WAVEWIN

FILE MANAGER HELP

SOFTSTUF INC.

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Fields & Features

This chapter describes all of the fields and features available in the software. They are listed alphabetically for your convenience.

ACTIVE TOPIC - HELP

Location: All child windows

Description: Display the active window's Help file.

Activation: *Direct:* F1
Menu: Alt-(H) Help, (T) Active Topic…

Ribbon, Button Bar:

ANALOG TABLE FONT SIZE

Location: File Manager

Description: Change the size of the font for the text displayed in the Analog Table.

Activation: *Menu:* Alt-(O) Options, (D) Display Dialog…

Ribbon, Options Tab: , Data Plotting Tab

Fields: *Analog Table Font Size:*   Change the size of the font in the Analysis Window's analog table.

Comments: Select the size of the font from the fields drop down list. The options are 8, 9, 10, 11, 12, 14 and 16.

See Also: [Analog Table View](#)

APPEND WAVEFORM FILES

Location: File Manager

Description: Combine a number of waveform files of the same type (the analog/digital channel titles must match) in time into a new analysis window.

Activation: *Menu*:   Alt-(O) Options, (W) Waveforms, (A) Append, (D) Discarding Common Times
Menu: Alt-(O) Options, (W) Waveforms, (A) Append, (B) Back-to-Back
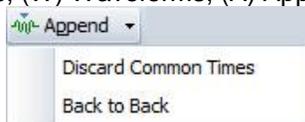
Ribbon, Options Tab:

Comments: The files must be of the same type (the analog/digital channel titles must match). The results in the data analysis window can be saved in a Comtrade file for archiving. If the files have matching times then select the Discard Common Times option otherwise select the Back to Back option. To append file in the file manager first mark the files. To mark files use the spacebar or mouse. Marked files are displayed in red.

See Also: Append Open Files

ASCENDING SORT

Location: All Tables

Description: Sort the columns in ascending order with respect to the selected sort field.

Activation: *Menu*:   Alt-(S) Sort, (A) Ascending
Ribbon, Click on the Header of each column

Comments: To sort the columns press the column header button. The header button toggles between ascending and descending order.

See Also: Descending Sort
Set Sort Field

ASCII DRIVER

Location: File Manager

Description: Display the file at the cursor position in the ASCII text editor.

Activation: *Menu*:   Alt-(D) Drivers, (A) ASCII…
Ribbon, Drivers Tab: ASCII

Comments: When using the ASCII Driver to open a file, that files Driver will be changed to the ASCII driver under the Driver column in the table. You will loss the current driver associated with the file. To keep the current driver for the selected file use the ASCII editor under the Options Tab, ASCII Editor.
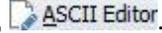
See Also: ASCII Editor

ASCII EDITOR

Location: File Manager

Description: Edit the ASCII file at the cursor position.

Activation: *Direct*: F2
Menu: Alt-(O), Options, (A) ASCII Display…

Ribbon, Options Tab: ASCII Editor
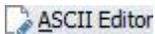
Comments: The file contents are displayed in text editor. Use the up arrow, down arrow, left arrow, right arrow, page up, page down, home, end, Ctrl-home and Ctrl-end keys or the scroll bar to

navigate through the data and the ribbon options to cut, copy, or paste text. A maximum of ten ASCII Editors may be opened simultaneously.

See Also: ASCII Driver

ASSOCIATING FILE TYPES

Location: File Manager (Universal Viewer)

Description: The File Manager automatically associates file types according to the file naming structure. The associated driver is displayed in the driver column. When the <enter> key is pressed, or the default mouse button is double clicked the software inspects the filename at the cursor and executes the associated driver.

File Types:		
Directories:	Directories are tagged according to the parameters read from the file allocation table.
Applications:	Files with the extension ".BAT", ".COM", or ".EXE" are tagged as application files.
Hathaway DFR I,II, IIB, & 2000:	Files that match the Hathaway Base32 file naming scheme or are long files with the .DFR extension are tagged as DFR I,II, IIB, & 2000 files.
Hathaway Replay Plus:	Files with the ".DAT" extension with no ".CFG" associated with it are tagged as Hathaway Replay Plus Files.
EMAX Faxtrax II / Director:	Filenames with the extensions ".RCD", ".RCL", ".RCU", and there is a corresponding ".CTL" file, are tagged as Faxtrax II / Director files. The Emax Faxtrax II / Director (12-bit/16bit) format is supported.
Emax Long Term:	Files with the ".DAT" extension with an associated ".SET" file are tagged as Emax Long Term Files.
Mehta Transcan:	Files that have an extension starting with "X" and a corresponding ".SCF" file exists are tagged as Mehta Transcan files.
*Rochester TR16**:*	Files that have the same name and an extension with a number and there is a corresponding .PRE file in the same directory are tagged as Rochester files.
ERLPhase Tesla:	Files with the extension ".TLR" are tagged as ERLPhase Tesla files.
ERLPhase Relays Files:	Files with the ".BPR, .TPR, .LPR, FPR" extensions are tagged as ERLPhase Relay Files.
Comtrade:	Files with the extension ".DAT" that have a corresponding ".CFG" file are tagged as COMTRADE files.
Comtrade:	Files with the extension ".CFF" are tagged as COMTRADE files.
SEL:	Files with the extensions ".SEL", ".CEV" or ".EVE" are tagged as SEL files.
SEL LDP:	Files with the extension ".BSV" are marked as SEL Load Profile Data files.
DLP:	Files with the extension ".OSC" are tagged as DLP relays. GE DLP1 and DLP3 formats are supported.
REL300/301/302:	Files with the extension ".REL" are tagged as ABB-MDAR files. .
TPU/DPU/GPU:	Files with the extension ".CAP" are tagged as ABB-TPU/DPU/GPU files.
ABB Load Profile:	Files with the ".DLA" extension are tagged as ABB Load Profile-Wye files.
GE SR Relay Files:	Files with the ".CSV" extension are tagged as GE SR Relay Files.

SDC Log File:	Files with the ".CSV" extension are tagged as SDC Log Files.
TIS File:	Files with the ".TIS" extension are tagged as TIS (Trip Information System) Files.
Ametek Files:	Files with the ".AMT" extension are tagged as Ametek TR-100+, DL-8000, TR-2000 & P&QR128 Files.
S&C IntelliRupter:	Files with the extension ".WFC" are tagged as S&C IntelliRupter Waveform Files.
Nicolet Power Pro WFT:	Files with the extension ".WFT" are tagged as Nicolet Power Pro WFT Files.
Nicolet PNRF:	Files with the extension ".PNRF" are tagged as Nicolet PNRF Files.
S&C PXI:	Files with the extension ".TSV" are tagged as S&C PXI Waveform Files.
S&C Extended Waveform:	Files with the extension ".EWC" are tagged as S&C IntelliRupter Extended Waveform Files.
S&C Meter:	Files with the extension ".PRO" are tagged as S&C IntelliRupter Meter Files.
Audio Wave:	Files with the extension ".WAV" are tagged as Microsoft's Wave Files.
DXF:	Files with the extension ".DXF" are tagged as Drawing Exchange Format files.
Application Files:	Word Documents (".Doc" & ".RTF") , Excel Documents (".XL", ".XLS", ".XLT", ".XLM", ".XLA", ".XLC" & ".XLW") , Web pages (".HTM", ".HTML", "MSPX" & "ASP") , Access Files ('"MDB" & ".ADP") , Power Point Presentation files (".PPT" & ".PPS") , Image files (".GIF", ".TIF", ".JPG", ".JPE", ".BMP", ".PSD" & ".PDD") , Zip files (".ZIP") , and PDF files (".PDF") are automatically associated with their source application.
ASCII:	All other files are tagged as ASCII files.

Comments: To change the driver type, place the cursor on the filename and select the driver from the Drivers tab. Once a driver is assigned the file contents appear in the corresponding display window. If the driver encounters an error while reading a file an Invalid Driver Message is displayed indicating the line number in which the error was encountered. Use the ASCII or Hexadecimal editors to locate and correct the error. The ASCII and hexadecimal editors display the cursor's line and character number in the lower left corner of the window.

See Also: Auto Detect

ATFILE

Location: File Manager (Status Field)

Description: Displays the row number of the selected file in the table.

See Also: TotFiles
TotMarks

AUDIO WAVE DRIVER

Location: File Manager

Description: Changes the driver at the cursor position to the Window's Audio Wave driver (*.WAV) and plots the input channels.

Activation: *Menu:* Alt-(D) Drivers, (W) Audio Wave File…
Ribbon, Driver Tab: Audio

Comments: All files that have a ".WAV" extension are tagged as Microsoft Audio Wave files.

AUTO CONVERT TO COMTRADE

Location: File Manager

Description: The auto convert to Comtrade dialog is used for defining the properties to automatically convert specific file types to the IEEE C37.111 Comtrade 1991, 1999 and 2103 format. The type of format to save is specified in the data plotting's properties dialog under the Comtrade tab. Select the Comtrade version from the 1st fields drop down list. Auto Convert to Comtrade monitors the entered Source Path for the defined file extensions. When a file is detected it first saves the converted Comtrade file to the defined Destination Path then archives the source file to the defined Archive Path. There is an Advanced button to define specific features for the Source path, Destination path and Archive path.

Activation: *Menu:* Alt-(O) Options, (U) Auto Convert to Comtrade…

Ribbon, Options Tab: Auto Convert

Fields:
Source Path:	The path to monitor for the specified file types.
Destination Path:	The path where the converted Comtrade files are saved.
Archive Path:	The path where the original files are archived.
File Extensions:	The file extensions to monitor and convert.
Scan Period:	The number of minutes the auto convert will run.
Minimum # of Cycles:	The minimum number of cycles required before saving.
Millisecond Difference:	The maximum number of milliseconds between samples.

