

Metago[®] Monitor

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Tel: 403-250-8304 | **Fax:** 403-263-2174
Technical Support: 403-250-8304
E-Mail: info@westronic.com

View Remote Alarm Monitoring and Management Products at:
<http://www.westronic.com>

Revision History

Software Version	Date	Author	Comments
1.2.11	October 25, 2002	DR	Initial Customer Release
1.2.15	November 26, 2002	DR	Updated based on software 1.2.15.
1.4	May 16, 2003	DR	Major update based on software 1.4
1.4.2	August 25, 2003	DR/DB	Updated document based on software 1.4.2.
1.5	September 2005	DB	Added enhanced alarm / event logging. Change of Address.
2.0	February 2006	DB	Added e-mail notification / scheduling, advanced alarm summary filtering, and new user configuration fields.
2.1.6	April 2007	GB	Added Modem dial out configuration.

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About this Manual

This manual describes how to use the Metago® Monitor application.

The manual is divided up into chapters, with the first three describing the Metago® Monitor application, installation procedure, and how to connect and log in. The remaining chapters cover more specific features of the application.

Conventions Used in This Manual

Commands, steps, and explanations in this manual are presented in the clearest format possible. The following items are some of the features that will make this manual more easily readable:

- **Menu and dialog box commands and options.** Menu and dialog box commands are in bold. i.e. Open the **File** menu and click **Save**.
- **Hotkeys for commands.** The underlined keys onscreen that activate commands and options are also underlined in the manual, as shown in the previous example.

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Overview

Metago® Monitor application is used to remotely monitor all connected RTUs.

Metago Monitor can perform the following operation for each connected RTU:

- Issue basic TL-1 commands, such as retrieve IP, retrieve router, retrieve firmware version, and retrieve alarms.
- View all the alarms (critical, major, minor, and routine) for the connected RTUs in the Alarm Summary display.
- Issue discrete controls on an RTU.
- View the log file on any RTU that was connected to via Metago® Monitor.
- Configure access to the Metago® Monitor web browser interface on any RTU being monitored.

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System Requirements

To run the Metago Monitor , the system requirements are:

- Windows 98/ME/XP/2000 operating system
- Microsoft Internet Explorer 5.5 +, or Mozilla Firefox
- Pentium 500 MHz or faster microprocessor
- A minimum of 128 MB of RAM
- CD-ROM drive (for installing application)
- A mouse, or other pointing device
- Network connection

Installing the Metago® Monitor Application

The Metago® Monitor application is installed using a standard Windows installation utility.

To install the application,

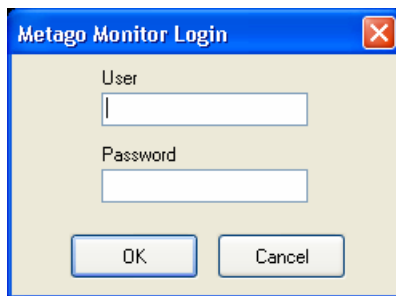
1. Insert the installation CD into the CD-drive.
2. If the PC is configured to AutoPlay CDs, the installation utility should be launched automatically, skip to step 5.
3. Open **My Computer**, and browse to the CD-ROM drive.
4. If the CD does not autoplay, double-click on the file SETUP.EXE.
5. The installation program will guide you through the subsequent steps. Simply follow the instructions as they appear on the screen.
6. Select **Finish** when the installation process is completed.

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Logging On

To access the Metago® Monitor application,

1. Click the **Start** button in the taskbar at the bottom of the screen.
2. Move the mouse pointer over the **Programs** command. The Programs menu appears.
3. Move the mouse pointer over the Westronic command and click the **Metago® Monitor** item. The Metago® Monitor Login dialog box appears.



4. Enter a valid **User** name and **Password** in the fields provided. Click **OK** to log on. The RTU Summary display appears. The default user name is *MTC* and password is *shipping*. Usernames and passwords are case-sensitive.

Note: This username and password is independent from the WS3500 RTU username and password.

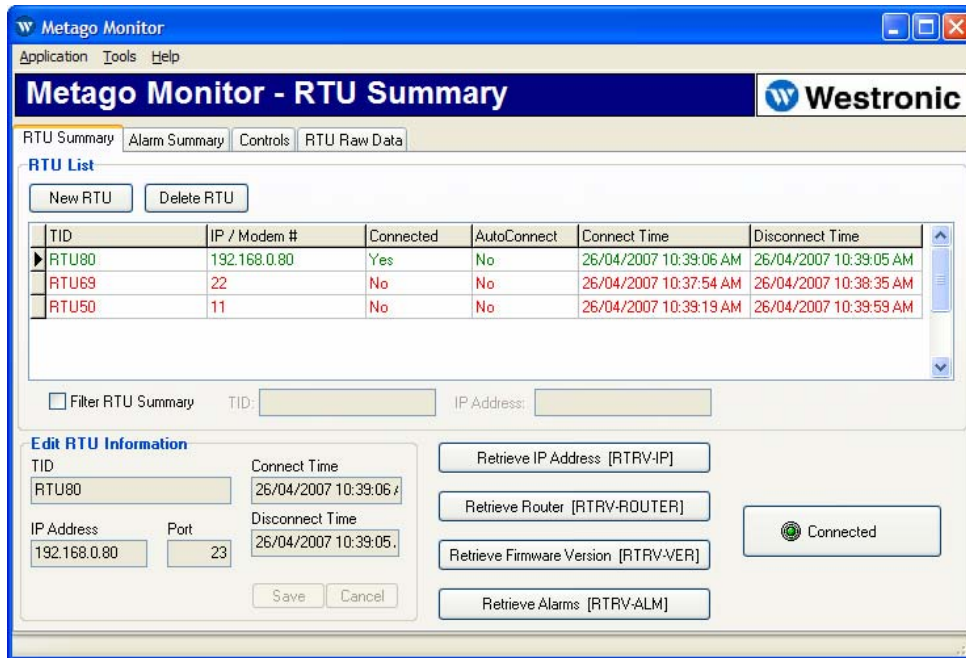


Figure 1 Metago® Monitor – RTU Summary display

By default, Metago Monitor starts by displaying the RTU summary. The tabs at the top of the main window allow for easy navigation between the following Metago Manager screens :

- *RTU Summary* tab — displays the RTU Summary. From this display, the user can create and delete RTU records, connect and disconnect to RTUs, issue basic TL-1 commands such as retrieve IP, retrieve router, retrieve version, and retrieve alarm.
- *Alarm Summary* tab — displays the Alarm Summary. The Alarm Summary display lists all the points in alarm for all currently connected RTUs, as well as “NOT CONNECTED” alarms for all RTUs that are not currently connected. In this display, the user can acknowledge alarm points, add/delete comments on alarm points, acknowledge the audible on an alarm point, and inhibit alarms.
- *Control* tab — in the Controls display, the user can issue controls on any of the connected RTUs.
- *RTU Raw Data* tab — in the RTU Raw Data display, the user can view the TL-1 messages and commands on a selected RTU. This display also shows the total number of alarm messages for all connected RTUs.

RTU Summary

The RTU Summary display is used to manage connectivity with RTUs in the field. In this display, the user can

- Create and delete RTU records.
- Connect and disconnect to RTUs.
- Issue basic TL-1 commands such as retrieve IP, retrieve router, retrieve version, and retrieve alarm.
- Filter the RTU list based on TID and/or IP Address.

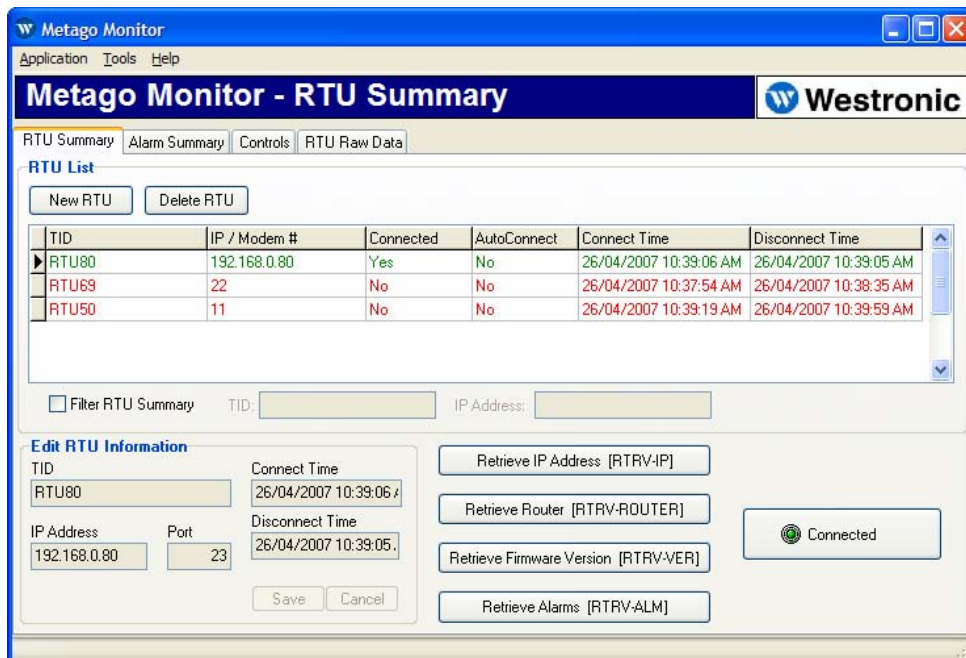
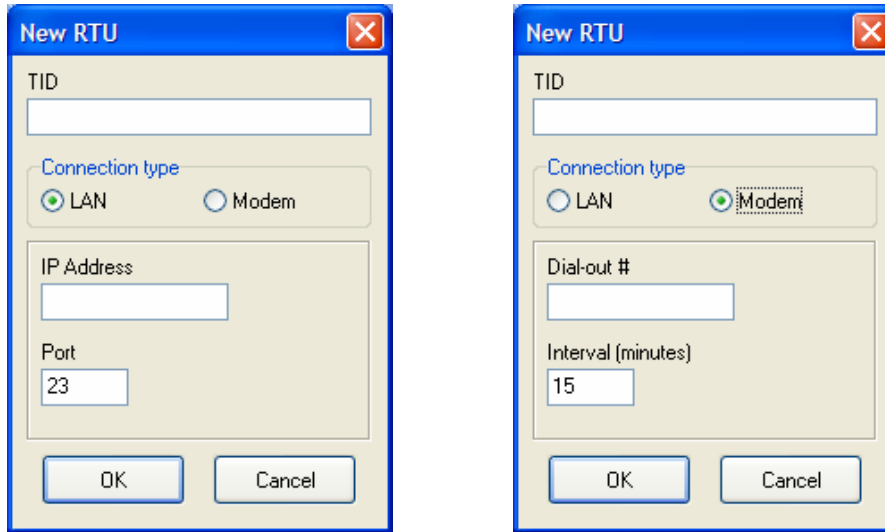


Figure 2 RTU Summary display

Creating an RTU record

To create a new RTU record,

1. Click on the **New RTU** button in the RTU Summary display. The New RTU dialog box appears:



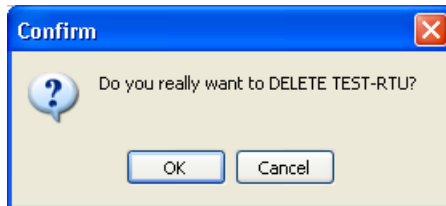
2. Enter the **TID** and select **LAN** or **Modem**, then input either the **IP Address** or **Dial-Out #** (also change the port or Interval settings as desired) and then click **OK**.
 - *TID*—Enter the TID (target identifier) of the RTU to monitor.
 - *IP Address*— enter the IP Address of the RTU to monitor.
 - *Port* — enter the IP Port of the RTU to monitor.
 - *Dial-out #*— enter the dial out number of the modem RTU to monitor.
 - *Interval (minutes)* — enter the period of time in minutes between dial out attempts to modem RTU being monitored.

