

# DASH 8XPM

Power Monitor • Data Acquisition Recorder



- 8 channels of inputs for single and three phase power monitoring
- Days of continuous recording at a sample rate of 6,250 Hz per channel
- Transients, glitches and disturbances captured at 200 kHz per channel
- Measures a wide range of power parameters with AstroPower™ software, including RMS current and voltage, real and reactive power, power factor and THD

**Ai**® **Astro-Med, Inc**  
TEST & MEASUREMENT PRODUCT GROUP

*Measurement has never been this easy*



# POWER MONITORING & DATA ACQUISITION IN ONE SYSTEM!

Astro-Med has combined the versatility of our Dash 8Xe with our innovative AstroPower™ monitoring software to give you the all new Dash 8XPM. The Dash 8XPM delivers the capabilities of a high-end data acquisition recorder and a dedicated power monitoring system in one useful tool.

Using the standard Dash 8Xe software, the system operates as a powerful data acquisition recorder that can be used for long term trend recording, traditional data capture and oscilloscope recording for maintenance troubleshooting applications.

Switching to AstroPower monitoring software allows monitoring of power quality and disturbances that can disrupt the operation of electrical equipment. The user can record power trends, events and transients for days, weeks or months at a time.

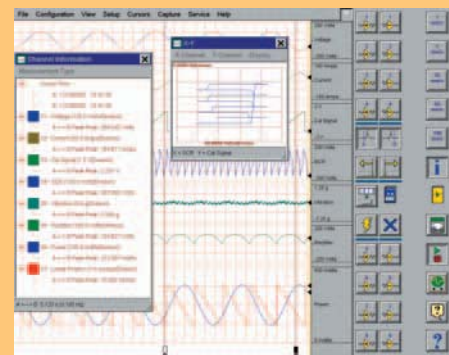
#### REAL-TIME DISPLAY

View voltage and current waveforms side by side, overlapped or grouped together logically. User defined waveform and background colors.