Options:
Start Convert:	Start the conversion process.
Advanced:	Display the Advanced setting dialog.
Automatically Start:	Automatically start the Convert to Comtrade when Wavewin is ran.
Close:	Close the dialog.

Comments: To open the auto convert to Comtrade dialog select the Auto Convert option under the Options tab in the File Manager. Enter the source path, destination path, archive path, file extensions and the scan period in minutes. Auto convert to Comtrade monitors the Source path for the defined file extensions every scan period.

To start the process, click on the Start Convert button. Once the conversion starts the button caption will change to End Convert. To end the conversion process, click on the End Convert button. If a file already exists in the destination path then the file is overwritten. The status of each scan is displayed in the Status section of the dialog.

To have the auto convert to Comtrade process started when Wavewin is ran check the Automatically Start Convert to Comtrade at Run Time check box. The conversion process is performed in the background, so the dialog is not required to be open for the process to

execute. To check the status of the conversion, open the dialog. The Next Scan In field reports how many minutes before the next scan is started.

The Advanced button displays the Auto Convert to Comtrade advanced settings:
- Source Path: Include Sub-Folders: When scanning for files to convert to Comtrade include all paths under the Source path.
- Destination Path: Automatically Rename to the IEEE Long File Naming Format: After Converting the files to Comtrade rename the Comtrade files in the destination path to the IEEE long file naming format.
- Archive Path: Rename all Archive Files using the IEEE Long File Naming Format: After Archiving the original files rename them to the IEEE long file naming format.
- Archive Path: Append all like files in The Archive Path to a single file per year: When the auto convert to Comtrade is between scans append all files that have the same year, station and device name to one file per year. After each append delete the original appended files.

See Also: Save as Comtrade

AUTO PROCESS TEMPLATES

Location: File Manager

Description: The Auto Process Templates dialog allows for automatically extracting key information out of waveform files located in the active file manager path and saving the extracted information to a comma separated ASCII file with a .DIG extension. The DIG file can then be imported into a database.

The template files to be processed contain script commands that will perform calculations on the voltage and current channels. For the calculations to work properly the analog channels must be in the right position. For this, line groups are created. The line groups ensure that the voltage channels (VA, VB, VC) are the first 3 channels displayed and the next 4 are the current channels (IA, IB, IC, IN). Line groups work for DFR and Relay files and are associated with Comtrade files. For more information on the line groups refer to the Auto Process Templates in the File Manager & Analysis Quick Start.

Activation: *Menu:* Alt-(O) Options, (P) Auto Process Templates

Ribbon, Options Tab:

Fields:
Template 1:	The path and filename of the first template to process.
Template 2:	The path and filename of the second template to process.
Template 3:	The path and filename of the third template to process.
Template 4:	The path and filename of the fourth template to process.
Template 5:	The path and filename of the fifth template to process.
Report Path:	The path where the final report is saved.
Process Files:	The type of files to process. When a file is processed the system will add ,WWD to the end of the file to indicate the file has been processed. Select process New Files or All Files.

Process only the marked File in the Active Path: Process only the marked file in the file manager's active path.
Include All Sub-Folders: Process all files included in the sub-folders under the file manager's active path.

Options: *Run:*   Start the processing of the defined templates.
                 Cancel: Exit the dialog without executing the command.

Comments: Once the line groups are defined then template files can be built to extract key information from the files.

Available Template Commands:

Window Commands

<Station>	Writes the full Station name.
<Station:12>	Writes the first 12 characters of the Station name.
<Device>	Writes the full Device name.
<Device:6>	Writes the first 6 characters of the Device name.
<Date:F>	Writes the Date at the data bar in the following format mm/dd/yyyy.
<Time:F>	Writes the Time at the data bar in the following format hh:mm:ss.zzzzzz.
<Date:U>	Writes the Date at the data bar in the following format yyyymmdd.
<Time:U>	Writes the Time at the data bar in the following format hhmmsszzz.
<Cycles>	Writes the number of Cycles between the data bar and the reference bar.
<DeltaX>	Writes the time difference between the data bar and the reference bar.
<Line>	Writes the active Line name.
<Remote>	If a Line is selected then it writes the Remote Feeder Name as defined in the Line Group as REMOTENAME=.
<Rdme>	If a Line is selected then it writes the Remote Station Name as defined in the Line Group as REMOTEDME=.
<Filename>	Writes the Filename displayed in the data plotting window.
<Triggers>	Writes the number of triggers for the script commands.
<Cktnum>	If a Line is selected then it writes the Circuit Name as defined in the Line Group as CKTNUM=.
<Tobus>	If a Line is selected then it writes the To Bus Name as defined in the Line Group as TOBUS=.
<Frombus>	If a Line is selected then it writes the From Bus Name as defined in the Line Group as FROMBUS=.

Analog Commands

<>	Write the analog data at the data bar,
[]	Write the analog data at the reference bar,
Number	Writes the visible analog column data at the date bar separated by commas for specified Channel number.
^Number	Writes the visible analog column data separated by commas for the Channel in position 1.
:R	Writes the RMS value.
:T	Writes the Channel Title.
:U	Writes the Channel Unit.
:P	Writes the Phase value.
:I	Writes the Instantaneous value.
:F	Writes the DFT magnitude for the specified Harmonic. For example, ^6:F0 writes the DFT Magnitude of the DC Offset for channel 6 and ^6:F2 writes the DFT Magnitude of the 2nd Harmonic for channel 6.
:D	Writes the Duration of the Fault.
:%	Write the Percentage of Nominal from the Prefault bar to the Fault bar.
:%v	Measures voltage sag immunity.
:Number	Specifies the width of the analog data values. Will only be applied if the defined width is greater than the length of the data values. Spaces are

	padded to the beginning of the written values. This is used to right justify values.
:S	The skew of the 3 analog channels using the angles. The S command is used with 3 analog channels <1,2,3:S>. This command adds the 3 angles at the cursor. One of the channels must be marked as a reference channel.
:B	The Unbalanced Value for 3 Channels. The B command is used with 3 analog channels <1,2,3:B>. This command finds the highest and lowest DFT magnitude of the 3 channels. The result is the highest – lowest.
:N	The Negative Sequence for 3 Channels. The N command is used with 3 analog channels <^1,^2,^3:N>. This command computes the negative sequence for the 3 current or voltage channels is position 1, 2 and 3 on the screen. The magnitude for the negative sequence result is displayed.
:M	The M command is used for an entire channel. It calculates the maximum value of the channel minus the minimum value of the channel divided by 2 ((max-min)/2), <^1:M>. Since the command is not sample based both types of brackets can be used (<>,[]).
:SG100 :BL50 :NG5000 :ML700	The letter G or L followed by a number after the :S, :B, :M or :N defines a trigger. The letter G stands for greater than and L is less than. If the result is true than Alarm is displayed else Normal is displayed.

When a carat ^ is specified before the channel number it indicates the channel position in the display.

The < > characters saves the analog data at the data bar and the [ ] characters saves the analog data at the reference bar. To open the Auto Process Template dialog select the Process Templates icon under the Options tab.

The dialog allows for 5 templates to be processed at one time. Enter or select the template files in the template fields. Enter or select the report path where the report files are saved. Select the type of files to process. The All Files option will process all the files in the active path and included sub folder if the option is specified. After a file is processed a WWD is added to the last field in the long filename. This tags the file as processed. To only process new files select the New Files option.

If files are marked in the active path the Process Only Marked Files check box will be enabled. Click this option to process only the marked files. To include all the sub folders under the active path, click the Include Sub Folder check box.

To start the process, click the Run button. When the Run button is activated the fields in the dialog will be saved and the dialog will be closed. Each specified file will be opened in the analysis window, the Mark and Save window will be opened and each line group will be selected in the file. The template fields will be processed for each line group and saved to the appropriate report file. The report files are saved to the specified report path and each report file will have the same name as the template file with a .DIG extension.

To view the report files navigate to the report path and double click on the .DIG files. The report will be displayed in a table format. To plot the file with the specified line group double click on the desired row.

**Restrictions:** The processed files must be a supported oscillography file.

See Also: Associating File Types
IEEE Long File Naming Format
Save As Comtrade

CALIBRATION REPORT

Location: File Manager

Description: Generate a calibration report for all marked waveform files.

Activation: *Menu:* Alt-(O) Options, (R) Reports, (C) Calibration…
Ribbon, Options Tab: Calibrate

Comments: The Calibration report list the Maximum and Minimum analog summary information for the marked files.

For this feature to work properly reports should be generated on non-fault data. The DVREPORT.DTB file, saved in the installed directory contains the last generated report. To archive the contents of this file use the Save As option to save the file under a new name.

See Also: [Waveform Summary](#)

CHANGE DRIVE/DIRECTORY

Location: File Manager

Description: Change the file table's active path.

Activation: *Direct:* F7, ChDir button , Back button , Up button , Right Click, Folder Tree
Menu: Alt-(F) Files, (H) Change Drive/Directory…
Ribbon, Files Tab: Change

Comments: There is a number of ways to change the file table's active path. Use the folder tree to navigate the connected drives. To enter a folder use the Change Drive/Directory dialog located in the Files tab. To select from a list of the last 12 active folders click the opposite mouse button in the file table. To navigate back through the last 12 active folders use the Back button. To change to the previous folder use the Up button. An error message is displayed if the destination path is not found.

See Also: [Create Directory/Folder](#)
[Delete Files](#)
[Folder Tree](#)

CHANGE QUERY OPERATORS

Location: Query Fields

Description: Change the operator for the active query field.

