SuperSystems
incorporated

SDSTATUS

VIEW AND WORKSTATION

OPERATIONS MANUAL

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Introduction

SDStatus is a server/device monitoring and automated alert solution from Super Systems Inc. The solution includes SDStatus View and SDStatus Service (which generally run on one computer) and SDStatus Workstation (which may be run on multiple computers).

SDStatus Service monitors selected SuperDATA servers and devices communicating with SuperDATA. When a defined condition exists, SDStatus Service generates an alarm and sends an email to a predefined email address of the user's choice. SDStatus can be set up to limit emails to certain times of the week to send emails only after an alarm has been on for a certain amount of time. SDStatus Service is able to monitor any device or equipment communicating with SuperDATA using the SDIO communications engine, as well as the SuperDATA server itself.

Running on a different computer, SDStatus Workstation communicates with the SDStatus Service on the computer where the service is running and displays information provided by the service, including information on alarms and operating status of monitored devices. SDStatus Workstation may be installed on one or more computers, allowing more than one user to get status information on devices, as needed.

Compatible devices include any equipment that can communicate with SuperDATA using SDIO with a supported connection protocol. Examples of compatible devices include the Series 9220 Vacuum Furnace Controller, AC20 Atmosphere Controller, supported Programmable Logic Controllers (PLCs), and many other types of equipment.

SDStatus Components and How They Interact

As an overall solution, SDStatus is comprised of several parts. These parts include SDStatus Service, SDStatus View, and SDStatus Workstation. SDStatus Service is a program that runs in the background on a computer and reads data from a SuperDATA server in order to obtain information about devices for which SuperDATA is logging details. SDStatus View, which runs on the same computer where the SDStatus Service is running, allows the user to view information about the service and configure settings including monitored devices, alarms, and email notification settings. Finally, SDStatus Workstation, running on a separate computer, provides information on running devices and alarms; this information is obtained from the SDStatus Service running on the SDStatus View computer.

The diagram below illustrates the parts of SDStatus and how they work together.

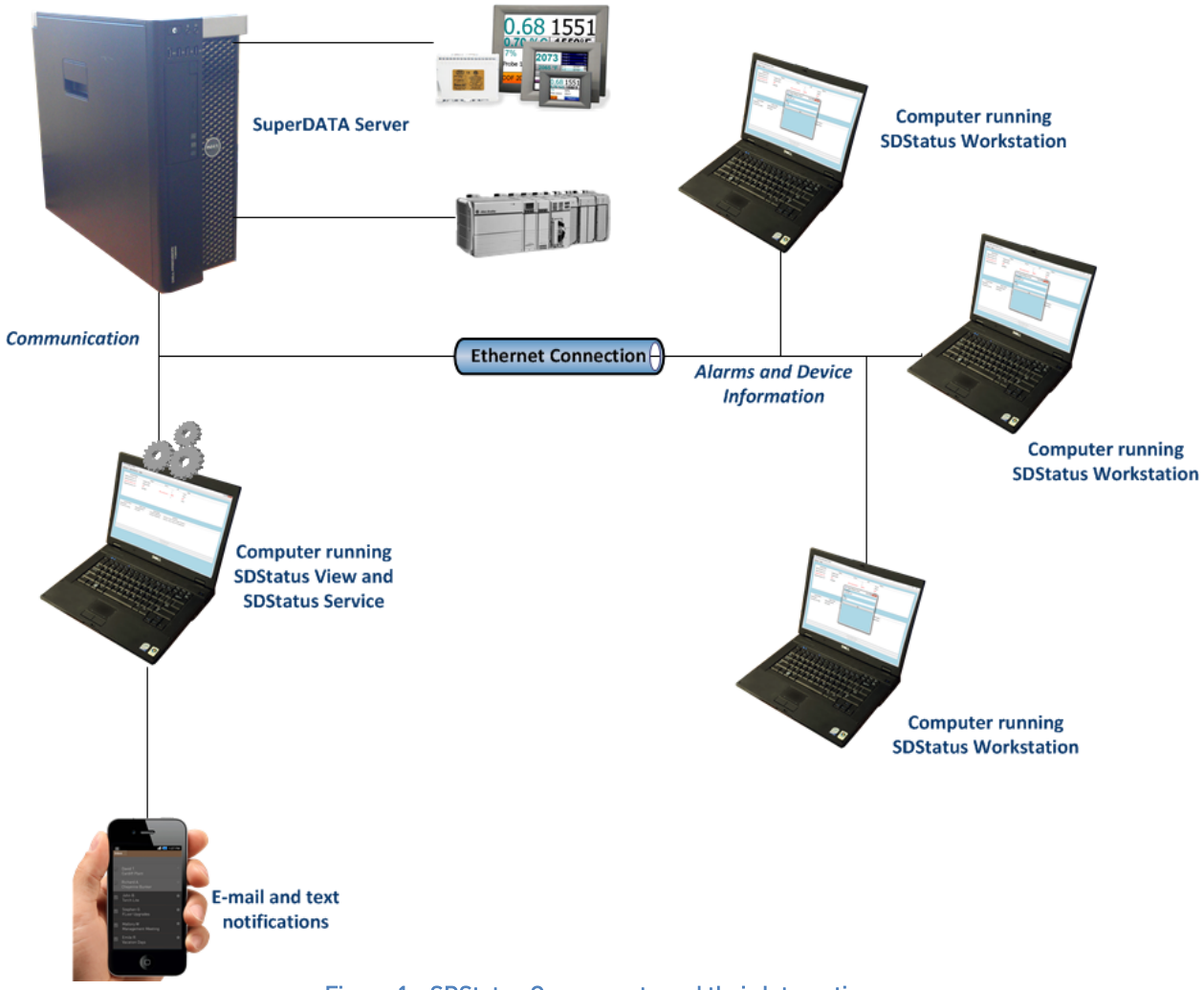


Figure 1 - SDStatus Components and their Interaction

Prerequisites

Both SDStatus View (hereafter referred to as "View") and SDStatus Workstation (hereafter referred to as "Workstation") must be run on a computer with Microsoft Windows XP or higher. The computer running View must be connected to the same Ethernet network as the SuperDATA server and must be able to connect to the SuperDATA file system.

The computer on which the software will be installed must have Microsoft .NET 4.0 Redistributable (or higher) installed on it. This package is included on the SDStatus installation disc.

SDIO is the software that communicates with devices in specific channels and provides data to SuperDATA. SDStatus Service, running on the same computer that is running View, monitors the operation of SDIO by analyzing data that SDIO writes to the *IntTbl.dat* file (see the SuperDATA manual for more details on this file).

Before many alarm conditions can be accurately evaluated by SDStatus, SDIO must be running on the SuperDATA server with which SDStatus Service is communicating. To confirm that SDIO is running, follow this procedure:

1. From the computer running SDStatus Service, open the **Start** menu.
   a. If using Windows XP, open the **Run** menu (Figure 2) and type the full path of the *chstat* program (in many cases, this will be "C:\SSi\Bin\chstat.exe") in the dialog box.

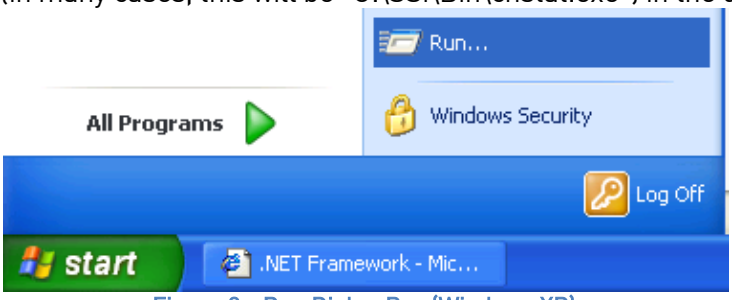


Figure 2 - Run Dialog Box (Windows XP)

   b. If using Windows Vista, 7, or 8, type *chstat* in the "Search programs and files" box. Click on the **ChStat** application link that appears (usually at the top of the Start menu area). See Figure 3.

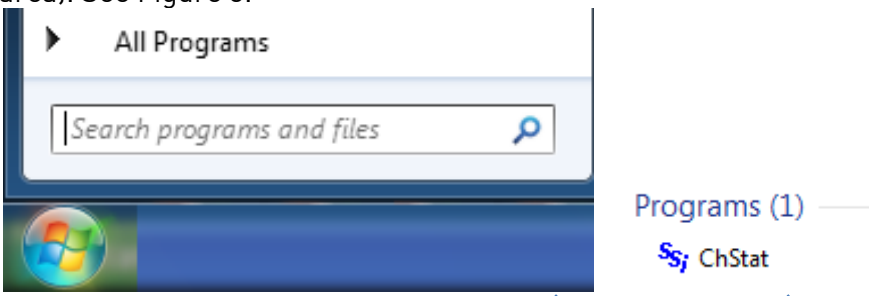


Figure 3 - Program Search and Run (Windows Vista, 7, & 8)

2. In the **Communications Channel Status** window that appears, you will be able to tell whether SDIO is functioning properly.
   a. If the COMM column indicates "OK" for all attached channels, SDIO is working, and communications are okay. (See Figure 4.)
   b. If the COMM column indicates "ERR" for an attached channel, or if a message "No channels communicating, Communications may not be running" (Figure 5) appears, SDIO may not be operating, or a communications error is taking place.

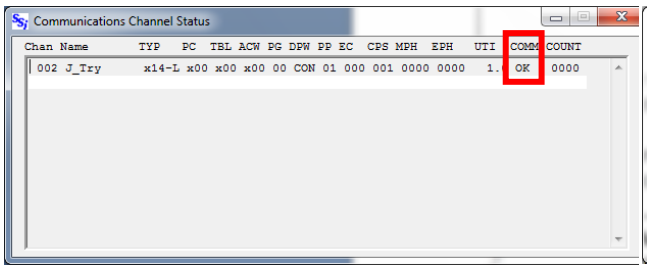


Figure 4 - Communications OK indication

(SDIO is operating; communications are okay)

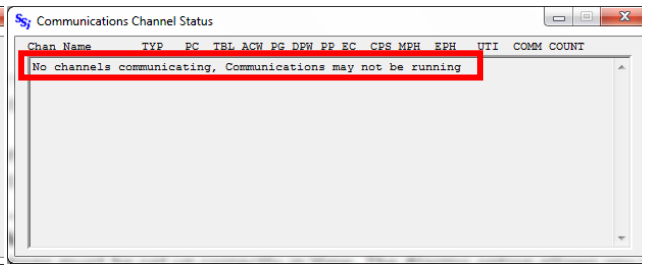


Figure 5 - Bad Communications message

(SDIO may not be operating, or a Communications error is taking place)

In order to send emails, SDStatus Service must be able to connect to an email server via SMTP (Simple Mail Transfer Protocol), SMTP with StartTLS, or secure SMTP.

Finally, ensure that devices are set up to communicate with SuperDATA. SDStatus Service can monitor devices only when they are communicating with the SuperDATA server.

> *IMPORTANT TIP:* In order to send notification emails, alarms, emails, and email sending options must be set up correctly in View. The Alarms option allows you to set up alarms. The Email Addresses menu provides email and email group settings. The Email Times menu provides email scheduling options. Refer to the **Alarms**, **Email Addresses**, and **Email Times** sections for further details.

Getting Started

Before the benefits of the SDStatus programs can be utilized, the programs will need to be installed. This section will guide you through the installation and initial running of View (which will include installation of SDStatus Service) and Workstation (installing Workstation is optional).

SDStatus View

The SDStatus View installation program will install both the SDStatus Service and SDStatus View.

Installation

To install, open the "setup.exe" file (not the "SDStatusSetup.msi" file). The **Setup Wizard** window will appear (Figure 6). Click "Next" continue.

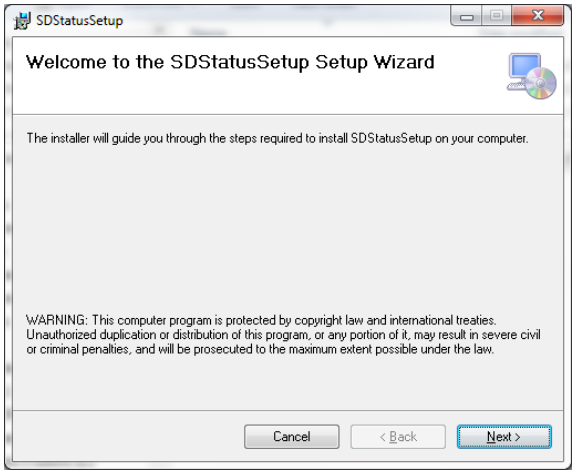


Figure 6 - Setup Wizard window

A **Confirm Installation** window will appear (Figure 7). Click "Next" to continue with the installation.

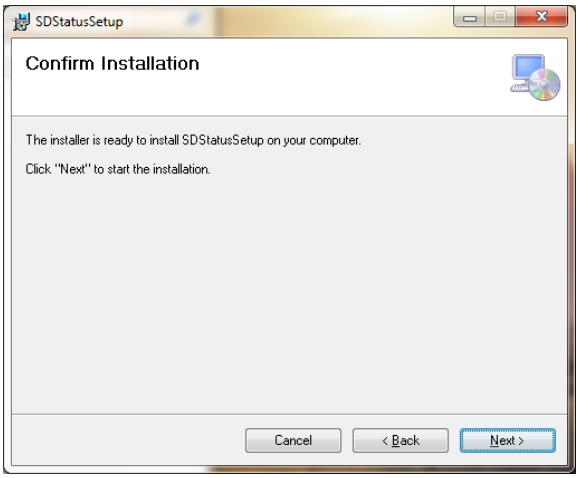


Figure 7 - Confirm Installation window

A window similar to the one shown in Figure 8 will appear. This window will give you the options to change the installation folder for View, to install View for the current user or for all users of the computer, and to estimate the amount of disk space that will be used when the program is installed. Click "Next" to continue.

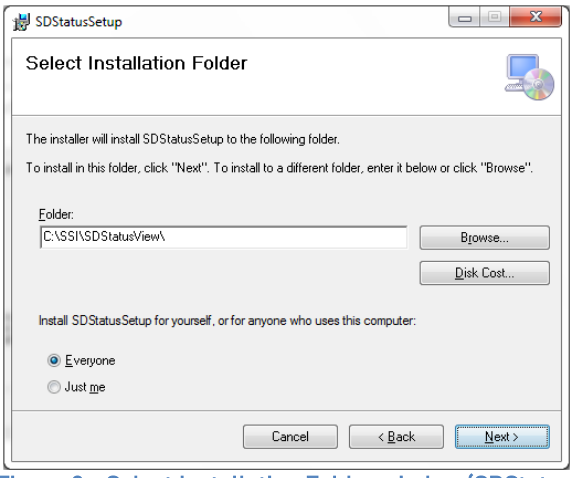


Figure 8 - Select Installation Folder window (SDStatus View installation)

An installation status window will appear (Figure 9).

If a window appears on screen asking if you want to authorize changes being made to your computer, simply choose "Yes".

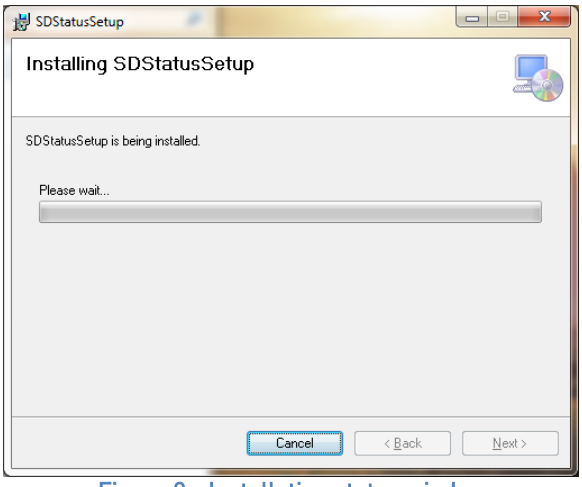


Figure 9 - Installation status window

Once the installation process has finished, the **Installation Complete** window (Figure 10) will appear. Click "Close" to close the window.

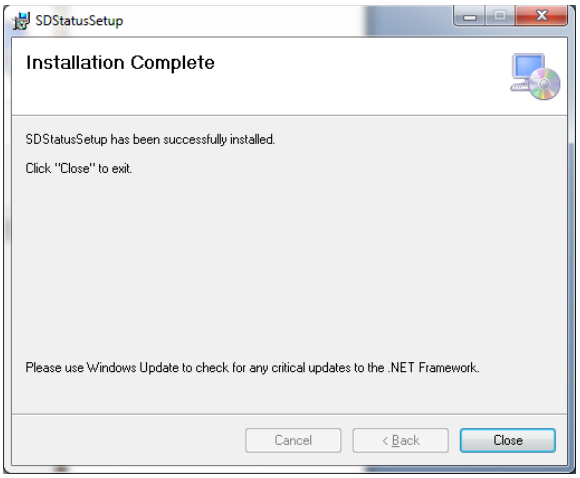


Figure 10 - Installation Complete window

Running

To run View, open the program called **SdStatusView** from the **SuperSystems** program group in the Start Menu (see Figure 11).

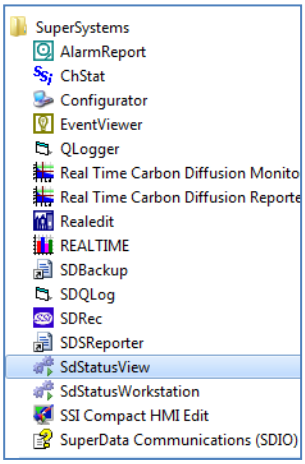


Figure 11 - Typical Location of SdStatusView in Start Menu

NOTE: If you are running View for the first time, you may see a window about the "SDStatus ServiceHandler". Allow this process to continue.

Upon starting View, the View screen will appear (see Figure 12). If you have not run View before, the screen will be blank. Once servers and channels have been set up to be monitored, the screen will be populated with the relevant data. This process is discussed as part of the SDStatus View: Operation → Options Menu section below.

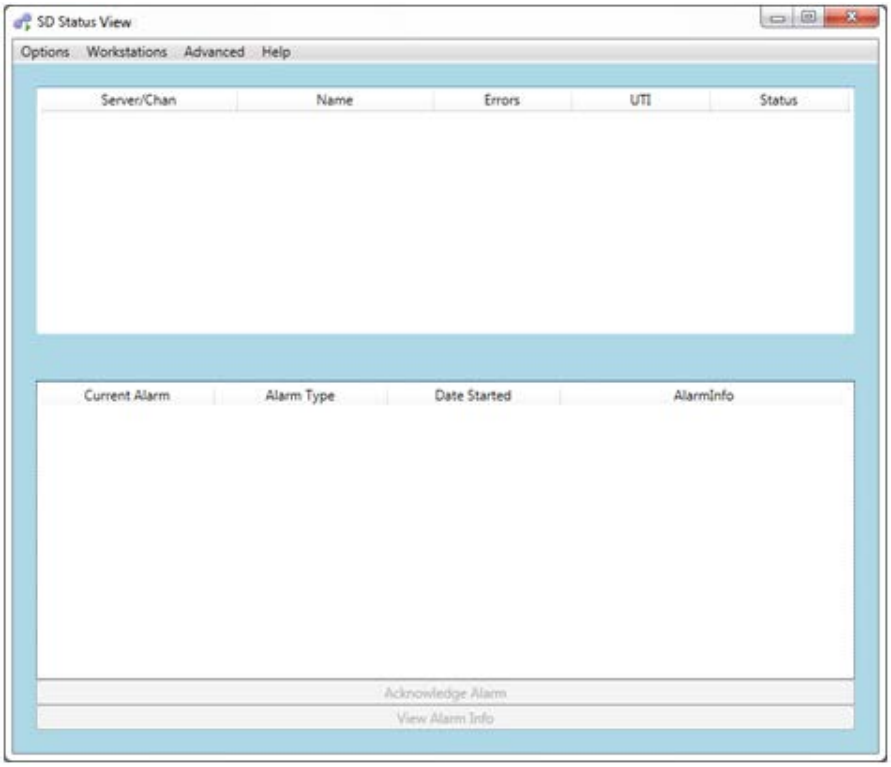


Figure 12 - Starting Screen in View

SDStatus Workstation

The SDStatus Workstation installation program will install SDStatus Workstation. While optional, using Workstation will allow multiple computers to get information from the computer running View.

NOTE: In most cases, SDStatus Workstation will be installed on computers other than the computer running SDStatus View. However, in some cases—such as when using logins or alarm sounds, there may be benefit to installing SDStatus Workstation on the computer running SDStatus View.

Installation

To install, open the "setup.exe" file (not the "SDStatusWorkstationSetup.msi" file). The **Setup Wizard** window will appear (Figure 13).

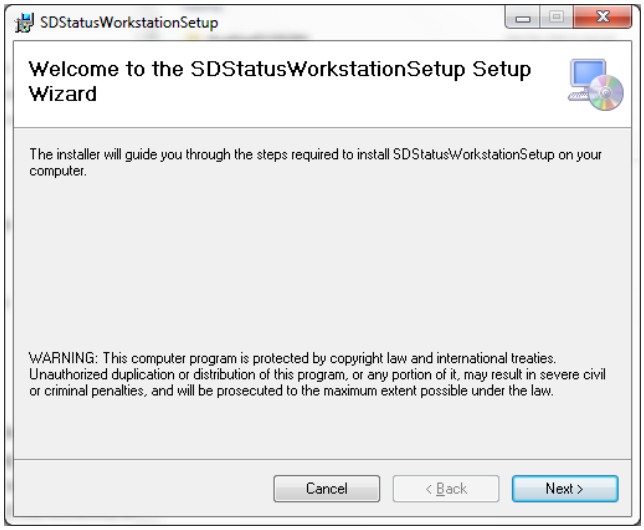


Figure 13 - Setup Wizard window

A **Confirm Installation** window will appear (Figure 14). Click "Next" to continue with the installation.

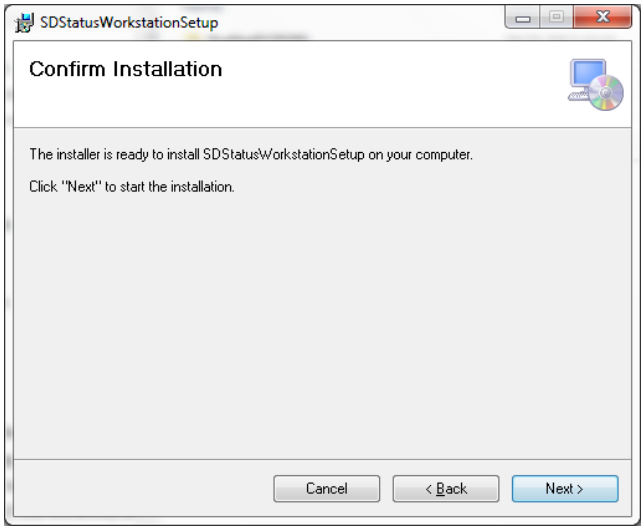


Figure 14 - Confirm Installation window

A window similar to the one shown in Figure 15 will appear. This window will give you the options to change the installation folder for Workstation, to install Workstation for the current user or for all users of the computer, and to estimate the amount of disk space that will be used when the program is installed. Click "Next" to continue.

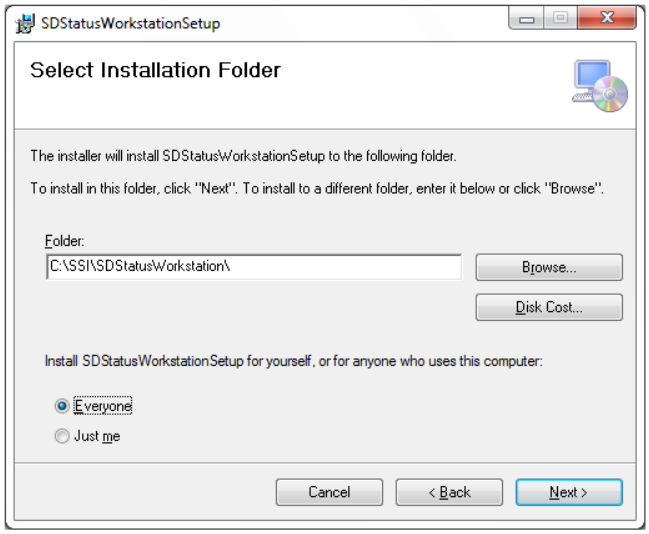


Figure 15 - Select Installation Folder window (Workstation installation)

An installation status window will appear (Figure 16).

If a window appears on screen asking if you want to authorize changes being made to your computer, simply choose "Yes".

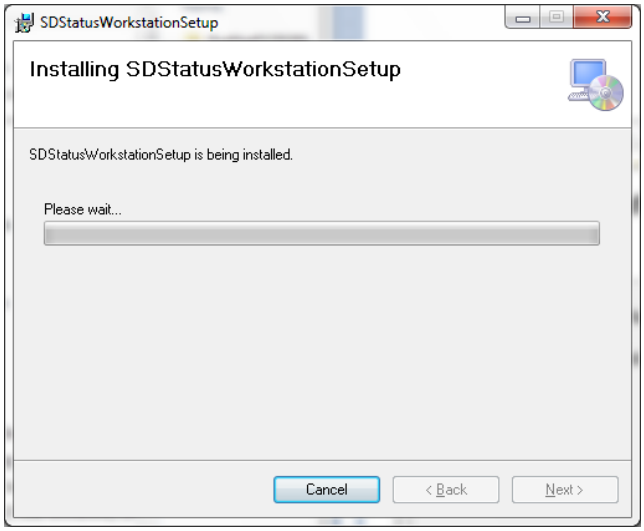


Figure 16 - Installation status window

Once the installation process has finished, the **Installation Complete** window (Figure 17) will appear. Click "Close" to close the window.

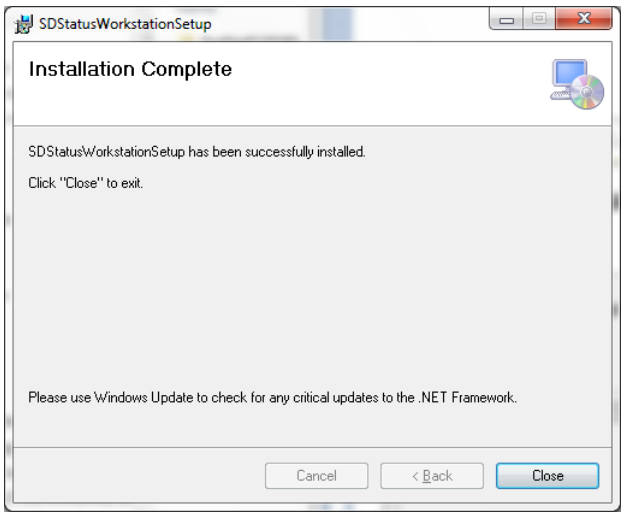


Figure 17 - Workstation Installation Complete window

Running

IMPORTANT: In order for Workstation to be able to interface properly with SDStatus Service, both View and Workstation must be configured correctly. See the SDStatus Workstation: Operation section for more details.

To run Workstation, open the program called **SdStatusWorkstation** from the **SuperSystems** program group in the Start Menu (see Figure 18).

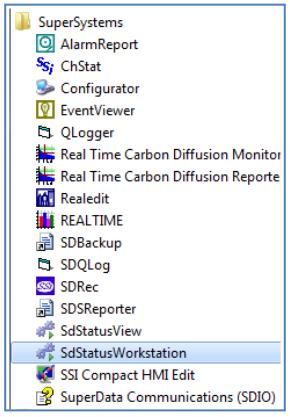


Figure 18 - Typical Location of SdStatusWorkstation in Start Menu

Upon starting Workstation, the Workstation screen will appear (see Figure 19). If you have not run Workstation before, or if it has not been set up to communicate properly with SDStatus Service, the screen will be blank (an error message also may be displayed).

