FLUKE ®

Hart Scientific ®

9936A LogWare III

User's Guide

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1   Introduction

1.1   Symbols Used

Table 1 lists the symbols that are used throughout this User Guide and their meanings.

Table 1 *User guide symbols*

A!	This symbol indicates you must be logged in as an Administrator to perform the task.
A	This symbol indicates you must be logged in as an Administrator or have the appropriate permission to perform the task.
T	This symbol indicates you must be logged in as a Typical user or higher or have the appropriate permission to perform the task.
R	This symbol indicates you must be logged in as a Restricted user or higher or have the appropriate permission to perform the task.
i	This symbol indicates important information.
⚠	This symbol indicates cautions or warnings.

1.2   Conventions

The following conventions are used throughout this User Guide.

Table 2 *Text conventions*

Temperature scale	Italics denote menus, menu options, dialog and window captions, and field names on dialogs and windows
File	Print	Report	The pipe symbol '|' denotes submenu options
Play .WAV file	Bold type denotes selectable options
<unknown format>	Angle brackets '< >' denote special markers

1.3   What is LogWare?

Log*Ware* is a Windows® application that retrieves, stores, and analyzes data from the Fluke Corporation, Hart Scientific Division's (Hart) 1620A "DewK" Thermo-Hygrometer (logger). Hart's 1620 "DewK" and Fluke's 5020A Thermo-Hygrometers are also supported by Log*Ware*.

Log*Ware* can either be setup in a single-user configuration on a stand-alone computer, or it can be setup on an Ethernet network in a client/server, multi-user configuration to maximize the use of Log*Ware*'s features and provide access to Log*Ware's* data from remote computers.

Log*Ware* can log data from multiple loggers in real-time via RS-232, Ethernet, and wireless communications. Real-time data may be logged from one or both of a logger's sensors. Log*Ware* also allows the data acquired by real-time log sessions to be remotely monitored from any computer on the network where Log*Ware* is installed. In addition, Log*Ware* can import data batches from PC cards or download data directly from the logger's memory.

All data, whether imported, downloaded, or acquired in real-time, is stored in Log-*Ware's* data server and is easily retrievable using Log*Ware*'s data retrieval features. Configurable user login accounts and customizable group and permission settings can ensure appropriate security and integrity of all stored data.

Both real-time and previously logged data may be viewed in customizable graphic and tabular formats. Graphs can be displayed for both temperature and humidity in user-selectable time-increments. A variety of critical statistical functions can also be shown for each set of data, including minimum, maximum, spread, average, and standard deviation. Alarm settings accompany imported, downloaded or real-time data. Alarm events can also be triggered from the software while logging data in real-time or remotely monitoring a real-time log session.

Log*Ware* allows onscreen viewing of logged data. It also prints reports and exports data easily to multiple file formats that can be viewed in Excel® or other common spreadsheet and word processing applications.

Log*Ware* also includes e-mail features to keep you up to date wherever you are. E-mail messages can be generated for alarm conditions, log session state changes, sensor calibration due events, user login/logout, and more. E-mail messages can be sent via SMTP server to any valid e-mail address including cell phones, PDAs, etc.

1.4   License Agreement

For information and details regarding the software End User License Agreement (EULA), refer to Section 13, Appendix A – License Agreement, on page 173.

1.5   Requirements

Log*Ware* is designed to work with the following thermo-hygrometers (loggers):

- Hart Model 1620A "DewK" Thermo-Hygrometer
- Hart Model 1620 "DewK" Thermo-Hygrometer
- Fluke Model 5020A "DewK" Thermo-Hygrometer

LogWare can either be setup in a single-user configuration on a stand-alone computer, or it can be setup on an Ethernet network in a client/server, multi-user configuration.

Single-User Configuration – Stand-Alone Computer Requirements

The following minimum computer configuration is required to install and use Log-*Ware* in a stand-alone, single-user configuration:

- Microsoft® Windows® 2000 (SP4), XP (SP2), or Vista operating system

- IBM Compatible Pentium® IV 1GHz processor or better
- 512MB RAM
- 200MB Hard Drive space for installation (2+GB recommended for data storage)
- USB port for installation and license application

Multi-User Configuration – Server Computer Requirements

The following minimum server computer configuration is required to install the Log-*Ware* server files:

- Microsoft® Windows® Server 2003 or Server 2008 operating system (recommended) or Windows® 2000 (SP4), XP (SP2), or Vista (limited to maximum of 10 concurrent users)
- IBM Compatible Pentium® IV 1GHz processor or better
- 1 GB RAM
- 200MB Hard Drive space for installation (10+GB recommended for data storage)
- USB port for installation and license application
- Shared folder on network with Full Control for all Log*Ware* users
- Firewall exception for application server port

Multi-User Configuration – Client Computer Requirements

The following minimum client computer configuration is required to install and use the Log*Ware* client software:

- Microsoft® Windows® 2000 (SP4), XP (SP2), or Vista operating system
- IBM Compatible Pentium® III 700MHz processor or better
- 256 MB RAM (512 MB RAM or more recommended)
- 40MB Hard Drive space
- Access to shared folder on server

Communications Requirements

To perform real-time logging or to download data from the logger's memory, Log*Ware* supports using any of the following communication protocols:

- Serial (RS-232) communications
- Ethernet (TCP/IP) communications
- Wireless communications (requires additional hardware)

Refer to Section 1.10, Methods of Communication, on page 29, for more information on the requirements and details on how to use these communication protocols in Log*Ware*.

Additional Requirements

In addition to the requirements above, the following items may be required depending on your system configuration and your intended use of Log*Ware*:

- Ethernet network connection for client/server confiuration and/or Ethernet communications
- Ethernet patch cable(s) for Ethernet communications
- Wireless RF modem(s) for wireless communications
- RS-232 serial (COM) port(s) and "null modem" cable(s) for serial communications
- Access to a Simple Mail Transfer Protocol (SMTP) server for sending e-mail messages
- USB port for adding licenses

1.6 Installation

Log*Ware* can either be setup in a single-user configuration on a stand-alone computer, or it can be setup on an Ethernet network in a client/server, multi-user configuration. Before you begin installing Log*Ware*, decide which configuration you want to use. Below are some general guidelines to use to determine how you should proceed to install Log*Ware*. After deciding which configuration to use, refer to the appropriate following section for the instructions to install Log*Ware*.

⚠️ *Note: Before installing LogWare, be sure to read Section 13, Appendix A – License Agreement, on page 173. Also, refer to Section 1.5, Requirements, on page 2, to make sure the computer(s) you are going to use meet the minimum requirements.*

Stand-Alone, Single-User Configuration

You should install Log*Ware* in a stand-alone, single-user configuration if…

- You only need to log data in a few locations or processes
- You do not need access to Log*Ware*'s data from other computers
- You do not have Ethernet network capabilities
- You do not plan to expand your system

Client/Server, Multi-User Configuration

You should install Log*Ware* in a client/server, multi-user configuration if…

- You need to log data in many locations or processes
- Your computer is connected to an Ethernet network
- You need access to Log*Ware*'s data from multiple computers
- You need access to Log*Ware*'s data from remote locations using the internet and a VPN connection to your network

- You want to use a dedicated computer to log all data in real-time, but allow other to monitor the data in real-time from other computers
- You currently only need to use Log*Ware* on a single computer, but may decide to expand in the future

Preparing for Installation

Before beginning the installation process, make sure you follow these preparatory steps on the stand-alone computer or the server computer for a multi-user configuration.

- Make backup copies of all existing programs and data before starting the installation process.
- Run a disk-checking program to ensure that the disk has no lost clusters. This normally involves running a program such as SCANDISK. You may also want to run a disk defragmentation program. Consult the computer documentation or a local support person for directions on how to perform these tasks.
- Close all running programs except for the operating system itself.
- You may also want to shut down and restart the computer. Doing this ensures that all programs are cleared from memory. Be sure to close any applications that may have started automatically.
- Login to Windows® as an administrator or using an account with administrative rights. If you do not have administrative rights on the computer, ask your system administrator for assistance.

1.6.1 Upgrading from previous versions

When upgrading Log*Ware* III from a previous version, there are certain issues that you need to be aware of and take into consideration. The following sections outline these issues.

1.6.1.1 Upgrading from Version 1.x

If you are currently running Log*Ware* III version 1.x, upgrading to version 2.x requires version 1.x to be uninstalled. The client installation process automatically detects and uninstalls version 1.x for you.

Info: Uninstalling version 1.x does NOT delete the version 1.x database – all data logged using version 1.x is contained in a database that may be imported into the version 2.x data storage system using the migration utility. Refer to Section 15, Appendix C – Migrating Data From Previous Versions, on page 177 for more information.

1.6.1.2 Upgrading from Version 2.0

If you are currently running Log*Ware* III version 2.0, upgrading to version 2.x is very easy. Simply shut down the Log*Ware* client application and run the installation (on the server computer if installed in client/server configuration).

Info: *For client/server configurations, you do not need to run the installation on each client computer. A new feature in this release will display a prompt on each client computer the first time LogWare is run indicating a new version has been installed and requesting permission to update local files. Simply click Yes. All local files are updated and the LogWare client runs.*

1.6.2 Stand-Alone Single-User Installation

When installing Log*Ware* in a stand-alone, single-user configuration, only one computer is required. Both the "server" files and the "client" files are installed on the same computer.

Before beginning the installation process, make sure your computer meets the minimum requirements. Log*Ware* will not run very efficiently, or may not run at all, on computers that do not meet these requirements. Refer to Section 1.5, Requirements, on page 2 for more information on minimum requirements.

Note: *To successfully install LogWare, you must be logged into Windows® as an Administrator. If you do not have administrative rights, check with your system administrator.*

The Log*Ware* installation process now allows the user to select between two installation options:

- Simple Installation
- Expert Installation

It is recommended to select the *Simple Installation* option. Selecting this option allows the installation to use all default settings and requires minimal user interaction.

For advanced users, the *Expert Installation* option may be selected. Selecting this option allows the installation to be customized, including selecting destination paths, passwords, TCP ports, and other options as applicable.

Installing Log*Ware* – Stand-Alone Computer Installation
1. To begin the installation process, insert the USB drive into a USB port on the computer and double-click the **CDSetup.exe** file located in the root directory. The installation menu screen should be displayed. Click the icon for Log*Ware* III to launch the server setup process. If the setup files were downloaded from the internet, double-click the **LW3ServerSetup.exe** file to launch the server setup process.
2. If the *Open File – Security Warning* dialog is displayed (XP), click *Run*. Or if the *User Account Control* dialog is displayed (Vista), click *Allow.*
3. **Welcome –** When the *Welcome* dialog is displayed, click *Next >* to proceed.
4. **License Agreement –** Read through the software license agreement. If you accept the terms, select the *I accept the terms of the license agreement* option

and click *Next >* to proceed. You may print a copy of the license agreement by clicking the *Print* button.

5. **Select Installation Type –** Click the *Stand-Alone* button.

6. **Select Installation Option –** Select the option for the type of installation to perform. It is recommended to select the *Simple Installation* option. However, if you need to customize the installation, select the *Expert Installation* option. Click *Next >* to proceed.

7. **Enter Software Serial Number –** Enter the serial number that was provided when you purchased Log*Ware*. If you are evaluating Log*Ware*, leave the *Serial* box blank. Click *Next >* to proceed.

   For Expert Installation only…

   a. If the *Insufficient Memory Warning* message is displayed, this computer may not have enough memory to allow Log*Ware* to run efficiently in a stand-alone configuration. If you want to continue and install Log*Ware* anyway, click *Yes*. Otherwise, click *No* to abort the process.

   b. **Important Installation Notes –** Read the installation notes that are displayed for important information regarding known installation issues, then click *Next >* to proceed.

   c. **Enter PostgreSQL Database Information –** Enter the password to use for the PostgreSQL service account and default database user account in the *Password* box. It is recommended to use the default password. The password must meet system password complexity requirements. Also, enter the installation path for the PostgreSQL database files. It is recommended to use the default path. Click *Next >* to proceed.

   d. **Enter MET/BASE G2 Application Server Information –** Enter the TCP port that the application server should use to provide client access to the data. It is recommended to use the default port unless that port is already in use on this computer. A warning message will be displayed if the selected port is already in use. Also, enter the installation path for the MET/BASE G2 Application Server files. It is recommended to use the default path. Click *Next >* to proceed.

8. **Installation Ready –** Setup is now ready to begin installing the software. Click *Install* to proceed.

9. Setup will begin copying files to the server computer. The PostgreSQL database files and MET/BASE G2 Application Server files are silently installed on the computer. Status and progress dialogs are displayed as each of these components are being installed.

10. The Log*Ware* III client application files are also silently installed. If a previous version of Log*Ware* III is detected on this computer, the previous version is automatically uninstalled (version 1.x) or updated (v2.x).

⚠️ *Note: Uninstalling LogWare III version 1.x will not delete the database contain-ing logged data. When the installation process is complete, data logged by the previous version may be migrated into the new data storage system. Refer to Section 15, Appendix C – Migrating Data From Previous Versions, on page 177 for more information.*

11. **To Do List –** When the installation process is complete, if there are any remaining steps that need to be manually performed, or if any problems were detected during the installation process, they are displayed in the *To Do* list. You may print this list by clicking the *Print* button. Click *Next >* to proceed. If there are no issues, this dialog is not displayed.

12. **InstallShield Wizard Complete –** The computer may need to be restarted before you may begin using Log*Ware*. Select the *Yes, I want to restart my computer now* option and click *Finish* to restart the computer.

⚠️ *Note: When restarting the computer, it is recommended that you login to Windows® as an Administrator once more to allow the installation to complete. You may login to Windows® normally on subsequent logins.*

The installation process sets up a couple of services on the computer. These services are configured to start automatically when the computer is booted and MUST be run-ning in order for Log*Ware* to run. It may take between 1 and 5 minutes for the services to complete the startup process and allow Log*Ware* clients to connect.

1.6.3   Client/Server Multi-User Installation

When installing Log*Ware* in a client/server, multi-user configuration, one computer is required to act as the server and one or more computers are required to act as the cli-ents. The computer being used as the server may also be used as a client. The "server" files are installed on the server computer. These files consist mainly of the database and application server files, as well as the client installation files. The "client" files may then be installed on other computers by running the client installation from the server computer. The client files are also always installed on the server computer.

Before beginning the installation process, make sure your computer meets the mini-mum requirements. Log*Ware* will not run very efficiently, or may not run at all, on computers that do not meet these requirements. Refer to Section 1.5, Requirements, on page 2 for more information on minimum requirements.

⚠️ *Note: To successfully install LogWare, you must be logged into Windows® as an Administrator. If you do not have administrative rights, check with your system administrator.*

The Log*Ware* installation process now allows the user to select between two installa-tion options:

- Simple Installation
- Expert Installation

It is recommended to select the *Simple Installation* option. Selecting this option allows the installation to use all default settings and requires minimal user interaction.

