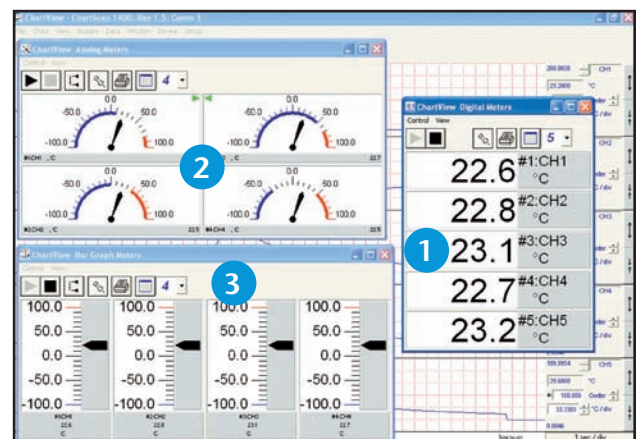
The Display Configuration Setup Window complements the Setup Chart Wizard by allowing you to further customize your display to include convenient names or to modify existing displays created earlier.

- 1 Multiple groups can be created and named for quick recall and display later.
- 2 Select from a list of available channels which are enabled and available for display.
- 3 In large systems, channel-type selection facilitates finding and grouping channels.
- 4 Modification of existing groups is easy.

Additional Display Types

In addition to charting, three other display modes are available for developing custom real-time displays. Any combination of these three displays may be active at any time. Master start/stop buttons are provided on ChartView's main display window; each display window also provides local controls for start/stop, printing, and layout configuration.

- 1 **Digital Meters.** ChartView's digital meter window displays up to 32 channels of data and offers the ability to define the data format, change the color of the digital value based on high and low data limits, and display trend indicators.
- 2 **Analog Meters.** ChartView's analog meter window displays up to 32 channels of data and allows the user to define analog meter limits, set high and low data limits, display trend indicators, and display peak hold (min/max) indicators. The analog needle changes color when it falls outside the high and low data limits. The meter also indicates the digital value of the data.
- 3 **Bar Graph Meters.** ChartView's bar graph meter window displays up to 32 channels of data and allows the user to define bar graph limits, set high and low data limits, display a trend indicator, and display peak hold (min/max) indicators. The color of the bar graph needle changes based on the high and low data limits. The bar graph also indicates the digital value of the data.



ChartView's display windows can be customized per the user's application

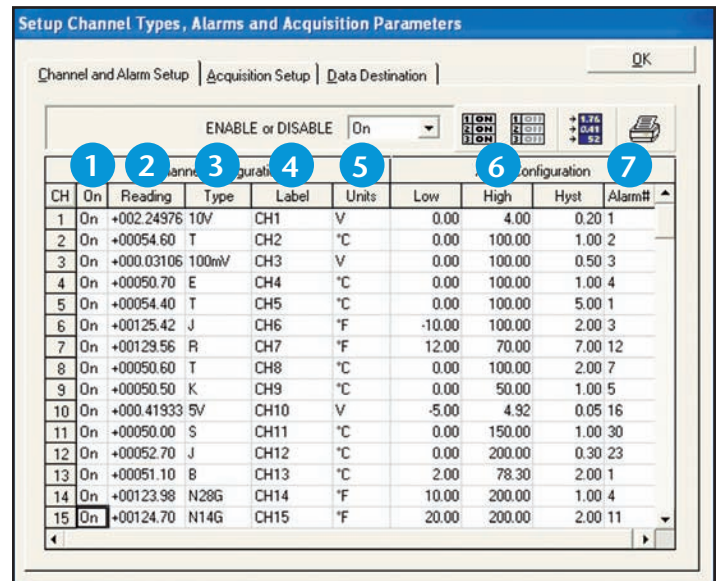
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Hardware Configuration

ChartView reduces acquisition configuration time to seconds through easy-to-use pull-down menus, graphical buttons, and check boxes. Shown on the right is the setup menu for enabling the hardware. With a few mouse clicks you can turn channels on and off, select gains or thermocouple types, enter user labels, alarm parameters, and assign channels to an alarm output.

- 1 Channels can be individually enabled or disabled.
- 2 Spreadsheet-type display gives real-time channel value.
- 3 Set gain or thermocouple type per channel.
- 4 User-entered label makes channel identification easy.
- 5 Engineering units individually assigned. (See scaling to engineering units below.)
- 6 Individual settings for alarm high, low, and hysteresis levels.
- 7 Assign channels to one or more alarms.

