GE MULTILIN ™

PMCS Event Logger

User's Guide
GEH-6512

GE Multilin PMCS

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US Pat Nos 5,768,148; 5,764,155; 5,862,391

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Chapter One - Introduction

Welcome

Event Logger is a GE MULTILIN™ PMCS tool that helps you increase productivity, reduce downtime, and improve power quality by automatically collecting, displaying, and organizing event and alarm data from devices in your power network. You configure Event Logger to interrogate selected devices in your system, asking if they have any alarms or events to report. Event Logger uses this information to display a real-time list of events and alarms as they occur in your system and automatically writes this critical information to a database file. All of this information includes accurate time and date stamps and provides the following benefits:

- **Faster corrective maintenance** — Pinpoints the root causes of problems quickly using time-stamped alarms and sequence-of-events logs.
- **Less downtime** — Helps you identify and correct problems before they lead to loss of power and/or costly damage to loads such as production equipment and computers.
- **Improved power quality** — Helps identify sources of "dirty" power, otherwise invisible, and allows you to take corrective action to prevent and possible damage to critical equipment.
- **Higher productivity** — Frees up maintenance and repair personnel to perform other needed duties.
- **Increased safety** — Provides a centralized source of information, which reduces the need for physical contact with equipment and shop-floor presence.

Event Logger collects event and alarm data from metering, control, and protection devices on the network. See *PMCS Read-This-Book-First – the Installation and Getting Started Guide*, for a list of devices supported by PMCS and Event Logger.

About Event Logger

The PMCS Event Logging system is made up of two components: the EventServer, which collects events and stores them in an on-line database, and the EventViewer, which provides an intuitive graphical interface for viewing, querying, and monitoring the database contents. The term "Event Logger" refers to both components together.

The EventServer is the workhorse, constantly updating the database as events are reported from devices connected via Ethernet or Modbus RTU communications protocols. As the database grows, the EventServer creates archive files of the oldest events, preserving events for review while maintaining a manageable online database size and maximizing system performance.

The EventViewer is easy to use. It provides a friendly Windows interface, with toolbars and pull-down menus for quick and easy selection of many pre-configured views of your data. There are also provisions for creating custom views of your data as well.

This release of PMCS supports the devices listed the *PMCS Read-This-Book-First - Installation and Getting Started Guide*.

Alarms and Events

An alarm is the highest priority message and indicates a condition in the network, such as a circuit breaker tripped, a circuit breaker in pickup, or a setpoint threshold crossed. Depending on the severity of the condition, this alarm may be acknowledgeable or unacknowledgeable.

Events are lower-priority information that usually indicate a status change, such as a notification that the requested waveform capture has occurred, or an internal communication error with a device has been detected.

Installation

To install Event Logger, refer to *PMCS Read-This-Book-First, the Installation and Getting Started Guide*, which contains installation procedures for all GE MULTILIN™ PMCS software packages. There you will find details on installation options that enable you to configure your event logging system either as a conventional program, or as a Windows NT Service. Running EventServer as a conventional program provides a system that is easy to use and configure.

Event Logger also requires ODBC32, the Microsoft Access driver Version 3.50.360200, and MSDE database. Both the ODBC32 driver manager and the Access driver are installed as part of the Event Logger installation.

Event Logger Databases

The Event Server stores events to a EVENTLOGGERSQL.MDF database. The **MSSQL7/Data** is the default directory that contains the events logged by the Event Server since the last archive was generated. The Event Server database will be is different folder when installed over CIMPLICITY or BCM. The events in this database can be viewed in the Event/Alarm Viewer display windows, described later. Events acknowledged via the Event/Alarm Viewer user interface are acknowledged in the database; deleted event records are retained in the database, but are not visible in the Event/Alarm Viewer.

Event/Alarm Viewer

Event/Alarm Viewer enables you to view the contents of a "live" Event Logger database that is actively receiving events from the EventServer application, or an archive file of older events.

To run Event/Alarm Viewer, either select the Event/Alarm Viewer icon from the Start Menu (it’s located in the PMCS group) or execute the program from a command line. For example:

\GE_PMCS\Eventlog\Eventlog.exe.

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Chapter Two - Overview

Get going with Event Logger

The Event Logger program has been designed to be as user-friendly as possible. The instructions in this chapter walk you through the basic setup and use of the Event Logger, step by step. If you're familiar with the PMCS DDE/OPC Server and your network and devices have been properly configured, this chapter will get you up to speed in a matter of minutes.

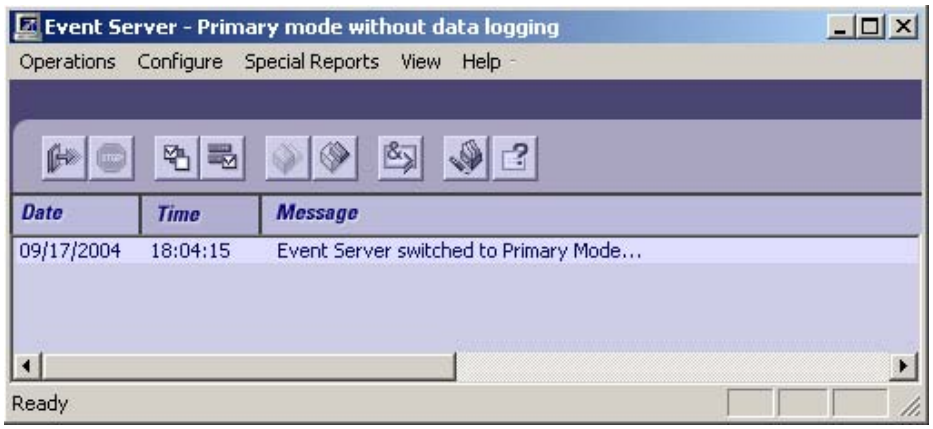
The basic procedure to configure and operate Event Logger consists of these four steps.

1. Make sure the PMCS DDE/OPC Server is running.
2. Start the Event Server client.
3. Configure Event Server to query any DDE Servers and devices whose alarms/events you wish to see.
4. Use Event Log to observe and filter the alarms and events as they appear.

Make sure the PMCS DDE/OPC Server is running.

The PMCS DDE/OPC server should be running before you start Event Server. If the DDE Server is not running when you attempt to launch the Event Server, a system event is logged indicating the failure to connect to the specified servers or topics.

When the connection to the PMCS DDE/OPC Server is made, you should see an event similar to the one shown below.



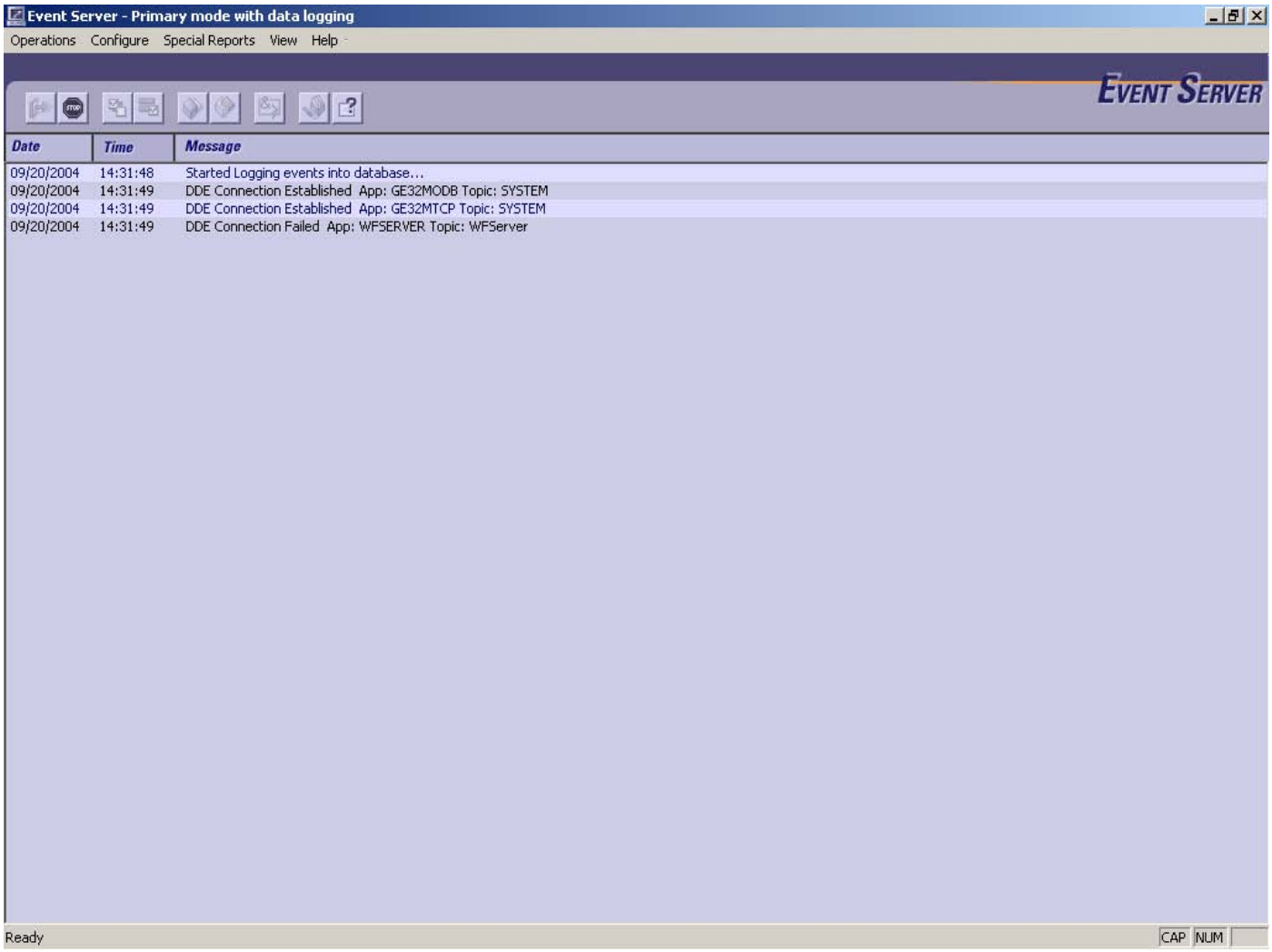
For purposes of this text, we'll assume that you've already correctly configured the PMCS DDE/OPC Server with the devices connected to your network. If you have any questions regarding setup or launching of the PMCS DDE/OPC Server, please refer to GEH-6510, *PMCS Network and Device Configurator User's Guide*.

Start the Event Server client.

To access Event Server, open the PMCS program group in Windows or select the EventServer icon from the PMCS section of the Start menu. The Event Server program icon, labeled **Event Server**, is shown below.

Click on the icon to start the Event Server program. If the icon is not present on the Start menu, either the EventServer was not installed, or it was installed as a Windows 2000 SP3 / SP4 service. See the next section for information on starting and configuring the EventServer service.

The Event Server main window will appear:



Configure Event Server

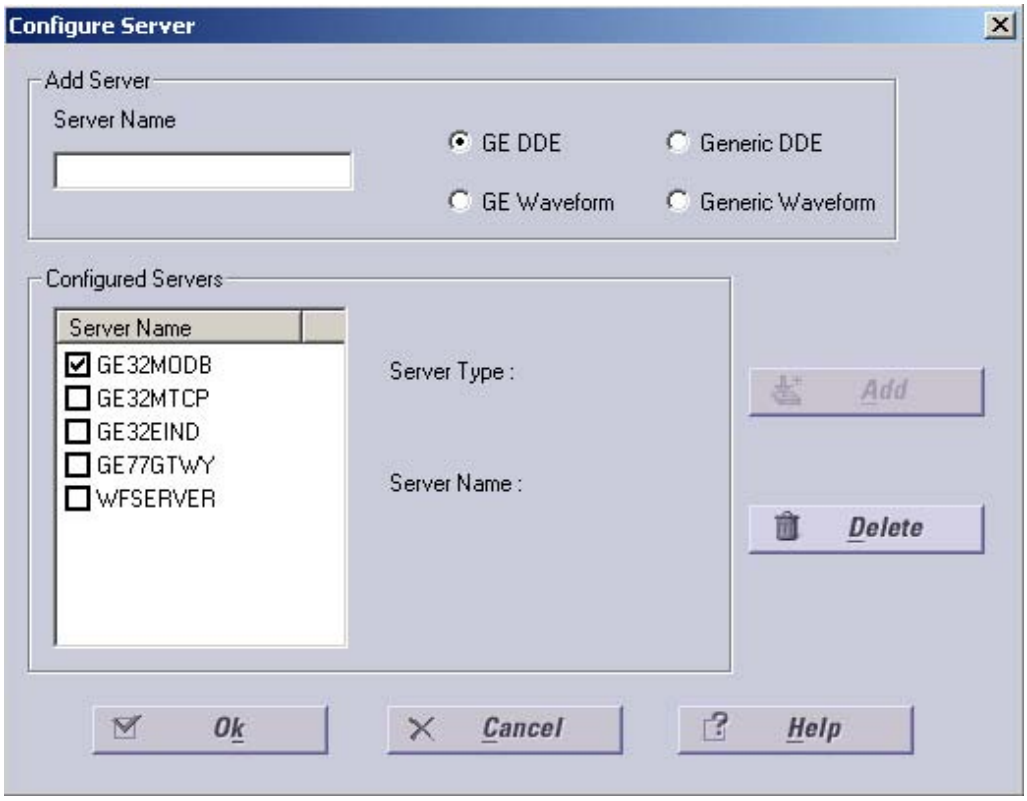
The Event Server must be configured to know which devices you want to monitor for events and alarms. Every device on the network should have been configured with a device name at the PMCS DDE/OPC Server and every other DDE Server in the system. By telling the Event Server which Servers to watch and the names of the devices you're interested in, the Event Server will know which devices' events it must store.

It's a good idea to have on hand a list of the devices whose events and alarms you wish to see. You'll need the exact topic name given to each device at the PMCS DDE/OPC Server, and you'll need to know the device type as well. You also need to know the name of the DDE Server you'll be accessing.

If the EventServer is actively logging information into the database you'll need to stop it before changing the Server configuration information. Click on the toolbar STOP button to halt logging.

