

PQDIF File Viewer Utility

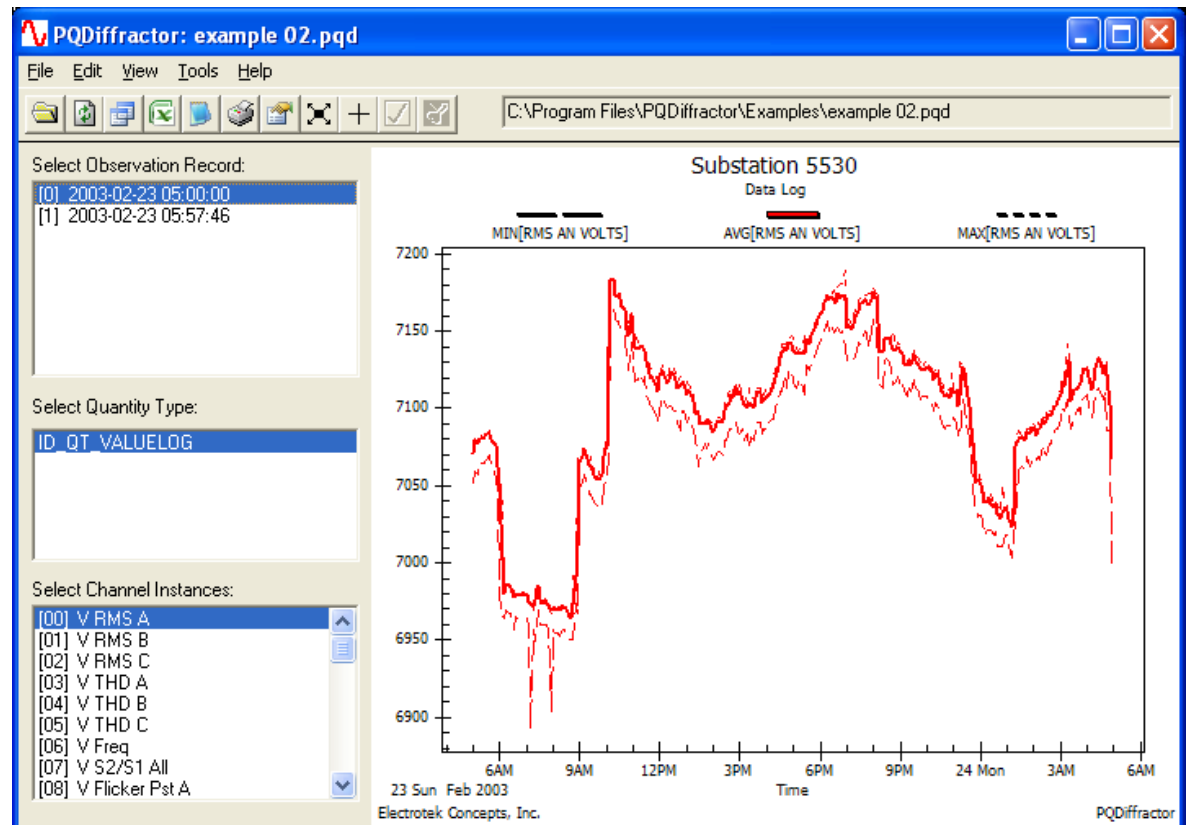
PQDIFFRACTOR

IEEE Std 1159.3

- A 2003 standard written by the IEEE P1159 Working Group on Power Quality Monitoring that specifies a very precise way for exchanging data between software applications using a binary data file format.
- Structured Format
 - Container Record
 - Channel Settings Record
 - Monitor Settings Record
 - Observation Record
- GUIDs and IDs identify the data stored in the records
 - GUID: Globally Unique Identifier

PQDiffractor

- PQDiffractor is a free PQDIF file viewer utility developed by Electrotek Concepts for browsing, diagnosing, and converting PQDIF files.