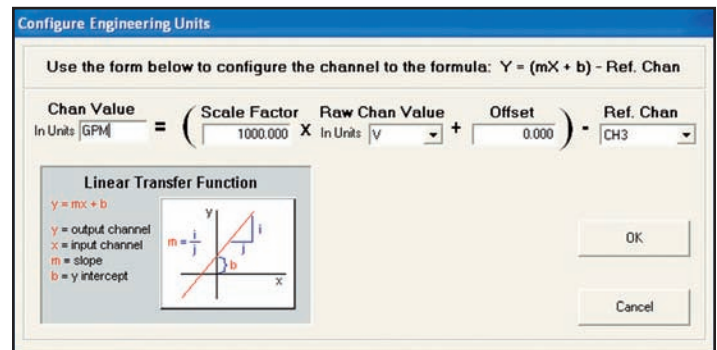


ChartView's spreadsheet style makes setup easy and provides quick access to all channels

Scaling to Engineering Units

Each channel is individually scaled to user-defined engineering units to allow direct reading such as PSI and relative humidity in all charts, meters and data stored to disk. Simply fill in the appropriate $mX+b$ scaling for your transducers, and ChartView will do the rest.

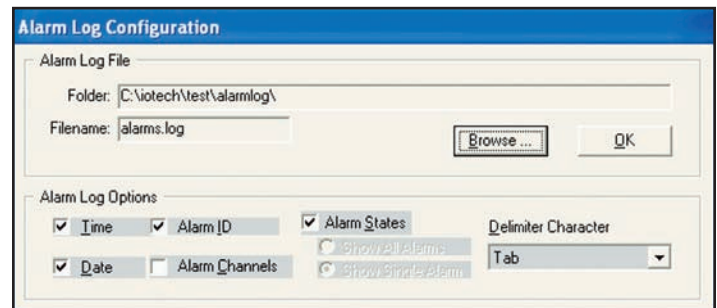
In addition, ChartView provides the added ability to subtract a reference channel from the scaled value. This is useful when recording data relative to some input, like the temperature rise above ambient. All active channels are available for use as a reference channel.



ChartView can display channels in engineering units simply by entering your scaling values

Alarm Log

In addition to generating an alarm output on a standard 50-pin connector, ChartView also offers the ability to log alarms to disk. When enabled, ChartView software queries the hardware approximately once per second to check for an alarm condition. Once detected, the key parameters, such as date, time, and channel ID, are logged to disk. This ASCII file can then be imported into a Windows® program such as Excel® for review and analysis.