Select **Configure:Servers** or click on the Servers icon in the Event Server main window:

The **Configure Server** dialog box appears:



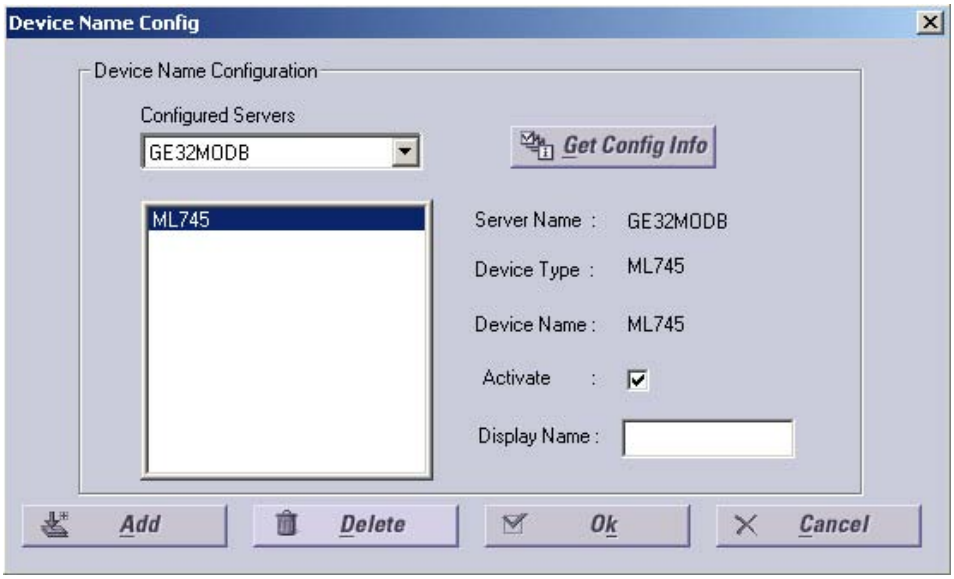
Click on the checkbox in the list of Configured Servers to enable the desired server. If the PMCS DDE/OPC Server is not listed, enter the name of the DDE Server application you are using in the Server Name textbox and select type "GE DDE." Then click on the Add icon to transfer the new server to the list of Configured Servers. If you are using the GE 7700 Gateway Server, add it to the list as a Generic DDE server.

If you wish to log waveform events from the GE Waveform Server, enter the Server Name as “WFSERVER”, select Type “GE Waveform” and click OK. Note that device names need not and cannot be added to a GE Waveform Server connection.

NOTE: If the Server is running on the same machine as Event Logger, the name will be either GE32XXXX. If you are operating the Event Logger client on a remote machine and accessing the PMCS DDE/OPC Server via NetDDE, the name will have the format \\computer_name\server_name. If you are not sure where the PMCS DDE/OPC Server is located, contact your system administrator.

When you have added the PMCS DDE/OPC Server to the Configured Servers list, select the OK button to return to the Event Logger main window.

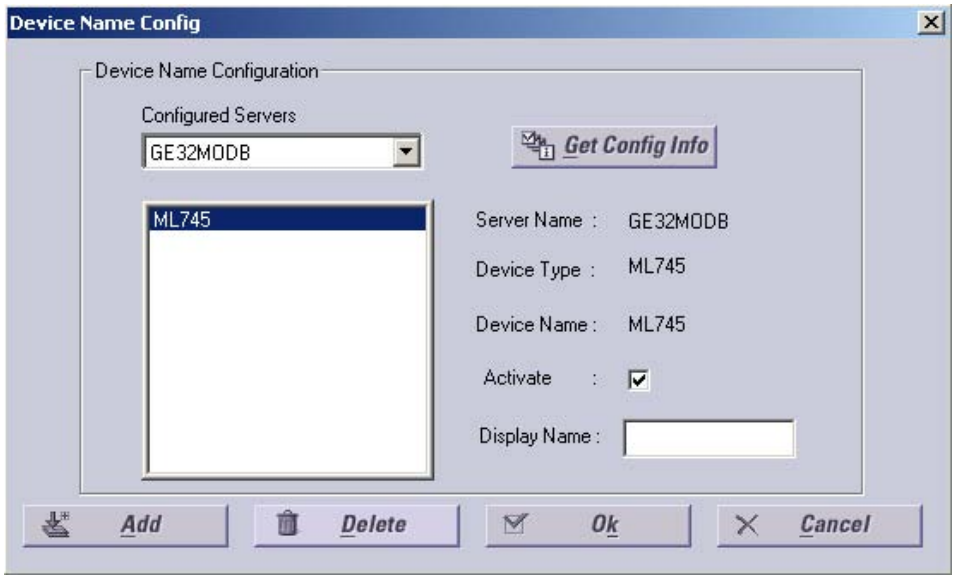
Now select **Configure:Device:Device Name** to display the Device Name Config window:



Select a server from the Configured Servers pull-down list. If you select one of the standard GE DDE servers such as GE32MODB, a button labeled "Get Config Info" appears. Clicking this button will cause EventServer to automatically retrieve device information from the DDE server and load it into the EventServer’s configuration. Generic DDE servers do not support this automatic feature and require manual device configuration. To add a device manually, click the "ADD" button to display the Add dialog:

Enter the device name and select the matching device type from the drop down list. Click OK when all the device parameters are entered.

The Device Name Config dialog now shows the devices added for this server. You can customize each device's configuration further – select a device from the list by clicking it to display additional device configuration fields.



By default, the device is activated and no name is entered in the Display Name field. If you would like a name other than the device name displayed in the EventViewer, enter it here. If you want to disable a device so that events are not requested from it, uncheck the "Activate" checkbox.

Click OK to save the new device configurations.

NOTE: Event Server does not allow Display Names of more than 10 characters. The PMCS DDE/OPC Server supports names up to 20 characters. When configuring the Server, make sure any devices to be used with Event Server are given Display Names of no more than 10 characters.

Repeat this process until you have configured all the devices on your list, then click **OK**. Event Server will immediately connect to the PMCS DDE/OPC Server for information on the configured devices, inquiring if they have any alarms or events to report, and adding this information to Event Server's databases.

Using your data

As data are collected, you may want to sort and filter the data to see the particular information you are interested in. Event/Alarm Viewer allows you to instantly display complete lists of related information, to perform more advanced queries, and to sort the windows by device name, device type, date and time, and more.

The Toolbar provides one-touch access to seven different report windows. Click any of the following buttons (or select the corresponding option from the View menu) to display one of the report windows:

Button	Window/Description
	Displays the Sequence of Events window. A selected set of events and alarms are displayed in sequential order, with the most recent displayed first. The  button allows you configure the set of events to be displayed in the Sequence of Events window.
	Displays the Device Events window; only device Events are displayed, most recent first.
	Displays the Device Alarms window; only device Alarms are displayed, most recent first.
	Displays the System Events window; only System Events are displayed, most recent first. System Events include such things as a user logging in or out of the system, a device or communications port failure, or a waveform capture failure.
	Displays the Waveform Events window; only Waveform events are displayed, most recent first. Waveform events record the successful completion of a waveform capture.
	Displays the Annunciator Events window; only Annunciator Panel events are displayed, most recent first. Annunciator Panel events include any device events which affect the Annunciator Panel tiles, as well as any events initiated by the Annunciator Panel Wizard.
	Displays the Fault Reports window; only Fault events are displayed, most recent first. These faults are events such as line faults or ground faults recorded by certain fault-sensitive devices. These devices are the LPS, ALPS, DFP100, DFP200 and SM-3.

That completes our 'Quick Start' for the Event Logger software. We recommend that you read the rest of this manual to gain a more thorough understanding of the software and its capabilities.

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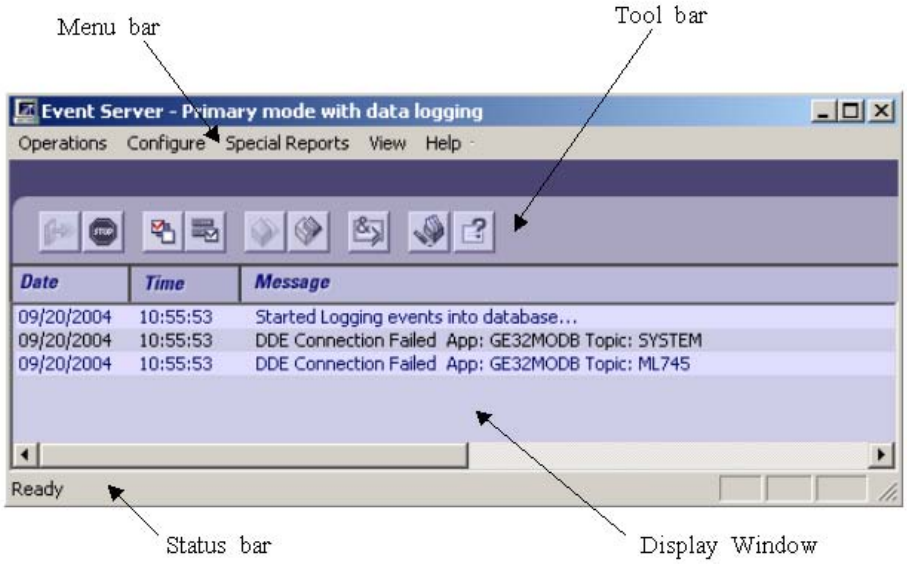
Chapter Three - Event Server Menus and Toolbars

What's on the Event Server Screen?

After you click the Event Server icon, the main window appears, as shown below:



There are several helpful navigational and operational aids in the main window:

- **Menu bar** – Access these pull-down items either with the mouse or by ALT+(letter) keystrokes.
- **Toolbar** – Click control buttons to activate the most-often-used commands.
- **Status bar** – The status bar is located at the bottom of the main window and provides messages about Event Logger's current status, such as the presence of unacknowledged alarms.

These controls are discussed in greater detail in the following sections.

Where applicable, help icons appear below the cursor and in the status line at the bottom of the screen. These prompt an action or describe an object when the cursor lingers over an object.

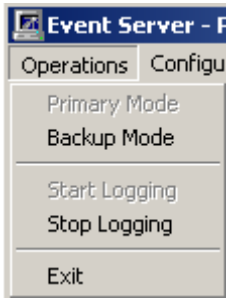
Menu Bar

The Event Logger main window displays the following pull-down menus:

Explanations of each menu and its options follow.

Operations Menu

The **Operations** pull-down menu is shown below. Descriptions of the Operations options follow.



Primary mode is the normal operations mode, running on the host PC, with two options:

1. Press **Start Logging** to store all events in the database.
2. Press **Stop Logging** to stop storing events in the database; this is necessary for system configuration.

Backup mode allows copying events from the database on the host PC to the backup PC in a redundant system.

Exit closes the application.

Configure Menu

The **Configure** pull-down menu is shown below. The following options are available:

Servers opens the Configure Servers dialog box for adding, deleting, activating, or deactivating your servers. You can also access this dialog box by clicking on the **Servers** button on the toolbar.

Device Type opens the Device Types dialog box for modifying the default device information. This advanced feature allows you to customize the Alarm and Event definitions for the device.

Device:Device Name opens the Device Name Config dialog box for adding, activating, and modifying device information.

Device:Custom String opens the Device Name – Custom String dialog box for entering a custom message to be displayed when an event occurs.

Annunciator Panel enables you to configure events corresponding to annunciator panel indicators in the PMCS Annunciator Panel Wizard, part of the User Screen Configurator package. The PMCS User Screen Configurator enables you to create custom Human-Machine Interfaces (HMIs) to access your power management data. One of the pre-packaged wizards replicates a traditional utility-style annunciator panel, which communicates with the Event Logger and displays indicators showing if selected events occur at or to specified devices.

Logical Expressions opens a dialog box that allows you to add, delete, or modify the logical expressions for user-defined events.

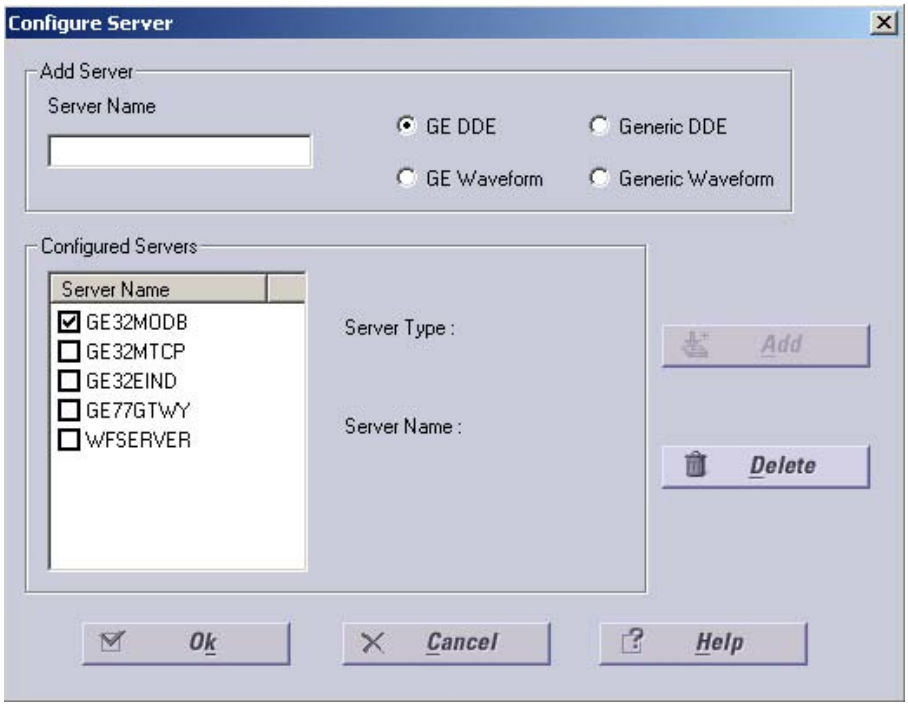
Archive Criteria opens a dialog box that allows you to specify the file path for storage of archived data.

Redundancy allows you to specify the Data source name for primary and backup databases and the host for the backup in redundant server applications.

Configuring Servers

Select **Configure:Servers** or click on the Servers icon in the Event Server main window:

The **Configure Servers** dialog box appears:



To add a DDE Server to the list of **Configured Servers**, enter the name of the DDE Server application in the **Server Name** field and select the type of DDE server (usually **GE DDE**), then click on **Add**.