For advanced users, the *Expert Installation* option may be selected. Selecting this option allows the installation to be customized, including selecting destination paths, passwords, TCP ports, and other options as applicable.

All computers in a client/server configuration must be on the same network. All client computers must be able to see and have access to the server computer. If your network supports using Virtual Private Network (VPN) software, you may be able to install and run Log*Ware* from client computers over the internet. Consult your system or network administrator for more information and assistance.

⚠️ *Note: Installing LogWare on a network may require you to enable file sharing and configure firewall settings on the server computer. If you have never performed these operations, are not familiar with how to do this, or if you are unfamiliar with these terms, you may want to consult your system or network administrator before beginning the installation process.*

The Log*Ware* III Server installation process attempts to automatically configure all necessary settings on the server computer to allow client computers to connect and use LogWare, including setting up a shared folder on the network, granting all users full control to the shared folder and configuring the Windows® Firewall with an exception for a TCP port. If the installation fails to configure any of these settings, or if you are using 3rd party firewall software, a To Do list is generated and displayed when the installation process is complete. Review this list carefully as you may be required to configure some or all of these settings manually before using Log*Ware*. Refer to Section 1.6.3.1, Sharing a Folder, on page 13 and Section 1.6.3.2, Server Firewall Configuration and File Sharing, on page 15 for more details on how to manually configure these settings on the server computer.

Installing Log*Ware* – Server Computer Installation

1. To begin the installation process, insert the USB drive into a USB port on the server computer and double-click the **CDSetup.exe** file located in the root directory. The installation menu screen should be displayed. Click the icon for Log*Ware* III to launch the server setup process. If the setup files were downloaded from the internet, double-click the **LW3ServerSetup.exe** file to launch the server setup process.
2. If the *Open File – Security Warning* dialog is displayed (XP), click *Run*. Or if the *User Account Control* dialog is displayed (Vista), click *Allow*.
3. **Welcome –** When the *Welcome* dialog is displayed, click *Next >* to proceed.
4. **License Agreement –** Read through the software license agreement. If you accept the terms, select the *I accept the terms of the license agreement* option and click *Next >* to proceed. You may print a copy of the license agreement by clicking the *Print* button.
5. **Select Installation Type –** Click the *Client/Server* button.

6. **Select Installation Option –** Select the option for the type of installation to perform. It is recommended to select the *Simple Installation* option. However, if you need to customize the installation, select the *Expert Installation* option. Click *Next >* to proceed.

7. **Enter Software Serial Number –** Enter the serial number that was provided when you purchased Log*Ware*. If you are evaluating Log*Ware*, leave the *Serial* box blank. Click *Next >* to proceed.

   For Expert Installation only…

   a. If the *Insufficient Memory Warning* message is displayed, this computer may not have enough memory to allow Log*Ware* to run efficiently in a stand-alone configuration. If you want to continue and install Log*Ware* anyway, click *Yes*. Otherwise, click *No* to abort the process.

   b. If the *User Limit Warning* message is displayed (Windows® 2000/XP/Vista only), acknowledge that you understand that there is a limit of 10 concurrent client connections to the server. Click *Yes* to proceed. Otherwise, click *No* to abort the process.

   c. **Important Installation Notes –** Read the installation notes that are displayed for important information regarding known installation issues, then click *Next >* to proceed.

   d. **Enter Network Share Name –** Enter the name to use for the network share. This is the name of the folder that client computers must connect to on the server computer to install and run the Log*Ware* client application. Click *Next >* to proceed. It is recommended to use the default share name.

   e. **Enter PostgreSQL Database Information –** Enter the password to use for the PostgreSQL service account and default database user account in the *Password* box. It is recommended to use the default password. The password must meet system password complexity requirements. Also, enter the installation path for the PostgreSQL database files. It is recommended to use the default path. Click *Next >* to proceed.

   f. **Enter MET/BASE G2 Application Server Information –** Enter the TCP port that the application server should use to provide client access to the data. It is recommended to use the default port unless that port is already in use on this computer. A warning message will be displayed if the selected port is already in use. Also, enter the installation path for the MET/BASE G2 Application Server files. It is recommended to use the default path. Click *Next >* to proceed.

8. **Installation Ready –** Setup is now ready to begin installing the software. Click *Install* to proceed.

9. Setup will begin copying files to the server computer. The PostgreSQL database files and MET/BASE G2 Application Server files are silently installed on the computer. Status and progress dialogs are displayed as each of these components are being installed.

10. The Log*Ware* III client application files are also silently installed on the server computer. If a previous version of Log*Ware* III is detected on this computer, the

previous version is automatically uninstalled (version 1.x) or updated (version 2.x).

Note: Uninstalling LogWare III version 1.x will not delete the database containing logged data. When the installation process is complete, data logged by the previous version may be migrated into the new data storage system. Refer to Section 15, Appendix C – Migrating Data From Previous Versions, on page 177 for more information.

11. **To Do List –** When the installation process is complete, if there are any remaining steps that need to be manually performed on the server computer, or if any problems were detected during the installation process, they are displayed in the *To Do* list. You may print this list by clicking the *Print* button. Click *Next >* to proceed. If there are no issues, this dialog is not displayed.

12. **InstallShield Wizard Complete –** The computer may need to be restarted before you may begin using Log*Ware* on the server computer. Select the *Yes, I want to restart my computer now* option and click *Finish* to restart the computer.

Note: When restarting the computer, it is recommended that you login to Windows® as an Administrator once more to allow the installation to complete. You may login to Windows® normally on subsequent logins.

The installation process sets up a couple of services on the server computer. These services are configured to start automatically when the server computer is booted and MUST be running in order for Log*Ware* to run. It may take between 1 and 5 minutes for the services to complete the startup process and allow Log*Ware* clients to connect.

Note: Setup attempts to share a folder on the network, configure an exception in the Windows® firewall, and setup local file sharing settings automatically, depending on the operating system being used. If setup was unable to successfully configure any of these settings, or if the server computer does not use the built-in Windows® firewall, you may need to configure some of these items manually. Any items such as these should be included in the To Do list that is displayed at the end of the installation process. Make sure all of these items are addressed before proceeding to install the LogWare III client on other computers. Refer to Section 1.6.3.1, Sharing a Folder, on page 13 and Section 1.6.3.2, Server Firewall Configuration and File Sharing, on page 15 for more information.

Installing Log*Ware* – Client Computer Installation

1. To launch the Log*Ware* III Client Setup on other client computers, click the *Start* button on the Windows® Taskbar and select *Run*. In the *Open* field, enter **\\\<SERVERNAME>\\<ShareName>\ClientSetup\Setup.exe** where **<SERVERNAME>** is the name of the server computer recorded above, and **<ShareName>** is the name of the share on the server where the Log*Ware* files

are installed. The default share name is **LogWareIII.** Click *OK* to launch the client setup.

2. If the *Open File – Security Warning* dialog is displayed (XP), click *Run.* Or if the Us*er Account Control* dialog is displayed (Vista), click *Allow.*

3. **Welcome –** When the *Welcome* dialog is displayed, click *Next >* to proceed.

4. If a previous version of Log*Ware* III (version 1.x) is already installed on this computer, a prompt is displayed to uninstall the previous version. Click *Yes* to uninstall the previous version before proceeding. The previous version is uninstalled automatically. Otherwise, click *No* to abort the process.

⚠️ *Note: Uninstalling LogWare III version 1.x will not delete the database containing logged data. When the installation process is complete, data logged by the previous version may be migrated into the new data storage system. Refer to Section 15, Appendix C – Migrating Data From Previous Versions, on page 177 for more information.*

5. If the *Insufficient Memory Warning* message is displayed, this computer may not have enough memory to allow Log*Ware* to run efficiently as a client in the client/server configuration. If you want to continue and install Log*Ware* anyway, click *Yes.* Otherwise, click *No* to abort the process.

6. **License Agreement –** Read through the software license agreement. If you accept the terms, select the *I accept the terms of the license agreement* option and click *Next >* to proceed. You may print a copy of the license agreement by clicking the *Print* button.

   Optional Dialogs – These dialogs are only displayed if setup is unable to determine the correct settings to use.

   a. **Enter Software Serial Number –** Enter the serial number that was provided when you purchased Log*Ware*. If you are evaluating Log*Ware*, leave the *Serial* box blank. Click *Next >* to proceed.

   b. **LogWare III Server Information –** Enter the name of the computer being used as the Log*Ware* III Server in the *Server* box. Enter the TCP port on the server that the MET/BASE G2 Application Server is configured to use in the *Port* box. The default TCP port is **8080.** Enter the name of the *share* on the server computer where the Log*Ware* III files are located in the Share box. The default share name is **LogWareIII.** Click *Next >* to proceed.

7. **Installation Ready –** Setup is now ready to begin installing the software. Click *Install* to proceed.

8. Setup will begin copying client files to the computer and setup the application shortcuts.

9. **InstallShield Wizard Complete –** The computer may need to be restarted before you may begin using Log*Ware*. Select the *Yes, I want to restart my computer now* option and click *Finish* to restart the computer.

⚠️ *Note: When restarting the computer, login to Windows® as an Administrator to allow the installation to complete. You may login to Windows® normally on subsequent logins.*

1.6.3.1   Sharing a Folder

The Log*Ware* III Server installation process attempts to automatically configure all necessary settings on the server computer to allow client computers to connect and use Log*Ware,* including setting up a shared folder on the network and granting all users full control to the shared folder. If the installation fails to do this for any reason, this section gives an example of how to manually configure these settings on the server computer.

The basic process of sharing a folder on a Windows® XP computer running on a Microsoft network is outlined below. This process may differ on other types of networks and on other operating systems. Completing this process may require administrative permissions. Consult your system or network administrator for assistance.

Sharing a Folder on the Network

1. On the computer that contains the folder to share (server computer), open Windows® Explorer and locate the folder.
2. Right-click on the folder to display the popup menu, and select the *Properties* option. This folder's *Properties* dialog is displayed.
3. Click the *Sharing* tab.
4. Select the *Share As* or *Share this folder* option and enter a *Share name*, such as **Log*Ware* III**.
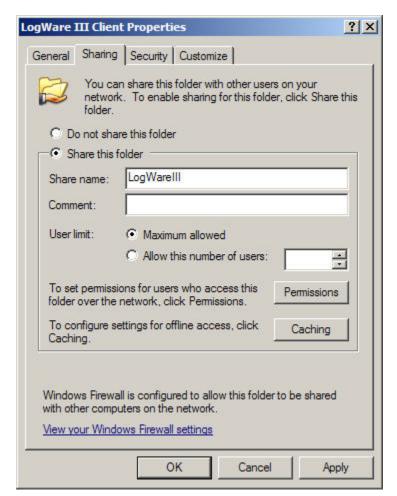
Figure 1 *Shared folder properties dialog - Sharing tab*

5. Click the *Permissions* button to display the *Permissions for <folder>* dialog.

6. Select the *Everyone* group in the *Group or user names* list and check the *Full Control* checkbox in the *Permissions for Everyone* list. If the *Everyone* group does not exist, click the *Add* button to create it first.
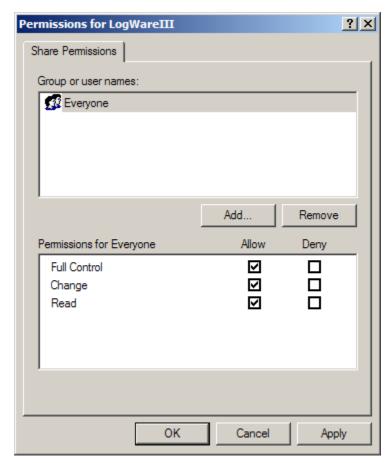
Figure 2 *Permissions dialog for shared folder*

7. Click OK to close the *Permissions for <folder>* dialog. Click OK to close the *Properties* dialog.

1.6.3.2   Server Firewall Configuration and File Sharing

The Log*Ware* III Server installation process attempts to automatically configure all necessary settings on the server computer to allow client computers to connect and use Log*Ware,* including configuring the Windows® Firewall with an exception for a TCP port. If the installation fails to do this for any reason or if you are using 3rd party firewall software, this section gives an example of how to manually configure these settings on the server computer.

When configuring Log*Ware* to be used in a client/server, multi-user configuration, all client computers must be able to communicate with the server computer. If the server computer is running firewall software, the firewall software must be configured to allow Log*Ware* client computers to connect to it by adding an exception for a TCP port. The client/server installation process attempts to automatically create an exception in

the Windows® firewall on the server computer. However, under certain circumstances it may fail.

Note: Improperly configuring firewall software can leave your network susceptible to viruses and other attacks from malicious software. Always consult your system or network administrator before changing firewall and file sharing settings!

The steps below indicate how to configure the default Windows® XP firewall to allow Log*Ware* client computers to connect to the Log*Ware* server computer. The process of configuring firewall software will differ from one firewall software package to another as well as one operating system to another. Consult your firewall software's documentation for details on adding exceptions for a TCP port.

To configure the Windows® XP firewall settings on Log*Ware's* server computer…

1. On the server computer, open the *Control Panel* window by clicking the *Start* button and selecting the *Control Panel* option, or the *Control Panel* option in the *Settings* menu, depending on your *Start* menu configuration.

2. In the *Control Panel* window, click the *Security Center* icon and select *Windows Firewall* (if in *Category View*) or double-click the *Windows Firewall* icon (if in *Classic View*) to display the *Windows Firewall* dialog.

3. Select the *Exceptions* tab and click the *Add Port* button. The *Add a Port* dialog is displayed.
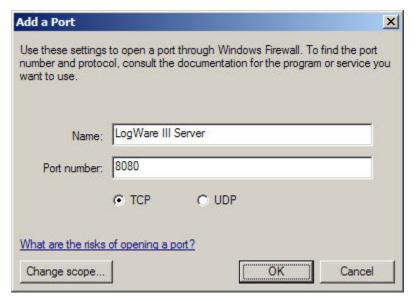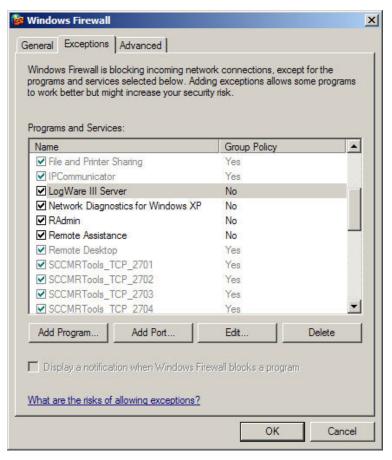
Figure 3 Add a Port dialog

4. In the *Port number* field, enter **8080** (default) or the TCP port that was entered during the server installation. Select the **TCP** option and click *OK* to close the

dialog. This should appear as an entry in the *Programs and Services* list now. The checkbox in front of the entry should be checked.

Figure 4 *Windows Firewall dialog - Exceptions tab*

5. Click *OK* to close the *Windows Firewall* dialog.

The Windows® XP firewall is now configured to allow Log*Ware* client computers to connect to it.

