

Using
DataView[®]
With Power Meters

PowerPad[®] Model 3945
PowerPad[®] Model 8335
PowerPad[®] Jr. Model 8230
Power Quality Meter Model 8220



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This section will provide walkthroughs of the PowerPad's various functions in DataView. The walkthroughs assume that the user has first connected the PowerPad to a PC successfully and launched the "Power Analyzer Control Panel". If this has not been done, refer to the tutorial [Part 1 – DataView Software Setup](#).

Note: With many of the types of data that are recorded to the PowerPad, it is necessary to configure the start and stop time for the recording. When the PowerPad is configured for a recording, it must remain turned on until the recording is finished or the recording will be canceled or incomplete. During this time though, it is not necessary for the PowerPad to remain connected to the computer. When the PowerPad is running on batteries, as long as the PowerPad is connected to the computer the battery life will shorten as the PowerPad screen will remain turned on and cannot enter sleep mode. When LCD is in sleep mode the PowerPad will still make the scheduled recording and can be brought out of sleep mode at any time by pressing any key, this will extend the battery life of the unit.

Trend Recordings

Trend recordings allow the user to log large amounts of data over an extended period of time. These recordings can be set up and initiated in the Control Panel in addition to being viewed and analyzed. The first part of this section will explain how to set up a recording in the control panel. The second part of this section will explain how to view and export the data to DataView or to MS Excel.

1. Configuring a Trend Recording

1. Begin by selecting "Configure" from the "Instrument" menu of the control panel.
2. When the "Configure the Instrument" window opens, select the "Recordings" tab from the top of the window. This will display the options for setting up a trend recording.

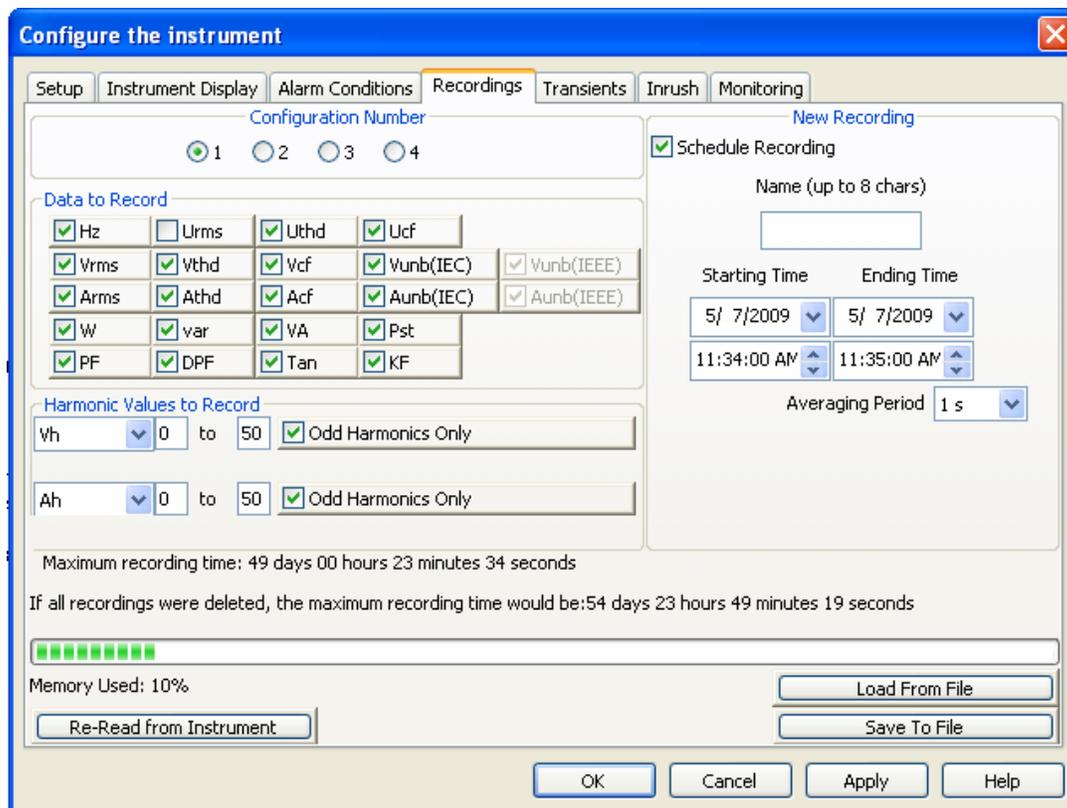


Figure 1

- The **Configuration Number 1, 2, 3 or 4**, offer the user four different sets of recording configurations. More configurations can be saved by pressing **“Save to File”** and recalled later by pressing **“Load From File”**.
- Check the box next to each parameter to recording the **“Data to Record”** section.

