

WAVEWIN

Device Manager REFERENCE GUIDE

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Preface

This document list all the fields and features available in the Wavewin software. The fields and features are listed in alphabetical order.

This document is intended for use by individuals working in protection, engineering, and system operations.

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C H A P T E R 1

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: *Menu:* Alt-(H) Help, (T) Active Topic...

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 change the sort field, place the cursor in the desired column and select "Set Sort Field" in the "Sort" menu. The sort field is displayed in the status bar at the bottom of the window. To sort the columns directly press the column header button. The header button toggles between ascending and descending order.

See Also: [Descending Sort](#)
[Set Sort Field](#)

ASCII LOG FILES

Location: Device Manager

Description: View the selected device's log file in an ASCII editor. The "Type" column in the device table indicates the type of editor displayed: ASCII or Binary (Hexadecimal). The type column is defined in the device configuration dialog. To open the device configuration dialog, select the device and press F2.

Activation: *Direct:* F6 – menu button 
Menu: Alt-(O) Options, (V) View Log File

Comments: The log file contents are displayed in text format. The contents of the log are all incoming commands from the connected device. 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 Edit menu options to cut, copy, or paste text.

To turn on logging open the polling properties dialog and activate the RX Setting fields.

See Also: [Binary Log Files](#)

[Save & Archive Dialog](#)

ASCII TERMINAL MODE

Location: Device Manager

Description: Display the ASCII terminal mode window. The “Type” column in the device table indicates the type of terminal window displayed: ASCII or Binary (Hexadecimal). The terminal window is used to transmit ASCII characters, escape sequences and/or function key definitions to the output device.

Activation: *Direct:* <Enter> – menu button 
Menu: Alt-(O) Options, (T) Terminal Mode

Comments: The type of terminal mode window displayed is determined by the type field (ASCII or Binary) defined in the device configuration dialog. To communicate with an ASCII device place the cursor on the desired device and press <enter> or click the Terminal option under the Options tab. When the terminal window is opened it will automatically connect to the device. Upon exit the connection is closed.

Data is transmitted to the output device by pressing the predefined function keys or by manually pressing the numeric and letter keys. If the device does not respond, check the device’s communication parameters (F2) or the device connection. Use the up arrow, down arrow, right arrow, left arrow, page up, and page down keys to browse the data and the <esc> key to exit.

To view the data coming in from a device during a polling session click on the device’s status information section in the MID window. Clicking on the device’s status information section will display the terminal mode window.

See Also: [Function Keys](#)
[Binary Terminal Mode](#)

ATREC

Location: Device Manager (Status Field)

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

See Also: [TotRecs](#)
[TotMarks](#)

BINARY LOG FILE

Location: Device Manager

Description: View the selected device’s log file in a binary editor. The “Type” column in the device table indicates the type of editor displayed: ASCII or Binary (Hexadecimal). The type column is defined in the device configuration dialog. To open the device configuration dialog, select the device and press F2.

Activation: *Direct:* F6
Menu: Alt-(O) Options, (V) View Log File

Comments: The log file's content is displayed in a Binary (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.

See Also: [ASCII Log Files](#)

BINARY TERMINAL MODE

Location: Device Manager

Description: Display the Binary terminal mode window. The "Type" column in the device table indicates the type of terminal window displayed: ASCII or Binary (Hexadecimal). The terminal window is used to transmit characters and/or function key definitions to the output device.

Activation: *Direct:* <Enter> – menu button 
Menu: Alt-(O) Options, (T) Terminal Mode

Comments: The type of terminal mode window displayed is determined by the type field (ASCII or Binary) defined in the device configuration dialog. To communicate with a binary device place the cursor on the desired device and press <enter> or click the Terminal menu button. When the terminal window is opened it will automatically connect to the device. Upon exit the connection is closed.

Data is transmitted to the output device by pressing the predefined function keys or by manually pressing the hex numeric and letter keys (0..9,A..F). If the device does not respond, check the device's communication parameters (F2) and/or the device connection. Use the up arrow, down arrow, right arrow, left arrow, page up, and page down keys to browse the data and the <esc> key to exit.

To view the data coming in from a device during a polling session click on the device's status information section in the MID window. Clicking on the device's status information section will display the terminal mode window.

See Also: [Function Keys](#)
[ASCII Terminal Mode](#)

CHANGE PASSWORDS

Location: Device Manager

Description: Activate the Change Passwords feature to verify modem connections and to automatically change the passwords on the marked devices directly or remotely connected to the Wavewin system. Marked devices are displayed in red. Use the mouse or spacebar to mark devices. There are two options available; Specified by User or Specified by Encrypted File. The specified by User displays a dialog to enter the Old, New and Confirm passwords for Level 1, 2, B, C, P, A and O. The Specified by Encrypted File displays the Windows Select file dialog. Select the file with the Encrypted passwords.

Activation: *Menu:* Alt-(O) Options, (P) Change Device Passwords

Fields:

<i>Level 1 Old Password:</i>	Enter the Level 1 old password.
<i>Level 1 New Password:</i>	Enter the Level 1 new password.
<i>Level 1 Confirm Password:</i>	Confirm the Level 1 new password.
<i>Level 2 Old Password:</i>	Enter the Level 2 old password.

<i>Level 2 New Password:</i>	Enter the Level 2 new password.
<i>Level 2 Confirm Password:</i>	Confirm the Level 2 new password.
<i>Level B Old Password:</i>	Enter the Level B old password.
<i>Level B New Password:</i>	Enter the Level B new password.
<i>Level B Confirm Password:</i>	Confirm the Level B new password.
<i>Level C Old Password:</i>	Enter the Level C old password.
<i>Level C New Password:</i>	Enter the Level C new password.
<i>Level C Confirm Password:</i>	Confirm the Level C new password.
<i>Level P Old Password:</i>	Enter the Level P old password.
<i>Level P New Password:</i>	Enter the Level P new password.
<i>Level P Confirm Password:</i>	Confirm the Level P new password.
<i>Level A Old Password:</i>	Enter the Level A old password.
<i>Level A New Password:</i>	Enter the Level A new password.
<i>Level A Confirm Password:</i>	Confirm the Level A new password.
<i>Level O Old Password:</i>	Enter the Level O old password.
<i>Level O New Password:</i>	Enter the Level O new password.
<i>Level O Confirm Password:</i>	Confirm the Level O new password.

Options:	<i>Enter/Ok:</i>	Close the dialog and open the MID (polling) window.
	<i>Esc/Cancel:</i>	Exits the dialog without executing the command.
	<i>Use Strong Radom Password:</i>	Wavewin automatically generates a random 6 character password for each device.
	<i>Encrypted Proprietary File:</i>	Read the passwords from and encrypted file.

Comments: This feature secures all the existing modem and network connections to digital relays, communication processors, port switches and/or any other type of remotely accessible devices used in the company. Upon activation change passwords performs the following steps for each connected device:

- As applicable dial, switch to, or Ethernet connect and logon.
- Get the new password.
- Change the old password to the new one using the appropriate communication driver.
- Confirm the password was successfully changed.
- Upon confirmation, update the password file (SETPSW.CSV), the database file (CFG_SHOT.DTB) and the device table.
- Logout from the active device and as applicable hang-up, switch out or terminate the Ethernet connection.
- Retry failures if any errors where encountered (up to 3 retries per failure).

A small summary file is created in the system directory containing the performance results. It is saved to the company network if any failed connections or logon attempts were detected.

The random password generator is seeded once upon initial execution to ensure even distribution across a 6 character spectrum. The new passwords are stored in SETPSW.CSV. Before activation the existing SETPSW.CSV file is renamed using the IEEE long file naming format with a .CSV extension.