If you wish to log waveform events from the GE Waveform Server, enter the Server Name as **WFSERVER**, select **GE Waveform**, and click on **Add**. Note that device names need not and cannot be added to a GE Waveform Server connection.

NOTE: If the PMCS Server is running on the same machine as Event Logger, the name will be either GE32MODB or GE32MTCP. If you are operating the Event Logger client on a remote machine and accessing the PMCS DDE/OPC Server via NetDDE, the name will have the format \\computer_name\server_name. If you are not sure where the PMCS DDE/OPC Server is located, contact your system administrator.

When you have added the DDE Server to the **Configured Servers** list, select **OK** to return to the Event Server main window.

To delete a server from the list, select the server name and click on **Delete**.

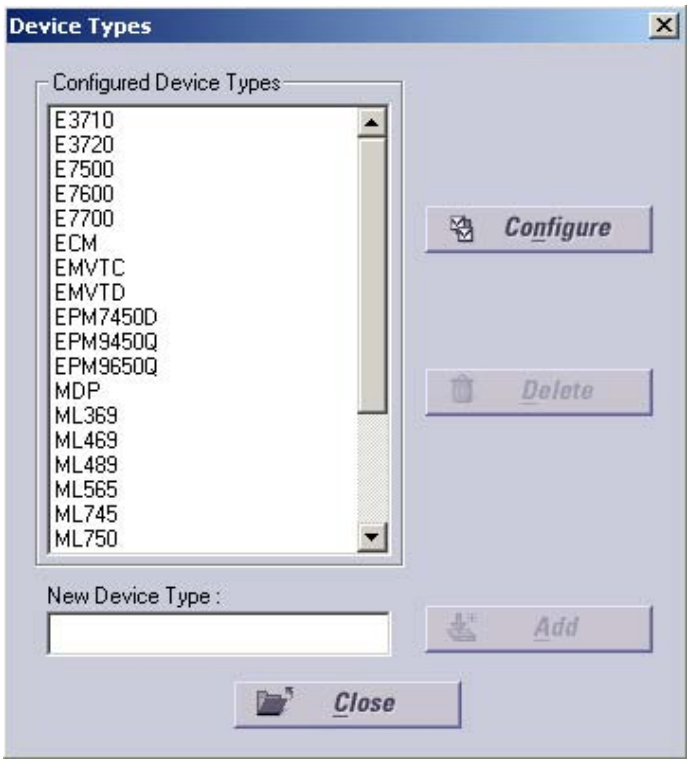
Select the active server application by clicking on the appropriate check box in the list of **Configured Servers**.

Configuring Device Types

All device types should be configured with event information before events are logged for any such devices. If this configuration is not performed, no descriptive information is displayed about incoming events for the device. This configuration is accomplished with either the manual or automatic options of **Configure:Device Type**.

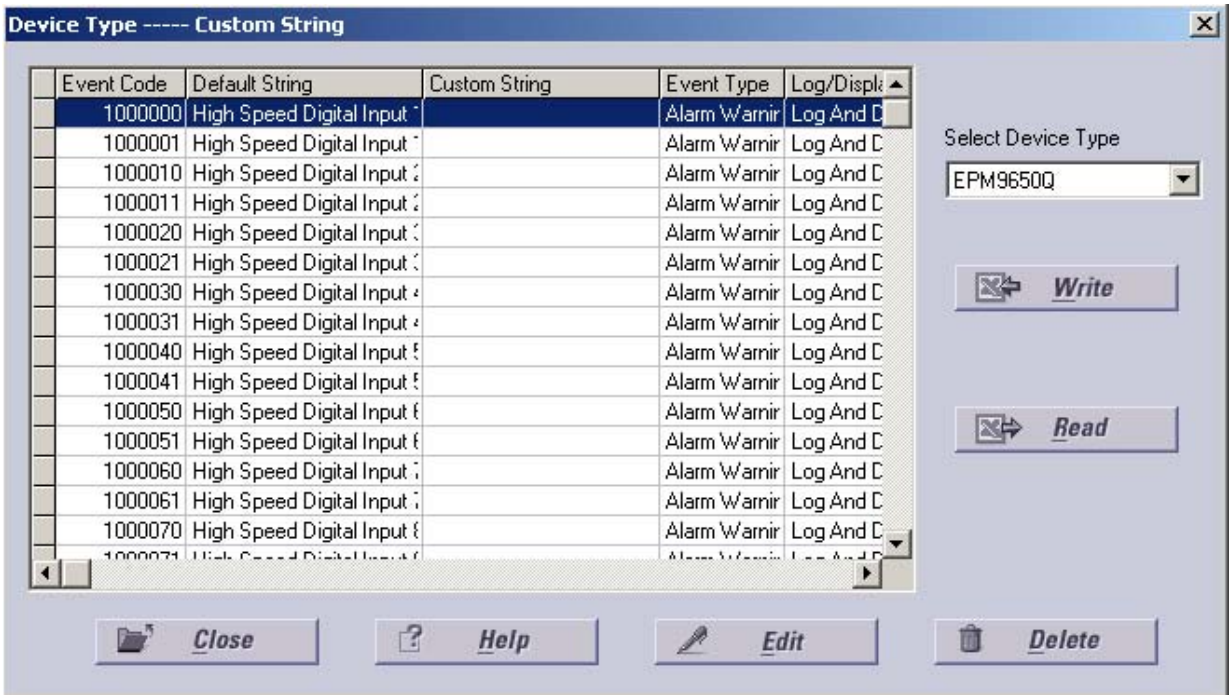
For manual configuration of device types. select **Configure:Device Type:Manual** or click on the Configure Device Type icon in the Event Server main window:

The **Device Types** dialog box is displayed:



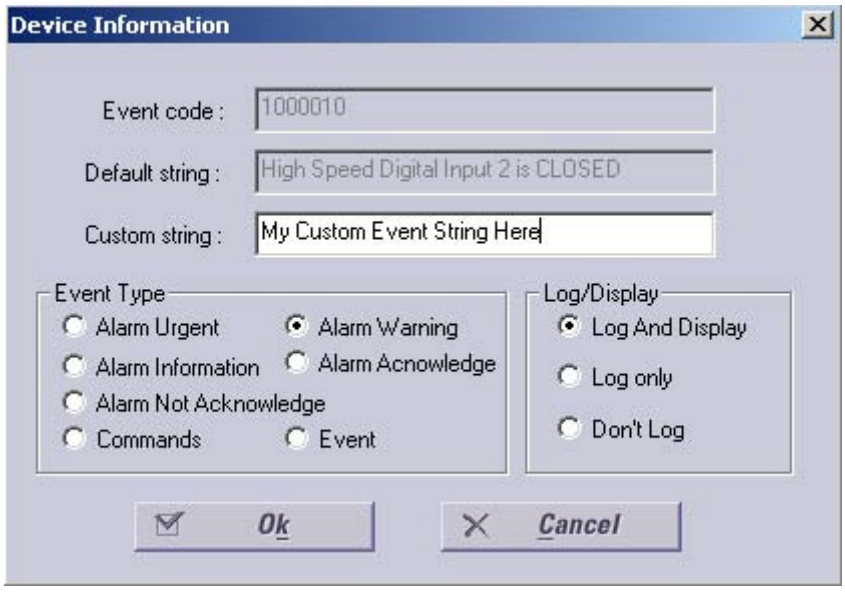
The list of **Configured Device Types** is initially supplied with the names of all device types supported by Event Server. To add a new device type, enter the name in the **New Device Type** text box, then click **Add** to move the name into the **Configured Device Types** window.

To configure a device type so that events are logged, select a device name in the **Configured Device Types** window and click on **Configure** to display the **Device Type – Custom String** dialog box:



To complete the configuration, click on **Read CSV** to access the appropriate configuration file. CSV files are found in the subdirectory GE_PMCS\Eventlog\ConfigFiles. Open the configuration file that matches the device type; the event information will appear in the **Device Type –Custom String** dialog. Click on **Close** to save the information to the database and return to the **Device Types** dialog.

To add or change a custom message to be displayed when an event occurs or to change the **Event Type** or **Log/Display** status, double-click on the desired event line. This displays the **Device Information** dialog box:

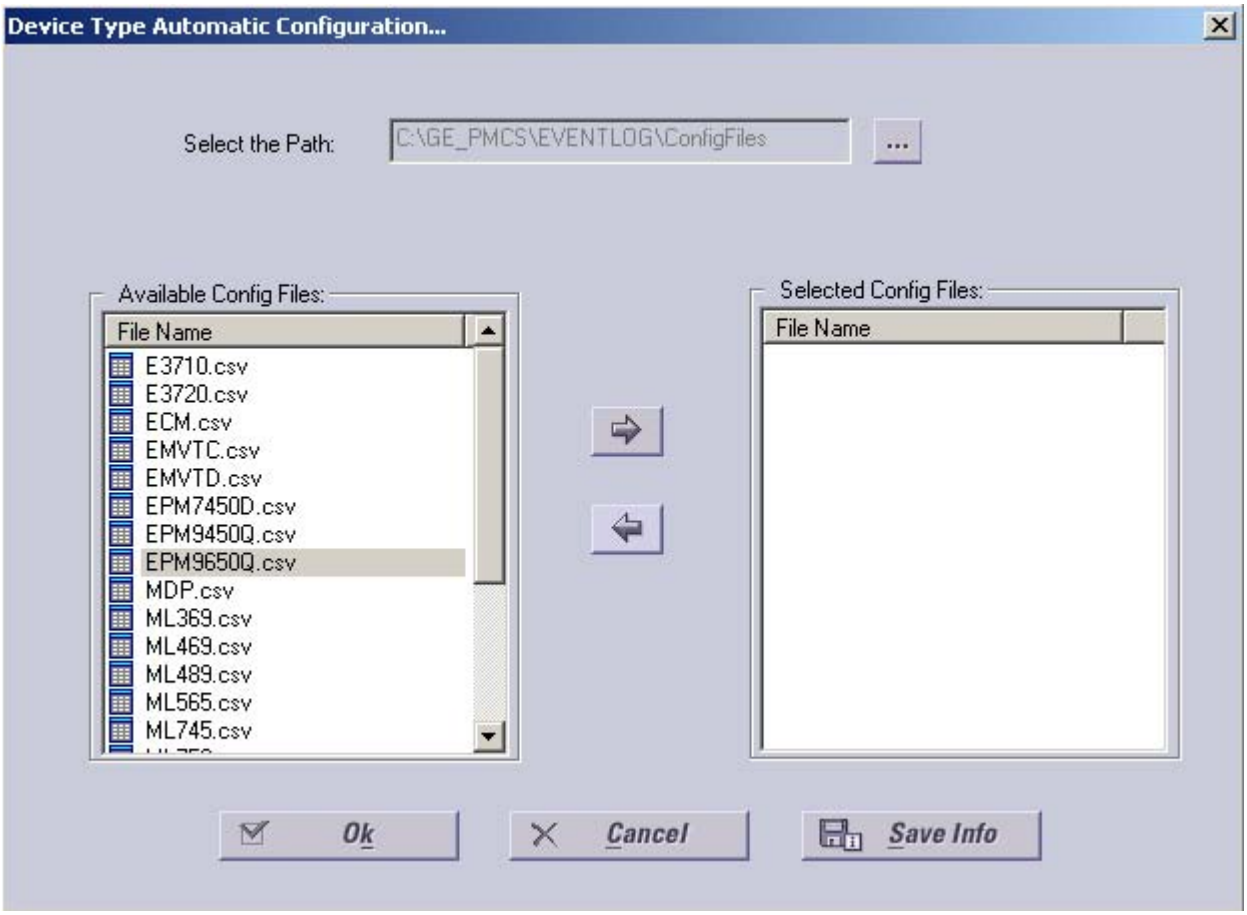


You can now enter the desired **Custom string** and change the other parameters, as desired. Click on **OK** to return to the previous window, with the new information displayed.

To enter a new event type, scroll down the list in the **Device Type – Custom String** window until a blank line appears. Double-click on the blank entry and the **Device Information** dialog box appears with all text fields available for entry. After you have finished entering or modifying all desired events, you can save the information as a new configuration file by clicking on the **Write CSV** icon. Click on **Close** to configure the device type by saving the event information in the Event Logger database.

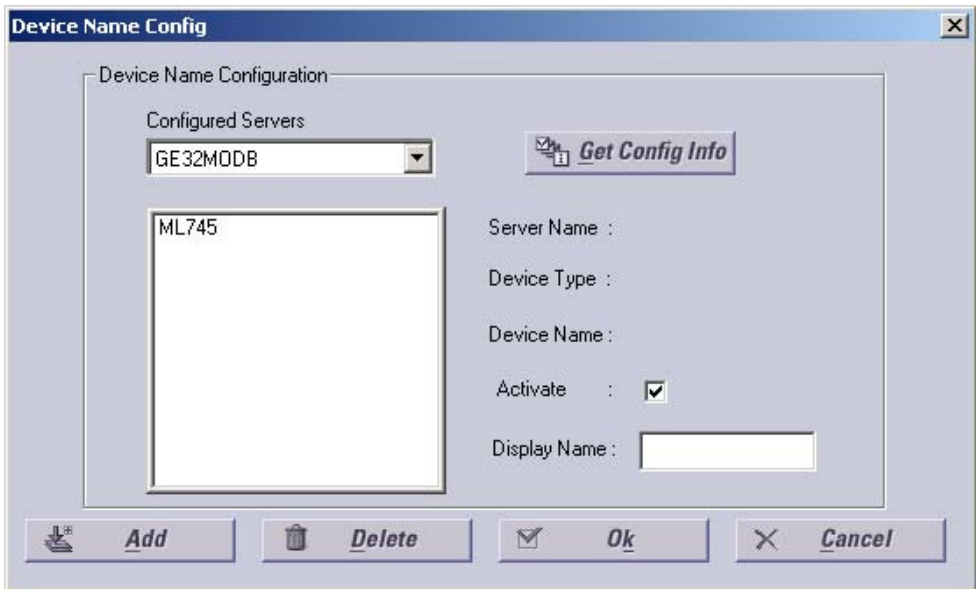
For automatic configuration of device types, select **Configure:Device Type:Automatic** to display the **Device Type Automatic Configuration** dialog, shown below.

Select the path at which the device configuration (CSV) files can be found, normally GE_PMCS\Eventlog\ConfigFiles. In the **Available Config Files** window, select each device type to be configured and click on the right arrow icon to move it to the **Selected Config Files** window. When all the desired device type names have been transferred, click on **Save Info** to install the event information in the database.