Metago Monitor now has all the information that is necessary to connect to and monitor the RTU.

Deleting an RTU record

To delete an RTU record,

1. Select the RTU record in the summary grid.
2. Click the **Delete RTU** button. This calls up a dialog box to confirm the deletion of the RTU.



3. Select **OK** to continue this operation (**Cancel** will abort the deletion).

Filtering the RTU Summary List

In order to quickly find an RTU, the summary grid, can be filtered based on the TID and/or IP Address.

To filter the list,

1. Click on the **Filter RTU Summary** check box.
2. Enter the filter definition.

To remove the filtering un-check the Filter RTU Summary check box.

Editing an RTU record

Only edit the IP Address and Port number (Or Dial-out # and Interval) on an RTU can be edited. These fields cannot be edited while the RTU is connected.

To edit an RTU record,

1. Select the RTU in the Summary grid.

The information for that RTU is displayed in the Edit RTU Information panel.

Edit RTU Information			
TID	WS3500		Connect Time
			2/10/2005 4:04:35 P
IP Address	Port	Disconnect Time	
172.16.6.120	23	2/10/2005 4:08:21 P	
		Save	Cancel

2. Modify the desired fields.
3. Click the **Save** button to save the information.

Connecting to an RTU

To connect to an RTU, select the RTU in the summary grid, and then click on the **Not Connected** button. Upon a successful connection, the Not Connected button reads **Connected**.

The RTU record in the summary grid is displayed in three different colors:

- *Red* — indicates that the RTU is not connected
- *Blue* — indicates the connection is pending, or the unit is being polled (if a dial-up RTU)
- *Green* — indicates that you are connected to the RTU

Warning: It is possible to establish a TCP/IP connection to an RTU, and not successfully establish a TL-1 session. This can occur if the TID specified in the Metago® Monitor does not match that of the RTU itself.

Disconnecting from an RTU

To disconnect from an RTU, select the RTU in the summary grid, and then click on the **Connected** button. Upon a successful disconnection, the Connected button reads **Not Connected**. The RTU record in the list will be displayed in red text and the Disconnect Time for that RTU will be updated in the summary grid.

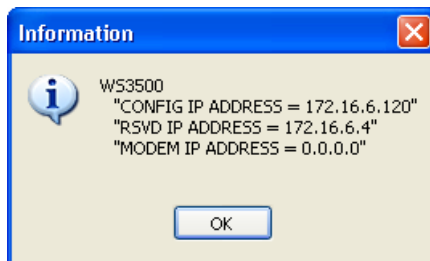
TL-1 Commands

Metago Monitor can issue several TL-1 commands to a connected RTU, using the buttons on the RTU Summary display.

Issuing the Retrieve IP command

The Retrieve IP command is used to obtain the currently configured IP addresses for the RTU, and the Line Modem. There is also a reserved (RSVD) IP address which is not currently used.

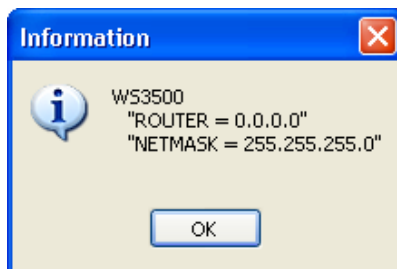
1. Connect to the RTU or select the connected RTU from the summary grid.
2. Click on the **Retrieve IP Address (RTRV-IP)** button. A dialog box appears which displays the name of the RTU, along with the Config (RTU) IP address and the Modem IP address. (The RSVD IP ADDRESS is not currently used, and can be ignored.)



Issuing the Retrieve Router command

The Retrieve Router command is used to obtain the currently configured Router/Gateway and Netmask addresses from the Metago® RTU.

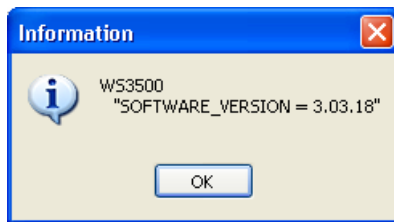
1. Connect to the RTU or select the connected RTU from the summary grid.
2. Click on the **Retrieve Router (RTRV-ROUTER)** button. A dialog box appears which displays the name of the RTU along with the Router and Netmask addresses.



Issuing the Retrieve Version command

The Retrieve Version command is used to obtain the current firmware version running in the Metago® RTU.

1. Connect to the RTU or select the connected RTU from the summary grid.
2. Click on the **Retrieve Firmware Version (RTRV-VER)** button. An Information pop-up window appears which displays the name of the RTU and the version of firmware running in the RTU.



Issuing the Retrieve Alarm command

The Retrieve Alarm command sends a request to the RTU to report all points that are currently in an alarm state. This is most useful following a reconnection to ensure that the Alarm Summary reflects the current state of all points in the RTU.

In the Alarm Summary display, when an RTU is connected, the background color of the alarms indicates the alarm priority. When the RTU is disconnected, these alarms are marked as old, and are then displayed with a gray background. To clear the alarms as being marked old, you must connect to the RTU and issue a Retrieve Alarm command.

1. Connect to an RTU or select the connected RTU from the summary grid.
2. Click on the **Retrieve Alarms (RTRV-ALM)** button.

Note: there is no confirmation indicating the command has been completed.

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Chapter 5

Alarm Summary display

To view alarms from all the RTUs, select the **Alarm Summary** tab. This displays the Metago Monitor Alarm Summary.

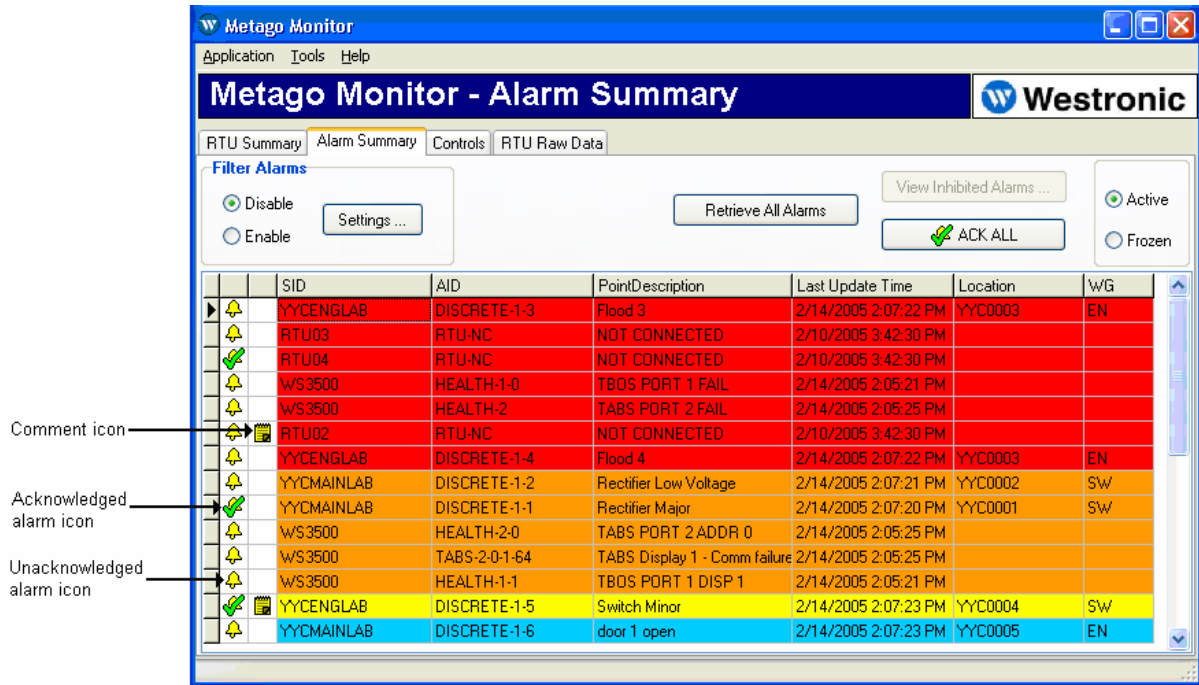


Figure 3 Alarm Summary display

By default, the alarms listed in the Alarm Summary are grouped according to severity, with critical alarms listed first, then major, minor, and routine. Points with a severity of NA are never displayed. Within each severity the alarms are listed in chronological order, the newest alarm at the top of the list.

The alarms in the Alarm Summary may be sorted (ascending or descending order) by clicking on any of the headings (TID, AID, etc.). An arrow indicates whether the list is sorted in ascending or descending order. To remove the sorting click on the heading until the arrow is removed.

Description	Alarm Color
Critical alarms	Red
Major alarms	Orange
Minor alarms	Yellow
Routine alarms	Blue
Old Alarms*	Grey
Alarms that have cleared, but are latched**	White

Table 1 Alarm Colors

* *Old alarms* are alarms that may not necessarily be up-to-date because you are either not monitoring that RTU anymore, or you were monitoring the RTU when the alarm initially occurred, but you have since disconnected from that RTU. To clear up any old alarms, the user should issue a retrieve alarm command immediately after connecting to an RTU.

**Latched alarms will still appear in the alarm summary until their latching condition has cleared (refer to *Alarm Latching* on page 29).

Within the Alarm Summary display, the user can

- Filter the alarm summary base on specific criteria.
- Freeze the Alarm Summary display.
- Acknowledge the alarms individually or ALL the alarms at once.
- Unacknowledge individual alarm points.
- Add / Edit comments to alarm points.
- Inhibit alarms
- Retrieve alarms from all connected RTUs

Filtering the Alarms

The alarms listed in the alarm summary grid can be filtered with many combinations of different criteria.