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

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

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. Use the Ctrl-Left/Right Arrow keys to navigate between the query fields.

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

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, data plotting and the device manager.

Activation: *Wavewin32.exe [passed parameters]*

Parameters:

<i>Path and Filename:</i>	Path and file name surrounded by “ ” .
<i>/Print:</i>	Used with the path and file name. It prints the specified file.
<i>/Comtrade:</i>	Used with the path and file name. It converts the specified file to the IEEE Comtrade format.
<i>/Batch:</i>	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.
<i>/Merge:</i>	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..

<i>/X:</i>	The “/X” command line parameter tells where to display Wavewin’s left corner when executed.
<i>/Y:</i>	The “/Y” command line parameter tells where to display Wavewin’s upper corner when executed.
<i>/W:</i>	The “/W” command line parameter tells the width of the Wavewin application when executed.
<i>/H:</i>	The “/H” command line parameter tells the height of the Wavewin application when executed.
<i>/Exit:</i>	The “/Exit” command line will automatically exit Wavewin after all other command line parameters are fully complete.
<i>Ports:</i>	The ports command automatically opens the device manager table.
<i>Mid:</i>	The mid command automatically opens the MID polling window.
<i>Lock:</i>	Locks the device manager saving options (Editors and Polling Properties).

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

COMPANY NAME (SAVE & ARCHIVE)

Location: Device Manager - Save & Archive Dialog

Description: The name of the company where the connected devices are installed. The company name is used in the IEEE long file naming format. The sixth field in the file name defines the company name.

Comments: The following characters are not permitted in a file name. : ? “ / \ < > * | @ # and cannot be part of the company name.

See Also: [IEEE Long File Naming Format](#)

COPY DEVICE RECORDS

Location: Device Manager

Description: Copy the marked device records to the system clipboard.

Activation: *Menu:* Alt-(D) Device, (Y) Copy

Comments: Device records can be copied from one configuration to another. To copy device records mark the desired records in the device table (marked devices are displayed in red) then select the Copy option under Devices tab. The marked records will be copied to the “DEV_CLIPBOARD.CLP” and the devices function keys will be copied to the “LOG_CLIPBOARD.CLP”. These files are cleared before each copy operation. To paste the devices to a new or existing configuration open the new or existing configuration using the Open Device Config option under the Device tab then select the Paste option.

See Also: [Open Device Configuration](#)
[New Device Configuration](#)
[Paste Device Records](#)

DELETE DEVICES

Location: Device Manager

Description: Delete the marked devices from the device manager table.

Activation: *Direct:* Delete
Menu: Alt-(D) Device, (D) Delete

Comments: Marked records are displayed in red. The TotMarks field displayed in the status bar is updated accordingly. Records that were unsuccessfully deleted are marked and grouped at the top of the table.

Restrictions: The marked records are tagged as deleted records and will not show up in the table. They are not physically removed from the device database (CFG_DEVS.DTB) file but are marked as deleted.

See Also: [Mark/Unmark Records](#)

DESCENDING SORT

Location: All Tables

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

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

Comments: To change the sort field, place the cursor in the desired column and select Set Sort Field in the Sort menu. 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 FIELD

Location: IEEE Long File Name

Description: The 5th field in the IEEE long file naming format. The title and device number columns are used for the device field in the long naming format. The device number is concatenated to the title by the #, example SEL 351#83.

See Also: [IEEE Long File Naming Format](#)

DISPLAY DIALOG

Location: Device Manager

Description: Reposition the columns in the table and other general settings.

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

Fields:

<i>File Column List:</i>	A list of all the columns in the table. Use the Move Up and Move Down Buttons to rearrange the columns.
<i>Table Font Size:</i>	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.
Duplicate Dialog Color: Change the background color of the duplicate dialog to distinguish between the edit and new device dialogs.
Star All Passwords: Star all the passwords in the device manager table and edit dialog.
FTP Include Original Name in Long Name: When composing the long filename for incoming files from an FTP connection include the original filename in the first Optional field.
Include Device #in Long Name: Include the device number in the long file names. The three options are No Device number, include as # Device # or _Device #. The device number is added after the device name in the long file names.
Include Station # in Long Name: Include the station number in the long file names. The three options are No Station number, include as # Station # or _Station #. The station number is added after the station name in the long file names.
File Transfer Type: Define the type of file transfer used when moving files. The two options are use the Regular transfer type of the Diode transfer.
Help Files: Select to display the help files in PDF format or ASCII text.

Options:
Move Up: Columns Tab. Move the highlighted column up one position.
Move Down: Columns Tab. Move the highlighted column down one position.
Reset: 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](#)

DRIVER SUMMARY

Location: Device Manager

Description: Display a small summary of the driver.ini file in a table format. The summary includes the driver #, the driver title, total included drivers, total RXSTRIP commands in the driver and the number of the included drivers.

Activation: *Menu:* Alt-(O) Options, (P) Reports, (D) Driver.ini Summary...

Fields:
Driver Number: The driver number assigned to the driver.
Driver Title: The name of the driver.
Total Included Drivers: The total number of included drivers in the main driver. Included drivers are listed next to the main driver number with an & sign in front of the included driver number.
Total RXSTRIPs: The total number of RXSTRIP commands in the main driver.
Included Drivers: List all the driver's number included in the main driver.

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](#)

DUPLICATE DEVICE RECORD

Location: Device Manager

Description: Duplicate the selected device record in the table. The Communication Information section will display the existing devices settings (Serial, Virtual Port, Ethernet or RAS).

Activation: *Direct:* Opposite click on the device record to duplicate and select the Duplicate Device menu option.
Menu: Alt-(D) Device, (U) Duplicate

Fields: ***Device Information:***

Device Number: Change the number for the new device. Each device must have a unique number. An error is displayed if the device number already exists.

Data Type: Select the type of data being polled (ASCII/Binary).

Title: The Title field is the device name. This field is used when composing the IEEE long file name for waveform files. Microsoft does not allow a number of characters in a file name. Do not use the comma and the list of illegal characters displayed in the IEEE long file name section.

Driver: Select the driver associated with the configured device from the drop down list.

Stn-Group: The Stn-Group field is the name of the station and or group the device is associated with. This field is used when composing the IEEE long file name for the waveform files. Microsoft does not allow a number of characters in a file name. Do not use the comma and the list of illegal characters displayed in the IEEE long file name section. Separate the station name and group name with a dash "-". For example West-River Street specifies that West is the station and River Street is the group name.

Group ID: The group ID defines what group the device is associated with.

Password 1: The first level password to gain access to the event files in the device.

Password 2: The second level password to gain access to the event files in the device.

Event File Type: The type of files to retrieve.

Save Path: The path where all retrieved files are saved.

Log Variables: Turn On/Off logging of the polling status. Default = On.

Time Code: The Time Code defines the time offset from GMT time.

Communication Information:

Refer to the Connection Types listed under the See Also section

Options: *Save/Enter:* Exit, save and update the Device table.
Esc/Cancel: Exit the dialog without saving the dialog fields.

Comments: The selected device in the table is duplicated as a new record at the end of the table. The device number must be changed. All device numbers must be unique. An error message will be displayed if any invalid fields are encountered. The Title and Substation fields are

used in the IEEE long file naming format. The following characters (: ? “ / \ < > * | @ #) are not valid in file names and cannot be used in the title and substation fields.

The Serial connection type opens the port when the device manager is opened and closes the port when the device manager is closed. To have the serial device open and locked during the duration of the device manager select the Serial connection.

The Virtual port connection type opens the port before connecting to the device and immediately closes the port when the polling process is complete for the specific device. This allows for other applications to connect to the device when the device is not being polled by Wavewin.