Configuring Device Names

Select **Configure:Device:DeviceName** to display the **Device Name Config** dialog box:



From the pull-down list of **Configured Servers**, select the GE DDE Server, then click on the **Get Config Info** button. All active devices configured in the GE DDE Server will appear in the larger display window. (*Note*: The Get Config Info function works only with GE DDE Servers; other DDE servers are not supported, and the button is not shown, as is the case in the above screenshot.) This function retrieves all the configured device information automatically, eliminating manual device name entry.

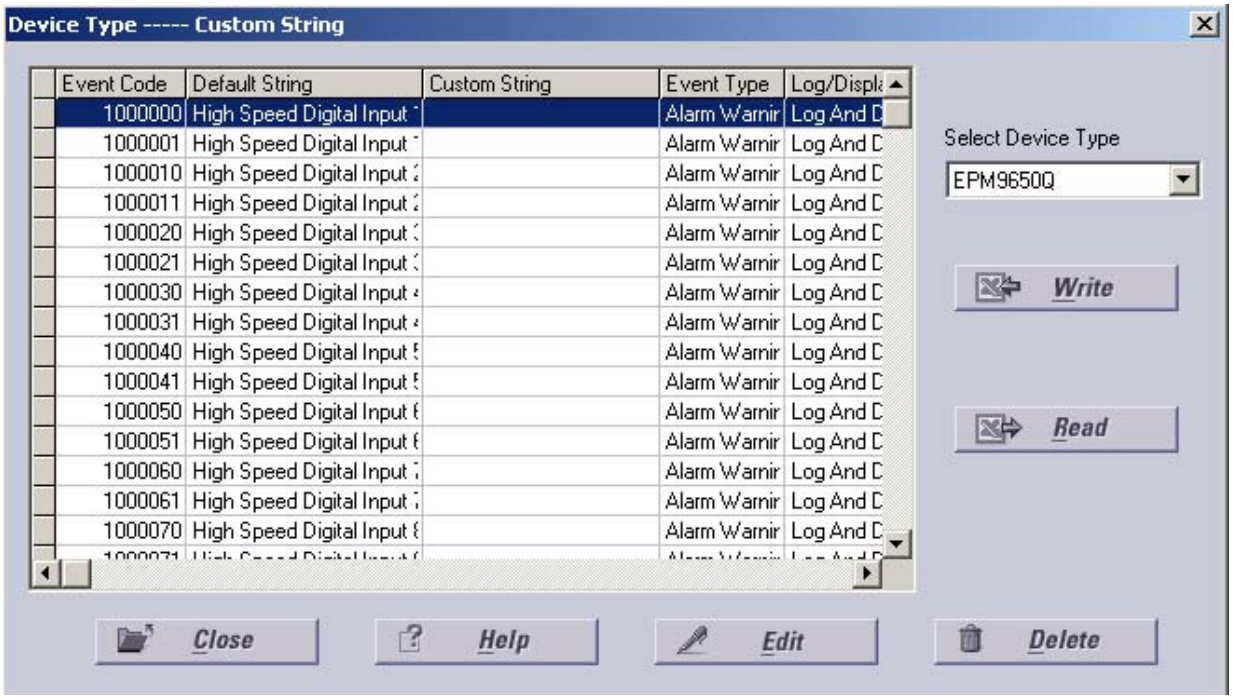
To configure a device so that Event Server can begin logging events for it, select the appropriate device from the list of devices, and enter the **Display Name** in the textbox. Click on the **Activate** check box, then click on the **Add** icon to configure the device. Assigning a Display Name to a device is optional, allowing you to customize the device name for display in the Event Log.

NOTE: Event Server does not allow Display Names of more than 10 characters. The PMCS DDE/OPC Server supports names up to 20 characters. When configuring the Server, make sure any devices to be used with Event Server are given Display Names of no more than 10 characters.

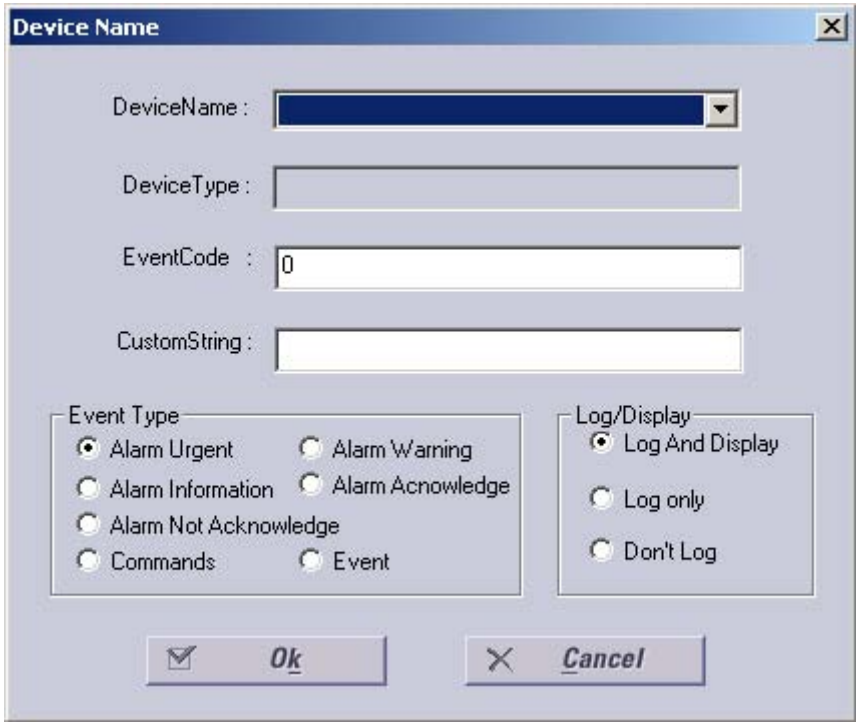
Repeat this process until you have configured all the devices that you want Event Server to log, then click **OK**. Event Server will immediately connect to the PMCS DDE/OPC Server for information on the configured devices, inquiring if they have any alarms or events to report, and adding this information to Event Server's databases.

Adding Custom Strings

Event Server provides the ability for you to enter a custom message to appear as the message when an event occurs. Select **Configure:Device:Custom String** to display the **Device Name – Custom String** dialog box:



To change the custom string for any device listed in the device window, double-click on the device name or select the device and click on **Edit**. The **Device Name** dialog box appears:



Enter the new message in the **CustomString** text box. You can also select the **Event Type** and how the event is handled by Event Server. Click **OK** to save the new definition to the database.

To add a new device with a custom string, double-click on an empty entry in the **Device Name – Custom String** dialog box. The **Device Name** dialog will appear, this time with blank entries in all the text boxes. Select the **DeviceName** from the pull-down list, then enter the **DeviceType**, **EventCode**, and **CustomString** in their text boxes. Click on the appropriate buttons to select **Event Type** and also the **Log/Display** option to determine how the event will be processed by Event Server. Click **OK** to save the information in the database and return to the Custom String dialog.

The **Write CSV** button saves the file with the device definition to any directory with any name. The **Read CSV** button allows you to read any of the previously configured device sets.

Configuring Annunciator Panel Devices and Events

Note: This feature is available only for selected versions of Event Server. The information mentioned in the section would not be relevant to all versions.

Annunciator Panel Devices and Events are a feature of the Event Server that interacts closely with one of the PMCS Wizards. By itself, this menu item and its windows do nothing; in conjunction with the Wizard, it provides a utility-style annunciator panel interface for a PMCS network.

NOTE: This manual explains briefly how to set up Annunciator Panel Items and Annunciator Panel Events that Event Server will track - in other words, the Event Server side of the relationship. The Wizard side of the relationship, the full theory of operation and instructions on configuring the Annunciator Panel wizard itself are contained in the *GEH-6513 Interface Toolkit (Wizards Guide)* for InTouch and *DEH-210 Interface Toolkit (Wizards Guide)* for Cimplicity. For complete instructions on configuring and using the Annunciator Panel wizard, refer to that document.

Annunciator Panel Theory of Operation

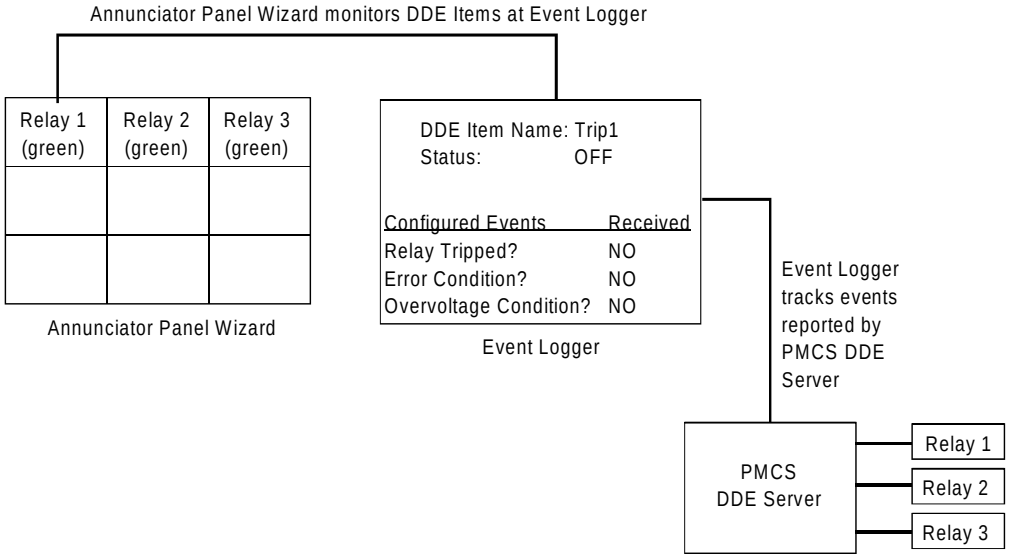
The Annunciator Panel wizard provides a screen full of indicator tiles, each relating to a particular device, event, or group of events. These tiles are displayed in different colors to indicate different alarm conditions. The Annunciator Panel wizard monitors selected DDE items in the Event Server and responds to changes of state in these items by changing the colors of individual indicator tiles. For example, you might configure a relay trip event to have a tile in the Annunciator Panel wizard. The wizard monitors a DDE tag at the Event Server corresponding to the trip status of the relay and displays a grey indicator if the relay is operating properly, and a red indicator if the relay has tripped.

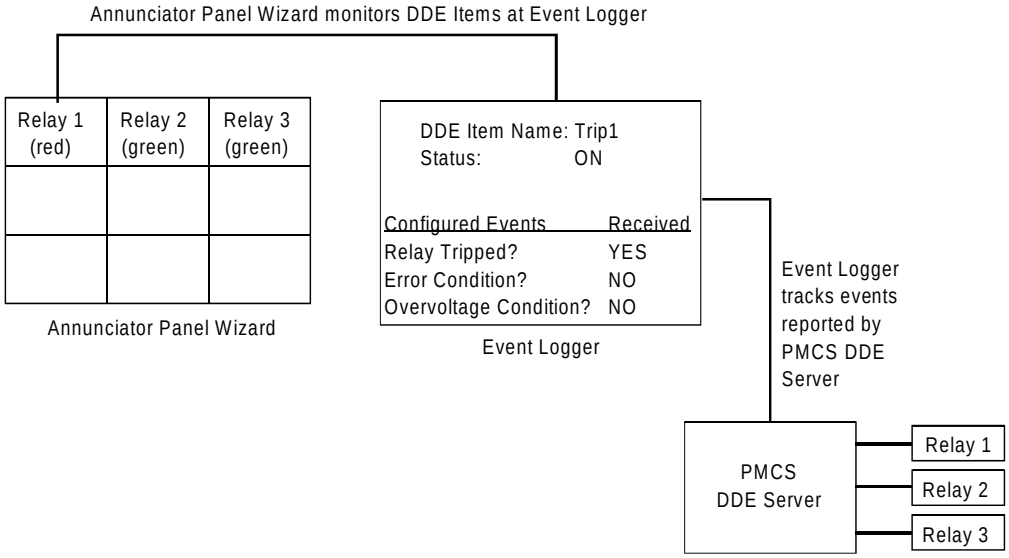
From the Event Server's perspective, there are two parts to configuring the Annunciator Panel. First, each DDE Item that will be displayed on the Annunciator Panel wizard must be added (using the Add Items dialog). For the example we're discussing, we'll assume you've created a DDE Item named Trip1. Each DDE item will connect to an individual tile in the Annunciator Panel wizard.

The second part consists of defining events which will turn individual DDE items ON or OFF. Each DDE item (or Annunciator Panel tile) can be turned on or off by any number of device events you define. The events are logically ORed together to determine ON or OFF conditions; i.e., if any of the events occurs, the DDE item is ON; if none of the events have occurred, the DDE item remains OFF.

We'll continue the relay example we began above. For example, you might configure the Trip1 DDE Item to be ON if any of the following events occurs: the relay is tripped, or the relay reports an error condition, or the relay senses an overvoltage condition. The Annunciator Panel wizard displays a grey indicator tile for the relay for as long as the DDE item remains in the OFF condition. If the Annunciator Panel wizard sees the DDE Item change from OFF to ON, it reacts by changing the indicator tile from grey to red. The Event Server Annunciator Panel logic will also change the state of a DDE Item in response to actions performed at the Annunciator Panel Wizard. The user can both acknowledge and reset individual Annunciator DDE Items.

The following diagram shows the relationship of the Annunciator Panel wizard, the Event Server, and the PMCS DDE/OPC Server.