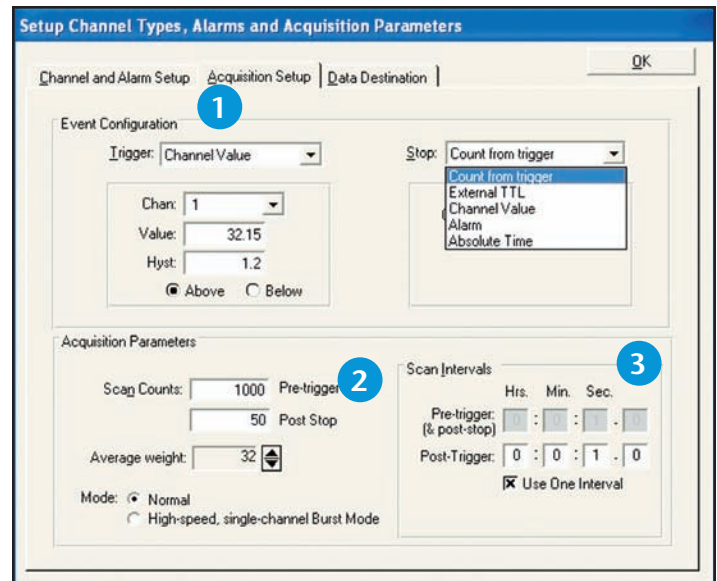


Alarm logging saves time and date of each alarm condition

Acquisition Configuration

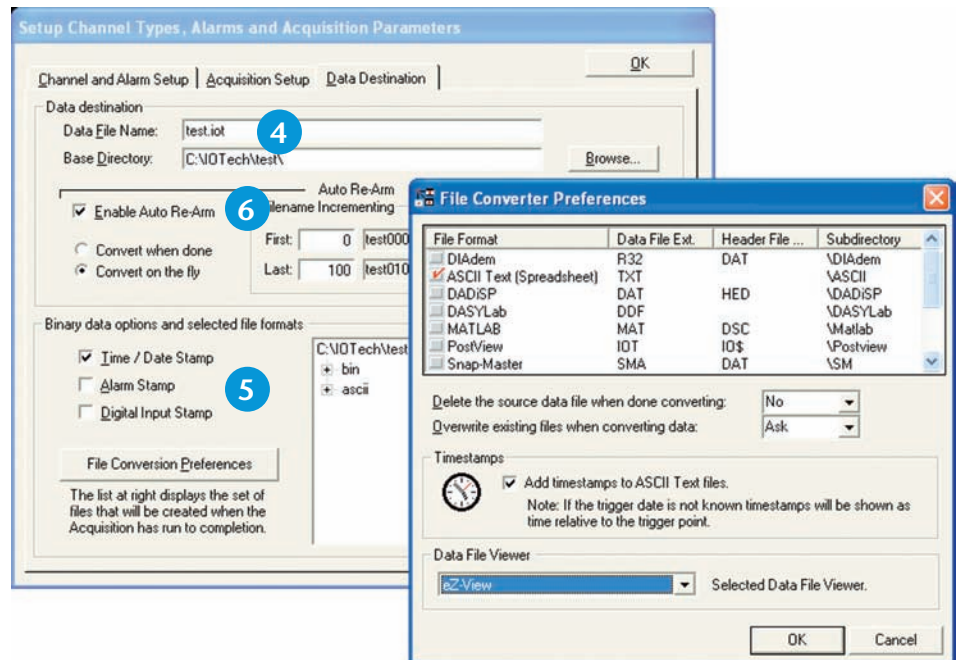
ChartView gives full control over the acquisition's start and stop events, the total number of data points collected, sampling rate, name, and format of the data file. When complete, acquisition configurations can be saved to a file and recalled later.

- 1 Select both the start and stop events for complete acquisition control.
- 2 Pre- and post-trigger scans are set separately. Control the amount of memory allocation by setting the pre-trigger and post-stop value. Sample averaging can also be set to reduce AC noise if required.
- 3 Scanning intervals can be set independently for both the pre-trigger and post-trigger scans thus maximizing data storage and time resolution in the area of greatest interest.



ChartView's acquisition screen provides quick access to key acquisition parameters

- 4 Data is saved to disk in a binary format, and can be automatically converted to any data format used by other software.
- 5 With each acquisition, data and alarms are time stamped. When enabled, the eight digital inputs are recorded with each scan.
- 6 **Auto Re-arm.** ChartView supports an auto re-arm capability to allow back-to-back acquisition cycles in which the system will arm, trigger, save data, and automatically re-arm to capture the next event. This feature is valuable when running in stand-alone mode where user intervention to re-arm the acquisition is inconvenient or in applications where each event capture is desired and manual re-arming is impractical. To keep data conveniently segmented, file names are automatically incremented.



ChartView's data destination screen allows the selection of multiple file formats

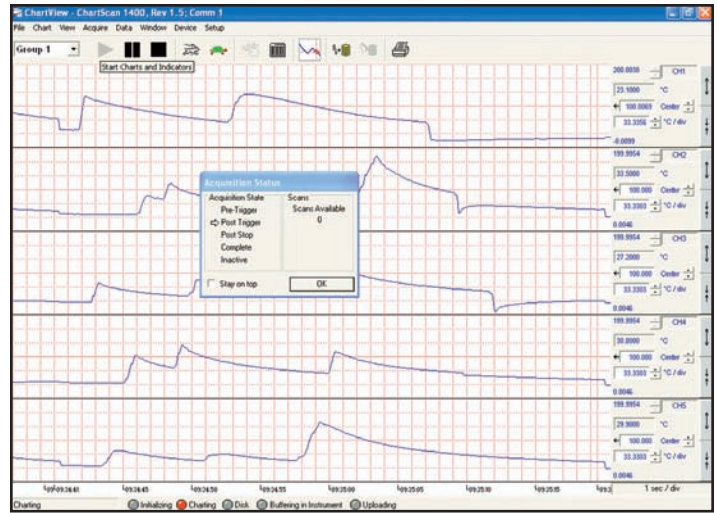
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Stand-Alone Operation