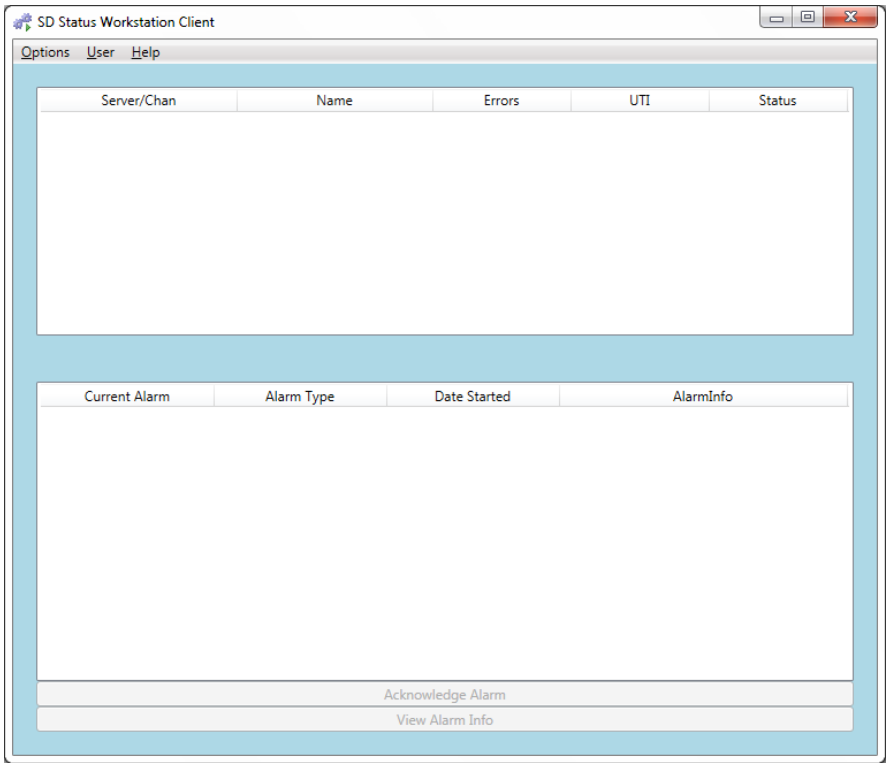


Figure 19 - Starting Screen in SDStatus Workstation

SDStatus View: Operation

IMPORTANT: In order for View to be able to detect channels properly, these channels must be set up correctly in the SDIO configuration file. Please refer to the SuperDATA instruction manual (available from the www.supersystems.com web site) for more information on SDIO configuration.

Options Menu

The **Options** Menu contains most of the essential functions of SDStatus (Figure 20). The following menu options are available:

- **Servers**: set up the servers and channels to be monitored.
- **Alarms**: set up alarms for a number of defined conditions.
- **Email Addresses**: set up email accounts and groups of email accounts.
- **Email Times**: set up times at which to send emails and inhibit the sending of emails based on the settings that you choose.
- **Mail Servers**: set up mail servers, including addresses and ports.
- **Logs**: open and view logs maintained by SDStatus.

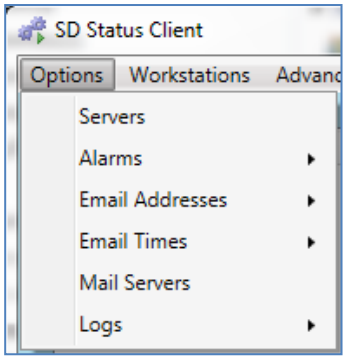


Figure 20 - Options Menu

These menu options are described in greater detail below.

Servers

The **Servers** option allows you to add servers with channels that SDStatus can monitor. You can also edit and delete these server entries, as needed.

Adding a Server

From the **Servers** menu option, you can add SuperDATA servers to which compatible devices are connected.

Click on the **Servers** option to open the **Servers** window.

If you are opening the **Servers** window for the first time, the screen will be blank (as it is in Figure 21). This is, again, due to the fact that servers must still be added.

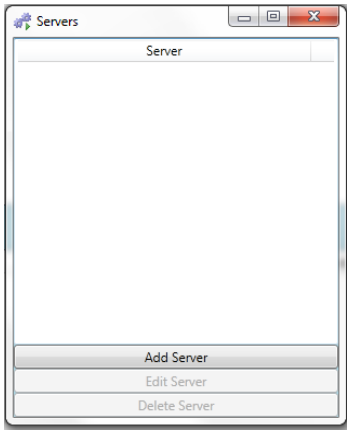


Figure 21 - Servers window

Click “Add Server” to add a server to be monitored.

Enter a user-selected server name in the Server Name field. Then enter the full path to the folder that contains the file *IntTbl.dat* on the applicable server. The *IntTbl.dat* file contains the SuperDATA channel and slot data. This data is updated regularly by SuperDATA.

If you do not know the full folder path, click on “Browse Server Path” to manually navigate to the server and path.

If you want to monitor devices on a local SuperDATA installation, click “Get Local Server Path”. If View detects a local installation of SuperDATA, it will populate the Server Path field with the proper folder path.

Click “Add Server” to add the server. Click the “X” in the upper right hand corner of the Servers window to return to the main screen.

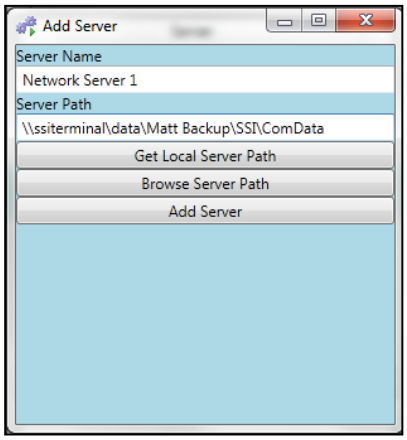


Figure 22 - Add Server window

After the server is added, SDStatus Service will access the server's SuperDATA configuration file to determine which channels it needs to monitor. There may be a short delay while this process completes. Once SDStatus has begun monitoring the applicable channels, they will appear on the screen (see Figure 23 for an example). If SDStatus cannot communicate with a particular channel, the line for that channel will appear in red.

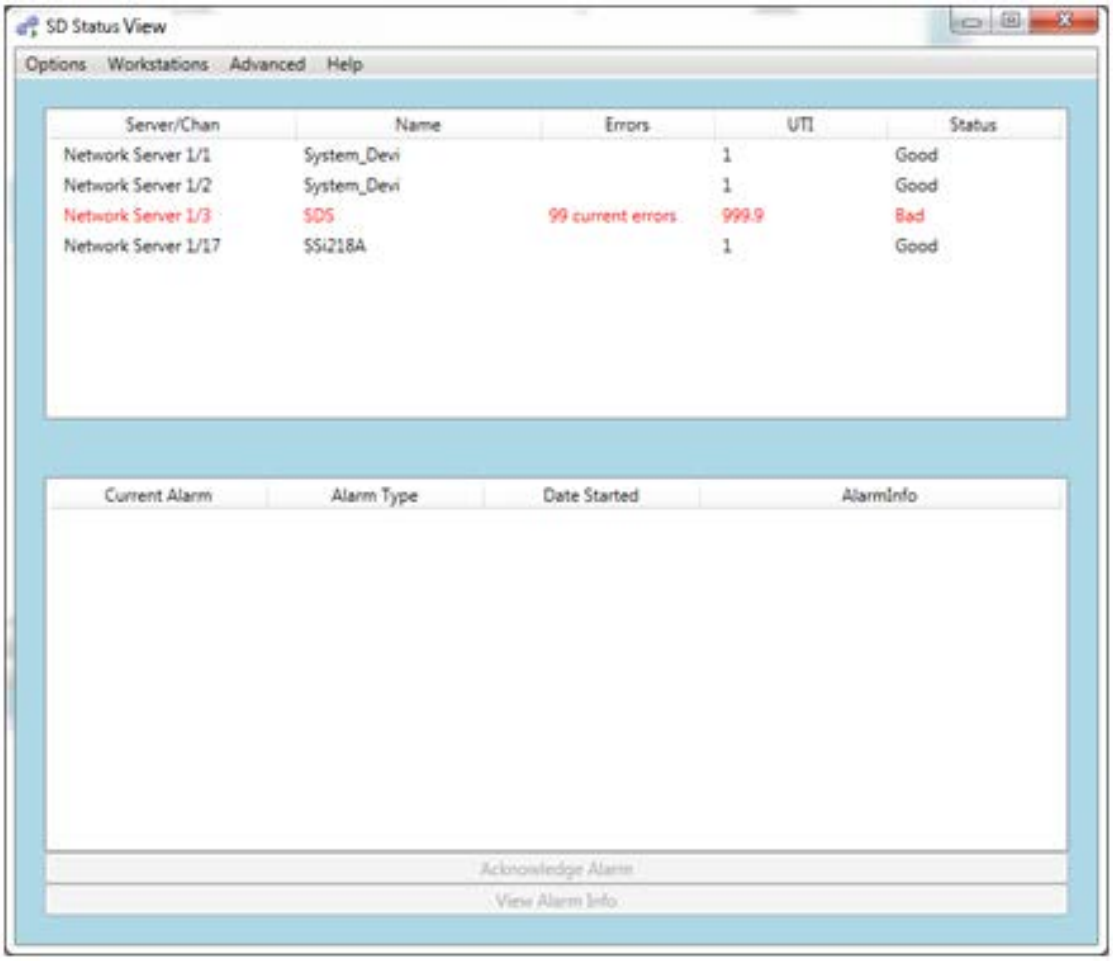


Figure 23 - View main screen
with server and channel populated

In the above example, no alarms have been set up yet. If an alarm had been set up and an alarm condition existed, the alarm would be shown in the alarm area below the list of servers and channels.

Following is a description of the columns visible in the View server/channel list. Note that most of these functions are described in more detail in the SuperDATA manual.

Column Title	SDIO Equivalent, if applicable	Description
Name	Ch-Name	The channel's name
Errors	EC	The current consecutive error count

Column Title	SDIO Equivalent, if applicable	Description
UTI	UTI	The estimated update time interval in seconds (time between complete updates for the instrument)
Status	COMM STATUS	The status ("Good" or "Bad") of SDIO's ability to communicate with the instrument connected to that channel

Table 1 - Description of columns in SDStatus server/channel list

A Note on Monitoring Multiple Servers
SDStatus can monitor channels and slot data on multiple servers. Doing so is as simple as adding multiple servers with valid server path data for SDStatus to use. When alarms are present, all of the alarm data will appear in the SDStatus View main window.

Editing or Deleting a Server Entry

To edit or delete a server entry, simply highlight the server whose entry you want to delete or edit. Then click "Edit Server" or "Delete Server". (See Figure 24.) If deleting a server from the list, confirm the deletion when asked.

IMPORTANT: Use caution when deleting a server entry. Once an entry is deleted, it cannot be recovered. In addition, the log data associated with that server entry is also deleted and unable to be recovered.

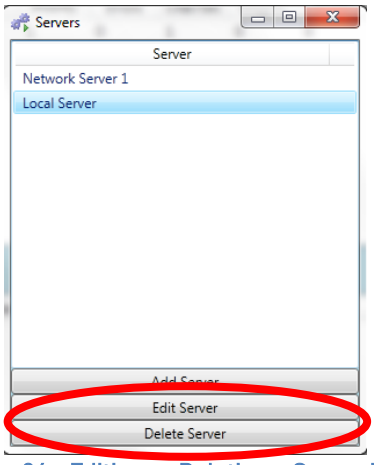


Figure 24 - Editing or Deleting a Server Entry

Alarms

Using the **Alarms** menu, you can add and configure alarms that SDStatus will generate. You can also add alarms to specific sets or user-defined categories called alarm groups.

Alarms can be set up manually. View also has pre-configured alarm templates built into it. SDStatus can also build an alarm list from the *Alarms.ini* file on the applicable SuperDATA server.

IMPORTANT: Before many alarm conditions can be accurately evaluated by SDStatus, SDIO must be running on the SuperDATA server with which SDStatus is communicating. See the Prerequisites section for more details.

Alarm functionality is described in greater detail below.

Manage Alarms

The **Manage Alarms** function allows you to add alarms manually, by using a number of provided templates, and by directing SDStatus to build an alarm list from the *Alarms.ini* file on the applicable SuperDATA server.

To open the **Alarms** window, click on "Alarms" → "Manage Alarms".

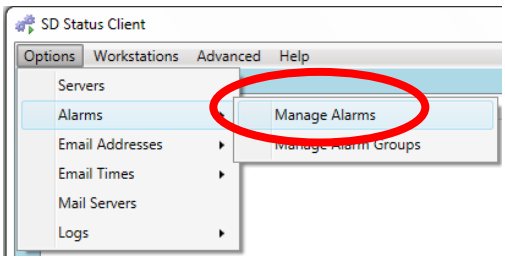


Figure 25 - Alarms → Manage Alarms

The **Alarms** window will appear (Figure 26) with these available options:

- **Add Alarm**
- **Edit Alarm** (grayed out if no alarm is selected or no alarms have been added yet)
- **Delete Selected Alarms** (grayed out if no alarm is selected or no alarms have been added yet).
- **Alarm Templates**
- **SDIO Configuration Alarms**

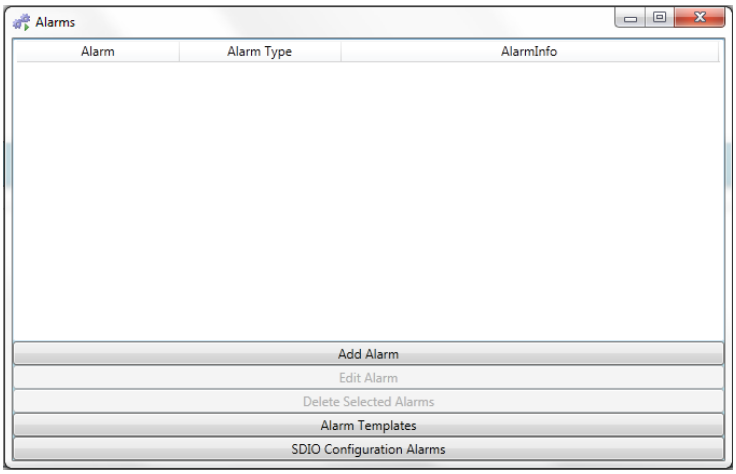


Figure 26 - Alarms window

Add Alarm
The **Add Alarm** window will look like the window pictured in Figure 28.

The **Alarm Type** drop-down menu includes the five alarm types that can be set up in View. The drop-down menu is pictured below.

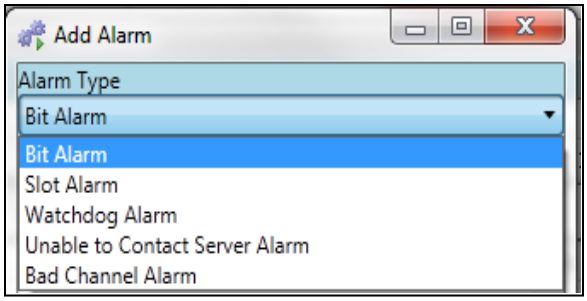


Figure 27 - Alarm Type drop-down menu

These alarm types are described in detail below.

Note on boxes outlined in red: If an editable or selectable box is outlined in red, this means that there is a problem with that field. Hovering the mouse pointer over the box outlined in red will bring up more information about the problem.

Bit Alarm: A Bit Alarm is used to alert the user when a selected bit is on or off (as defined in View). The following fields are set up in the **Bit Alarm** setup window (Figure 28):

- **Alarm Name**: A user-defined name for the alarm.
- **Cause**: The cause of the alarm (typically used by operators). This field is optional.
- **Action**: The corrective action recommended (typically used by operators). This field is optional.
- **Channel**: The channel number of the slot that SDStatus will monitor (0 through 127).
- **Slot**: The slot number that SDStatus will monitor (0 through 79).
- **Bit**: The bit number that SDStatus will monitor (0 through 15). Note that a slot contains a 16-bit value.
- **Alarm Type**: The bit value (On or Off) that will generate an alarm state. (This is a drop-down menu.)
- **Server**: The server to be monitored. (This is a drop-down menu; servers must be defined before one can be selected.)

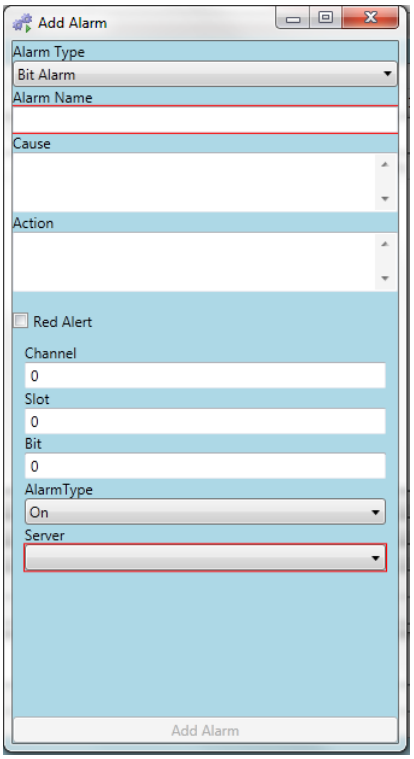


Figure 28 – Bit Alarm setup window

The **Red Alert** checkbox causes the alarm to generate a System Tray notification and also causes the alarm to appear in red in the alarms notification area.

Slot Alarm: A Slot Alarm will alert the user when the value of a selected slot (defined in SDStatus) within a channel is greater than, less than, or equal to a value defined by the user. The following fields are set up in the **Slot Alarm** setup window (Figure 29):

- **Alarm Name**: A user-defined name for the alarm.
- **Cause**: The cause of the alarm (typically used by operators). This field is optional.
- **Action**: The corrective action recommended (typically used by operators). This field is optional.
- **Channel**: The channel number of the slot that SDStatus will monitor (0 through 127).
- **Slot**: The slot number that SDStatus will monitor (0 through 79).
- **Target Value**: The slot value that will be evaluated based on the Alarm Type field.
- **Alarm Type**: This can be set to Equals, LessThan, or GreaterThan. An alarm state will be generated when the current slot value meets the set condition when compared against the Target Value. For example, if the Target Value is 12 and Alarm Type is LessThan, an alarm state will be generated when the current slot value is less than 12.
- **Server**: The server to be monitored. (This is a drop-down menu; servers must be defined before one can be selected.)

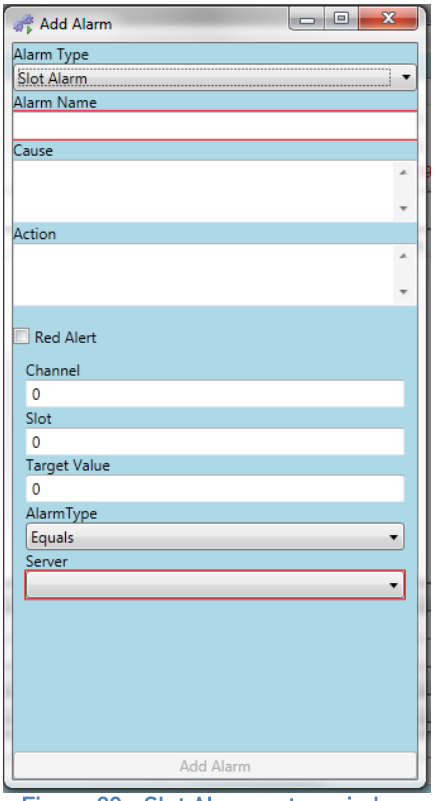


Figure 29 - Slot Alarm setup window

The **Red Alert** checkbox causes the alarm to generate a System Tray notification and also causes the alarm to appear in red in the alarms notification area.

Watchdog Alarm: A Watchdog Alarm alerts the user when the value of a selected slot (defined in SDStatus) does not change within a certain amount of time. The following fields are set up in the **Watchdog Alarm** setup window (Figure 30):

- **Alarm Name**: A user-defined name for the alarm.
- **Cause**: The cause of the alarm (typically used by operators). This field is optional.
- **Action**: The corrective action recommended (typically used by operators). This field is optional.
- **Channel**: The channel number of the slot that SDStatus will monitor (0 through 127).
- **Slot**: The slot number that SDStatus will monitor (0 through 79).
- **Time before slot value must change**: The amount of time that a slot value must remain the same before an alarm state is generated. This amount of time can be set in days, hours, minutes, and seconds.

  For example, assume that the Watchdog Alarm is set to monitor channel 70, slot 5 and the "Time before slot value must change" is set to 2 minutes. Also assume that, when the Watchdog Alarm starts monitoring slot 5, slot 5's value is 50. In this instance:
  - If slot 5's value changes to 49 after one minute, 48 seconds, an alarm state will not exist.
  - If 2 minutes pass and slot 5's value is still 50, an alarm state will be created.
- **Server**: The server to be monitored. (This is a drop-down menu; servers must be defined before one can be selected.)

The **Red Alert** checkbox causes the alarm to generate a System Tray notification and also causes the alarm to appear in red in the alarms notification area.

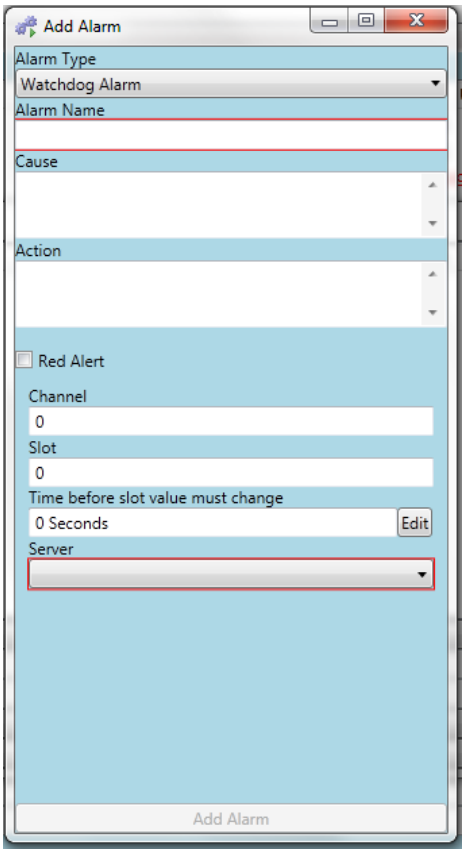


Figure 30 - Watchdog Alarm setup window

Unable to Contact Server Alarm: This alarm is generated when SDStatus unable to find the *IntTbl.dat* file on a defined server. This may happen when a server is down for some reason, when a network communication error takes place, or when there is a problem with the SuperDATA setup. This alarm will be automatically set if SDIO is not running. The following fields are set up in the alarm setup window (Figure 31):

- **Alarm Name**: A user-defined name for the alarm.
- **Cause**: The cause of the alarm (typically used by operators). This field is optional.
- **Action**: The corrective action recommended (typically used by operators). This field is optional.
- **Server**: The server to be monitored. (This is a drop-down menu; servers must be defined before one can be selected.)

The **Red Alert** checkbox causes the alarm to generate a System Tray notification and also causes the alarm to appear in red in the alarms notification area.

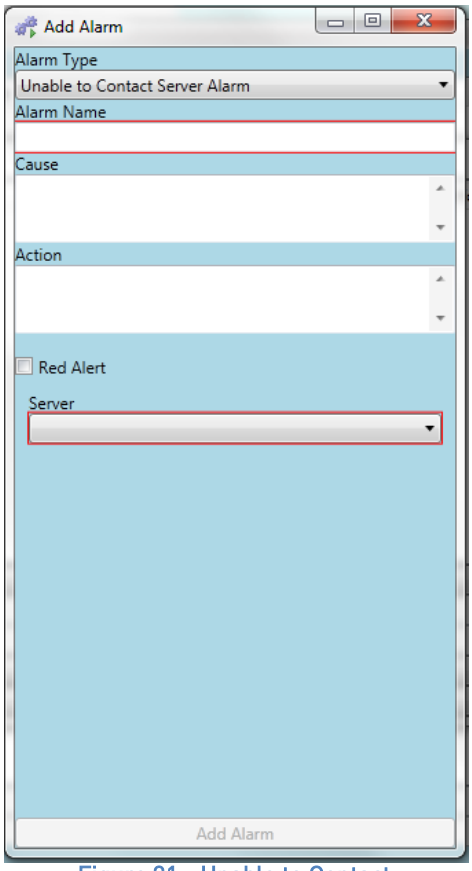


Figure 31 - Unable to Contact Server Alarm window

Bad Channel Alarm: This alarm is generated when SDStatus determines that the SuperDATA server cannot communicate with an instrument connected to a defined channel (or an instrument connected to any channel), although the defined SuperDATA server can be contacted and the *IntTbl.dat* file can be read.

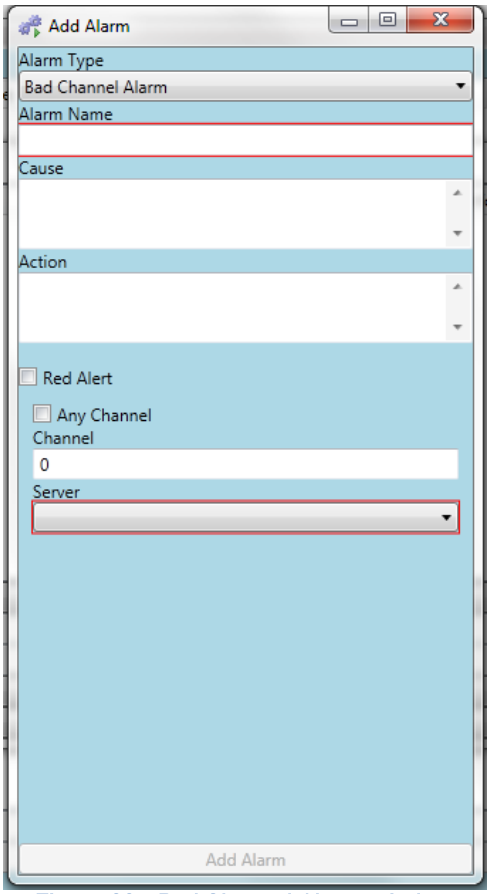


Figure 32 - Bad Channel Alarm window

The following fields are set up in the alarm setup window (Figure 31):

- **Alarm Name**: A user-defined name for the alarm.
- **Cause**: The cause of the alarm (typically used by operators). This field is optional.
- **Action**: The corrective action recommended (typically used by operators). This field is optional.
- **Channel**: The channel number (0 through 127) to monitor.
  NOTE: When the **Any Channel** checkbox is checked, SDStatus will monitor all channels. Checking this box will also cause the **Channel** field to disappear.
- **Server**: The server to be monitored. (This is a drop-down menu; servers must be defined before one can be selected.)

The **Red Alert** checkbox causes the alarm to generate a System Tray notification and also causes the alarm to appear in red in the alarms notification area.

Edit Alarm

To edit an existing alarm, first click once on the alarm name in the **Alarms** window. Then click the "Edit Alarm" button in the **Alarms** window to open the **Edit Alarm** window (Figure 33).

The alarm category (Bit, Slot, Watchdog, Unable to Contact Server, or Bad Channel) will be shown at the top of the Edit Alarm window. You will also have the ability to edit the other fields for the alarm, including (as applicable) the alarm name, cause, and action; whether or not the alarm causes a "Red Alert" event; channel, slot, value, and server information; AlarmType (such as "GreaterThan" for a Slot Alarm or "On" for a Bit Alarm); and other details that apply to the alarm.

When finished editing the alarm fields, click the "Edit Alarm" button at the bottom of the window.