- See Also:** [New Device Record](#)
[Edit Device Record](#)
[Serial Connections](#)
[Virtual Port Connections](#)
[TCP/IP Server](#)
[TCP/IP Client](#)
[Telnet Client](#)
[FTP Client](#)
[RAS-TCP/IP](#)
[RAS-FTP Client](#)

EDIT COMMANDS

Location: Device Manager

Description: Edit the commands for the selected device. Click the checkbox next to each device that is updated when saving the commands. To have the checked commands copied to all marked devices in the table check the Copy All Checked Command to the Marked Devices checkbox.

Activation: *Menu:* Alt-(D) Devices, (M) Commands...

Fields:

<i>CMND:</i>	CMND is used for a device's phone number for modem connections or for the password for communication processor the device is connected to.
<i>CMND1:</i>	CMND1 is for the device's level 1 password.
<i>CMND2:</i>	CMND1 is for the device's level 2 password.
<i>CMND3:</i>	CMND3 is used to define the backout command to leave the device and return to the communication processor.
<i>CMND4:</i>	CMND4 sets the Log Variables option to On or OFF.
<i>CMND5:</i>	CMND5 defines what type of events to extract from the device. The options are: Default, Short, Long, Raw (Unfiltered), Compressed Raw, Compressed Raw L60, Compressed Raw Default, Compressed B Command and ASCII EVE B Command.
<i>CMND6:</i>	CMND6 defines the save path for all extracted files. Use the Browse button to locate the save path using Windows Select Directory dialog.
<i>CMND7:</i>	CMND7 is used to define an ID for the Device. This command can be used inside the Driver.ini file for logging information
<i>CMND8-11:</i>	CMND8 to CMND11 are extra commands to be used for information when logging commands in the Drivers.ini file.

Options:

<i>Save/Enter:</i>	Exit, save and update the Device table.
<i>Esc/Cancel:</i>	Exit the dialog without saving the dialog fields.

Comments: The CMND, CMND1 and CMND2 are not editable from the Commands dialog. These three fields are for password settings. To edit these fields use the device configuration dialog.

See Also: [Duplicate Device Record](#)
[Edit Device Record](#)
[Serial Connections](#)
[Virtual Port Connections](#)
[TCP/IP Server](#)
[TCP/IP Client](#)
[Telnet Client](#)
[FTP Client](#)
[RAS-TCP/IP](#)
[RAS-FTP Client](#)

EDIT DEVICE RECORD

Location: Device Manager

Description: Edit the selected device record in the table.

Activation: *Direct:* F2 –menu button , Opposite click on the device record and select the Edit Device menu option.
Menu: Alt-(D) Device, (E) Edit...

Fields: ***Device Information:***

Device Number: Change the number for the new device. Each device must have a unique number. An error is displayed if the device number already exists.

Data Type: Select the type of data being polled (ASCII/Binary).

Title: The Title field is the device name. This field is used when composing the IEEE long file name for waveform files. Microsoft does not allow a number of characters in a file name. Do not use the comma and the list of illegal characters displayed in the IEEE long file name section.

Driver: Select the driver associated with the configured device from the drop down list.

Stn-Group: The Stn-Group field is the name of the station and or group the device is associated with. This field is used when composing the IEEE long file name for the waveform files. Microsoft does not allow a number of characters in a file name. Do not use the comma and the list of illegal characters displayed in the IEEE long file name section. Separate the station name and group name with a dash “-“. For example West-River Street specifies that West is the station and River Street is the group name.

Group ID: The group ID defines what group the device is associated with.

Password 1: The first level password to gain access to the event files in the device.

Password 2: The second level password to gain access to the event files in the device.

Event File Type: The type of files to retrieve.

Save Path: The path where all retrieved files are saved.

Log Variables: Turn On/Off logging of the polling status. Default = On.

Time Code: The Time Code defines the time offset from GMT time.

Communication Information:

Refer to the Connection Types listed under the See Also section

Options: *Save/Enter:* Exit, save and update the Device table.
 Esc/Cancel: Exit the dialog without saving the dialog fields.

Comments: An error message will be displayed if any invalid fields are encountered. The Title and Substation fields are used in the IEEE long file naming format. The following characters (: ? “ / \ < > * | @ #) are not valid in file names and cannot be used in the title and Stn-Group fields.

See Also: [Duplicate Device Record](#)
 [Edit Device Record](#)
 [Serial Connections](#)
 [Virtual Port Connections](#)
 [TCP/IP Server](#)
 [TCP/IP Client](#)
 [Telnet Client](#)
 [FTP Client](#)
 [RAS-TCP/IP](#)
 [RAS-FTP Client](#)

EQUAL TO (=)

Location: Query Fields

Description: Search the active configuration 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: [Greater Than \(>\)](#)
 [Less Than \(<\)](#)

EXPORT

Location: Device Manager

Description: Export all or marked devices to a tab delimited ASCII file.

Activation: *Menu:* Alt-(D) Device, (E) Export...

Comments: This feature is useful for changing common information for all devices quickly. For example if a COM port number has changed for a number of devices then those devices can be exported. The export file can be opened in “Excel” and all of the Com port fields can be changed easily. To import the changes back into the device configuration table use the Import option under the Devices tab.

See Also: [Import](#)

FID SUMMARY

Location: Device Manager

Description: Display a small summary of the devices FID report in a table format. The summary includes the substation name, device #, the device title the FID from the relay.

Activation: *Menu:* Alt-(O) Options, (P) Reports, (F) FID Summary...

Fields:

<i>Substation:</i>	The substation name.
<i>Device Number</i>	The device number
<i>Device Title:</i>	The device title.
<i>FID:</i>	The Last FID command issued to the relay.

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](#)

FLIP MARKS

Location: All Tables

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

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

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](#)

FTP CLIENT

Location: Device Manager

Description: Define the selected device to collect fault records using the FTP protocol.

Activation: *Direct:* Select Ethernet in the Connection Type box then select FTP Client in the protocol list.

Fields:

<i>Connections Type:</i>	Select the Ethernet from the Connection Type box. The fields in the connection information changes according to the selection in the connection type box.
<i>Protocol:</i>	Select the FTP client option from the list box. The fields in the communication information section changes according to the selection in the protocol list box.
<i>Session:</i>	Select the COM session number to use. For Ethernet connections start the session number at COM10.
<i>Address:</i>	For multi-drops, modbus or a communication processor enter the slave or port address.
<i>Back Out:</i>	Enter the command to back out of a device to the communication processor.
<i>IP Address:</i>	Set the device's IP address.
<i>IP Port:</i>	Set the FTP port number. Port number 21 is designated as the FTP port number.
<i>User Name:</i>	Set the FTP sessions user name.
<i>Password:</i>	Set the FTP sessions password.
<i>Remote Path:</i>	Set the device's FTP remote path to poll.

File Extensions: Specifies the type of files to retrieve according to the file extension. Example: *.DAT|*.CFG|*.HDR. Multiple extensions must be separated by a pipe sign.

File Names: Specifies how to name the event files that are retrieved from the device and saved in the Save Path. There are 3 options: Maintain the Original Name, this option will not change the name. Rename to IEEE Long Filename, this option will name the file using the IEEE long file naming format. The Group name and title fields are used when composing the long filename. Rename to IEEE Long Filename w/ .TLR Ext, this option will name the file using the IEEE long file naming format and assign a .TLR extension.

Delete Source: Delete the waveform files from the FTP server after retrieving the files.

UTC Time (Yes/No): Convert the event file's date and time from UTC time to local time.

File Transfer Mode: The type of FTP File Transfer Protocol to use.

Zip Files: Specifies how to handle retrieved zip files. There are 3 options: No, this option will not change the name and will not unzip the file. Unzip, this option will unzip the contents of the file and keep the original zip file. Unzip and Delete Zip, this option will unzip the contents of the file and delete the zip file from disk.