File sharing must also be enabled on the server computer to allow other client computers to access the shared client files. The steps below indicate the basic process of configuring file sharing in Windows® XP for a Microsoft network. The process of configuring file sharing will differ from one network to another as well as one operating system to another. Consult your operating system's help files for details on enabling file sharing.

To enable file sharing on Windows® XP for Microsoft networks on Log*Ware's* server computer…

1. On the server computer, open the *Control Panel* window by clicking the *Start* button and selecting the *Control Panel* option, or the *Control Panel* option in the *Settings* menu, depending on your *Start* menu configuration.

2. In the *Control Panel* window, click the *Network and Internet Connections* icon and select *Network Connections* (if in *Category View*) or double-click the *Network Connections* icon (if in *Classic View*) to display the *Network Connections* window.

3. Locate and right-click on the icon for your local area connection and select *Properties* from the popup menu to display the *Local Area Connection Properties* dialog.

4. In the *This connection uses the following items* list, locate the **File and Printer Sharing for Microsoft Networks** item. If this item is not checked, check it. Click *OK* to close the *Local Area Connection Properties* dialog.
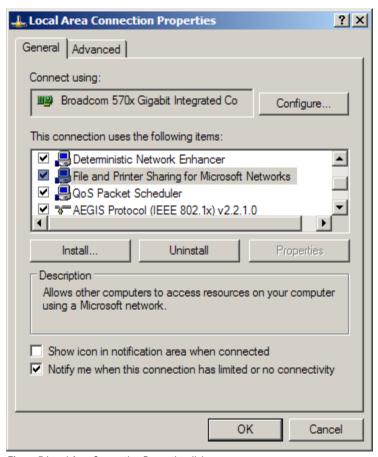
Figure 5 *Local Area Connection Properties dialog*

5. Close the *Network Connections* window and/or *Control Panel* window.

File sharing is now enabled. You may be required to restart the computer for the changes to take effect. If the installation process failed to share the folder on the server containing the shared client files, you may need to share the folder manually. Refer to Section 1.6.3.1, Sharing a Folder, on page 13, for more information on sharing a folder.

If the Log*Ware* client is installed on a Windows® XP computer that is not a member of a network (stand-alone) or is a member of a workgroup instead of a domain, you must disable simple file sharing if you want all Windows® users for the computer to be able to run Log*Ware*.

To disable simple file sharing on Windows® XP computer…
1. Open *Windows® Explorer* by right-clicking the *Start* button and selecting the *Explore* option.
2. Select the *Folder Options* option in the *Tools* menu to display the *Folder Options* dialog.
3. Select the *View* tab. In the *Advanced settings* list, locate and uncheck the *Use simple file sharing (Recommended)* item.
4. Click *OK* to close the *Folder Options* dialog.
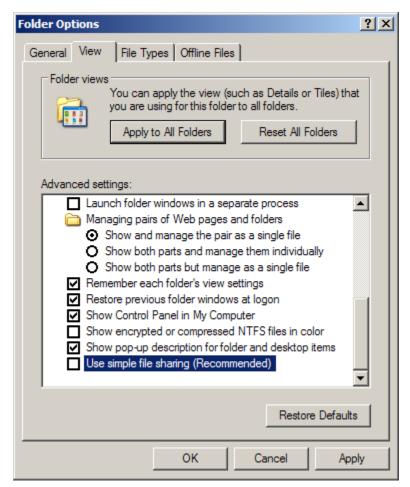
Figure 6 *Folder Options-View Tab - Simple File Sharing*

This will allow *all users of the computer access to LogWare's shared files.*

1.7   Running LogWare

The following information is intended to provide a brief overview on how to get Log-*Ware* up and running quickly.

1.7.1   Getting Started

Once the Log*Ware* server and client installations are complete, you may run Log*Ware* and configure it for use. In a multi-user, client/server configuration, each Log*Ware* client computer should be configured for use according to the users of that client computer. Some of Log*Ware*'s default settings are system-wide, but most settings are local to each client.

To configure Log*Ware*…

1. Click or double-click the Log*Ware* III icon to run Log*Ware*. An icon was placed on the desktop during installation, or locate the icon in the *Programs* or *All Programs* option in the *Start* menu.

2. The software will start and display the *LogWare User Login* dialog. Login to Log*Ware* using the built-in administrator account. Refer to Section 2.1, Administration, on page 38, for more information on the built-in administrator account.

3. Once logged in, select the *Manage User Accounts* option from the *Tools* menu and create one or more user accounts. Assign each user account to the appropriate user group. Passwords may be created the first time an account is used to login. Refer to Section 2.2.3, Managing User Accounts, on page 40, for more information on creating user accounts.

4. Select the *Options* option from the *Tools* menu and check Log*Ware*'s default settings. **Customize the settings as needed for each client computer.** Refer to Section 3, LogWare III Options, on page 51, for more information on Log*Ware*'s default settings.

Info: For maximum security, change the password on the built-in administrator account to prevent unauthorized use. Select the LogWare item from the Users list and click the Reset Password button. **DO NOT FORGET THE PASSWORD!** *Refer to Section 2.2.4, Setting and Changing Account Passwords, on page 45, for more information on changing user account passwords.*

To use Log*Ware*…

1. Login using one of the newly created user accounts. Select the *Login as New User* option from the *File* menu and enter the user name for the account to use. **Leave the *Password* field blank when logging in using an account for the first time.** The *Change Password* dialog is displayed. Enter a password for this user account and click *OK* to continue. On subsequent logins, both the user name and password must be entered.

Note: Be sure not to forget your passwords! Write down your passwords and keep them in a secure place.

2. When Log*Ware* runs, the *Real-Time Log Session Settings* dialog is displayed (this feature can be disabled if desired using the *Options* dialog). Use this dialog to configure a real-time log session. Refer to Section 5.1, Real-Time Log Session Settings, on page 87, for more information on setting up a real-time log session.

3. To start a real-time log session, make sure the logger is connected and setup properly. Select the appropriate communication settings and click the *Query Logger* button. Log*Ware* reads in the current logger and sensor model numbers, serial numbers, location settings (SENSOR ID), alarm settings, etc. and fills in the information on the *Logger* tab. You may change this information as

required. **Be sure to set the *Location* field for each sensor appropriately as this information can be used to select logged data for viewing, printing, or exporting.**

4. Click the *Session* tab. Select the logging interval and start and end criteria.

5. Click the *Start* button to start logging data.

6. Additional real-time log sessions may also be setup by selecting the *New Log Session* option from the *File* menu and repeating steps 2 to 5.

Log session settings can be saved to a configuration file by clicking the *Save As* button on the *Real-Time Log Session Settings* dialog prior to starting the log session. Refer to Section 3, LogWare III Options, on page 51, for options on loading configuration files and starting a log session automatically when Log*Ware* starts.

Note: LogWare supports automatic logins. However, there are some limitations to using this feature. Be sure you fully understand this feature and its proper use before implementing it. Refer to Section 2.4, Automatic Logins, on page 48, for more information on setting up LogWare to automatically login.

1.8 LogWare Main Display

When Log*Ware* starts, the main display window is shown. The main display window consists of the menus, toolbar, a workspace area and a status bar.
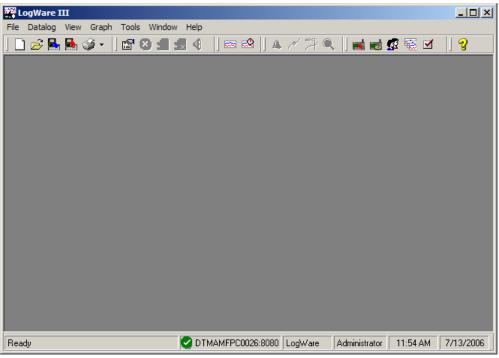
Figure 7 *Main display window*

Menus allow access to the various features of the software. A general description of each menu is given below:

- **File** – Create new real-time log sessions, open real-time log session configuration files, import and export data, print reports and graphs, login as a new user and exit Log*Ware*. Refer to Section 1.8.1.1, File menu, on page 25, for more information on the *File* menu options.

- **Datalog** – Create new real-time log sessions, stop and close real-time log sessions, mute alarms. Refer to Section 1.8.1.2, Datalog menu, on page 26, for more information on the *Datalog* menu options.

- **View** – Show/hide toolbar and status bar, view previously logged data, and start a remote monitoring session. Refer to Section 1.8.1.3, View menu, on page 26, for more information on the *View* menu options.

- **Graph** – Show alarms, data points and annotations on the graphs, zooming and printing graphs. Refer to Section 1.8.1.4, Graph menu, on page 27, for more information on the *Graph* menu options.

- **Tools** – Download data from a logger, manage assets and locations, user accounts, log sessions and software licenses, create, edit and delete annotations, and change Log*Ware* options. Refer to Section 1.8.1.5, Tools menu, on page 27, for more information on the *Tools* menu options.

- **Window** – Rearrange and switch between open windows. Refer to Section 1.8.1.6, Window menu, on page 28, for more information on the *Window* menu options.
- **Help** – Display help topics and *About* dialog. Refer to Section 1.8.1.7, Help menu, on page 28, for more information on the *Help* menu options.

Toolbars allow quick access to the most common menu functions. Toolbars are divided into sections that correspond to related functions. Toolbars may be rearranged as desired by clicking on the vertical bar on the left side of the section and dragging it to the desired location. The following toolbars are available:

File Toolbar

- **New** - Create a new real-time log session
- **Open** – Open a real-time log session configuration file
- **Import** - Import data from record files
- **Export** - Export data to HTML, RTF, or CSV files
- **Print** - Print reports and graphs

Datalog Toolbar

- **Setup** - Create a new real-time log session
- **Stop** – Stop a real-time log session
- **Close** - Close a real-time log session window
- **Stop and close all** – Stop and close all real-time log sessions
- **Mute all alarms** - Prevents alarm events from occurring

View Toolbar

- **Logged data** – Select logged data to display
- **Remote Monitoring** – Open a remote monitoring session

Graph Toolbar

- **Show alarms** - Shows horizontal alarm lines on the graphs
- **Show data points** - Shows markers at data points on the graphs
- **Show annotations** - Shows annotations on the graphs
- **Undo zoom** - Restores the graphs to show all data

Tools Toolbar

- **Download** - Download data from a logger
- **Manage assets and locations** - Manage loggers, sensors, and locations
- **Manage user accounts** - Manage user accounts, passwords, and permissions
- **Manage log sessions** – Manage real-time log sessions
- **Options** - Change Log*Ware*'s default settings

Help Toolbar

- **Help** - Opens the on-line help file

The status bar, located along the bottom of the window, indicates the function that the software is currently performing, server name and connection status, current user and permission information, and the current system date and time.

Info: The date and time displayed are local time settings based on the computer's clock and can be modified through the Windows® Control Panel.

1.8.1   Menus

The following sections briefly outline each of Log*Ware*'s menus and menu options.

1.8.1.1   File menu

The *File* menu contains the following options:

```
New Log Session...
Open Log Session...

Import...
Export...

Print                    ▶

Login as New User...
Exit
```

- **New log session** - Creates a new real-time log session; Refer to Section 5.1, Real-Time Log Session Settings, on page 87
- **Open Log Session** - Opens a real-time log session configuration file
- **Import** - Imports data from files; Refer to Section 8, Importing Logged Data, on page 115
- **Export** - Exports logged data to files; Refer to Section 9.2, Exporting Logged Data, on page 130
- **Print** - Provides options to print graphs and reports

- ○ **Graph** - Prints the graphs in the active window
- ○ **Report** - Prints reports of logged data; Refer to Section 9.3, Printing Reports, on page 137
  - **Login as New User** - Logs out the current user and displays the *LogWare User Login* dialog to login as a new user
  - **Exit** - Exits Log*Ware*

1.8.1.2 Datalog menu

The *Datalog* menu contains the following options:

- **Setup** - Creates a new real-time log session
- **Stop** - Stops a real-time log session
- **Close** - Closes a real-time log session window
- **Stop and Close All** - Stops all real-time log sessions and closes log session windows
- **Mute All Alarms** - Prevents real-time log session alarm events from occurring

1.8.1.3 View menu
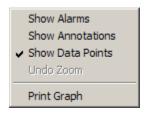
The *View* menu contains the following options:

- **Toolbar** - Shows/hides the toolbar buttons
- **Status Bar** - Shows/hides the status bar at the bottom of the main display
- **Logged Data** - Displays logged data; Refer to Section 9.1, Viewing Logged Data, on page 122
- **Remote Monitoring** - Allows real-time log sessions to be remotely monitored; Refer to Section 6, Remote Monitoring, on page 103

1.8.1.4   Graph menu

The *Graph* menu contains the following options:

- **Show Alarms** - Shows/hides horizontal alarm lines on the graphs
- **Show Annotations** - Shows/hides vertical annotation lines on the graphs
- **Show Data Points** - Shows/hides data point markers on the graphs
- **Undo Zoom** - Restores the graphs to their normal state
- **Print Graph** - Prints the graphs in the active window

1.8.1.5   Tools menu

The *Tools* menu contains the following options:
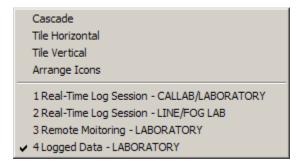
- **Download** - Downloads data from the logger's memory; Refer to Section 7, Downloading Logged Data, on page 111
- **Manage Assets and Locations** - Manages loggers, sensors, and locations; Refer to Section 10.2, Managing Assets and Locations, on page 152
- **Manage User Accounts** - Manage user accounts; Refer to Section 2.2.3, Managing User Accounts, on page 40
- **Manage Log Sessions** - Manage real-time log sessions; Section 10.3, Managing Log Sessions, on page 162
- **Manage Licenses** - Add, remove, and manage licenses. Refer to Section 10.1.1, Manage Licenses, on page 149

- **Delete Log Sessions** - Delete log session data; Refer to Section 10.4, Deleting Log Sessions, on page 164
- **Annotations** - Provides options for managing annotations; Section 9.1.3, Annotations, on page 128
  ○ **Add** - Adds an annotation to a data point
  ○ **Edit** - Edits an annotation of a data point
  ○ **Remove** - Removes an annotation from a data point
- **Options** - Allows access to Log*Ware*'s default options and settings; Section 3, LogWare III Options, on page 51s

1.8.1.6   Window menu

The *Window* menu contains the following options:

- **Cascade** - Cascades all open windows
- **Tile Horizontal** - Tiles all open windows horizontally
- **Tile Vertical** - Tiles all open windows vertically
- **Arrange Icons** - Arranges the icons for all minimized windows at the bottom of the main display
- **Window List** - Displays a list of all open windows

1.8.1.7   Help menu

The *Help* menu contains the following options:

- **Contents** - Opens the on-line help file to the Contents topic
- **Technical Support** - Opens the on-line help file to the Technical Support topic
- **About** - Displays the *About* dialog

1.9   Options

Log*Ware* has many features and settings that can be customized by the user to allow Log*Ware* to operate in certain ways. For more information on these options, please refer to Section 3, LogWare III Options, on page 51.