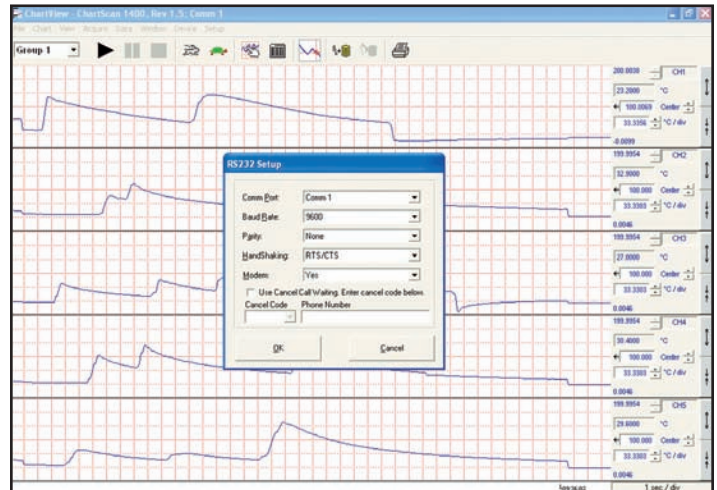
For acquisition over extended periods, ChartView allows the TempScan and MultiScan to act as stand-alone data loggers. Initially, ChartView is used to configure the acquisition and is then exited. The Scan product then stores readings in its internal memory. Later, at your convenience, ChartView can upload data stored in memory and save it to a data file on a computer's hard drive. Each time ChartView is invoked, it automatically determines whether data is available and allows storing of data to a new file.



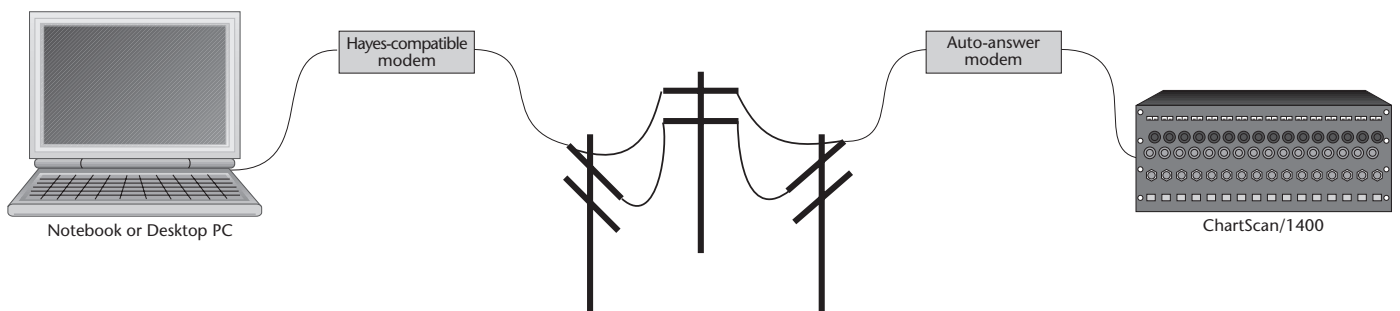
ChartView allows you to append data to an existing data file, replace the data file, or store the data to a new file

Remote/Modem Operation

The TempScan/1100 and MultiScan/1200 are ideal for applications that require the placement of instrumentation at some distance from the controlling computer. ChartView is capable of controlling the TempScan or MultiScan via a Hayes-compatible modem. Modem operation is useful when a dedicated computer does not reside at a remote site; it also reduces the need for someone to travel to ensure proper operation or to retrieve data.



ChartView's modem-setup screen



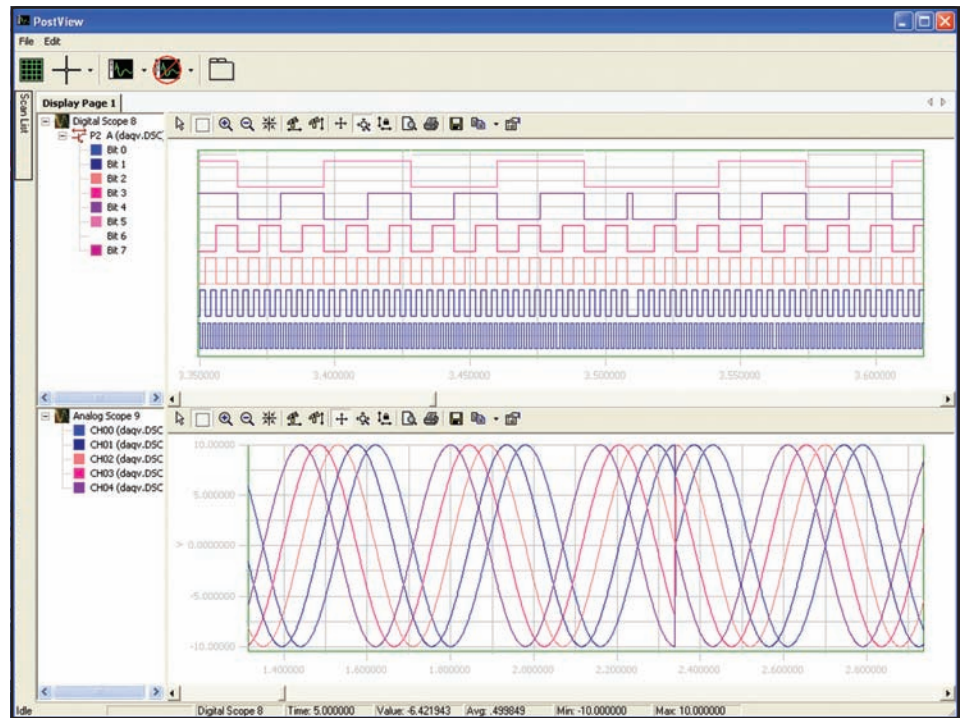
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PostView