Options: *Save/Enter:* Exit, save and update the Device's manager table.
Cancel/Esc: Exit the dialog without saving the changes made.

Comments: The FTP client first reads the entire directory defined in the Remote path and saves all the files to extract to a DEV_DeviceNumber.FTP file located in the Messages and Logs Path.

See Also: [New Device Record](#)
[Duplicate Device Record](#)
[Edit Device Record](#)
[TCP/IP Client](#)
[TCP/IP Server](#)
[Save Archive Dialog](#)

FUNCTION KEYS

Location: Device Manager

Description: Setup the device's Function keys to be displayed in the terminal mode window.

Activation: *Direct:* F5, menu button 
Menu: Alt-(O) Options, (F) Terminal Function Keys

Fields: *F1-9 : Titles:* The function key name displayed in the Terminal Mode window.
TX Command: A string of ASCII characters or hexadecimal values transmitted to the connected device.
Copy All: The Copy Function Keys to All Marked Devices button will copy all the entered titles and TX Commands to the marked devices function keys overwriting the existing titles and commands.

Options: *Enter/Save:* Exit the dialog and save the function keys (CFG_SHOT.DTB).
Esc/Cancel: Exit the dialog without executing the command.

Comments: Programmable function keys allow for a string of ASCII characters or hexadecimal values to be transmitted to the output device through a single keystroke. The function keys are active

in ASCII and hexadecimal terminal mode windows. Each device contains up to nine function keys.

See Also: [ASCII Terminal Mode](#)
[Binary Terminal Mode](#)

GREATER THAN (>)

Location: Query Fields

Description: Search the active configuration 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

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

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

IEEE LONG FILE NAMING FORMAT

Location: IEEE Long File Name

Description: All data polled from the connected devices are saved to files using the IEEE long file naming format. The start date and time comes from the data polled and the time code, substation name, device name, and company name comes from the fields in the device record.

Fields:

<i>Date:</i>	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)
<i>Time:</i>	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](#)

IMPORT

Location: Device Manager

Description: Import all changes made to the exported tab delimited ASCII file.

Activation: *Menu:* Alt-(D) Device, (I) Import

Fields: *Import File:* Enter or select the import file.
Overwrite Existing Devices: Overwrite the existing files according to the device numbers.
Append to End of Table: Append the devices inside the import files to the end of the table.

Options: *Enter/OK:* Exit the dialog and start the import process.
Esc/Cancel: Exit the dialog without executing the command.

Comments: The import feature is used to import all device information from the exported tab delimited ASCII file. It is advisable to always keep a backup of the existing Device Configuration files before using the import feature. This allows for a quick recovery if any of the changes made to the export file were incorrect. The 3 files to backup are the CFG_DEVS.DTB, CFG_SHOT.DTB & DRIVERS.INI files located in the Wavewin directory.

To import a previously exported file select the Import option under the Devices tab. Enter the exported files path and filename or use the Browse button to select the file. All device information contained in the imported file will be updated in the active device configuration table. The device information imported from the selected file can overwrite the existing devices or can be appended to the end of the file.

See Also: [Export](#)

LESS THAN (<)

Location: Query Fields

Description: Search the active table for row data 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 \(>\)](#)

LOCK SAVING

Location: Device Manager

Description: Lock the user from changing the fields in the save and archive dialog and from editing the device log files.

Activation: *Direct:* Save and Archive Dialog (Poll Properties Dialog), Lock Saving Field,

Comments: To protect the information contained in the Save and Archive dialog and the system log files turn lock saving on.

See Also: [Save and Archive Dialog](#)

LOG IN

Location: Device Manager

Description: Log In to the Device Manager.

Activation: *Direct:* 

Comments: To protect the information contained in the device manager table a user ID and password can be set to ensure the users of the system Logs In before accessing the features of the device manager. Communications with devices require either an IP address or a phone number and passwords. To ensure this information is displayed for valid users the User ID and password must be entered into the Log In dialog before viewing the secured information.

The Log In button is located on the device manager's tool bar. Once logged in the button name will change to Log Out. If there is no activity for 15 minutes or longer the system will automatically log out.

See Also: [Log Out](#)
[Save Archive Dialog](#)

LOG OUT

Location: Device Manager

Description: Log Out of the Device Manager.

Activation: *Direct:* 

Comments: The Log Out button is located on the device manager's tool bar. Once logged out the button name will change to Log In. If there is no activity for 15 minutes or longer the system will automatically log out.

See Also: [Log In](#)
[Save Archive Dialog](#)

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

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.

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

Comments: Marked rows are displayed in red. The TotMarks field displayed in the status bar is updated accordingly. The Mark menu button toggles all the rows in the table between the marked and unmarked state.

See Also: [Unmarked Marked Rows](#)
[Flip Marks](#)
[Group Marked Rows](#)

MULTIPOINT INTERROGATION DISPLAY (MID)

Location: Device Manager

Description: Display the MID window to periodically execute the device's assigned drivers and update the parsed information into the device panel.

Activation: *Direct:* F7, Poll One Time menu button , Poll Periodic menu button 
Menu: Alt-(O) Options, (M) Run MID Interface

Comments: To open the MID window, for a one time only poll click the poll one time only menu button . To open the MID window, for a periodic poll click the poll periodic poll menu button . When the poll periodic is set the start system device will run immediately but all other devices will not run until the period defined in the Save and Archive (Polling Properties) dialog has expired.

If no devices are marked all devices assigned a driver are displayed and polled. If there are marked devices then only the marked devices assigned a driver are displayed and polled.

When the MID window is opened the device's TXCOMMAND assigned in the DRIVERS.INI file is periodically sent to the output device. The response data is parsed by the RXSTRIP commands and updated on screen. Each panel displays the device title (Hdr), the assigned active device drive (Drv), the device number (Dev#), the number of times the driver executed (Cycle) and the group name (Group).

NEW DEVICE CONFIGURATION

Location: Device Manager

Description: Open a new device configuration table with zero devices defined in the table and database files.

Activation: *Menu:* Alt-(D) Device, (W) New Configuration...

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

Options: *New Folder:* Create a new folder under the selected path.
Enter/Ok: Exit the dialog and create the new configuration.
Esc/Cancel: Exit the dialog without executing the command.

Comments: A Select Directory dialog allows for selecting an existing directory or for creating a new directory for the new configuration. To create a new directory, click the New Folder button. The CFG_DEVS.DTB and CFG_SHOT.DTB files are created with zero records. If these files exist in the selected directory then they are cleared. The system will prompt a message asking to copy the existing DRIVERS.INI file to the new configuration directory. Select Yes to use the existing DRIVERS.INI for the new configuration or No to create a new DRIVERS.INI file.

See Also: [Open Device Configuration](#)
[New Device Record](#)
[Duplicate Device Record](#)

NEW DEVICE RECORD

Location: Device Manager

Description: Create a new device record in the table.

Activation: *Direct:* F4 –menu button 
Menu: Alt-(D) Device, (N) New...

Fields: ***Device Information:***

Device Number: Set the number of the device. Each device must have a unique number. The device number is used in the IEEE long file naming format.

Data Type: Select the type of data being polled (ASCII/Binary).

Title: The Title field is the device name. This field is used when composing the IEEE long file name for waveform files. Microsoft does not allow a number of characters in a file name. Do not use the comma and the list of illegal characters displayed in the IEEE long file name section.

Driver: Select the driver associated with the configured device from the drop down list.