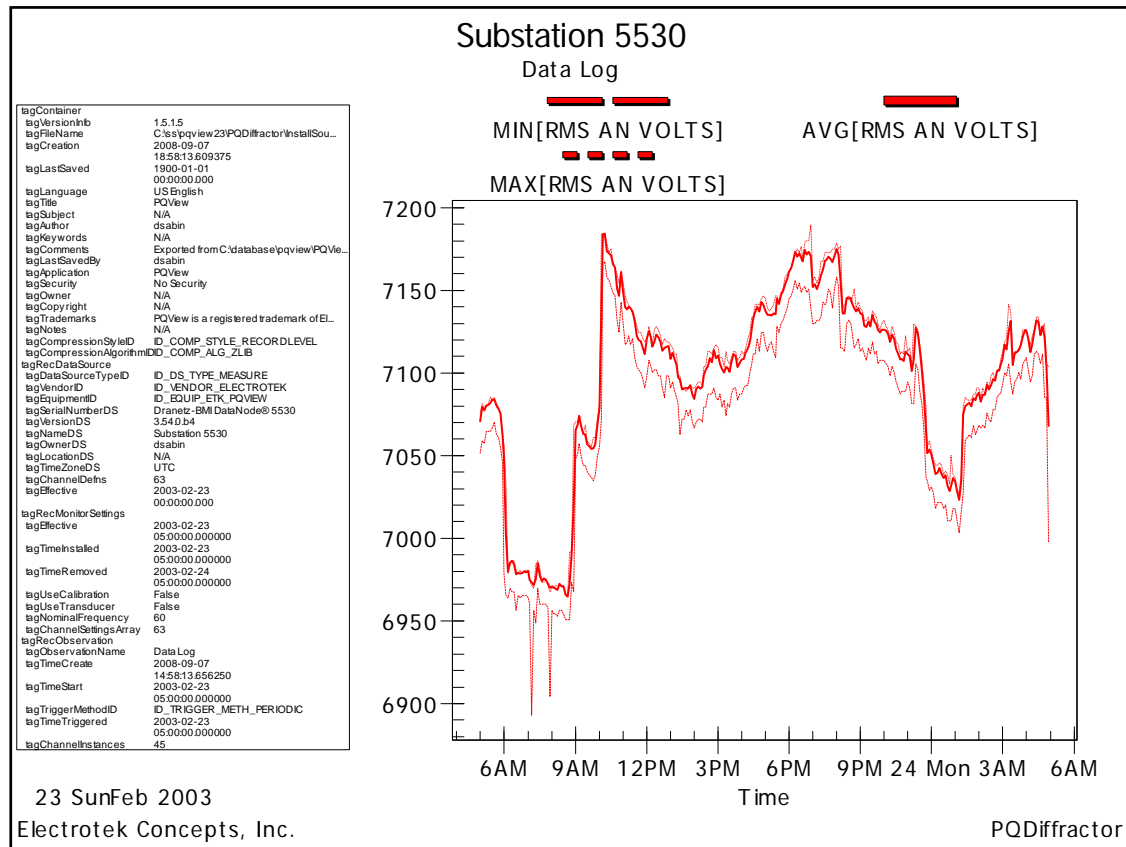


PQDiffactor Functions

- Read binary PQDIF Files
- View lists of data source records in each PQDIF file
- View list of observation records stored in each PQDIF file
- View lists of quantity types associated with each observation record
- View list of channel instances associated in each observation record
- View tags and values from records, definitions, and instances stored in PQDIF files as tables

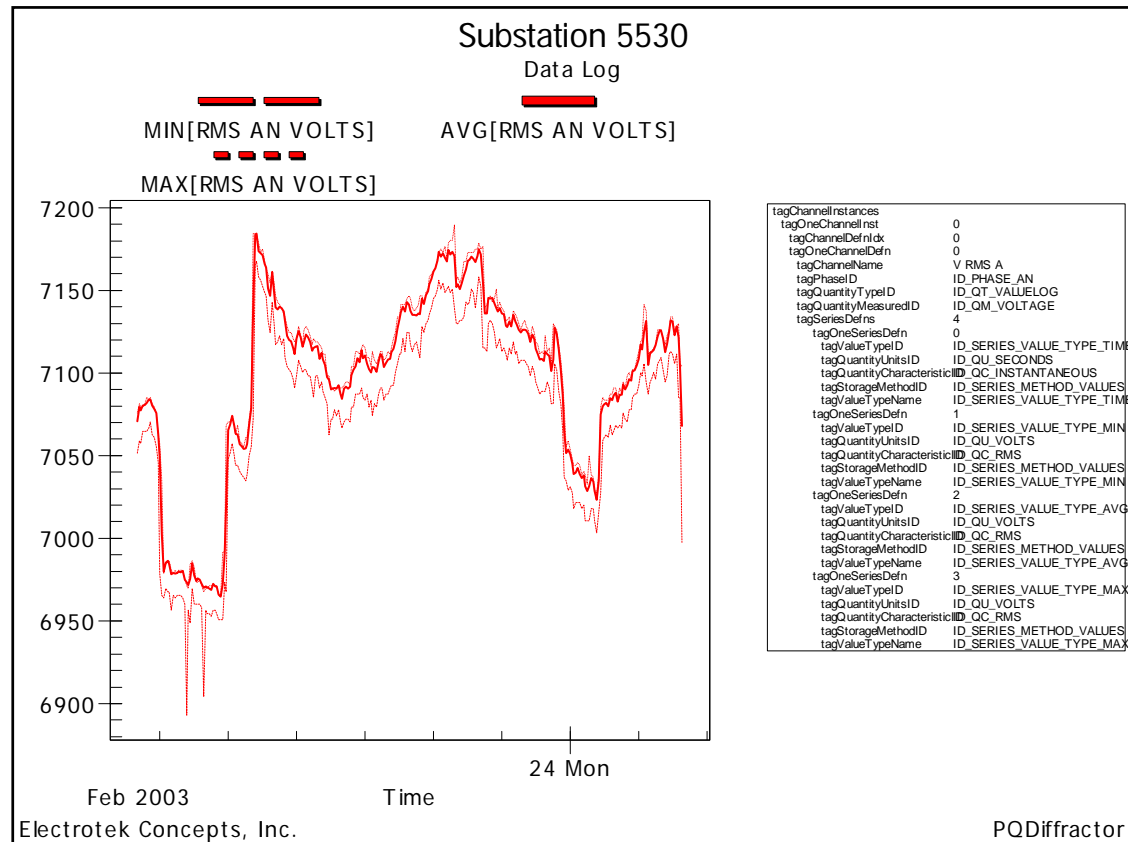
PQDiffractor Functions

- View container, record source, and monitor settings record in a summary table by using menu command **View|Record Table**.