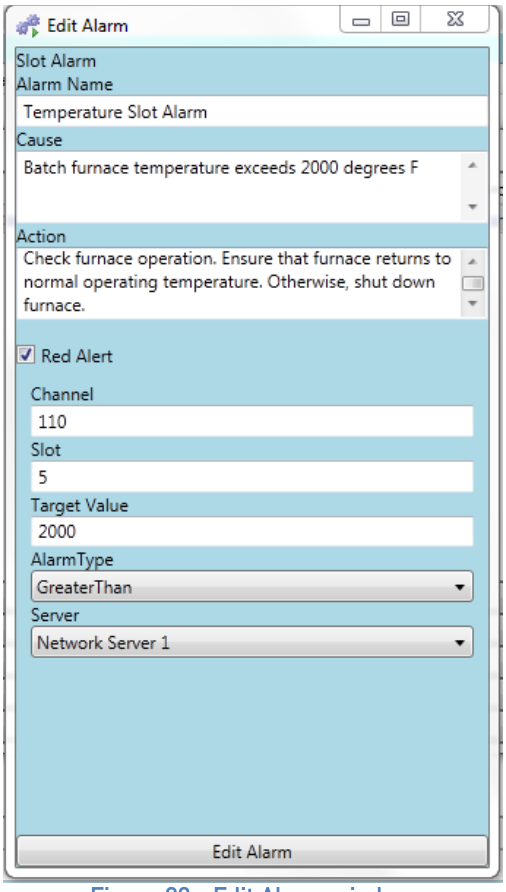


Figure 33 - Edit Alarm window

Deleted Selected Alarms

To delete an alarm, first select the alarm(s) that you want to delete. If you want to delete a single alarm, simply select that alarm. If you want to delete multiple alarms, press and hold the **Ctrl** key and then click on each individual alarm you would like to delete. Any alarm that is highlighted will be deleted.

Once you have selected the alarms to be deleted, click the "Delete Selected Alarms" button. A confirmation box will appear asking if you want to delete the selected alarm(s). Simply click OK, and the alarms will be deleted.

IMPORTANT: Use caution when deleting alarms. Once an alarm is deleted, it cannot be recovered. In addition, the log data associated with that alarm is also deleted and unable to be recovered.

SDIO Configuration Alarms

The **SDIO Configuration Alarms** option uses data from *Alarms.ini*, an alarm initialization file found in SuperDATA installations, to populate the alarm list.

To load the *Alarms.ini* alarm list, first click on "SDIO Configuration Alarms" from the main Alarms window. The **SDIO Configuration Alarms** window will appear. The window will look like the one pictured in Figure 34.

A	Server: The server (named as configured by the user) from which to get the *Alarm.ini* file
B	Get SDIO Alarms from Server: Click this button to populate the Alarm List (C) with alarms specified in *Alarms.ini.*
C	The Alarm List: The totality of alarms contained in the *Alarms.ini* file
D	"Add Selected Alarms" button: This button can be clicked after you have selected which alarms you want to add to SDStatus

Table 2 - SDIO Configuration Alarm window functions

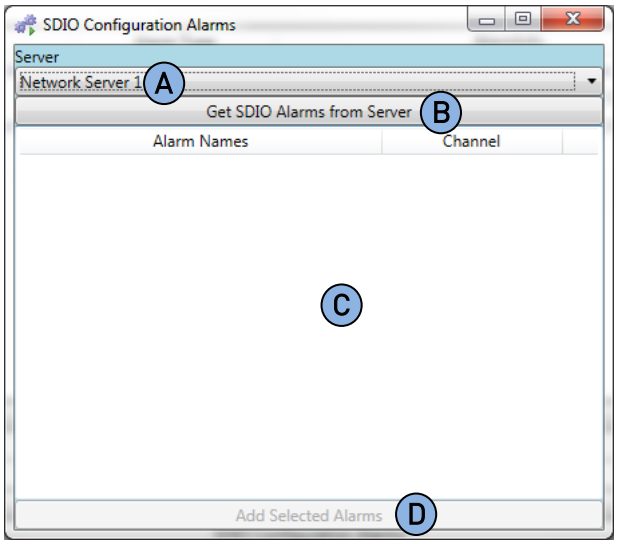


Figure 34 - SDIO Configuration Alarms window

Figure 35 shows alarm names (with their corresponding channel number) populated from the *Alarms.ini* file.

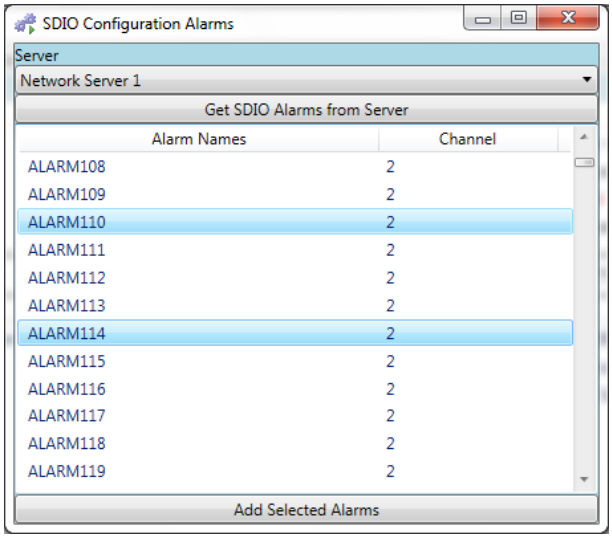


Figure 35 - SDIO Configuration Alarms window with alarm names populated from Alarms.ini file

Alarm Templates

Alarm templates help simplify the setup of certain types of alarms by allowing the user to select an alarm type, complete information relevant to that alarm, and then add the newly created alarm to the Alarm List.

After clicking on the "Alarm Templates" button, the **Alarm Templates** window will appear (Figure 36) with the following template options:

- **Comms Watchdog**: *This template is no longer used; use the Unable to Contact Server Alarm instead (see page 23).*
- **Squeeze Watchdog**: This alarm checks to see whether data log files are being compressed within the correct timeframe.
- **Datalog Watchdog**: This alarm checks to see whether SuperDATA is writing to a data log file each minute (as SuperDATA is designed to do).
- **PMTrack Watchdog**: This alarm checks the activity of SSi's PMTrack program (if applicable) to determine whether it is running.

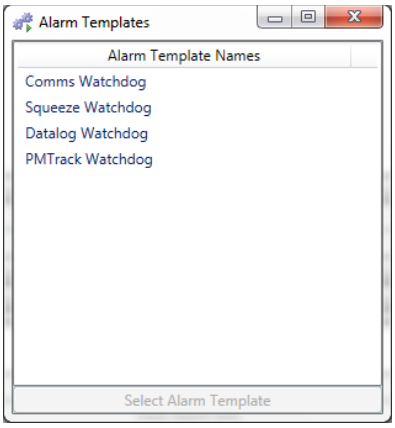


Figure 36 - Alarm Templates from which to select

Highlight the alarm template you want to use. Then click "Select Alarm Template" to open the template window. The screens below show each of the four template windows.

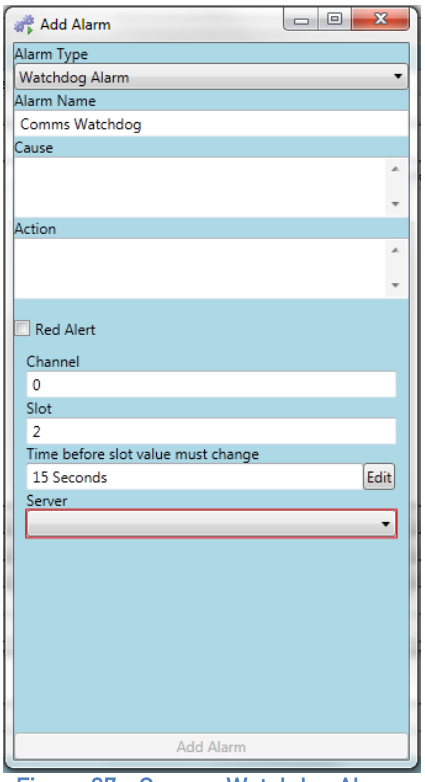


Figure 37 - Comms Watchdog Alarm Template screen

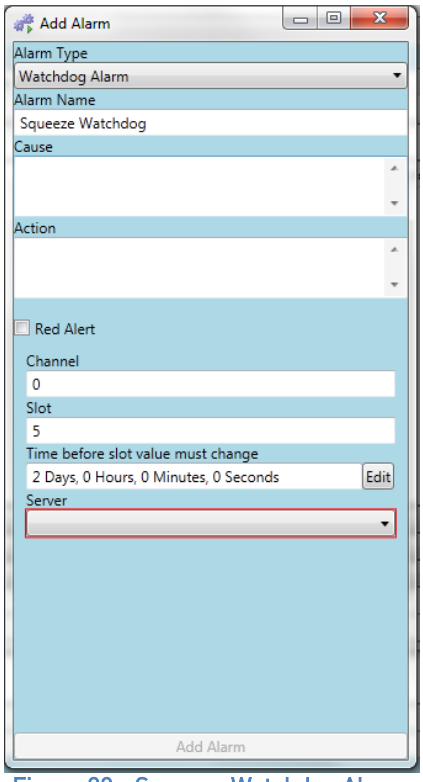


Figure 38 - Squeeze Watchdog Alarm Template screen

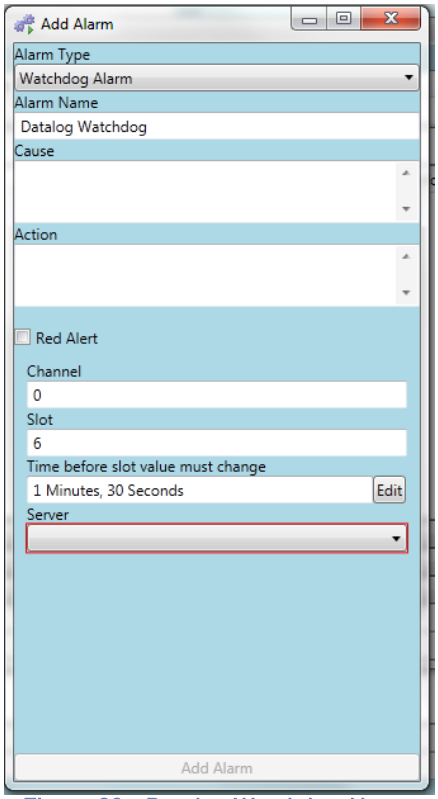


Figure 39 - Datalog Watchdog Alarm Template screen

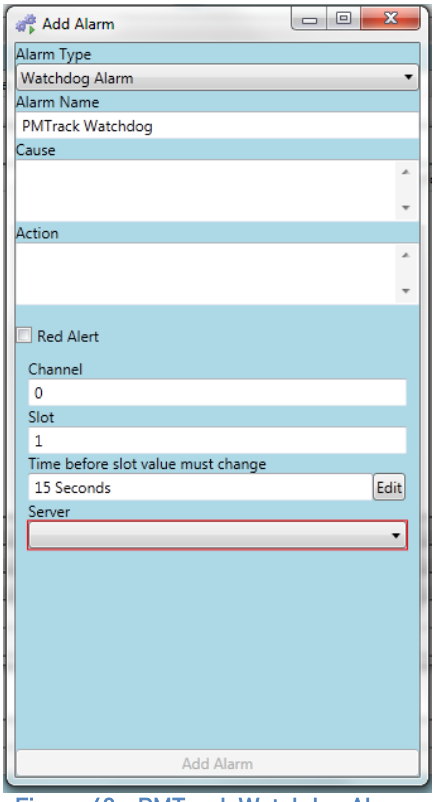


Figure 40 - PMTrack Watchdog Alarm Template screen

As you can see, View pre-populates the Alarm Name, Channel and Slot numbers, and "Time before slot value must change" fields. The Channel and Slot numbers are determined by corresponding default values for the type of alarm that is being set up. For example, SuperDATA logs data to the datalog file every 60 seconds (one minute). The Datalog Watchdog template presets the alarm to check every one minute, 30 seconds so that a sufficient amount of time is allowed for SuperDATA to write to the datalog file and then for SDStatus to read the changed slot value once the datalog file is written.

Use the Server drop-down menu to select the server on which to perform the alarm monitoring. It is recommended that you add a Cause and Action to let the operator know the cause and specific corrective action to take, when needed. Finally, if the alarm needs to generate a System Tray notification and must be acknowledged by the user, click the "Red Alert" box.

Click the "Add Alarm" button when finished. The new alarm will then be added to the alarm list.

Manage Alarm Groups

The **Manage Alarm Groups** menu allows you to add specific alarms to groups that you define. These alarm groups may be set up for specific purposes. You may have one group of people who need to be aware of one set of alarms and another group of people who need to be aware of a completely different set of alarms. Therefore, an alarm group could represent departments, supervisors, management, operators, and so forth.

To set up alarm groups, you must first define them. First, select "Alarms" → "Manage Alarm Groups" to open the **Manage Alarm Groups** window (Figure 41). You will see that the **Alarms in Group** area and the **Other Alarms** area are both empty at first. Click on the "Edit Groups" button at the top of the window.

NOTE: If any alarm groups are already defined, you will see them when you click on the "Group" drop-down list at the top of the **Manage Alarm Groups** window.

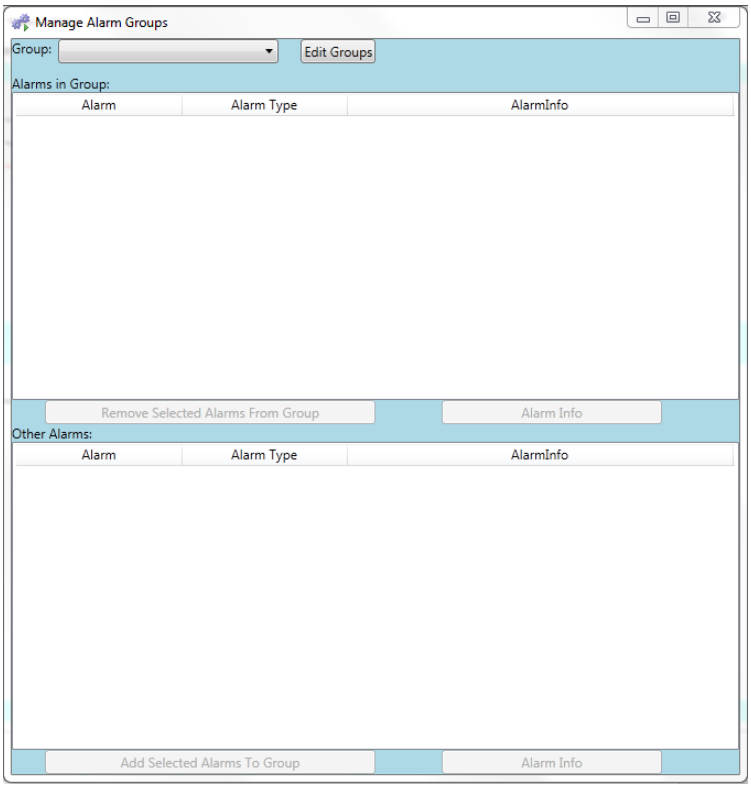


Figure 41 - Manage Alarm Groups window

After you click on "Edit Groups", the **Alarm Groups** window will appear. To add an alarm group, simply click on the "Add Group" button at the bottom of the **Alarm Groups** window, type in the name of the alarm group in the Group field, and click the "Add Group" button in the **Add Group** window. The **Alarm Groups** and **Add Group** windows are pictured in Figure 42.

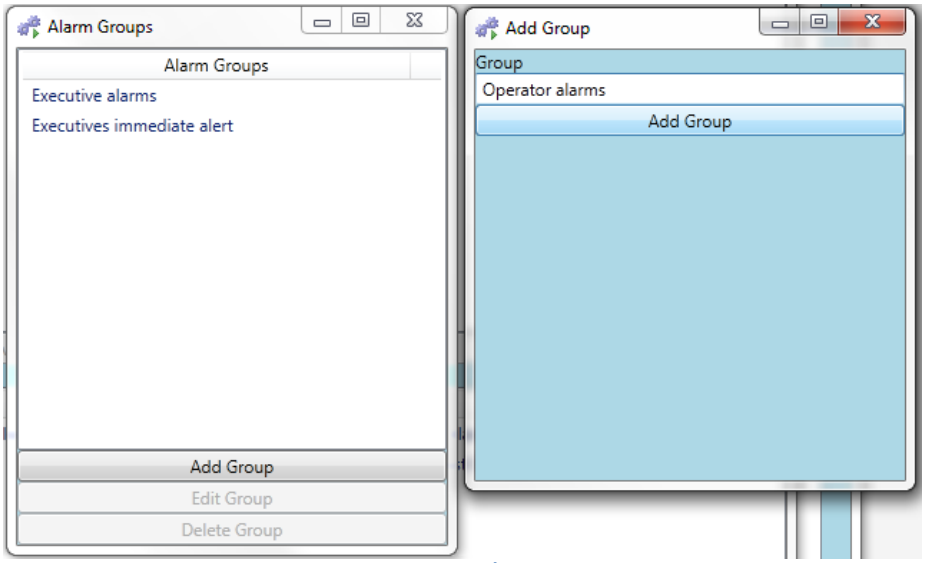


Figure 42 - Alarm Groups / Add Group windows

The "Edit Group" button can be used to rename a group that has been previously defined. The "Delete Group" button allows you to delete an alarm group.

Once groups have been set up, the **Manage Alarm Groups** window can be used to add alarms to the groups. Figure 43 shows an example of the window; Table 3 provides an explanation of the components of the window.

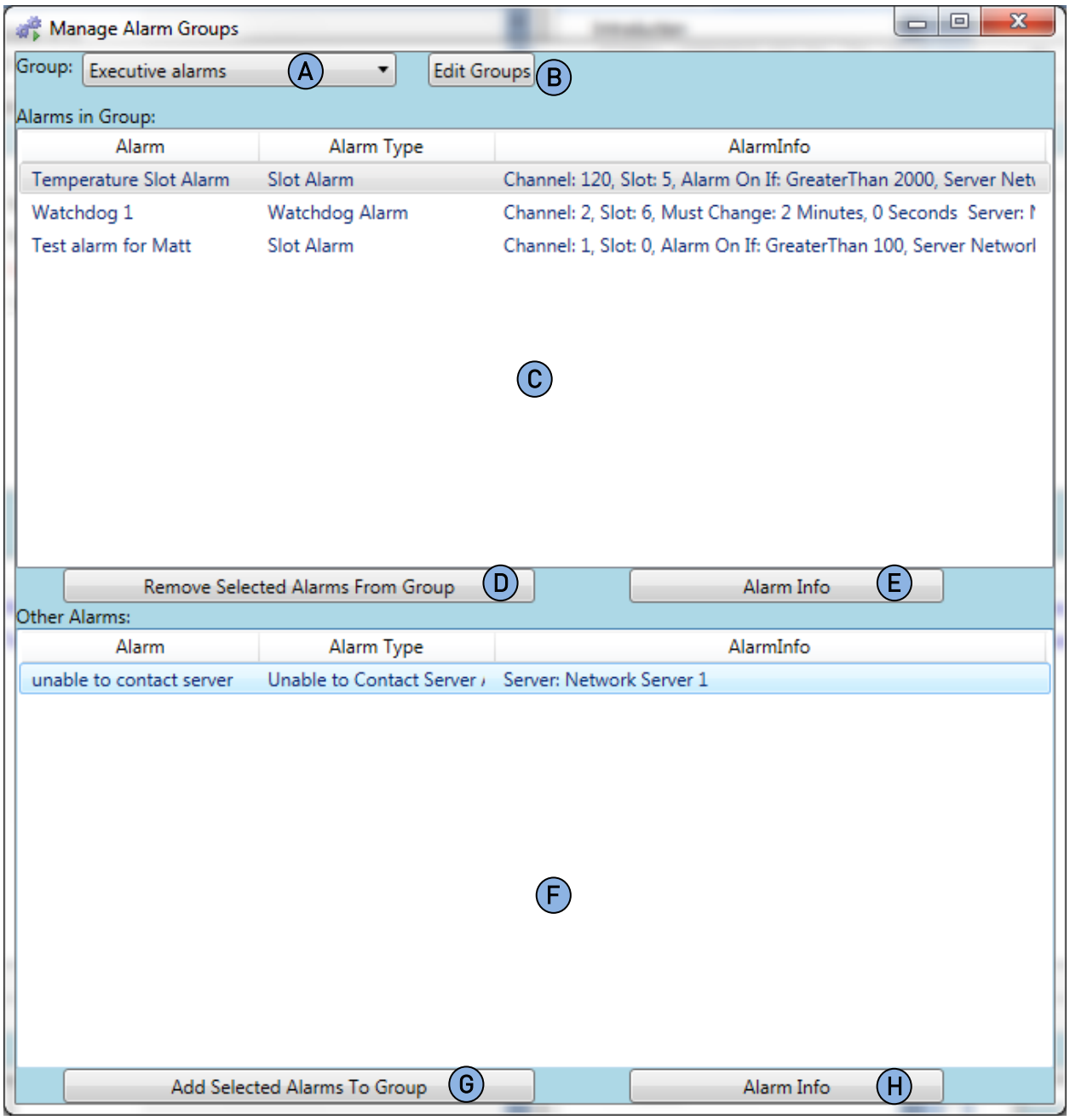


Figure 43 - Manage Alarm Groups options

A	When clicked, the **Group** drop-down box displays a list of all of the currently defined alarm groups. Click on one of the group names to select it. (If no alarm groups are defined, the drop-down list will be blank.)
B	The "Edit Groups" button opens the Alarm Groups window.
C	The **Alarms in Group** area shows which alarms are a part of the currently selected alarm group.
D	The "Remove Selected Alarms From Group" button moves the selected alarm from the Alarms in Group area to the Other Alarms area.
E	The "Alarm Info" button shows detailed information for the currently selected alarm.
F	The **Other Alarms** area shows email addresses that have been set up in SDStatus but are not part of the currently selected group.
G	The "Add Selected Alarms To Group" button moves the selected alarm from the Other Alarms area to the Alarms in Group area.
H	The "Alarm Info" button shows detailed information for the currently selected alarm.

Table 3 - Manage Alarm Group functions (with alarm groups created)

Alarm groups are used in conjunction with email address groups to define groups of people who will receive email notifications of specific alarms. Refer to Email Times for more details on how to use the alarm groups in conjunction with the email address groups.

Email Addresses

SDStatus Service can send alarm notifications to defined email addresses. The Email Addresses menu allows you to set up these addresses as well as the groups of email addresses to which emails are sent.

Manage Email Addresses

The **Email Addresses** window is where you manage email addresses in View. To access this menu, select "Options" → "Email Addresses" → "Manage Email Addresses". The **Email Addresses** window will appear (Figure 44).

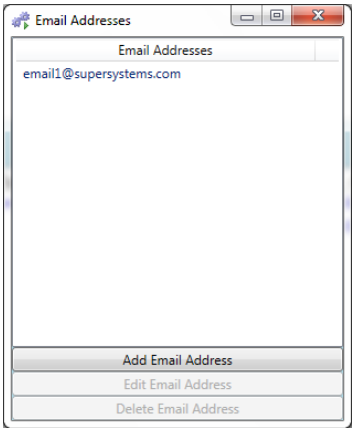


Figure 44 - Email Addresses window

The **Email Addresses** window allows you to add a new email address, edit a previously added address, and delete an address. From this window, you can also set time periods during which emails are not sent to a particular address. In the above example, a previously defined email

address has been selected. Therefore, all of the buttons in the window can be selected. If no email addresses have been defined, or if no email address is selected, only the "Add Email Address" button can be selected; the other buttons will be grayed out and cannot be selected.

To add an email, click the "Add Email Address" button. This will bring up the **Add Email Address** window (Figure 45). Simply type an email address to add and click the "Add Email Address" button in this window to save it.

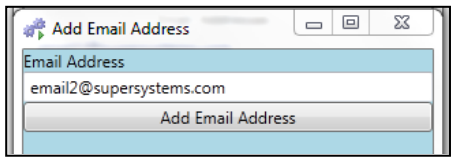


Figure 45 - Add Email Address window

NOTE: SDStatus can be used to send emails to many mobile devices. Refer to Appendix 3: Sending Notifications to a Mobile Device Using SDStatus for more details.

To edit an existing email address, click on the email address you want to edit and then click the "Edit Email Address" button. This will bring up the **Edit Email Address** window (Figure 46). Edit the email address as needed. Then click the "Edit Email Address" button to save your edits.

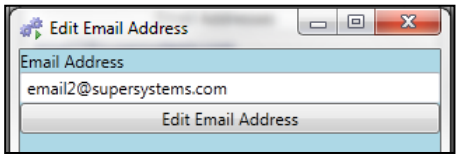


Figure 46 - Edit Email Address window

To delete an existing email address, simply select the email address you want to delete and click the "Delete Email Address" button. Confirm deletion when the confirmation window appears.

IMPORTANT: Use caution when deleting an email address. Once an address is deleted, it cannot be recovered. In addition, the log data associated with that address is also deleted and unable to be recovered.

Manage Email Address Groups

The **Manage Email Address Groups** window provides all of the functions needed to set up email addresses to which SDStatus Service can send notifications. Figure 47 shows the **Manage Email Address Groups** window and the **Email Address Groups** window and identifies the window components. Below this figure, you will find explanations on what each component does.

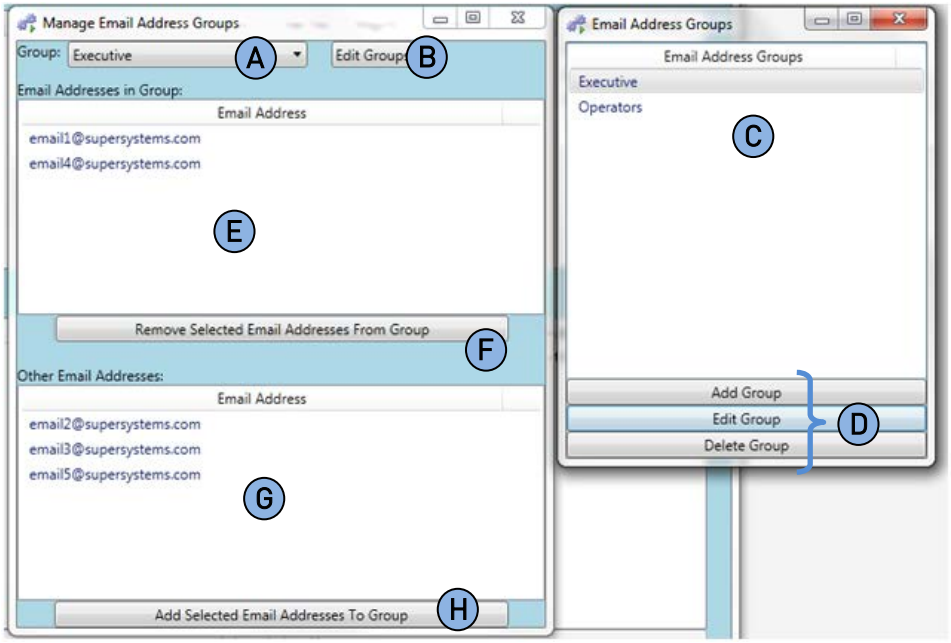


Figure 47 - Manage Email Address Groups and Email Address Groups windows

A	When clicked, the **Group** drop-down box displays a list of all of the currently defined email address groups. Click on one of the group names to select it. (If no email address groups are defined, the drop-down list will be blank.)
B	The "Edit Groups" button opens the Email Address Groups window (components of which are described in C and D below).
C	The **Email Address Groups** display area shows the email address groups that have been created (if none have been created, this area will be empty).
D	The buttons for the Email Address Groups window are: • "Add Group". Click this button to add an email address group. • "Edit Group". Click on an email address group whose name you want to change, and then click the "Edit Group" button to change the name. • "Delete Group". Click on an email address group that you want to delete, and then click the "Delete Group" button to delete it.
NOTE: Features described in E, F, G, and H can be used only when an email address group is selected in the **Group** drop-down menu (A).	
E	The **Email Addresses in Group** area shows which email addresses are a part of the currently selected email address group.
F	The "Remove Selected Email Addresses From Group" button allows you to remove email addresses from the list of emails in the selected group. First select the email address you want to remove, and then click this button. The removed email address will be moved to the **Other Email Addresses** list below this list.
G	The **Other Email Addresses** area shows email addresses that have been set up in SDStatus but are not part of the currently selected group.
H	To add an alarm to the currently selected group, first select the alarm and then press the "Add Selected Email Addresses to Group" button. The selected alarm will be moved to the **Email Addresses in Group** area above.