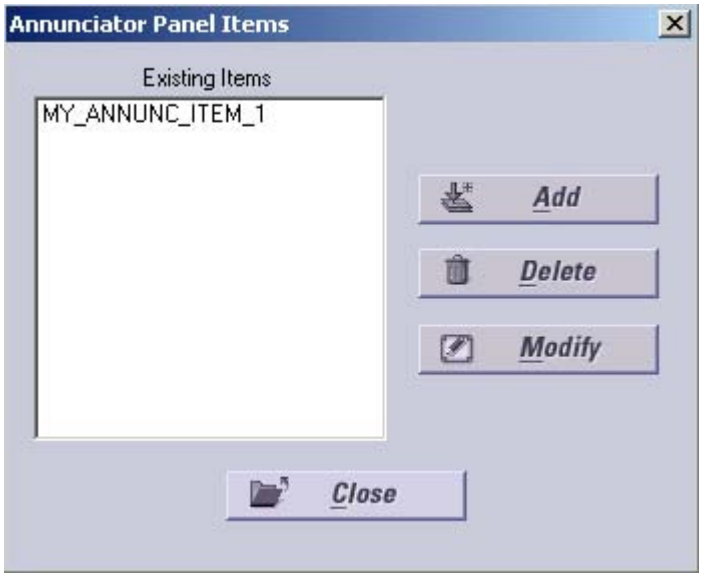


In the upper illustration, the Event Server watches for any of the three events configured to cause a change of state to the Trip 1 DDE Item. None of these three events has occurred, so the status of the Trip 1 DDE Item is at OFF. The Annunciator Panel wizard is monitoring the configured DDE Items at the Event Server, but all DDE Items are "OFF" so the Annunciator Panel displays green indicator tiles.

In the lower illustration, the Event Server has recorded a “Trip” event for the unit in question, and changed the state of the Trip 1 DDE Item to “ON”. The Annunciator Panel wizard sees this change, and responds by changing the color of the annunciator panel tile for Relay 1 to red.

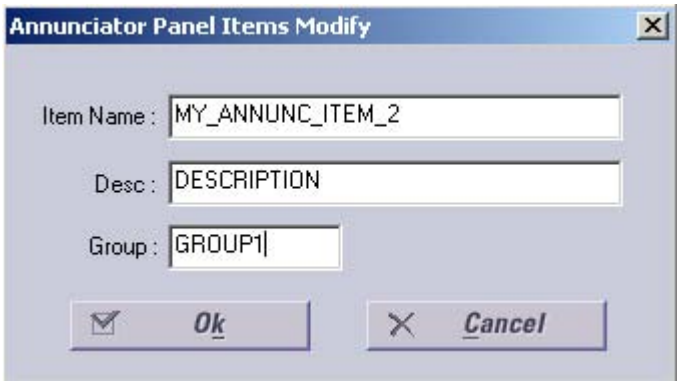
Configuring Annunciator Panel Items

Select **Configure: Annunciator Panel: Items** to display the **Annunciator Panel Items** dialog box. Note that Event Server must be in “running” mode, logging events to the database, for configuration of Annunciator Panel Items or Events.



Here we add DDE Items for the Annunciator Panel wizard to monitor.

Selecting the **Add** button displays the **Annunciator Panel Items Add** dialog box:



Enter an Item Name, Description (optional), and Group for this item. Make note of the entries you make here, as you will need to use the exact name and group specified here when you configure the Annunciator Panel wizard.

To modify Annunciator panel items, select the Item from the Existing Items list in the Annunciator Panel Items window and click the Modify button. Make any changes required to the Item Name, Description or Group fields, then click OK.

To delete Annunciator panel items, select the Item from the Existing Items list in the Annunciator Panel Items window and click the Delete button. At the confirmation dialog, click OK.

Configuring Annunciator Panel Events

Using the Event Logger's **Annunciator Panel Events** dialog box, you supply the device name, the event code, and an ON/OFF selection for each device event driving the Annunciator Panel wizard.

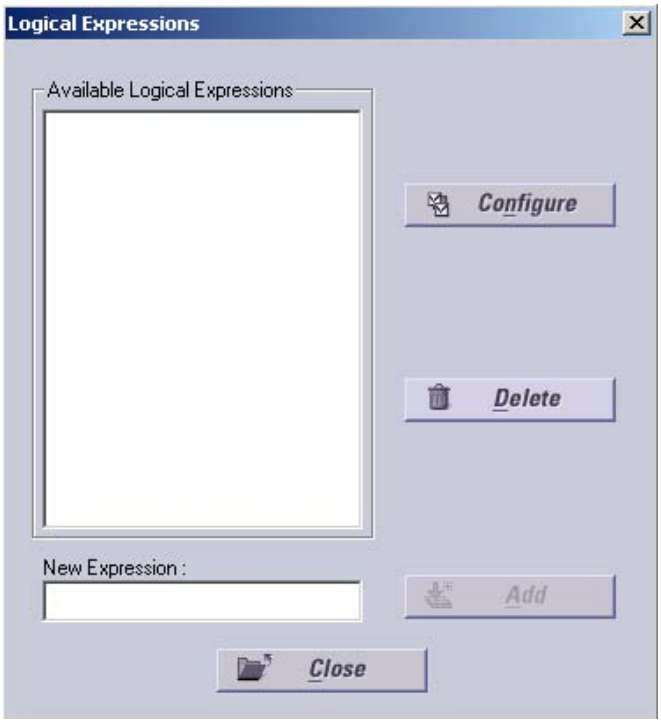
Selecting the **Events** button displays the **Annunciator Panel Events** dialog box:

Here we define events that cause ON or OFF conditions for the individual DDE Items we defined earlier. Select an Item name from the pull-down list and select the **Add** button. The **Annunciator Panel Events Add** dialog box appears:

The Item Name shows the currently selected DDE Item. Select a device from the Device Name pull-down menu and enter an event code to watch for. Finally, in the Action field, select whether this event will cause an OFF or ON condition in this DDE item. Choose OK to close the dialog box.

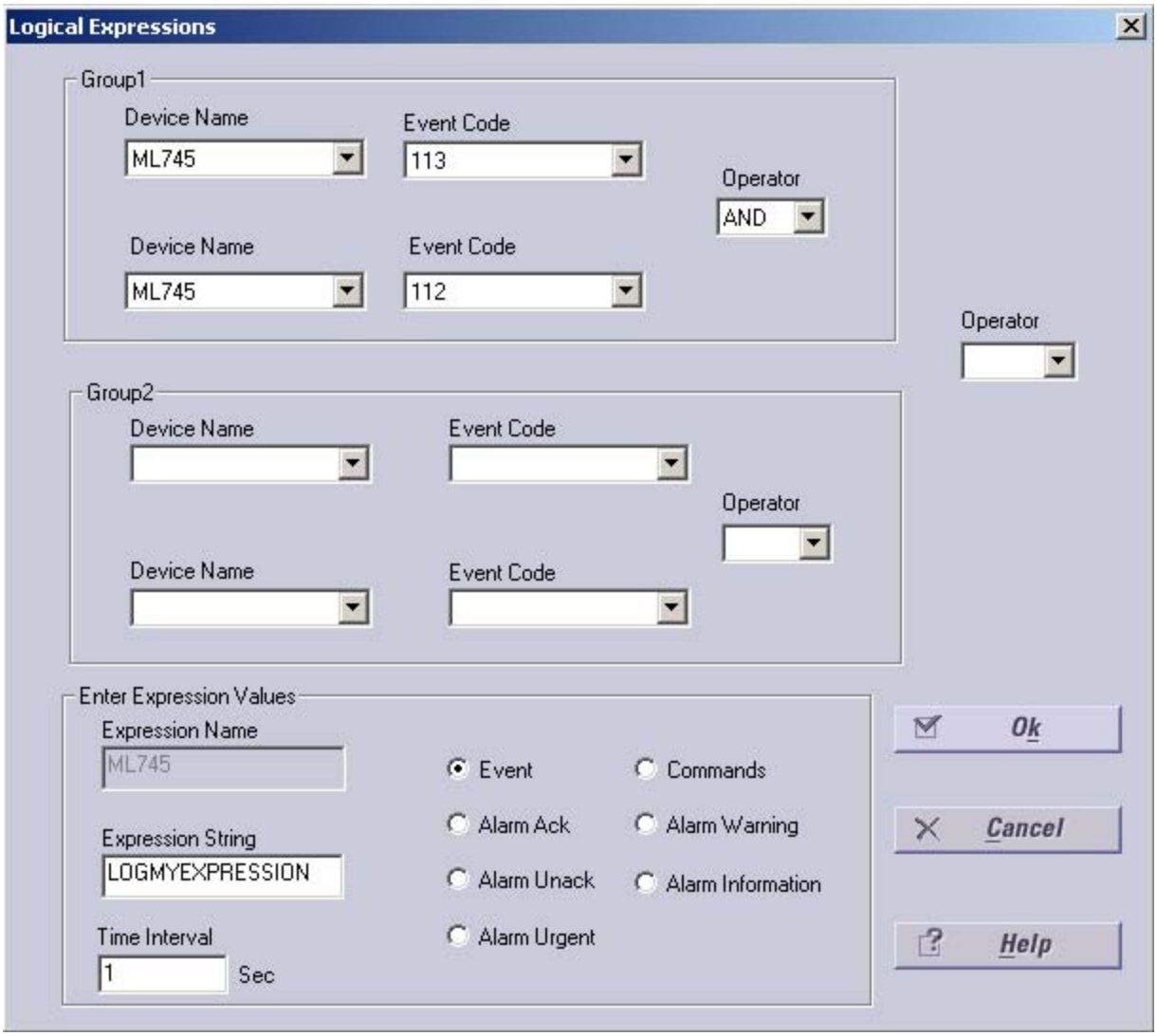
Configuring Logical Expressions

Selecting **Configure: Logical Expressions** displays the Logical Expressions dialog box:



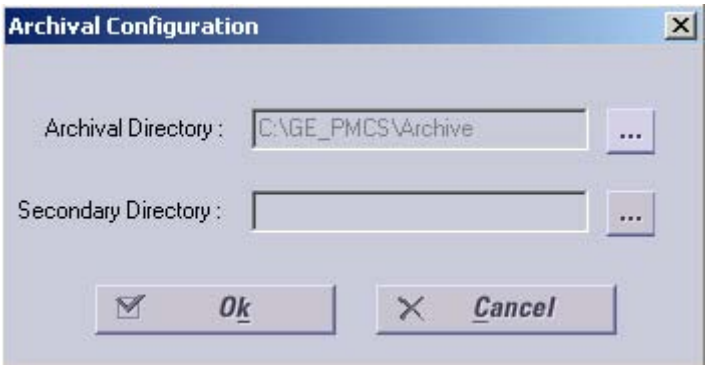
To create a new logical expression, enter the name into the **New Expression** text box, then click on **Add**, to enter the name in the list of **Available Logical Expressions**. To configure a new expression or to modify an existing one, click on **Configure**, which displays the **Logical Expressions** dialog box, as illustrated below.

Select the device names, event codes, and logical operators to define a user-defined event. Select the event type and the time interval during which all the device events must occur in order to trigger the new event. Click on **OK** to save the definition of the new event to the database.



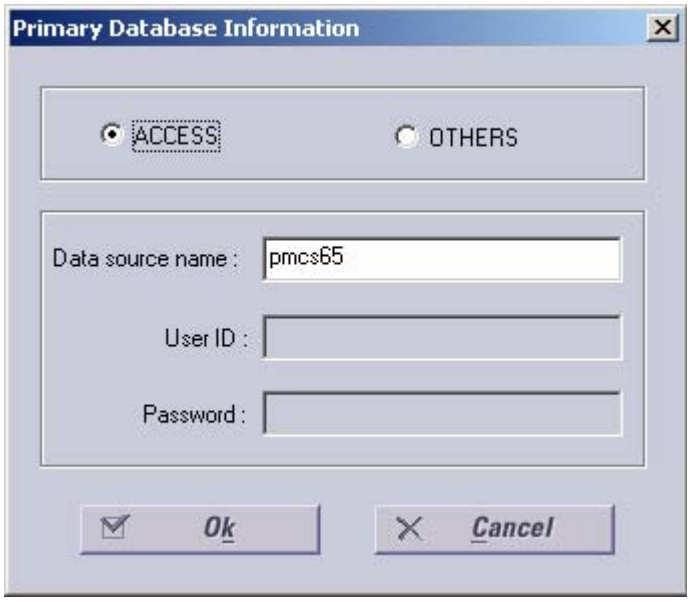
Configuring Archive Criteria

Selecting **Configure: Archive Criteria** opens the **Archival Configuration** dialog box:



Clicking on the square button to the right of either text box opens a Windows directory dialog to specify the path for the location of the Archival and Secondary Directories.

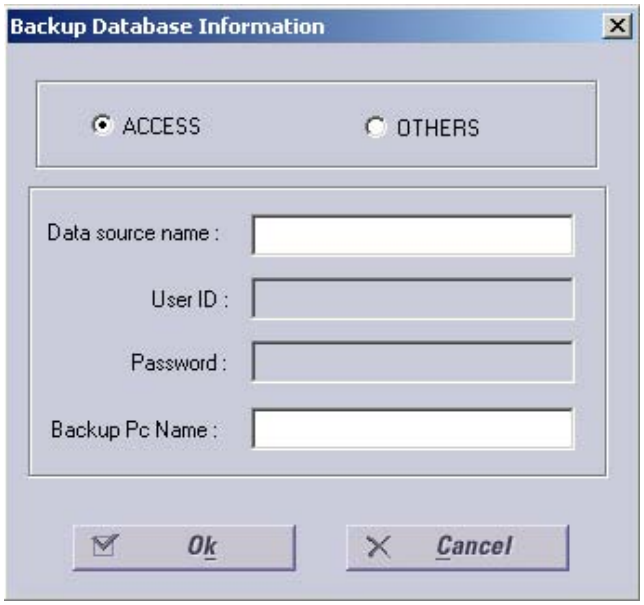
Selecting **Configure: Redundancy: Host** opens the **Primary Database Information** dialog box:



You can change the Data source name for the host database in the text box. If Access is the database program, the security features are not supported. If a different database program is active, such as MSDE, the system administrator can require that a User ID and Password be entered in order to make a change.

The MSDE installation script will configure PMCS65 DSN to EVENTLOGGERSQL database.

Selecting Configure: Redundancy: Backup opens the **Backup Database Information** dialog box:



You can enter a Data source name and Backup PC Name for the backup database. Security features are the same as with the Primary Database.

Special Reports Menu

The **Special Reports** menu enables you to retrieve and view fault reports from several fault-sensitive devices.

View Menu

The **View** pull-down menu provides the following options:

- **Status Bar** shows or hides the status bar at the bottom of the main window.

Help Menu

The **Help** menu offers standard Windows functions to view help for the Event Logger program.

The **About EventServer...** dialog contains the program version and copyright information.

Toolbar

The main window toolbar contains the following icons:

Click on an icon to perform the corresponding action, as described in the table below.