Choices include:

Vrms: voltage root mean squared

Urms: voltage phase to phase root mean squared

Arms: current root mean squared

Vcf: voltage crest factor

Ucf: voltage phase to phase crest factor

Acf: current crest factor

Vunb: voltage unbalance (IEC & IEEE)

Aunb: current unbalance (IEC & IEEE)

Hz: frequency

Vthd: voltage total harmonic distortion

Uthd: voltage phase to phase total harmonic distortion

Athd: current total harmonic distortion

W: active power

PF: power factor

DPF: displacement factor

VA: apparent power

var: reactive power

Tan: tangent

Pst: short-term flicker

KF: k factor

- **Harmonic Values to Record.** It is possible to record up to 2 of 4 types of harmonic data, voltage (Vh), current (Ah), phase to phase voltage (Uh), and power (VAh). For each selected harmonic data type, you can choose a range of harmonics to record from the 1st to 50th. You can further limit that range to only include odd numbers by checking the box for **“Odd Harmonics Only”**.
 - Checking the box next to **Schedule Recording** activates the recording function allowing the user to set the date and time for the recording to begin and end. The bottom left hand side of the **Recordings** tab shows the user how long of a recording they can make with the data parameters they have chosen to record, the averaging period they have chosen, and the remaining memory on the PowerPad. It also tells the maximum recording time if the memory on the PowerPad was cleared and how much memory is currently being used.
 - **Averaging Period** sets how often the recording saves data, there durations are 1s, 5s, 20s, 1min, 2min, 5min, 10min and 15min, The PowerPad works by saving data every time the averaging period passes and the data that is saved is the average of all the data seen during that period. For instance, looking at a Vrms recording with an averaging period of 1 minute would show, for each minute, the average Vrms.
3. Select a **“Configuration Number”** out of the four possible. The configuration numbers allows the user to set up four different sets of recording criteria. While it is only possible to one configuration per recording the settings off all four Configuration Numbers is stored on the PowerPad for later usage.
 4. Under **“Data to Record”**, select the parameters to record by clicking the boxes next to them.

- Under “**Harmonic Values to Record**” it is possible to record harmonic values for up to two types of data which are selected from the drop down lists: Uh, Vh, Ah, and Vah. If no harmonic values are needed select “**None**” from the drop-down menus to deactivate the functions.
- Now, check the box next to “**Schedule Recording**”. This will display the options to set up the recording time and sampling rate. Enter a name for the recording to be saved under, which can be up to eight characters long. Select the starting and ending, date and times for the testing.
- Finally, select the “**Averaging Period**” from the drop-down menu. This sets how often the recording stores data.

Note: The starting time and recording duration must be a multiple of the recording rate. If you are not scheduling for seconds, this should only affect recordings with an averaging period over 1 minute.

- After finalizing all the settings, click “**OK**” or “**Apply**” to apply the settings to the PowerPad. Confirm that the recording is scheduled by looking under the “**Status**” portion of the “**Instrument**” window.
- Ensure the PowerPad is hooked up properly to make the recording and that it remains on until the recording is completed, if it is turned off at any point the recording will end. The PowerPad will make the recording regardless if it is connected to the computer or not as long as it never shuts down until the recording is finished.

2. Viewing a Trend Recording

- After the recording is completed, to view the recorded data click “**Recorded Data**” under the “**Instrument**” toolbar and then select the “**Recordings**” tab in the Recorded Data in Instrument window.