Table 4 - Manage Email Address Groups and Email Address Groups functions

Email Times

The **Email Times** menu (shown expanded in Figure 48) contains options essential to scheduling email notifications for defined conditions. These options are **Manage Alarm Email Times** and **Manage Inhibit Email Times**. (Under Manage Inhibit Email Times are two sub-options: Individuals and Groups.) All of this functionality is described below.

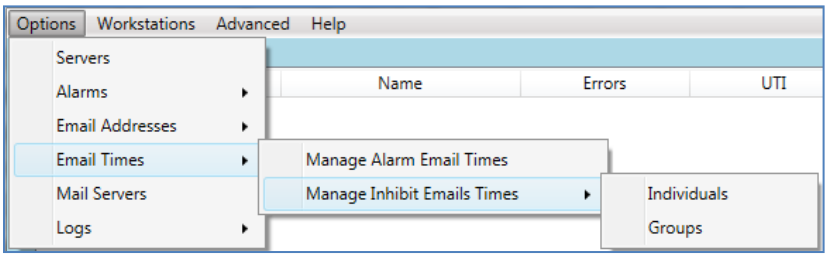


Figure 48 - Email Times menu options

Manage Alarm Email Times

One of the most important functions of SDStatus, its email notification capability, requires coordination between the alarm groups and email address groups. The **Manage Alarm Email Times** function provides this coordination.

The two key pieces are alarm groups and email address groups. SDStatus Service will send alarm notifications from a designated alarm group (when an alarm condition is present) to a designated email group after a set period of time has passed. This will allow operators to try resolving the alarm first; an "escalation group" can be set up to receive email notifications in the event that an alarm stays active for a defined period of time.

To set up a notification email, first click on "Options" →"Email Times" → "Manage Alarm Email Times". This will open the **Email Times** window (Figure 49). This window contains four columns. The Alarm Group column ("A") shows what alarm group the notification applies to. The next column, Email Address Group ("B"), shows what email address group the notification applies to. The third column ("C") is called Time Before Email and indicates the amount of time an alarm condition must be true before an email notification is sent to the email address group the first time. The fourth column, Frequency ("D"), shows how often an email notification will be sent to the email address group while an alarm condition is true. The Frequency field is optional; if no Frequency is set, an email notification will be sent once and will not be sent again until the alarm is cleared either by the user or by the alarm no longer being active AND then the alarm condition becomes true again for the time period defined under Time Before Email. NOTE: If an alarm is acknowledged by a user, no further emails will be sent for that alarm unless the alarm condition becomes no longer true and later becomes active again. Emails for other alarms in the group that are active will still be sent.

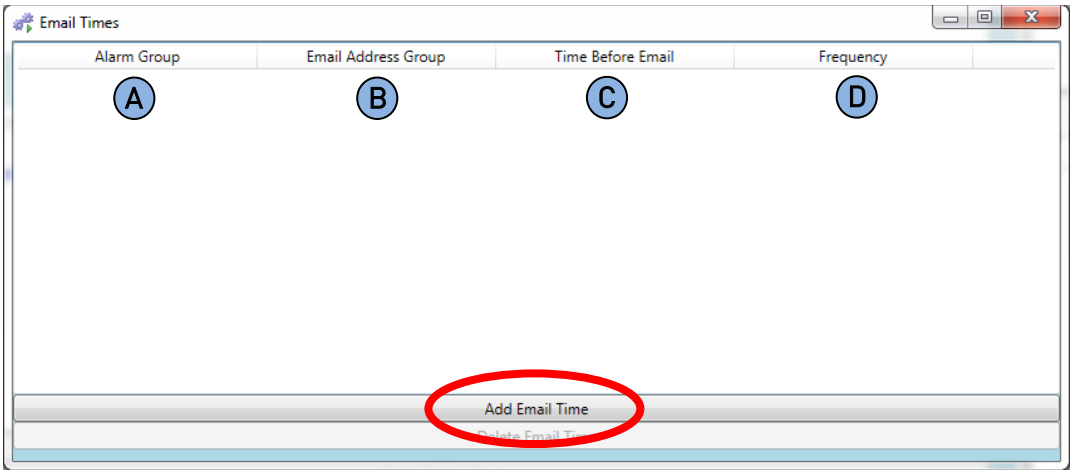


Figure 49 - Email Times window

Click the "Add Email Time" button to set up a notification.

The **Add Email Time** window (Figure 50) allows you to set up the association between an alarm group and an email address group. When an alarm condition is present within the alarm group for a set period of time, an email will be sent to the addresses in the email address group.

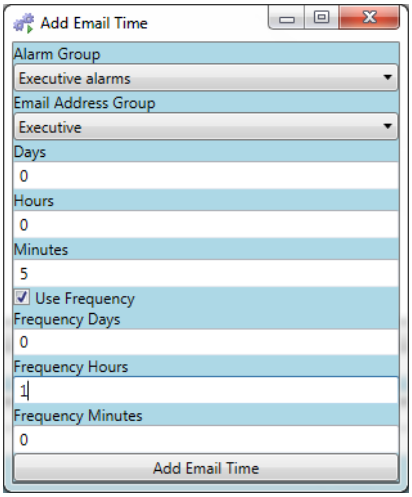


Figure 50 - Add Email Time window

Select the alarm group in the **Alarm Group** drop-down box and the email address group in the **Email Address Group** drop-down box. Then set the amount of time that must pass before an alarm notification email is sent to the selected email address group. If you want to set a frequency for repeating the notification email (as long as an alarm condition remains true) after the first notification is sent, click the "Use Frequency" box and enter the desired frequency times. Click "Add Email Time" when finished.

If you want the process of sending the email to start after the alarm becomes active, set the email time to 0 Days, 0 Hours, and 0 Minutes.

In the example shown in Figure 50, when an alarm condition is present in the *Executive alarms* group for 5 minutes, a notification will be sent to email addresses in the *Executive* email address group. As long as that alarm condition remains true, a notification will be sent to the same email addresses every hour thereafter.

IMPORTANT: If SDStatus Service is set up not to send emails to certain addresses at certain times, then those settings will override the settings in **Email Times**. See Manage Inhibit Email Times for more details.

If you want to delete an email time, simply click on the email time you want to delete and click "Delete Email Time" in the **Email Times** window.

Manage Inhibit Email Times

The **Manage Inhibit Email Times** option allows you to do two things:

1. Set time periods during which emails will not be sent to a defined address or group of addresses. This option is useful when certain people should not receive emails during certain times; one example may be operators working in shifts.
2. Prevent emails from being sent to a defined email address, or group of addresses, at any time (until the setting is disabled).

To use this option, select "Manage Inhibit Email Times" and then select **Individuals** for individual emails and **Groups** for groups of emails. While the intent of each is different, both the **Individuals** and the **Groups** options are set up in similar ways.

The **Individuals** option will bring up a list of all individual email addresses that have been defined in View. To set up Inhibit Email Times for an individual email address, first select it and then click "Edit Inhibit Email Times". As shown in Figure 51, a second window will open allowing you to set up one or more time ranges during which emails will not be sent. If you want to inhibit all emails to that email address, simply check the "Inhibit All Emails" checkbox. Using the drop-down boxes provided, select a start time and end time for the inhibited period. These periods are based on a standard 7-day week. You may set up as many of these periods as you wish. In the example shown in Figure 51, the first inhibited time period starts on Saturday at 12:00 a.m. and ends on Monday at 12:00 a.m.; the second period starts on Tuesday at 1:00 p.m. and ends on Tuesday at 5:00 p.m. This means that no emails will be sent to the selected email address during these two periods. If the "Inhibit All Emails" box were checked, the two defined time periods would be overridden, and no emails would be sent to the selected address at all.

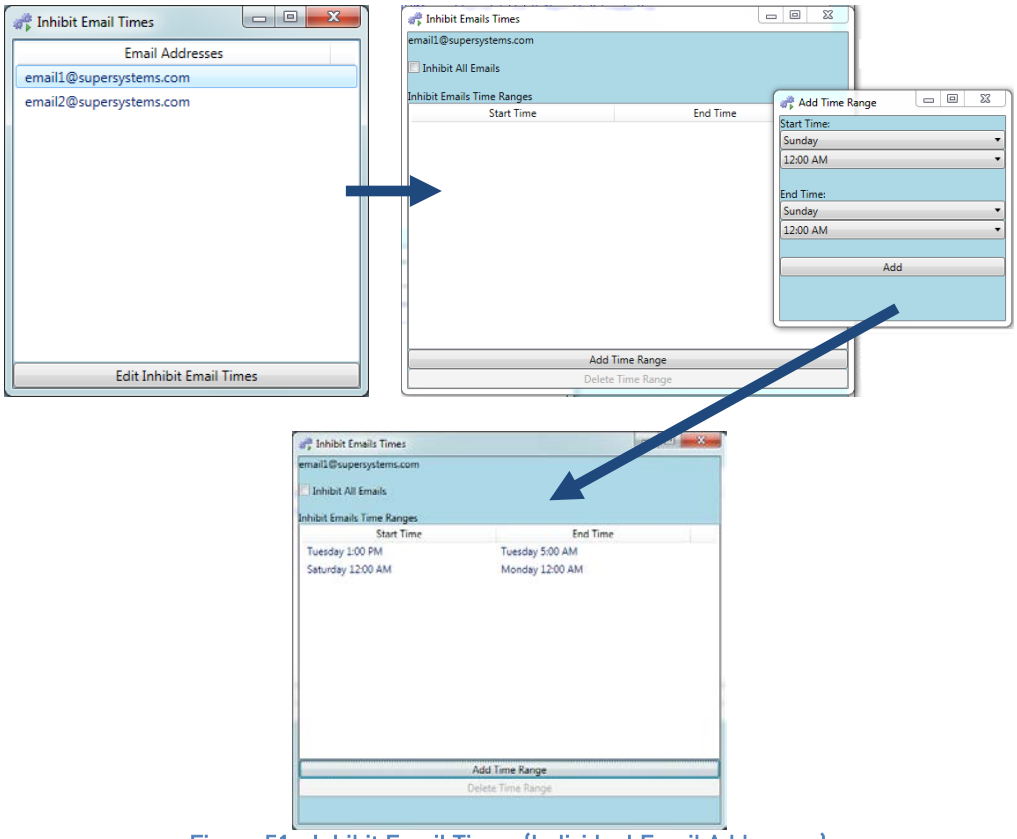


Figure 51 - Inhibit Email Times (Individual Email Addresses)

The **Groups** option will allow you to set up time periods during which emails will not be sent to defined Email Address Groups. To set up Inhibit Email Times for a group, first select it and then click "Edit Inhibit Email Times". As shown in Figure 52, a second window will open allowing you to set up one or more time ranges during which emails will not be sent. Using the drop-down boxes provided, select a start time and end time for the inhibited period. These periods are based on a standard 7-day week. You may set up as many of these periods as you wish. In the example shown in Figure 52, the inhibited time period starts on Friday at 6:00 p.m. and ends on Monday at 8:00 a.m to the Executive group. This means that no emails will be sent to that email address group during that period.

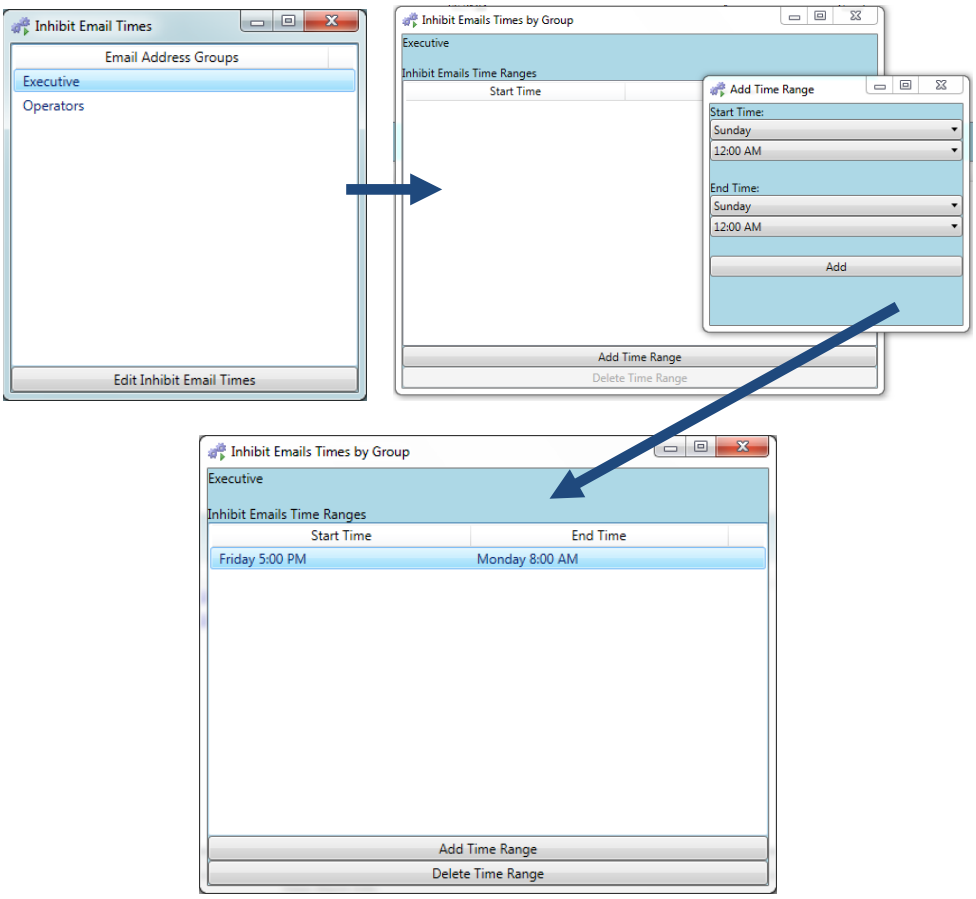


Figure 52 - Inhibit Email Times (Group Email Addresses)

Mail Servers

In order to send emails, SDStatus must be set up with the proper mail server settings.

To set up mail servers for SDStatus to use, first select "Options" → "Mail Servers". This will open the **Mail Servers** window (Figure 53).

Click the "Add Mail Server" button to add a mail server.

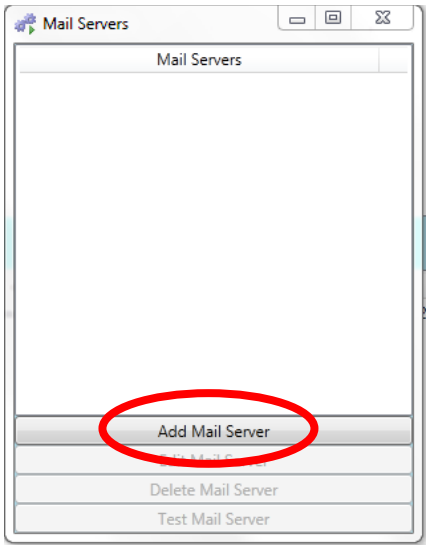


Figure 53 - Mail Servers window

In the **Add Mail Server** window, enter the Server, Server Port, User Name, and Password associated with the email account that will be used as the sending account. Check the "Use SSL" checkbox if an SSL-encrypted connection is required or can be used (SSL is more secure than non-SSL-encrypted connections). Note that some mail servers will use port numbers that differ from the standard or default values. You may need to consult your email provider to get the specific port numbers that it uses.

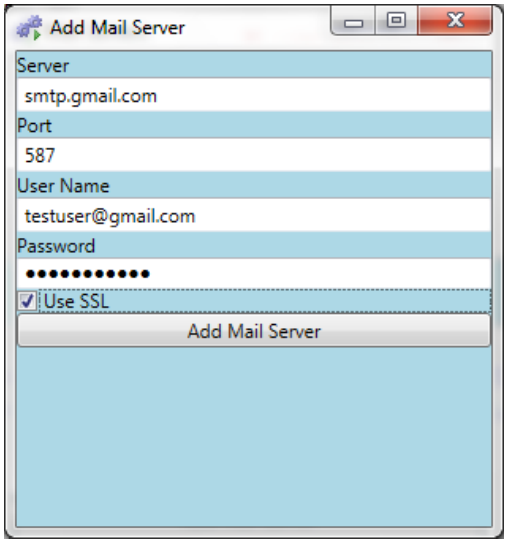


Figure 54 - Add Mail Server window

Once the mail server has been added, it will appear in the Mail Servers list (Figure 55).

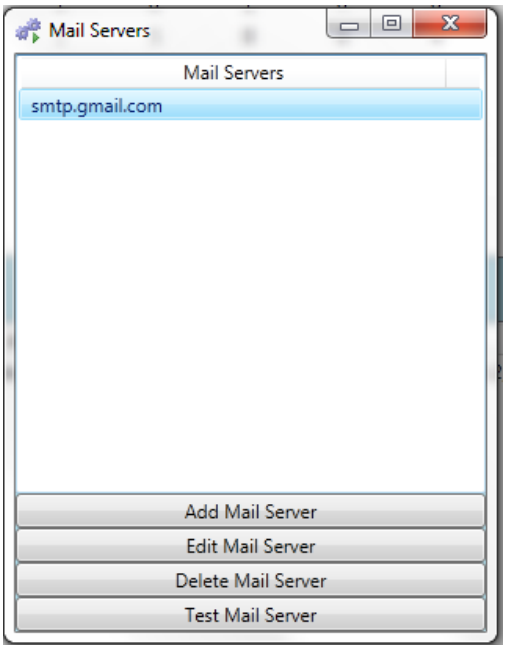


Figure 55 - Mail Servers list after mail server added

With the mail server selected, click the "Test Mail Server" button to verify that the mail account settings are correct. A box will appear asking you to enter an email address; this is the email address to which SDStatus Service will send the test email. **Completing this test will ensure that SDStatus is able to send email alerts when needed.** Possible results of the test include the following.

Result	Meaning
email sent successfully	Test was successful; no further action needed
The operation has timed out. Test Failed.	Server settings are likely not correct. Edit the mail server settings and ensure that they are correct.
The SMTP server requires a secure connection or the client was not authenticated. The server response was: *[server response]* Test Failed.	The server was able to be reached. However, there was a problem with creating a secure connection, or the user name or password (or both) was incorrect. Edit the mail server settings and ensure that the user name, password, and SSL settings are correct.

Table 5 - Possible Results of Test Mail Server function

SSi has found that the Google Mail (Gmail) service will work with SDStatus. If you would like to try this service, refer to Appendix 2: Enabling Email Sending through Google® Mail (Gmail™).

Once alarm groups, email address groups, email times, and a mail server have been set up successfully (with active alarm monitoring set up), SDStatus Service will be able to send alarm notifications by email.

Logs

SDStatus can log data for alarms, emails, and the running of the software. Before logs are kept, the option to enable logging must be turned on by selecting "Enable Logging" in each of the log windows: **Alarm Log**, **Email Log**, and **Running Log**. To enable logging of alarms, emails, or software events, select "Options", "Logs", and then "Alarm Log", "Email Log", or "Running Log" (see Figure 56).

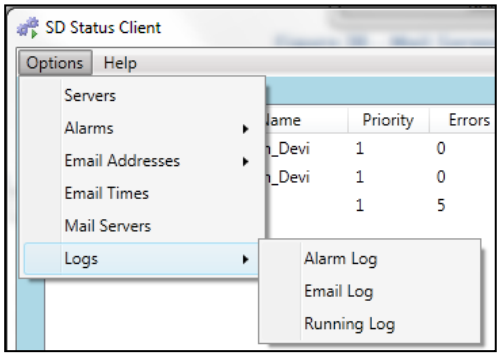


Figure 56 - Log menu selection

Once you've selected the desired log menu, enable logging by selecting the appropriate checkbox ("Log Alarms", "Log Emails", or "Log Running"; see Figure 57).

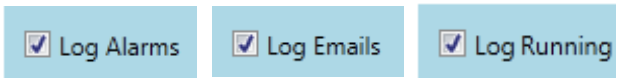


Figure 57 - Log enabling checkboxes

Once logging has been enabled for a particular item, you will be able to review the applicable logs by selecting "Alarm Log", "Email Log", or "Running Log". Each log menu also has an option to select a date range for viewing applicable logs and an option to delete logs.

In the Email Log, you may notice an error message after you have set up email notifications. Examples are shown in Figure 58. This error will appear when SDStatus Service tries to send an email but encounters an error while sending. Errors could be caused by incorrect server setup, lack of Internet connection, and other issues. More information can be found by using the "View Email Message" and "View Email Error" buttons.

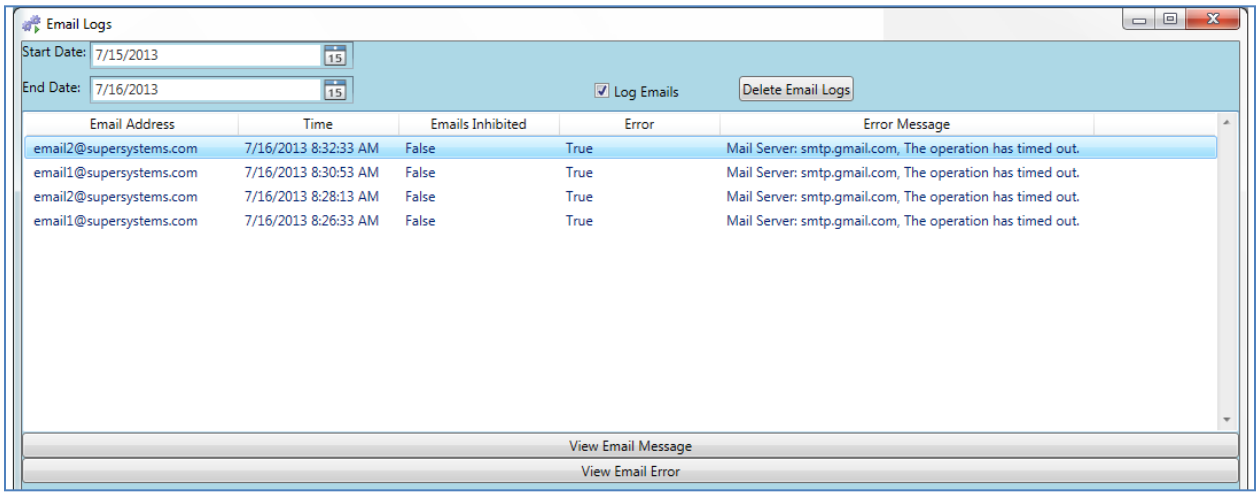


Figure 58 - Examples of errors shown in Email Logs window

Workstations Menu

The Workstations Menu allows you to set up options for SDStatus Workstation and how SDStatus Service will communicate with Workstation. Since Workstation may be run on multiple computers, these options will affect all instances of Workstation communicating with View.

The Workstations Menu contains the following options, as shown in Figure 59:

- Workstation Server (provides setup options for View to be accessible to running instances of Workstation)
- Setup Workstations (allows for setup of alarm profiles that can be selected in Workstation)
- Alarm Sound Times (allows for setup of time before alarm sounds in Workstation as well as frequency of alarm sounds)
- Users (defines access levels for Workstation users)
- Alarm Ack Levels (Alarm Acknowledgement Levels; sets up access levels required for users to acknowledge alarms in Workstation).

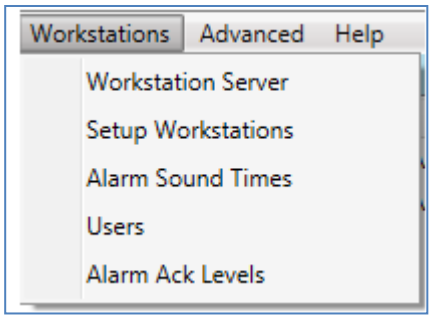


Figure 59 - Workstations Menu options

These options are described in greater detail below.

Workstation Server

With this option, you can enable Workstation Server on View, which is required in order for SDStatus Workstation to communicate with SDStatus Service. You can also provide the port number on which the Workstation Server will run, also required for Workstation to communicate with SDStatus Service.

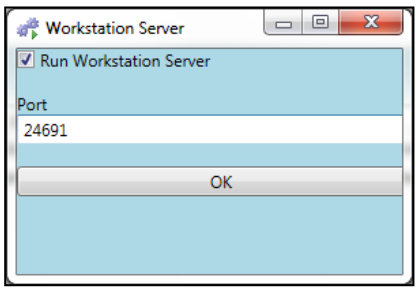


Figure 60 - Workstation Server window

To enable Workstation Server, check the checkbox for "Run Workstation Server". Once that is done, enter the port number. In the example in Figure 60, the port number used is 24691, which is the default. The range supported is 256 through 65535. If in doubt, ask for help from your IT Network Administrator to determine an appropriate port number to use.

IMPORTANT!

Firewall software may interfere with the operation of the Workstation Server. **A firewall exception must be added for the SdStatusService.exe program on the computer running SDStatus View and SDStatus Service**. A common location of this file is "C:\SSi\SDStatusView\SdStatusService.exe". If necessary, consult with your IT or network administrator, or contact SSi at (800) 666-4330 for more information.

Setup Workstations

In order for Workstation to obtain alarm data and generate audible alarms, the Workstation software must have access to the alarm data from SDStatus Service. The Setup Workstations option allows you to define a profile that the Workstation program will use as the basis for displaying alarm data.

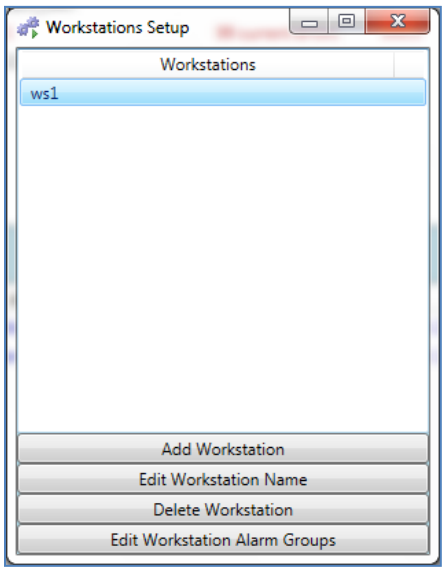


Figure 61 - Workstations Setup window

To add a Workstation profile, click "Add Workstation". A window will appear in which you can name the profile. Once the profile is named, click OK.

To add and remove alarm groups for a selected Workstation profile, click "Edit Workstation Alarm Groups". A screen similar to the one shown in Figure 62 will appear. Note the "Alarm Groups in Workstation" and "Alarm Groups Not in Workstation" areas of the window. To add an alarm group to the Workstation profile, select the alarm group name under "Alarm Groups Not in Workstation" and click "Add Selected Alarm Groups to Workstation". To remove an alarm group from the Workstation profile, select the alarm group name under "Alarm Groups in Workstation" and click "Remove Selected Alarm Groups from Workstation".