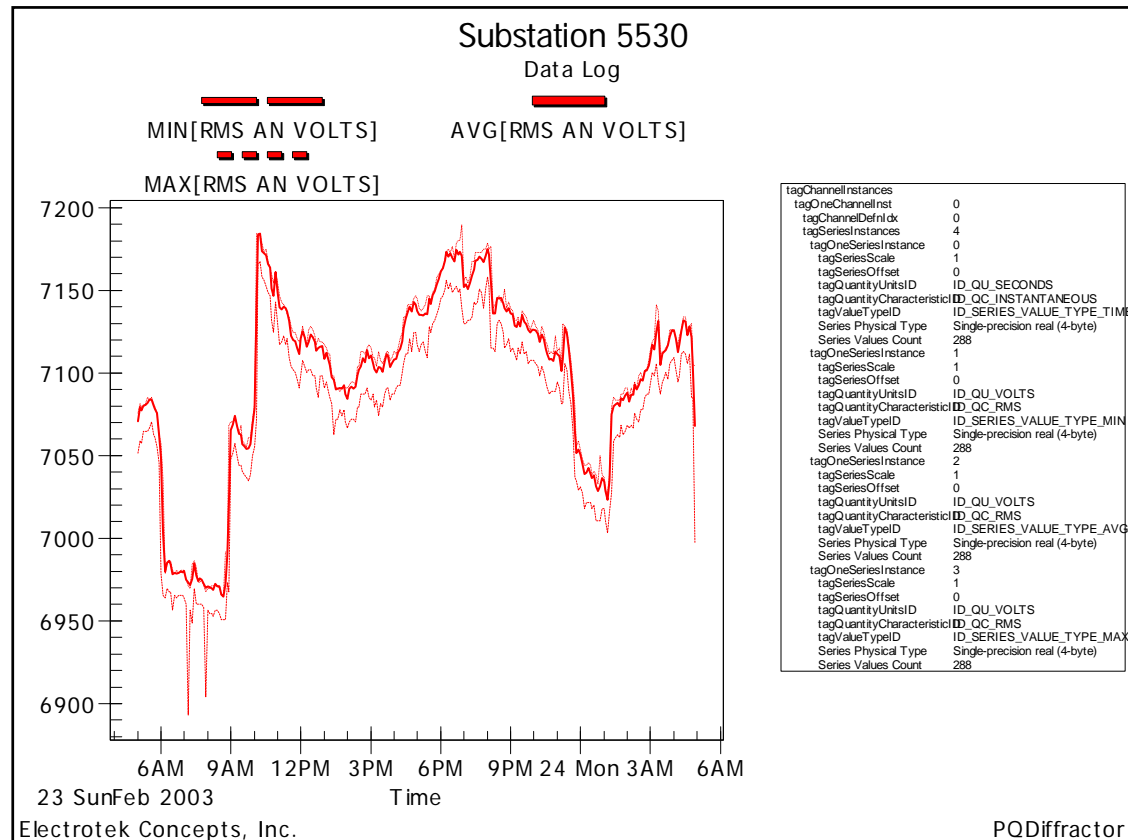
PQDiffractor Functions

- View channel definition and series definitions by using the menu command **View|Channel Definitions**.



PQDiffractor Functions

- View channel definition and series instances by using the menu command **View|Channel Instances**.

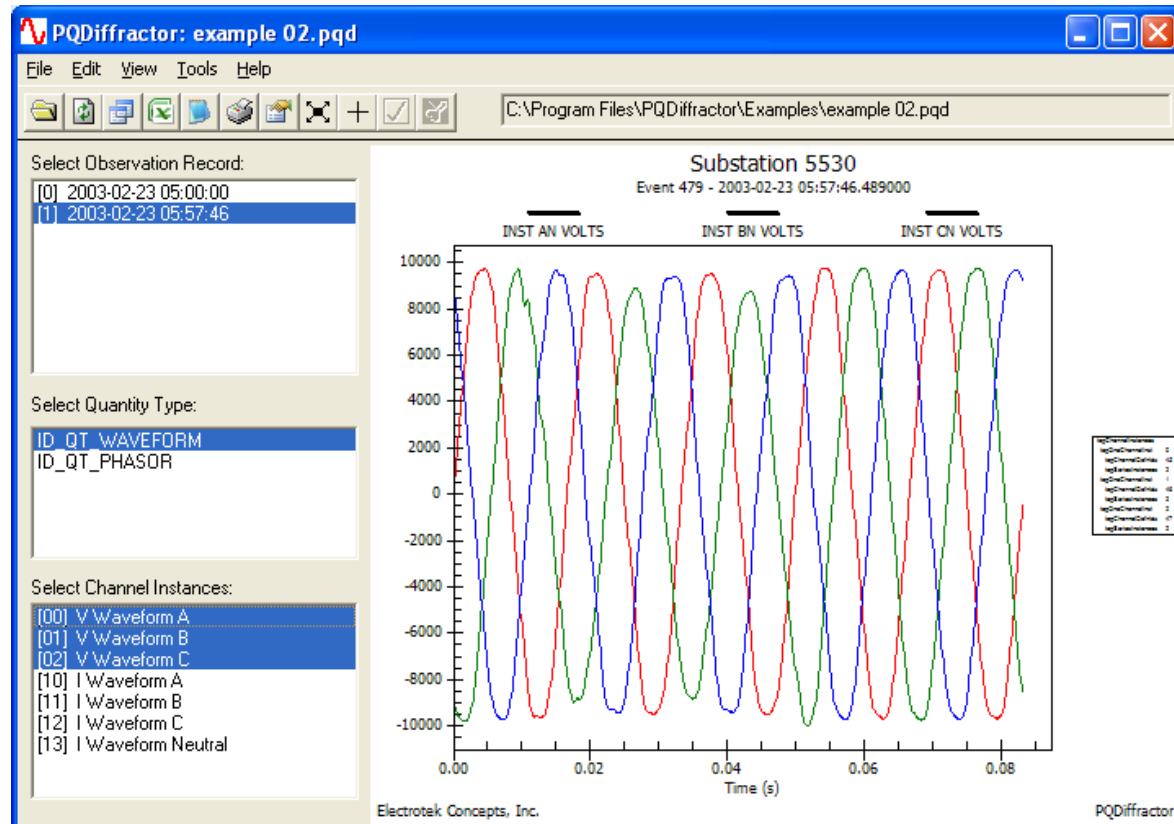


PQDiffractor Charting Functions

- Create interactive charts from observations with channels of any quantity type
 - value logs, waveforms, phasors, mag-dur-time, mag-dur, response, X-Y, X-Y-Z, flash density, cumulative probability frequency, histogram, 3D histogram