1.10   Methods of Communication

Log*Ware* supports communicating with loggers using various methods. Each method of communication has certain properties and settings that need to be set properly.

The following methods of communication are currently supported by Log*Ware*:

- **Serial (RS-232)** – Refer to Section 1.10.1, Serial (RS-232) Communications, on page 29
- **Ethernet (TCP/IP)** – Refer to Section 1.10.2, Ethernet (TCP/IP) Communications, on page 31
- **Wireless** – Refer to Section 1.10.3, Wireless Communications, on page 33s

Any of these methods can be used to run real-time log sessions and download data from a logger.

Info: The Hart Model 1620 "DewK" Thermo-Hygrometer and Fluke Model 5020A "DewK" Thermo-Hygrometer only support the serial (RS-232) communication protocol. An Ethernet to RS-232 adapter is available for connecting logger models 1620 and 5020A to an Ethernet network.

The following sections describe in detail the use of each communication method.

1.10.1   Serial (RS-232) Communications

In order to use the RS-232 method of communication, you must connect the logger to a serial (COM) port on the computer using the "null modem" cable provided with the logger.

To setup Log*Ware* to use the Serial method of communication, select **Serial (RS-232)** as the communication protocol. The *RS-232 Communication Settings* dialog displays the settings for the Serial (RS-232) method of communication. This dialog is displayed when the *Communication Settings* button is clicked and the **Serial (RS-232)** communication option is selected.
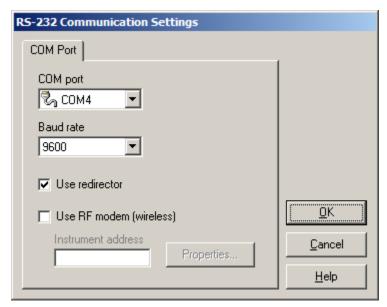
Figure 8 RS-232 Communication Settings dialog

The *COM port* field indicates which COM port on the computer should be used for communicating with a logger. This list contains only COM ports which are currently active and available on the computer at the time this dialog was displayed and includes both standard and virtual COM ports. Use the drop-down list to select the COM port to use. If the COM port to use is not listed, it may already be in use by Log*Ware* or another application.

The *Baud rate* field indicates the default baud rate to use to communicate with a logger. Use the drop-down list to select the default baud rate to use.

Info: LogWare is designed to automatically detect the baud rate that a logger is operating at. Changing this setting only indicates which baud rate LogWare will try first when attempting to communicate with a logger.

The *Use redirector* option should only be checked when the selected COM port is a virtual COM port that uses redirector software. Redirector software creates "virtual" COM ports and allows them to be mapped to IP addresses or other supported communication devices. When using standard COM ports, this option should not be checked.

The *Use RF modem (wireless)* option should be left unchecked when using RS-232 to communicate with a logger. This option is only used when using wireless communications. Refer to Section 1.10.3, Wireless Communications, on page 33, for more information on configuring wireless communications.

Many new computers today do not come with RS-232 ports built-in. Log*Ware* supports using many off-the-shelf USB to RS-232 adapters. However, not all such adapters may be compatible with Log*Ware*. Hart has tested many adapters and recommends

some of them for use with Log*Ware*. For the most up-to-date information, visit our website at www.hartscientific.com/software.

1.10.2 Ethernet (TCP/IP) Communications

In order to use the Ethernet method of communication, you must connect the logger to an Ethernet network using an Ethernet patch cable.

Before you can communicate with a logger using the Ethernet protocol, make sure the logger's Ethernet (LAN) communications are enabled and properly configured. By default, the logger's Ethernet communications are enabled. Refer to the logger's User Guide for more information on configuring the logger's Ethernet communications.

Info: The Ethernet and wireless communication protocols are mutually exclusive in the logger – only one may be enabled at a time. Enabling the Ethernet protocol automatically disables the wireless protocol, and vice-versa.

To setup Log*Ware* to use the Ethernet method of communication, select **Ethernet (TCP/IP)** as the communication protocol. The *TCP/IP Communication Settings* dialog displays the appropriate settings for using Ethernet communications. This dialog is displayed when the *Communication Settings* button is clicked.
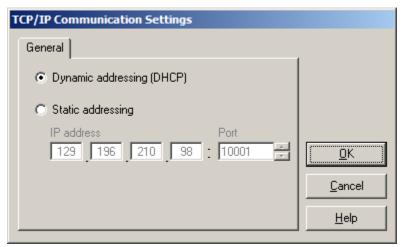
Figure 9 *TCP/IP Communication Settings dialog*

Log*Ware* supports using both dynamic (DHCP) and static addressing of loggers connected to the network. When possible, it is recommended to use dynamic addressing to allow the logger to automatically obtain an IP address from the network's DHCP server. If you want or need to use static addressing, you should contact your network administrator to allocate an IP address or range of IP addresses that you can use.

To use dynamic addressing, select the *Dynamic addressing (DHCP)* option. Selecting this option allows Log*Ware* to display a list of all detected loggers on the network at

the appropriate time. Refer to Section 1.10.2.1, Select Logger, on page 32, for more information on selecting a logger.

To use static addressing, select the *Static addressing* option. The *IP address* and *Port* boxes are enabled. Enter the IP address and port of the logger to communicate with in the boxes provided. The logger must be configured to use this IP address. By default, the loggers are configured to always use port 10001.

> ⓘ ***Info:*** *An Ethernet to RS-232 adapter is available for connecting logger models 1620 and 5020A to an Ethernet network.*

1.10.2.1   Select Logger

The *Select Logger* dialog allows the user to select the logger to use from a list of detected loggers on the Ethernet network. This dialog is displayed when using the DHCP mode for Ethernet (TCP/IP) communications and clicking the *Query Logger* button on the *Real-Time Log Session Settings* dialog or by clicking the *Download* button on the *Download Options* dialog. Refer to Section 5, Real-Time Data Logging, on page 85, and Section 7, Downloading Logged Data, on page 111, for more information on real-time log sessions and downloading logged data.
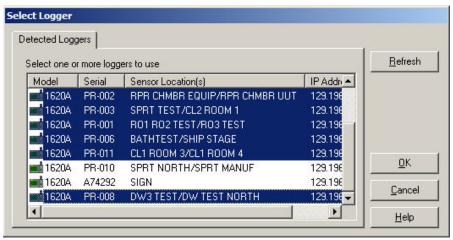
Figure 10 *Select Logger dialog*

The *Detected Loggers* tab displays a list of all loggers detected on the Ethernet network. This list indicates the model, serial number, sensor location information (SENSOR ID) for active sensors, and IP address of each detected logger.

When using the DHCP mode for Ethernet (TCP/IP) communications, a broadcast command is sent over the network to detect all loggers. All loggers that responded to the broadcast are listed. If a logger is busy when the broadcast command is sent, it may not respond and therefore not appear in the list. Click the *Refresh* button to send the broadcast command again. Refer to Section 1.10.2, Ethernet (TCP/IP) Communications, on page 31, for more information on using Ethernet communications.

Select the logger to use from the list and click *OK*. To select multiple loggers, hold down the *CTRL* or *SHIFT* key and click on each logger to select and click *OK*.

1.10.3   Wireless Communications

In order to use the wireless method of communication, you must purchase and install a wireless RF modem. The RF modems currently come with either a RS-232 (Model 2633-232) or USB (Model 2633-USB) interface. Follow the instructions provided with the RF modem to perform the installation, including installing COM port redirector software if necessary. The RS-232 modem will connect directly to an existing COM port on the computer. Installing the USB modem creates a virtual COM port for the modem.

Info: The wireless communication feature of the logger is optional and is sold separately or as an upgrade.

Before you can communicate with a logger using the wireless protocol, the logger's wireless (RF) communications must be enabled and properly configured, and the RF modem must be configured. By default, the logger's wireless communications are disabled. Refer to the logger's User Guide for more information on enabling and configuring the wireless communications.

Info: The wireless and Ethernet communication protocols are mutually exclusive in the logger – only one may be enabled at a time. Enabling the wireless protocol automatically disables the Ethernet protocol, and vice-versa.

To setup Log*Ware* to use the wireless method of communication, select **Serial (RS-232)** as the communication protocol. The *RS-232 Communication Settings* dialog displays the appropriate settings for using the wireless communications. This dialog is displayed when the Communication Settings button is clicked and the **Serial (RS-232)** communication option is selected.
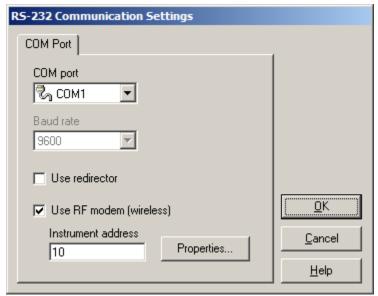
Figure 11 RS-232 Communication Settings dialog - RF modem enabled

The *COM port* field indicates which COM port on the computer the RF modem is connected to. This list contains only COM ports which are currently active and available on the computer at the time this dialog was displayed and includes both standard and virtual COM ports. Use the drop-down list to select the COM port to which the RF modem is connected. If the COM port is not listed, it may already be in use by Log*Ware* or another application or the COM port redirector software that came with the RF modem may not be properly installed.

The *Baud rate* field indicates the baud rate to use to communicate with the RF modem. By default, the RF modem is set to operate at 9600 baud. The baud rate field will be set automatically when enabling the RF modem option below.

The *Use redirector* option should be unchecked when using wireless communications. This option is only used for non-wireless RS-232 communications when the selected COM port is a virtual COM port that uses redirector software Redirector software creates "virtual" COM ports and allows them to be mapped to IP addresses or other supported communication devices. When using standard COM ports, this option should not be checked..

Check the *Use RF modem (wireless)* option to enable using the RF modem. The *Instrument address* box and *Properties* button are enabled.

The *Instrument address* box indicates the address of the logger to communicate with. Each logger on the wireless network must be assigned a unique address. Enter the instrument address of the logger to communicate with in this box.

If the RF modem has not been previously configured, click the *Properties* button to access the RF modem's properties. The RF modem's current settings are read in and displayed in the *RF Modem Properties* dialog.

1.10.3.1   RF Modem Properties

The *RF Modem Properties* dialog displays the RF modem's current settings and allows the settings to be changed. This dialog is displayed when the *Properties* button on the *RS-232 Communication Settings* dialog is clicked.
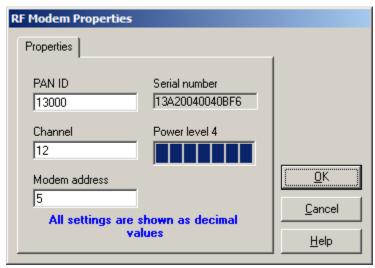
Figure 12 *RF Modem Properties dialog*

The wireless communications supported by the logger follow the IEEE 802.15.4 protocol for wireless communications. For more information on this protocol, visit the IEEE association website at www.ieee.org. Refer to the RF modem's documentation for more details on each of these settings. It is not necessary to install or use the modem configuration software included with the RF modem. All necessary settings can be accessed using this dialog.

The *PAN ID* box indicates the unique Personal Area Network (PAN) ID for the wireless network using this RF modem. Both the modem and the logger must be configured to use the same PAN ID. Enter the PAN ID to use in this box.

The *Channel* box indicates the RF channel number to use for communications. Both the modem and the logger must be configured to use the same channel number. Enter the channel number to use in this box.

The *Modem address* box indicates the address of the modem on the network. Each logger that is to communicate through this modem must be configured with this modem's address. Enter the modem address in this box.

The *Serial number* box indicates the serial number of this RF modem and is displayed for informational purposes only.

The *Power level* box indicates the strength of the signal that the modem will transmit. This setting is not editable on this dialog and is displayed for informational purposes only. If you wish to change the modem's power level setting, you should install and use the configuration software that came with the modem.

Click *OK* to write the settings to the RF modem. A prompt is displayed to ask if the settings should be written to NVRAM. Writing the settings to NVRAM allows the RF modem to retain these settings even after power is disconnected from the RF modem. If the settings are not written to NVRAM, disconnecting the power will cause the settings to revert back to their previous values. It is recommended to always write the settings to NVRAM.

2 Security Features

Log*Ware* provides security features that allow an administrator to control which users have access to certain functions and features of Log*Ware*. Access to these features is controlled by requiring a password protected login account.

The following security related terms are used by Log*Ware*. Before setting up user accounts, you should be familiar with and understand the meaning of these terms.

Table 3 Security glossary

Term	Description
Administrator	An administrator is someone who is in charge of setting up and configuring default settings, user accounts, and other special features of the software. Log*Ware* includes a built-in administrator account that should be used initially to create additional user accounts for each user, group, team, etc.
Group	Groups are used to assign a pre-defined set of permissions to a user account. Each user account must be assigned to a group. Permissions may be customized for any user by assigning the user to the "Custom" group. **Note: These groups are separate and independent of Log*Ware*'s e-mail groups which allow e-mail recipients to be categorized and assigned to e-mail envelopes for sending e-mail messages!**
Permissions	Permissions are rights that are granted to a user account that allow that user to perform certain tasks or allow access to certain features of the software.
User account	A user account consists of a user name, password, set of permissions, and other information that provide a means of allowing a person to gain access to Log*Ware* and its features.

Log*Ware*'s security features can be accessed from the *Manage User Accounts* dialog. To display this dialog, select the *Manage User Accounts* option from the *Tools* menu. Refer to Section 2.2.3, Managing User Accounts, on page 40, for more information on managing user accounts.

Note: To setup LogWare's security features, you must login to LogWare using the built-in administrator account, a user account that is assigned to the Administrator group, or a user account that has been granted permission to create and/or manage user accounts. Refer to Section 2.1, Administration, for more information on the built-in administrator account.

Ⓐ Setup User Accounts and Passwords

In order to use Log*Ware*'s security features, you must create user accounts. User accounts are used to login to Log*Ware*. User accounts may be created for individuals, teams, or groups. Each user account may have an associated password. Log*Ware* does allow certain user accounts to be configured to not require a password. This is useful when you need to allow auditors or other guests "read only" access to the data, and is required when using Log*Ware*'s auto-login feature for automatic logins.

Ⓐ Setup User Account Permissions

User accounts can be configured to grant users access to the features of Log*Ware* they require by setting up permissions. Each user account must be assigned to a group. Each pre-defined group has a fixed set of permissions associated with it. However, a

"custom" group is provided that allows the administrator to assign any combination of permissions to a user account as needed. It is recommended that whenever possible, you should try to use the pre-defined groups and avoid customizing permissions.

⚠️ *Note: Certain features in the software can only be used if the user account is a member of the Administrator group, even if the user account has been granted the appropriate permissions using the Custom group!*

🅐 Changing Passwords

Log*Ware* allows the administrator to force a user to assign a new password to their user account. The administrator may also assign a new password to the user account in case the user forgot the current password.