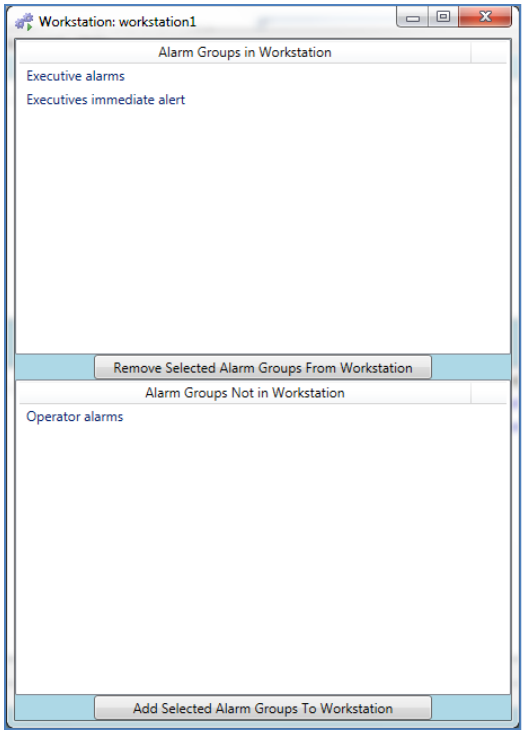


Figure 62 - Edit Workstation Alarm Groups window

The "Edit Workstation Name" button will allow you to change a selected Workstation profile's name. The "Delete Workstation" button will delete a selected Workstation profile from the list.

Alarm Sound Times

The Alarm Sound Times option is used to configure sounds for alarm groups. When an alarm in a particular alarm group is active, a sound file can be played on a computer where Workstation is installed after a pre-defined amount of time has passed. After the sound is played the first time, it can be set up to be played again at pre-defined intervals until the alarm is acknowledged in Workstation.

When the Alarm Sound Times window is opened (Figure 63), you will see three columns: Alarm Group, Time Before Sound, and Sound Frequency. These columns are used for the following purposes:

- **Alarm Group:** Which alarms will result in a sound for an active alarm
- **Time Before Sound:** The amount of time that must pass before the sound is generated in Workstation
- **Sound Frequency:** The frequency of repeated sounds (NOTE: Once an alarm is acknowledged in Workstation, the alarm sound will not be repeated).

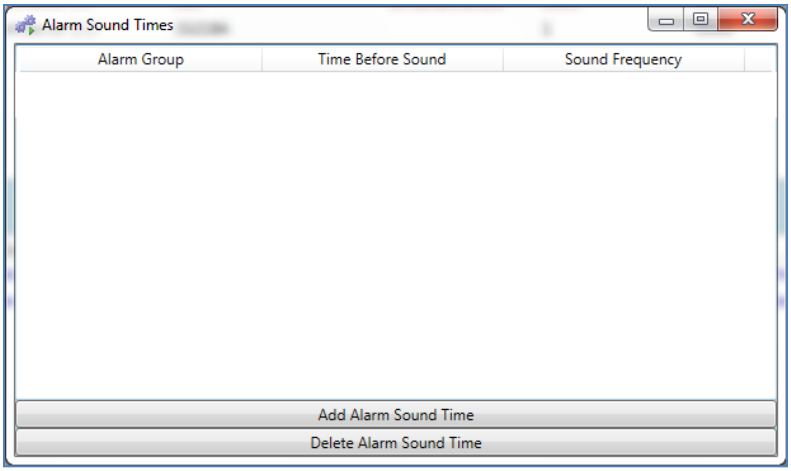


Figure 63 - Alarm Sound Times window

To add an alarm sound time, click the "Add Alarm Sound Time" button. A window similar to the one shown in Figure 64 will appear. In this menu, you can select:

- The alarm group to which the alarm sound will apply ("A")
- The number of days, hours, and minutes that must pass before the alarm will sound in Workstation ("B").

When the "Use Sound Frequency" box is checked, you can also select:

- The frequency—in days, hours, and minutes—with which the alarm sound will be repeated in Workstation after the first alarm sound takes place ("C"). Again, once an alarm is acknowledged in Workstation, the alarm sound will not be repeated.

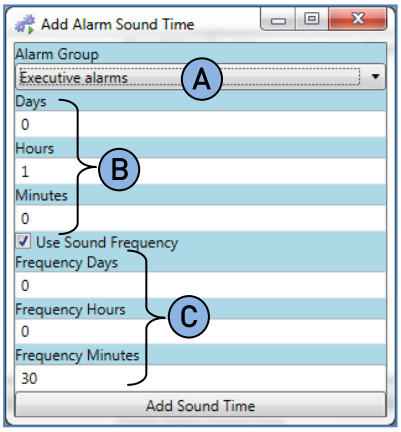


Figure 64 - Add Alarm Sound Time window

To delete an existing alarm sound time, select the appropriate line and click the "Delete Alarm Sound Time" button.

Users

SDStatus provides the option of requiring users to have certain access levels in order to acknowledge alarms in Workstation. The Users option allows you to set up user names and passwords with one of three different access levels: NoLevelSpecified, Operator, Supervisor, and Administrator. These access levels are associated with the access levels specified for alarms in Alarm Ack Levels (Alarm Acknowledgement Levels), which is covered in detail below.

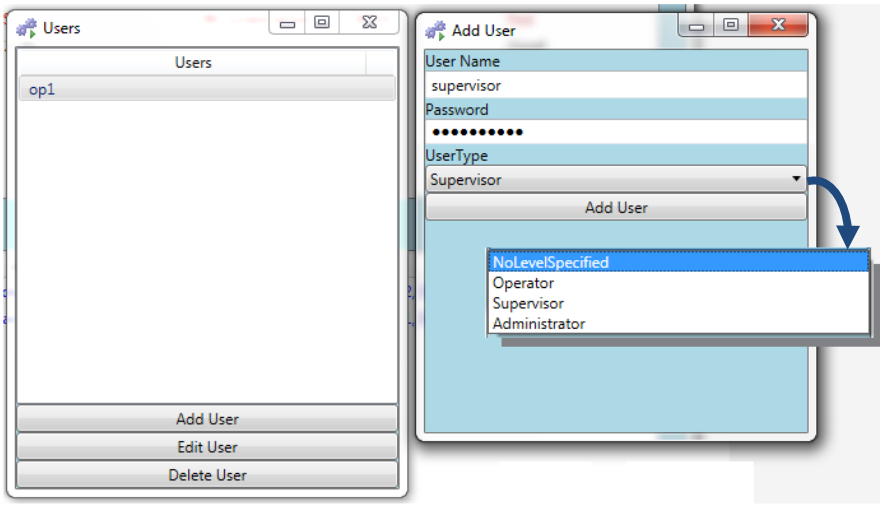


Figure 65 - Users setup windows

Alarm Ack Levels (Alarm Acknowledgement Levels)

SDStatus provides the ability to require that users using Workstation have sufficient access levels to acknowledge and "clear" an alarm notification in Workstation. Access levels are defined with the Users option.

The Alarm Ack Levels window (Figure 66) will show defined alarms in categories based on which access level is assigned to them. If no access levels are assigned, all of the alarms will be shown in the "NoLevelSpecified" category.

To change the active category, select the access level from the "Current Level" drop-down box ("A"). The list of alarms that are assigned to the selected access level will be displayed in the alarm list area ("B"). If the selected access level has no alarms assigned to it, the list of alarms will be blank for that category.

To assign an access level to an alarm, simply select the current access level for that alarm using the "Current Level" drop-down box ("A"), click on the alarm you want to assign to a particular access level, select the access level you want to assign it to from the drop-down box at the bottom of the window ("C"), and click the "Move Selected Alarms to Level" button.

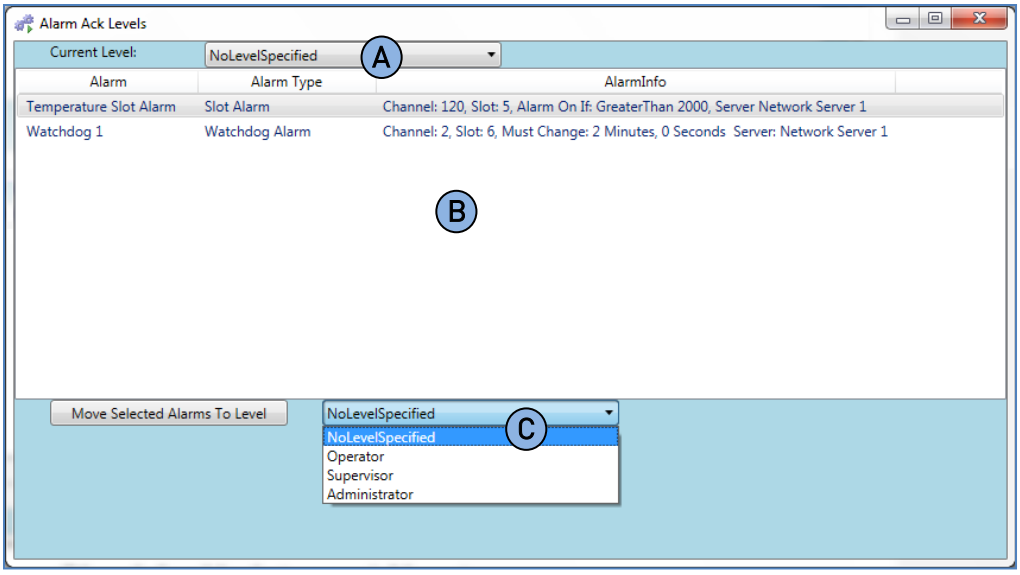


Figure 66 - Alarm Acknowledgement Levels window

Access levels will work in this way:

- If an alarm is assigned NoLevelSpecified, any user of Workstation will be able to acknowledge it.
- If an alarm is assigned Operator acknowledgement level, an Operator, Supervisor, or Administrator may acknowledge the alarm.
- If an alarm is assigned Supervisor acknowledgement level, a Supervisor or Administrator may acknowledge the alarm.
- If an alarm is assigned Administrator acknowledgement level, only an Administrator may acknowledge the alarm.

Once alarms are assigned access levels, Workstation will "know" how to handle situations when a user tries to acknowledge an alarm.

IMPORTANT!

If a condition that had generated an alarm is no longer true, the alarm will clear whether it has been acknowledged or not.

Advanced

The **Advanced** menu provides the "Manage Bit Trigger Alarms" option. This option it used to program SDStatus to set a bit through SDIO when a particular alarm is triggered.

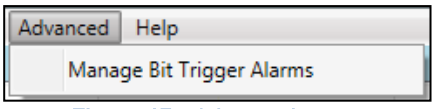


Figure 67 - Advanced menu

Manage Bit Trigger Alarms

SDStatus View provides the ability to set a bit through SDIO when a particular alarm is triggered. Note that when a bit is set, this means that it is turned "ON" (that is, its value is changed to "1").

The Manage Bit Trigger Alarms window (Figure 68) contains the following parts:

- Alarm List ("A"): This area of the window shows all defined alarms. If an alarm is set to trigger a bit, it will be highlighted in a beige color (note the "Temperature Slot Alarm" below). When an alarm is selected, it will be highlighted in a light blue color (note the "Watchdog 1" alarm below).
- Triggered Bits ("B"): This area of the window displays the bits that are triggered when the selected alarm is active.
- "Add Trigger Target" button ("C"): When clicked, this button allows you to set a bit to be set when the selected alarm is on.
- "Remove Trigger Target" button ("D"): When clicked, this button will remove a selected bit trigger.
- "Clear Selected Bit" ("E"): When clicked, this button will clear the selected bit (that is, the bit will be set to "OFF" or zero).

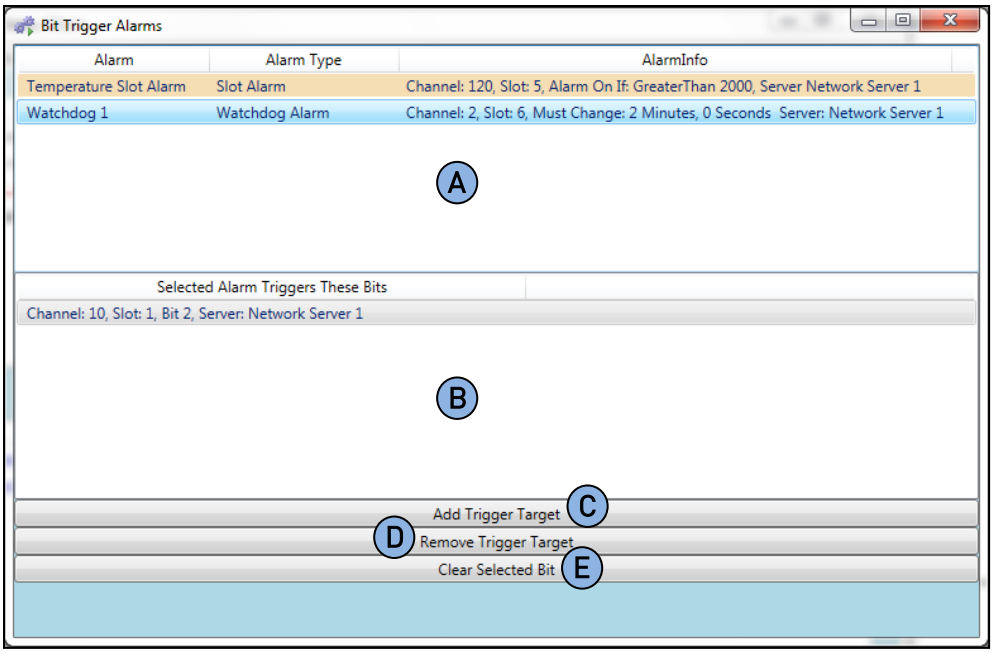


Figure 68 - Manage Bit Trigger Alarms window

Help Menu

The **Help** menu contains two options: **Check for Updates** and **About**.

Check for Updates

This option will check the Internet for updates to SDStatus View and, if an update is found, give you the option to download and install it (Figure 69). **It is recommended that you keep your software up-to-date and download updates when they are available.**

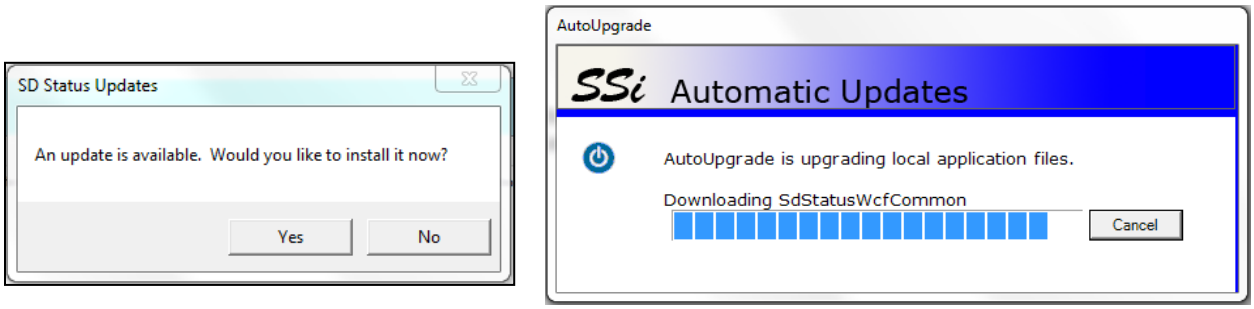


Figure 69 - Checking for, Confirming, and Downloading Updates

About

The **About** screen provides information on the specific software version as well as a revision history for the software (Figure 70).

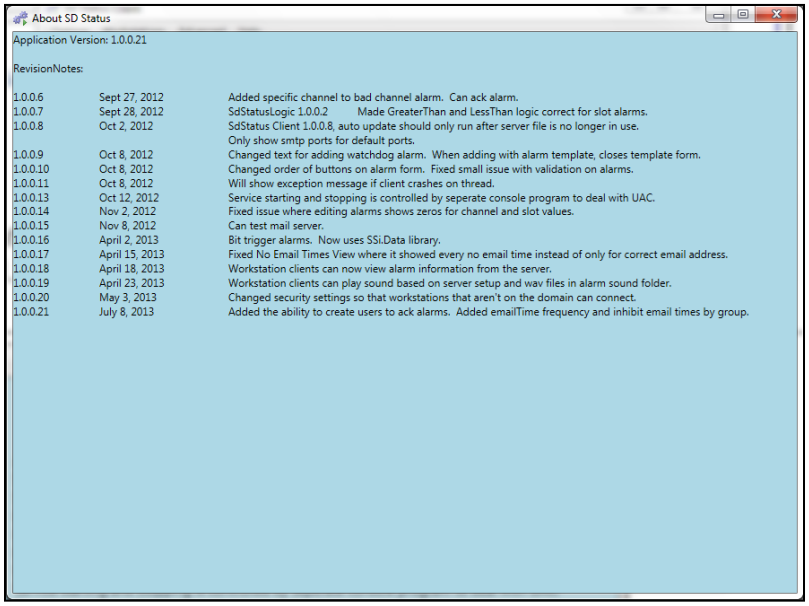


Figure 70 - About screen for SDStatus View

SDStatus Workstation: Operation

SDStatus Workstation communicates with SDStatus Service over a network. SDStatus Service provides Workstation with instruction on when to generate alarms and notifications. In order to work properly, Workstation must be set up correctly to communicate with SDStatus Service. Several conditions must be satisfied in order for this happen.

NOTE: Alarm notifications in Workstation work in the same way as alarm notifications in View. This means, in part, that if a condition that had generated an alarm is no longer true, the alarm will clear whether it has been acknowledged or not.

IMPORTANT: In order for Workstation to obtain alarm data from SDStatus Service running on a target computer, three basic conditions must be satisfied:

1. The computer running Workstation must be connected to the same Ethernet network on which the computer running SDStatus Service is connected.
2. View must be configured so that the computer running SDStatus Service will accept connections from the computer running Workstation. This setup can be found in the Workstation Server menu of SDStatus View (see page 43).
3. Workstation must be set up to connect to the computer running SDStatus Service.

For alarm notifications to be displayed in Workstation, alarms must be set up properly in View (see information beginning on page 18). In addition, workstation profiles must be set up properly in the Setup Workstations option in View (see page 44).

NOTE: It is possible to run Workstation on the same computer that is running SDStatus View. Doing this may be useful, for example, when you want audible alarms set up on the same computer that is running View.

Workstation includes the **Options**, **User**, and **Help** menus. These menus are covered in detail in the sections below.

Options

The **Options** menu (Figure 71) includes three options: **Target SDStatus Server**, **Select Workstation Setup,** and **Detail View.** These options are described in the following subsections.

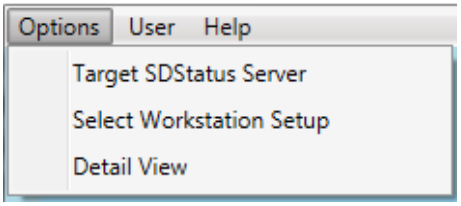


Figure 71 - Options Menu

Target SDStatus Server

This option allows you to set two items that are required for Workstation to communicate with the SDStatus Service computer:

1. Computer name (as it is known on the local Microsoft network) or IP address of the SDStatus Service computer; and
2. Port number for the SDStatus Service computer.

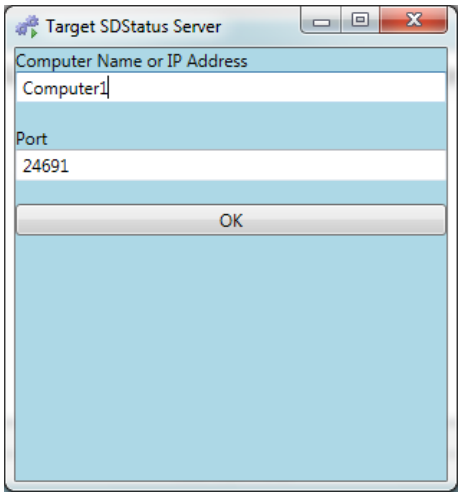


Figure 72 - Target SDStatus Server window

IMPORTANT!

The IP address should be used ONLY if the IP address of the SDStatus Service computer is a static IP address. If the IP address of the SDStatus Service computer changes (which can happen, particularly if the computer is set to use dynamic IP addressing, or DHCP), then Workstation will not be able to communicate with the SDStatus Service computer, in which case alarm notifications and other functions of Workstation will not work. Contact your network administrator for more information.

If you are not certain of the IP address, ask the Network Administrator or, if needed, refer to the procedure shown in Determining IP Address of the SDStatus Service Computer below. The port number is set using the View software (see the Workstation Server section on page 43).

If there is a problem contacting the SDStatus Service computer, the message "Unable to connect to Service" will appear and remain. If this happens, it is possible that entered name or IP address and/or port number may not have been entered correctly. It is also possible that the service was not set up properly in SDStatus View. Verify the Workstation Server setup in SDStatus View (see the Workstation Server section on page 43) and compare that setup to the information entered in the **Target SDStatus Server** window. If the setups match, contact SSi at (800) 666-4330 for assistance.

IMPORTANT!

Firewall software may interfere with the operation of the Workstation Server. A firewall warning message may appear, or you may encounter problems when trying to enable a Workstation connection to the server later in this section. If necessary, consult with your IT or network administrator, or contact SSi at (800) 666-4330.

Determining IP Address of the SDStatus Service Computer

IMPORTANT!

The IP address should be used ONLY if the IP address of the SDStatus Service computer is a static IP address. If the IP address of the SDStatus Service computer changes (which can happen, particularly if the computer is set to use dynamic IP addressing, or DHCP), then Workstation will not be able to communicate with the SDStatus Service computer, in which case alarm notifications and other functions of Workstation will not work. Contact your network administrator for more information.

If you are uncertain of the IP address of the computer running SDStatus Service, the first recommended course of action is to consult with your network administrator. If needed, it is often possible to determine the IP address from the computer running SDStatus Service. The following procedure is one example of how to do this. (**NOTE:** In some cases, security restrictions on a computer may prevent this procedure from being used. In such a case, please contact SSi at (800) 666-4330.)

1. From the computer running SDStatus Service, open the **Start** menu.
   a. If using Windows XP, open the **Run** menu (Figure 73) and type *cmd* in the dialog box.

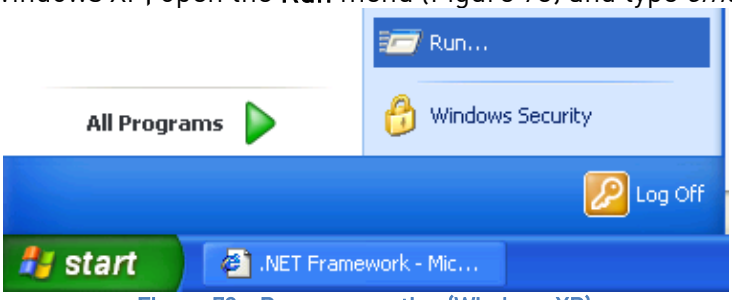


Figure 73 - Run menu option (Windows XP)

   b. If using Windows Vista, 7, or 8, type 'cmd' in the "Search programs and files" box. Click on the **cmd.exe** application link that appears (usually at the top of the Start menu area). See Figure 74.

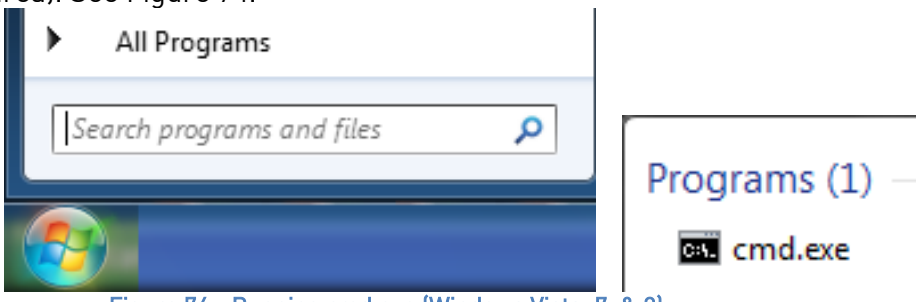


Figure 74 - Running cmd.exe (Windows Vista, 7, & 8)

A command prompt window will appear. Usually, this window is black with gray lettering.

2. From the command prompt window, type *ipconfig* and press Enter.

3. The IP address will be shown in the text that appears on the screen. On Windows XP computers, the IP address will simply be labeled "IP Address". On Windows Vista, 7, and 8 computers, the IP address may be called "IPv4 Address". An example from Windows 7 can be seen in Figure 75.

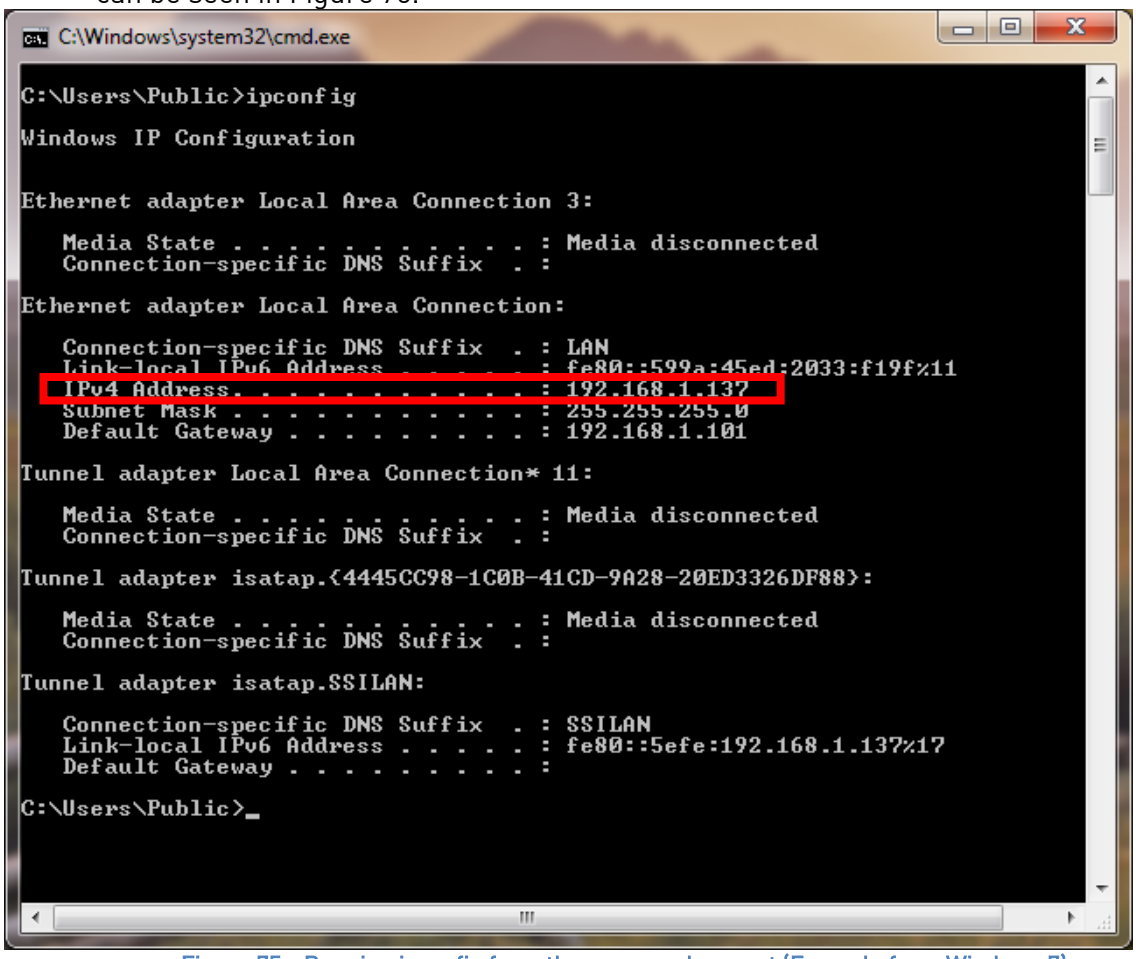


Figure 75 - Running ipconfig from the command prompt (Example from Windows 7)

If these instructions for identifying the IP address do not work correctly, please contact SSi at (800) 666-4330.

Select Workstation Setup

The **Select Workstation Setup** menu (Figure 76) allows you to select a Workstation profile that was set up in the SDStatus View **Setup Workstations** menu. This Workstation profile will be applied to the installation of Workstation that is currently running. For example, if you select a defined Workstation profile called "workstation1" in **Select Workstation Setup,** the Alarm Groups that were set up in SDStatus View for profile "workstation1" will be applied to the current installation of SDStatus Workstation; alarm notifications will be generated based on that profile.