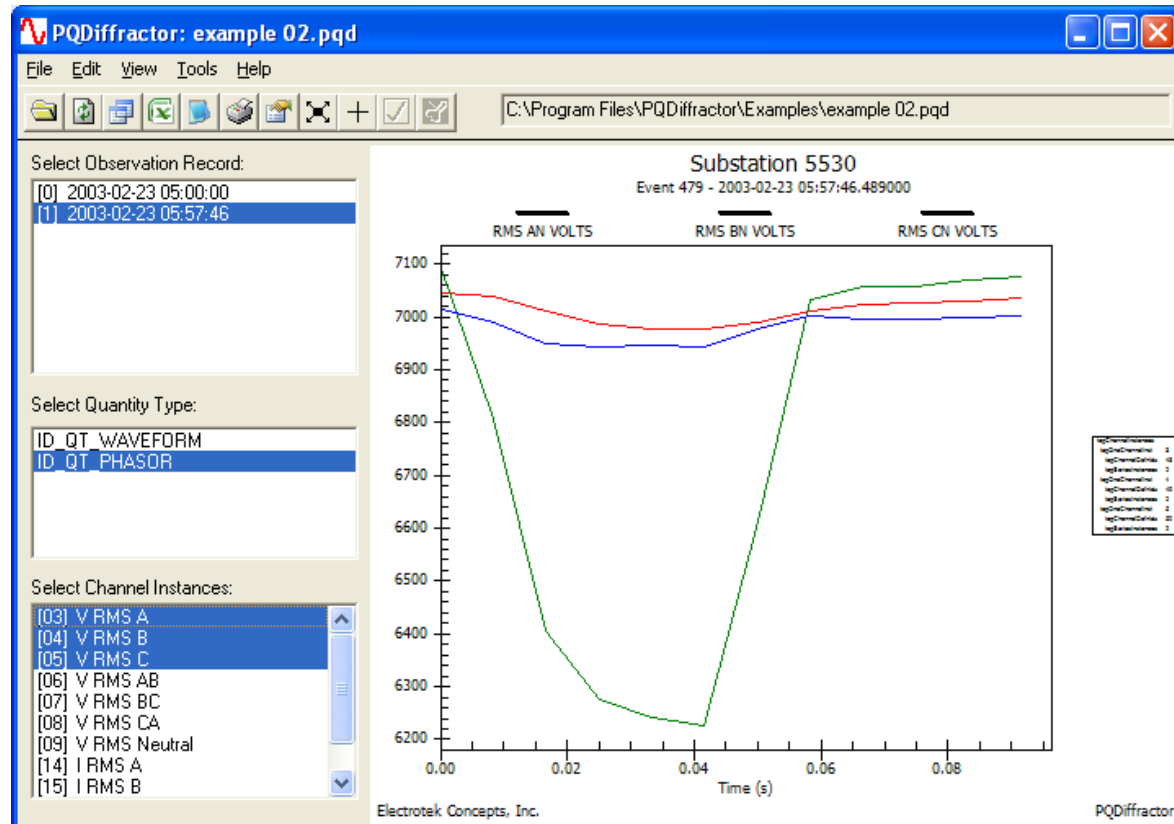
PQDiffractor Charting Functions

- Example chart showing three channel instances of an observation tagged as a waveform quantity type



PQDiffractor Charting Functions

- Example chart showing three channel instances of an observation tagged as a phasor quantity type

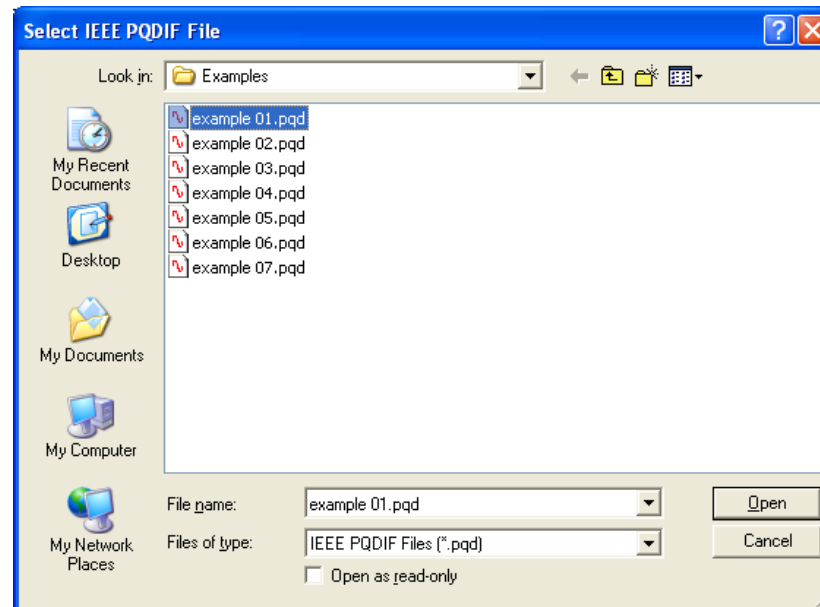


PQDiffractor Export Functions

- Export charts to numerous graphical formats
 - Enhanced metafile (EMF)
 - Windows metafile (WMF)
 - Windows bitmap (BMP)
 - JPEG Image (JPG)
 - Portable Network Graphics (PNG)
- Export displayed observations as text files
 - Direct export to Microsoft Excel
 - Export as CSV file