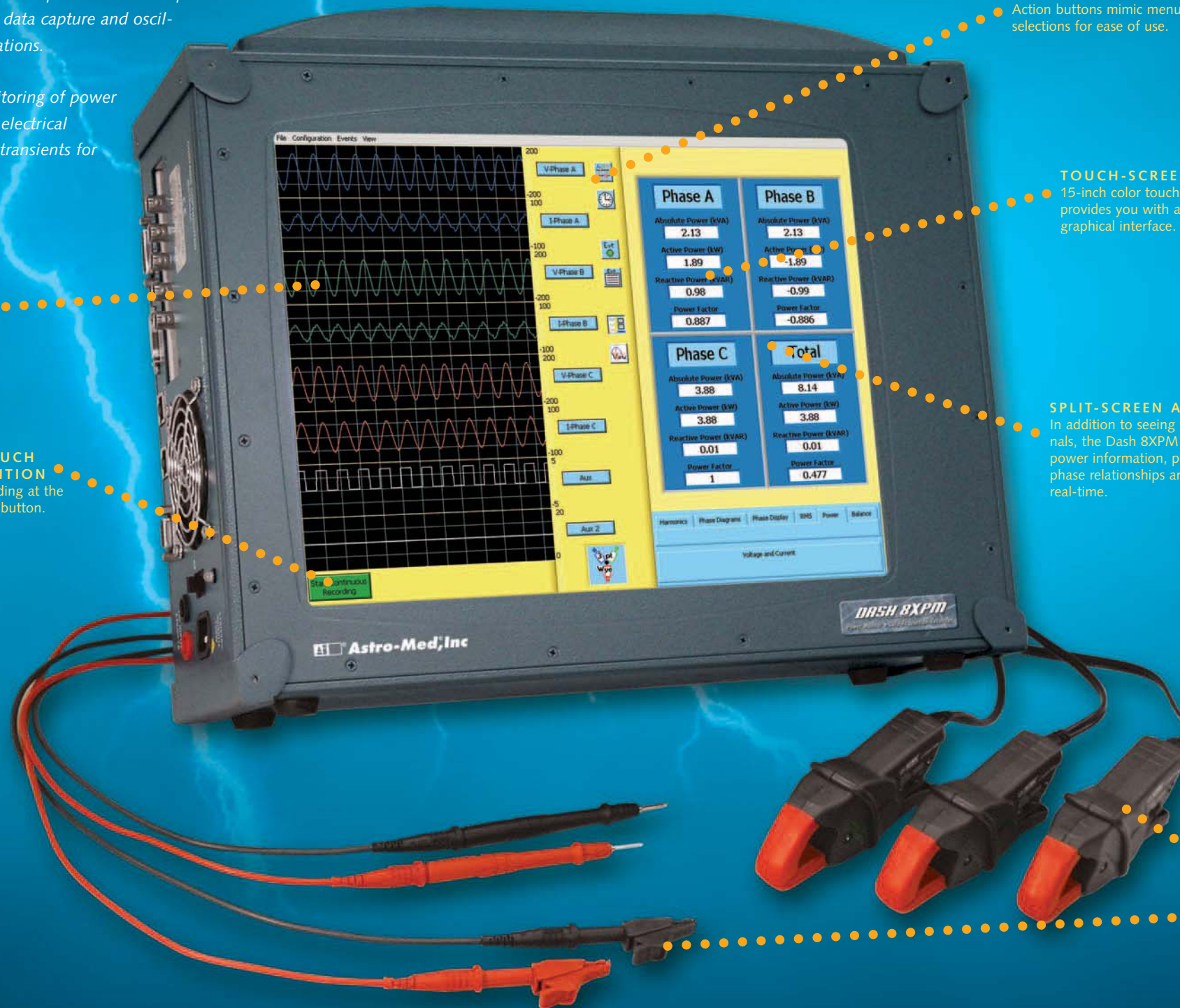
#### ONE TOUCH ACQUISITION

Start recording at the touch of a button.

#### DASH 8XE FUNCTIONALITY



In addition to power monitoring, the Dash 8XPM gives you the functionality of the popular Dash 8Xe data acquisition recorder. You can capture 8 channels of data directly to a 73 GB hard drive at sample rates from one sample per minute to 200 kHz per channel. It lets you capture trend data, transient/glitch data based on intelligent triggers and gives you high speed digital scope recording.



#### SIMPLIFIED OPERATION

Action buttons mimic menu selections for ease of use.

#### TOUCH-SCREEN DISPLAY

15-inch color touch-screen display provides you with an easy-to-use graphical interface.

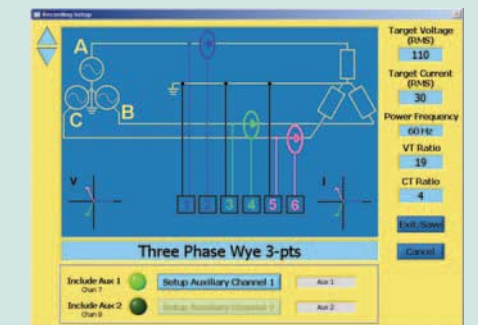
#### SPLIT-SCREEN ANALYSIS

In addition to seeing raw power signals, the Dash 8XPM lets you view power information, phase diagrams, phase relationships and RMS data in real-time.

#### CURRENT CLAMPS AND VOLTAGE PROBES

Various sizes and ranges are available for a wide variety of power applications.

#### AUTO-CONFIGURATION



Choose a recording setup and AstroPower automatically configures your inputs for single phase, split phase, Delta or Wye recording applications.

Channels 7 & 8 can be used as auxiliary inputs to record any signal type, including tachometer signals, thermocouples, and other AC or DC, high or low voltage signals.