Button	Function/Description
	Starts the logging of events into the database when Event Logger is in Primary mode.
	Stops the logging of events into the database when Event Logger is in Primary mode.
	Opens the Configure Servers dialog box for adding, deleting, activating, or deactivating your servers.
	Opens the Device Type dialog box for configuring display names for devices.
	Opens the Logical Expressions dialog box for adding, deleting, or modifying logical expressions for creating user-defined events.
	Switches the Event Logger into Primary mode for data logging or configuration.
	Switches the Event Logger into Backup mode for copying the events database to the backup volume.
	Opens the Archival Configuration dialog box for specifying the directories for storing archives.

Security Support

Event Server can be configured to require a password before a user may change the configuration, stop the logging of events, or close Event Server. To change whether a password is required, use the following procedure:

1. Open the Windows Run dialog box (from the Start button), enter **regedit** into the **Open**: text box, and click on **OK**.
2. In the left side of the **Edit Registers** window that appears, select the following directory path:

HKEY_LOCAL_MACHINE\SOFTWARE\GE\PMCS\6.0\DataBase\Admin

3. In the right side of the window, look for **CloseEventLogger**. If its current value is "0", then password protection is turned off (this is the default), while "1" indicates that it is on. To change the setting, double-click on the **CloseEventLogger** icon.
4. In the **Edit String** dialog box, set the desired value (0 or 1), then click on **OK**.
5. To set or change the password, double-click on the **EL Password** icon, enter the desired password in the **Edit String** dialog, then click **OK**.
6. Close the **Edit Registers** window to save the changes, which are effective immediately.

Whenever a user attempts to perform an action that is password protected, the **Enter Password** dialog box appears. Enter the current password and click on **OK** to proceed with the protected action.

To change the password, either use **Edit Register,** as described above, or enter the password in the **Edit Password** dialog, then click on **Change Password**. Another dialog appears in which you are asked to enter the new password twice, then click on **OK** to confirm the change.

Automatic Event Printing

Event Server can be configured to automatically send the details on each event as it occurs to a connected line printer. To start or stop automatic event printing, use the following procedure:

1. Open the **Windows Run** dialog box (from the Start button), enter regedit into the **Open**: text box, and click on **OK**.
2. In the left side of the **Edit Registers** window that appears, select the following directory path:

HKEY_LOCAL_MACHINE\SOFTWARE\GE\PMCS\6.0\EventLogger

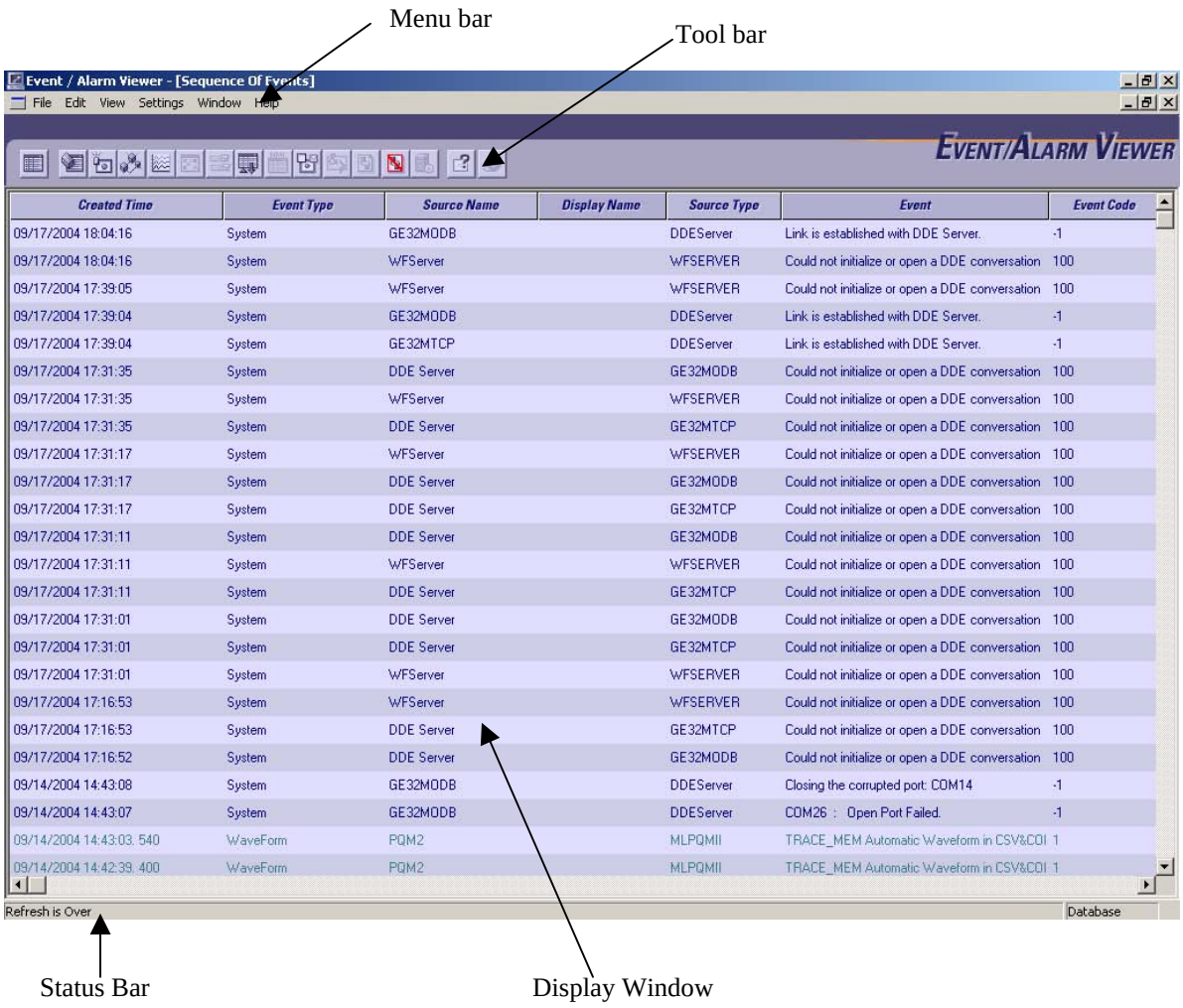
3. In the right side of the window, double-click on the **Print** entry to display the **Edit String** dialog box.
4. To start automatic printing, set the value to "1"; to stop automatic printing, set the value to "0" (this is the default). Click on **OK**.
5. Close the **Edit Registers** window to save the change, which is effective immediately.

Chapter Four – Event/Alarm Viewer Menus and Toolbars

In this chapter, we'll examine Event/Alaram Viewer's menu and toolbar items in detail, describing each of its functions and options. As in Chapter 3, we'll assume that some buttons (such as **OK** and **Cancel**) are self-evident and that you can interpret their functions from general experience with the Windows interface.

What's on the Event/Alarm Viewer Screen?

After you click on the Event/Alarm Viewer icon, the main window appears, as shown below:



You can open additional child windows, but there must always be at least one window open for correct data transfer to the database.

There are several helpful navigational and operational aids in the main window:

- **Menu bar** – Access these pull-down items either with the mouse or by ALT+(letter) keystrokes.
- **Toolbar** – Click these control buttons to activate the most-often-used commands.
- **Status bar** – The status bar is located at the bottom of the main window and provides messages about Event/Alarm Viewer's current status, such as the presence of unacknowledged alarms.

These controls are discussed in greater detail in the following sections.

Where applicable, help icons appear below the cursor and in the status line at the bottom of the screen. These prompt an action or describe an object when the cursor lingers over an object.

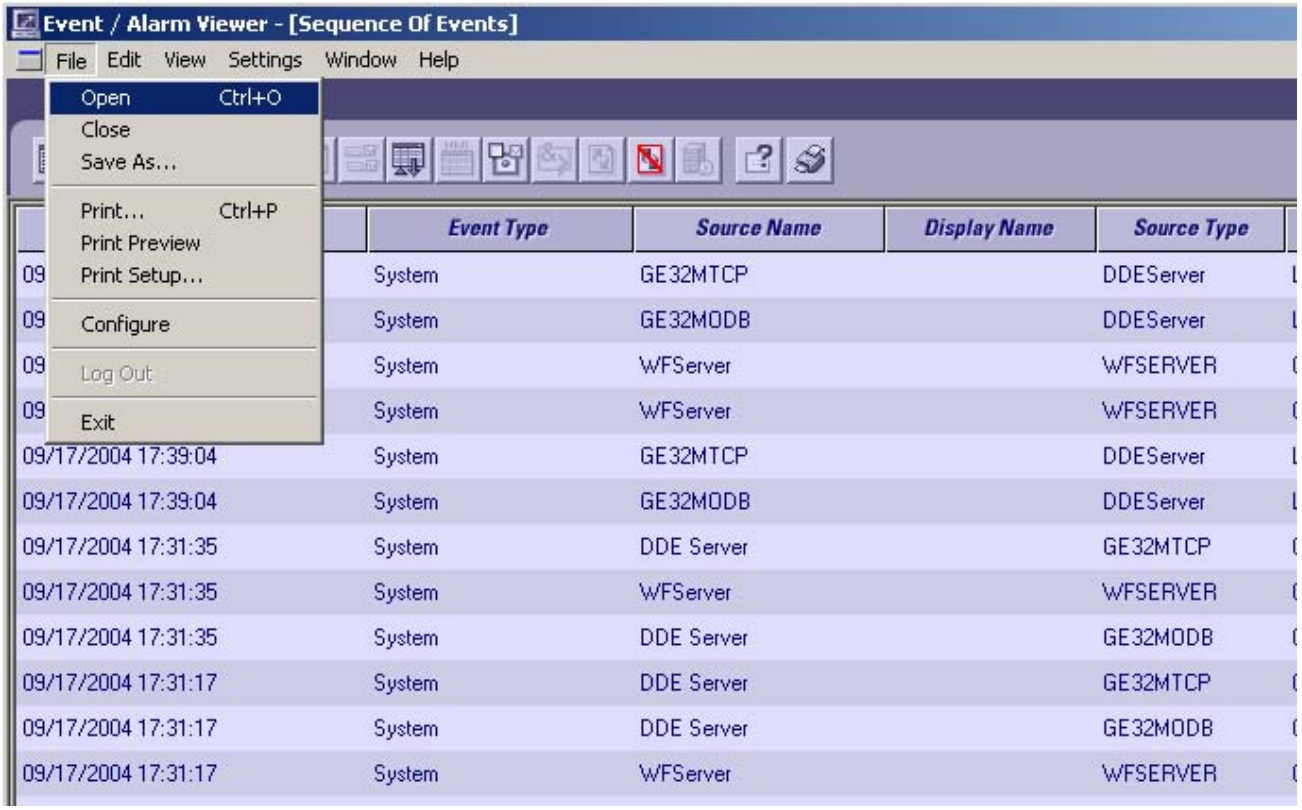
Menu Bar

The Event/Alarm Viewer main window displays the following pull-down menus:

Explanations of each menu and its options follow.

File Menu

The **File** pull-down menu is shown below. Descriptions of the File options follow.

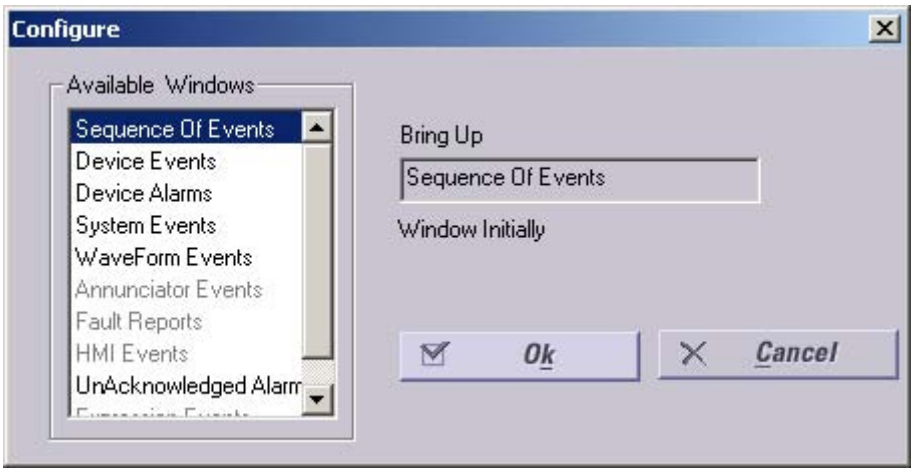


The **File** menu offers the following standard Windows functions.

- **Open** opens a previously saved list of events.
- **Close** closes the currently active window, unless it is the last open view of a table. Event/Alarm Viewer requires that at least one **Alarms** window and one **Events** window remain open at all times, and will not permit the last window to be closed.
- **Save As…** saves the list of events appearing in the active window.
- **Print..., Print Preview**, and **Print Setup...** are all standard Windows functions relating to printing the active window.
- **Exit** is the standard Windows function for closing the Event/Alarm Viewer application.

In addition to these standard functions, the **Configure** item is where you specify which window is opened when Event/Alarm Viewer is started (Sequence of Events

is the default). Click on the desired window in the list of Available Windows, then select OK. That window will open first when Event/Alarm Viewer is next started.