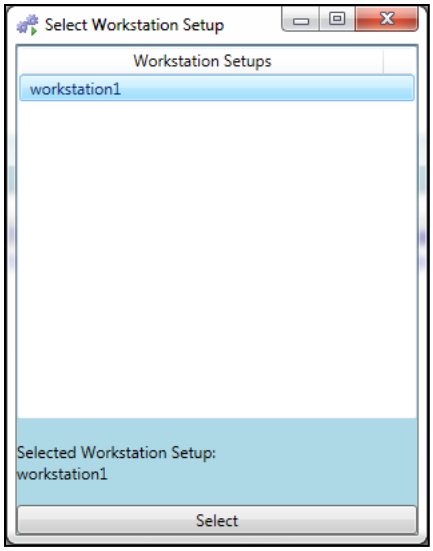


Figure 76 - Select Workstation Setup window

Detail View

Detail View is an option that can be togged ON or OFF. The default setting is OFF. When ON, Detail View will appear with a check mark next to it.

If Detail View is OFF, only alarms will be shown. See Figure 77.

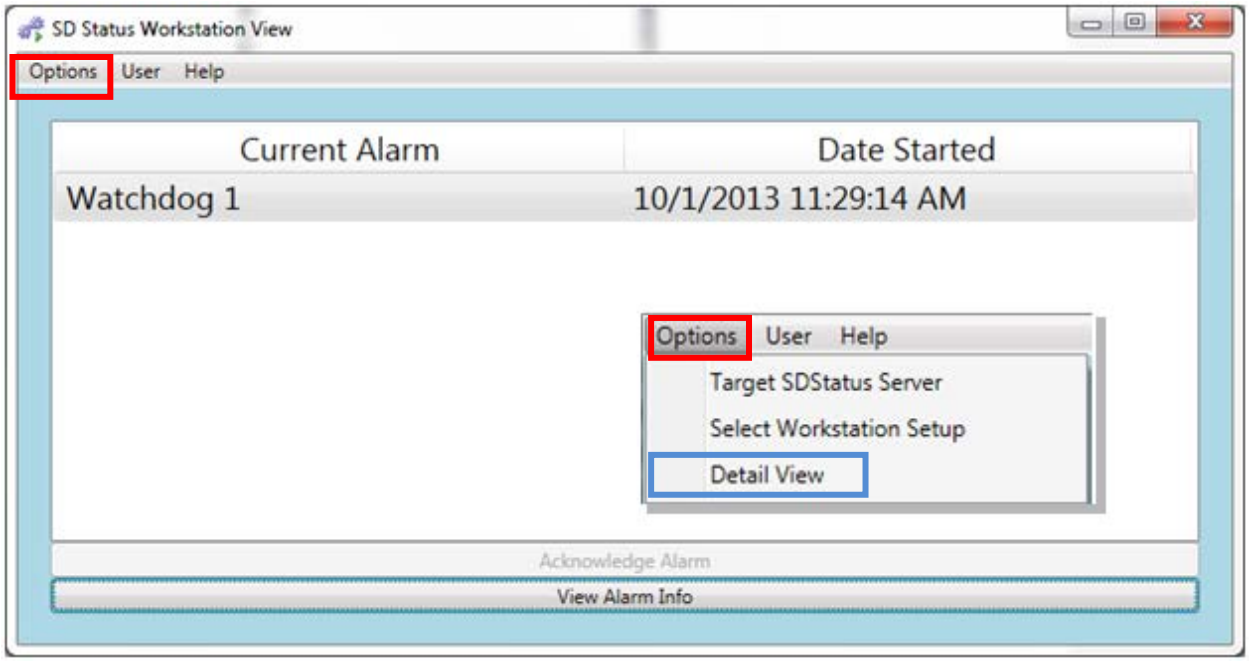


Figure 77 - Detail View OFF

If Detail View is ON, detailed server and channel information will be shown, along with device names, consecutive error counts, update time intervals, and device statuses. Alarm information

is also shown in a separate box. The appearance of the Detail View ON window is similar to the default view for SDStatus View. See Figure 78.

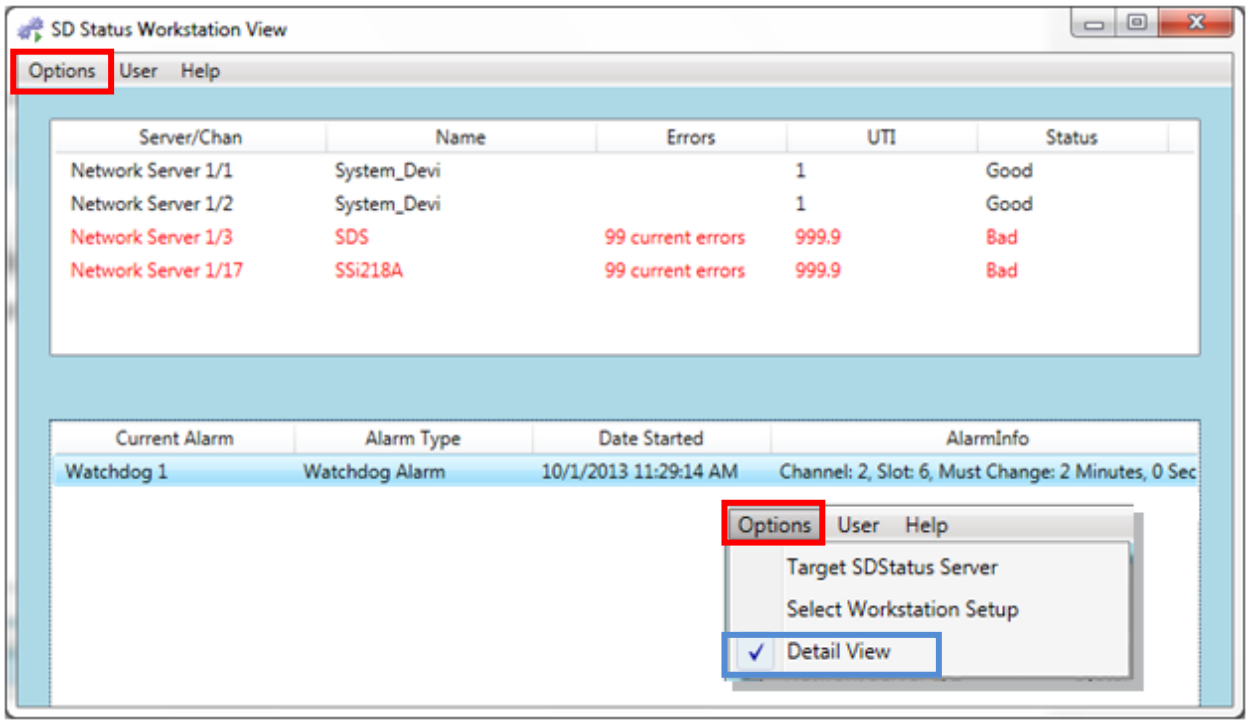


Figure 78 - Detail View ON

User

The **User** menu contains two options: Log In and Log Out.

Log In

This option allows you to log in as a user. Users are set up in the SDStatus **View Users** menu with access levels set up in the SDStatus View **Alarm Ack Levels** (Alarm Acknowledgement Levels) menu.

To log in as a specific user, select "Log In". A window similar to the one shown in Figure 79 will appear. Enter the User Name and Password desired and click the "Log In" button.

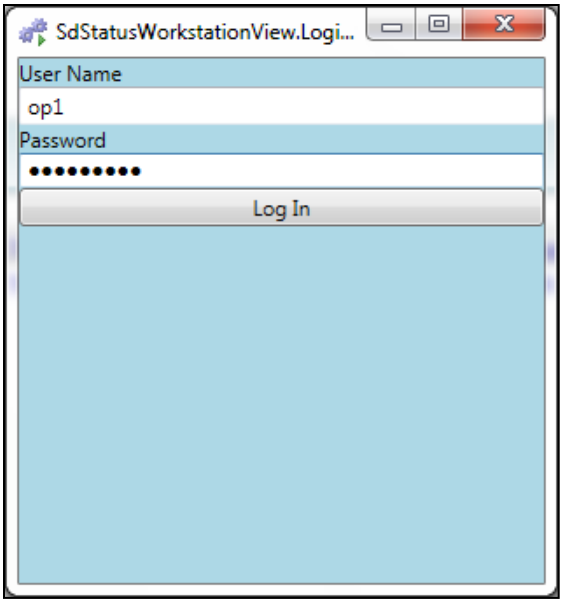


Figure 79 - Log In Window

If login was successful, the current user and type (access level) will be shown at the top of the window (see example in Figure 80).

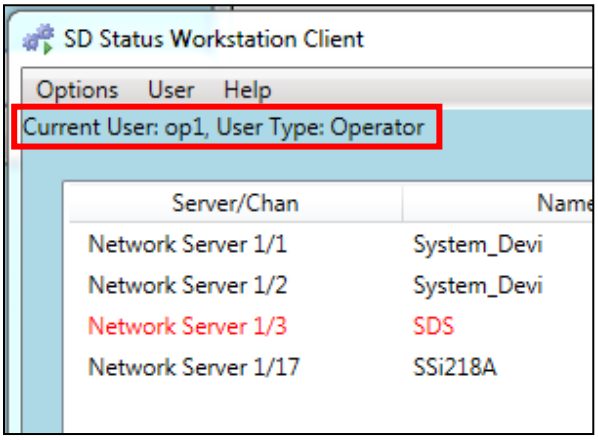


Figure 80 - Current User and User Type (Access Level) message

Log Out

Use the **Log Out** option to log out the current user. Once the user is logged out, the Current User and User Type message will no longer be displayed.

Note on Enabling Sounds in SDStatus Workstation

After alarm sound times are set up in SDStatus View (see Alarm Sound Times on page 45), the alarm sound files must be added to SDStatus Workstation.

In order for SDStatus Workstation to generate an alarm sound correctly, a sound file in Wave (*.wav*) format must be saved with the same name of the alarm in the "alarm sounds" folder found in the program folder where SDStatus Workstation is found. Typically, this folder will be present on the local hard drive of the SDStatus Workstation in the subfolder

"C:\SSi\SDStatusWorkstation\alarm sounds" (assuming C: is the local hard drive). Also, the selected Workstation profile must include the alarms for which you want sounds to be generated.

Example: Two alarms are set up in SDStatus View named "Temperature Slot Alarm" and "Watchdog 1".

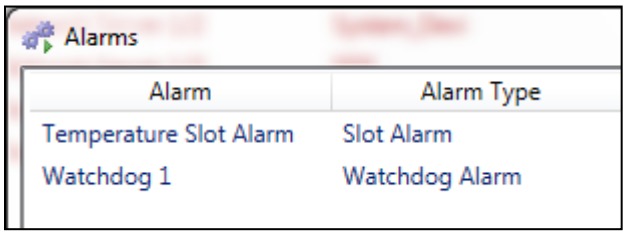


Figure 81 - Example alarms

Alarm Sound Times have been set up for both of these alarms in SDStatus View. SDStatus Workstation is using the Workstation profile "workstation1", which includes both of the alarms. The installation folder for SDStatus Workstation is "C:\SSi\SDStatusWorkstation". In order for SDStatus Workstation to generate sounds for the two configured alarms, two sound files must be present in the folder "C:\SSi\SDStatusWorkstation\alarm sounds":

- *Temperature Slot Alarm.wav*
- *Watchdog 1.wav*

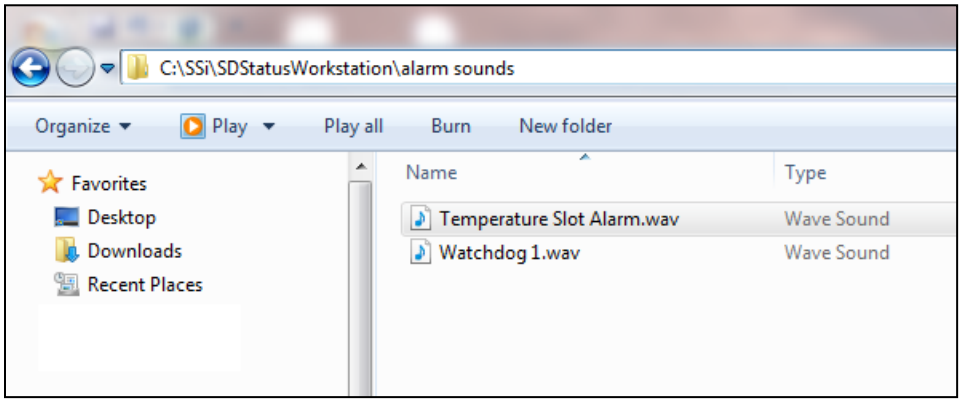


Figure 82 - Example alarm files on SDWorkstation computer

When the Temperature Slot Alarm is active, SDStatus Workstation will play the *Temperature Slot Alarm.wav* file as configured in SDStatus View. When the Watchdog 1 alarm is active, SDStatus Workstation will play the *Watchdog 1.wav* file. If one of the files corresponding to an alarm cannot be found in the correct folder, or if the file is not named using the correct method, the sound will not be played.

Help

The **Help** menu contains two options: **Check for Updates** and **About**.

Check for Updates

This option will check the Internet for updates to SDStatus Workstation and, if an update is found, give you the option to download and install it (Figure 83). **It is recommended that you keep your software up-to-date and download updates when they are available.**

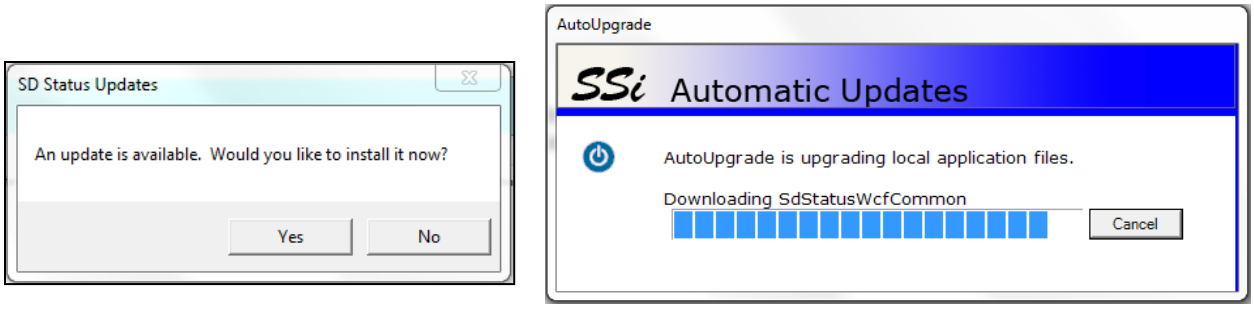


Figure 83 - Checking for, Confirming, and Downloading Updates

About

The **About** screen provides information on the specific software version as well as a revision history for the software (Figure 84).

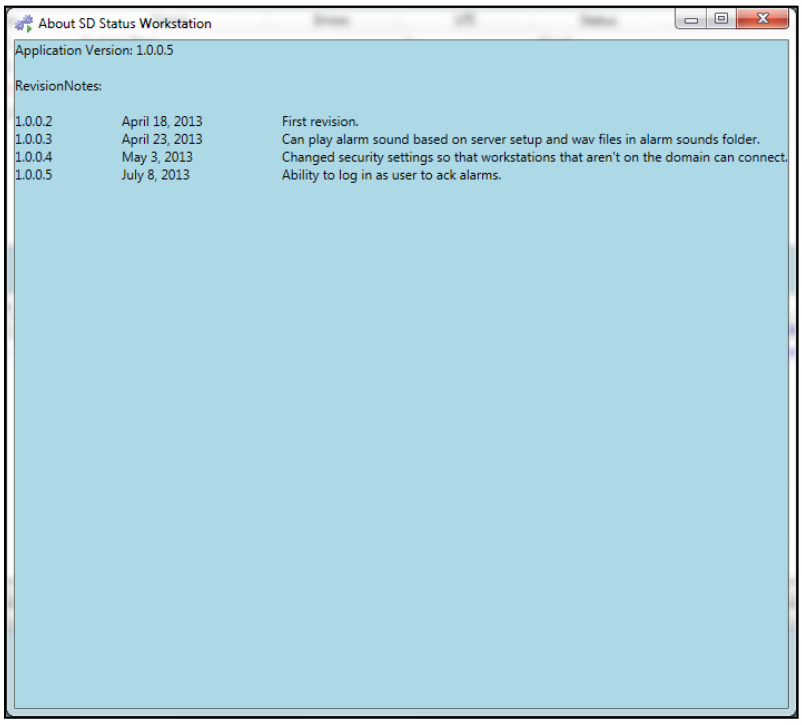


Figure 84 - About screen for SDStatus Workstation

Revision History

Rev.	Description	Date	MCO #
-	First Release	11/25/2013	2117

Appendix 1: Quick Start Guide

The Quick Start Guide is intended to provide concise instructions on setting up SDStatus View and SDStatus Workstation after both programs are installed. The setups presented are examples; your specific setup requirements will differ. Advanced functions and additional details are covered in the main text of the manual.

IMPORTANT!

The steps described in this Quick Start Guide are intended to be followed in the order shown. Skipping a step could result in errors or in an incomplete setup.

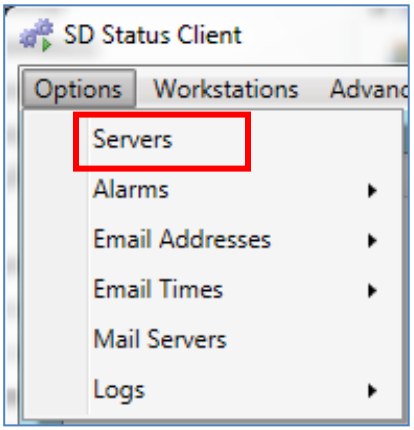
SDStatus View

Before SDStatus View can be set up, it must first be installed. If SDStatus View has not been installed, follow the procedure in SDStatus View: Installation beginning on page 7.

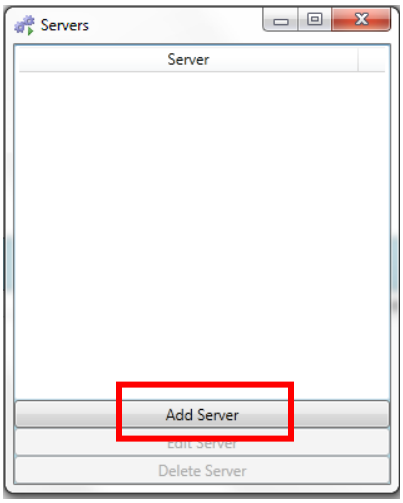
Setting Up the Server

The first step to configuring SDStatus View is setting up and naming a server from which SDStatus Service will read data.

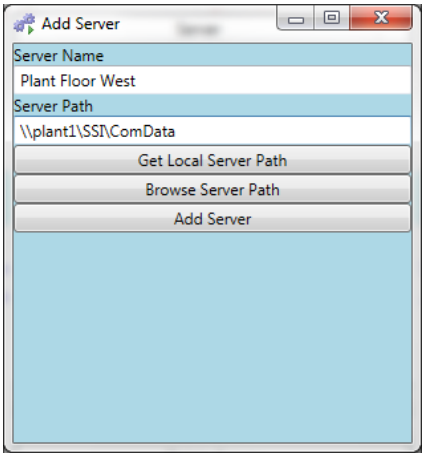
To do this, first select the **Options** menu, and then the **Servers** option.



Click the "Add Server" button.



Enter a name for the server. This name will be used by SDStatus. Enter a path to the folder that contains the file *IntTbl.dat* on the applicable SuperDATA server.



(NOTE: "Get Local Server path" is used if you are using a local SuperDATA server. "Browse Server Path" is used to navigate to a server and path.)

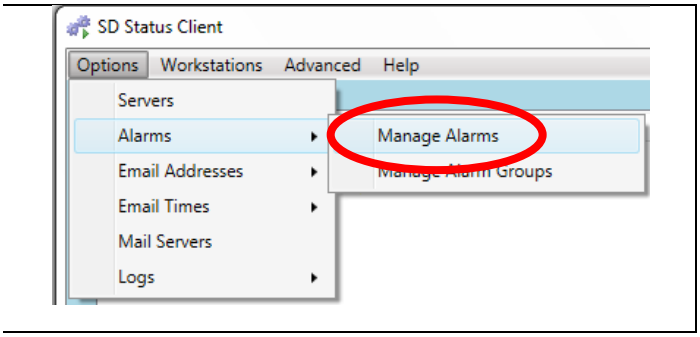
Click "Add Server" when finished adding details.

NOTE: SDStatus can monitor channels and slot data on multiple servers. Doing so is as simple as adding multiple servers with valid server path data for SDStatus to use. When alarms are present, all of the alarm data will appear in the SDStatus View main window.

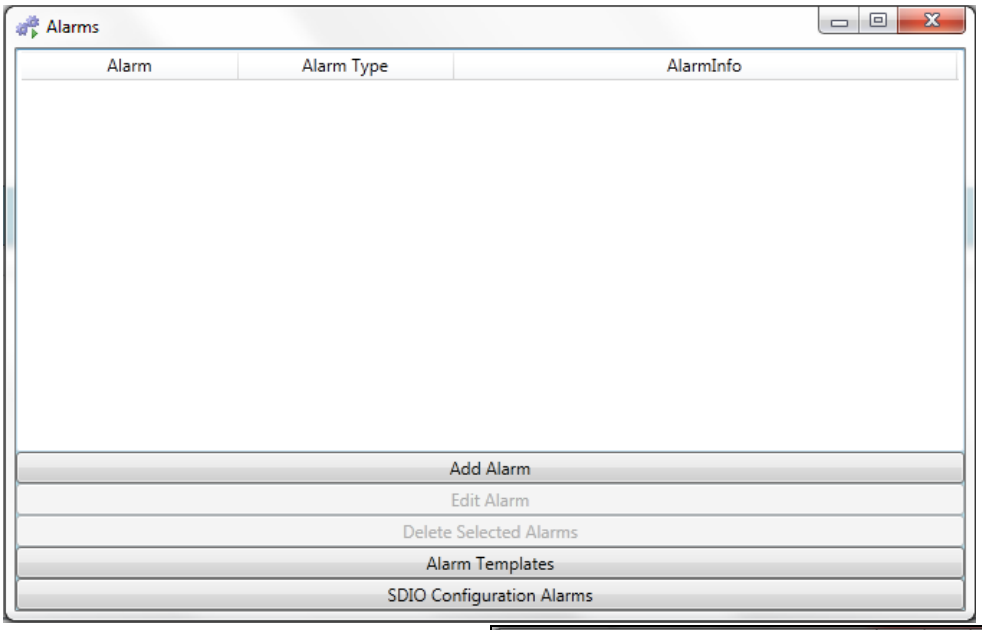
Setting Up Individual Alarms

Use the **Alarms** menu to add individual alarms. These alarms can later be grouped into categories for the purpose of setting up notifications.

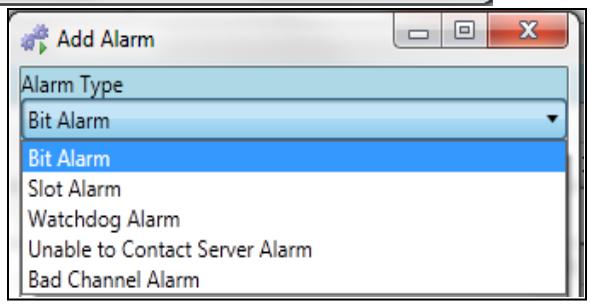
In the **Alarms** menu, click on "Manage Alarms".



The Alarms window will appear.



Choose an alarm type that you want to set up from the Alarm Type drop-down list. Alarm types (and the fields that are included with each type) are described in detail beginning on page 20.



Each alarm type setup window includes a "Red Alert" checkbox. When "Red Alert" is enabled for an alarm, the alarm will cause a red circle icon to appear in the Microsoft Windows system tray.

If "Red Alert" is not checked, the alarm will display on screen and can be acknowledged by the user; no system tray icon will be generated.

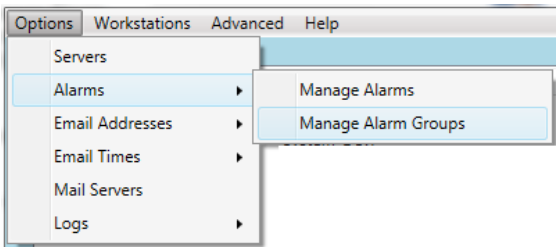
NOTE: It is also possible to set up alarms using the options shown below. Refer to the applicable sections for more details.

- SDIO Configuration Alarms, page 25
- Alarm Templates, page 26

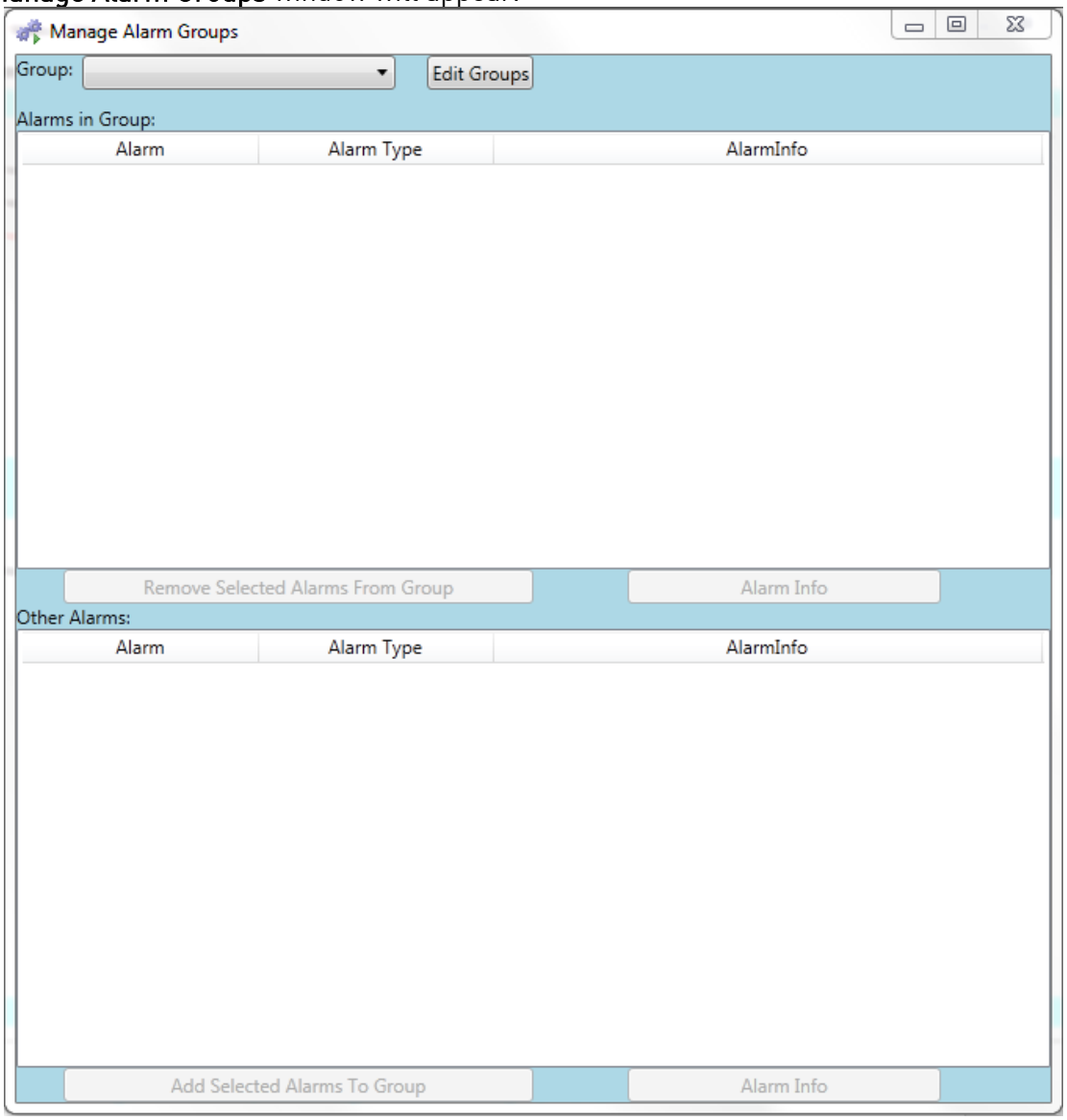
Setting Up Alarm Groups

Alarm groups, which are specific categories of alarms, are used in conjunction with email address groups to define groups of people who will receive email notifications of configured alarms. Email address groups are explained later in this Quick Start Guide (as well as in the Manage Email Address Groups section).