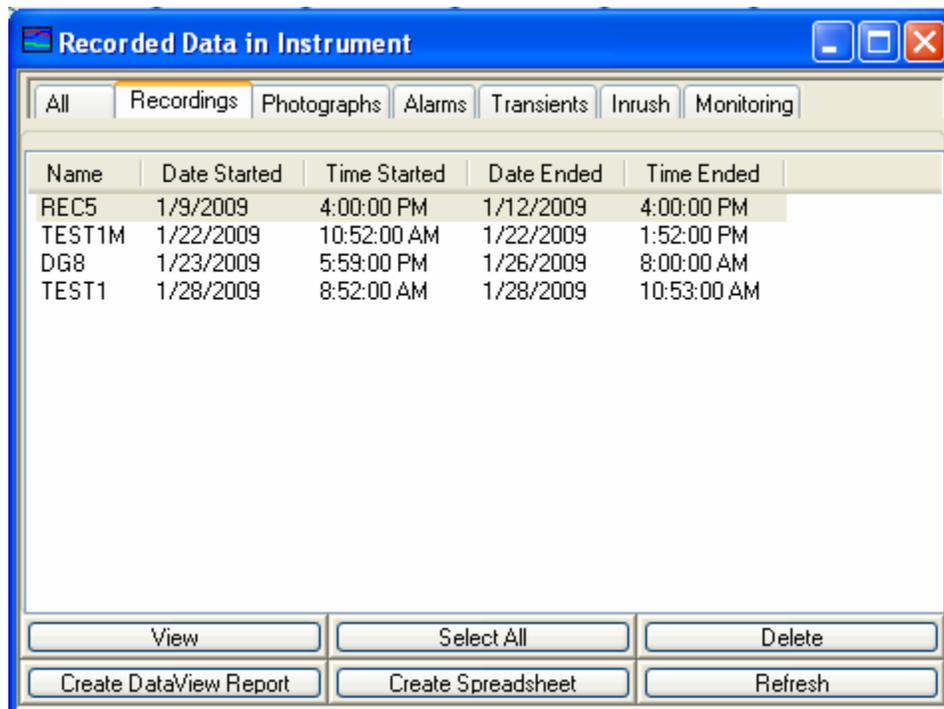


Figure 2

- In the **“Recordings”** tab all the trend recordings stored on the PowerPad will be shown as a list. To view a recording that was made, select it from the list and click the **“View”** button. Depending on the length of the recording, it may take some time to download and a small window will appear indicating the download progress. The recording can also be viewed by selecting them from the recordings drop-down menu in the instrument window.
- Once the download is complete, a window will appear showing the data from the **“Trend Recording”** as a graph. If the recording is long, a summary of the recording will be shown while the complete file is downloaded in the background. When this happens, the title of the **“Trend”** window will include **“Summary”** until the download is complete. Also, the bottom left hand of Control Panel will display the status and time remaining on the download. When the download is complete, **“Summary”** will disappear from the title.
- The Trend window allows you to view all the data types you have chosen to record by clicking the button to next to the data name in the top of the window.