Activation: *Direct:* F9
Menu: Alt-(Q) Query, (O) Change Operator

Ribbon, Query Tab: Change Operators

Comments: To change the operator press F9 or click the mouse button on the operator symbol. The F9 key is activated when the editor is visible in the query field. Use the tab key to navigate from the table to the query fields.

See Also: Equal To (=)
Greater Than (>)
Less Than (<)

CLEAR QUERY AREA

Location: Query Fields

Description: Set all the query fields to blanks and default the query operators to equal (=).

Activation: *Direct:* F8
Menu: Alt-(Q) Query, (C) Clear Query Area

Ribbon, Files Tab:

Comments: The F8 function key only works when the query editor is visible. Use the tab key to navigate from the table to the query fields. To navigate between the query fields use the Ctrl-left/right arrow keys or the mouse.

See Also: Equal To (=)
Greater Than (>)
Less Than (<)
Query All Rows
Query Marked Rows
Query Unmarked Rows

COMMA DELIMITED TABLE DRIVER

Location: File Manager

Description: Display the selected comma delimited file in a table format. Comma delimited files have textual fields separated by commas, such as 0001,7834,872.

Activation: *Menu:* Alt-(D) Drivers, (T) Table, (C) Comma Delimited
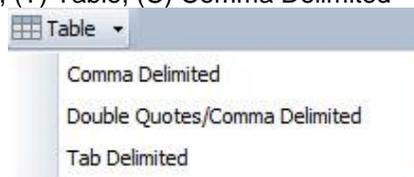
Ribbon, Drivers Tab:

Comments: The data in the file is presented in tabular form. When the file is opened the rows are displayed exactly as they are in the file. To sort the columns use the column header buttons.

See Also: Double Quotes/Comma Delimited Table Driver
Tab Delimited Table Driver

COMMAND LINE PARAMETERS

Location: System

Description: Command line parameters are supported in the Wavewin software. The listed command line parameters are specific for the file manager and data plotting window.

Activation: *Wavewin.exe [passed parameters]*

Parameters:

Path and Filename:	Path and file name surrounded by " " .	
/Print:	Used with the path and file name. It prints the specified file.	
/Comtrade:	Used with the path and file name. It converts the specified file to the IEEE Comtrade format.	
/Batch:	The "/Batch" command line parameter is used along with a path and batch filename command line. It automatically opens the defined batch file and executes each command line parameter defined in the file.	
/Merge:	The "/Merge" command line parameter is used along with a path and filename command line. It will merge the file with all files that have a /merge command line parameter associated with them. The /merge command line parameter is defined in a Merged File.lst ASCII file. The Merged File.lst is passed to Wavewin through the command line parameters..	
/X:	The "/X" command line parameter tells where to display Wavewin's left corner when executed.	
/Y:	The "/Y" command line parameter tells where to display Wavewin's upper corner when executed.	
/W:	The "/W" command line parameter tells the width of the Wavewin application when executed.	
/H:	The "/H" command line parameter tells the height of the Wavewin application when executed.	
/Exit:	The "/Exit" command line will automatically exit Wavewin after all other command line parameters are fully complete.	

Comments: Refer to the File Manager Quick Start for more information and examples on each passed parameter.

COMNAME PROPERTIES

Location: File Manager

Description: Setup the fields not available in the supported waveform files for the IEEE long file naming format.

Activation: *Menu:* Alt-(F) Files, (O) ComNames Properties…
Ribbon, Files Tab: ComNames Prop
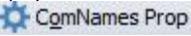
Fields:

Company Name:	Enter the Company name that will be used in the long naming format.
Time Code:	Enter the time code for the device files to rename.
User Field 1:	Enter the 1st User Field.
User Field 2:	Enter the 2nd User Field.

Options:

|	
Enter/Ok:	Exit the dialog and save the entered data.
Esc/Cancel:	Exit the dialog without saving.

Comments: These fields are used for all the files renamed to the IEEE long file naming format. Update this dialog for files with different time codes.

See Also: ComName(s) Rename
IEEE Long File Naming Format

COMNAME(S) RENAME

Location: File Manager

Description: Rename all the marked time sequenced data files to the IEEE long file naming format.

Activation: *Menu:* Alt-(F) Files, (A) ComNames Rename
Ribbon, Files Tab: ComName Rename

Comments: A message box will be prompted before renaming the file to ensure the execution of the rename feature. This feature will permanently rename the files. It is advisable to back up the files before renaming. Some proprietary applications may not be able to read the files once they are renamed.

See Also: ComName Properties
IEEE Long File Naming Format


COMPANY COLUMN

Location: File Manager

Description: Displays the company name included in the long file name format. The sixth field in the file name defines the company field for the IEEE long file-naming format.

See Also: IEEE Long File Naming Format

COMPLEX CALCULATOR

Location: File manager and Analysis

Description: The complex calculator is used to perform complex mathematical operations. Operations can be performed in Polar or Rectangular form..

Activation: *Menu:* File Manager: Alt-(O) Options, (O) Complex Calculator
Menu: Analysis: Alt-(D) Data, (X) Complex Calculator
Ribbon, Files Tab: File Manager: Complex
Ribbon, Data Tab: Analysis:
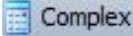
Fields:
Magnitude:	Magnitude Value.
Angle:	Angle Value.
Memory I:	Saved magnitude or real value [1..4].
Memory II:	Saved angle or imaginary value [1..4].
Type:	The type of values stored in the memory location, Polar or Rectangular.

Options:
Recall:	Recall the selected memory location to the calculate fields.
Clear All:	Clear all fields.

>   *Close:*   Close the dialog.

Comments: The calculator operates as an HP calculator. After each entry click the Enter button to
                record the values in the Accumulator.

COMPRESS COMTRADE FILES

Location: File Manager

Description: Convert all the marked COMTRADE ASCII files to COMTRADE Binary files.

Activation: *Menu:* Alt-(O) Options, (C) Compress Comtrade Files

                   Ribbon, Options Tab: Compress

Comments: This feature compresses the COMTRADE ASCII files to the Binary format to save disk
                space.

See Also: Save As Comtrade

COMTRADE DRIVER

Location: File Manager

Description: Change the driver at the cursor position to the COMTRADE driver and plot the input
                channels.

Activation: *Menu:* Alt-(D) Drivers, (O) Comtrade

                   Ribbon, Drivers Tab: Comtrade

Comments: All files that have a .CFF (2013) .DAT or .D## extension, and a corresponding .CFG file
                exists for the .DAT files are tagged as COMTRADE files. If the selected file does not have a
                corresponding .CFG file and is not a .CFF file an error message is generated. Both the
                COMTRADE ASCII and Binary formats are supported for the 1991, 1999 and 2013 IEEE
                C37.111 Comtrade formats.

See Also: Associating File Types
                Save As Comtrade
                Windows Properties

COPY/CUT/PASTE FILES

Location: File Manager

Description: Copy or Cut the marked files to the clipboard. Navigate to the destination folder and Paste
                the files.

Activation: *Direct:* Ctrl-X (Cut) Cut , Ctrl-C (Copy) Copy , Ctrl-V (Paste) Paste
                   Menu: Alt-(E) Edit, (T) Cut, Alt-(E) Edit, (C) Copy, Alt-(E) Edit, (P) Paste

Ribbon, Edit Tab: Cut , Copy , Paste

Comments: Marked files are displayed in red. The TotMarks and MrkSize fields displayed in the status bar are updated accordingly. To copy/cut/paste files use the Edit options in the Files tab or right click in the file table and select the desired popup menu option.

See Also: Copy File
Move Files
Mark/Unmark File

COPY FILES

Location: File Manager

Description: Copy the marked files to the specified destination path. For a new path click the New Folder button. The system prompts prior to creating the directory.

Activation: *Direct:* F8 or the Copy menu button
Menu: Alt-(F) Files, (C) Copy To…

Ribbon, Files Tab: Copy

Fields: *Folder Tree:*   Navigate and select the destination folder.

Options: *New Folder:*   Create a new folder under the selected path.
Enter/Ok: Copy the marked files to the destination path.
*Esc/Cancel:*   Exit the dialog without executing the command.

Comments: Marked files are displayed in red. The TotMarks and MrkSize fields displayed in the status bar are updated accordingly. Files that where unsuccessfully copied are marked and grouped at the top of the table.

See Also: Move Files
Mark/Unmark File
Drag Drop Files

COPY TEXT

Location: ASCII Editor

Description: Copy the blocked text to the clipboard.

Activation: *Direct:* Ctrl-C, Ctrl-Ins, Right Click - Copy menu button
Menu: Alt-(E) Edit, (C) Copy

Ribbon, File Tab: Copy

Comments: To block text use the mouse or the shift key and the up arrow, down arrow, page up and page down keys or drag the mouse.

See Also: Cut Text
Paste Text

CREATE DIRECTORY/FOLDER

Location: File Manager

Description: Create a new directory/folder.

Activation: *Direct:* Right Click on the folder in the Tree, select the New Folder menu option.
Menu: Alt-(F) Files, (E) Create Directory

Ribbon, Files Tab:

Fields: *Edit Box:* Enter the new directory/folder name.

Options: *Enter/Ok:* Rename the new directory/folder.

Comments: To delete the new folder right click on the folder in the tree and select the Delete menu option.

See Also: Change Drive/Directory
Folder Tree
Rename File/Directory

CUT TEXT

Location: ASCII Editor

Description: Copy the blocked text to the Windows clipboard then delete the blocked text.