To enable alarm summary filtering, the user must first click the **Settings** button to configure the filtering criteria. When the **Settings** button is clicked, the **Filter Settings** window appears.

Alarm Summary - Filter Settings

Filter alarms by Acknowledgement
Show only alarms.

Filter alarms by Comment
Show only alarms comments.

Filter alarms by Severity
Show only alarms of severity and higher.

Filter alarms by SID
 only alarms with SID containing:

Filter alarms by AID
 only alarms with AID containing:

Filter alarms by Location
 only alarms with Location containing:

Filter alarms by WG
 only alarms with WG containing:

* These fields may contain comma separated entries. Entries may be partial values.

Any combination of filtering criteria can be selected by checking the checkbox beside the desired item, and selecting the options associated with that option.

- *Filter alarms by Acknowledgement* – A user can select to show only acknowledged alarms, or to show only unacknowledged alarms.
- *Filter alarms by Comment* – A user can select to show only alarms with comments, or to show only alarms without comments.
- *Filter alarms by Severity* – A user can select a severity from the drop-down box, and only alarms of the selected severity and higher are displayed in the alarm summary.
- *Filter alarms by SID* – A user can select either to show or to hide alarm based on the SID field. Partial SID strings can be used, and multiple values can be entered, separated by commas.
- *Filter alarms by AID* – A user can select either to show or to hide alarm based on the AID field. Partial AID strings can be used, and multiple values can be entered, separated by commas.
- *Filter alarms by Location* – A user can select either to show or to hide alarm based on the Location field. Partial Location strings can be used, and multiple values can be entered, separated by commas.
- *Filter alarms by WG* – A user can select either to show or to hide alarm based on the Workgroup (WG) field. Partial WG strings can be used, and multiple values can be entered, separated by commas.

Click the Apply button on the Filter Settings window to accept these changes.

To apply the filter criteria selected above, click the **Enabled** option in the Filter Alarms panel.

To disable the filtering, select the **Disabled** option in the Filter Alarms panel.

Retrieve All Alarms

The **Retrieve All Alarms** button allows the user to quickly retrieve all alarms from all connected RTUs. Once all alarms have been received, the Alarm Summary display is updated to reflect any changes that may have occurred.

Freezing the Alarm Summary display

The Alarm Summary display is updated when any alarm changes state, and the alarms may reposition in the list following this operation. To prevent this from happening, select the **Frozen** radio button, and no new alarms will be displayed.

To release the display, so new alarms get reported, select the **Active** radio button. Alarms that were reported or cleared while the display was frozen will then be added to or removed from the display.

Acknowledging Alarms

To acknowledge alarms individually, with the left mouse button, click on the Unacknowledged alarm icon beside the point you wish to acknowledge in the Alarm Summary page OR with the right mouse button, click on the alarm point in the Alarm Summary. A pull-down menu appears, select **Acknowledge Alarm**. A green check mark icon appears, indicating the alarm has been acknowledged.

To acknowledge all the alarms listed in the Alarm Summary display, click the ACK ALL button. Green check marks appear on all alarms, indicating that they have been acknowledged.

In addition to acknowledging alarm points, an Administrator may also latch all alarm points that have not been acknowledged (refer to *Alarm Latching* on page 29). If **Latch unacknowledged alarms** is enabled and an unacknowledged alarm point clears, the point remains in the Alarm Summary list (white background), until the alarm point is acknowledged.

Unacknowledging Alarms

To unacknowledge an acknowledged alarm, with the left mouse button, click on the Alarm Ack icon beside the point you wish to unacknowledge in the Alarm Summary page OR with the right mouse button, click the alarm point in the Alarm Summary display. A pull-down menu appears, select **Unacknowledge Alarm**. The green check mark disappears for all alarms in the display.

Adding a Comment to an Alarm Point

To add a comment to an Alarm Point, do the following:

1. With the right mouse button, click on the alarm in the Alarm Summary display. A pull-down menu appears, select **Add/Edit Comment**. The Edit Comment dialog box appears; OR with the left mouse button, click on the Comment column associated with the alarm point The Edit Comment dialog box appears.

2. In the Comment area, type a comment for the alarm point.
3. Click **Save** to save the comment. A comment icon will appear next to the Alarm point.

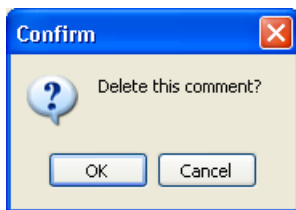
In addition to commenting an alarm, an Administrator may also latch all alarm points that have comments (refer to *Alarm Latching* on page 29). If **Latch alarms with comments** is enabled and an alarm point with a comment clears, the point remains in the Alarm Summary list (white background), until that comment has been deleted from the alarm point.

Deleting a Comment on an Alarm Point

To delete a comment on an Alarm Point, do the following:

1. With the right mouse button, click on the alarm in the Alarm Summary display. A pull-down menu appears, select **Delete Comment**. The Edit Comment dialog box appears; OR with the left mouse button, click on the Comment column associated with the alarm point The Edit Comment dialog box appears.

2. Click the **Delete** button. A confirmation box appears:



3. Click **OK** to delete the comment.

Inhibiting Alarms

In the Alarm Summary display, a user can inhibit nuisance alarms. When the alarm is inhibited, the entry is removed from the Alarm Summary display and placed in the Inhibited Alarms display. For more information on the Inhibited Alarms display refer to page 39.

Inhibited alarms will not be displayed in either the Alarm Summary or Metago® Monitor web page. To inhibit an alarm point, with the right mouse button, click on the Alarm in the Alarm Summary. A pull-down menu appears. Select **Inhibit Alarm**. The alarm point will be removed from the Alarm Summary display and Metago® Monitor Online Alarm Summary, and will be displayed in the Inhibited Summary.

Controls

Issuing controls requires the user to login into the RTU with a username and password. Once successfully logged on, the user may issue several controls on that RTU.

The user is automatically logged out from the RTU when exiting the Controls tab (the TL-1 command CANC-USER is issued). To remain in the Control display, but to log out of the selected RTU, click on the **Logout** button.

Issuing Controls

To issue a control,

1. Select the **Controls** tab. This displays the Controls sheet:

The screenshot shows the 'Metago Monitor - Controls' window. The 'Controls' tab is selected. The interface includes a 'Select RTU' section with a dropdown menu showing 'TID: WS3500'. Below that is the 'RTU Login' section, which prompts the user to enter a valid level 3 (or higher) username and password. There are input fields for 'Username:' and 'Password:', and a 'Login' button. The 'Operate / Release Controls' section features a 'Point AID (i.e. DISCRETEC-1-1)' dropdown menu and a 'Control Type' dropdown menu set to 'LATCH'. There are 'Operate' and 'Release' buttons. At the bottom, there is a 'Control Status' section with an empty text area.

Figure 4 Controls sheet

2. Select the RTU.

The pull-down button contains a list of all the RTUs that are currently connected. Select the RTU on which to operate or release a control.

3. Login to the RTU.

Enter a valid **Username** and **Password** and then click the **Login** button.

If the login was successful, the username and password fields become deactivated and the Login button now reads Logout.

4. Select the control point you wish to issue or release.

- **Point AID** — enter the point AID of the control point OR select the point from the most recently used list.
- **Control Type** — the pull-down menu contains the three control types, LATCH, MOMENTARY, and FLASH. Select the appropriate type.

5. Click **Operate** or **Release** to issue the control.

A message in the Control Status panel indicates whether the control was successful or not.

RTU Raw Data display

To access the RTU Raw Data display, select the **RTU Raw Data** tab in the RTU Summary display.

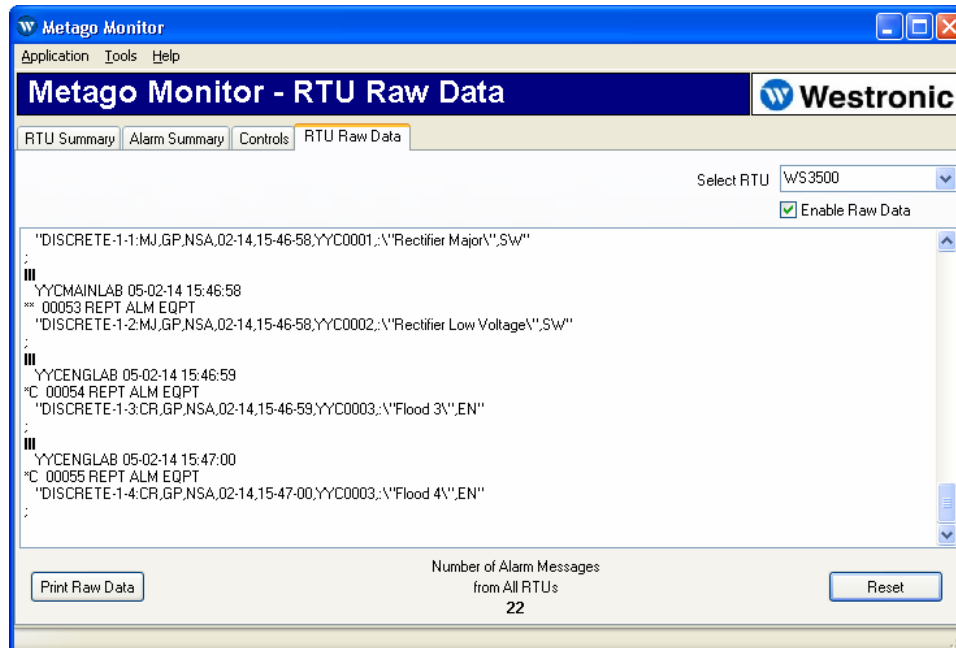


Figure 5 RTU Raw Data display

Within the RTU Raw Data display, a user can

- Display the autonomous TL-1 messages sent by a specific RTU to the host and the TL-1 commands sent to and from the RTU.
- Print the messages displayed in the RTU Raw Data window.
- Reset the alarm count.

Displaying the autonomous TL-1 messages and commands

To display the autonomous TL-1 messages and commands for a specific RTU, select the RTU from the pull-down menu button and click the **Enable Raw Data** checkbox. All autonomous messages and commands associated with that RTU will be displayed.

To disable this feature, click Enable Raw Data checkbox to remove the check mark.

Printing the Raw Data messages

To print the autonomous TL-1 messages and commands displayed in the RTU Raw Data window, click on the **Print Raw Data** button.

The user may select a specific message or range of messages to be printed by highlighting the text in the Raw Data display, and clicking the **Print Raw Data** button. When the Print dialog box comes up, choose **Selection** in the Print range panel.