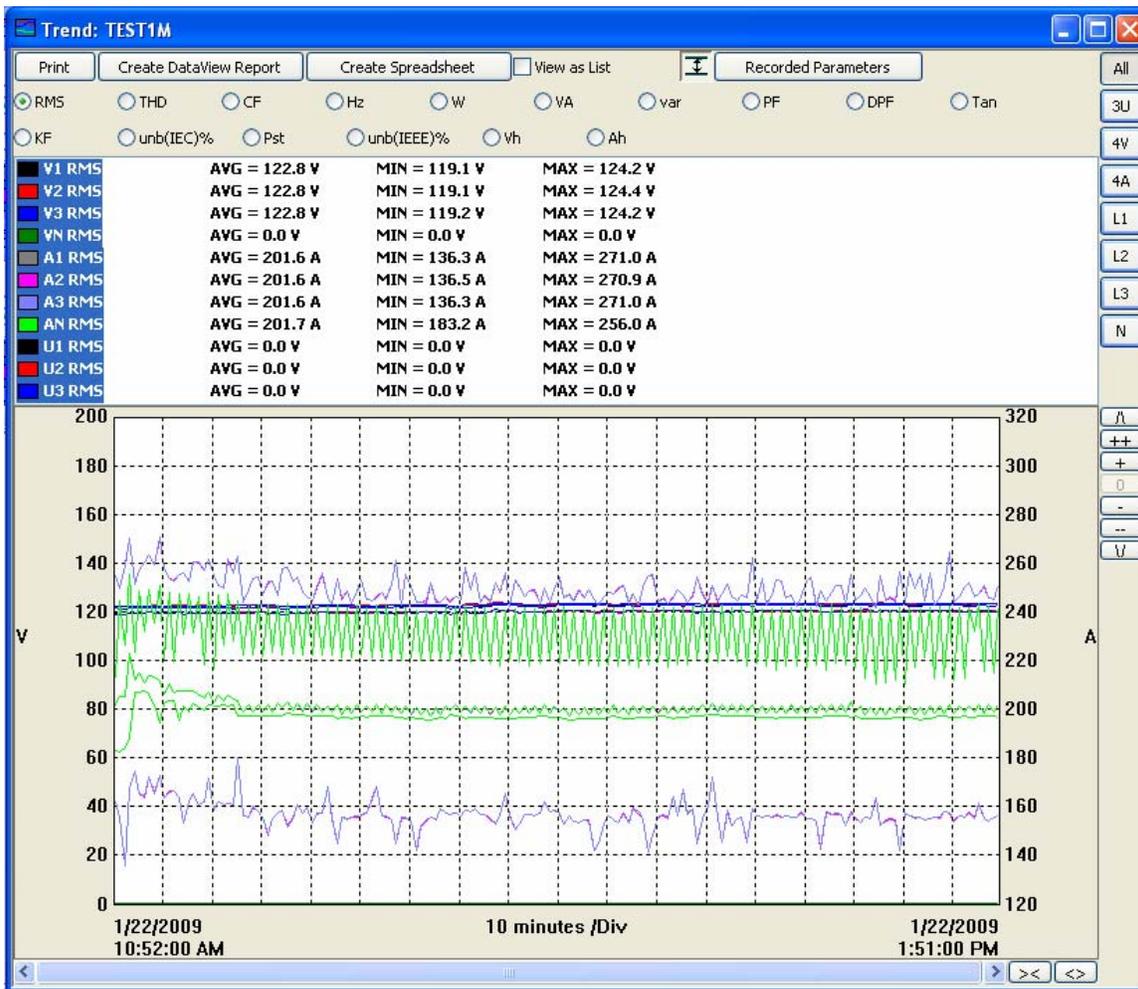


Figure 3

- Checking the **View as List** check box shows all the waveform data as a list of numerical data points.
-  This button graphs the min and max values along with the nominal value.
- **All, 3U, 4V, 4A, L1, L2, L3, and N** choose which channels will be displayed. (Depending on which model there will be less channel options.)
- **Recording Parameters** allows the user to set Primary and Secondary voltage parameters.

- To the right of the graph there will be a vertical string of button to modify the graph view:
 - **▲** scrolls the graph up
 - **▼** scrolls the graph down
 - **+** zooms in on the graph
 - **++** zooms in faster
 - **-** zooms out on the graph
 - **--** zooms out faster
 - **0** restores the default graph view
 - At the bottom of the graph there is a scroll bar and two horizontal buttons that change the time scale of the graph
 - **><** decreases the time scale making the graph longer
 - **<>** increases the time scale making the graph shorter
 - **Create DataView Report** inserts the data into a DataView report which you can then view, modify and save.
 - **Create Spreadsheet** saves the data in a MS Excel spreadsheet which you can then view and modify.
 - **Print** prints what you are currently viewing in the window.
5. It is now possible to view the data as DataView Report or as a Spreadsheet if desired. If the file is not completely downloaded to the computer when you select to make a DataView Report or Spreadsheet, the computer will ask if you want to use the summary data otherwise it is necessary to wait for the report to fully download before exporting the data.

3. Creating a DataView Report

1. From either the **“Recorded Data”** window, after selecting the desired recording, or from the **“Trend”** window, click the **“Create DataView Report”** button to send the data to DataView.
2. If the recording is small enough, it will insert it directly into the report. For larger recordings though, it is not possible to fit the entire recording into one file so a window titled **“Too much data to save in 1 file”** will appear. From this window the user can select to reduce the number of data points in the file, the number that is automatically shown in the minimum reduction for that file to fit the entire time frame in one report. If the user wishes to retain more data points, they can reduce the time period of data that is being analyzed.