#### MODULAR INPUTS



The Dash 8XPM's modular inputs give you the flexibility you need in a portable troubleshooting tool. From high voltage, isolated inputs for voltage and current channels to DC bridge and thermocouple inputs for auxiliary channels, the Dash 8XPM has a variety of modules to meet your needs.

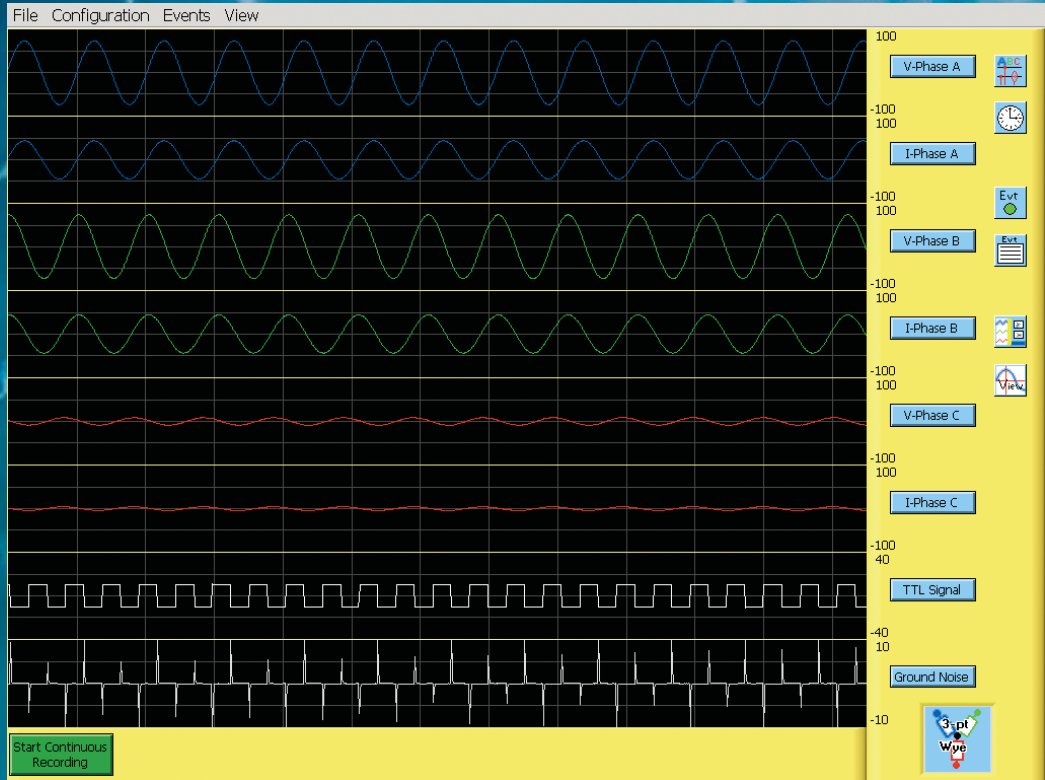




# real-time data display

The Dash 8XPM operates with an intuitive real-time touch-screen display that allows the user to view, record and analyze data in a variety of formats.

## REAL-TIME POWER MONITOR



The monitoring screen provides real-time display of waveform data.

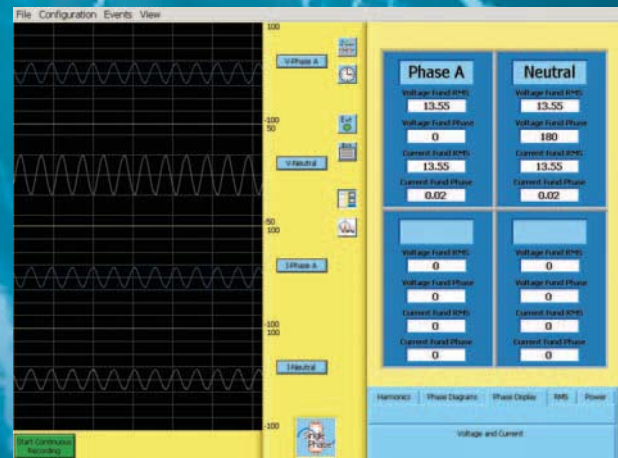
## RECORDER ENVIRONMENT



Based on user input of target parameters, AstroPower optimizes input performance and resolution by automatically configuring settings such as display and unit scaling along with attenuator selection...all prior to recording!