Once user accounts have been created, they may be used to login to Log*Ware* from any client computer. Log*Ware* does not attempt to restrict the number of computers that can be logged in using a given account. The number of concurrent logins is only restricted by the number of licenses you have purchased and applied to the system.

The following sections outline how to setup and configure Log*Ware's* user accounts and other security features.

2.1　Administration

When Log*Ware* is installed on a computer for the first time, a built-in administrator account is created. You must initially use this built-in account to login to Log*Ware* to create and manage user accounts. You may also setup additional administrator accounts. The user name and password for the built-in administrator account are:

User name: **LogWare**

Password: **LogWare**

⚠️ *Note: You should change the password for the built-in administrator account to prevent unauthorized user access. Passwords are case-sensitive!*

Every time Log*Ware* runs, the *LogWare User Login* dialog is displayed. Enter the built-in administrator user name and password as indicated above and click *OK*.

When logged in using any administrator account (accounts that are assigned to the *Administrators* group), you are granted special permission to access and change many of Log*Ware*'s restricted settings. These restricted settings include, but are not limited to, setting up an auto-login account, configuring automatic removal of inactive log sessions, and managing software licenses. Also, some features of Log*Ware* are disabled when a user is logged in using any administrator account, such as automatically starting real-time log sessions on startup.

Select the *Manage User Accounts* option in the *Tools* menu to create and manage user accounts.

2.2   User Accounts

User accounts allow Log*Ware* to identify users who perform certain tasks. They also allow the administrator to determine permissions (which users have access to certain features). Each user account consists of a user name, password, first and last name (optional), and user group and permissions settings.

By default, Log*Ware* has one built-in administrator account. After Log*Ware* is installed, the administrator must initially use this account to login and create accounts for each person or team who will use the software. Also, the administrator should change the password for the built-in administrator account to prevent unauthorized access to the software.

Note: Do not forget your passwords! Administrators can change or reset user account passwords, but they cannot recover passwords. If necessary, write the passwords down and keep them in a secure location.

2.2.1   User Names and Passwords

Log*Ware* imposes some simple rules about user names and passwords that must be observed.

User names…

- are not case-sensitive
- must be unique
- must be between 4 and 20 characters in length
- can consist of numbers, letters, and any of the following symbols: **- + . < > @ ! # $ % & ^ _ | ~**

Passwords…

- are case-sensitive
- must be between 4 and 20 characters in length
- can consist of numbers, letters, and any of the following symbols: **- + . < > @ ! # $ % & ^ _ | ~**

Info: Currently, LogWare does not impose any restrictions regarding complexity, minimum or maximum age, or re-use of passwords.

2.2.2   User Groups and Permissions

Log*Ware* requires each user account to be assigned to a user group. User groups define the functions and features of Log*Ware* a user is allowed to use. Refer to the table below for information on the default permissions for each user group. The **Custom** user group should be used when a user account needs to be assigned special permissions that are not covered by any of the pre-defined user groups.

⚠️ *Note: The Custom user group should only be used to grant limited permissions to a user account. When possible, a user account should be assigned to one of the pre-defined user groups. It is not recommended to use the Custom user group to grant a user account all permissions in LogWare. Some features of LogWare are restricted only to members of the Administrator user group.*

Table 4 *Account restrictions*

LogWare Functions/Features	User Group			
	G Guest	**R** Restricted	**T** Typical	**A** Administrator
Automatic login	X	X	-	-
Automatically start log sessions	-	X	X	-
View logged data	X	X	X	X
Print reports and graphs	X	X	X	X
Remote monitoring	X	X	X	X
Run real-time log sessions	-	X	X	X
Import data from files	-	X	X	X
Download data from logger	-	X	X	X
Create annotations for logged data	-	X	X	X
Export logged data	-	X	X	X
Add new assets (loggers and sensors)	-	-	X	X
Add new locations	-	-	X	X
Edit alarm settings	-	-	X	X
Edit e-mail settings	-	-	X	X
Change LogWare's default settings	-	-	X	X
Manage log sessions	-	-	X	X
Create user accounts	-	-	-	X
Manage user accounts	-	-	-	X
Manage assets (loggers and sensors)	-	-	-	X
Manage locations	-	-	-	X
Delete log sessions	-	-	-	X
Manage logged data annotations	-	-	-	X
Manage licenses	-	-	-	X
Setup auto-login account	-	-	-	X
Enable/disable calibration due notifications	-	-	-	X
Enable/disable graph customization dialog	-	-	-	X
Enable/disable automatically removing inactive log sessions from Remote Monitoring dialog	-	-	-	X

2.2.3   Managing User Accounts

In order to use Log*Ware*, users must login using a user account. User accounts are created and managed by an administrator. Each user account has a user name and a password.

To create and manage user accounts, you must login using an administrator account or have the appropriate permissions. Select the *Manage User Accounts* option in the *Tools* menu to display the *Manage User Accounts* dialog.

Figure 13 *Manage User Accounts dialog*

The *Users* list displays the currently configured user accounts. The group that the user account is assigned to is indicated in parentheses. The group assignment determines the specific permissions a user account has. All user accounts that are assigned to the **Administrator** group are indicated in bold text and display a different icon from the other user accounts. Items marked with an asterisk indicate this user is required to change the account password on next login.

Ⓐ To setup a new user account…

1. Click the *New* button to display the *New User Account* dialog.
2. Fill in the information on this dialog.
    a. On the *User Account* tab, the *User name* field <u>must</u> be unique.
    b. The *First name* and *Last name* fields are optional.
    c. Leave the *Require password* checkbox checked unless you are creating a user account that you do not want to require a password, such as for guest users or for auto-login purposes.
    d. On the *Permissions* tab, select on of the pre-defined groups using the *Group* drop-down list.
    e. If the purpose for this user account does not fit one of the pre-defined groups, select **Custom** using the *Group* drop-down list and check the appropriate permissions for this account in the *Permissions* list.

3. Click *OK* to close the dialog. The new user account should appear in the *Users* list with the group indicated in parentheses. An asterisk should appear after the user name if this account requires a password to be set by the user on first login.

Ⓐ To change the settings for an existing user account…

1. In the *Users* list, select the user account to change.
2. Click the *Settings* button to display the *<Username> Account Settings* dialog.
3. Edit the information on this dialog. **Note:** The *User name* field is locked and cannot be changed!
4. Click *OK* to close the dialog. Updates to the user account group assignment or password status should be reflected in the *Users* list.

Ⓐ To remove an existing user account…

1. In the *Users* list, select the user account to remove.
2. Click the *Remove* button.
3. A prompt is displayed to confirm removing the user account. Click *Yes* to confirm. The user account should be removed from the *Users* list.

⚠️ *Note: A user account should only be removed if it is never to be used again. If you wish to temporarily disable an account, simply uncheck the Active option on the Account Settings dialog instead of removing the account. If you unintentionally remove a user account from the system, refer to the Recovering Removed Assets, Locations and Users topic in the online help. The built-in administrator account LogWare cannot be removed!*

Ⓐ To reset a user account password…

1. In the *Users* list, select the user account which requires the password to be reset.
2. Click the *Reset Password* button.
3. The *Change Password* dialog is displayed. Enter the new password for this user account in the *New password* and *Confirm password* fields.
4. Click *OK* to reset the password.

⚠️ *Note: Changes to user accounts, with the exception of resetting passwords, will not take effect until you click the OK button on the Manage User Accounts dialog. Clicking Cancel on the Manage User Accounts dialog discards all user account changes!*

2.2.3.1   User Account Settings

Ⓐ The *User Account Settings* dialog allows Log*Ware* user accounts to be created and changed. To display this dialog, select the *New* or *Settings* button on the *Manage User Accounts* dialog.
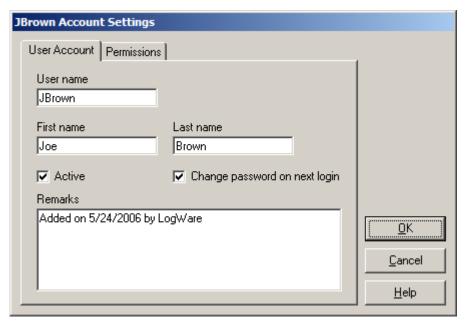
Figure 14 *User Account Settings dialog*

On the *User Account* tab, enter the user name for this account in the *User name* field. This field is required and is what the user must enter into the login dialog when Log*Ware* starts.

Enter the first and last names for this user account in the *First name* and *Last name* fields respectively. This information is optional and may be omitted. If you are creating a user account for a group, team, or for general use, you may want to leave these fields blank.

To allow this user account to be used to login to Log*Ware*, check the *Active* checkbox. To prevent a user from logging into Log*Ware* using this account, uncheck this checkbox.

The *Change password on next login* checkbox indicates whether the user will be prompted to change their password the next time this user account is used to login to Log*Ware*. When creating a new user account, this checkbox is named *Require password* and determines whether this user account has a password associated with it. **If this account is going to be used for automatic login, you must uncheck this checkbox!** This will allow login using this account without requiring a password to be entered.

Note: The Require password option is checked and disabled by default if the user account is assigned to the Typical or Administrator group (see below). User accounts assigned to these groups always require a password and cannot be used for automatic logins.

The *Remarks* field can be used for entering notes regarding this user account. When creating a new user account, this field indicates the date the account was created and the user that created the account. You may change it or add additional notes if desired.

To assign this user account to a group or setup custom permissions, select the *Permissions* tab.
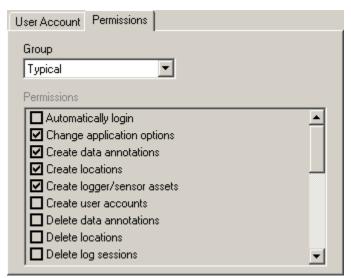
Figure 15 User Account Settings dialog - Permissions tab

Note: Certain tasks in LogWare can only be performed if the user account is assigned to the Administrator group. Some of these tasks include resetting user account passwords, managing licenses, and configuring some of the default settings on the LogWare III Options dialog.

Assign this user account to a group using the *Group* drop-down list. By assigning a user account to a group, you are giving that user account permission to access various features and perform certain tasks in Log*Ware*. For more detailed information on groups and permissions, refer to Section 2.2.2, User Groups and Permissions, on page 39. If the user is assigned to the *Custom* group, select the permissions that this user should have from the *Permissions* list. Otherwise, the *Permissions* list indicates the permissions for users that belong to the selected user group.

Note: Whenever possible, assign user accounts to one of the pre-defined groups. Only select the Custom group if the purpose for the user account does not fit one of the pre-defined group's permissions.

2.2.4   Setting and Changing Account Passwords

Each user account may have an associated password. Passwords are set when a user logs in for the first time on new accounts. Passwords may also be changed by an administrator at any time. Optionally, one or more user accounts can be configured to not require a password as long as the user account belongs to either the **Guest** or **Restricted** user groups.

⚠️ *Note: Do not forget your passwords! Administrators can change or reset user account passwords, but they cannot recover passwords. If necessary, write the passwords down and keep them in a secure location.*

🅐 **To set the password for a new user account…**

1. Run Log*Ware* and login using an administrator account.
2. Select the *Manage User Accounts* option from the *Tools* menu. The *Manage User Accounts* dialog is displayed.
3. Create the new user account. Make sure the *Require password* checkbox is checked.
4. Click *OK* to close the *Manage User Accounts* dialog and create the user account.

When the user attempts to login the first time using the new user account, the user should enter the user name for the account, leave the *Password* field blank, and click *OK*. The *Change Password* dialog will be displayed.

🅐 **To force the user to change the password for their user account…**

1. Run Log*Ware* and login using an administrator account.
2. Select the *Manage User Accounts* option from the *Tools* menu. The *Manage User Accounts* dialog is displayed.
3. In the *Users* list, select the account and click the *Settings* button. The *User Account Settings* dialog is displayed.
4. Check the *Change password on next login* option. Click *OK* to close the *User Account Settings* dialog.
5. Click *OK* to close the *Manage User Accounts* dialog.

When the user attempts to login using the user name and current password, the *Change Password* dialog will be displayed.

🅐❗ **To reset the password for an existing user account…**

1. Run Log*Ware* and login using an administrator account.
2. Select the *Manage User Accounts* option from the *Tools* menu. The *Manage User Accounts* dialog is displayed.
3. In the *Users* list, select the account.
4. Click the *Reset Password* button.
5. The *Change Password* dialog is displayed. Enter the new password in the *New password* and *Confirm password* fields and click *OK*. The password is now set.

6. Click *OK* to close the *Manage User Accounts* dialog.

Ⓐ To create a new user account without a password…

1. Run Log*Ware* and login using an administrator account.

2. Select the *Manage User Accounts* option from the *Tools* menu. The *Manage User Accounts* dialog is displayed.

3. Create a new user account.

   a. On the *User Account* tab, make sure the *Require password* option is unchecked.

   b. On the *Permissions* tab, assign the user account to either the **Guest**, **Restricted**, or **Custom** user group. If assigned to the **Custom** user group, check the **Auto-Login** permission in the *Permissions* list.

4. Click *OK* to close the *Manage User Accounts* dialog.

When the user attempts to login, the user should enter the user name for the account and leave the *Password* field blank.

ⓘ *Info: Once a password has been assigned to an account, it is not possible to re-move the password from that account. The password may be changed, but it can-not be removed. You must create a new account without a password.*

2.3 LogWare User Login

The *LogWare User Login* dialog allows the user to login to Log*Ware*.

Figure 16 *LogWare User Login dialog*

In order to use Log*Ware*, you must first login. The *LogWare User Login* dialog is displayed when Log*Ware* runs unless Log*Ware* is configured to automatically login.

User accounts must be created and managed by an administrator before users can login. Log*Ware* provides a built-in administrator account that can be used to create new user accounts.

Once user accounts have been created, you can enter the user name and password on this dialog to start using Log*Ware*.

Enter the user name in the *User name* field. User names are not case-sensitive. Enter the password for this account in the *Password* field. Passwords are case-sensitive. For new user accounts that have not been assigned a password, leave the *Password* field blank. If required, the *Change Password* dialog will be displayed to allow a new password to be associated with this user account.

In order to successfully login to Log*Ware*, there must be a valid license available. Each login requires and uses one license. In a multi-user environment, if all licenses are currently being used, the login will not succeed and a message will be displayed indicating no licenses are available. Additional licenses may be purchased and applied to the system by an administrator.