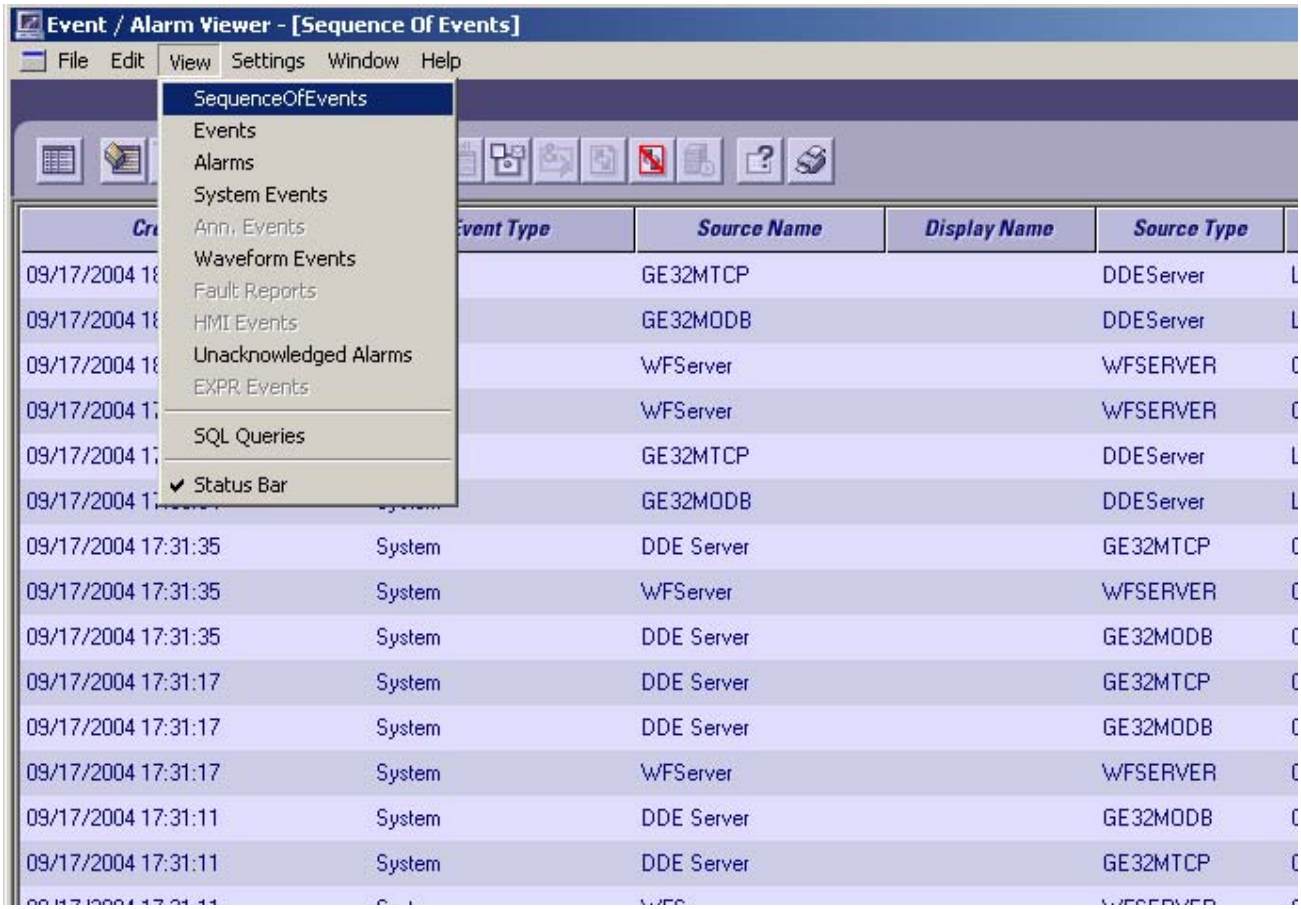
Edit Menu

The **Edit** pull-down menu is shown below. The functions provided by the Edit options are as follows.

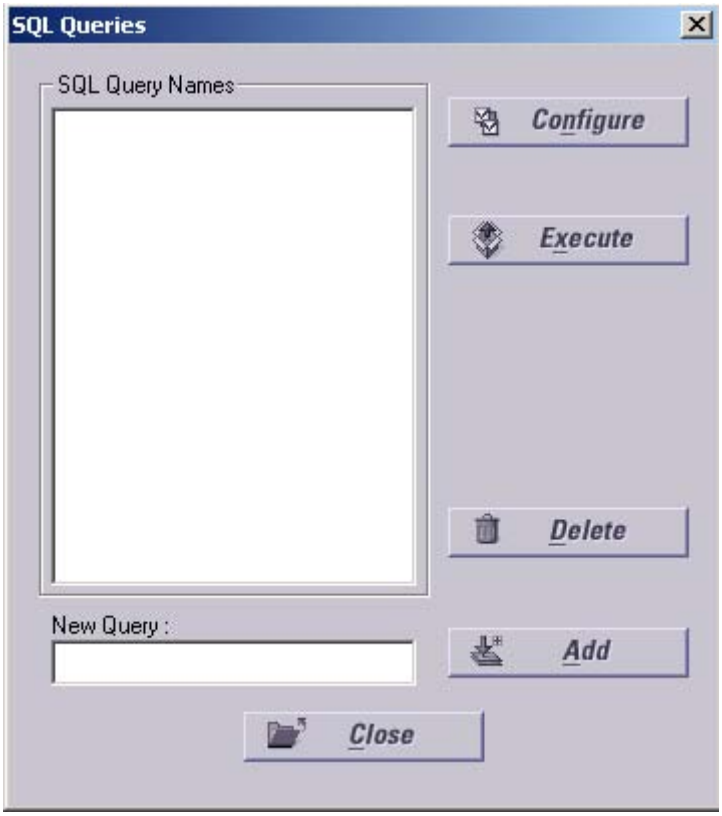
1. **Acknowledge** – acknowledges a selected alarm in the active window.
2. **Delete** – deletes a selected event or events from the active window.
3. **Select All** – selects all events in the active window.

View Menu

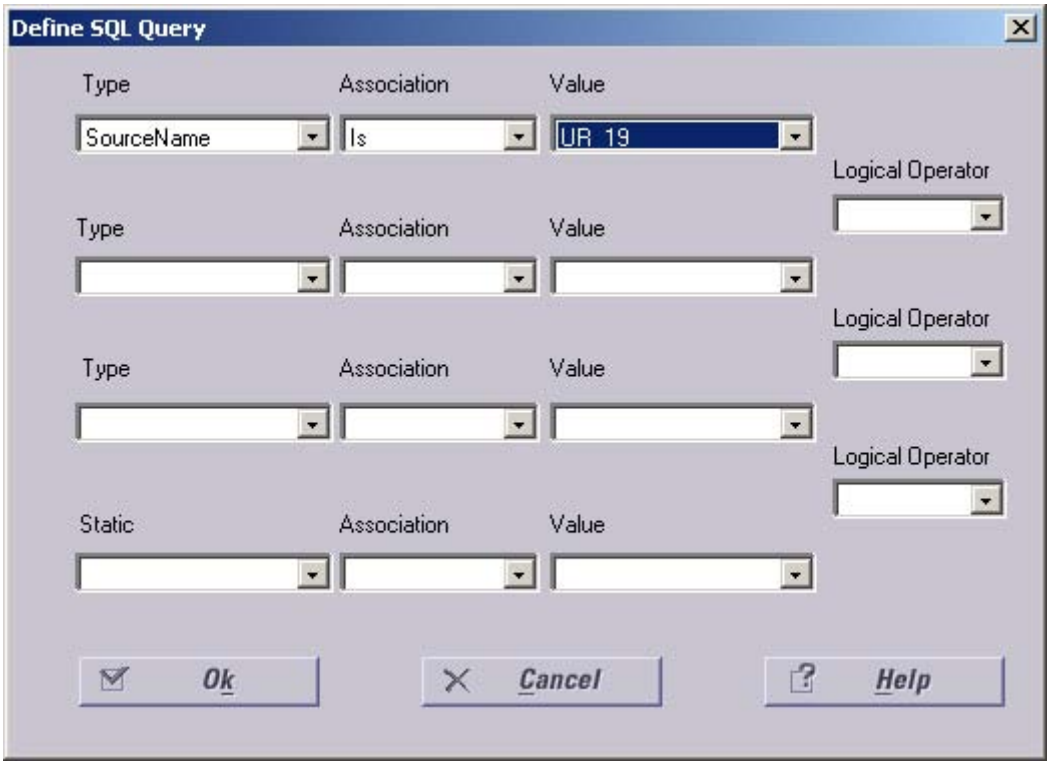
The **View** pull-down menu is shown below. The functions provided by the View menu options are as follows.



1. The options available in the first block of the menu (**Sequence of Events** through **EXPR Events**) open the corresponding event window on top of the currently displayed window. The currently open event windows are not closed.
2. **SQL Queries** opens the following dialog box, which allows you to add, delete, configure, modify, or execute an SQL query of the database.



To add a query, enter the name in the **New Query** text box, and click on **Add**, which puts it in the list of **SQL Query Names**. Select the new name, then click on **Configure**, which opens the **Define SQL Query** dialog box:



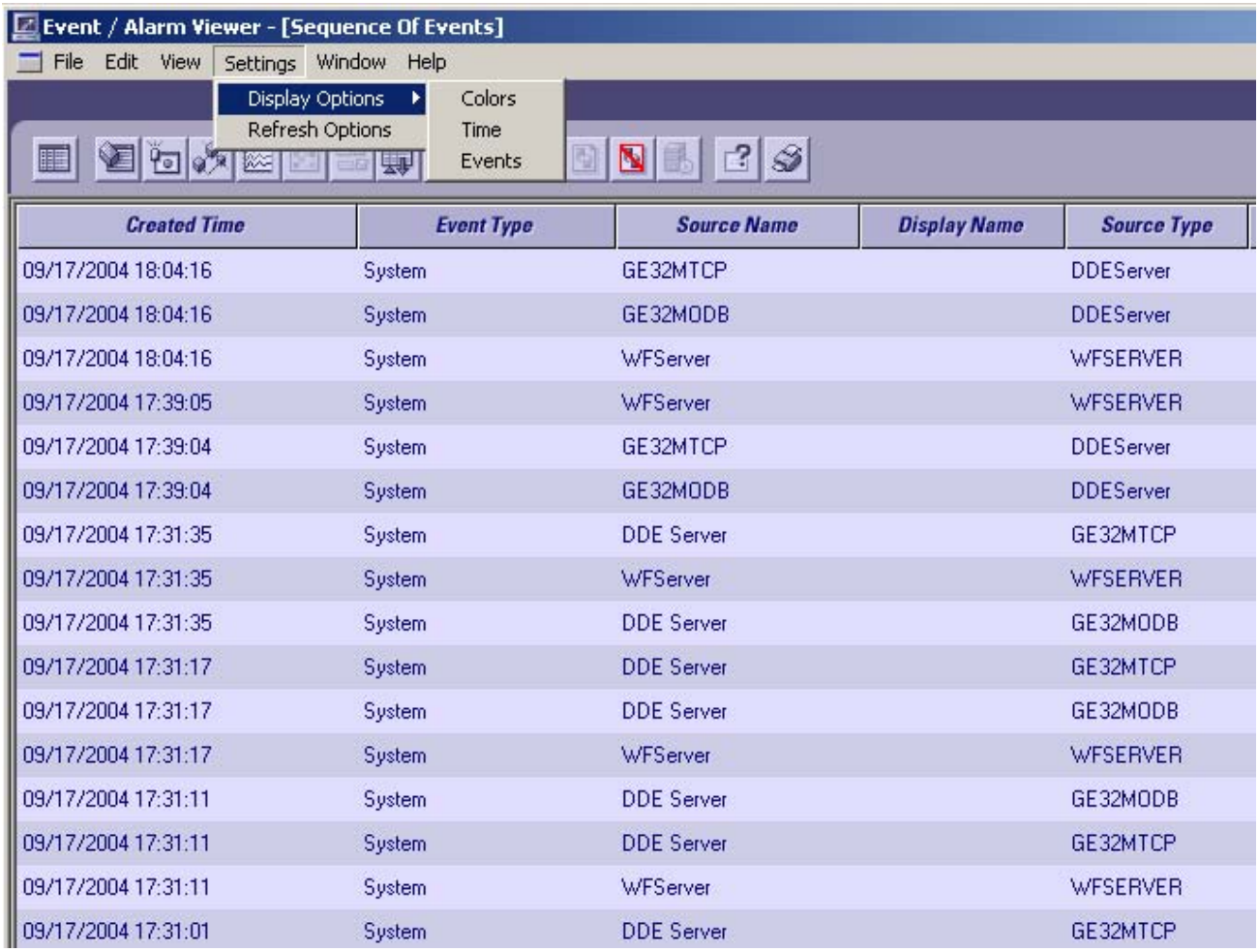
When the query expression is completed, press **OK** to return to the **SQL Queries** dialog box. To run the query, click on **Execute**, after which a

new window is opened displaying all events matching the specified conditons.

3. **Status Bar** shows or hides the status bar at the bottom of the main window.

Settings Menu

The **Settings** pull-down menu is shown below. The two main options are described below.

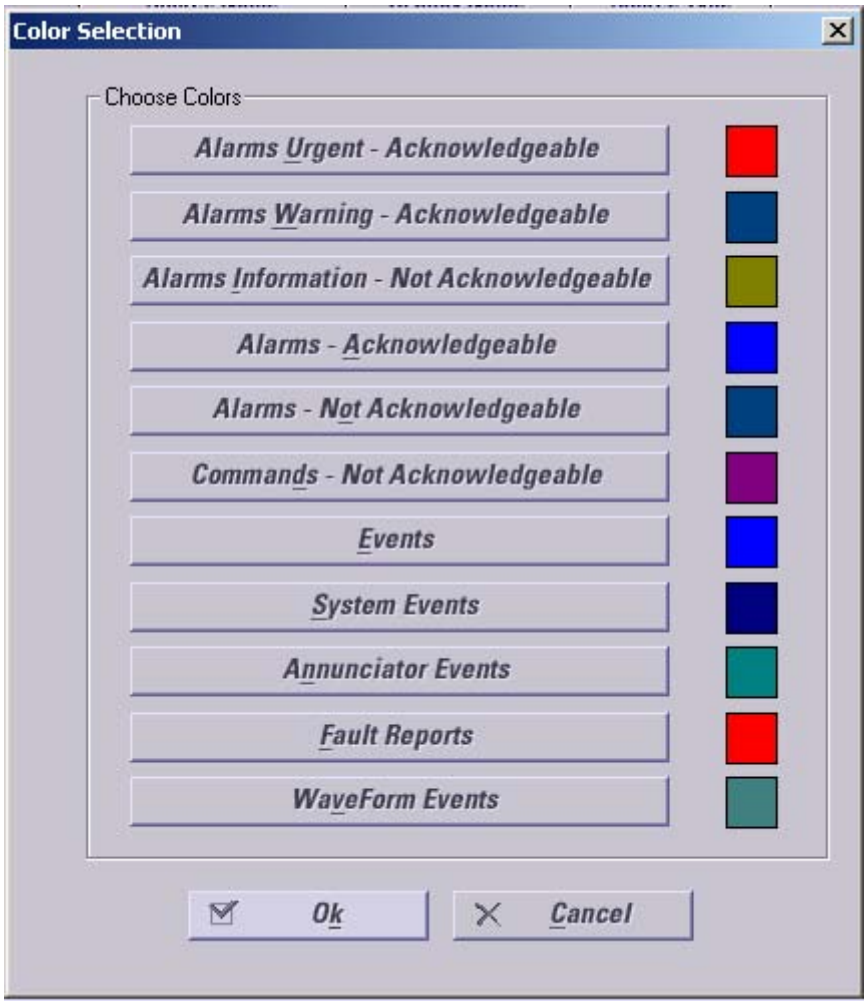


Created Time	Event Type	Source Name	Display Name	Source Type
09/17/2004 18:04:16	System	GE32MTCP		DDEServer
09/17/2004 18:04:16	System	GE32MODB		DDEServer
09/17/2004 18:04:16	System	WFServer		WFSERVER
09/17/2004 17:39:05	System	WFServer		WFSERVER
09/17/2004 17:39:04	System	GE32MTCP		DDEServer
09/17/2004 17:39:04	System	GE32MODB		DDEServer
09/17/2004 17:31:35	System	DDE Server		GE32MTCP
09/17/2004 17:31:35	System	WFServer		WFSERVER
09/17/2004 17:31:35	System	DDE Server		GE32MODB
09/17/2004 17:31:17	System	DDE Server		GE32MTCP
09/17/2004 17:31:17	System	DDE Server		GE32MODB
09/17/2004 17:31:17	System	WFServer		WFSERVER
09/17/2004 17:31:11	System	DDE Server		GE32MODB
09/17/2004 17:31:11	System	DDE Server		GE32MTCP
09/17/2004 17:31:11	System	WFServer		WFSERVER
09/17/2004 17:31:01	System	DDE Server		GE32MTCP

Display Options

The three suboptions available under this menu item are as follows:

1. Selecting **Settings: Display Options: Colors** displays the dialog box shown below. You may assign display colors to each item type displayed in Event/Alarm Viewer's windows. Each item's current display color is shown to the right of its name.