Stn-Group: The Stn-Group field is the name of the station and or group the device is associated with. This field is used when composing the IEEE long file name for the waveform files. Microsoft does not allow a number of characters in a file name. Do not use the comma and the list of illegal characters displayed in the IEEE long file name section. To specify a station along with the group name separate them with a dash "-". For example West-River Street specifies that West is the station and River Street is the group name.

Group ID: The group ID defines what group the device is associated with.

Password 1: The first level password to gain access to the event files in the device.

Password 2: The second level password to gain access to the event files in the device.

Event File Type: The type of files to retrieve.

Save Path: The path where all retrieved files are saved.

Log Variables: Turn On/Off logging of the polling status. Default = On.

Time Code: The Time Code defines the time offset from GMT time.

Communication Information:

Connection Type: Specifies an Ethernet connection to the device. This is the default connection type set when requesting a new device.

Protocol: Select TCP/IP Client or Telnet Client. The TCP/IP protocol uses non-blocking communications (event based). Non-blocking communications sends commands from the client to the server without waiting for a response. The response is sent to the client's event method and processed as it comes in. Telnet uses a blocking connection. When a command is sent from the client to the server the application is halted waiting for the response from the server.

Session: The Session field defines the physical or virtual COM port used for connecting to the device. Ethernet communications use a virtual connection. The drop down list first lists all the physical COM ports available on the computer followed by the virtual COM ports. For Ethernet connections the session numbers will be defined starting a COM10.

Address: The address field can define the port number the device is connected to off a communication processor or the relay's communication number for 485 multi-drop topologies or a slave address for modbus communications.

Back Out: The command used to back out of a relay and return to a communication processor.

Com Pass: The communication processor password.

IP: The IP address to the device.

IP Port: The IP Port number. Standard IP port number for different type of servers is: Telnet = 23, FTP = 21, SFTP = 22 and TCP/IP = 23.

Options: *Save/Enter:* Exit and save the dialog fields.
Esc/Cancel: Exit the dialog without saving the dialog fields.

Comments: Some of the fields are set to default values such as: connection type, protocol, session, event file type, data type and log variables. Change these defaults to the needed configuration information. The device number is a required field and must be unique. An error message will be displayed if any invalid fields are encountered.

See Also: [Duplicate Device Record](#)
[Edit Device Record](#)
[Serial Connections](#)
[Virtual Port Connections](#)

[TCP/IP Server](#)
[TCP/IP Client](#)
[Telnet Client](#)
[FTP Client](#)
[RAS-TCP/IP](#)
[RAS-FTP Client](#)

OPEN DEVICE CONFIGURATION

Location: Device Manager

Description: Open an existing device configuration table.

Activation: *Menu:* Alt-(D) Device, (O) Open Device Configuration...

Fields: *Folder/File List:* Navigate to the folder that contains the existing configuration file.
File name: Select the existing CFG_DEVS.DTB file.
File of Type: Automatically selected as Device DTB files.

Options: *Enter/Open:* Exit the dialog and open the existing configuration.
Esc/Cancel: Exit the dialog without executing the command.

Comments: The new configuration in the selected CFG_DEVS.DTB and CFG_SHOT.DTB files are displayed. The system will prompt an error message if an error was encountered reading the configuration.

See Also: [New Device Configuration](#)
[Edit Device Record](#)
[Duplicate Device Record](#)

PASTE DEVICE RECORDS

Location: Device Manager

Description: Paste the device records from the system clipboard files to the active device configuration.

Activation: *Menu:* Alt-(D) Device, (T) Paste

Comments: Device records copied to the system clipboard files DEV_CLIPBOARD.CLP, LOG_CLIPBOARD.CLP can be pasted into the active device configuration files. After each paste operation the device table is updated, and all devices are initialized. To copy files from the active configuration table, first mark the records, select the Copy option under the Device tab. Open the configuration file to paste the records into then select the Paste option under the Device tab..

See Also: [Open Device Configuration](#)
[New Device Configuration](#)
[Copy Device Records](#)

POLLING PROPERTIES

Location: Device Manager

Description: Display the Polling Properties (Save & Archive) dialog to define the system and file settings.

Activation: *Menu:* Alt-(O) Options, (S) Save Archive Dialog...

Fields: **System Settings:**

Station ID: Set the Station number where the system is running.
Station Name: Set the Station name where the system is running
Time Code: The time code where the system is located.
Company Name: Set the company name.

Password Settings:

User ID: The user's ID to gain access to the device manager features.
Password: The user's password to gain access to the device manager features. The Log In/Off buttons will be displayed when a user ID and password is entered. If these fields are blank then it is not required to Log In to use the device manager table features.
Confirm Password: Confirm the user's password.
Lock Saving: Lock the user from changing the fields in the save and archive dialog and from editing the device log files.

Poll Settings:

Events Path: Path where the event files are saved to disk. Enter up to 80 characters/digits.
Message/Log Path: Path where the received data DTB files are saved to disk. Enter up to 80 characters/digits.
Poll Type: The type of poll (none, periodic or upon demand). When periodic is selected the period field will be displayed.
Period: Poll all the devices every xxx seconds or enter a military time preceded by the letter "T". For example, to poll all the devices at 2:00 AM every day enter T0200.
Events to Extract: The maximum number of events to extract for each device during a single poll.
Ping Before Connect: Ping the Ethernet devices before attempting to connect to them. The ping command may be blocked by routers over wide area networks. Pinging devices may be blocked by IT for security reasons. It stops hackers from obtaining a list of IP addresses.
% Disk Used Limit: Stop the polling process if the disk used space exceeds the selected percentage. The default is 90%.

RX Settings:

Save Rx Data: Save all data received from the polled devices to a separate DTB file. Select "Yes" to keep a record of all data received from the devices or "No" to discard all received data. This feature is used for troubleshooting the communications with devices.
Delete/Archive: Action to take when the duration field is exceeded. Select archive to rename the DTB file using the IEEE long file naming format or select delete to delete the files from disk.
Duration (After): The duration when to rename or delete the received data stored in the database files (DTB). Enter up to 99999 minutes or 0 to turn this feature off. A military time can also be specified using the T indicator (T2359 = One minute before midnight).
Name: The database files (DTB) are named: DEV_####.DTB. This field defines what number to use in the #### section of the file name. To use the Device number select Device #. To use the Group number select the Group # option. The default is the Device #.

Options: *Save/Enter:* Exit and save the dialog fields.
Esc/Cancel: Exit the dialog without saving the dialog fields.

Comments: Use the tab key to navigate between fields.

See Also: [Log In](#)
[Log Out](#)
[Lock Saving](#)

PRINT ALL ROWS

Location: All Tables

Description: Print all the rows in active table.

Activation: *Menu:* Alt-(D) Device, (P) Print, (A) Print All Rows

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-(D) Device, (S) Printer Setup...

QUERY ALL ROWS

Location: Query Fields

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

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

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

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

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](#)

RAS - FTP CLIENT

Location: Device Manager

Description: Define the selected device to collect fault records using the RAS - FTP protocol.

Activation: *Direct:* Select RAS in the Connection Type box then select FTP Client in the protocol list.