Resetting the Alarm Count

The total number of alarm messages from all connected RTUs is displayed at the bottom of the window. This counter accumulates regardless of whether Raw Data is enabled or disabled. To reset the alarm message count to zero, click on the **Reset** button in the bottom right-hand corner of the window.

Tools

The **T**ools menu contains the following items:

- *Users...* — displays the User Options window. This is where Metago Monitor users can change their passwords. Also, this is where Metago Monitor Administrators can add and delete users.
- *Options...* — displays the Options window. Only users with Administrator permission level will be able to modify parameters in this window. Some of the features contained in this window are alarm latching, web page access, and connection parameters.
- *Inhibited Alarms* — this displays the Inhibited Alarms window. All alarm points that have been inhibited are displayed in the Inhibited Alarms display.
- *View Logs* — Metago Monitor maintains a log of all alarm messages and database change events. This log is kept in an internal database. The View Logs menu option displays a window that allows for customizing and generating log reports. The log reports are generated in .csv format, and are displayed as such, but can easily be imported into a spreadsheet application.
- *Clear Logs* — The Metago Monitor log database will continue to expand as events and alarms occur. In order to prevent this database from growing to an unmanageable size, it is recommended to export all logs to .csv for archiving purposes on a regular basis. Once the logs are exported (using the View logs option), the Clear Logs option will delete all entries from the log database

This chapter will discuss the options in the Tools menu.

Users ...

A username/password combination is required to access the Metago® Monitor application. This username/password is independent from the WS3500 username/password that is used to issue controls.

There are two levels of users: *Administrator* and *User*. Administrators can add and delete users, modify existing users, and change user levels. Standard users can only modify their own password.

Adding a User

Note: You must be logged in as an Administrator to add a user

To add a user,

1. Select **Users...** from the **T**ools pull-down menu. The User Options window appears.

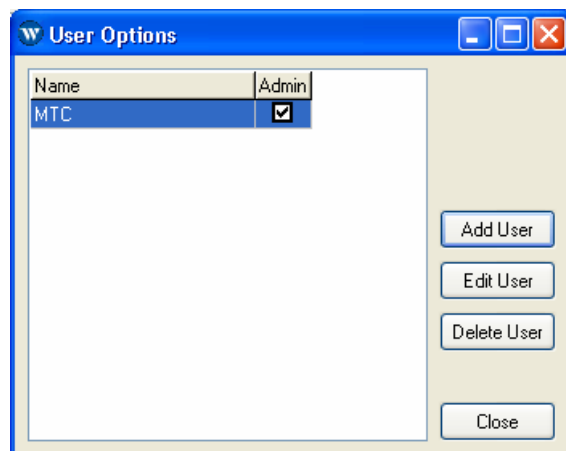


Figure 6 User Options window

2. Click the **Add User** button. The Add / Edit User window appears.

Fill in the following fields on the General tab

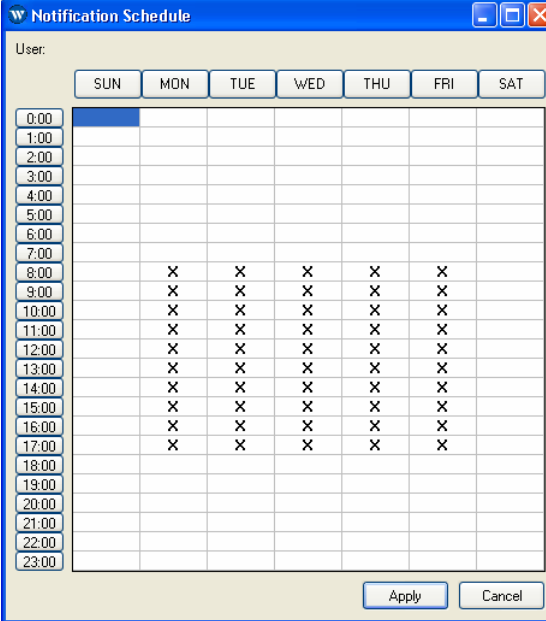
- *First Name, Initials, Last Name* — This is optional information about the user.
- *Username* — The username must be a minimum of 1 character in length. The username is case sensitive.
- *Password* — the password is a maximum of 8 characters in length. The password is case sensitive.
- *Confirm password* — Re-enter the same password that was entered in the Password field. This is to help prevent typing errors
- *Administrator* — check this box if the user is to be an Administrator. If the box is left un-checked, the user is a standard (non-administrator) user.

Fill in the following fields on the Contact tab

- *Business Phone, Mobile Phone, Home Phone* — This is optional additional contact information about the user.

Fill in the following fields Notification tab

- *E-mail Address* — The user's e-mail address can be entered here for e-mail alarm notification. The "send test e-mail" button will send an e-mail to the above address to verify that it is correct. The "Schedule..." button allows for scheduling of what timeframes the user wishes to be notified about alarms via e-mail. E-mail Notification rules allows for customization of the type of alarms the user wishes to be notified by e-mail. The alarms can be filtered by severity, as well as by workgroup. Click the "Schedule" button to bring up the "Schedule" window.



The image shows a 'Notification Schedule' dialog box. It has a title bar with standard window controls. Below the title bar is a 'User:' label. Underneath are seven buttons for the days of the week: SUN, MON, TUE, WED, THU, FRI, and SAT. The main area is a grid with 24 rows representing hours from 0:00 to 23:00 and 7 columns representing the days of the week. The 0:00 row has a blue highlight in the SUN column. The rows from 8:00 to 17:00 have 'X' marks in the MON, TUE, WED, THU, and FRI columns. At the bottom right are 'Apply' and 'Cancel' buttons.

Hour	SUN	MON	TUE	WED	THU	FRI	SAT
0:00							
1:00							
2:00							
3:00							
4:00							
5:00							
6:00							
7:00							
8:00		X	X	X	X	X	
9:00		X	X	X	X	X	
10:00		X	X	X	X	X	
11:00		X	X	X	X	X	
12:00		X	X	X	X	X	
13:00		X	X	X	X	X	
14:00		X	X	X	X	X	
15:00		X	X	X	X	X	
16:00		X	X	X	X	X	
17:00		X	X	X	X	X	
18:00							
19:00							
20:00							
21:00							
22:00							
23:00							

In the Schedule window, select the hours during which to notify the user via e-mail. The hours that are selected are indicated by an "X".

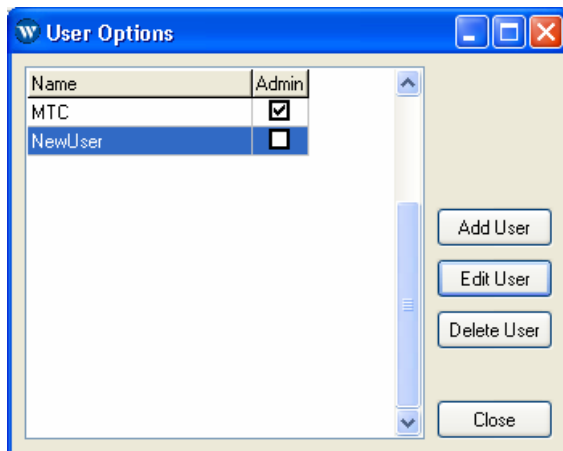
3. **OK** the Add / Edit User window. The new user will be displayed in the User List.

Editing a User

Note: An Administrator must be logged in to edit other users. If a non-administrator user is logged in, they may only modify their own information.

To edit a user,

1. Select **Users...** from the pull-down **Tools** menu. The User Options window appears.



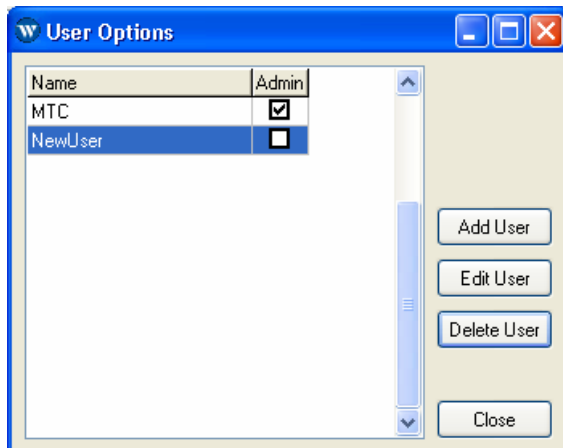
2. Select the user to be modified from the list.
3. Click the **Edit User** button. The Add / Edit User window appears, as described above, in the Adding a User section.

Deleting a User

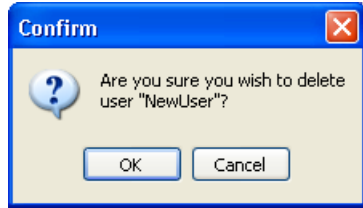
Note: An Administrator must be logged in to delete a user. The user that is currently logged in may not be deleted.

To delete a user,

1. Select **Users...** from the pull-down **Tools** menu. The User Options window appears.



2. Select the user to be deleted from the list.
3. Click the **Delete User** button. A confirmation dialog box appears



4. Click **OK** to close the Confirm window. The user will be removed from the list.

Changing Passwords

An Administrator can modify any user's password, while a standard user can only modify their own password.

To change a password,

1. Select **User Options** from the **Tools** menu. The User Administration dialog box appears.

Note: If a standard (non-administrator) user is logged in, the User Administration dialog box is skipped, and the Change Password dialog is displayed immediately.

2. Select the username in the list.
3. Click the **Change Password** button. The Change Password window appears.



4. Enter the current password, the new password, re-enter the new password for confirmation, and then click **OK** to save the new password.

NOTE: Administrators do not need the current password when changing the password of another user.

Changing the user type

Note: An Administrator must be logged in to change the user type

To change the user type,

1. Select **User Options** from the **Tools** menu. The User Administration dialog box appears.

2. Select the username in the list.
3. Check or un-check the Administrator checkbox.
4. Click **Close** to save the change.

Options ...

To access the Options window, select **Options** in the pull-down **T**ools menu.

Only users with Administrator rights will be able to modify any of the fields in the Options window. For non-administrator users, all the parameters in the Options window are read-only.