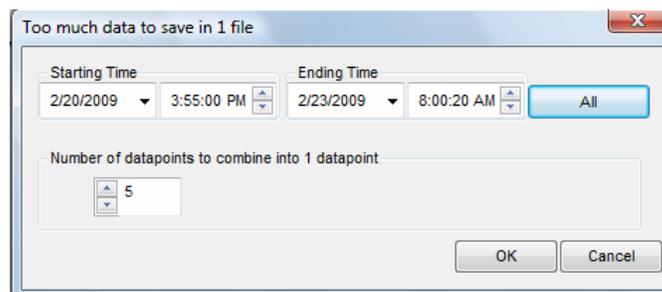


Figure 4

3. The data should now be inserted into a DataView Report using the relevant template.

4. Saving the Data to a Spreadsheet

1. From either the “Recorded Data” window, after selecting the desired recording, or from the “Trend” window, click the “Create DataView Report” button to send the data to DataView.
2. A “Save As” window will appear requesting that a name and location to save the spreadsheet file be chosen. It also allows the file to be saved as the default .xls file (MS EXCEL) or as a .csv file. When finished, click the “Save” button.

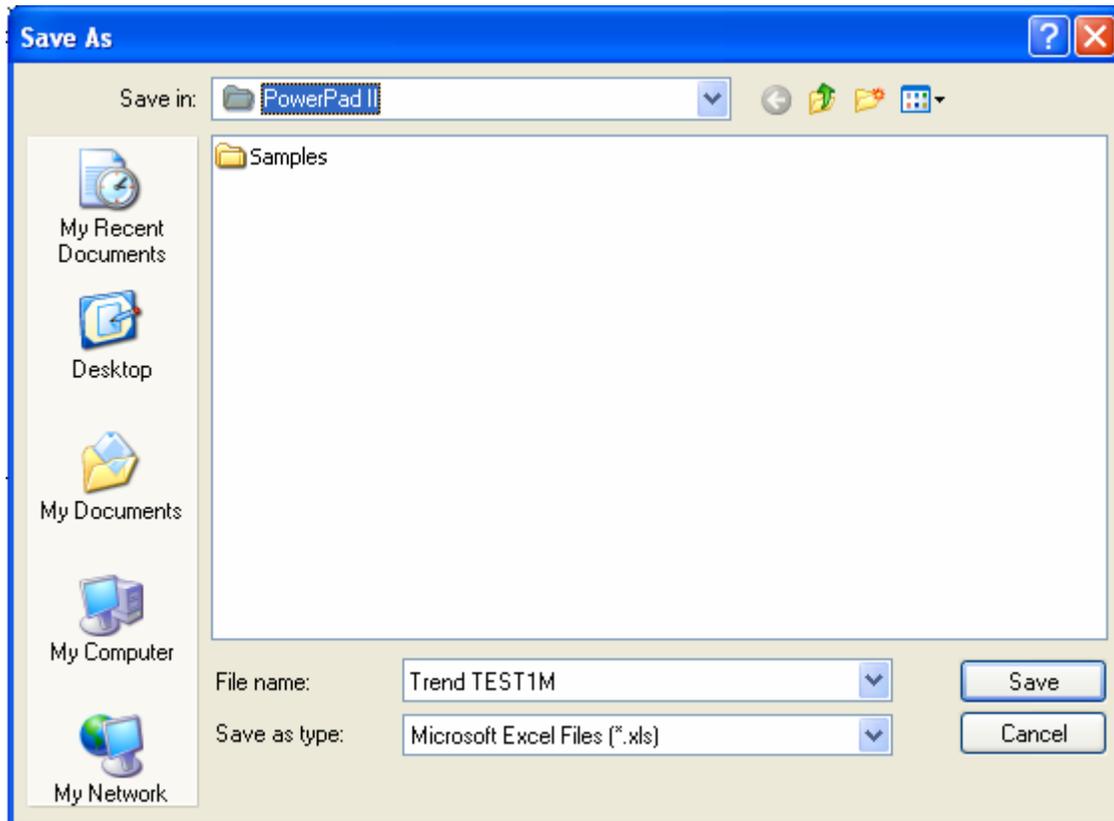


Figure 5

Note: Some recordings will be too large to record to one spreadsheet, so the data will be saved as separate sequentially labeled spreadsheets where the data is broke up by time periods.

3. After saving the spreadsheet a window will appear asking if viewing of the spreadsheet is desired. If “Yes” is clicked, the corresponding spreadsheet will open.