PostView is a time-domain post-acquisition data viewing package which is integrated and ready to use from within your View package when you install it. PostView provides easy to use basic time-domain data viewing for IOtech data acquisition *Out-of-the-Box* View packages.



PostView is a Windows®-based, post-acquisition waveform viewing application

ChartView Summary Chart

ChartView, the included *Out-of-the-Box* software with expanded display and recording capabilities is intuitive charting software packages which will have you recording data in minutes. Each feature has a quick-to-learn user interface and features required in most logging applications.

ChartView Feature Summary	
Feature	ChartView
Included <i>Out-of-the-Box</i> software	Yes
Display groups	64
Display charts	16
Channels per chart	up to 4
Overlapped channels	✓
Auto re-arm	✓
Alarm logging	✓
Chart setup wizard	✓
Individual channel positioning	✓
Remote operation	✓
Separate pre- and post-scan number	✓
Separate pre- and post-scan rate	✓
Alarm channels	32
mX+b scaling	✓
mX+b scaling with reference channel	✓
Digital inputs	✓
Digital/analog bar graph meters	✓
Engineering units	✓
Label channels	✓
Links to Excel®	✓
PostView included	✓
Scale data to user units	✓
Stand-alone operation	✓
Uniform and scaled grids	✓

ChartView

Out-of-the-Box Software

XL Integration

XL integration allows ChartView users to add real-time data acquisition to Microsoft® Excel. XL integration uses state of the art COM technology to allow seamless ChartView integration with Microsoft Excel.

Real-Time Data Updates

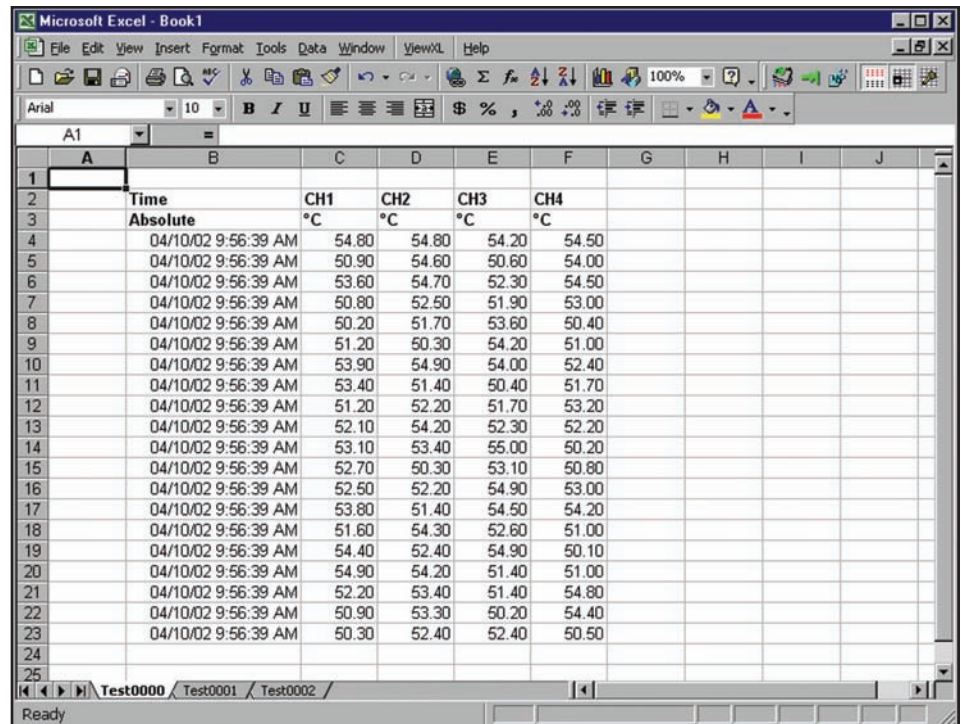
XL integration allows Microsoft Excel to control the acquisition and data retrieval process. This feature will automatically update spreadsheet rows as new data becomes available from ChartView in real-time. This means that you do not have to wait for an entire acquisition to complete before viewing and working with data within Excel.