Key system parameters such as target voltage and current, transformer ratios and 50 or 60Hz power frequency are all user definable.

## SPLIT-SCREEN ANALYSIS

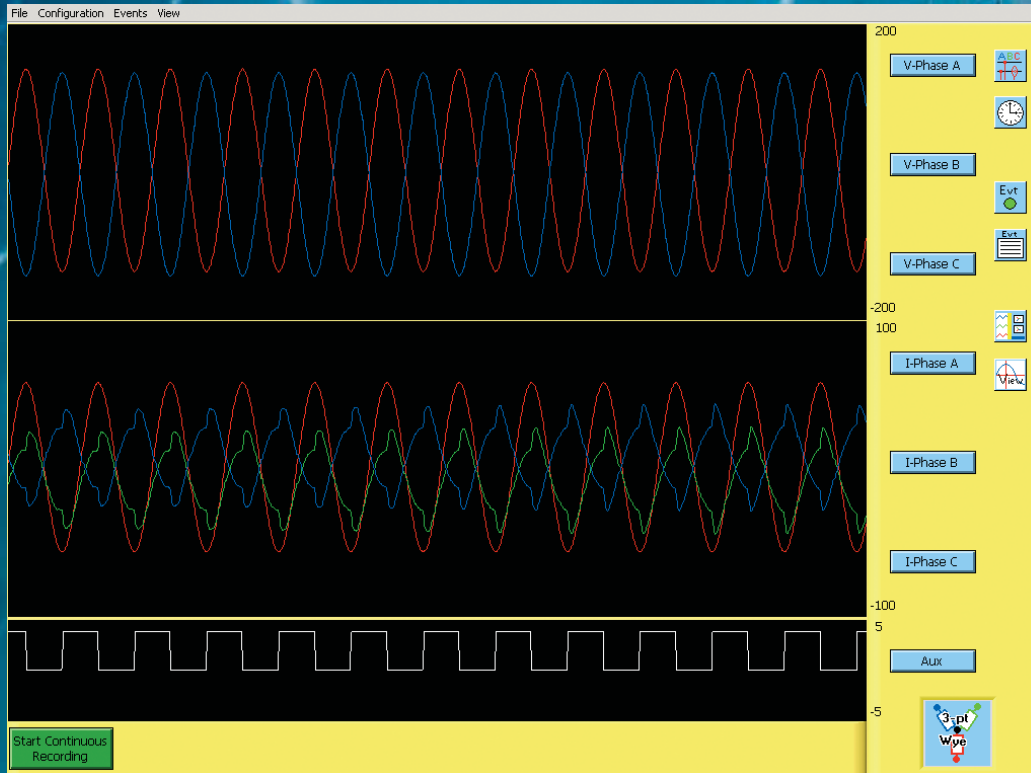


The analysis window provides voltage and current harmonics, phase relationships and diagrams along with RMS voltage and current information in real time.

# data capture: continuous recording mode

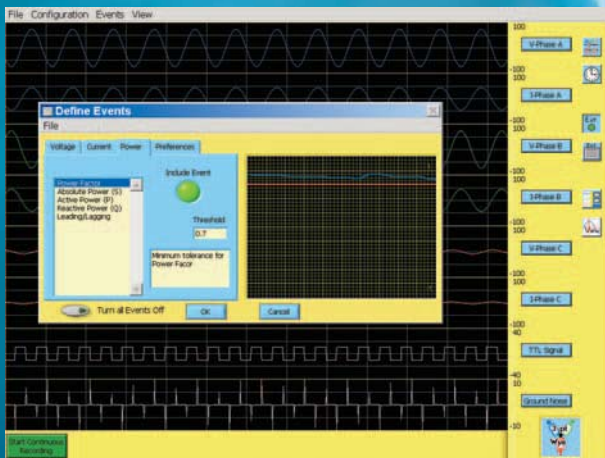
AstroPower allows you to monitor and log power trends, including power interrupts, power sags, power swells, frequency deviations, harmonics, interharmonics and unbalances, in real-time. Thousands of power events can be logged to file for later review!