PQDiffractor Tool Strip Commands

- Opens a file dialog box to select an existing PQDIF file



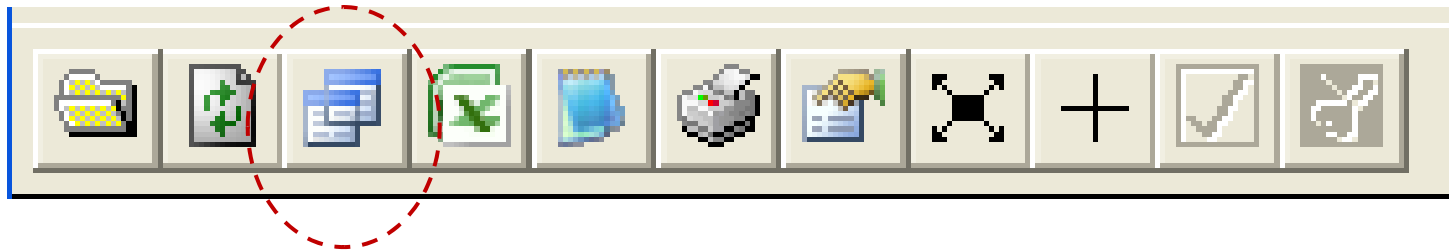
PQDiffractor Tool Strip Commands

- Reloads the PQDIF File and rebuilds the chart



PQDiffractor Tool Strip Commands

- Copies the chart to the Windows Clipboard as a metafile



PQDiffractor Tool Strip Commands

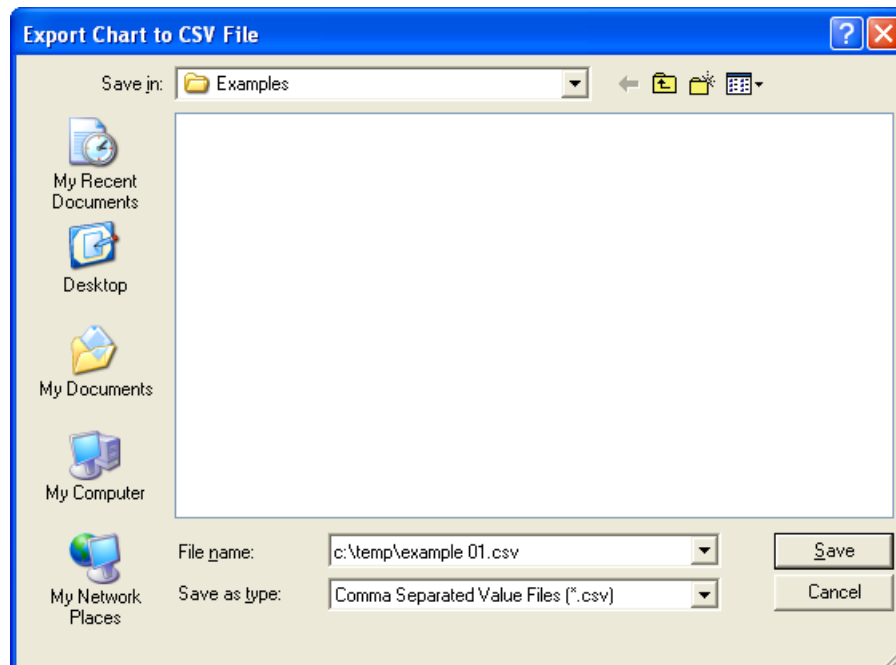
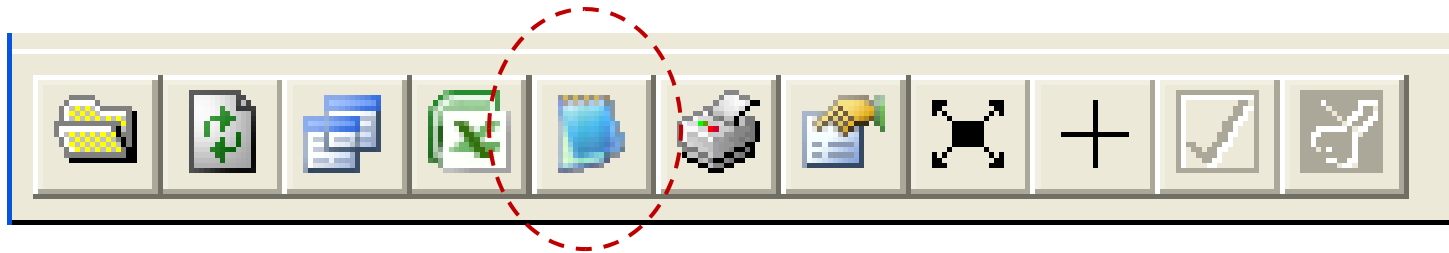
- Exports the data from the current chart of Microsoft Excel



	A	B	C	D
1	Substation 5530			
2				
3	Time (s)	INST AN VOLTS	INST BN VOLTS	INST CN VOLTS
4	0	37.3396492	-8856.138672	8953.740234
5	0.000130191	485.4154358	-9080.723633	8680.876953
6	0.000260383	940.9591675	-9230.447266	8369.939453
7	0.000390574	1366.631104	-9372.68457	8014.581543
8	0.000520766	1822.174927	-9462.518555	7614.804199
9	0.000650957	2247.846924	-9544.866211	7246.755371
10	0.000781148	2703.390625	-9589.783203	6834.286621