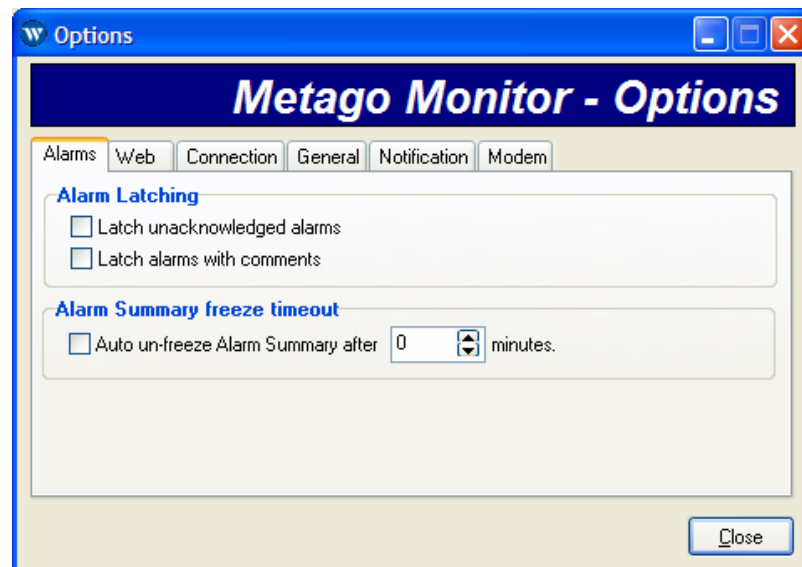


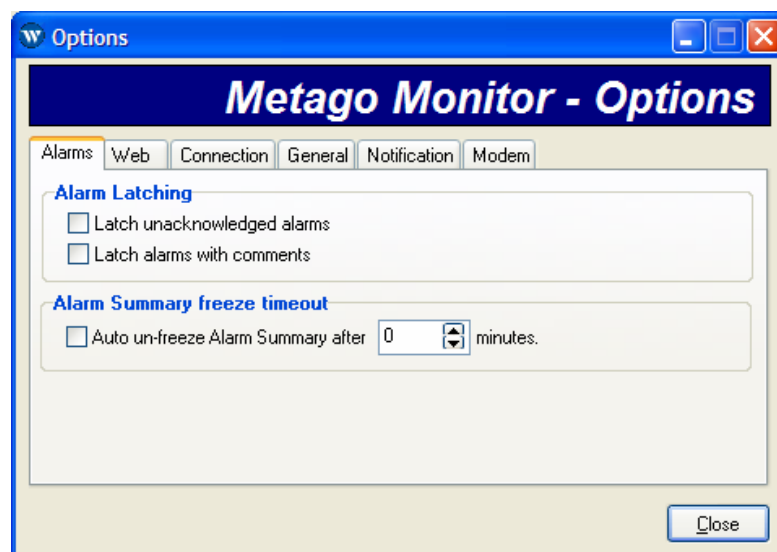
Figure 7 Options dialog box

The Options form is divided up into tabs

- *Alarms* — On the Alarms tab, an Administrator can configure alarm latching and Alarm summary freeze timeout options.
- *Web* — On the Web tab, an Administrator can configure the web server plug-in and enable or disable audible alerts on the web page.
- *Connection* — On the Connection tab, an Administrator can configure the Metago® Monitor application to automatically attempt to restore a connection to specified RTUs at timed intervals. The Administrator can also configure the control timeout interval and heartbeat connection interval.
- *General* — On the General tab, an administrator can enable or disable password complexity.
- *Notification* — On the Notification tab, an Administrator can configure audible alarm notification, as well as e-mail alarm notification.
- *Modem* — On the Modem tab the configuration for the interface to the dial up modem can be set.

Options – Alarms tab

On the Alarms tab, an administrator can configure Alarm Latching and Alarm Summary freeze timeout.



Alarm Latching

There are two types of alarm latching — “Latch unacknowledged alarms” and “Latch alarms with comments”. To enable one or both of these features, select the checkbox in front of the text.

If “**Latch unacknowledged alarms**” is checked, alarm points that have been in alarm and cleared, remain in the Alarm Summary display and Metago® Monitor web page until they have been acknowledged.

If “**Latch alarms with comments**” is checked, alarm points that have comments which have been in alarm and then cleared, remain in the Alarm Summary display and Metago® Monitor web page until the comment has been deleted from the alarm point.

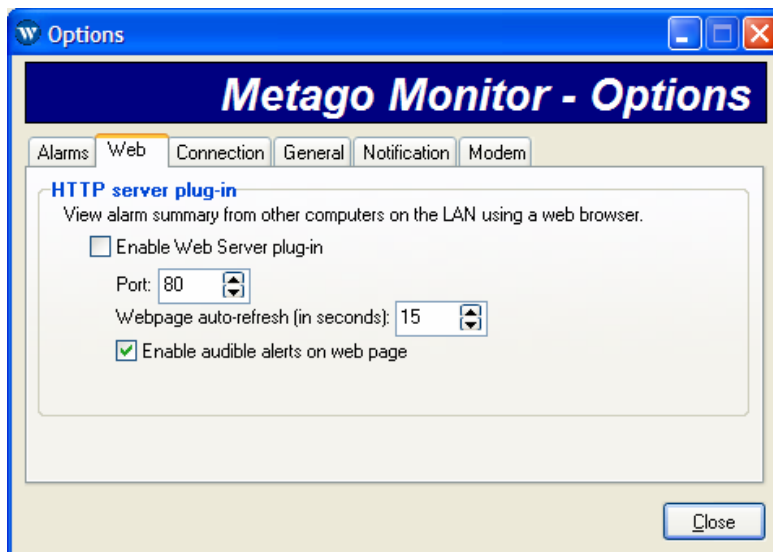
Alarm Summary freeze timeout

In the top-right corner of the Alarm Summary screen, there is an option to freeze the Alarm Summary display. While the display is frozen, new alarms are not added to the Alarm summary. This timeout is will un-freeze the display after the configured time, to prevent a user from unintentionally leaving the display frozen, and missing new alarms.

Options – Web tab

On the Web tab, an Administrator can enable or disable the web server plug-in.

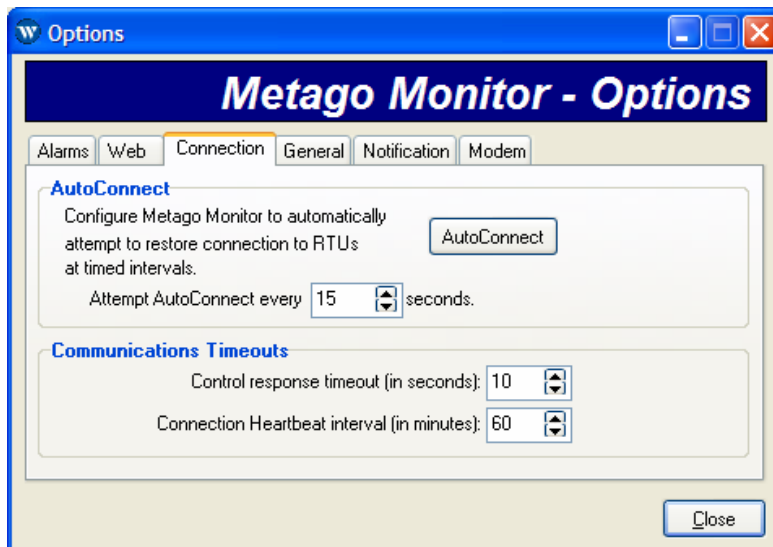
Checking the **Enable Web Server plug-in** allows users to access the Alarm Summary via a web browser on any PC on the same LAN as the Metago® Monitor PC. Along with enabling this feature, the Administrator can also define how often the web page will refresh, and whether audible alerts will sound when an alarm point changes state.



If the Web Server plug-in is checked, a hypertext link to the web page is displayed at the bottom of the sheet. A user may click on this hypertext link to view the web page.

Options – Connection tab

On the Connection tab, an Administrator can configure Metago® Monitor to automatically attempt to reconnect to specific RTUs at timed intervals. In addition to the AutoConnect feature, the Administrator can also configure the communication timeouts for a control response and a connection heartbeat.



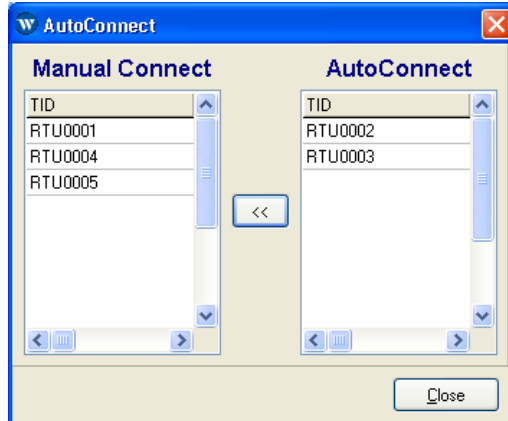
AutoConnect

Every RTU may be configured for either manual or automatic connection. If an RTU is configured as autoconnect, at every user-defined AutoConnect interval, Metago® Monitor cycles through its list of RTUs and attempts to connect to any RTU that is configured as auto connect, but is not connected. While Metago® Monitor is attempting to AutoConnect to the RTU, the RTU will be displayed in blue in the RTU Summary display indicating a connection is

pending. When the connection is established, the RTU will be displayed in green. If the connection cannot be established, the RTU is displayed in red.

To configure an RTU as AutoConnect,

1. In the **Connection** tab, enter the time interval.
2. Click on the **AutoConnect** button. The AutoConnect window appears.



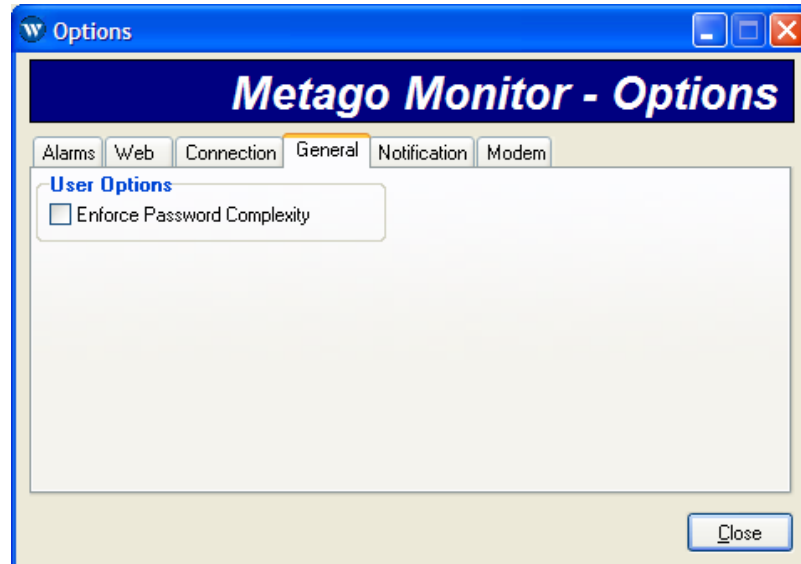
3. Select the RTU to configure as AutoConnect from the Manual Connect list, then click the ">>" (insert) button. The selected RTU(s) will now appear in the AutoConnect list. You can select multiple RTUs by holding down the CTRL key while selecting RTUs from the list.
4. Click **C**lose to save changes.