Select "Options" → "Alarms" → "Manage Alarm Groups" from the menu.

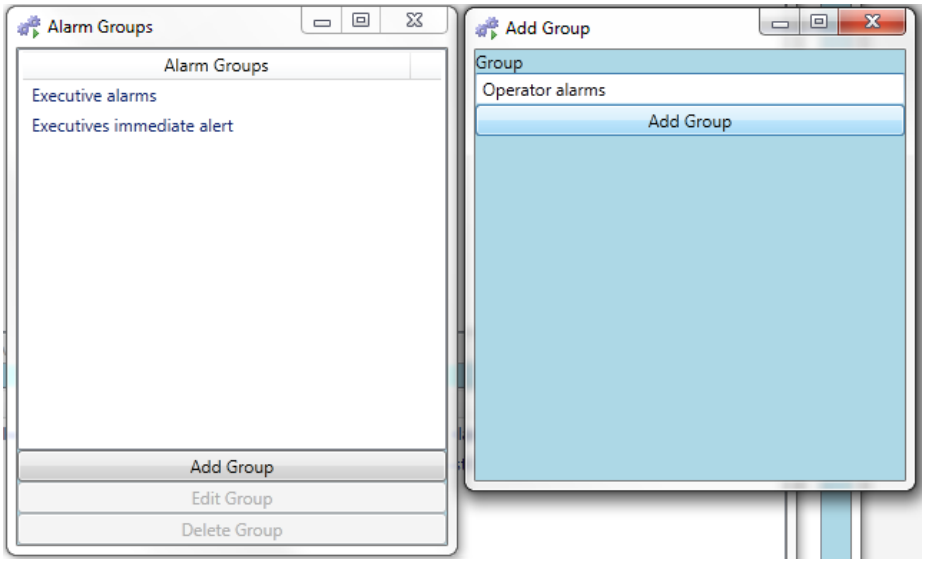


The **Manage Alarm Groups** window will appear.



To add an alarm group, first click on "Edit Groups". Then click on the "Add Group" button at the

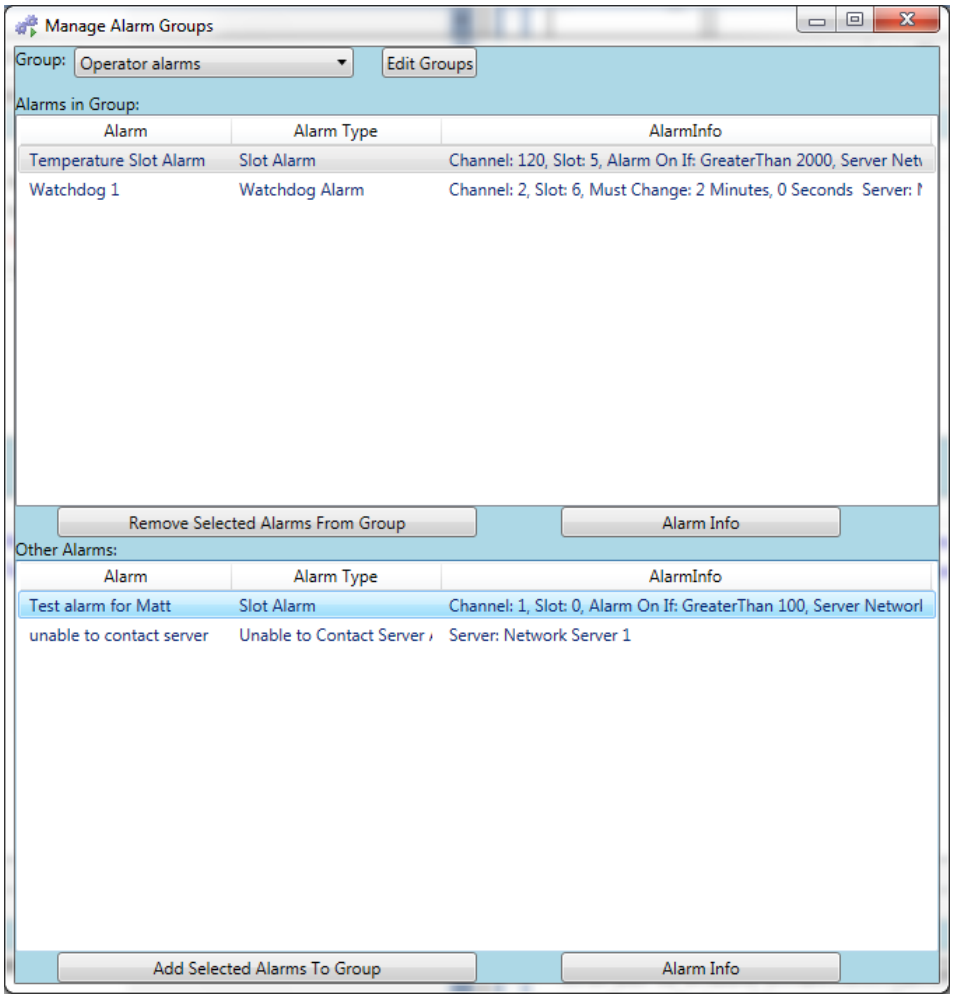
bottom of the **Alarm Groups** Window, type in the name of the alarm group in the Group field, and click the "Add Group" button in the **Add Group** window.



Note that, in the example above, "Executive alarms" and "Executives immediate alert" are defined alarm groups. A user may use these group names, for example, for alarms that require notification of executive team members (in the case of "Executive alarms") and for alarms that require immediate notification of executive team members ("Executives immediate alert"). The user is preparing to add the group "Operator alarms," which could be used for alarms needing notification of certain operators by email.

Close the **Alarm Groups** window when finished adding alarm groups.

Once you have created the desired alarm groups, close the **Alarm Groups** window. Using the "Group:" drop down box at the top, select the alarm group to which you want to add alarms. For each group, alarms that are not present in the group will be shown in the bottom part of the window under "Other Alarms:". Select each alarm that you want to include in the currently selected group and click "Add Selected Alarms To Group". Included alarms will be moved to the "Alarms in Group:" field located in the top part of the window. If you want to remove an alarm from the currently selected group, select that alarm and click "Remove Selected Alarms From Group". The alarm will then be moved to the "Other Alarms:" field.

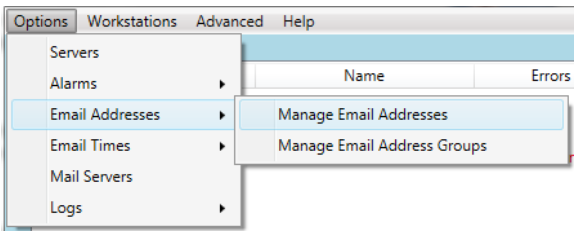


Close the **Manage Alarm Groups** window when finished.

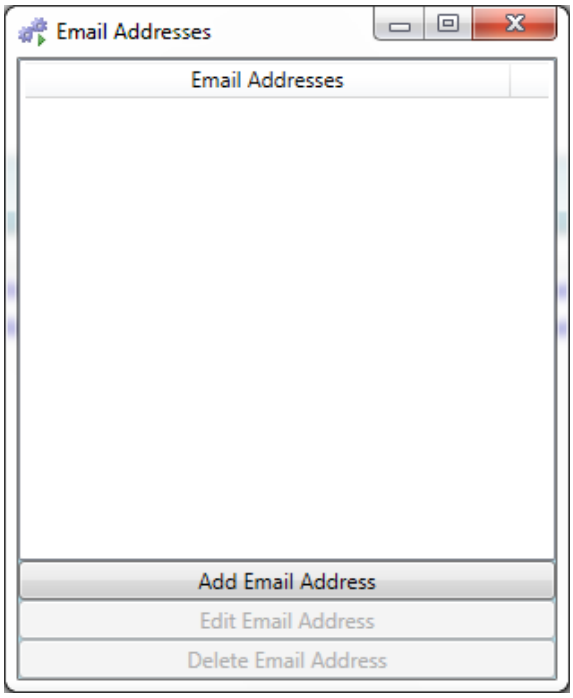
Setting Up Email Addresses

In order to enable email notifications, you first need to set up email addresses. SDStatus will send emails to addresses configured in email address groups, which are discussed later in this Quick Start Guide.

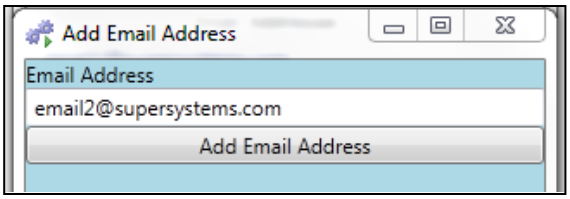
The **Email Addresses** window is where you manage email addresses in SDStatus. To access this menu, select "Options" → "Email Addresses" → "Manage Email Addresses".



The **Email Addresses** window will appear.



To add an email, click the "Add Email Address" button. This will bring up the Add Email Address window. Type an email address to add and click the "Add Email Address" button in this window to save it.



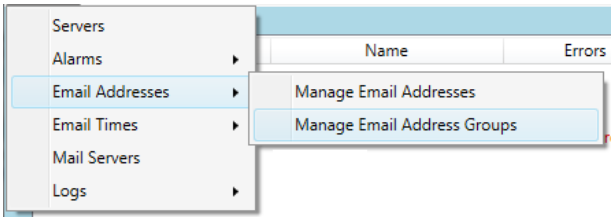
NOTE: SDStatus can be used to send emails to many mobile devices. Refer to Appendix 3: Sending Notifications to a Mobile Device Using SDStatus for more details.

Repeat the process for as many email addresses as needed.

Setting Up Email Address Groups

Once email addresses are populated in SDStatus View, you can then define email address groups and add email addresses to those groups. SDStatus will use alarm group and email address group information when determining when and where to send notification emails.

Open the "Options" → "Email Addresses" → "Manage Email Address Groups" menu.

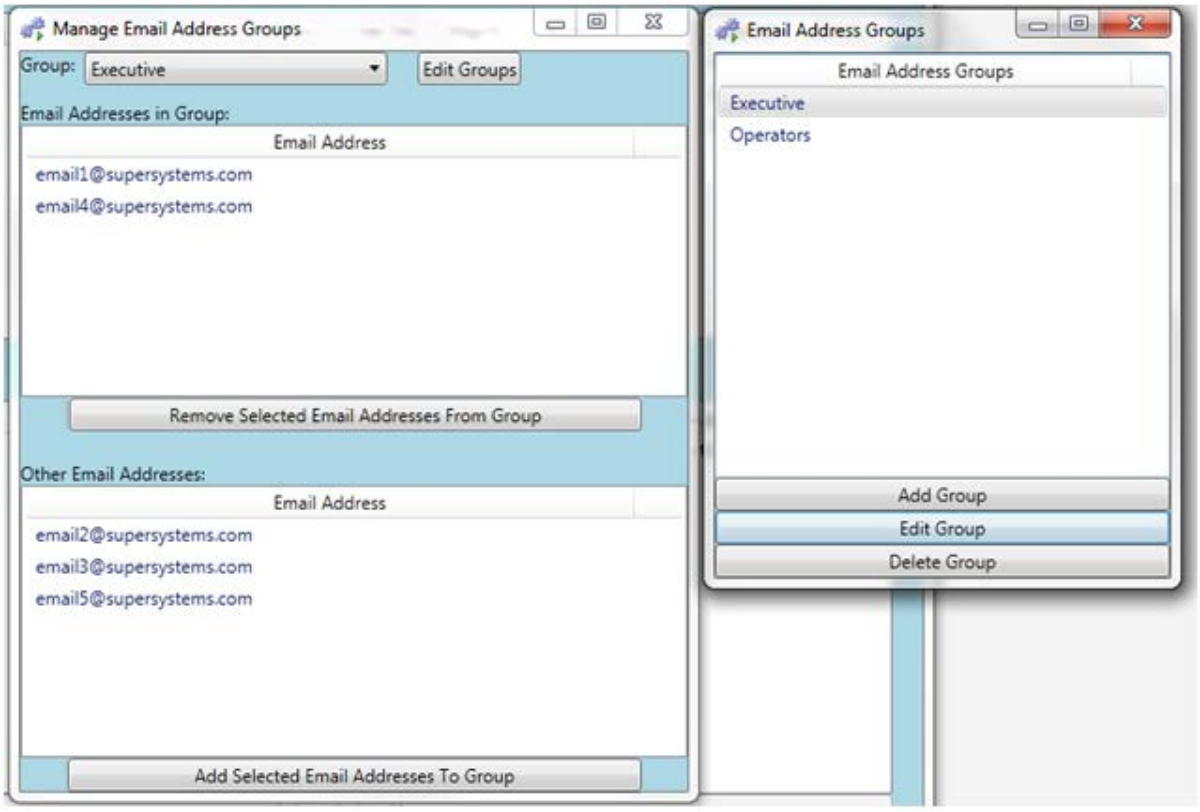


The Manage Email Address Group window will appear.

The figure below shows what the email address group management screens look like. The screen shown on the left is the **Manage Email Address Groups** window. The screen on the right is the **Email Address Groups** window.

Before email addresses can be added to email address groups, the groups must be defined in the **Email Address Groups** window. To do this, click on the "Edit Groups" button in the **Manage Email Address Groups** window.

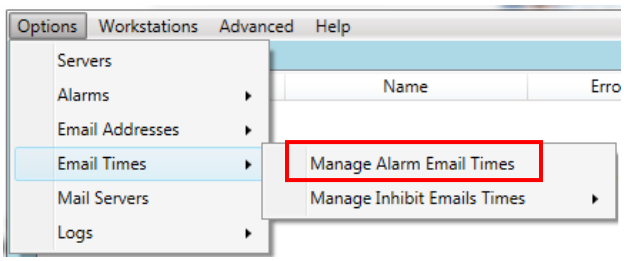
Once you have created the desired email address groups, close the **Email Address Groups** window. Using the "Group:" drop down box at the top, select the email address group to which you want to add email addresses. For each group, email addresses that are not present in the group will be shown in the bottom part of the window under "Other Email Addresses:". Select each email address that you want to include in the currently selected group and click "Add Selected Email Addresses To Group". Included email addresses will be moved to the "Email Addresses in Group:" field located in the top part of the window. If you want to remove an email address from the currently selected group, select that email address and click "Remove Selected Email Addresses From Group". The email address will then be moved to the "Other Email Addresses:" field.



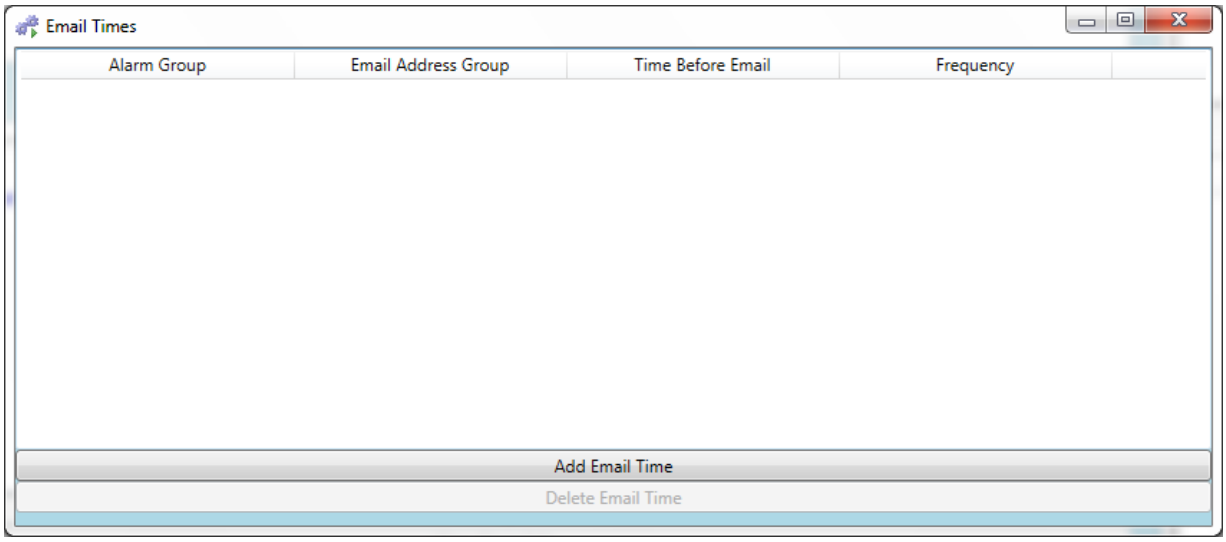
Setting Up Email Times

One of the most important functions of SDStatus, its email notification capability, requires coordination between the alarm groups and email address groups. This is achieved through the **Email Times** menu in SDStatus View.

To set up a notification email, first click on "Options" →"Email Times" → "Manage Alarm Email Times".

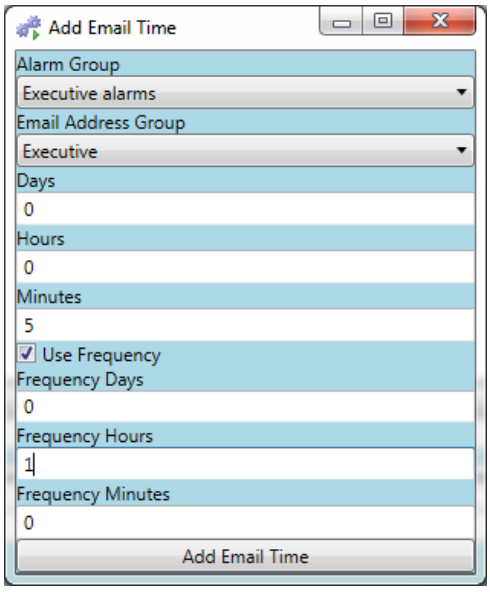


The **Email Times** window will appear.



Click on "Add Email Time" to add an email time.

The **Add Email Time** window will appear.



Select the alarm group in the Alarm Group drop-down box and the email address group in the Email Address Group drop-down box. Then set the amount of time that must pass before an alarm notification email is sent to the selected email address group. If you want to set a frequency for repeating the notification email (as long as an alarm condition remains true) after the first notification is sent, click the "Use Frequency" box and enter the desired frequency times. Click "Add Email Time" when finished.

In the example shown, when an alarm condition is present in the Executive alarms group for 5 minutes, a notification will be sent to email addresses in the Executive email address group. As long as that alarm condition remains true, a notification will be

sent to the same email addresses every hour thereafter.

Repeat this process for each email time you want to configure.

As email times are added, information will be populated in the **Email Times** window. This information will include the Alarm Group, Email Address Group, Time Before Email, and Frequency configured for each email time.

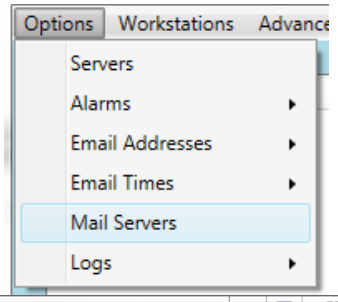
Close the Email Times window when finished adding email times.

In many cases, you may want to set time periods during which emails will not be sent to a particular email address or group of addresses. There may be other cases where you want to prevent emails from being sent at all to a certain address or group of addresses. For instructions on how to inhibit email sending for particular email addresses or groups or during certain periods of time, refer to the Manage Inhibit Email Times section on page 37.

Setting Up Email Server

In order for SDStatus to be able to send emails, an email server with mail sending capabilities must be configured. SDStatus must be able to communicate with the email server and utilize its mail sending function. The **Add Mail Server** function in SDStatus View allows you to set up mail sending.

To set up mail servers for SDStatus to use, first select "Options" → "Mail Servers".



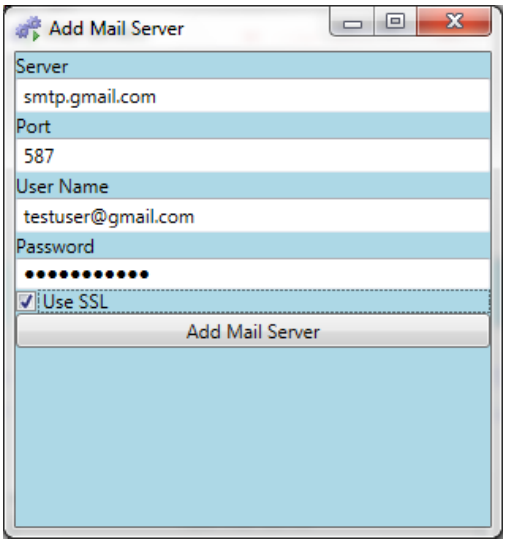
The **Mail Servers** window will appear.

Click "Add Mail Server" to configure a mail server.

In the **Add Mail Server** window, enter the Server, Server Port, User Name, and Password associated with the email account that will be used as the sending account. Check the "Use SSL" checkbox if an SSL-encrypted connection is required or can be used.

NOTE: Consult your email provider or network administrator if you need assistance with proper setup.

Close the Add Mail Server window.



It is recommended that you test the mail server with the "Test Mail Server" function in the **Mail Servers** window. After clicking the "Test Mail Server" button, you will know that the test was successful if "email sent successfully" is displayed on the screen. If an error message appears, troubleshooting may be required. More information can be found on page 41.

SDStatus Workstation

This section provides a Quick Start for SDStatus Workstation. Like the SDStatus View Quick Start section, this Quick Start is intended to provide basic information on enabling and configuring SDStatus Workstation. **Note that use of SDStatus Workstation is optional.** SDStatus View can be used by itself to monitor servers and instruments and generate alarm notifications. As described in other parts of this manual, SDStatus Workstation will extend many of the monitoring capabilities of SDStatus View to additional computers.

To enable SDStatus Workstation functionality, some setup is required in SDStatus View. Specifically, four setup procedures must be completed in SDStatus View:

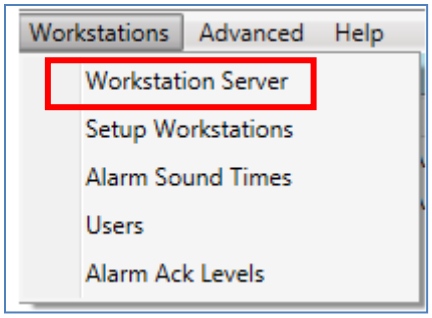
- Enabling the Workstation Server
- Setting up Workstation profiles
- Setting up user access levels
- Setting up alarm sounds (if desired)

These procedures are covered in this Quick Start.

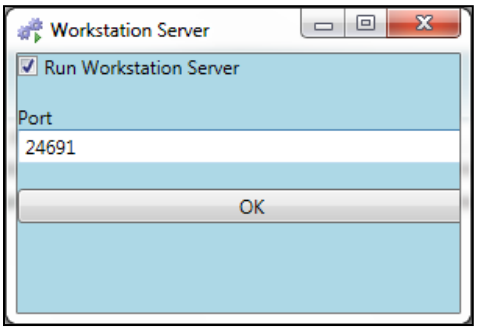
Enabling the Workstation Server (in SDStatus View)

Workstation Server is required in order for SDStatus Workstation to communicate with SDStatus Service. This function is handled in the **Workstation Server** window.

To enable the Workstation Server, first open "Workstations" → "Workstation Server".



Check the checkbox for "Run Workstation Server". The default port for the server is 24691. The range supported is 256 through 65535. A different port number may be needed, depending on your network setup. If you have questions, contact your network administrator.



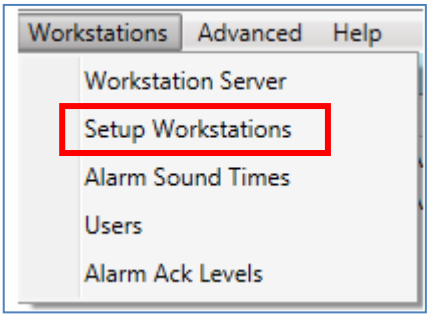
IMPORTANT!

Firewall software may interfere with the operation of the Workstation Server. **A firewall exception must be added for the SdStatusService.exe program on the computer running SDStatus View and SDStatus Service**. A common location of this file is "C:\SSi\SDStatusView\SdStatusService.exe". If necessary, consult with your IT or network administrator, or contact SSi at (800) 666-4330 for more information.

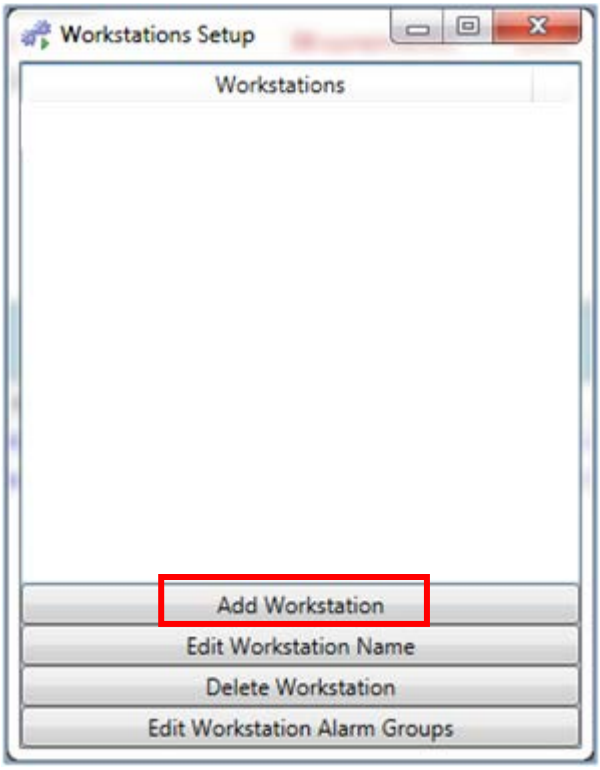
Setting Up Workstation Profiles (in SDStatus View)

The next step is to set up a Workstation profile. The **Setup Workstations** option allows you to define a profile that the Workstation program will use as the basis for displaying alarm data. Different profiles can be used for different workstations.

Open "Workstations" → "Setup Workstations".