## MONITOR AND LOG EVENTS



Capture power trends in continuous mode which allows up to 88 hours of continuous recording at a sample rate of 6,250Hz per channel.

## EVENT DEFINITION



AstroPower allows a user to easily setup and record critical power events.

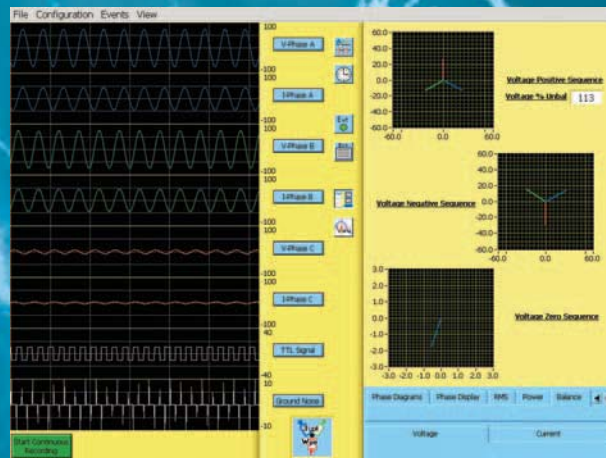
**Voltage:** Interrupts, sags, swells and frequency.

**Current:** RMS threshold definition that allows triggering on target current and event thresholds.

**Voltage & Current:** Transients, individual/total harmonics, Individual interharmonics and unbalance conditions.

**Power:** Power factor, absolute, active, reactive and leading/lagging power events.

## MULTIPLE VIEWS – ALL DATA



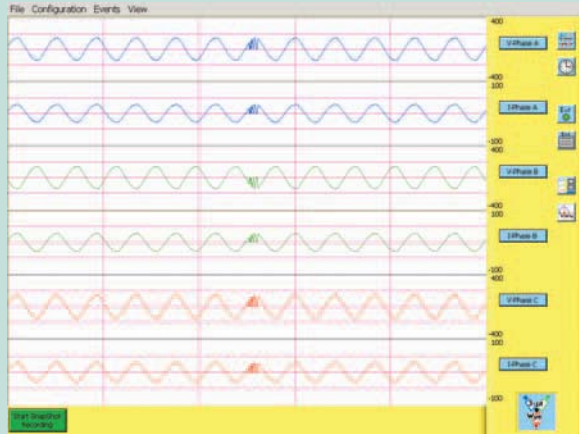
The informative split screen analysis screen provides real time information while recording.



# data capture: transient/snapshot recording mode

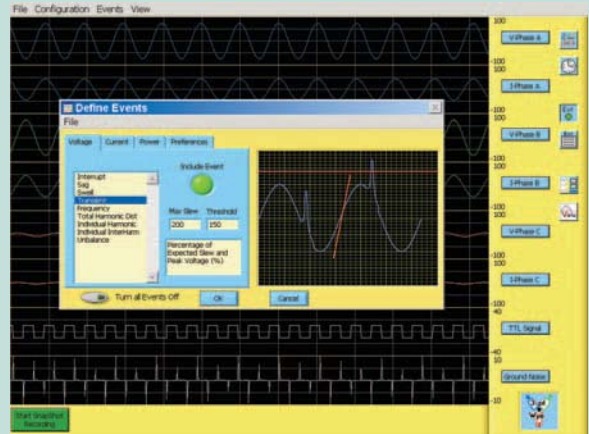
The Dash 8XPM with AstroPower lets you monitor and record transients and glitches for later review and analysis. Transients are sampled at 200 kHz per channel, which provides great resolution for identifying power glitches and other problems.