Communications Timeouts

To compensate for slower network connections, an Administrator may configure the control response timeout and the connection heartbeat interval. On the heartbeat interval, Metago® Monitor sends a TL-1 RTRV-HDR message to the RTU to ensure that it is still connected.

Options – General tab

On the General tab, an Administrator can configure the way Metago Monitor handles user password validation.

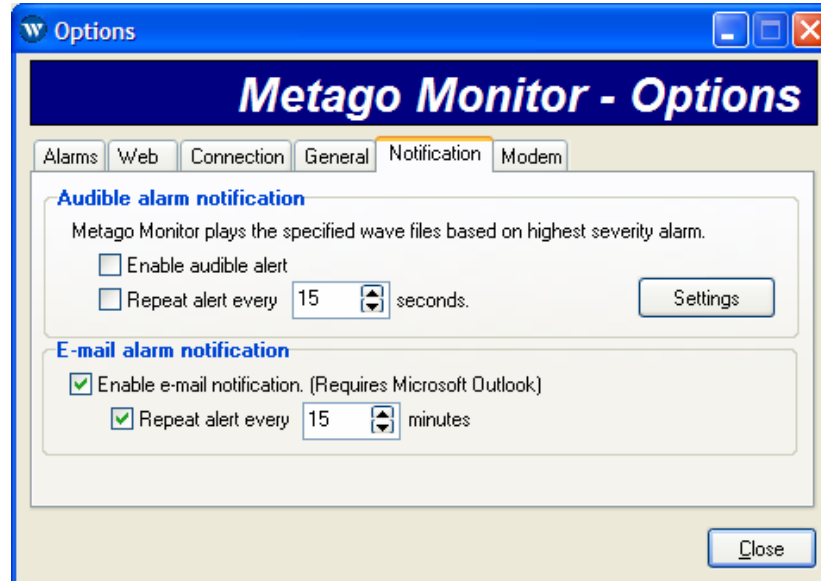


User Options

The “Enforce Password Complexity” checkbox enables / disables password complexity restrictions for Metago Monitor user accounts. With the option enabled, the password must be a minimum of 8 characters, and must contain at least 2 alpha, 2 numeric, and one special character (@ . _ -)

Options – Notification tab

On the Notification tab, an Administrator can configure certain additional methods that Metago Monitor can use to notify users of alarms.

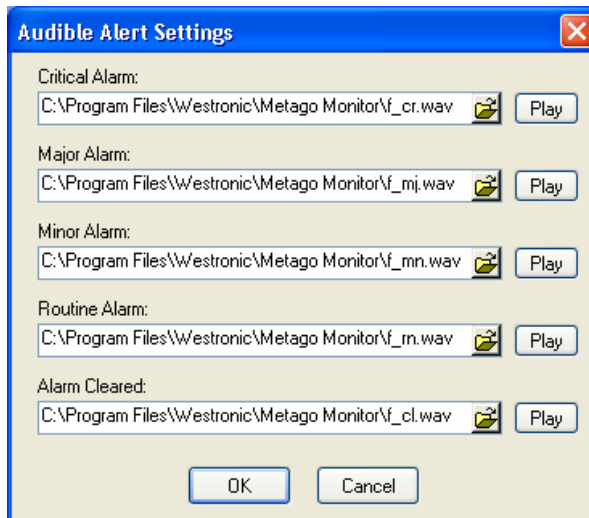


Audible alarm notification

In addition to displaying the alarm points in the Alarm Summary display and Metago® Monitor web page, an administrator can configure distinct audible alerts for each alarm severity. Metago® Monitor provides default .wav files of synthesized male and female voices announcing the alarm severity, but any standard .wav files can be used. Only the audible of the highest alarm severity is activated.

To enable this feature, check the **Enable audible alert** box. The Administrator can also have the audibles repeat at timed intervals. To do this, check the **Repeat alert every** box and enter the time interval you wish the audibles to repeat.

To assign different .wav files for audible alerts, click on the **Settings** button. The Audible Alert Settings window appears.



Click on the appropriate file icon to select a .wav file for each alarm severity, when finished, click **OK** to save changes and close the window.

E-mail alarm notification

Another method that Metago Manager can use to notify users of alarms is e-mail notification. In order to configure e-mail notification, Microsoft Outlook must be installed on the Metago Manager computer. In Outlook, a valid e-mail account must be configured, much like any other user would configure Outlook to access a mail server. It is recommended that an e-mail account be created specifically for Metago Monitor use (i.e. metago.monitor@<corporate_email_server>).

In addition to Outlook being installed, there is a third-party Outlook Advanced security patch that must be installed in order for Metago Monitor to be allowed access to Outlook. This Outlook patch is available for download from Mapi Lab. See the following links:

Information: http://www.mapilab.com/dev/outlook_security/

Download: http://www.mapilab.com/files/security_outlook.zip

The first time Metago Monitor attempts to access Outlook to send an e-mail, the Advanced security window will appear. Select the option to allow Metago Monitor to proceed, and also select the option to always take this action for this application.

In order for e-mails to be sent from Metago Monitor, there must be users configured with e-mail addresses and schedules. See Users section of this manual for details on how to configure this.

Inhibited Alarms ...

Alarms points that have been inhibited are removed from the Alarm Summary display and placed in the Inhibited Alarms display. To access the Inhibited Alarms display, select **Inhibited Alarms** from the **Tools** menu, or click the **View Inhibited Alarms** button on the Alarm Summary tab.

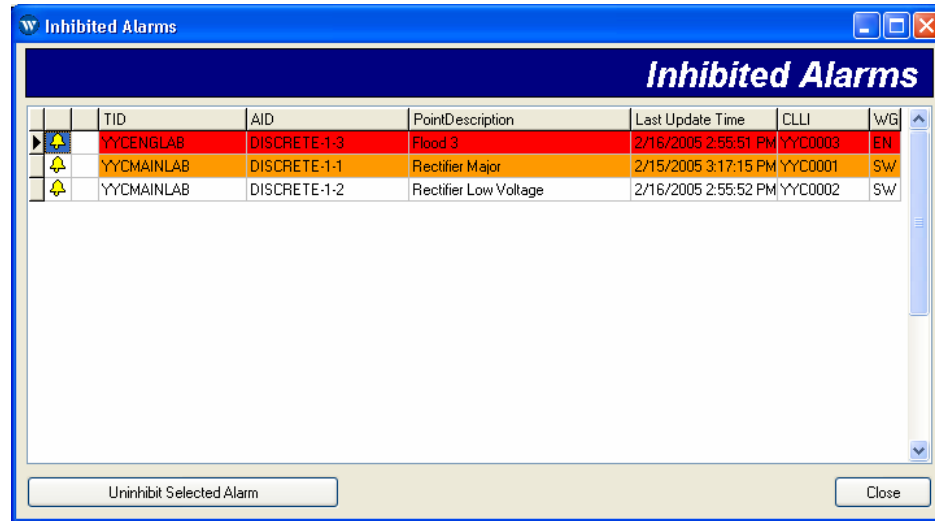


Figure 8 Inhibited Alarms display

The inhibited alarms are displayed in the list in same alarm colors as the Alarm Summary (refer to *Table 1 Alarm Colors* on page 14).

There are two methods to un-inhibit the alarms. With the right mouse button, click on the alarm to be uninhibited in the list. A popup menu appears. Select Uninhibit. OR select the point in the list with the left mouse button and then click the Uninhibit Selected Alarm button. In both cases the point is removed from the display.

View Logs ...

Logs are kept for each RTU that is connected via Metago® Monitor. The logs are stored in an internal database in Metago Monitor. The **View Logs** menu item allows a user to configure and generate a log report. The exported log reports are in .csv format, which can easily be imported into a spreadsheet application for manipulation.

Metago Monitor logs include all alarms from all configured RTUs, as well as Operations entries for acknowledging, commenting, and inhibiting of alarm points.

Generating a log report

To generate a log report,

1. Select **View Logs...** in the **Tools** menu. The View Logs – Generate Report window appears.

The screenshot shows a dialog box titled "View Log - Generate Report". At the top, there is a "Search for" dropdown menu with "Alarms" selected. Below this is a "Date Range" section with two radio buttons: "Do no filter on Date" (which is selected) and "Show only events within a specified range:". Under the second option, there are "Start:" and "End:" labels with corresponding date dropdown menus showing "2/15/2005" and "2/16/2005". The "Alarm Search criteria" section contains several input fields: "SID:", "AID:", "Point Description:", "Location:", and "Workgroup:". Below these is a "Severity:" dropdown menu set to "Any severity". At the bottom of the dialog are "Search" and "Close" buttons.

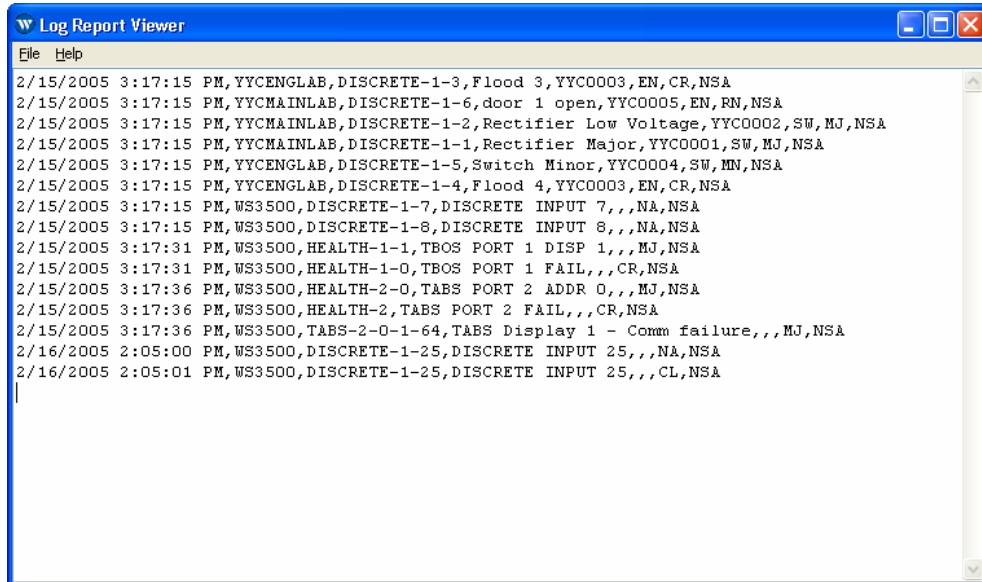
2. Select the appropriate search criteria as follows:

- *Search for...* — select the type of log entry to search. A search can include either alarms or operations. “Alarms” includes all alarm messages from all RTUs configured in Metago Monitor. “Operations” includes all acknowledgements and comments made on alarms by users, as well as the inhibiting of alarms.
- *Date Range* — Select a date range to search by entering a start date and end date. If this field is left blank, no date range will be applied, and all records will be searched.
- *SID* — The report may be filtered so that only alarms or operations containing a specific SID are displayed. If this field is left blank, all SIDs are searched.
- *AID* — The report may be filtered so that only alarms or operations containing a specific AID are displayed. If this field is left blank, all AIDs are searched.
- *Point Description* — The report may be filtered so that only alarms or operations containing a specific Point Description are displayed. If this field is left blank, all Point Descriptions are searched.
- *Location* — The report may be filtered so that only alarms containing a specific Location are displayed. If this field is left blank, all Locations are searched. This search parameter is only available for Alarm searches.
- *Workgroup* — The report may be filtered so that only alarms containing a specific Workgroup are displayed. If this field is left blank, all Workgroups are searched. This search parameter is only available for Alarm searches.
- *Severity* — The report may be filtered so that only alarms of the specified Severity (and higher) are displayed. By default, all alarm Severities are searched. This search parameter is only available for Alarm searches
- *Username* — The report may be filtered so that only operations performed a specific user are displayed. If this field is left blank, operations by all users are searched.