2.3.1 Change Password

The *Change Password* dialog is used to set or change the password associated with a user account. This dialog is displayed when logging in using a new user account for

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the first time or when the administrator has forced the password for a user account to be changed on next login.
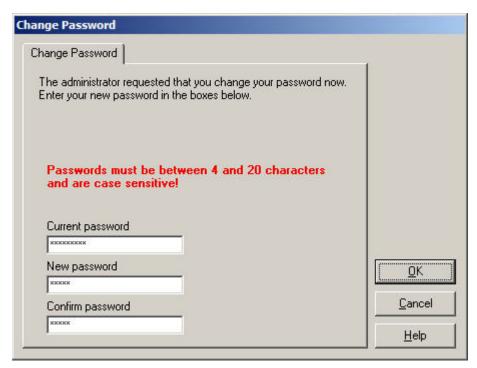
Figure 17 *Change Password dialog*

For existing user accounts, the *Current password* field is displayed. The current password is automatically filled in with the password entered on the *LogWare User Login* dialog. Otherwise, this field is not displayed.

To set or change the account password, enter the new password in the *New password* field. Then, enter the password again in the *Confirm password* field.

2.4 Automatic Logins

Note: There are some limitations to using the automatic login feature. Be sure you fully understand the feature and its proper use before implementing it.

Log*Ware* may be configured to automatically login on startup. This feature can be very useful for:

- Automatically resuming real-time log sessions after a power failure without user interaction
- Setting up a generic user account for people who need read-only access to Log*Ware*'s data

- Bypassing Log*Ware*'s security features for applications where security of the data is not as important

Automatic login is restricted to user accounts that do not have a password associated with them. In order to setup a user account without a password, the user account must be assigned to either the **Guest**, **Restricted**, or **Custom** user group. User accounts that are assigned to the **Typical** and **Administrator** user groups always require a password and cannot be used for automatic login.

Note: When assigning a user account to the Custom user group, be sure to only grant permissions for the necessary features of LogWare for this user account. When possible, always assign user accounts to one of the pre-defined user groups.

To configure Log*Ware* to automatically login on startup…

1. Run Log*Ware* and login using an administrator account.

2. Create a new user account that does not require a password. Refer to Section 2.2.4, Setting and Changing Account Passwords, on page 45 for more information.

3. Select the *Options* option in the *Tools* menu to display the *LogWare III Options* dialog. Select the *General* tab.

4. Check the *Enable LogWare auto-login* checkbox. This option will be disabled if you are not currently logged into Log*Ware* using an administrator account.

5. Using the drop-down list, select the account created above. Only user accounts that are assigned to the **Guest** or **Restricted** groups and accounts that have the **Auto-login** permission selected will appear in the list.

6. Click *OK* to close the *LogWare III Options* dialog.

7. Close Log*Ware*.

8. Run Log*Ware*. Log*Ware* should automatically login using the selected user account (the *LogWare User Login* dialog should not be displayed) and the status bar at the bottom of the Log*Ware* window should indicate the appropriate user name.

3 Log*Ware* III Options

🅣 The *LogWare III Options* dialog allows various default settings to be selected. This dialog is displayed by selecting the *Options* option from the *Tools* menu.

The settings are divided into four tabs: *General*, *Real-Time*, *Graph*, and *Misc*. The settings on each of these tabs are described in the following sections.

Some default settings are protected, and can only be changed when logged in using an administrator user account. Each of these settings is indicated with the proper symbol.

3.1 General tab

The *General* tab includes some of Log*Ware*'s basic default settings.
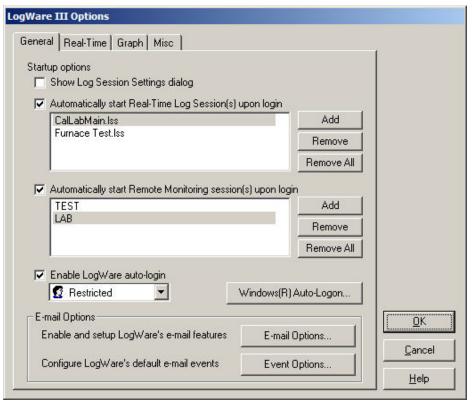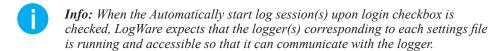
Figure 18 *LogWare III Options dialog*

The *Show Log Session Settings dialog* checkbox determines whether Log*Ware* should automatically display the *Real-Time Log Session Settings* dialog every time Log*Ware* starts up. This setting can be used on client computers where real-time log sessions are frequently configured manually. This setting should be unchecked on client computers that are used only to remotely monitor log sessions and/or view logged data.

The *Automatically start log session(s) upon login* checkbox determines whether LogWare should automatically open the specified real-time log session settings file(s) every time LogWare starts up. This setting is useful when setting up a client computer to automatically login to LogWare and run real-time log sessions. LogWare does not limit the number of real-time log session settings files you can specify.

i ***Info:*** *When the Automatically start log session(s) upon login checkbox is checked, LogWare expects that the logger(s) corresponding to each settings file is running and accessible so that it can communicate with the logger.*

To add a log session configuration file to the list, click the *Add* button. Navigate to locate the log session settings file to add to the list. You may select multiple files by holding down the *CTRL* or *SHIFT* key when clicking on the filenames.

To remove a log session configuration file from the list, select the file and click the *Remove* button. To remove all log session configuration files, click the *Remove All* button.

i ***Info:*** *You can override automatically starting Real-Time Log Sessions upon log-in by holding down the CTRL key after the login prompt as LogWare is starting up*

The *Automatically start Remote Monitoring session(s) upon login* checkbox determines whether LogWare should automatically open a Remote Monitoring session for each location specified every time LogWare starts up. This setting is useful when setting up a client computer to monitor the data being logged in specific locations. LogWare does not limit the number of Remote Monitoring sessions you can specify.

i ***Info:*** *When the Automatically start Remote Monitoring session(s) upon login checkbox is checked, LogWare expects that data is being logged in real-time in each location specified, either on this computer or on any other client computer.*

To add a location to the list, click the *Add* button. Use the *Select Remote Monitoring Location(s)* dialog to select the location(s) to add to the list. You may select multiple locations by holding down the *CTRL* or *SHIFT* key when clicking on the location names. Click *OK*.
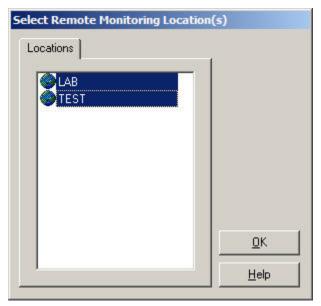
Figure 19

To remove a location from the list, select the location name and click the *Remove* button. To remove all locations, click the *Remove All* button.

Info: *You can override automatically starting Remote Monitoring sessions upon login by holding down the CTRL key after the login prompt as LogWare is starting up.*

A! The *Enable LogWare auto-login* checkbox determines whether the auto-login feature of Log*Ware* is enabled. If checked, Log*Ware* attempts to login automatically using the user account selected in the drop-down list. Select the user account to use for auto-login using the drop-down list. Note that there are some very specific limitations and requirements regarding the configuration and use of this feature. Be sure you understand these before enabling this feature. Refer to Section 2.4, Automatic Logins, on page 48, for more information.

Info: *You can override the auto-login feature by holding down the SHIFT key as LogWare is starting up.*

To assist in setting up a computer to automatically recover from a power failure, the Windows® operating system can be configured to automatically logon using a specified user account. Click the *Windows® Auto-Logon* button to specify the user account, password, and domain to use to automatically logon to Windows® when the computer starts up.

⚠️ *Note: Configuring a computer to automatically logon to Windows® is an important step in setting up LogWare to automatically recover from a power failure. However, doing so may violate you company's security policies. Before using this tool, check with your system administrator to ensure no security policies are being violated.*
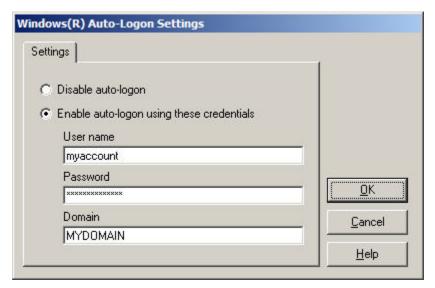

Figure 20 Windows® Auto-Logon Settings dialog

To enable auto-logon, select the **Enable auto-logon using these credentials** option. Enter the user name, password and domain information for the user account to use in the *User name, Password* and *Domain* fields. Click *OK*. To disable auto-logon, select the **Disable auto-logon** option and click *OK*.

The *E-mail Options* section provides access to the e-mail settings in Log*Ware*. Click the *E-mail Options* button to enable Log*Ware*'s e-mail features and configure recipients, groups, and envelopes. Click the *Event Options* button to configure Log*Ware*'s default event settings for sending e-mail messages. Refer to Section 4, E-mail Features, on page 65, for more information on Log*Ware*'s e-mail features.

3.2   Real-Time tab

The *Real-Time* tab displays options that are applicable to performing real-time log sessions. Some of these settings also apply to remote monitoring sessions, as indicated.
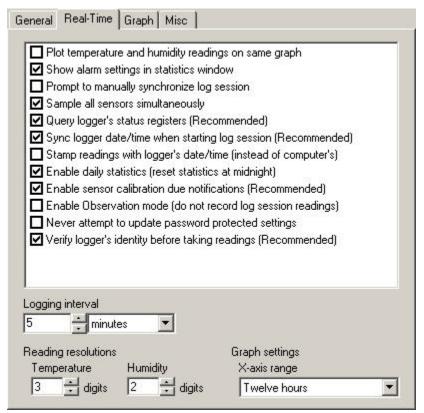

Figure 21 LogWare III Options dialog- Real-Time tab

⚠ *Note: Changing these settings only affects real-time log sessions started after closing the LogWare III Options dialog, unless otherwise indicated.*

The *Plot temperature and humidity readings on same graph* checkbox determines whether separate graphs are created in the *Real-Time Log Session* window for temperature and humidity readings, or whether temperature and humidity readings are plotted on the same graph. When plotting temperature and humidity readings on the same graph, temperature readings use the left y-axis and humidity readings use the right y-axis of the graph.

The *Show alarm settings in statistics window* checkbox determines whether the sensor alarm settings should be included in the *Real-Time Log Session* window's statistics list. This setting also applies to remote monitoring sessions.

The *Prompt to manually synchronize log session* checkbox determines whether Log-*Ware* displays a message that the user must respond to before starting a real-time log session. This feature may be useful when you are trying to synchronize Log*Ware*'s real-time log session with some other external process. If configuring Log*Ware* to automatically login and start real-time log sessions, do not enable the manual syncronization feature.

⚠️ *Note: Do not use the Prompt to manually synchronize log session option in conjunction with the delayed start date/time option when setting up a real-time log session! Otherwise, your log session may not start as expected! LogWare checks for this conflict before starting a real-time log session.*

The *Sample all sensors simultaneously* checkbox determines whether Log*Ware* should attempt to query readings from all enabled sensors at the same time, or whether readings should be taken from each sensor sequentially. If this checkbox is checked, the *Interval between scan sequences* settings on the *Session* tab of the *Real-Time Log Session Settings* dialog are not displayed.

The *Query logger's status registers* checkbox determines whether Log*Ware* should query the status of each enabled sensor on the logger prior to querying measurements. This setting is critical and must be checked in order for Log*Ware* to generate e-mail messages related to sensor calibration due notifications, sensor hot-swapping, and other sensor related information. It is recommended that this setting always be checked.

The *Sync logger date/time when starting log session* checkbox determines whether Log*Ware* sends commands to the logger when starting a real-time log session to synchronize it's system date and time to the client computer's date and time.

⚠️ *Note: When using the Sync logger date/time when starting log session feature, the Enter Password prompt will be displayed when starting a real-time log session if the TIME settings in the logger are password protected. If this setting is being used in conjunction with the automatic login feature to automatically start a real-time log session when LogWare is opened, it is recommended that the password protection for TIME is turned off in the logger, or the Never attempt to update password protected settings option should be checked.*

The *Stamp readings with logger's date/time (instead of computer's)* checkbox determines whether Log*Ware* uses the client computer's date and time or the logger's system date and time to stamp all readings taken during a real-time log session.

⚠️ *Note: When using the Stamp readings with logger's date/time (instead of computer's) feature, a caution message is displayed if the Sync logger date/time when starting log session option is not enabled. It is recommended to sync the logger to the client computer when starting a real-time log session if you are using the logger's system date/time to stamp the readings.*

The *Enable daily statistics (reset statistics at midnight)* checkbox determines whether Log*Ware* should automatically reset each sensor's statistical calculations each day (at

midnight) during a log session. If unchecked, Log*Ware*'s statistical calculations will reflect the statistics for all data logged since the log session started. Statistical calculations can be reset manually at any time during a log session. Changing this setting affects all currently running real-time log sessions as well as all real-time log sessions that are started after this setting is changed. This setting also applies to remote monitoring sessions.

A! The *Enable sensor calibration due notifications* checkbox determines whether Log*Ware* will check the sensor's calibration due date during a real-time log session. If checked, Log*Ware* displays a calibration due message in the *Notes* field for the sensor on the *Real-Time Log Session* window and may also generate a calibration due e-mail message if the e-mail features are enabled and configured. Leave this setting unchecked if Log*Ware* should ignore the calibration due date of a sensor. Changing this setting affects all currently running real-time log sessions as well as all real-time log sessions that are started after this setting is changed.

A! The *Enable Observation mode (do not record log session readings)* checkbox determines whether Log*Ware* should run real-time log sessions in Observation mode. In Observation mode, Log*Ware* does not record any of the readings acquired during a real-time log session. Readings are displayed in the *Real-Time Log Session* window, but no remote monitoring can be done on this log session, and there will be no historical data to query. Also, Log*Ware* does not set the alarms, location (SENSOR ID), temperature scale, or resolutions of the logger. This feature can be useful if you need to view the data from a logger in real-time but the real-time data does not need to be kept or recorded, such as if you want to use the download or import features to record historical data. This feature can also be enabled if Log*Ware* is only being used to acquire ambient conditions data for MET/CAL.

Warning: Be careful when using LogWare in Observation mode that you do not need to retain the real-time data! This mode should only be used in specific circumstances. A warning message is displayed when closing the LogWare III Options dialog if Observation mode is enabled. Also, indicators are displayed on the Real-Time Log Session Settings dialog and in the Real-Time Log Session window when Observation mode is enabled.

The *Never attempt to update password protected settings* checkbox determines whether Log*Ware* should prompt the user to enter the logger's password when starting a real-time log session if any password protected setting needs to be updated. Password protected settings include the logger's date/time, sensor alarms and location (SENSOR ID) settings, and the calibration alert setting. If this checkbox is checked, Log*Ware* will not synchronize any password protected logger settings with the settings used in Log*Ware*.

*Warning: By checking the Never attempt to update password protected settings checkbox, you may encounter inconsistencies in data logged in real-time by LogWare and data downloaded or imported into LogWare from the logger's memory. **Unless it is absolutely necessary, it is recommended to leave this checkbox unchecked.** LogWare will never prompt to enter a password when automatically starting a log session.*

Info: *In order to avoid the password prompts from being displayed, and to allow LogWare to always update any necessary password-protected settings, you can store the logger's password in the LogWare data store. Refer to Section 10.2.1, Manage Assets and Locations, on page 154 for more information on storing logger passwords.*

The *Verify logger's identity before taking readings* checkbox determines whether Log*Ware* queries the identification of a logger before each set of measurements is taken to ensure the readings are coming from the expected logger. This setting is used to prevent someone from exchanging loggers during a real-time log session, and also to prevent dynamic IP address changes from causing data to be logged incorrectly. Because each measurement that Log*Ware* records is associated with the logger model/serial number, the sensor model/serial number and the assigned location, it is very important to verify the source of the data to maintain the highest level of integrity.