## TRANSIENT RECORDING



The Dash 8XPM will monitor your signals and trigger a capture on a pre-defined event. No data is recorded until your signals violate pre-defined parameters, optimizing hard drive space. The system will automatically re-arm after a capture so you won't miss capturing any power anomaly.

## TRANSIENT/SNAPSHOT EVENT SETUP



When a transient event occurs, the Dash 8XPM captures 100 milliseconds of pre-event data and 100 milliseconds of post-event data, giving you just the information you need while minimizing hard drive usage. Transient events are captured at a sample rate of 200 kHz per channel, quick enough to capture even the fastest glitch.

# review and analyze results

Once events, transients and continuous data have been captured, the AstroPower review software lets you quickly and easily review and analyze results. With no PC required for review and analysis, the system is the ideal on-site troubleshooting tool.

## INFORMATIVE REVIEW SCREENS

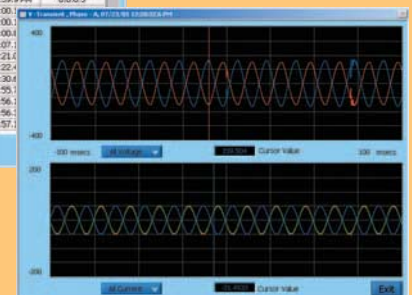


Use the marker text function to provide event labels for ease of viewing. Cursors are available for measurements and for zooming in on critical events.

Event	Phase	Date	Time	Duration
V-Sag 97 % IN	C	06/24/05	02:41:59.7 PM	
V-Sag 99 % OUT	C	06/24/05	02:41:59.9 PM	0:0.0.2
I-10MS Thresh 2 IN	AB	06/24/05	02:41:59.9 PM	0:1.5.4
I-4MS Thresh 2 IN	B	06/24/05	02:41:59.9 PM	
I-10MS Thresh 2 IN	C	06/24/05	02:41:59.9 PM	0:0.0.3
V-Sag 99 % OUT	A	06/24/05	02:42:00.1 PM	
I-10MS Thresh 2 OUT	C	06/24/05	02:42:00.1 PM	
I-10MS Thresh 2 IN	C	06/24/05	02:42:00.1 PM	
V-Sag 92 % OUT	B	06/24/05	02:42:00.1 PM	
I-4MS Thresh 1 IN	A	06/24/05	02:42:00.1 PM	
I-10MS Thresh 1 IN	B	06/24/05	02:42:00.1 PM	
I-4MS Thresh 1 IN	C	06/24/05	02:42:00.1 PM	
I-10MS Thresh 1 IN	AB	06/24/05	02:42:00.1 PM	
I-10MS Thresh 1 IN	AB	06/24/05	02:42:00.1 PM	
I-10MS Thresh 1 IN	AB	06/24/05	02:42:00.1 PM	
I-10MS Thresh 1 IN	AB	06/24/05	02:42:00.1 PM	

## EVENT LOG

AstroPower's event log allows you to pinpoint the anomaly of interest and jump right to it. It lets you quickly find the exact data point in a long capture.



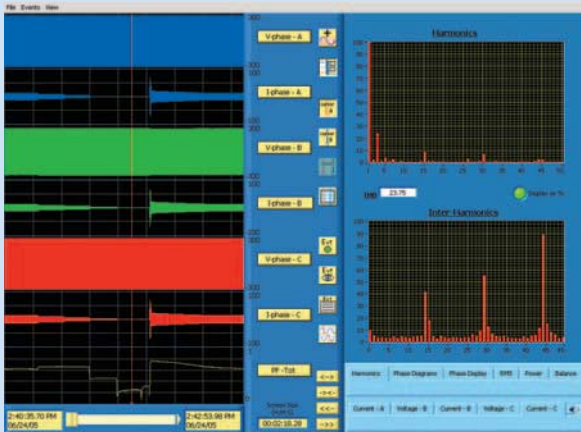
## TRANSIENT EVENT VIEWER

The system lets you evaluate transients captured at 200 kHz per channel with the transient event viewer. You can view one or all channels simultaneously for each event while cursors allow detailed measurements of your data.