Activation: *Direct:* Ctrl-X, Shift-Del - Cut menu button
Menu: Alt-(E) Edit, (T) Cut
Ribbon, File Tab:

Comments: Use the mouse or the shift key and the up arrow, down arrow, page up and page down keys to block text.

See Also: Copy Text
Paste Text
Reference Bar

DELETE FILES

Location: File Manager

Description: Remove all the marked files and directories from the active directory.

Activation: *Direct:* Delete
Menu: Alt-(F) Files, (D) Delete
Ribbon, Files Tab: Delete *Popup Menu:* X Delete
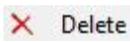
Comments: Marked files and directories are displayed in red. The TotMarks and MrkSize fields displayed in the status bar are updated accordingly. Files and directories that were unsuccessfully deleted are marked and grouped at the top of the table.

See Also: Mark/Unmark File

DELETE TEXT

Location: ASCII Editor

Description: Delete the blocked text.

Activation: *Direct:* Del
                  Menu: Alt-(E) Edit, (D) Delete

                  Ribbon, File Tab: ✗ Delete

Comments: Use the mouse or the shift keys and the up arrow, down arrow, page up and page down keys to block text.

See Also: Cut Text

DESCENDING SORT

Location: All Tables

Description: Sort the columns in descending order with respect to the selected sort field.

Activation: *Direct*: Click on Column Header
                  Menu: Alt-(S) Sort, (D) Descending Sort

Comments: The sort field is displayed in the status bar at the bottom of the window. To sort the table columns directly press the column header button. The header buttons toggle between ascending and descending order.

See Also: Ascending Sort

DEVICE COLUMN

Location: File Manager

Description: Displays the device name associated with the long file name. The fifth field in the file name defines the device field for the IEEE long file-naming format. It represents the name or code of the device that originated the file.

See Also: IEEE Long File Naming Format

DISPLAY DIALOG

Location: All Tables

Description: Reposition the columns in the table.

Activation: *Menu:* Alt-(O) Options, (I) Display…

Ribbon, Options Tab:	Display Properties	

Fields:	*File Column List:*	A list of all the columns in the table. Use the Move Up and Move Down Buttons to rearrange the columns. Use the checked boxes to show/hide the analog columns.
	Table Font Size:	A list of the font sizes for the table. Select the Font size from the drop down list.
	File Marking:	A list of the 2 types of marking for files in the file manager.
	Default Path:	The path the file manager is opened with when first displayed.
	Open View:	Open the first view in the line group file when opening a new analysis window. This will only work if a line group is associated with the file.
	Analog Table Font Size:	Select the desired font from the drop down list.
	Digital Toggled Channels:	Only display the toggled digital channels when opening files.
	Open Files w/Primary Values	If the files values are in secondary quantities and the ratio values are defined in the file then convert the secondary quantities to primary values.
	Batch Files:	When processing batch template files process all the files or just the new files. Processed files have a WWD added to the end of the file name.
	Versioning:	If a file has a line group create a version of the line group with the same name as the file's name with a .LGP extension.
	Duration Calculation:	There are two calculations used when determining the fault duration and sag duration of a channel. This section allows for modifying these calculations. When a file is open an RMS value is calculated at each sample using a running RMS equation. After the first full cycle the duration equations are run on each sample using the RMS values.
	Append ComName Files:	Append all like ComNames files within the selected time frame.
	Help Files:	Select to display the help files in PDF format or ASCII text.

Options:	*Move Up:*	File Columns Tab. Move the highlighted column up one position.
	Move Down:	File Columns Tab. Move the highlighted column down one position.
	Reset:	File Columns Tab. Default the order of the columns to how they were when the software was first installed.
	Short Cuts:	Displays the Short Cuts keys dialog.
	OK:	Change the order of the columns and redraw the device table and save all modified settings.
	Cancel:	Exit the dialog without saving the settings.

Comments: To resize the table columns place the mouse over the column separator and drag the mouse to the left or the right or double click on the column separator to expand to the maximum area for that column.

See Also: [Resize Columns](#)

DISTURBANCE REPORT

Location: File Manager

Description: Create a disturbance report from the fault files located in the specified directories.

Activation: *Menu:* Alt-(O) Options, (R) Reports, (D) Disturbance Report…

Ribbon, Options Tab: Disturbance
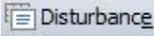
Fields:

Destination File:	The folder and filename where the report is saved.
Source Folder(s):	The source folder(s) where the event files are located.
Filter: Faulted Phases:	Enter the valid faulted phases (separated by commas).
Filter: Fault Location:	Enter the maximum % of the line length to detect.
Filter: Voltage Class:	Enter the voltage kv value that is above the phase to ground level.
Filter: Fault Current:	Enter the minimum magnitude value.
Filter: System Frequency:	Enter the deviation from the line frequency to detect.

Options:

|	
Process:	Process the report and display the results.
Save Script:	Save the entered values to the Disturbance.ini script file.
Edit Script:	Edit the Disturbance.ini script file.
Show Help:	Show the help file below the buttons.
Close:	Close the disturbance dialog without saving.

Comments: The result disturbance report is saved to the defined destination file and displayed in a comma delimited table. The table allows for sorting, querying, deleting of rows and saving.

DOUBLE QUOTES/COMMA DELIMITED TABLE DRIVER

Location: File Manager

Description: Display the double quote delimited file in a table format. Double quote-delimited files have textual fields separated by double quotes and commas, such as "CHANNEL","DATE","TIME".

Activation: *Menu:* Alt-(D) Drivers, (T) Table, (Q) Double Quotes/Comma Delimited

Table ▾
Comma Delimited
Double Quotes/Comma Delimited
Tab Delimited
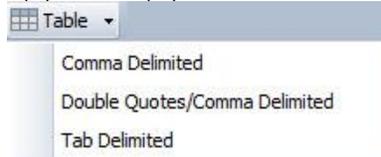
Ribbon, Drivers Tab:

Comments: The data in the file is presented in tabular form. The rows are first displayed exactly as they are in the file. To sort the columns use the column header buttons.

See Also: Comma Delimited Table Driver
Tab Delimited Table Driver

DRAG DROP FILES

Location: File Manager

Description: Drag marked files to a folder in the folder tree. All dragged files are moved to the final location.

Activation: *Direct:* Mark and Drag

Comments: To drag files first mark the files in the file Manager. Files can be marked using the mouse or the space bar. Drag the files to the desired folder in the folder tree. All files will be moved to the destination folder.

See Also: Copy Files
Move Files

DRIVER COLUMN

Location: File Manager

Description: Displays the driver associated with the file. The driver column indicates what driver is used to open the file.

See Also: Associating File Types

DRIVER CONFIGURATION DIALOG

Location: File Manager

Description: Display the driver configuration dialog. The driver configuration dialog allows for setting certain features pertaining to a specific driver.

Activation: *Menu:* Alt-(O) Options, (N) Driver Configuration

Ribbon, Options Tab:

Fields:	*Drivers List:*	A list of the supported drivers in the system.
	Driver's Data Type:	Options (Peak, RMS Calibrated or Log File). Select the type of data that is contained in the files for the selected device.
	Driver's Header Directory:	If the device requires support files to display the data then the support files can be placed in a centralized directory so they do not have to be in the directories where the data files are located. Enter the directory or use the browse button 📁 to browse for an existing directory. This field is for devices that maintain separate files for the Analog & Digital information.
	Change Sampling Frequency:	This field is used to automatically change the sampling frequency when a file is displayed for the selected driver. For example, if the files have 4 samples per cycle and it is preferred to view the files with 40 samples per cycles enter 2400. To maintain the original frequency leave this field blank or set to 0.00.
	Change Line Frequency:	If the line frequency is not defined in a specific driver's files then the line frequency can be defined in this dialog. The entered line frequency will be used when displaying files for the selected driver. To maintain the original line frequency, leave this field blank or enter 0.00.

Options:	*Ok:*	Save the changes made and close the dialog.
	Cancel:	Ignore any changes made and close the dialog.

Comments: The ERLPhase devices have different properties. ERLPhase files are displayed as Comtrade files using the ERLPhase conversion DLL.

See Also: [Associating File Types](#)

EDIT DAU-DEF

Location: File Manager

Description: Display the DAU-DEF editor for Hathaway DAU-DEF files. The DAU-DEF editor allows for changing certain fields defined in the DAU-DEF records. A Windows file selection dialog is first display to select the DAU-DEF file to edit. Navigate to the desired directory and double click on the DAU-DEF file to edit.

Activation: *Menu:* Alt-(O) Options, (E) Edit DAU-DEF File…

Ribbon, Options Tab: Edit DAU-DEF
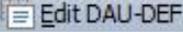
Fields:
DAU-DEF Records:	A list of all the DAU-DEF records defined in the selected file.
DAU-ID:	The DAU ID associated with the selected record.
DAU-DEF Index:	The DAU-DEF index number.
Station Name:	The station name for the selected DAU-DEF record.
Telephone Number:	The phone number to get access to the device.
Analog Channels:	A list of all the analog channels defined for the selected record.
Analog Name:	Edit the analog name for the selected analog channel.
Analog Full Scale:	Edit the analog full scale value for the selected analog channel.
Analog Prefix:	Edit the analog prefix for the selected analog channel.
Analog Unit:	Edit the analog unit for the selected analog channel.
Event Channels:	A list of all the event channels defined for the selected record.
Event #:	Edit the event's number for the selected event channel.
Event Name:	Edit the event name for the selected event channel.
Event NoNc:	Edit the event's normally open normally close value for the selected event channel.
Sensor Channels:	A list of all the sensors channels defined for the selected record.
Sensor #:	Edit the sensor number for the selected sensor channel.
Sensor Name:	Edit the sensor name for the selected sensor channel.
Sensor NoNc:	Edit the sensor's normally open normally close value for the selected sensor channel.