Info: *When this feature is enabled, LogWare must make additional queries of the logger prior to each measurement. Therefore, it may not be possible to log data at very short intervals (less than 5 seconds) with this feature enabled, especially when using RS-232 or wireless communication protocols, or when logging data from multiple loggers.*

The *Logging interval* settings indicate the default interval settings to use when creating a new real-time log session. The logging interval can be changed when configuring a real-time log session using the *Logging interval* settings on the *Session* tab of the *Real-Time Log Session Settings* dialog.

The *Reading resolutions* settings determine the number of decimal places to use when logging temperature and humidity readings. Log*Ware* sends commands to the logger to configure it to use these settings when a real-time log session starts. Select the number of digits to use for temperature readings using the *Temperature* field and humidity readings using the *Humidity* field.

The *Graph settings X-axis range* setting determines the amount of time that is displayed on the x-axis of the graph(s) in the *Real-Time Log Session* window. Select the amount of time to display using the drop-down list.

3.3   Graph tab

The *Graph* tab displays options and settings related to real-time log session graphs and logged data graphs.
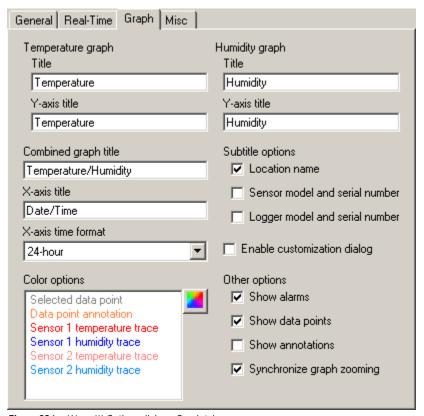

Figure 22 *LogWare III Options dialog - Graph tab*

⚠️ *Note: Changing these settings only affects graphs that are created and displayed after closing the LogWare III Options dialog, unless otherwise indicated.*

The *Temperature graph* settings indicate settings that are used for graphs that are plotting temperature readings only, as in the example below:
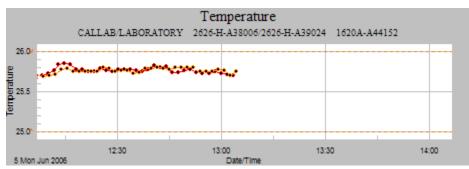
Figure 23 *Separate temperature graph*

The *Humidity graph* settings indicate settings that are used for graphs that are plotting humidity readings only, as in the example below:
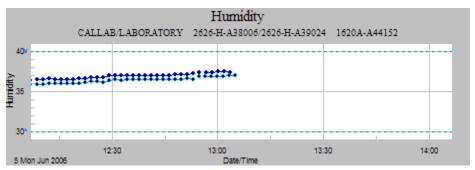

Figure 24 *Separate humidity graph*

The *Title* and *Y-axis title* fields determine the default text that is displayed on the graphs. The title is displayed at the very top of the graph. The y-axis title is displayed on the left y-axis of the graph.

The *Combined graph title* field determines the text that is displayed as the title of graphs that plot both temperature and humidity readings, as in the example below:
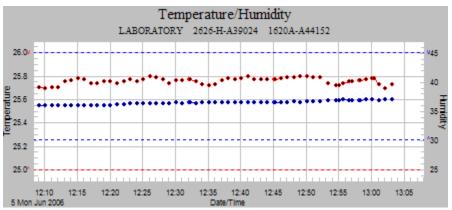
Figure 25 *Combined temperature and humidity graphs*

When both temperature and humidity readings are being plotted on the same graph, the left y-axis title uses the *Y-axis title* field below the *Temperature graph* heading and the right y-axis title uses the *Y-axis title* field below the *Humidity graph* heading.

The *X-axis title (both graphs)* field determines the text that is displayed below the x-axis of all graphs.

The *X-axis time format* setting determines the format for the date and time labels on the x-axis of all graphs. Select the desired option using the drop-down list. The graph automatically determines the exact labels that are used on the x-axis, depending on the time duration displayed on the axis. This setting is used by the graphs as an indication of preference.

The *Subtitle options* settings determine what information is displayed in the subtitle of all graphs. Any combination of options may be checked. For real-time log session graphs that display information for two sensors, the information for each sensor is separated by a slash "/" with the information for the sensor on channel one indicated first. Models and serial numbers for sensors and/or loggers are separated with a dash "-".

Info: When viewing logged data, it may not be feasible to include logger and sensor and location information on the graph. For example, when querying data for a specific location, the location information will be included in the subtitle, but it is possible, even likely, that the sensor and/or logger used to log that data may have changed at some point over the selected date/time range. The applicable information should always be included in the graph subtitles.

The *Enable customization dialog* checkbox determines whether the graph customization dialog option is displayed in the popup menu when right-clicking on a graph. Any graph settings changed when using the graph customization dialog apply to the selected graph only. This feature is a built-in dialog of the graphing package used by Log*Ware* and access is allowed for convenience only. Log*Ware* does not support saving any settings configured on the customization dialog.

The *Color options* list indicates the default colors that are used for various items on all graphs. To change the default color for an item, select the item in the list and click the ▦ (Color) icon to display the *Color* dialog. The default color for the following graph items may be defined:

- **Selected data point –** This item refers to the currently selected data point and applies only to graphs in a *Logged Data* window. A vertical line is drawn on the graph in the selected color to indicate where the currently selected data point lies with respect to the entire data set.

- **Data point annotation –** This item refers to annotations that have been manually or automatically linked to a data point and applies only to graphs in a *Logged Data* window. A vertical line is drawn on the graph in the selected color to indicate data points that have an annotation associated with them.

- **Sensor 1 temperature trace –** This item refers to the default color of the temperature trace for the sensor on channel 1 of the logger. This setting applies to all graphs.

- **Sensor 1 humidity trace –** This item refers to the default color of the humidity trace for the sensor on channel 1 of the logger. This setting applies to all graphs.

- **Sensor 2 temperature trace –** This item refers to the default color of the temperature trace for the sensor on channel 2 of the logger. This setting applies to all graphs.

- **Sensor 2 humidity trace –** This item refers to the default color of the humidity trace for the sensor on channel 2 of the logger. This setting applies to all graphs.

The *Other options* section defines default settings to be used when displaying graphs.

The *Show alarms* checkbox determines whether horizontal lines are drawn on the graphs indicating the current alarm settings. This setting applies to all graphs.

The *Show data points* checkbox determines whether a symbol is drawn on the graphs for each data point. This setting applies to all graphs.

The *Show annotations* checkbox determines whether the vertical lines for the selected data point and data point annotations are drawn on the graphs. This setting applies to graphs in a *Logged Data* window only.

The *Synchronize graph zooming* checkbox determines whether zooming in on a section of a temperature graph causes the corresponding humidity graph to zoom in to the same section, or vice-versa. This setting is only applicable to graphs located in the same window when temperature and humidity readings are plotted on separate graphs.

3.4   Misc tab

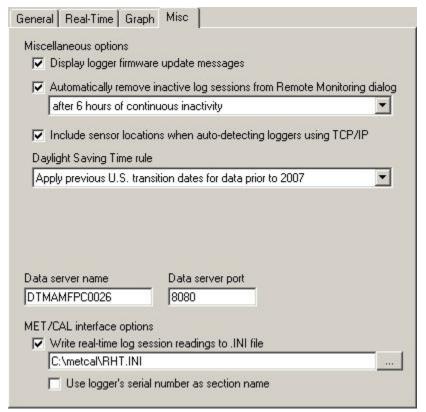The *Misc* tab displays other miscellaneous options.

Figure 26 *LogWare III Options dialog - Misc tab*

The *Display logger firmware update messages* checkbox determines whether Log-*Ware* should display a firmware update message and send a firmware update e-mail message (if enabled) when a real-time log session is configured using a logger with known outdated firmware. This feature is intended to advise users when the version of firmware being used in a logger may have a known incompatibility with Log*Ware*, and a firmware update may be available. Log*Ware* checks the firmware version of a logger every time a real-time log session starts.

Ⓐ The *Automatically remove inactive log sessions from Remote Monitoring dialog* checkbox determines whether Log*Ware* should prevent log sessions from appearing on the *Remote Monitoring Options* dialog if the log session has been inactive for a specific period of time. This will prevent users from attempting to remotely monitor a log session that has not been able to acquire new readings for a period of time. If a log session is able to resume activity after being removed from the list, the log session will automatically be re-added to the list of available log sessions. If this option is checked, use the drop-down list to select the time interval to use.

⚠️ *Note: If LogWare is being used in a client/server configuration, this feature should only be enabled on one client computer. The effect of removing an inactive log session from appearing on the Remote Monitoring Options dialog is system-wide.*

When using the TCP/IP (Ethernet) communication protocol, you can choose to have the location (SENSOR ID) of each active sensor displayed in the *Select Logger* dialog by checking the *Include sensor locations when auto-detecting loggers using TCP/IP* checkbox. Refer to Section 1.10.2.1, Select Logger, on page 32 for more information.

The *Daylight Saving Time rule* drop-down list determines whether the Windows® operating system's current Daylight Saving Time rule is applied to historical readings or whether to apply a different rule to historical readings. Currently, the only rule supported is, *Apply previous U.S. transition dates for data prior to 2007*. If this rule is selected, all data that was logged prior to January 1, 2007 will use the Daylight Saving Time transition dates of the first Sunday in April and the last Sunday in October. All data logged since this date will use the current transition dates as defined in Windows®.

The *Data server name* and *Data server port* fields indicates the name of the server where Log*Ware*'s data is being stored and the port that is being used to communicate with the server. For a client/server configuration, the data server name is the name of the computer that Log*Ware* was installed from. For a stand-alone configuration, this should always be "LOCALHOST". These settings are for informational purposes only and cannot be changed.

The *MET/CAL interface options* settings allow Log*Ware* to be configured to write data acquired during real-time log sessions to a file that can be read by Fluke's MET/CAL software when performing calibrations. This feature of Log*Ware* can be used in place of the RHT application that comes with MET/CAL for recording ambient conditions during tests.

To use this feature, check the *Write real-time log session readings to .INI file* checkbox, and specify the location of the RHT.INI file by clicking the "…" (*Browse*) button to display the *Browse for Folder* dialog. By default, Log*Ware* writes the acquired data to a section of this file identified by the serial number of the sensor that the data was acquired from. If you want Log*Ware* to use the serial number of the logger instead of the sensor, check the *Use logger's serial number as section name* checkbox.

⚠️ *Note: In order for MET/CAL to be able to see and use the data in the RHT.INI file, this file MUST be located in the shared MET/CAL folder. Refer to the MET/CAL product documentation for more information on the required location of this file.*

4 E-mail Features

Log*Ware* includes e-mail features that allow notifications for various events to be sent to e-mail accounts, cell phones, PDAs, etc. Log*Ware* allows you to define who should receive e-mail messages when specific events occur.

The following e-mail related terms are used by Log*Ware*. Before setting up Log*Ware*'s e-mail features, you should be familiar with and understand the meaning of these terms.

Table 5 *E-mail glossary*

Term	Description
SMTP Mail Server	SMTP stands for Simple Mail Transfer Protocol. This is the standard TCP/IP protocol for transferring e-mail messages. A SMTP mail server is a computer that runs e-mail server soft*Ware*. To use Log*Ware*'s e-mail features, you must be able to access a SMTP mail server. A typical SMTP mail server name may look like: *mailhost.mydomain.com*. Consult your system or network administrator to determine the name of the SMTP mail server for your company.
Sender Address	This is the e-mail address that appears as the 'From' address when Log*Ware* sends e-mail messages. The sender address must follow the valid e-mail address format (i.e. name@domain.com).
Envelope	An envelope is the container for e-mail messages. Log*Ware* events that generate an -mail message are assigned to an envelope. The envelope determines who receives the e-mail message. Each envelope can be addressed to one or more 'To' groups, 'CC' groups, and/or 'BCC' groups.
Event	An event is an occurrence in Log*Ware* that generates an e-mail message. Each event in Log*Ware* can be linked to an envelope, which is used as a "container" for the e-mail message.
Group	A group consists of a collection of e-mail recipients. Typically, all members of a group belong to the same team or perform similar job functions. When an e-mail message is sent to a group, all members of that group will receive a copy of the message. **Note: E-mail groups are separate and independent of Log*Ware*'s user account groups, which define permissions to use certain features of Log*Ware*!**
Recipient	A recipient is an individual who needs to receive e-mail messages. Each recipient may have a single e-mail address. One recipient should be created for each e-mail address that e-mail messages should be sent to. In order to receive e-mail messages, a recipient must be assigned to one or more groups.
'To' Group	The 'To' group identifies the primary recipients of e-mail messages.
'CC' Group	The 'CC' group identifies public secondary (carbon copy) recipients of e-mail messages.
'BCC' Group	The 'BCC' group identifies private secondary (blind carbon copy) recipients of e-mail messages.
Messaging style	The messaging style setting indicates the type of e-mail message a recipient should receive. Log*Ware* supports *Short*, *Standard*, and *Verbose* e-mail messages. *Short* messages are intended for cell phones and PDAs where e-mail messages are limited to a specific number of characters. *Standard* messages are what most recipients should receive. *Verbose* messages are intended for supervisors, managers, and administrators and include additional information regarding the condition or state that caused the e-mail message to be sent. This information may be used for troubleshooting.

Log*Ware*'s e-mail settings can be accessed from the *LogWare III Options* dialog. To display this dialog, select the *Options* option from the *Tools* menu.

⚠️ *Note: For client/server, multi-user configurations, LogWare's e-mail settings are system wide and apply to all clients. Enabling or disabling the e-mail features on one client computer enables or disables the e-mail features on all client computers. Access to changing e-mail settings can be granted or denied to each LogWare user by setting up the appropriate permissions. By default, only users assigned to the Typical or Administrator user groups can change e-mail settings.*

🅣 Setup SMTP Mail Server

In order to use Log*Ware*'s e-mail features, you must setup a link to a Simple Mail Transfer Protocol (SMTP) mail server. If you do not know if you have access to a SMTP mail server, consult your system or network administrator.

🅣 Setup E-mail Recipients

After setting up the SMTP mail server, you need to identify the potential recipients of Log*Ware*'s e-mail messages. In a typical application, these recipients may include…

- Operators and technicians in areas where Log*Ware* is monitoring environmental conditions
- Quality control/assurance personnel responsible to ensure environmental conditions stay within specifications
- Facilities managers who are responsible for monitoring and adjusting environmental controls
- Managers and supervisors who have responsibility for maintaining test equipment
- Calibration laboratory personnel in charge of performing equipment calibrations

You need to create one e-mail recipient for each e-mail address to which messages should be sent. If a person wants to have a message sent to their work e-mail account, their home e-mail account, and their cell phone, you must create three separate recipients for that person.