Fields:

<i>Connections Type:</i>	Select the RAS option in the Connection Type box. The fields in the connection information changes according to the selection in the connection type box.
<i>Protocol:</i>	Select the FTP client option from the list box. The fields in the communication information section changes according to the selection in the protocol list box.
<i>Session:</i>	Select the COM session number to use. For Ethernet connections start the session number at COM10.
<i>Address:</i>	For multi-drops, modbus or a communication processor enter the slave or port address.
<i>Back Out:</i>	Enter the command to back out of a device to the communication processor.
<i>RAS Phone #:</i>	Enter the phone number to dial with the IP address surrounded by []. For example 1,717-223-9876[192.168.10.11]
<i>IP Port:</i>	Set the FTP port number. Port number 21 is designated as the FTP port number.
<i>User Name:</i>	Set the FTP sessions user name.
<i>Password:</i>	Set the FTP sessions password.
<i>Remote Path:</i>	Set the device's FTP remote path to poll.
<i>File Extensions:</i>	Specifies the type of files to retrieve according to the file extension. Example: *.DAT *.CFG *.HDR. Multiple extensions must be separated by a pipe sign.
<i>File Names:</i>	Specifies how to name the event files that are retrieved from the device and saved in the Save Path. There are 3 options: Maintain the Original Name, this option will not change the name. Rename to IEEE Long Filename, this option will name the file using the

		IEEE long file naming format. The Group name and title fields are used when composing the long filename. Rename to IEEE Long Filename w/ .TLR Ext, this option will name the file using the IEEE long file naming format and assign a .TLR extension.
Delete Source:		Delete the waveform files from the FTP server after retrieving the files.
UTC Time (Yes/No):		Convert the event file's date and time from UTC time to local time.
File Transfer Mode:		The type of FTP File Transfer Protocol to use.
Zip Files:		Specifies how to handle retrieved zip files. There are 3 options: No, this option will not change the name and will not unzip the file. Unzip, this option will unzip the contents of the file and keep the original zip file. Unzip and Delete Zip, this option will unzip the contents of the file and delete the zip file from disk.
Options:	Save/Enter:	Exit, save and update the Device's manager table.
	Cancel/Esc:	Exit the dialog without saving the changes made.
Comments:	The RAS FTP client first reads the entire directory defined in the Remote path and saves all the files to extract to a DEV_DeviceNumber.FTP file located in the Messages and Logs Path.	
See Also:	New Device Record Duplicate Device Record Edit Device Record RAS – TCP/IP Client	

RAS - TCP/IP CLIENT

Location:	Device Manager	
Description:	Define the selected device to communicate using the RAS-TCP/IP Client protocol.	
Activation:	<i>Direct:</i> Select RAS in the Connection Type box then select TCP/IP Client in the protocol list.	
Fields:	Connection Type:	Select the RAS connection type. The fields in the communication information section changes according to the selection in the connection type box.
	Protocol:	Select the TCP/IP client option from the list box. The fields in the communication information section changes according to the selection in the protocol list box.
	Session:	Select the COM session number to use. For Ethernet connections start the session number at COM10.
	Address:	For multi-drops, modbus or a communication processor enter the slave or port address.
	Back Out:	Enter the command to back out of a device to the communication processor.
	Com Pass:	The password for the communication processor.
	RAS Phone Number:	Enter RAS phone number.
	IP Port:	Enter the port number.
Options:	OK/Enter:	Exit, save and update the Device table.
	Cancel/Esc:	Exit the dialog without saving the changes made.

Comments: The RAS TCP/IP connection receives the IP address from the RAS server once the connection is established.

See Also: [New Device Record](#)
[Duplicate Device Record](#)
[Edit Device Record](#)
[RAS-FTP Client](#)

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](#)

SDC-VARS SUMMARY

Location: Device Manager

Description: Display a small summary of the number of variables a device uses. The summary includes the device #, the device title and the total number the variables used.

Activation: *Menu:* Alt-(O) Options, (P) Reports, (S) SDC-VARS.ini Summary...

Fields:

<i>Device Number:</i>	The device number.
<i>Device Title:</i>	The name of the device.
<i>Total Variables:</i>	The total number of variables the device uses.

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](#)

SEARCH FILE CONTENTS

Location: Device 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 Options 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

Fields:	<i>Start Date:</i>	The start date for the search.
	<i>End Date:</i>	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..
	<i>Search Path:</i>	The search path to search the files.
	<i>Include Sub-Folders:</i>	Include all sub-folders under the search path.
	<i>Extensions:</i>	List the file extensions to search separated by commas: *.DTB,*.SEL,*.TXT.
	<i>Search Strings:</i>	The strings to search for in the files separated by commas: password,fault,target.
	<i>Report Path:</i>	The path to save the search report results to.
Options:	<i>Save:</i>	The entered search fields can be saved to an ASCII text file.
	<i>Save As:</i>	Save the entered search fields to a new path/filename.
	<i>Open:</i>	Open an existing search file.
	<i>Close:</i>	Close the dialog without executing the search.
	<i>Search:</i>	Start the search.
	<i>View Results:</i>	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.

SERIAL CONNECTIONS

Location: Device Manager

Description: Set the Connection type to Serial for communications over RS232, RS485 or a modem. The Serial connection locks the COM port during the duration of the device manager.

Activation: *Direct:* Select the Serial Connection option in the Connection Type box.

Fields:

<i>Connection Type:</i>	Select the Serial connection type. The fields in the communication information section changes according to the selection in the connection type box.
<i>Session:</i>	Select the physical COM port on the machine to use.
<i>Address:</i>	For multi-drops, modbus or a communication processor enter the slave or port address.
<i>Back Out:</i>	Enter the command to back out of a device to the communication processor.
<i>Phone Number:</i>	For modem connections enter the phone number to dial.
<i>Baud Rate:</i>	Select the port's baud rate.
<i>Parity:</i>	Select the port's parity (None, ODD, Even, Mark).
<i>Data Bits:</i>	Select the port's Data Bits (7 or 8).
<i>Stop Bits:</i>	Select the port's stop bits (1 or 2).
<i>Flow Control:</i>	Select the port's flow control (None, Software or Hardware).
<i>Inter Char Delay:</i>	For older devices that have low baud rates enter the number of milliseconds to wait between each character sent to the device.

Options:

<i>Enter/Save:</i>	Exit, save and update the Device table.
<i>Esc/Cancel:</i>	Exit the dialog without saving the information.

Comments: The Serial connection type opens the port when the device manager is opened and closes the port when the device manager is closed. To have the serial device open and locked during the duration of the device manager select the Serial connection.

See Also: [Edit Device Record](#)
[Duplicate Device Record](#)
[New Device Record](#)
[Virtual Port Connection](#)

SET EVENTS SAVE PATH

Location: Device Manager

Description: To quickly set or change a device's event save path right click in the Device Manager table and select the "Set Events Save Path" menu option or select the "Set Events Save Path" menu option under the Options menu.

Activation:

<i>Direct:</i>	Right Click, Select Set Events Save Path menu option
<i>Menu:</i>	Alt-(O) Options, (E) Set Events Save Path

Fields:

<i>Save Path</i>	Set the events save path for the selected devices.
<i>Devices:</i>	Click the type of devices to change the events save path.

Options:

<i>Enter/Change:</i>	Update and save events save path for the selected devices.
<i>Esc/Cancel:</i>	Exit the dialog without saving the information.

Comments: Each device's Save Path field located in the Device Configuration dialog will be updated and saved with the new save path.

See Also: [Edit Device Record](#)
[Duplicate Device Record](#)
[New Device Record](#)
[Save Archive Dialog](#)

SET POLLING START DATE AND TIME

Location: Device Manager

Description: To start the event polling at a specific date and time set the polling start date and time through the Set Polling Date Time dialog. To open the Set Polling Date Time dialog right click in the Device Manager table and select the “Set Poll Date & Time” menu option or select the “Start Polling Date Time” menu option under the Options menu. Once the polling date and time is set then the polling process will only extract the event files that have a date and time greater than then set date and time.

Activation: *Direct:* Right Click, Select Set Poll Date & Time menu option
Menu: Alt-(O) Options, (O) Set Polling Date Time

Fields: *Current:* The devices current date and time.
Date: Set the start poll date from the drop down calendar.
Time: Enter the start poll time in military time.
Devices: Click the type of devices to change the start poll date and time.