Options:
Save:	Save the selected DAU-DEF record.
Ok:	Save all changes made and close the dialog.
Cancel:	Ignore any changes made and close the dialog.
Default Sensor #8:	Checking this option will always default Sensor channel #8;s NoNc value to be 1.

Comments: When this feature is activated a Windows file selection dialog is display, navigate to the desired directory and double click on the DAU-DEF file to edit.


EMAIL FILES

Location: File Manager and Analysis

Description: Email a group of files or a single file using the users default email application. All support files needed to display the selected files will be automatically attached. Support files include

Comtrade configuration (*.CFG), header (*.HDR) & information (*.INF) files, DFR's analog and digital information files such as: Hathaway DAU files, Rochester preamble and header files, Faxtrax/Director CTL files, Transcan SCF and TCF files.

Activation: *Menu:* File Manager: Alt-(F) Files, (L) Email Marked Files – Analysis: Alt-(F) File, (E) Email

Ribbon: File Manager: Files Tab Email , Analysis: Waveform Tab Email

Fields:
To:	Recipient of the email, initially empty.
From:	Sender, automatically defaulted.
Subject:	Empty.
Attachment:	All selected files and their support files automatically attached.

Comments: Files can be emailed either in the file table or in the analysis window. To email a set of files, mark the desired files in the file table and select the Email option under the Files tab or right click on the file table and select the Email Email option from the pop-up menu. To email a file from the analysis window select the Email option under the Waveform tab. All support files needed to display the file(s) are automatically attached.

EQUAL TO (=)

Location: Query Fields

Description: Search the active table for records that match the entered criteria.

Comments: To change the query operator press F9 or click on the operator symbol.

See Also: Greater Than (>)
Less Than (<)

F-TYPE COLUMN

Location: File Manager

Description: Displays the file type. The "/dr" indicates that the file is a sub-directory. The DAU ID number is displayed for DFR I, II, IIB and 2000 files and the extension of the file is displayed for all other files.

Comments: If the active directory is a sub-directory then the first 2 rows of the table are reserved for the "." and ".." navigation shortcuts. The "." is a shortcut to the root directory and the ".." is a shortcut to the previous directory.

See Also: Associating File Types
Change Drive/Directory

FAULT DATE COLUMN

Location: File Manager

Description: Displays the fault date of the oscillography files. This column is left blank if the file is not a valid oscillography file or the fault date and time is not available in the file name.

See Also: Fault Time Column
IEEE Long File Naming Format

FAULT TIME COLUMN

Location: File Manager

Description: Displays the fault time of the oscillography files. This column is left blank if the file is not a valid oscillography file or the fault date and time is not available in the file name.

See Also: Fault Date Column
IEEE Long File Naming Format

FILE NAME COLUMN

Location: File Manager

Description: Displays the name of the files/directories in the active directory.

Comments: If the active directory is a sub-directory then the first 2 rows of the table are reserved for the "." and ".." navigation shortcuts. The "." is a shortcut to the root directory and the ".." is a shortcut to the previous directory.

See Also: F-Type Column

FLIP MARKS

Location: All Tables

Description: Mark all the unmarked rows and unmark all the marked rows.

Activation: *Menu:*   Alt-(M) Mark, (F) Flip Marks

Ribbon, Files Tab:

Comments: Marked records are displayed in red. The TotMarks field displayed in the status bar is updated accordingly.

See Also: Unmark Marked Row
Mark/Unmark Row

FOLDER TREE

Location: File Manager

Description: Displays all connected drives and folders in a tree structure.

Activation: *Menu:*   Alt-(F) Files, (T) Show/Hide Folder Tree

Ribbon, Files Tab: – Toggle Show/Hide Tree

Comments: To show/hide the folder tree select the Folder option under the Files tab. Folders can be renamed by left mouse clicking on the folder name until the editor is displayed. Also, folders that reside on the computer can be sent to the recycle bin by selecting the Delete option under the folder tree's right click pop-up menu. If the folders reside on external drives then the folders are permanently deleted.

See Also: Change Drive/Directory

FREE

Location: File Manager (Status Field)

Description: Displays the amount of free hard disk space on the active drive, displayed in Kbytes.

See Also: Size
MrkSize

GREATER THAN (>)

Location: Query Fields

Description: Search the active table for records that match the entered criteria.

Comments: To change the query operator press F9 or click the mouse button on the operator symbol.

See Also: Change Query Operator
Equal To (=)
Less Than (<)

GROUP MARKED ROWS

Location: All Tables

Description: Group all the marked rows and move them to the top of the table.

Activation: *Menu:* Alt-(M) Mark, (G) Group Marks

Ribbon, Files Tab:

See Also: Unmarked Marked Rows
Mark/Unmark Row

HELP

Location: All Child Windows.

Description: Displays the help file for the active child window.

Activation: *Direct:* F1
Menu: Alt-(H) Help, (T) Active Topic…
System Tool bar:

Comments: The help file is a PDF document with search capabilities.

HEXADECIMAL EDITOR

Location: File Manager

Description: Edit the file at the cursor position in a binary editor.

Activation: *Direct:*   F3
Menu: Alt-(O) Options, (X) Hexadecimal Display…
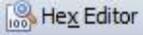
Ribbon, Files Tab: Hex Editor

Comments: The file contents are displayed in a Hex editor. Use the up arrow, down arrow, page up, page down, Ctrl-home and Ctrl-end keys to navigate through the file's data or use the scroll bar. When a hex value is overwritten the ASCII equivalent is displayed in the window to the right of the editor. A maximum of 10 editor windows can be simultaneously opened. The F4 and F3 function keys allow for searching ASCII data or Hex values. To search for hex values insert the "#" character before the hex value in the Find Text field.

See Also: ASCII Editor
Hexadecimal Driver

HEXADECIMAL DRIVER

Location: File Manager

Description: Change the driver at the cursor position to the Hexadecimal driver and display the file in binary format.

Activation: *Menu:*   Alt-(D) Drivers, (D) Hexadecimal…

Ribbon Drivers Tab: Hex

See Also: Hexadecimal Editor
ASCII Driver

IEEE LONG FILE NAMING FORMAT

Location: IEEE Long File Name

Description: The File Manager supports the IEEE long file naming format. The IEEE long file naming format is a PSRC format used to name time sequenced data files. The file table columns are used to display the contents of the long file name. The file name contains the six required fields stored in a comma-delimited fashion. The remaining fields are optional. The file table lists four optional columns at the end of the table to support user defined fields. The ComNames properties dialog allows for user input for the first two optional fields.

Fields: *Date:*   The Date field defines the start date of the file. The date fields are defined as the first two characters are the year, the next two are the month and the last two are the day. (required)

   Time: The time field defines the start time of the file. The Time fields are defined as the first two characters are the hour, the next two are the minutes, the next two are the seconds and the last two or three are the milliseconds. (required)

Tcode:		The TCode field is the time offset from GMT time. If the start time is expressed in UT, this field is coded 0z, Note: GMT is the international abbreviation Greenwich Mean Time. (required) .
Substation:		The substation name or code where the originating device is located. (required)
Device:		The device name or code that generated the file. (required)
Company:		The company of the specified substation. (required)

See Also: ComName(s) Properties
ComName Rename

LESS THAN (<)

Location: Query Fields

Description: Search the active table for rows that is less than the entered criteria.

Comments: To change the operator press F9 or click the mouse button on the operator symbol.

See Also: Equal To (=)
Greater Than (>)

LST

Location: Waveform Summary (Events/Sensors Activity Summary)

Description: Displays the status of the last digital samples in the file. Lst is the second column in the Events/Sensors Activity Summary. A=Alarm, N=Normal.

Comments: This data is also displayed in the third column of the digital information table view.

See Also: Waveform Summary

LST-CHANGE

Location: Waveform Summary (Events/Sensors Activity Summary)

Description: Displays the date and time the digital channel last changed state. Lst-Change is the fourth column in the Events/Sensors Activity Summary.

Comments: This data is also displayed in the fifth column of the digital information table view.

See Also: Waveform Summary

MARK ALL ROWS

Location: All Tables

Description: Mark all the rows in the table.

Activation: *Direct:* Mark menu button (if no files are marked).
Menu: Alt-(M) Mark, (A) Mark All

Ribbon, Files Tab: ⬇ Mark All
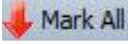
Comments: Marked rows are displayed in red. The TotMarks field displayed in the status bar is updated accordingly. The Mark menu button toggles between marking and unmarking all rows in the table. To mark rows use the mouse, shift mouse, Ctrl mouse or the spacebar.

See Also: Unmarked Marked Rows
Flip Marks
Group Marked Rows

MARK/UNMARK ROW

Location: All Tables

Description: Toggle the row at the cursor position between the marked and unmarked state.

Activation: *Direct:* Spacebar, Ctrl-Left Mouse Click
Menu: Alt-(M) Mark, (M) Un/Mark
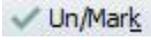
Ribbon, Files Tab: ✓ Un/Mark

Comments: Marked rows are displayed in red. The TotMarks field displayed in the status bar is updated accordingly. The Un/Mark option toggles the active row in the table between the marked and unmarked state. To mark rows use the mouse, shift mouse, Ctrl mouse or the spacebar.

See Also: Unmarked Marked Rows
Flip Marks
Group Marked Rows

MERGE WAVEFORM FILES

Location: File Manager

Description: Merge all the channels from the marked waveform files into an analysis window. There are two Merge options available. Merge files By Time will merge only the common times in the open files. Merge files By Sample will merge the files by lining up the samples in each marked files.