To change the display color of an item, click on the item's button. The color selection palette is displayed. Click on the desired color and press OK. To exit without changing the color, click on Cancel. If you don't see a color that appeals to you, click on Define Custom Colors and you will have an opportunity to create your own custom color.

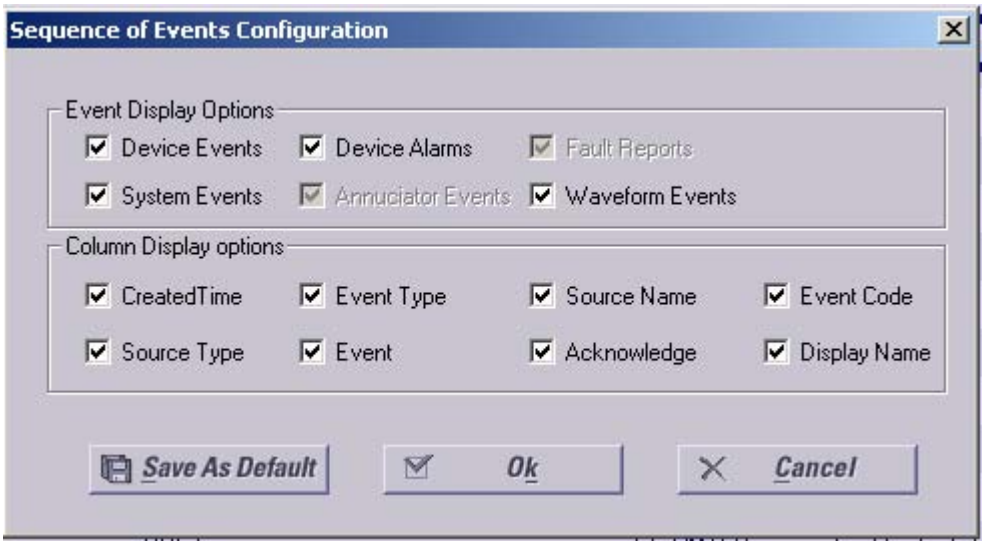
NOTE: Depending on your system's video driver and color resolution capabilities, the colors on the Event/Alarm Viewer screens may not exactly match the colors shown in the color selection dialog box.

2. Selecting **Settings: Display Options: Time** displays the dialog box shown below. Click on the checkboxes to display the date and/or time in event listings and choose from the formats available for each in the pull-down lists. Another pull-down list allows you to select the time sequence (ascending or descending) in which events are displayed.

3. Selecting **Settings: Display Options: Events** displays the **Sequence of Events** dialog box, as shown below. This box allows you to choose the types of events to be displayed and what information is to be included for each event displayed.

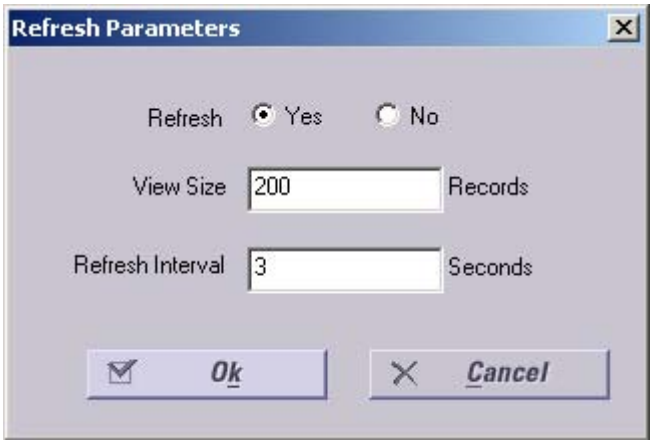
   In the **Event Display Options** field, place a check mark next to the types of messages and events you wish to see displayed in the selected (active) Sequence of Events window.

   In the **Column Display Options** field, place a check mark next to the columns of data you wish to see displayed in the selected (active) Sequence of Events window.



Refresh Options

This option displays the **Refresh Parameters** dialog box, as shown below. You can select the number of records to be displayed, the interval in seconds for refreshing the events display, in addition to turning the refresh option on or off.



Window Menu

The **Window** pull-down menu provides the following functions:

- The **Cascade**, and **Tile** options are standard Windows functions.
- Numbered items list the currently open windows. Select a window from this list to bring it to the front and make it the currently active window.

Help Menu

The **Help** menu offers standard Windows functions to view help for the Event/Alarm Viewer program.

The **About EventLog...** dialog contains the program version and copyright information.

Toolbar

The main Event/Alarm Viewer window toolbar contains the following icons:

Click on an icon to perform the corresponding action, as described in the table:

Button	Function/Description
	Opens the Sequence of Events window. A selected set of events and alarms are displayed in sequential order, with the most recent displayed first.
	Displays the Events window; only Device Events are displayed, most recent first.
	Displays the Alarms window; only Device Alarms are displayed, most recent first.
	Displays the System Events window; only System Events are displayed, most recent first. System Events include such things as a user logging in or out of the system, a device or communications port failure, or a waveform capture failure.
	Displays the Waveform window; only Waveform events are displayed, most recent first. Waveform events record the successful completion of a waveform capture.
	Displays the Annunciator Panel window; only Annunciator Panel events are displayed, most recent first. Annunciator Panel events include any device events which affect the Annunciator Panel tiles, as well as any events initiated by the Annunciator Panel Wizard.
	Displays the Faults window; only Fault events are displayed, most recent first. Faults are events such as line faults or ground faults recorded by certain fault-sensitive devices. These devices are the LPS, the ALPS, the DFP100, the DFP200 and the SM-3.
	Opens the Configure Sequence of Events window, enabling you to configure the set of events to be displayed in the Sequence of Events window. You can open the same dialog box by selecting **File: Configure: Sequence of Events Config.**
	Prints the currently active window on the configured printer.
	Opens the **About** dialog window.
	Displays HMI device type events.
	Displays acknowledgable events.
	Displays user-defined events.
	Enables the refresh function to update the events displayed in the active window at a predetermined interval.
	Disables the refresh function.
	Displays the SQL Queries dialog box.

Table 1. Toolbar Icons.

Security Support

Event Server can be configured with password protection to acknowledge or delete events. To change whether a password is required, use the following procedure:

1. Open the Windows Run dialog box (from the Start button), enter **regedit** into the **Open**: text box, and click on **OK**.
2. In the left side of the **Edit Registers** window that appears, select the follaowing directory path:

HKEY_LOCAL_MACHINE\SOFTWARE\GE\PMCS\6.0\DataBase\Admin

3. In the right side of the window, look for **EVPassword**. If its current value is “0”, then password protection is turned off (this is the default), while “1” indicates that it is on. To change the setting, double-click on the **EVPassword** icon.
4. In the **Edit String** dialog box, set the desired value (0 or 1), then click on **OK**.
5. To set or change the password, double-click on the **EL Password** icon, enter the desired password in the **Edit String** dialog, then click **OK**.
6. Close the **Edit Registers** window to save the changes, which are effective immediately.

Whenever any user attempts to perform an action that is password protected, the **Enter Password** dialog box appears. Enter the current password and click on **OK** to proceed with the protected action.

To change the password, either use **Edit Register** as described above, or enter the password in the **Edit Password** dialog, then click on **Change Password**. Another dialog appears in which you are asked to enter the new password twice, then click on **OK** to confirm the change.

Chapter Five - Troubleshooting

DDE Error

Created Time	Event Type	Source Name	Display Name	Source Type	Event	Event Code
09/14/2004 14:43:08	System	GE32MODB		DDEServer	Closing the corrupted port: COM14	-1
09/14/2004 14:43:07	System	GE32MODB		DDEServer	COM26 : Open Port Failed.	-1
09/14/2004 14:43:03. 540	WaveForm	PQM2		MLPQMII	TRACE_MEM Automatic Waveform in CSV&COI	1
09/14/2004 14:42:39. 400	WaveForm	PQM2		MLPQMII	TRACE_MEM Automatic Waveform in CSV&COI	1
09/14/2004 14:42:16. 860	WaveForm	PQM2		MLPQMII	TRACE_MEM Automatic Waveform in CSV&COI	1
09/14/2004 14:42:15. 000	System	ML469		ML469	Device is Dead.	2
09/14/2004 14:42:15	System	GE32MODB		DDEServer	COM14 ML469 Device DEAD	-1
09/14/2004 14:42:06	System	GE32MODB		DDEServer	COM26 : Open Port Failed.	-1
09/14/2004 14:41:54. 130	WaveForm	PQM2		MLPQMII	TRACE_MEM Automatic Waveform in CSV&COI	1
09/14/2004 14:41:23. 240	WaveForm	PQM2		MLPQMII	TRACE_MEM Automatic Waveform in CSV&COI	1
09/14/2004 14:41:05	System	GE32MODB		DDEServer	COM26 : Open Port Failed.	-1
09/14/2004 14:41:01. 500	WaveForm	PQM2		MLPQMII	TRACE_MEM Automatic Waveform in CSV&COI	1
09/14/2004 14:40:37. 980	WaveForm	PQM2		MLPQMII	TRACE_MEM Automatic Waveform in CSV&COI	1

Several different error conditions may result in a System Event message such as the one shown above. The table below lists causes of DDE errors and corresponding corrective actions.

Possible error	Solution
The PMCS DDE/OPC Server was not started prior to starting Event Logger.	Exit the Event Logger application, start the PMCS DDE/OPC Server, then restart Event Logger.
A topic name was misspelled at the Event Logger.	Correct the topic name to exactly match the spelling of the topic at the DDE Server.
A topic was not configured correctly at the DDE Server.	Correct the DDE Server configuration. See GEH-6510 for details on configuring the PMCS DDE/OPC Server.
A topic link failed under	Use the **Retry Failed DDE** command from the **File**

Possible error	Solution
NetDDE operation.	menu. If this does not succeed, check the PMCS host machine to be sure that it is operating correctly.
Cannot exit the Event Server application.	If the Event Server was installed as an NT Service, the only way to close the application is through the Services applet in the Windows Control Panel. Only users with Administrator privileges may start and stop services.

Table 2. Troubleshooting table for DDE errors.

ODBC Error

Note: As part of PMCS Eventserver supports only MSDE database. The information mentioned under this section would, not be relevant to PMCS

An ODBC error means that Event Logger is having problems gathering requested data from its database files. This may be caused by an invalid filter query, by misplaced Event Logger database files, or because ODBC has not been setup yet or was set up incorrectly.

If an ODBC error occurs when the Event Logger is started, check the ODBC setup as described in the *Introduction* section to make sure that the version of ODBC is correct and that it points to the EVENTLOGGER.MDB database file.

If you are attempting a query, verify that your filter is valid and formatted correctly, then retry the query.

If the ODBC error still occurs, check the EVENTLOG directories for the following file:

GE_PMCS\EVENTLOG\DATABASE\EVENTLOGGER.MDB

If this file is missing, Event Logger will display an ODBC error message.

Locate and restore this file to the EVENTLOG\Database directory and restart Event Logger. A backup copy of a blank database is included on the PMCS CD under the BACKUPS directory. If it cannot be found, re-install the Event Logger software to create a new database file.

NOTE: Microsoft Office 2000 users: if you install Office 2000 after installing PMCS you may experience ODBC errors and other database problems with the EventLogger. This is due to incompatibilities between the PMCS applications and the new ODBC drivers installed as part of Office 2000. To correct this, shut down PMCS and replace the Eventlogger.mdb and Eventlogger_blank.mdb files with files from the Backups\Office 2000 directory located on the PMCS CD media. Installing PMCS on a computer that has Office 2000 installed already avoids this problem as the PMCS installation recognizes the new ODBC drivers and configures PMCS appropriately

Adjusting Printer Font Size

Event Logger windows are printed with the system font. The default font size is set to 4 and the default printing mode is set to Landscape. This allows the maximum amount of information to be printed on a page.

If you are experiencing printing problems or difficulty reading Event Logger printouts, the font size can be adjusted as follows:

1. Open the Windows Run window (from the Start button), enter regedit into the Open: text box, and click on OK.
2. In the left side of the Edit Registers window, select the following directory path:

   HKEY_LOCAL_MACHINE\SOFTWARE\GE\PMCS\6.0\EventViewer

3. In the right window, double-click on PRINTERFONTSIZE. In the **Edit String** dialog box that appears, change the font size to the desired value.

Blank Event Cause

If a configured device's event strings have not been properly set up, all events will display a blank event cause. This can be remedied by following the device configuration procedure described in *Configuring Device Types*.

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