3. Click the **Search** button to generate the report.

4. The Log Report Viewer window is displayed, containing the requested log records.

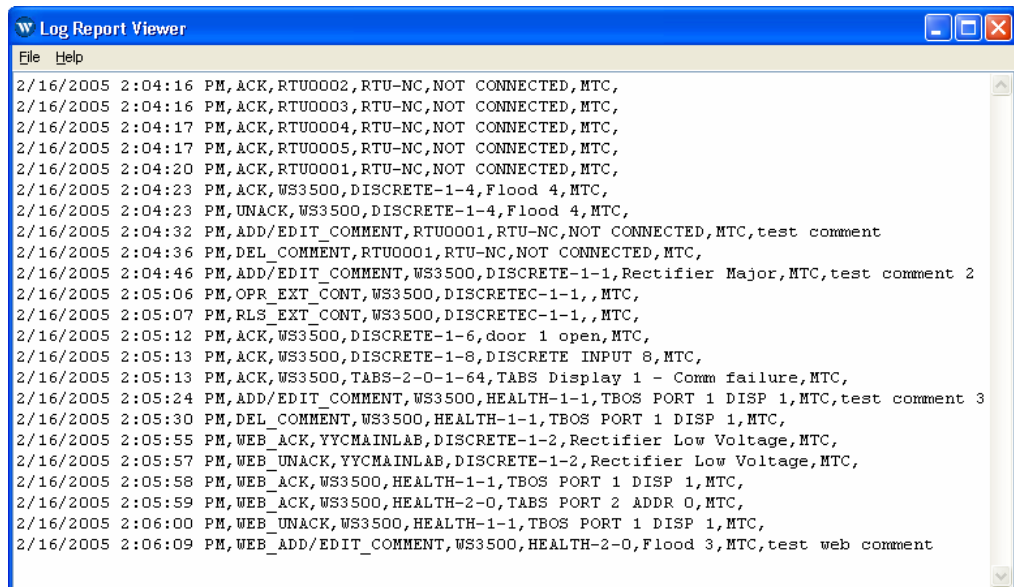
The following are sample reports for Alarm, and Operations search types:



```

Log Report Viewer
File Help
2/15/2005 3:17:15 PM,YYCENGLAB,DISCRETE-1-3,Flood 3,YYC0003,EN,CR,NSA
2/15/2005 3:17:15 PM,YYCMAINLAB,DISCRETE-1-6,door 1 open,YYC0005,EN,RN,NSA
2/15/2005 3:17:15 PM,YYCMAINLAB,DISCRETE-1-2,Rectifier Low Voltage,YYC0002,SW,MJ,NSA
2/15/2005 3:17:15 PM,YYCMAINLAB,DISCRETE-1-1,Rectifier Major,YYC0001,SW,MJ,NSA
2/15/2005 3:17:15 PM,YYCENGLAB,DISCRETE-1-5,Switch Minor,YYC0004,SW,MN,NSA
2/15/2005 3:17:15 PM,YYCENGLAB,DISCRETE-1-4,Flood 4,YYC0003,EN,CR,NSA
2/15/2005 3:17:15 PM,WS3500,DISCRETE-1-7,DISCRETE INPUT 7,,NA,NSA
2/15/2005 3:17:15 PM,WS3500,DISCRETE-1-8,DISCRETE INPUT 8,,NA,NSA
2/15/2005 3:17:31 PM,WS3500,HEALTH-1-1,TBOS PORT 1 DISP 1,,MJ,NSA
2/15/2005 3:17:31 PM,WS3500,HEALTH-1-0,TBOS PORT 1 FAIL,,CR,NSA
2/15/2005 3:17:36 PM,WS3500,HEALTH-2-0,TABS PORT 2 ADDR 0,,MJ,NSA
2/15/2005 3:17:36 PM,WS3500,HEALTH-2,TABS PORT 2 FAIL,,CR,NSA
2/15/2005 3:17:36 PM,WS3500,TABS-2-0-1-64,TABS Display 1 - Comm failure,,MJ,NSA
2/16/2005 2:05:00 PM,WS3500,DISCRETE-1-25,DISCRETE INPUT 25,,NA,NSA
2/16/2005 2:05:01 PM,WS3500,DISCRETE-1-25,DISCRETE INPUT 25,,CL,NSA

```



```

Log Report Viewer
File Help
2/16/2005 2:04:16 PM,ACK,RTU0002,RTU-NC,NOT CONNECTED,MTC,
2/16/2005 2:04:16 PM,ACK,RTU0003,RTU-NC,NOT CONNECTED,MTC,
2/16/2005 2:04:17 PM,ACK,RTU0004,RTU-NC,NOT CONNECTED,MTC,
2/16/2005 2:04:17 PM,ACK,RTU0005,RTU-NC,NOT CONNECTED,MTC,
2/16/2005 2:04:20 PM,ACK,RTU0001,RTU-NC,NOT CONNECTED,MTC,
2/16/2005 2:04:23 PM,ACK,WS3500,DISCRETE-1-4,Flood 4,MTC,
2/16/2005 2:04:23 PM,UNACK,WS3500,DISCRETE-1-4,Flood 4,MTC,
2/16/2005 2:04:32 PM,ADD/EDIT_COMMENT,RTU0001,RTU-NC,NOT CONNECTED,MTC,test comment
2/16/2005 2:04:36 PM,DEL_COMMENT,RTU0001,RTU-NC,NOT CONNECTED,MTC,
2/16/2005 2:04:46 PM,ADD/EDIT_COMMENT,WS3500,DISCRETE-1-1,Rectifier Major,MTC,test comment 2
2/16/2005 2:05:06 PM,OPR_EXT_CONT,WS3500,DISCRETE-1-1,,MTC,
2/16/2005 2:05:07 PM,RLS_EXT_CONT,WS3500,DISCRETE-1-1,,MTC,
2/16/2005 2:05:12 PM,ACK,WS3500,DISCRETE-1-6,door 1 open,MTC,
2/16/2005 2:05:13 PM,ACK,WS3500,DISCRETE-1-8,DISCRETE INPUT 8,MTC,
2/16/2005 2:05:13 PM,ACK,WS3500,TABS-2-0-1-64,TABS Display 1 - Comm failure,MTC,
2/16/2005 2:05:24 PM,ADD/EDIT_COMMENT,WS3500,HEALTH-1-1,TBOS PORT 1 DISP 1,MTC,test comment 3
2/16/2005 2:05:30 PM,DEL_COMMENT,WS3500,HEALTH-1-1,TBOS PORT 1 DISP 1,MTC,
2/16/2005 2:05:55 PM,WEB_ACK,YYCMAINLAB,DISCRETE-1-2,Rectifier Low Voltage,MTC,
2/16/2005 2:05:57 PM,WEB_UNACK,YYCMAINLAB,DISCRETE-1-2,Rectifier Low Voltage,MTC,
2/16/2005 2:05:58 PM,WEB_ACK,WS3500,HEALTH-1-1,TBOS PORT 1 DISP 1,MTC,
2/16/2005 2:05:59 PM,WEB_ACK,WS3500,HEALTH-2-0,TABS PORT 2 ADDR 0,MTC,
2/16/2005 2:06:00 PM,WEB_UNACK,WS3500,HEALTH-1-1,TBOS PORT 1 DISP 1,MTC,
2/16/2005 2:06:09 PM,WEB_ADD/EDIT_COMMENT,WS3500,HEALTH-2-0,Flood 3,MTC,test web comment

```

Figure 9 RTU Log Report Samples

In Alarm log reports, the data is sorted into the following columns:

- *Timestamp* — the time the log entry was generated.
- *SID* — the system identifier (SID) of the alarm.
- *AID* — the access identifier (AID) of the alarm.
- *Point Description* — the point description of the alarm.
- *Location* — the location (or CLLI code) of the alarm.
- *Work Group* — the two-character workgroup of the alarm.
- *Severity* — the severity of the alarm (CR, MJ, MN, RN, or CL),
- *Service Affecting* — either SA or NSA.

In Operations log reports, the data is sorted into the following columns:

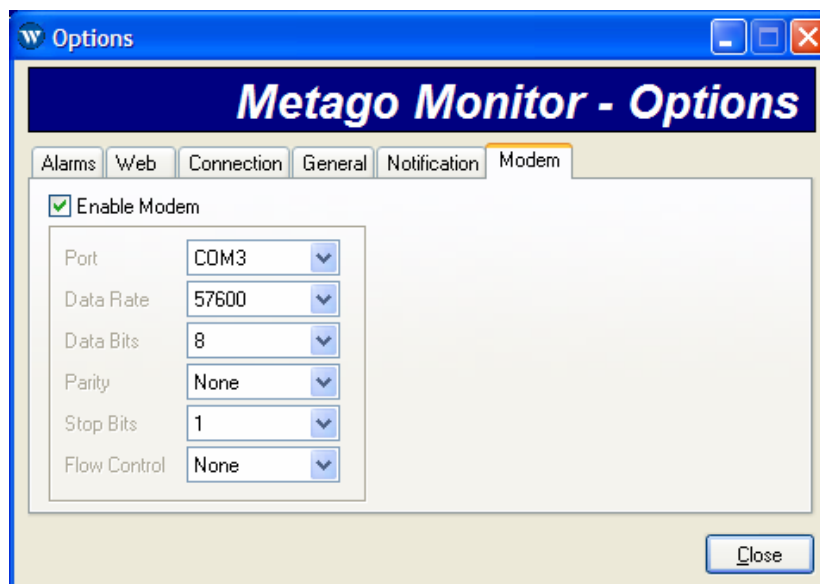
- *Timestamp* — the time the log entry was generated.
- *Action* — what action was performed. Some possible action descriptions are ACK (an alarm was acknowledged), WEB_ADD/EDIT COMMENT (a comment was added to the point via the Online Alarm Summary web page), DEL_COMMENT (a comment was deleted from the point via the Monitor Alarm Summary page), and INHIBIT (the alarm point has been marked as inhibited).
- *SID* — the system identifier (SID) of the alarm on which the operation was performed.
- *AID* — the access identifier (AID) of the alarm on which the operation was performed.
- *Point Description* — the description of the point.
- *Username* — the user who performed the operation, i.e. added a comment, acknowledged an alarm, etc.
- *Comment* — the comment that was attached to the alarm point. This field is only present for comment-related operations.