# review and report your data

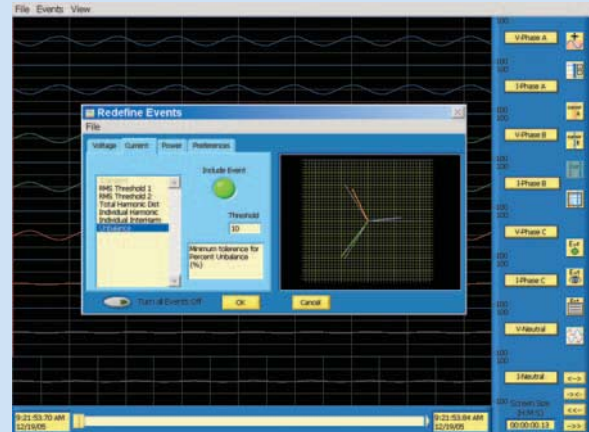
AstroPower lets you rescan captured files for power events, ideal for sorting your captured data. AstroPower's multifunctional review capabilities give the user all the information needed to evaluate and troubleshoot power quality issues.

## VIEWING WINDOW



The reviewer environment allows you to analyze a data capture in a number of ways. You can expand or compress your viewing area, scroll through your data or add additional plots of events that have been recorded.

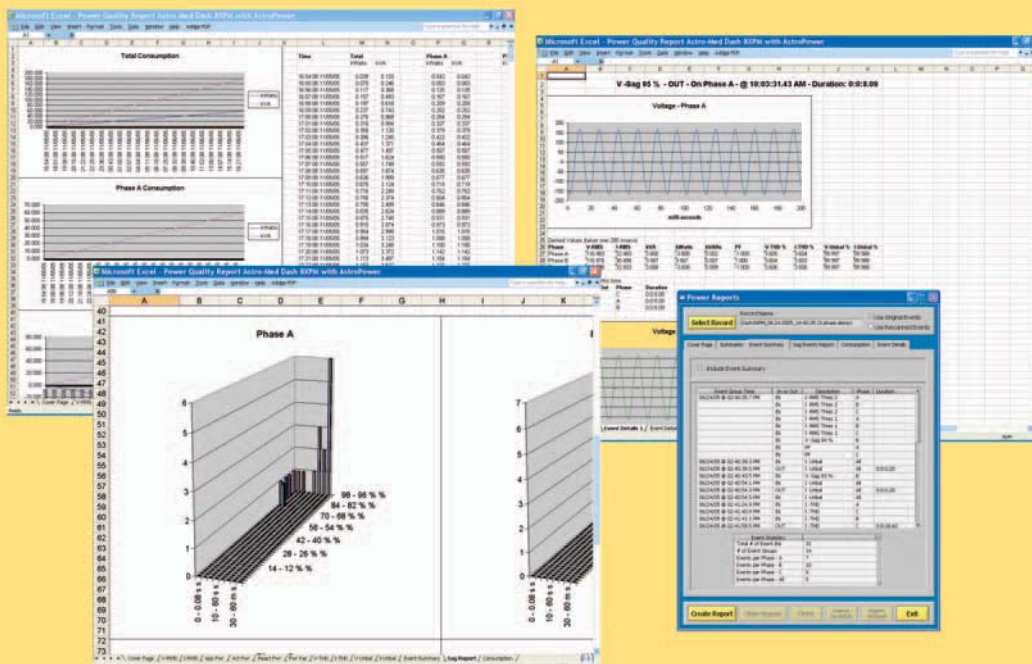
## REDEFINE EVENTS POST DATA CAPTURE



AstroPower's unique graphical interface gives the user the capability to rescan a previous capture to view specific events of interest and focus on data of interest.