Options: *Enter/Change:* Update and save the start poll date and time for the selected devices.
Esc/Cancel: Exit the dialog without saving the information.

Comments: All the start date and times are saved to the SDC-HIS.INI file located in the Wavewin install path. A device’s start date and times are located on the line of the device number +1. For example, device number 10’s start date and time will be on line 11.

The Polling Properties (Save Archive) dialog Events to Extract field allows for setting how many events files to extract during a polling process.

See Also: [Save Archive Dialog](#)

SET SORT FIELD

Location: All Tables

Description: Set the active sort field to the column at the cursor position.

Activation: *Direct:* Left Mouse Click on the Column’s header
Menu: Alt-(S) Sort, (S) Set Sort Field
Ribbon: Click on the table’s header button

Comments: The Ascending and Descending options in the Sort menu sorts the table data with respect to the select sort field. To sort the columns directly, click the column header button to toggle between ascending and descending.

See Also: [Ascending Sort](#)
[Descending Sort](#)
[Sort All Rows](#)

SFTP CLIENT

Location: Device Manager

Description: Define the selected device to collect fault records using the SFTP protocol.

Activation: *Direct:* Select Ethernet in the Connection Type box then select SFTP in the protocol list.

Fields:

<i>Connections Type:</i>	Select the Ethernet radio button from the Connection Type box. The fields in the connection information changes according to the selection in the connection type box.
<i>Protocol:</i>	Select the SFTP option from the list box. The fields in the communication information section changes according to the selection in the protocol list box.
<i>Session:</i>	Select the COM session number to use. For Ethernet connections start the session number at COM10.
<i>Address:</i>	For multi-drops, modbus or a communication processor enter the slave or port address. Not applicable for the SFTP connection.
<i>Back Out:</i>	Enter the command to back out of a device to the communication processor.
<i>IP Address:</i>	Set the device's IP address.
<i>IP Port:</i>	Set the SFTP port number. Port number 22 is designated as the SFTP default port number.
<i>User Name:</i>	Set the SFTP sessions user name.
<i>Password:</i>	Set the SFTP sessions password.
<i>Remote Path:</i>	Set the device's SFTP remote path to poll.
<i>File Extensions:</i>	Specifies the type of files to retrieve according to the file extension. Example: *.DAT *.CFG *.HDR. Multiple extensions must be separated by a pipe sign.
<i>File Names:</i>	Specifies how to name the event files that are retrieved from the device and saved in the Save Path. There are 3 options: Maintain the Original Name, this option will not change the name. Rename to IEEE Long Filename, this option will name the file using the IEEE long file naming format. The Group name and title fields are used when composing the long filename. Rename to IEEE Long Filename w/ .TLR Ext, this option will name the file using the IEEE long file naming format and assign a .TLR extension.
<i>Delete Source:</i>	Delete the waveform files from the SFTP server after retrieving the files.
<i>UTC Time (Yes/No):</i>	Convert the event file's date and time from UTC time to local time.
<i>File Transfer Mode:</i>	This field does not apply to the SFTP File Transfer Protocol.
<i>Zip Files:</i>	Specifies how to handle retrieved zip files. There are 3 options: No, this option will not change the name and will not unzip the file. Unzip, this option will unzip the contents of the file and keep the original zip file. Unzip and Delete Zip, this option will unzip the contents of the file and delete the zip file from disk.

Options:

<i>Save/Enter:</i>	Exit, save and update the Device's manager table.
<i>Cancel/Esc:</i>	Exit the dialog without saving the changes made.

Comments: The SFTP client first reads the entire directory defined in the Remote path and saves all the files to extract to a DEV_DeviceNumber.FTP file located in the Messages and Logs Path.

See Also:

- [New Device Record](#)
- [Duplicate Device Record](#)
- [Edit Device Record](#)
- [TCP/IP Client](#)
- [TCP/IP Server](#)
- [Save Archive Dialog](#)

SORT ALL ROWS

Location: All Tables

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

Activation: *Direct:* Click on the columns Header buttons
Menu: Alt-(S) Sort, (A) Ascending
Menu: Alt-(S) Sort, (D) Descending
Ribbon: Click on the columns Header buttons

Comments: All the rows in the active table are sorted with respect to the sort field displayed in the table's status 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:* Click on the columns Header buttons
Menu: Alt-(S) Sort, (S) Set Sort Field
Ribbon: Click on the columns Header buttons

Comments: The Ascending and Descending options in the Sort menu sorts the table data with respect to the select sort field. 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](#)

SORT MARKED ROWS

Location: All Tables

Description: Sort the marked rows according to the previously selected sort order.

Comments: All marked records are sorted and grouped at the top of the table.

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 downloaded and stored in the following format: Year (2 digits) Month Day: 040909.
 Example File Name:

040909,113109123,+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 downloaded and stored in the following format: Hour Minute Second Millisecond:
113109234.

Example File Name:

040909,113109123,+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:

040909,113109123,+3S,Barton Substation#12,SEL421-432#34,ArkElectric,,,,.DAT

See Also: [IEEE Long File Naming Format](#)

SYSTEM FILES

Location: Device Manager

Description: There are 3 system files needed for the proper operation of the system. The CFG_DEV.DTB file stores the device records stored in the device table. The CFG_SHOT.DTB file stores the device's function keys and the EscSeq field in the device records. The DRIVERS.INI file has all the script code for polling the connected devices and transferring files to a remote computer.

See Also: [Export](#)
[Import](#)

TABLE PROPERTIES

Location: All Tables

Description: Reposition the columns in the table.

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

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.

Table Font Size: A list of the font sizes for the table. Select the Font size from the drop down list.

<i>File Marking:</i>	A list of the 2 types of marking for files in the file manager.
<i>Default Path:</i>	The path the file manager is opened with when first displayed.
<i>Duplicate Dialog Color:</i>	Change the background color of the duplicate dialog to distinguish between the edit and new device dialogs.
<i>Star All Passwords:</i>	Star all the passwords in the device manager table and edit dialog.
<i>FTP Include Original Name in Long Name:</i>	When composing the long filename for incoming files from an FTP connection include the original filename in the first Optional field.
<i>Include Device #in Long Name:</i>	Include the device number in the long file names. The three options are No Device number, include as # Device # or _Device #. The device number is added after the device name in the long file names.
<i>Include Station # in Long Name:</i>	Include the station number in the long file names. The three options are No Station number, include as # Station # or _Station #. The station number is added after the station name in the long file names.
<i>File Transfer Type:</i>	Define the type of file transfer used when moving files. The two options are use the Regular transfer type of the Diode transfer.
<i>Help Files:</i>	Select to display the help files in PDF format or ASCII text.

Options:	<i>Move Up:</i>	Columns Tab. Move the highlighted column up one position.
	<i>Move Down:</i>	Columns Tab. Move the highlighted column down one position.
	<i>Reset:</i>	Columns Tab. Default the order of the columns to how they were when the software was first installed.
	<i>Short Cuts:</i>	Displays the Short Cuts keys dialog.
	<i>OK:</i>	Change the order of the columns and redraw the device table and save all modified settings.
	<i>Cancel:</i>	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](#)

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:

040909,113109123,+3S,Barton Substation#12,SEL421-432#34,ArkElectric,,,.DAT

See Also: [IEEE Long File Naming Format](#)

TCP/IP CLIENT

Location: Device Manager

Description: Define the selected device to communicate using the TCP/IP Client protocol.