Activation: *Menu:* Alt-(O) Options, (W) Waveform(s), (M) Merge, (B) By Time, (S) By Sample

Ribbon, Options Tab: 〜 Merge ▾
          By Time
          By Sample
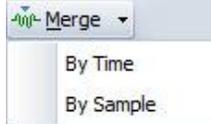
Comments: To distinguish between the merged channels, the station name is placed before each channel merged. To deactivate this feature open the analysis Window Properties dialog in the data plotting window, select the Append/Merge tab and click the Merge Files option. If the files have different sampling frequencies a dialog will be displayed to select the frequency for the new window.

See Also: Merge Open Files

MOVE FILES

Location: File Manager

Description: Copy the marked files to the specified destination path then delete the files from the source directory. If a file is not copied successfully it is marked and grouped at the top of the active directory. To create a new destination directory, click on the New Folder button.

Activation: *Direct:* F9, - Move menu button
                  Menu: Alt-(F) Files, (M) Move To…

                  Ribbon, Files Tab:
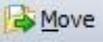
Fields: *Folder Tree:*   Navigate and select the destination folder.

Options: *New Folder:*   Create a new folder under the selected path.
               Enter/Ok: Move the marked files to the destination path.
               Esc/Cancel: Exit the dialog without executing the command.

Comments: Marked files are displayed in red. The TotMarks and MrkSize fields displayed in the status bar are updated accordingly.

See Also: Copy Files
                Mark/Unmark File

MRKSIZE

Location: File Manager (Status Field)

Description: Displays the size (in Kbytes) of all marked files.

See Also: Size
                Free

NEW FILE

Location: ASCII Editor

Description: Open a new empty ASCII edit window with the title defaulted to Untitled.

Activation: *Menu:* Alt-(F) File, (N) New…

                  Ribbon, File Tab:

See Also: Open File

OPEN ALL MARKED WAVEFORM FILES

Location: File Manager

Description: Open all the marked waveform files in the file table and minimize the file table.

Activation: *Menu:* Alt-(O) Options, (W) Waveform File(s), (F) Open All Marked Files

Ribbon, Options Tab: Open Marked

Comments: All the marked waveform files are opened, tiled and the file table is minimized. A maximum of 10 data windows can be open at one time.

See Also: Open Waveform File
Associating File Types

OPEN FILE

Location: ASCII Editor

Description: Open an existing file. The selected file will be displayed in a new ASCII edit window.

Activation: *Menu:* Alt-(F) File, (O) Open…

Ribbon, File Tab:

Comments: The Window's Open File dialog is displayed. Click on the file then click the Open button.

See Also: New File

OPTIONAL COLUMNS

Location: File Manager

Description: The IEEE long file naming format allows for user defined fields appended at the end of the filename. The file table reserves 4 columns for the first 4 user defined fields. The columns are named Optional-1 to Optional-4.

See Also: IEEE Long File Naming Format

PASTE TEXT

Location: ASCII Editor

Description: Paste the contents of the clipboard into the document at the cursor position. Existing blocked text is overwritten with the contents of the clipboard.

Activation: *Direct:* Ctrl-V, Shift-Ins - Paste menu button
Menu: Alt-(E) Edit, (P) Paste

Ribbon, File Tab:

Comments: Use the shift keys and the up, down, page up and page down keys to block file text.

See Also: Copy Text
Cut Text

PATH/FILENAME (NO EXT.)

Location: Save as COMTRADE Dialog (ASCII/Binary)

Description: Displays the destination path and filename of the new COMTRADE file.

Comments: The oscillography file at the cursor position is saved in COMTRADE format to the specified filename. When specifying a filename do not enter an extension, the ".CFF" or ".CFG" and ".DAT" files are automatically created. If a path is not specified the files are saved to the active directory. Select the Comtrade format from the Save As Type drop down list.

Restrictions: The filename cannot contain an extension.

See Also: Save As Comtrade

PRINT ALL ROWS

Location: All Tables

Description: Print all the rows in active table.

Activation: *Menu:* Alt-(F) Files, (P) Print, (A) Print All Rows
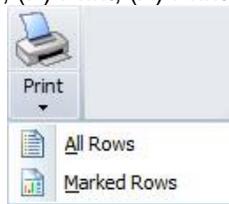
Ribbon, Files Tab:

Comments: Use the Print Marked option to print only the marked files.

See Also: Printer Setup

PRINTER SETUP

Location: All child windows.

Description: Change the printer type and setup the current printer.

Activation: *Menu:* Alt-(F) File, (S) Printer Setup
Ribbon, Files Tab:
Ribbon Waveform Tab:

PRINT FILE

Location: ASCII/Binary Editors

Description: Print all pages in the open file.

Activation: *Menu:* Alt-(F) File, (P) Print, (F) File

Ribbon, File Tab:

Comments: The printer must be registered in the system's WIN.INI file. In the ASCII/Binary editors, use the Print/ Page option to print the current page.

See Also: Printer Setup

QUERY ALL ROWS

Location: Query Fields

Description: Compare the entered criteria to all the rows in the active table.

Activation: *Direct:* F6, <enter>
Menu: Alt-(Q) Query, (A) All Files
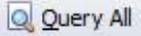
Ribbon, Files Tab: Query All

Comments: All the rows in the active table are compared to the entered query criteria. A marked row that does not meet the query requirements is unmarked. The rows that meet the query requirements are marked and grouped at the top of the table. Marked rows are displayed in red.

The Enter key searches all the records in the table.

See Also: Query Marked Rows
Query Unmarked Rows
Clear Query Criteria

QUERY MARKED ROWS

Location: Query Fields

Description: Compare the entered criteria to the marked rows in the active table.

Activation: *Direct:* F5
Menu: Alt-(Q) Query, (M) Marked Files
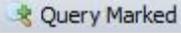
Ribbon, Files Tab: Query Marked

Comments: The marked rows that meet the query requirements are marked and grouped at the top of the table. All other marked rows are unmarked. Marked rows are displayed in red.

See Also: Query Unmarked Rows
Query All Rows

QUERY UNMARKED ROWS

Location: Query Fields

Description: Compare the entered criteria to the unmarked rows in the active table.

Activation: *Direct:* F7
               Menu: Alt-(Q) Query, (U) UnMarked Files

               Ribbon, Files Tab: Query UnMarked
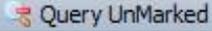
Comments: The unmarked rows that meet the query requirements are marked and grouped below previous marked rows. Marked rows are displayed in red.

See Also: Query Marked Rows
               Query All Rows

REFRESH

Location: File Manager

Description: Update the contents of the folder tree and the active directory from the operating system's allocation table.

Activation: *Direct:* F12**,** Refresh button , Opposite click in the Folder Tree and select   Refresh
               Menu: Alt-(F) Files, (F) Refresh Directory
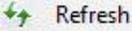
               Ribbon, Files Tab: Refresh
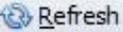
See Also: Folder Tree

RENAME FILE/DIRECTORY

Location: File Manager

Description: Rename the file or directory at the cursor position.

Activation: *Direct:* Opposite click in the Folder Tree and select   Rename
               Menu: Alt-(F) Files, (N) Rename File/Directory…
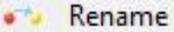
               Ribbon, Files Tab: Rename
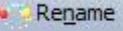
Fields: *From:* The current name of the file.
               To: The new name of the file.

Options: *Enter/Ok:*   Change the name.
               Esc/Cancel: Exit the dialog without executing the command.

RESIZE COLUMNS

Location: All Tables

Description: Resize the columns in the table.

Activation: *Direct:* Mouse Drag

Comments: To resize the table columns, place the mouse over the column separator and drag to the right or the left. The cursor changes to the vertical resize cursor when the mouse is positioned over the column separator. Double click the mouse over the separators to make the column size the maximum area to display all the text in the column.

See Also: [Display Dialog](#)

SAVE AS

Location: ASCII/Binary Editor

Description: Save the opened file to a new name.

Activation: *Menu:* Alt-(F) File, (A) Save As…

Ribbon, File Tab: Save As

See Also: [Save As Text](#)

SAVE AS COMTRADE (ASCII/BINARY)

Location: File Manager and Analysis

Description: Save the waveform file at the cursor position or the displayed analog/digital channels to the COMTRADE ASCII or Binary format.

Activation: **File Manager**
Menu: Alt-(O) Options, (V) Save As Comtrade, (A) ASCII…
Menu: Alt-(O) Options, (V) Save As Comtrade, (B) Binary…
Analysis
Menu: Alt-(F) File, (A) Save As, (C) Comtrade, (A) ASCII…
Menu: Alt-(F) File, (A) Save As, (C) Comtrade, (B) Binary…

Save As

File Manager: *Ribbon, Files Tab:*
Analysis: *Ribbon, Waveform Tab:*

Fields: *Path:* The destination path.
Filename: The filename with no extension.
Use the ComNames Naming Convention: Check this box to have the file automatically named using the IEEE long file naming format.
Save As Type: Select the Comtrade format from the drop down list.

Options: *Enter/Ok:* Read the file contents and save it in COMTRADE format.
Esc/Cancel: Exit the dialog without executing the command.

Comments: Do not enter a filename extension. The COMTRADE configuration (.CFG) and data (.DAT) or the single file (.CFF) files are automatically created. If a path is not defined, the files are saved in the active directory.

There are three Comtrade versions supported: the older 1991 format and the 1999 format and the new 2013 format. The Comtrade format is selected from the Save As Type drop down list.

If the sample values in the selected file are RMS calibrated and the outcome Comtrade file must have instantaneous values then set the Comtrade Settings fields to automatically convert the RMS data to instantaneous values. To set the Comtrade Settings fields open the Properties dialog in the analysis window. Select the Comtrade tab then select "Yes" for the Convert RMS Calibrated Data to Peak Data field.