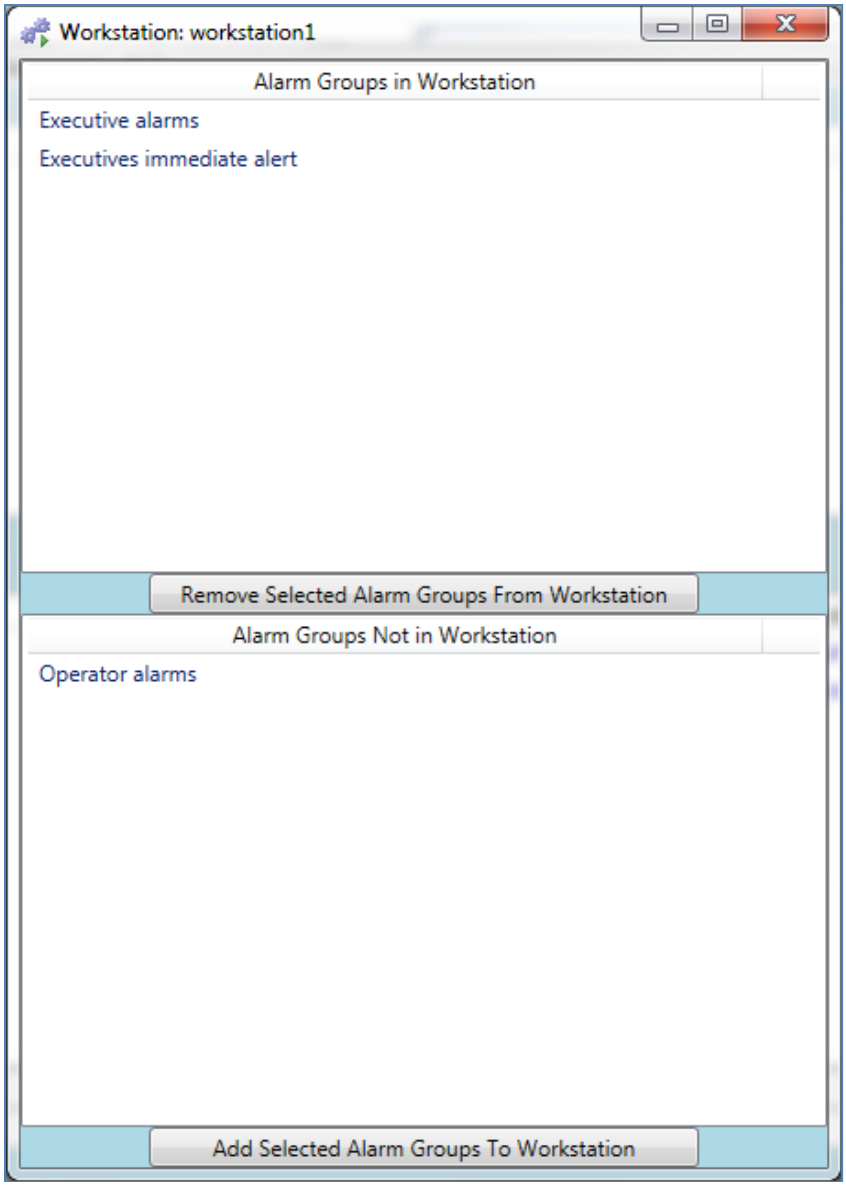


To add a Workstation profile, click “Add Workstation”. A window will appear in which you can name the profile. Once the profile is named, click OK.



To add and remove alarm groups for a selected Workstation profile, click “Edit Workstation Alarm Groups”.

To add an alarm group to the Workstation profile, select the alarm group name under “Alarm Groups Not in Workstation” and click “Add Selected Alarm Groups to Workstation”. To remove an alarm group from the Workstation profile, select the alarm group name under “Alarm Groups in Workstation” and click “Remove Selected Alarm Groups from Workstation”.



Setting Up Users and User Access Levels (in SDStatus View)

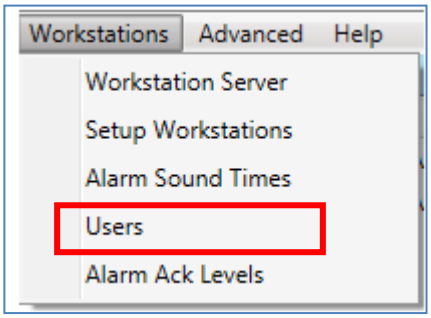
The Users option allows you to set up user names and passwords with one of four different access levels: NoLevelSpecified, Operator, Supervisor, and Administrator.

Access levels will work in this way:

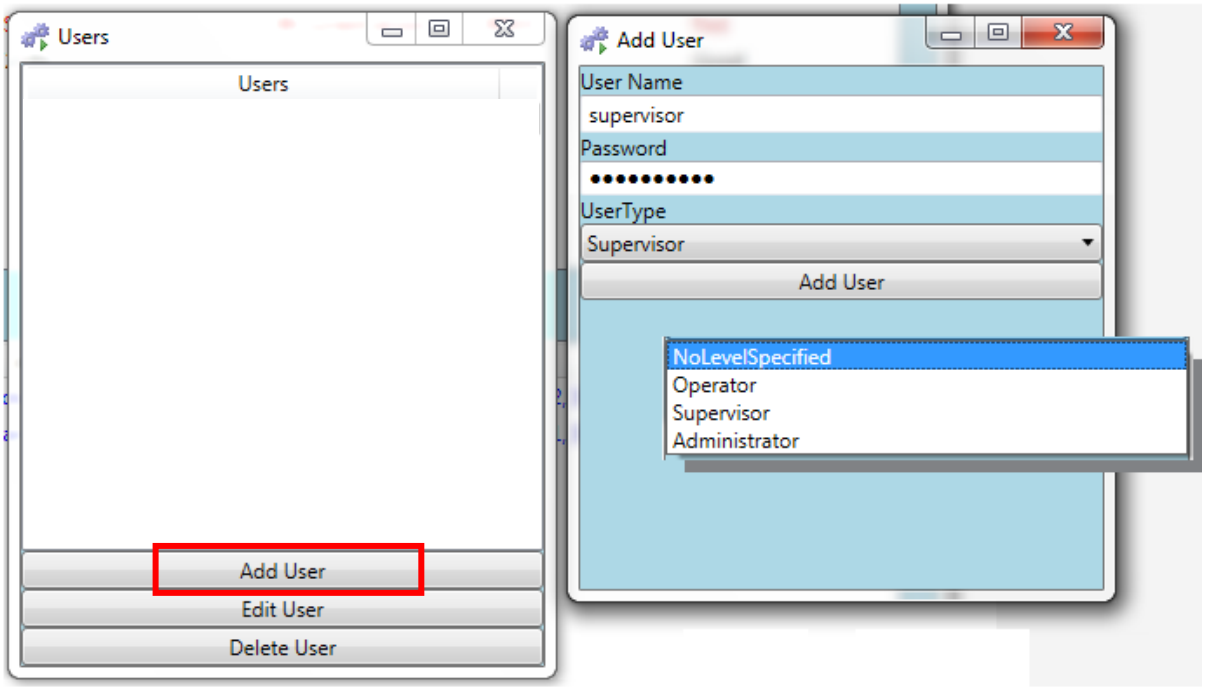
- If an alarm is assigned NoLevelSpecified, any user of Workstation will be able to acknowledge it.
- If an alarm is assigned Operator acknowledgement level, an Operator, Supervisor, or Administrator may acknowledge the alarm.
- If an alarm is assigned Supervisor acknowledgement level, a Supervisor or Administrator may acknowledge the alarm.
- If an alarm is assigned Administrator acknowledgement level, only an Administrator may acknowledge the alarm.

Users must first be set up with the **Users** option. Then, alarm acknowledgement levels can be set up using the **Alarm Ack Levels** option.

First, open the "Workstations" → "Users" menu.

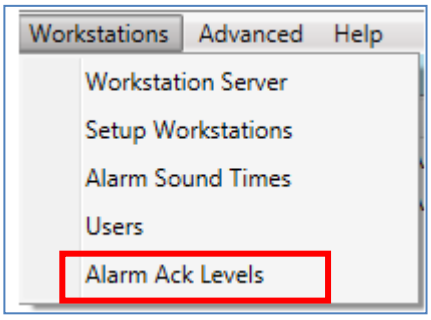


In the **Users** window, click "Add User". Enter a User Name in the **Add User** field, along with a Password. Finally, select a UserType (access level) from the drop-down menu provided. Click "Add User" to save the user. Repeat this process for each user you want to create.

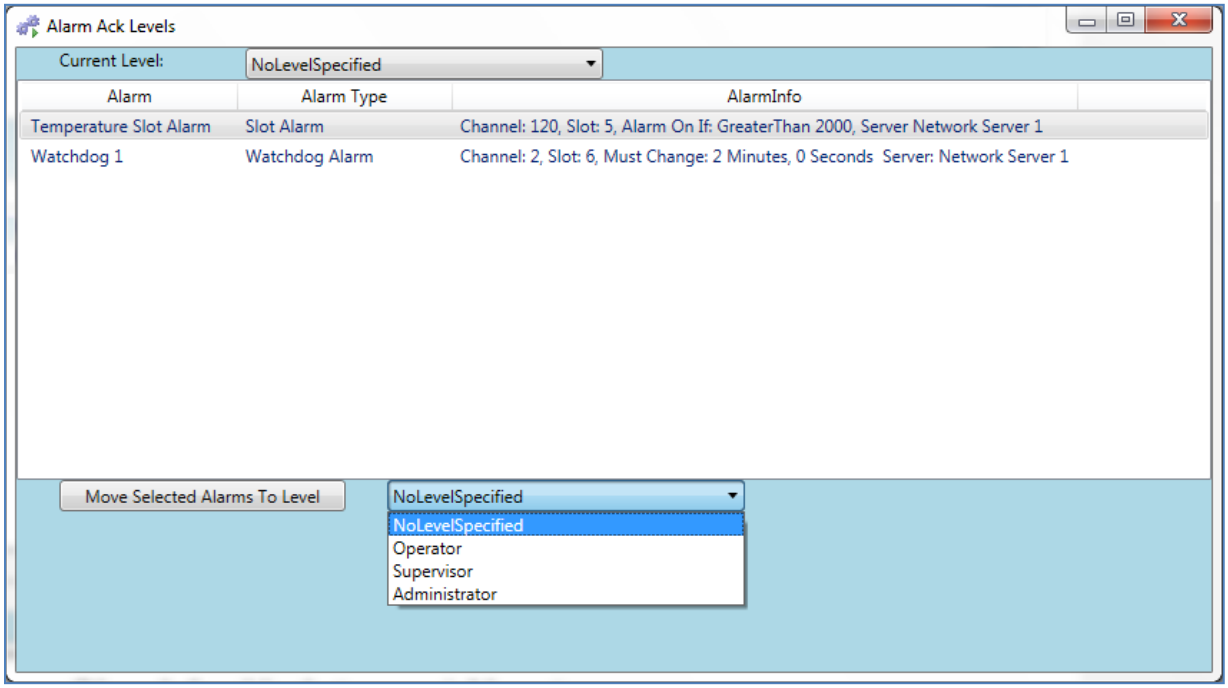


When finished adding users, close the **Users** menu.

Once users have been created, the next step is to associate each alarm with an alarm acknowledgement level. To do this, first open "Workstations" → "Alarm Ack Levels".



In the **Alarm Ack Levels**, a list of all of the configured alarms will be shown. Alarms will be shown based on which access level is assigned to them. If no access levels are assigned, all of the alarms will be shown in the "NoLevelSpecified" category.



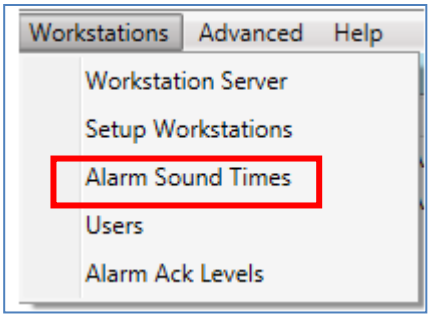
To change the active category, select the access level from the "Current Level" drop-down box. The list of alarms that are assigned to the selected access level will be displayed in the alarm list area. If the selected access level has no alarms assigned to it, the list of alarms will be blank for that category.

To assign an access level to an alarm, simply select the current access level for that alarm using the "Current Level" drop-down box, click on the alarm you want to assign to a particular access level, select the access level you want to assign it to from the drop-down box at the bottom of the window, and click the "Move Selected Alarms to Level" button.

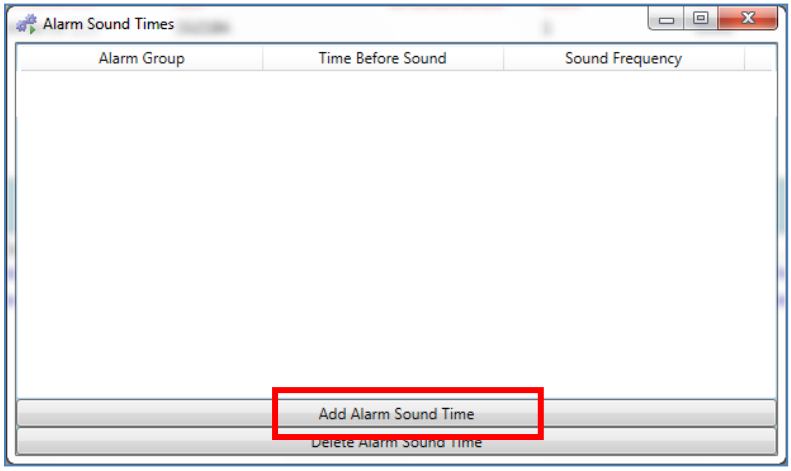
Setting Up Alarm Sounds (in SDStatus View)

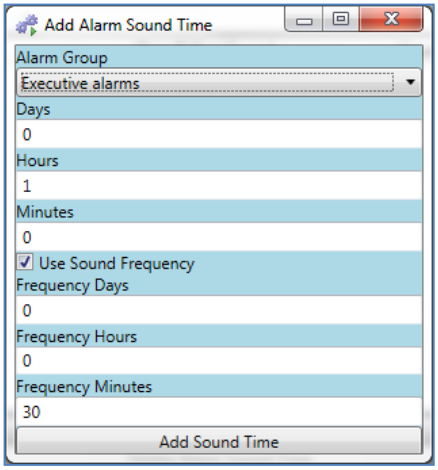
As an option, alarm sounds can be configured for alarm groups. When an alarm in a particular alarm group is active, a sound file can be played on a computer where Workstation is installed after a pre-defined amount of time has passed. After the sound is played the first time, it can be set up to be played again at pre-defined intervals until the alarm is acknowledged in Workstation (or until the alarm condition is no longer true). (**NOTE:** If the alarm is associated with a particular access level, then a user with an appropriate access level must be logged in to acknowledge the alarm. The login process is described later in this Quick Start Guide.)

To set up alarm sounds, first open the "Workstations" → "Alarm Sound Times" menu.



The **Alarm Sound Times** window will appear. To add an alarm sound time, click the "Add Alarm Sound Time" button.





In the **Add Alarm Sound Time** window, select the Alarm Group to which the alarm sound time will apply. Next, select the number of Days, Hours, and Minutes that must pass before the alarm sounds in SDStatus Workstation. As an option, you may select the "Use Sound Frequency" checkbox to enable repetition of the alarm after the first alarm is sounded. Frequency Days, Frequency Hours, and Frequency Minutes will define the frequency of repetition.

IMPORTANT!

If a condition that had generated an alarm is no longer true, the alarm will clear whether it has been acknowledged or not.

Setting Up a Connection to the SDStatus Server

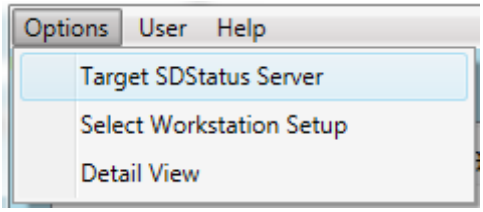
At this point in the process, setup in SDStatus View is complete, unless corrections or edits are needed.

Before SDStatus Workstation can be configured, it must be installed. If SDStatus Workstation has not been installed, follow the procedure in SDStatus Workstation:

Installation beginning on page 11.

Once Workstation is installed, you need to set up a connection from Workstation to the SDStatus server (the computer running SDStatus View and SDStatus Service).

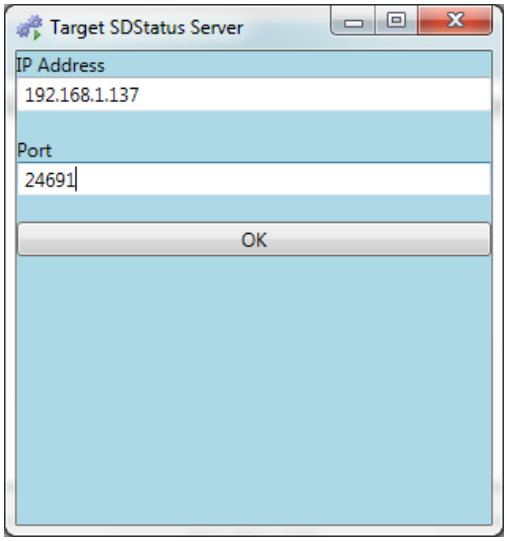
Open "Options" → "Target SDStatus Server".



In the **Target SDStatus Server** window, enter the IP address and port number of the SDStatus Server. These will be the name or IP address of the SDStatus View computer and the port number that you configured in Enabling the Workstation Server (in SDStatus View) above.

If you need suggestions on how to determine the IP address of the SDStatus Server, refer to the Determining IP Address of the SDStatus Service Computer section on page 53.

Click "OK" when finished.



IMPORTANT!

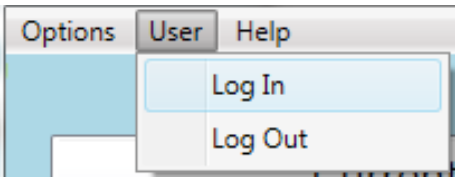
The IP address should be used ONLY if the IP address of the SDStatus Service computer is a static IP address. If the IP address of the SDStatus Service computer changes (which can happen, particularly if the computer is set to use dynamic IP addressing, or DHCP), then Workstation will not be able to communicate with the SDStatus Service computer, in which case alarm notifications and other functions of Workstation will not work. Contact your network administrator for more information.

Firewall software may interfere with the operation of the Workstation Server. A firewall warning message may appear, or you may encounter problems when trying to enable a Workstation connection. If necessary, consult with your IT or network administrator, or contact SSi at (800) 666-4330.

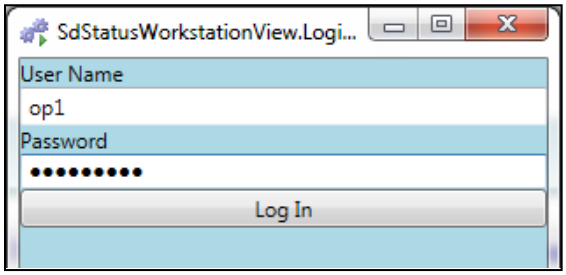
Logging In As a User

Logging in as a user will allow alarms to be acknowledged using that user's access level. You set up users and access levels in the Setting Up Users and User Access Levels (in SDStatus View) section above.

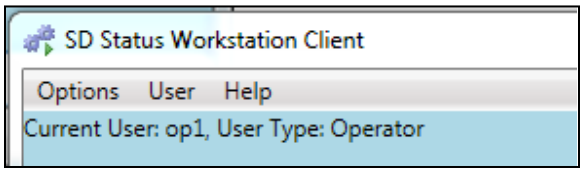
Open "User" → "Log In".



Enter the User Name and Password desired and click the "Log In" button.



If login was successful, the current user and type (access level) will be shown at the top of the window

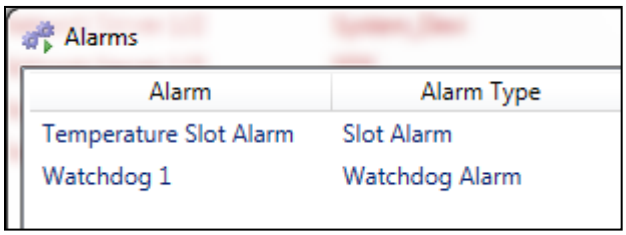


Setting Up Alarm Sounds in SDStatus Workstation

After alarm sounds are set up [as shown in Setting Up Alarm Sounds (in SDStatus View) on page 76], they must be added to SDStatus Workstation.

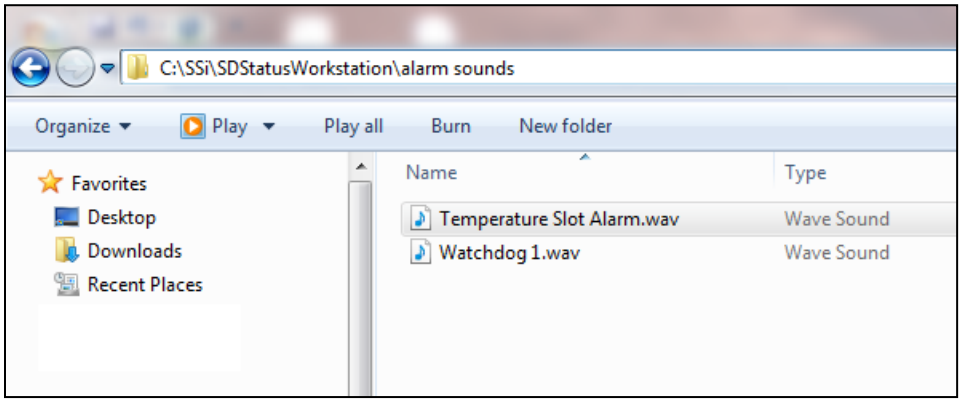
In order for SDStatus Workstation to generate the alarm sound correctly, a sound file in Wave (*.wav*) format must be saved with the same name of the alarm in the "alarm sounds" folder found in the program folder where SDStatus Workstation is found. Typically, this folder will be present on the local hard drive of the SDStatus Workstation in the subfolder "C:\SSi\SDStatusWorkstation\alarm sounds" (assuming C: is the local hard drive). Also, the selected Workstation profile must include the alarms for which you want sounds to be generated.

Example: Two alarms are set up in SDStatus View named "Temperature Slot Alarm" and "Watchdog 1".



Alarm Sound Times have been set up for both of these alarms in SDStatus View. SDStatus Workstation is using the Workstation profile "workstation1", which includes both of the alarms. The installation folder for SDStatus Workstation is "C:\SSi\SDStatusWorkstation". In order for SDStatus Workstation to generate sounds for the two configured alarms, two sound files must be present in the folder "C:\SSi\SDStatusWorkstation\alarm sounds":

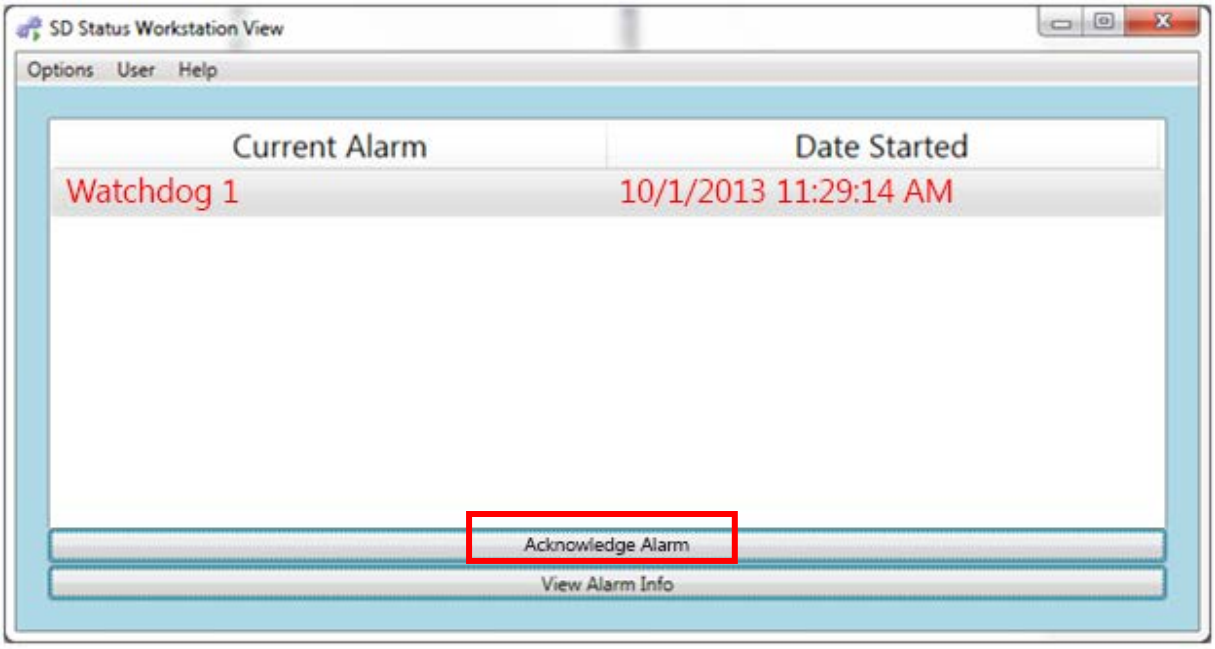
- *Temperature Slot Alarm.wav*
- *Watchdog 1.wav*



When the Temperature Slot Alarm is active, SDStatus Workstation will play the *Temperature Slot Alarm.wav* file as configured in SDStatus View. When the Watchdog 1 alarm is active, SDStatus Workstation will play the *Watchdog 1.wav* file. If one of the files corresponding to an alarm cannot be found in the correct folder, or if the file is not named using the correct method, the sound will not be played.

Acknowledging Alarms

When an alarm is generated, the alarm will appear in red in the SDStatus Workstation window. Click "Acknowledge Alarm" to acknowledge it. Note that the currently logged in user must have a sufficient access level to acknowledge the alarm.



If the alarm was set up as a "Red Alert" alarm (see Setting Up Individual Alarms on page 62), a red circle icon will appear in the Microsoft Windows system tray.

"Red Alert" icon

Appendix 2: Enabling Email Sending through Google® Mail (Gmail™)

SDStatus will work with numerous email systems as long as the port settings, username, and password are correct in the Mail Server Setup. An email service that has been found to work with SDStatus is Gmail™, a service provided by Google, Inc. If you would like to use this service and do not have a Gmail™ account, first create an account by opening http://www.gmail.com in your web browser and following instructions shown.

To set up your Gmail account for use with SDStatus, you will first need to enable POP access. To learn how to do this, visit https://support.google.com/mail/troubleshooter/1668960?hl=en&rd=1 and select "I want to enable POP". Once you have followed the procedure shown on your screen, select configuration instructions for "Other". Standard configuration instructions will be shown. The settings you will need are Outgoing Mail (SMTP) Server and Port for TLS/STARTTLS, Account Name or User Name, and Password. Generally speaking, your user name will typically be in the format *username@gmail.com,* your password will be the password you use to access Gmail, and the port number will be 587. SSL must be checked ON in the View menu.

DISCLAIMER

Gmail™ is a widely used email service; however, SSi cannot and does not guarantee the reliability or security of the service. Use of this service is at your own risk and discretion.

Appendix 3: Sending Notifications to a Mobile Device Using SDStatus

Using the email sending ability of SDStatus, you can configure email alerts to most mobile devices that have wireless service provided by wireless carriers such as Verizon®, AT&T®, Sprint®, and T-Mobile® (among many others).

Most mobile devices can receive text messages (officially called SMS messages) from an external email address. Common settings for four of the largest carriers in North America include the following:

Common SMS Email Addresses for Example Number (513) 555-1234	
Wireless Carrier	**Example SMS Email Address**
Verizon®	5135551234@vtext.com
AT&T®	5135551234@txt.att.net
Sprint®	5135551234@messaging.sprintpcs.com
T-Mobile®	5135551234@tmomail.net

These examples are for illustration only. SMS email addresses are subject to change. Visit the carrier's website or call the carrier to verify SMS email settings.

DISCLAIMER

SDStatus's email sending capability can be used to send messages to any valid email address. In order for messages to a phone to work correctly, multiple conditions must be met, including:

- Email server configuration must be correct.
- The wireless carrier must support sending of SMS messages or emails to a mobile device.
- The mobile device must be able to receive SMS messages or emails.
- The mobile device receiving the message must have wireless service and must be receiving an active wireless signal from the carrier. (If the device is out of range of the carrier's signal, the message will probably not be received.)

If SDStatus Service sends an email to a mobile device, charges may be assessed. Please contact the wireless carrier to verify any charges before setting up emails to a mobile device.

SSi will try to assist with SMS email setup for SDStatus wherever possible. However, SSi is not responsible for email server configuration, SMS charges, and SMS functionality of a phone or wireless service.