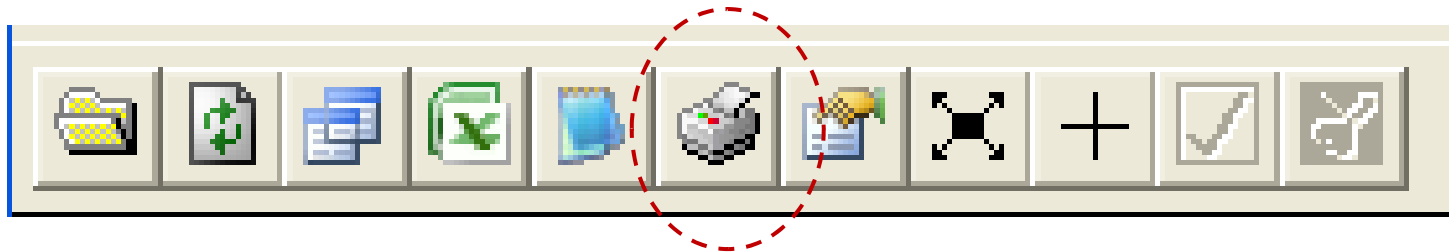
PQDiffractor Tool Strip Commands

- Exports the data from the current chart to a CSV file



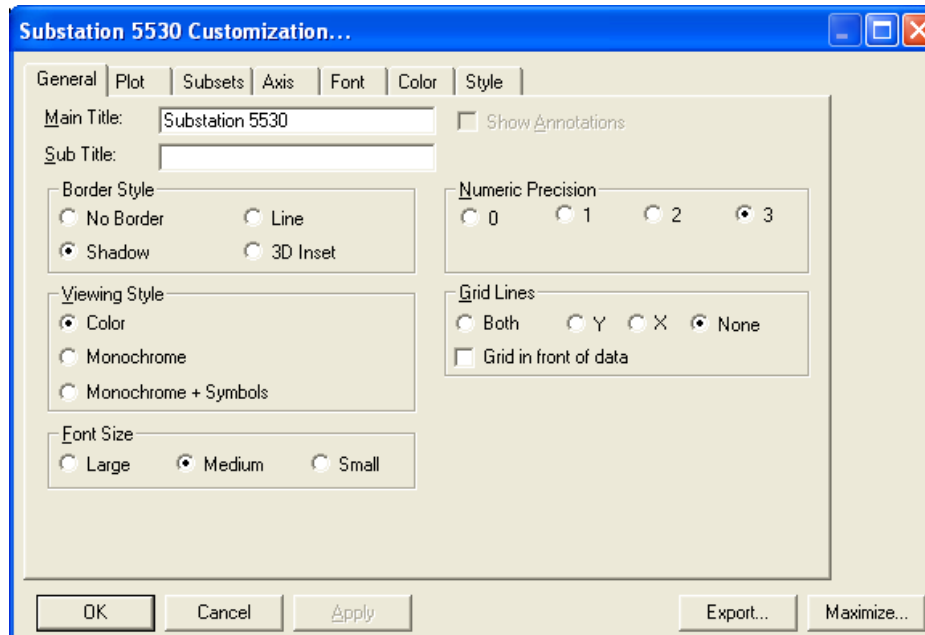
PQDiffractor Tool Strip Commands

- Prints the current chart



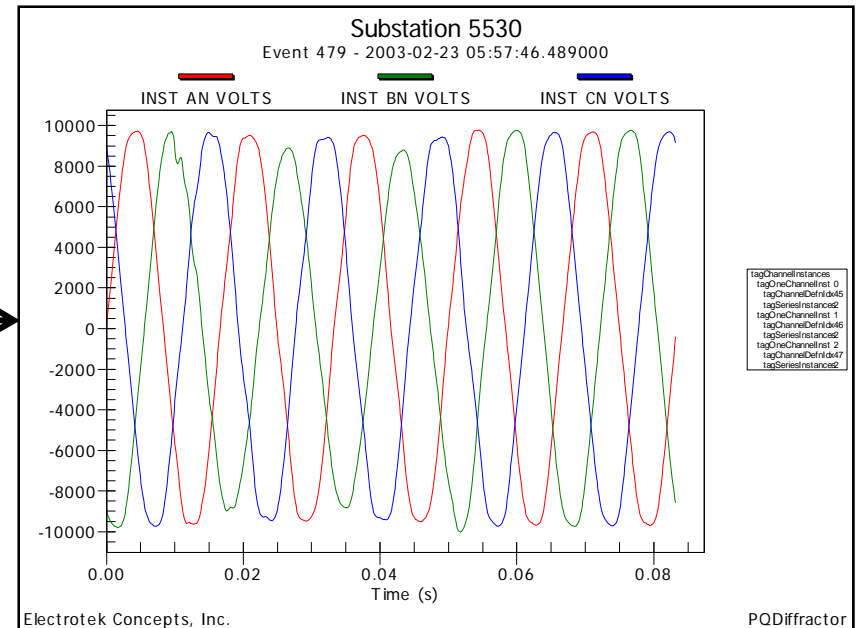
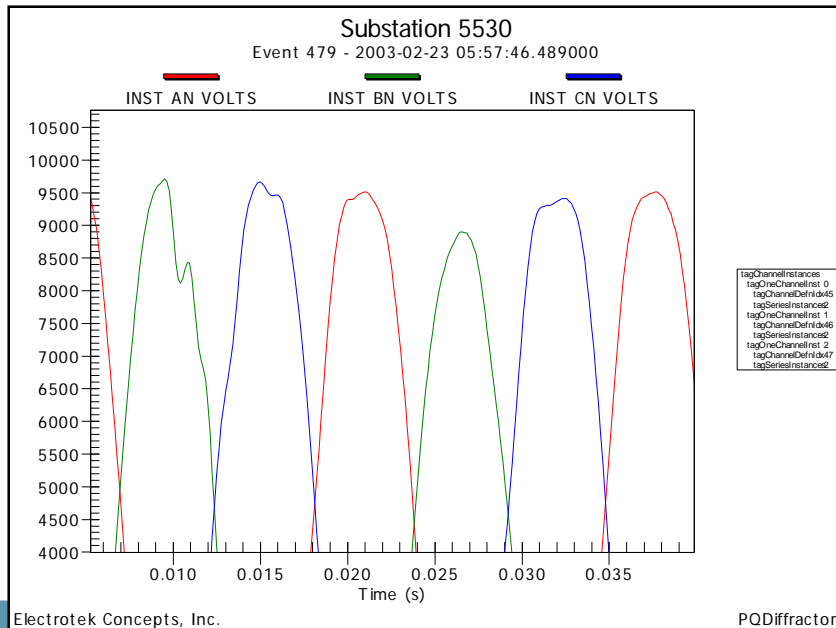
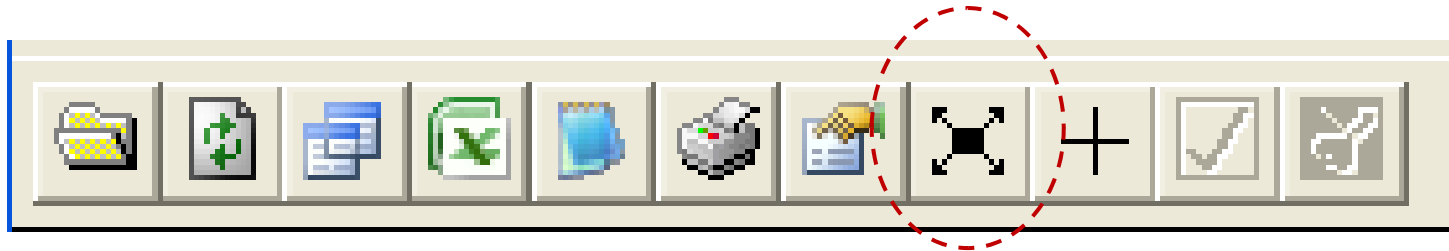
PQDiffractor Tool Strip Commands