- Activation:** *Direct:* Select Ethernet in the Connection Type box then select TCP/IP Client in the protocol list.
- Fields:**
- Connection Type:* Select the Ethernet connection type. The fields in the communication information section changes according to the selection in the connection type box.
 - Protocol:* Select the TCP/IP client option from the list box. The fields in the communication information section changes according to the selection in the protocol list box.
 - Session:* Select the COM session number to use. For Ethernet connections start the session number at COM10.
 - Address:* For multi-drops, modbus or a communication processor enter the slave or port address.
 - Back Out:* Enter the command to back out of a device to the communication processor.
 - Com Pass:* The password for the communication processor.
 - IP:* Enter the IP address.
 - IP Port:* Enter the port number.
- Options:**
- OK/Enter:* Exit, save and update the Device table.
 - Cancel/Esc:* Exit the dialog without saving the changes made.
- Comments:** Ethernet connections connect to the device when the polling starts and immediately disconnects when the polling process is complete. The TCP/IP client protocol uses non-blocking communications (event based). Non-blocking communications sends commands from the client to the server without waiting for a response. The response is sent to the client's event method and processed as it comes in.
- See Also:** [New Device Record](#)
[Duplicate Device Record](#)
[Edit Device Record](#)
[Telnet Client](#)
[TCP/IP Server](#)

TCP/IP SERVER

- Location:** Device Manager
- Description:** Define the selected device to act as a TCP/IP Server. The Server port listens for connections on the defined port number from TCP/IP clients.
- Activation:** *Direct:* Select Ethernet in the Connection Type box then select TCP/IP Server in the protocol list.
- Fields:**
- Connection Type:* Select the Ethernet connection type. The fields in the communication information section changes according to the selection in the connection type box.
 - Protocol:* Select the TCP/IP server option from the list box. The fields in the communication information section changes according to the selection in the protocol list box.
 - Session:* Select the COM session number to use. For Ethernet connections start the session number at COM10.
 - Address:* For multi-drops, modbus or a communication processor enter the slave or port address.

- Back Out:* Enter the command to back out of a device to the communication processor.
- Com Pass:* The password for the communication processor.
- IP Port:* Enter the port number to listen for.
- Options:** *OK/Enter:* Exit, save and update the Device table.
Cancel/Esc: Exit the dialog without saving the changes made.
- Comments:** The TCP/IP server is used for file transfers from one Wavewin device manager to another to transfer files for archiving.
- See Also:** [New Device Record](#)
[Duplicate Device Record](#)
[Edit Device Record](#)
[TCP/IP Client](#)

TELNET CLIENT

- Location:** Device Manager
- Description:** Define the selected device to communicate using the Telnet Client protocol.
- Activation:** *Direct:* Select Ethernet in the Connection Type box then select Telnet Client in the protocol list.
- Fields:**
- Connection Type:* Select the Ethernet connection type. The fields in the communication information section changes according to the selection in the connection type box.
 - Protocol:* Select the Telnet client option from the list box. The fields in the communication information section changes according to the selection in the protocol list box.
 - Session:* Select the COM session number to use. For Ethernet connections start the session number at COM10.
 - Address:* For multi-drops, modbus or a communication processor enter the slave or port address.
 - Back Out:* Enter the command to back out of a device to the communication processor.
 - Com Pass:* The password for the communication processor.
 - IP:* Enter the IP address.
 - IP Port:* Enter the port number.
- Options:** *OK/Enter:* Exit, save and update the Device table.
Cancel/Esc: Exit the dialog without saving the changes made.
- Comments:** Ethernet connections connect to the device when the polling starts and immediately disconnects when the polling process is complete. Telnet uses a blocking connection. When a command is sent from the client to the server the application is halted waiting for the response from the server.
- See Also:** [New Device Record](#)
[Duplicate Device Record](#)
[Edit Device Record](#)
[TCP/IP Client](#)

TERMINAL MODE

Location: Device Manager

Description: Display the ASCII/Binary terminal mode window. The Type column in the device table indicates the type of terminal window displayed: ASCII or Binary (Hexadecimal). The terminal window is used to transmit numbers, characters, escape sequences and/or function key definitions to the output device.

Activation: *Direct:* <Enter> – menu button 
Menu: Alt-(O) Options, (T) Terminal Mode

Comments: The type of terminal mode window displayed is determined by the type field (ASCII or Binary) defined in the device configuration dialog. To communicate with an ASCII device place the cursor on the desired device and press <enter> or click the Terminal option under the Options tab. When the terminal window is opened it will automatically connect to the device. Upon exit the connection is closed.

Data is transmitted to the output device by pressing the predefined function keys or by manually pressing the numeric and letter keys. If the device does not respond, check the device's communication parameters (F2) or the device connection. Use the up arrow, down arrow, right arrow, left arrow, page up, and page down keys to browse the data and the <esc> key to exit.

To view the data coming in from a device during a polling session click on the device's status information section in the MID window. Clicking on the device's status information section will display the terminal mode window.

See Also: [ASCII Terminal Mode](#)
[Binary Terminal Mode](#)
[Function Keys](#)

TEST PORTS

Location: Device Manager

Description: Test the connected serial port using the loop back test option.

Activation: *Direct:* F3
Menu: Alt-(O) Options, (L) Loop Back Test

Comments: Use the loop back plug detection test to check the port connection. Place the loop back plug in the desired port, select the corresponding port, and press F3 or select the Loop Back Test from under the Options tab. A message appears displaying the status of the port: Loop back plug detected or not detected.

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](#)

TOTRECS

Location: Device Manager (Status Field)

Description: Displays the total number of records in the active configuration.

See Also: [AtRec](#)
[TotMarks](#)

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

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

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](#)

VIEW LOG FILE

Location: Device Manager

Description: View the selected device's log file in an ASCII/Binary editor. The Type column in the device table indicates the type of editor displayed: ASCII or Binary (Hexadecimal). The type column is defined in the device configuration dialog. To open the device configuration dialog, select the device and press F2.

Activation: *Direct:* F6 – menu button 
Menu: Alt-(O) Options, (V) View Log File

Comments: The log file contents are displayed in text or hex format. The contents of the log are all incoming commands from the connected device. 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 Edit menu options to cut, copy, or paste text.

To turn on logging open the polling properties dialog and activate the RX Setting fields.

See Also: [Binary Log Files](#)
[Save & Archive Dialog](#)

VIRTUAL PORT CONNECTIONS

Location: Device Manager

Description: Set the Connection type to Virtual Port for communications over RS232, RS485 or a modem. The Virtual port connection will only open the port during the polling process.

Activation: *Direct:* Select the Virtual port option in the Connection Type box.

Fields:

<i>Connection Type:</i>	Select the Virtual Port connection type. The fields in the communication information section changes according to the selection in the connection type box.
<i>Session:</i>	Select the physical COM port on the machine to use.
<i>Address:</i>	For multi-drops, modbus or a communication processor enter the slave or port address.
<i>Back Out:</i>	Enter the command to back out of a device to the communication processor.
<i>Phone Number:</i>	For modem connections enter the phone number to dial.
<i>Baud Rate:</i>	Select the port's baud rate.
<i>Parity:</i>	Select the port's parity (None, ODD, Even, Mark).
<i>Data Bits:</i>	Select the port's Data Bits (7 or 8).
<i>Stop Bits:</i>	Select the port's stop bits (1 or 2).
<i>Flow Control:</i>	Select the port's flow control (None, Software or Hardware).
<i>Inter Char Delay:</i>	For older devices that have low baud rates enter the number of milliseconds to wait between each character sent to the device.

Options:

<i>Enter/Save:</i>	Exit, save and update the Device table.
<i>Esc/Cancel:</i>	Exit the dialog without saving the information.

Comments: The Virtual port connection type opens the port before connecting to the device and immediately closes the port when the polling process is complete for the specific device. This allows for other applications to connect to the device when the device is not being polled by Wavewin.

See Also: [Edit Device Record](#)
[Duplicate Device Record](#)
[New Device Record](#)
[Serial Connections](#)

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