To automatically save the Comtrade file using the IEEE long file naming convention check the Use the ComNames Naming Convention to Name the Comtrade File(s) field in the Save as Comtrade Dialog and leave the File Name field empty. The selected channels are converted to the selected Comtrade format and are named using the IEEE long file naming format.

Restrictions: The selected file must be a supported oscillography file.

See Also: Comtrade Driver
IEEE Log File Naming Format

SAVE AS CSV FORMAT

Location: File Manager and Analysis

Description: Save specific analog information into a CSV comma delimited format. The "CSV Format" will save the RMS, Instantaneous or Vector (Magnitude and Angle or RMS and Angle) values to a comma delimited text file.

Activation: *Menu:*   Alt-(F) File, (A) Save As, (V) CSV Format, (R) –RMS Values...
Menu: Alt-(F) File, (A) Save As, (V) CSV Format, I – Instantaneous Values...
Menu: Alt-(F) File, (A) Save As, (V) CSV Format, V – Vector Values (Mag & Angle)...
Menu: Alt-(F) File, (A) Save As, (V) CSV Format, E – Vector Values (RMS & Angle)...
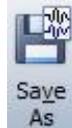
File Manager: *Ribbon, Files Tab:*
Analysis: *Ribbon, Waveform Tab:*

Fields: *Path:*   The destination path.
Filename: The filename with no extension.
Use the ComNames Naming Convention: Check this box to have the file automatically named using the IEEE long file naming format.
Save As Type: Select the CSV type from the drop down list.

Options: *Enter/Ok:*   Save the selected channel values in an ASCII comma delimited file.
Esc/Cancel: Exit the dialog without executing the command.

Comments: The first line in the CSV file is the header information for each channel. All the analog channels displayed in the active data plotting window are saved.

The four Save as CSV options are:

- Save As CSV - RMS Values: Save the RMS Values.
- Save As CSV - Instantaneous Values: Save the Instantaneous Values.
- Save As CSV - Vector Values (Mag & Ang): Save the DFT Magnitude and Angle.
- Save As CSV - Vector Values (RMS & Ang): Save the RMS Value and Angle.

The file format saved is a comma delimited ASCII file and the .CSV extension is automatically assigned. The first line in the file defines the header information.

All files saved using the Save as CSV format are tagged as SDC files and are plotted using the SDC driver.

To automatically save the CSV file using the IEEE long file naming convention check the Use the ComNames Naming Convention to Name the CSV File field in the Save as CSV Dialog and leave the File Name field empty. The selected channels are saved in a comma delimited ASCII file and are named using the IEEE long file naming format.

Restrictions: The selected file must be a supported oscillography file.

See Also: Associating File Types
IEEE Long File Naming Format
Save As Comtrade

SAVE AS TEXT

Location: Binary Editor

Description: Save the binary values in the hex editor to an ASCII text file.

Activation: *Menu:*   Alt-(F) File, (T) Save As Text…

Ribbon, File Tab:

See Also: Save As

SAVE DATE COLUMN

Location: File Manager

Description: Displays the date the file was last saved on disk.

Comments: Click the table's Save Date header to sort the files in ascending or descending order with respect to the Save Date. The Save Time column is also sorted with respect to the save date.

See Also: Fault Date Column
Fault Time Column
Save Time Column

SAVE TIME COLUMN

Location: File Manager

Description: Displays the time the file was last saved on disk.

Comments: Click the table's Save Time header to sort the files in ascending or descending order with respect to the Save Time.

See Also: Fault Date Column
Fault Time Column
Save Date Column

SEARCH FILE CONTENTS

Location: File Manager

Description: The Search File Contents dialog allows for searching ASCII files for key words and displaying the results in a table format. To open the dialog select the Search option under the Files tab.

This dialog allows for selecting the Start Date, End Date, Search Path, the file extensions to search, the key strings to search for and the path where the results will be saved..

Activation: *Menu:* Alt-(F) Files, (E) Search File Contents

Ribbon, Files Tab: Search
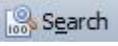
Fields:

Start Date:	The start date for the search.
End Date:	The end date for the search. The search engine will search a file if it's save date is between the start date and end date..
Search Path:	The search path to search the files.
Include Sub-Folders:	Include all sub-folders under the search path.
Extensions:	List the file extensions to search separated by commas: *.DTB,*.SEL,*.TXT.
Search Strings:	The strings to search for in the files separated by commas: password,fault,target.
Report Path:	The path to save the search report results to.

Options:

Save:	The entered search fields can be saved to an ASCII text file.
Save As:	Save the entered search fields to a new path/filename.
Open:	Open an existing search file.
Close:	Close the dialog without executing the search.
Search:	Start the search.
View Results:	View the search results in a table format.

Comments: The dialog also allows for saving the search fields to an ASCII txt file and for opening existing search files. Use the Save, Save As and Open buttons to save the active search to the active file listed in the status field, save the search fields under a new file name or for opening an existing search file.

To start the search, click the Search button. If results are found then the results are saved to a CSV file with the following file name: yymmdd,hhmmss,Search Results.CSV.

The Search Results window section displays the search path, each file being searched, and the number of search items found.

To view the search results click the View Results button. A table is displayed with the following columns:

- Occurrence: The occurrence number in the listed filename.
- File Date: The save date of the file.
- File Time: The save time of the file.
- Search String: The search string found.

- Line Number: The line number where the search string was found in the file.
- Line Text: The text of the line number.
- Filename: The path and filename where the search string exists.

To view the file and line number of the search results double click on the table row of the desired search item. The file will be displayed in an ASCII editor at the specified line number.

SEQUENCE OF EVENTS LIST

Location: File Manager

Description: View a detailed list of all the sequence of events contained in the marked files in a table format. Mark all the desired files then press F11 or select the SOE List Report option under the Options tab. A table will be displayed listing all the events triggered in the selected files.

Activation: *Direct:* F11
Menu: Alt-(O) Options, (R) Reports, (S) SOE List…

Ribbon, Options Tab: SOE List Report
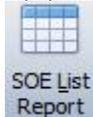
Fields: *Substation:*   The substation where the device is installed.
Device: The device the channel came from.
State: The state of the channel at that time (A=Abnormal, N=Normal).
Trigger Date: The trigger date.
Trigger Time: The trigger time.
Channel: The channel number of the event in the file.
Channel Title: The title of the channel.
File: The file containing the event/sensor channel.

Comments: The table is sorted according to the date and time. The Query section at the bottom of the table allows for searching events from specific substations, devices, channels and more. Use the header buttons to sort the columns. To view the file containing the specific events in the data plotting window press enter or double click on the event.

See Also: Sequence of Events Summary

SEQUENCE OF EVENTS SUMMARY

Location: File Manager

Description: View a summary of the sequence of events contained in the marked files in a table format. Mark all the desired files then select the SOE Summary option under the Options tab. A table will be displayed listing a summary of the events triggered in the selected files.

Activation: *Menu:* Alt-(O) Options, (R) Reports, (O) SOE Summary…

Ribbon, Options Tab: SOE Summary

Fields: *Substation:*   The substation that triggered the event/sensor

Device:	The device the channel originated from.
Fst-State:	The state the channel started at, A=alarm and N=normal.
Lst-State:	The state the channel ended at, A=alarm and N=normal.
First Change Date	The date the channel first changed state.
First Change Time:	The time the channel first changed state.
Last Change Date	The date the channel last changed state.
Last Change Time:	The time the channel last changed state.
Changes:	The number of times the channel changed state.
Chan#:	The channel number in the file.
Channel Title:	The title of the channel.
File:	The file containing the event/sensor channel.

Comments: The table is sorted according to the first change date and time. The Query section at the bottom of the table allows for searching events from specific substations, devices, channels and more... To view the file containing the specific events in the data plotting window press enter or double click on the event.

See Also: Sequence of Events List

SHORTCUTS DIALOG

Location: File Manager

Description: Define a number of shortcuts that will be displayed off the tool menu bar in a drop down menu button.

Activation: *Menu:* Alt-(O) Options, (D) Display…, ShortCuts button

Ribbon, Options Tab: , Short Cuts button

Fields:
File Table Tab:	A list of a number of file manager options.
Data Plotting Tab:	A list of a number of data plotting options.

Options:
Move:	Move the highlighted menu items to the User ShortCuts list.
Delete:	Delete the highlighted shortcut.
Move Up:	Move the highlighted shortcut up by on item.
Move Down:	Move the highlighted shortcut down by on item.
OK:	Save the shortcuts and display the new shortcuts in the drop down menus.
Cancel:	Exit the dialog without saving the shortcuts.

Comments: A drop down menu button is added to the toolbar with the shortcuts listed in the drop down menu. Clicking on the button will activate the first short cut in the drop down list.

See Also: Display Dialog

SHOW/HIDE CHANNEL TITLES

Location: File Manager

Description: The Show/Hide Channel Titles dialog allows for hiding invalid channel titles, removing titles from the invalid title list and adding new titles to the invalid channel list. All analog and digital

channels that contain the characters in the list in the beginning of the title are automatically hidden.

Activation:	*Menu:*	Alt-(O) Options, (T) Show/Hide Channel Titles…
	Ribbon, Options Tab:	Show/Hide Titles
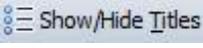
Fields:	*Title List Box:*	Lists all invalid channel titles.
	Add Title:	Add a new title to the list.
	Remove Title:	Remove a title from the list.

Options:	*Enter/Ok:*	Exit the dialog and save the changes.
	Esc/Cancel:	Exit the dialog without saving the changes.