- Opens a Chart Properties Dialog box



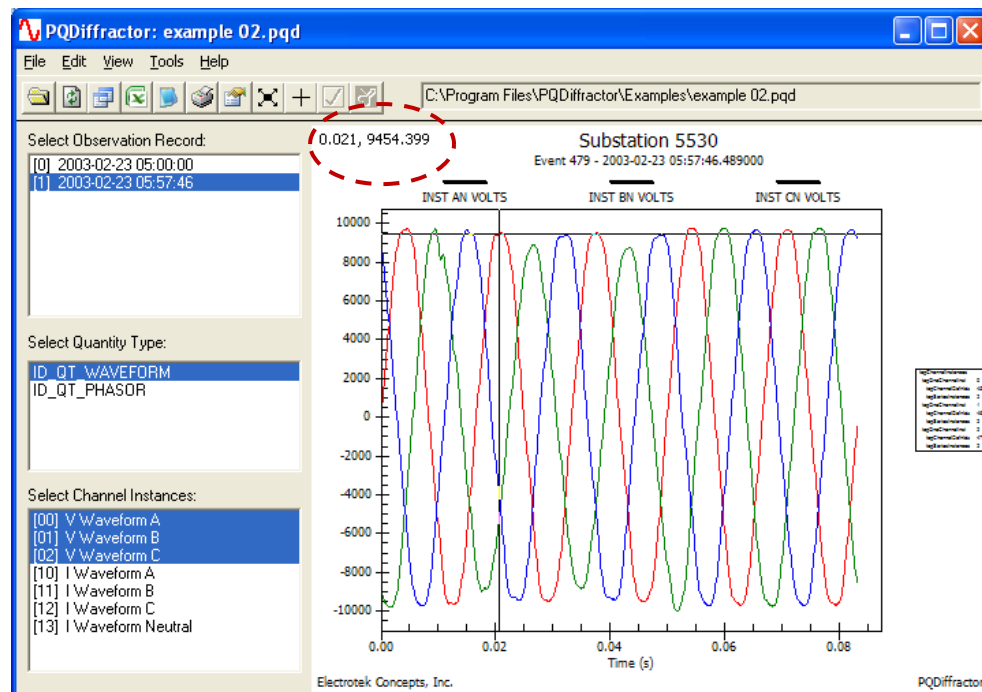
PQDiffractor Tool Strip Commands

- Unzooms the current chart



PQDiffractor Tool Strip Commands

- Adds a crosshair cursor to the chart

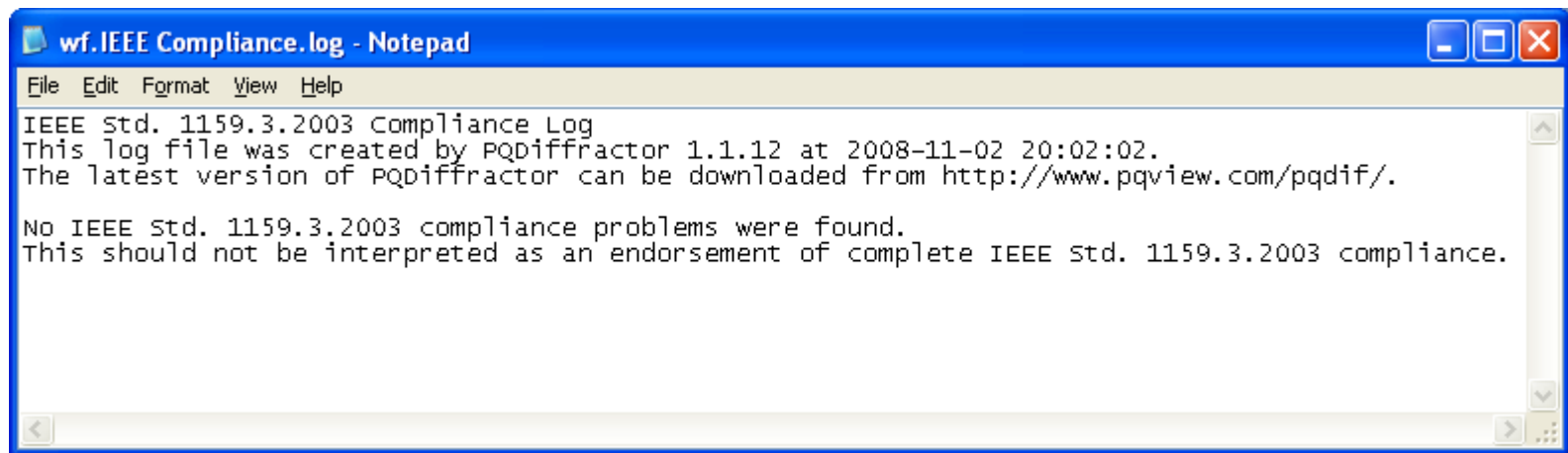


PQDiffactor Conversion Functions

- Convert from native binary PQD to XML
 - Use the menu command **File | Save As | XML**.
 - This allows you to read or browse a PQDIF file using a text or XML parser.
- Convert from native binary PQD to XML Structure
 - Use the menu command **File | Save As | XML Structure**.
 - Export the structure and definitions of the PQDIF file, but only a maximum of three sample values per series instance
- Future Planned Development
 - convert from XML to native binary PQD

Determine IEEE 1159.3 Compliance

- Determine numerous IEEE Std 1159.3 compliance issues
 - Mark the check box menu option under **Tools | Log IEEE Compliance** when reading a file.
 - Make sure that you have write access to the folder where the PQDIF file is located in order to allow a LOG text file to be created.



```
File Edit Format View Help
IEEE Std. 1159.3.2003 Compliance Log
This log file was created by PQdiffactor 1.1.12 at 2008-11-02 20:02:02.
The latest version of PQdiffactor can be downloaded from http://www.pqview.com/pqdif/.

No IEEE Std. 1159.3.2003 compliance problems were found.
This should not be interpreted as an endorsement of complete IEEE Std. 1159.3.2003 compliance.
```