Clear Logs

The Metago Monitor log database does not automatically purge old records. In order to limit the size of this database, it is recommended that all data be exported to .csv files for archiving, and the log database cleared on a regular basis. To do this, select **View Logs** and generate alarm and operation reports with no filter parameters, then select **Clear Logs** to purge the database.

Options – Modem tab

On the Modem tab, an Administrator can configure the serial connection properties for communicating with the dial-out modem.



Modem Options

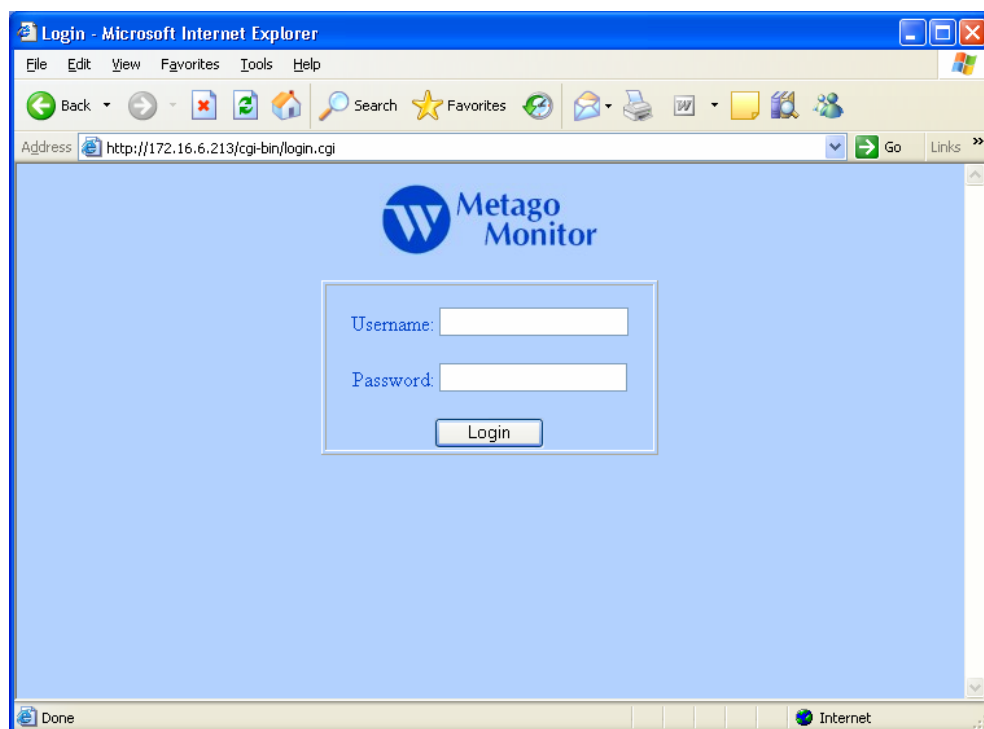
Please note that the user will not be able to alter the modem properties when Metago Monitor is trying to dial out.

- *Port* — the computer COM port where the modem is located
- *Data Rate* — the serial data rate between the computer and modem
- *Data Bits* — the number of data bits used in the serial connection
- *Parity* — The type of serial parity used by the modem
- *Stop Bits* — The number of stop bits used by the modem
- *Flow Control* — The type of flow control used by the modem

Online Alarm Summary

To access the Online Alarm Summary web page, it is recommended to use Internet Explorer 5.5 (or above), or Mozilla Firefox, and cookies must be enabled.

To access the Online Alarm Summary web page, enter the PC's IP Address or network name in the Address field in a web browser. or click the hypertext link in the Options - Web tab. The Metago® Monitor Login page appears.



Enter a valid **Username** and **Password** for Metago Monitor and click the **Login** button. The Online Alarm Summary page appears.

Metago Monitor - Online Alarm Summary - Microsoft Internet Explorer

Address: http://172.16.6.213/main.html

Last Updated: Wednesday, February 16, 2005, 03:08:23 PM

ACK ALL

Alarm Icon	TID	AID	Point Description	Last Update Time	CLLI	WG
✓	RTU0005	RTU-NC	NOT CONNECTED	2/16/2005 1:26:30 PM		
⚠	YYCENGLAB	DISCRETE-1-4	Flood 4	2/15/2005 3:17:15 PM	YYC0003	EN
⚠	WS3500	HEALTH-2	TABS PORT 2 FAIL	2/15/2005 3:17:36 PM		
⚠	WS3500	HEALTH-1-0	TBOS PORT 1 FAIL	2/15/2005 3:17:31 PM		
✓	RTU0001	RTU-NC	NOT CONNECTED	2/16/2005 1:26:10 PM		
✓	RTU0004	RTU-NC	NOT CONNECTED	2/16/2005 1:26:25 PM		
✓	RTU0003	RTU-NC	NOT CONNECTED	2/16/2005 1:26:20 PM		
✓	RTU0002	RTU-NC	NOT CONNECTED	2/16/2005 1:26:16 PM		
⚠	WS3500	HEALTH-1-1	TBOS PORT 1 DISP 1	2/15/2005 3:17:31 PM		
✓	WS3500	TABS-2-0-1-64	TABS Display 1 - Comm Failure	2/15/2005 3:17:36 PM		
⚠	WS3500	HEALTH-2-0	TABS PORT 2 ADDR 0	2/15/2005 3:17:36 PM		
⚠	YYCENGLAB	DISCRETE-1-5	Switch Minor	2/15/2005 3:17:15 PM	YYC0004	SW
⚠	YYCMAINLAB	DISCRETE-1-6	door 1 open	2/15/2005 3:17:15 PM	YYC0005	EN
✓	WS3500	DISCRETE-1-7	DISCRETE INPUT 7	2/15/2005 3:17:15 PM		
✓	WS3500	DISCRETE-1-8	DISCRETE INPUT 8	2/15/2005 3:17:15 PM		

Monitored RTUs

- RTU0001 172.16.6.1
- RTU0002 172.16.6.2
- RTU0003 172.16.6.3
- RTU0004 172.16.6.4
- RTU0005 172.16.6.5
- WS3500 172.16.6.122

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Figure 10 Online Alarm Summary web page

From the Online Alarm Summary page, the following operation may be performed

- Acknowledge and unacknowledge alarms
- Acknowledge all alarms
- Add, edit, and delete comments.
- Access the InSite web page for a particular RTU by clicking on the hyperlink to that RTU under the Monitored RTUs list.

Acknowledging Alarms

To acknowledge an individual alarm, click on the Alarm Ack icon with the left mouse button. A green check mark appears on the Alarm Ack icon indicating the alarm has been acknowledged.

To acknowledge all the alarms, click on the **ACK ALL** button.

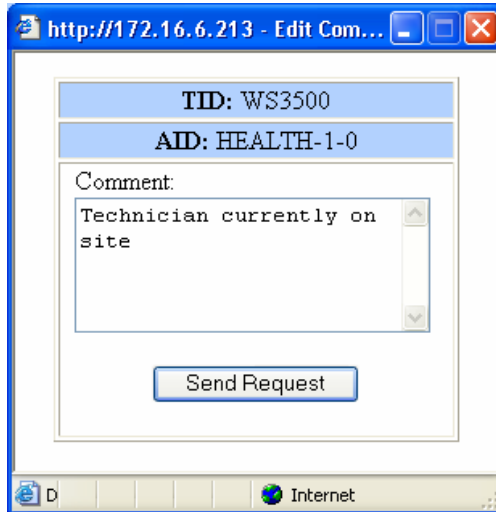
Unacknowledging an Alarm

To unacknowledge an acknowledged alarm, click on the Alarm Ack icon with mouse button one. The green check mark will disappear.

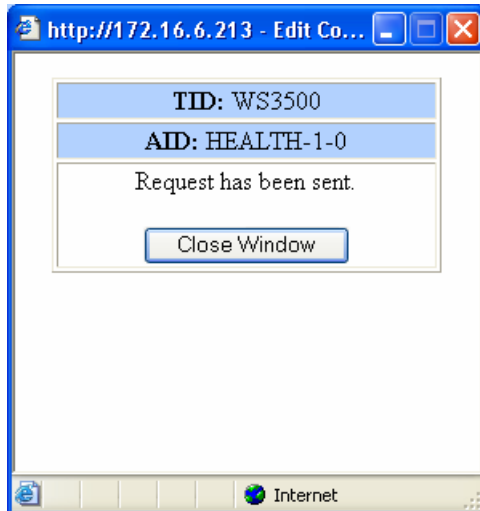
Adding a Comment

To add a comment to an alarm point:

1. With the left mouse button, click on the Comment column of the alarm in the list. The Edit Comment dialog box appears.



2. Type in Comment in the space provided.
3. Click **Send Request** to save the comment. A confirmation window appears indicating that the request has been sent.



4. Click the **Close Window** button. A comment icon will appear next to the Alarm point.

Deleting a Comment

To delete a comment to an Alarm Point, do the following:

1. With the left mouse button, click on the Comment icon associated with the alarm point. The Edit Comment dialog box appears.
2. Delete all text from the **Comment** area.

3. Click **Send Request** to delete the comment. A confirmation window appears indicating that the request has been sent.
4. Click on the **Close Window** button. The comment icon will be removed from the Alarm point.

Accessing the InSite web page

To access the InSite web page for a particular RTU, click on the hyperlink text to that RTU under the Monitored RTUs list. If InSite is enabled for that RTU, the InSite web page will be displayed.

Logging Off

To log off of the Online Summary page, either close the Internet Explorer window, OR click the **LOGOUT** button.

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 **Westronic Systems, Inc.**
a Mediation Technology company

Tel: 403-250-8304 | **Fax:** 403-263-2174
Technical Support: 403-250-8304
E-Mail: info@westronic.com

View Remote Alarm Monitoring and Management Products at:
<http://www.westronic.com>

3, 1339 40 Avenue NE
Calgary, Alberta T2E-8N6 Canada

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