Comments: To show a title, uncheck the checkbox next to the title. To add new titles to hide type the characters in the edit box and click the Add button. To remove an item from the list click on the item then click the Remove button.

SIZE

Location: File Manager (Status Field)

Description: Displays the total size (in Kbytes) of all files in the active directory.

See Also: Free
MrkSize

SIZE COLUMN

Location: File Manager

Description: Displays the size (in bytes) of the file.

SORT ALL ROWS

Location: All Tables

Description: Sort all the rows in the table in ascending or descending order.

Activation:	*Menu:*	Alt-(S) Sort, (A) Ascending
	Menu:	Alt-(S) Sort, (D) Descending
	Direct:	Mouse Click on the Column's header

Comments: All the rows in the active table are sorted with respect to the sort field displayed in the table's status field. Click on the Table column headers to toggle between ascending or descending order. The last column clicked on becomes the active sort field displayed in the status bar field.

See Also: Ascending Sort
Descending Sort
Set Sort Field

SORT FIELD

Location: All Tables (Status Field)

Description: Displays the active sort field.

Activation: *Direct:*   Mouse Click on the Column's header

Comments: The column header with the up or down arrow next to the column title indicates the active sort field. The active sort field is also displayed in the status bar. Clicking on the column header toggles between an ascending and descending sort. To sort the columns directly and to set the sort field, click the column header button.

See Also: Ascending Sort
Descending Sort
Sort All Rows

START DATE FIELD

Location: IEEE Long File Name

Description: The first field in the IEEE long file naming format. The start date is extracted from the event files and structured in the following format: Year (2 digits) Month Day: 190409.
Example File Name:
190409,113109123,+3S,Barton Substation#12,SEL421-432#34,ArkElectric,,,.DAT

See Also: IEEE Long File Naming Format
Start Time Field

START TIME FIELD

Location: IEEE Long File Name

Description: The second field in the IEEE long file naming format. The start time is extracted from the event files and structured in the following format: Hour Minute Second Millisecond: 113109234.
Example File Name:
190409,113109123,+3S,Barton Substation#12,SEL421-432#34,ArkElectric,,,,.DAT

See Also: IEEE Long File Naming Format
Start Date Field

SUBSTATION FIELD

Location: IEEE Long File Name

Description: The fourth field in the IEEE long file naming format. The substation name is extracted from the device record.
Example File Name:
190409,113109123,+3S,Barton Substation#12,SEL421-432#34,ArkElectric,,,,.DAT

See Also: IEEE Long File Naming Format

TAB DELIMITED TABLE DRIVER

Location: File Manager

Description: Display the tab delimited file at the cursor position in a table format. Tab delimited files have textual fields separated by tabs, such as: CHANNEL   DATE   TIME.

Activation: *Menu:* Alt-(D) Drivers, (T) Table, (T) Tab Delimited
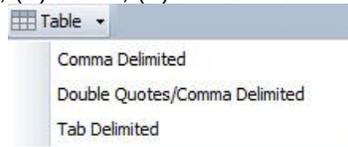
Ribbon, Drivers Tab:

Comments: The data in the file is presented in tabular form. An unlimited number of rows and columns can be displayed.

See Also: Associating File Types
Double Quotes/Comma Delimited Table Driver
Comma Delimited Table Driver

TCODE FIELD

Location: IEEE Long File Name

Description: The third field in the IEEE long file naming format. The TCode is extracted from the device record.
Example File Name:
190409,113109123,+3S,Barton Substation#12,SEL421-432#34,ArkElectric,,,,.DAT

See Also: IEEE Long File Naming Format

TOTFILES

Location: File Manager (Status Field)

Description: Displays the total number files/directories in the active directory. The "." and ".." navigation shortcuts are included in the total.

See Also: TotMarks

TOTMARKS

Location: All Tables (Status Field)

Description: Displays the total number of marked rows in the active table. Marked rows are displayed in light red.

See Also: AtRec

TRIGGER-TIME

Location: Waveform Summary (Events/Sensors Activity Log)

Description: Displays the time the digital channel changed state. This value is displayed in the third column of the Events/Sensors Activity Log.

Comments: The Events/Sensors Activity Log displays a time-sequenced list of all the events and sensors activity.

See Also: Waveform Summary

UN/MARK ROWS

Location: All Tables

Description: Mark or unmark the row at the cursor position.

Activation: *Direct:* Spacebar - Ctrl-Mouse Button
Menu: Alt-(M) Mark, (M) Un/Mark
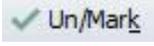
Ribbon, Files Tab: ✓ Un/Mark

Comments: Marked rows are displayed in red. The TotMarks field displayed in the status bar is updated accordingly.

See Also: Unmarked Marks
Group Marked Rows

UNMARK MARKS

Location: All Tables

Description: Unmark all the marked rows in the table.

Activation: *Menu:* Alt-(M) Mark, (U) Unmark Marks

Ribbon, Files Tab: ⬇ UnMark All
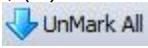
Comments: Marked rows are displayed in red. The TotMarks field, displayed in the status bar, is updated accordingly.

See Also: Mark/Unmark Rows
Group Marked Rows

WAVEFORM DATA

Location: File Manager

Description: If there are no marked waveform files in the table then plot the contents of the event file at the cursor position or plot all the marked waveform files.

Activation: *Direct:* <enter>, Plot menu button 〰
Menu: Alt-(O) Options, (W) Waveform File(s), (O) Open Selected File…
Menu: Alt-(O) Options, (W) Waveform File(s), (F) Open All Marked Files..

Ribbon, Files Tab: 〰 Open Marked
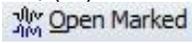
Comments: A maximum of 10 oscillography/log files can be opened simultaneously.

See Also: [Associating File Types](#)

WAVEFORM SUMMARY

Location: File Manager and Analysis

Description: Generates and displays analog and digital summaries for the active file in the file table or in the analysis window.

Activation: *Direct:* Summary menu buttons File Table , Analysis
Menu: File Table: Alt-(O) Options, (S) Waveform Summaries,
Menu: Analysis: Alt-(F) File, (S) Summary…
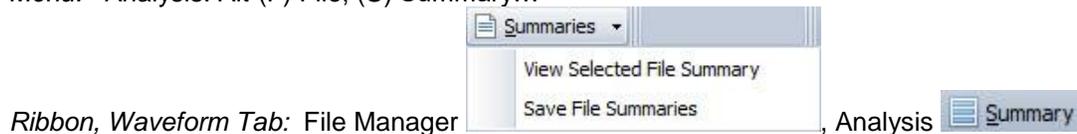
Ribbon, Waveform Tab: File Manager , Analysis

Comments: The summary file displays the following information:

Waveform Information
Station: Name of the Station associated with the waveform.
Filename: The name of the waveform file.
File Size: The size of the file in kilobytes.
Prefault-Time: The date and time of the first prefault sample.
Fault-Time: The date and time of the first fault sample.
Save-Time: The date and time the file was saved to hard disk.
Process-Time: The date and time the file was processed into this summary.
Start Date & Time: Date and time of the first sample in the file.
End Date & Time: Date and time of the last sample in the file.
File Duration: Duration of the file measured in days, hours, seconds, milliseconds and/or microseconds, depending on the type of file.
Sampling Frequency: Sampling frequency and the time between each sample.
Line Frequency: Line Frequency defined in the file.

Fault Information
Fault Information is displayed for SEL, DLP and Transcan files. The fault information includes: Fault Type, Fault Time, Location, Targets, Triggers, Frequency, Event and Targets.

Maximum/Minimum Analog Summary
Max-Inst: Instantaneous maximum values.
Min-Inst: Instantaneous minimum values.
Max-RMS: RMS maximum values.
Min-RMS: RMS minimum values.
OneBit: The channel's full-scale value divided by the channel's resolution.
Inst-Diff: The difference between the Max-Inst and Min-Inst values.
RMS-Diff: The difference between the Max-RMS and Min-RMS values.
pU: The channel's prefix and units.
Description: The number and title of the channel.

Events/Sensors Activity Summary
Fst: The state the channel started at, A=alarm, N=normal.
Lst: The state the channel ended at, A=alarm, N=normal.

Fst-Change: The date and time the channel first changed state.
Lst-Change: The date and time the channel last changed state.
Changes: The number of times the channel changed state.
Description: The number and title of the channel.

Events/Sensors Activity Log
State: The state of the channel at the triggered time,   A=alarm, N=normal.
Trigger Time: The time the channel changed state.
Description: The number and title of the channel.

Note: An xx:xx:xx.xxx in the events/sensors activity summary indicates that the digital channel's
state did not change from the initial state (Fst).

ZIP FILES

Location: File Manager

Description: Zip a group of files or a single file using the Zip option under the File tab. All support files
needed to display the selected files will be automatically included in the zip file. Support files
include Comtrade configuration (*.CFG), header (*.HDR) & information (*.INF) files, DFR's
analog and digital information files such as: Hathaway DAU files, Rochester preamble and
header files, Faxtrax/Director CTL files, Transcan SCF and TCF files.

Activation: *Direct:* Right Click Pop-up menu Button 🔲 Zip
Menu: Alt-(F) Files, (Z) Zipped Marked Files..

Ribbon, Files Tab: 🔲 Zip Files

Fields: *New Zip File Name:*   Enter a path and name for the new zip file.
EncryptHeaders: Click to encryptheaders.

Comments: To zip files, mark the desired files in the file table and select the Zip Files option under the
Files tab or right click on the file table and select the Zip 🔲 Zip option from the pop-up
menu. All support files needed to display the file(s) are automatically included.

See Also: Mark/Unmark Rows

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