Multiple Spreadsheet Support

XL integration allows multiple spreadsheets to be defined for use with previously acquired data while acquiring new data. Previous acquisition data can be accessed and via its own spreadsheet while a new data is acquired to a separate spreadsheet. Multiple acquisitions can be accessed in this fashion with each acquisition having its own, dedicated worksheet in Excel. This feature is particularly useful when performing acquisitions which are repetitive in nature.

Post-Acquisition File Import

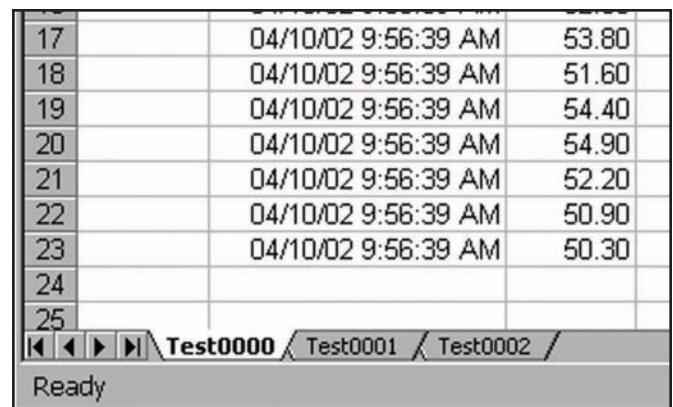
XL integration allows the user to import previously acquired data, even as new data is being collected. Post-acquisition file data then can be viewed and manipulated within each spreadsheet.



Time	CH1	CH2	CH3	CH4
Absolute	°C	°C	°C	°C
04/10/02 9:56:39 AM	54.80	54.80	54.20	54.50
04/10/02 9:56:39 AM	50.90	54.60	50.60	54.00
04/10/02 9:56:39 AM	53.60	54.70	52.30	54.50
04/10/02 9:56:39 AM	50.80	52.50	51.90	53.00
04/10/02 9:56:39 AM	50.20	51.70	53.60	50.40
04/10/02 9:56:39 AM	51.20	50.30	54.20	51.00
04/10/02 9:56:39 AM	53.90	54.90	54.00	52.40
04/10/02 9:56:39 AM	53.40	51.40	50.40	51.70
04/10/02 9:56:39 AM	51.20	52.20	51.70	53.20
04/10/02 9:56:39 AM	52.10	54.20	52.30	52.20
04/10/02 9:56:39 AM	53.10	53.40	55.00	50.20
04/10/02 9:56:39 AM	52.70	50.30	53.10	50.80
04/10/02 9:56:39 AM	52.50	52.20	54.90	53.00
04/10/02 9:56:39 AM	53.80	51.40	54.50	54.20
04/10/02 9:56:39 AM	51.60	54.30	52.60	51.00
04/10/02 9:56:39 AM	54.40	52.40	54.90	50.10
04/10/02 9:56:39 AM	54.90	54.20	51.40	51.00
04/10/02 9:56:39 AM	52.20	53.40	51.40	54.80
04/10/02 9:56:39 AM	50.90	53.30	50.20	54.40
04/10/02 9:56:39 AM	50.30	52.40	52.40	50.50

XL integration for ChartView allows multiple spreadsheets to be used simultaneously

Multiple sheets are used when multiple files are imported manually, or from an acquisition with auto-rearm that generates multiple files



17	04/10/02 9:56:39 AM	53.80
18	04/10/02 9:56:39 AM	51.60
19	04/10/02 9:56:39 AM	54.40
20	04/10/02 9:56:39 AM	54.90
21	04/10/02 9:56:39 AM	52.20
22	04/10/02 9:56:39 AM	50.90
23	04/10/02 9:56:39 AM	50.30
24		
25		