# AstroPower - offline review

AstroPower Review is a versatile offline analysis package that is included with the Dash 8XPM. This offline tool provides the same review functionality as the Dash 8XPM on your personal computer. In addition, AstroPower Review features a comprehensive report generator, which compiles your data into clear, easy-to-read reports and exports them in either ASCII text or Microsoft Excel® format.





## SPECIFICATIONS

### Color Display

Display	Full screen waveform or split screen w/analysis
Waveform display	Voltage/current or phase groups
Viewing area	15-inch diagonal with 1024 x 768 resolution
Touch screen	Full-screen, resistive

### Signal Modules

Maximum modules	8 per unit
Supported modules	IHV1 – voltage/current phase IHV2 – voltage phase
Channels	4 voltage, 4 current (when no auxiliary channels are used) Modules 7 and 8
Auxiliary channels	Modules 7 and 8

### IHV1 Module

Maximum voltage	250Vrms CAT II
Bandwidth	39 kHz

### IHV2 Module

Maximum voltage	600Vrms CAT II, 300Vrms CAT III
Bandwidth	34 kHz

### Continuous Recording

Recording method	Internal disk drive
Sample rate	6,250 samples per second per channel
Drive capacity	73 GByte
Continuous Recording time	up to 88 hours (dependent on free disk space)

### Recorder Mode

Analysis	Real-time calculations
Continuous recording	All waveforms with one-button start/stop
Event logging	Simultaneous with continuous waveform recording

### Review Mode

Analysis	Post-capture calculations
Derived channels	Graphic plots of trend data. Includes Vrms, Irms, apparent power, real power, reactive power, power factor, frequency, THD, voltage unbalance and current unbalance

### Transient Mode

Sample rate	200,000 samples per second per channel
Event Logging	Yes

### Logged Event Types

Voltage	Interrupt, sag, swell, transient, frequency, total harmonic distortion, individual harmonic, individual interharmonic, unbalance
Current	Transient, RMS thresholds, total harmonic distortion, individual harmonic, individual interharmonic, unbalance
Power	Power factor, absolute power, active power, reactive power, leading/lagging

### Analysis Functions

Harmonics/Interharmonics	Graphical display for any phase (voltage or current); total harmonic distortion percentage
Phase diagrams	Vector diagrams for voltage and current
RMS values	Calculated for all phases, voltage and current
Power values	Absolute power (kVA), active power (kW), reactive power (kVAR) and power factor
Sequential components	Positive, negative, and zero sequence; voltage or current; percentage unbalanced

### Power

Input Voltage Range	102 to 264 VAC
Frequency Range	47 Hz to 63 Hz
Power Factor	0.99
Power Consumption	150 W maximum (<100 W typical)

### Physical

Enclosure	Aluminum
Dimensions	12.6" H x 16.7" W x 4.5" D
Weight	22 lbs (with 8 modules)

### Environmental

Operating Temp	5 to 40°C (40 to 105°F)
Operating Humidity	10% to 90% non condensing

Specifications subject to change. All registered trademarks belong to their respective companies.

## OTHER EXCITING PRODUCTS AVAILABLE FROM ASTRO-MED



**Dash 18X:** Features 18 channels of universal inputs, data acquisition to internal hard drive at 100 kHz sample rate per channel.



**Dash 8Xe:** Features 8 channels of modular inputs, data acquisition to internal hard drive at 200 kHz sample rate per channel.



**Dash 8HF:** Features 8 channels of analog inputs, data acquisition to internal hard drive at 2 MHz sample rate and 200 kHz bandwidth.

**AM** <sup>®</sup> **Astro-Med, Inc**  
TEST & MEASUREMENT PRODUCT GROUP

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Astro-Med is system certified to ISO9001.

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