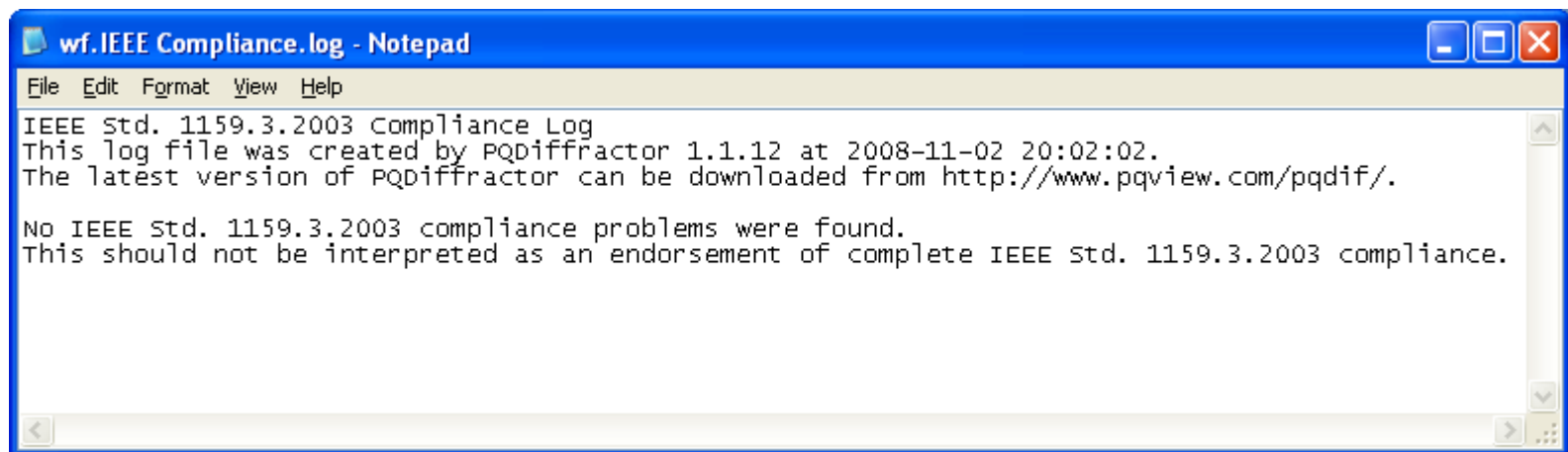
Determine PQView Compatibility

- Determine numerous PQView compatibility problems
 - Mark the check box menu option under **Tools | Log PQView Compatibility** when reading a file.
 - Make sure that you have write access to the folder where the PQDIF file is located in order to allow a LOG text file to be created.

```
wf.PQView Compatibility.log - Notepad
File Edit Format View Help
PQview Compatibility Log
This log file was created by PQdiffractor 1.1.12 at 2008-11-02 20:02:02.
The latest version of PQdiffractor can be downloaded from http://www.pqview.com/pqdif/.
No PQview compatibility problems were found.
This should not be interpreted as an endorsement of complete PQview compatibility.
```

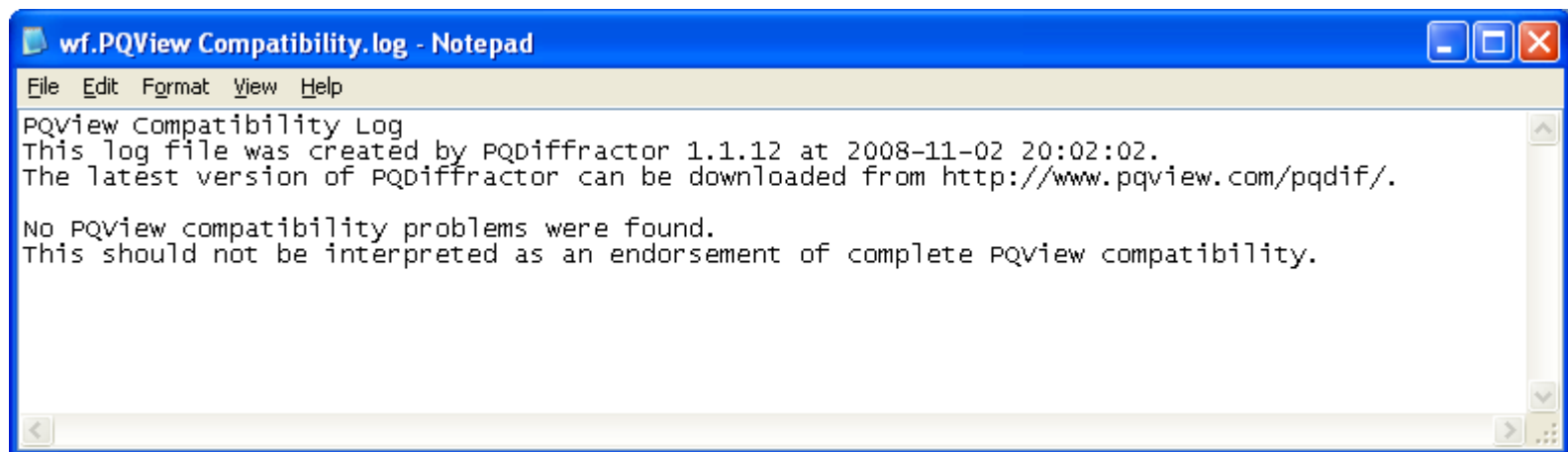
More PQDiffactor Tool Strip Commands

- Opens the IEEE 1159.3 Compliance Log Text file if created by using the menu command **Tools | Log IEEE Compliance** when the file was read.



More PQDiffactor Tool Strip Commands

- Opens the IEEE PQView Compatibility Log Text file if created by using the menu command **Tools | Log PQView Compatibility** when the file was read.



Associate PQD Files with PQDiffactor

- When PQDiffactor opens a PQDIF file, if the PQD file extension is not associated with a program already, then PQD files will become associated with PQDiffactor automatically.
 - This will allow you to double-click on a PQD file in Windows Explorer to launch PQDiffactor automatically.
- If you want to manually associate PQD files with PQDiffactor, then use the menu command **Tools | Options**.

Drag and Drop from Windows Explorer

- PQDiffactor supports OLE drag and drop, which means that you can drag one or more files from Windows Explorer onto an open PQDiffactor application window.
- Dragging multiple files is most useful when trying to determine IEEE compliance or PQView compatibility for more than one file.

PQDiffraction Configuration File

- The user can edit a configuration file named PQDiffraction.ini in PQDiffraction application folder.
- The user can modify the numerous chart defaults:
 - desk color, back color, fore color, text color, shadow color
 - font
 - Bitmap gradient mode, quick style
 - Grid line control, grid style,
 - Subset colors 0 to 15

PQDiffractor Availability and Installation

- PQDiffractor is developed by Electrotek Concepts. The latest installation program can be downloaded from the following PQView web sites:
 - www.pqview.com
 - www.pqview.net
- PQDiffractor is installed using an installation program named PQDiffractorSetup.exe.
- It has been tested with Microsoft Windows 2000, Windows XP, Windows 2003, and Windows Vista.
- For support or feedback, send an e-mail message to the following address:
 - pqdif@electrotek.com