🅣 Setup E-mail Groups

After the e-mail recipients have been setup, you need to categorize the recipients into groups. Groups can be used to identify personnel that work together in the same area or who perform similar job functions. You may want to consider creating groups for…

- Operators and technicians of each area being monitored
- Quality control/assurance personnel
- Calibration laboratory personnel
- Managers and supervisors of teams
- Team leaders

You need to create an e-mail group for each identified group of recipients and include all appropriate recipients in the group. Each e-mail recipient can be included in as many groups as necessary.

🟢 Setup E-mail Envelopes

After the e-mail recipients and groups have been setup, you need to create e-mail envelopes that e-mail messages can be placed into. Envelopes are the containers for e-mail messages. Each envelope needs to be addressed to the group or groups to which e-mail messages should be sent. When an event happens, Log*Ware* generates the content of the e-mail message associated with that event. The message content is then placed in an envelope and sent to the members of the group(s) that the envelope is addressed to.

How you define the envelopes and the groups assigned to each envelope is up to you. You may want to consider creating envelopes for…

- Operators and technicians of each area being monitored
- Quality control/assurance personnel
- Calibration laboratory personnel
- Managers and supervisors of teams
- Team leaders

🟢 Setup Default Log*Ware* Events

Once the e-mail setup is complete, Log*Ware*'s events may be linked to e-mail envelopes. This is how Log*Ware* knows who the recipients are for e-mail messages generated by these events. These settings will be used as the default settings when setting up a new real-time log session or remote monitoring session. The events associated with each real-time log session and remote monitoring session are independent of all other session's events and can be customized when setting up a session or on-the-fly while the session is running.

⚠️ *Note: In a client/server multi-user configuration, whereas LogWare's e-mail recipient, group, and envelope settings are system-wide and apply to all client computers, e-mail event settings are "per client". Each LogWare client computer can and must be configured independently of other LogWare client computers.*

Log*Ware* generates e-mail messages for events related to the Log*Ware* application itself, for real-time log sessions, remote monitoring sessions, and logger and sensor events. These events include…

- User login/logout
- Real-time log session state (started, stopped, aborted, etc.)
- Logger state (power failure, low battery, etc.)
- Sensor state (sensor attached or detached, locked, etc.)
- Sensor calibration due
- Temperature and humidity alarm conditions

This structure allows for a very flexible e-mail system. Log*Ware* can be configured as simple or as elaborate as you wish. In a very simplistic approach, you could setup all recipients to receive all e-mail messages by doing the following…

- Create one recipient for each person or unique e-mail address
- Create one group and assign all recipients to that group
- Create one envelope and assign the group as the 'To' group for the envelope
- Link all default Log*Ware* events to the envelope

In a more flexible approach, you could configure Log*Ware* to send e-mail messages to a different recipient for each event by doing the following…

- Create one recipient for each person or unique e-mail address
- Create one group for each recipient and assign only one recipient to that group
- Create one envelope for each event, or create one envelope for each event for each log session, and assign the appropriate group(s) to the envelope
- Customize the link for each log session's events to a different envelope when setting up the log session

Of course, it makes sense to find some middle ground between these two scenarios that best suits your needs.

4.1   Setting up E-mail SMTP Server

🅣 Log*Ware* includes e-mail features that allow notifications for various events to be sent to e-mail accounts, cell phones, PDAs, etc. Log*Ware* allows you to define who should receive e-mail messages when specific events occur.

Log*Ware*'s e-mail settings can be accessed from the *LogWare III Options* dialog. To display this dialog, select the *Options* option from the *Tools* menu. On the *LogWare III Options* dialog, select the *General* tab and click the *E-mail Options* button to display the *SMTP E-Mail Settings* dialog.

⚠️ *Note: For client/server, multi-user configurations, LogWare's e-mail settings are system wide and apply to all clients. Enabling or disabling the e-mail features on one client computer enables or disables the e-mail features on all client computers. However, the events can be customized on each client computer independently of all other client computers. Access to changing e-mail settings can be granted or denied to each LogWare user by setting up the appropriate permissions. By default, only users assigned to the Typical or Administrator user groups can change e-mail settings.*
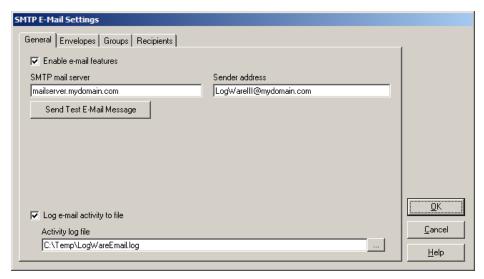
Figure 27 *SMTP E-Mail Settings dialog*

To enable Log*Ware*'s e-mail features, select the *General* tab and check the *Enable e-mail features* checkbox. All other controls on this tab are disabled until this checkbox is checked.

Enter the name of the Simple Mail Transfer Protocol (SMTP) mail server to use in the *SMTP mail server* field. If you do not know if you have access to a SMTP mail server, consult your system or network administrator. If you have one, they should be able to provide you with the name of the SMTP mail server.

To test the SMTP mail server link, enter your e-mail address in the *Sender address* field and click the *Send Test E-Mail Message* button. This will generate a test e-mail message and send it to the sender address specified. Check your e-mail inbox to ensure you receive the test message. You may need to allow a few minutes to receive the message. If you do not receive the message, check the SMTP mail server name to ensure it was entered properly.

After successfully testing the mail server, you may want to change the *Sender address* field to an address that allows e-mail recipients to easily identify the source of the e-mail messages Log*Ware* generates. This e-mail address does not have to be a valid e-mail address, but it does have to follow the format of a valid e-mail address (for example, *name@domain.com*). If you want users to be able to reply to Log*Ware*'s e-mail messages, you need to use a valid e-mail address. Your system or network administrator may be able to create an e-mail account for you to use, or you can use your own e-mail address.

Note: LogWare does not recognize or receive replies to e-mail messages it generates. It is a one-way (outbound) e-mail messaging system.

If you want Log*Ware* to keep a log of all e-mail activity, check the *Log e-mail activity to file* checkbox and enter the path and filename of the file to use to log activity information. You can click the ... (Browse) button to browse for the folder where the file should be located. For client/server, multi-user configurations, the activity log file should be located on the server and this field should already be filled in. There should be no need to change it. However, if you decide change it, it is recommended that the activity log file be located on the server. The path to the log file should be in UNC (Universal Naming Convention) format to allow all client computers to be able to access it (for example, \\<SERVERNAME>\<sharename>\<foldername>\<filename>.log).

4.2 Setting up E-mail Recipients

Log*Ware's* e-mail features require the identification of those persons who should receive e-mail messages (recipients) generated by Log*Ware* for specific events. This identifies the e-mail address and name of the recipient as well as indicating the type of message that should be sent.
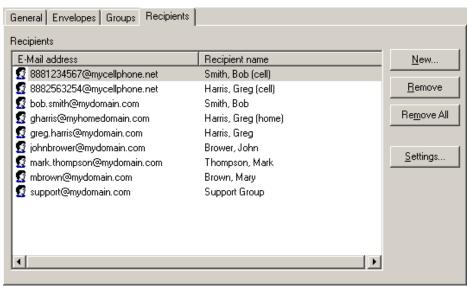

Figure 28 *SMTP E-Mail Settings dialog - Reciepients tab*

To setup recipients, select the *Recipients* tab. By default, the *Recipients* list is empty. To setup a new recipient, change the settings for an existing recipient, or remove recipients, follow the instructions below.

T To setup a new recipient…
1. Click the *New* button to display the *Recipient Settings* dialog.
2. Fill in the information on this dialog.

3. Click *OK* to close the dialog. The new recipient should appear in the *Recipients* list.

T **To change the settings for an existing recipient…**

1. In the *Recipients* list, select the recipient to change.
2. Click the *Settings* button to display the *Recipient Settings* dialog.
3. Edit the information on this dialog.
4. Click *OK* to close the dialog. Updates to the recipient's e-mail address or name should be reflected in the *Recipients* list.

T **To remove an existing recipient…**

1. In the *Recipients* list, select the recipient to remove.
2. Click the *Remove* button.
3. A prompt is displayed to confirm removing the recipient. Click *Yes* to confirm. The recipient should be removed from the *Recipients* list.

T **To remove all existing recipients…**

1. Click the *Remove All* button.
2. A prompt is displayed to confirm removing all recipients. Click *Yes* to confirm. All recipients should be removed from the *Recipients* list.

4.2.1   Recipient Settings

T The *Recipient Settings* dialog allows e-mail message recipients to be created and changed. To display this dialog, select the *New* or *Settings* button on the *Recipients* tab of the *SMTP E-Mail Settings* dialog.
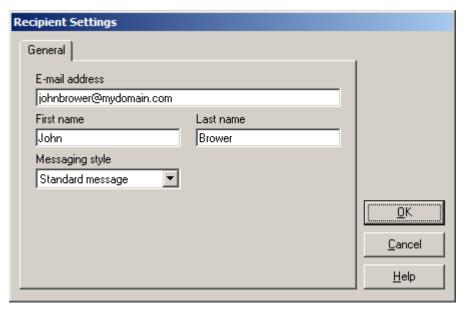
Figure 29 Recipient Settings dialog

On the *General* tab, enter the e-mail address for the recipient in the *E-mail address* field. The e-mail address is required. A recipient may have one and only one e-mail address. If you need Log*Ware* to send e-mail messages to more than one e-mail address for one person (for example, work e-mail address, home/personal e-mail address, cell phone e-mail address, etc.), you need to setup a separate recipient for each unique e-mail address.

Enter the user's first and last names in the *First name* and *Last name* fields respectively. This information is optional and may be omitted. If you are setting up multiple recipients for one person, you can use these fields to identify the e-mail address type for this recipient. For example, if you are setting up a recipient for John Smith's cell phone e-mail address, you may want to set the *First name* field to "John (cell)" and the *Last name* field to "Smith". When assigning recipients to groups, the name will appear in the *Recipients* list as "Smith, John (cell)".

Select the style of message Log*Ware* should send to this address using the *Messaging style* drop-down list. The exact content of the e-mail message generated and sent by Log*Ware* to this recipient depends on this selection. The choices for this setting are as follows:

- **Short message** – Use this style for cell phone, PDA, or other text messaging devices that are limited in the number of characters they can receive or display. Log*Ware* includes only essential information about the event in the e-mail message such as a very short description, models and serial numbers, location information, and a date/time stamp.

- **Standard message** – This is the default setting. Use this style for typical recipients. Log*Ware* includes basic information about the event such as a

description, models and serial numbers, location information, and other available information about the event. These messages are formatted for optimal viewing in an e-mail client application such as Microsoft® Outlook.

- **Verbose message** - Use this style for Log*Ware* administrators or others who are responsible for maintaining the system. Log*Ware* includes the same information as is found in the standard message plus additional information that may help troubleshoot and resolve issues. These messages are formatted for optimal viewing in an e-mail client application such as Microsoft® Outlook.

4.3   Setting up E-mail Groups

Log*Ware*'s e-mail features require recipients to be included in groups. A recipient may be included in as many groups as necessary.
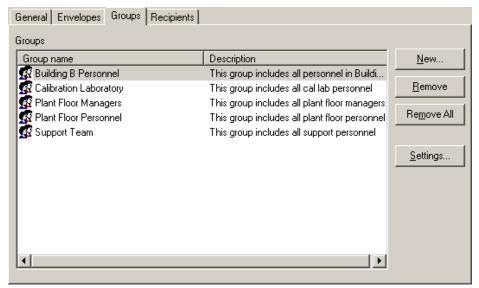
Figure 30 *SMTP E-Mail Settings dialog - Groups tab*

To setup groups, select the *Groups* tab. By default, the *Groups* list is empty. To setup a new group, change the settings for an existing group, or remove groups, follow the instructions below.

T **To setup a new group…**

1. Click the *New* button to display the *Group Settings* dialog.
2. Fill in the information on this dialog.
3. Select the recipients who belong to this group.
4. Click *OK* to close the dialog. The new group should appear in the *Groups* list.

T **To change the settings for an existing group…**

1. In the *Groups* list, select the group to change.
2. Click the *Settings* button to display the *Group Settings* dialog.
3. Edit the information on this dialog.
4. Add or remove recipients from the group.
5. Click *OK* to close the dialog. Updates to the group's name or description should be reflected in the *Groups* list.

T **To remove an existing group…**

1. In the *Groups* list, select the group to remove.
2. Click the *Remove* button.
3. A prompt is displayed to confirm removing the group. Click *Yes* to confirm. The group should be removed from the *Groups* list.

T **To remove all existing groups…**

1. Click the *Remove All* button.
2. A prompt is displayed to confirm removing all groups. Click *Yes* to confirm. All groups should be removed from the *Groups* list.

4.3.1   Group Settings

T The *Group Settings* dialog allows recipients that should all receive the same e-mail messages to be assigned to a group. To display this dialog, select the *New* or *Settings* button on the *Groups* tab of the *SMTP E-Mail Settings* dialog.

For help on determining how to group e-mail recipients, refer to Section 4, E-mail Features, on page 65.

Before setting up e-mail groups, you should first setup e-mail recipients. In order to receive e-mail messages, a recipient must be included in one or more groups.
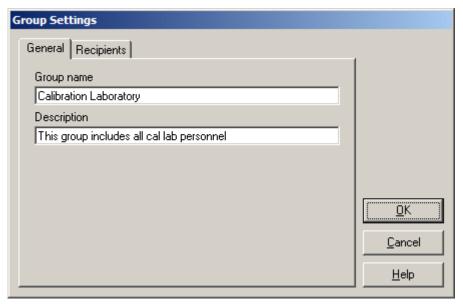
Figure 31 Group Settings dialog

On the *General* tab, enter the name of the group in the *Group name* field. The group name is required. Typically, the group name should indicate the included recipients, such as "Calibration Laboratory Personnel" or "Managers". However, Log*Ware* allows you to name groups however you want.

Enter a description for this group in the *Description* field. The description is optional but can be used to indicate the recipients included in this group or any other information about the group.

To select the recipients for this group, select the *Recipients* tab. A list of all e-mail recipients is displayed.
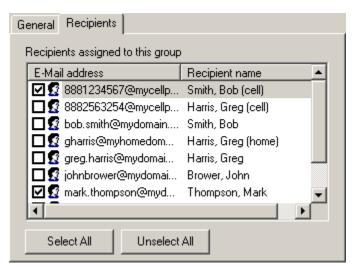
Figure 32 *Group Settings dialog - Recipients tab*

Select the recipients for this group by checking the checkbox next to the appropriate recipients. To remove a recipient from the group, uncheck the checkbox for that recipient.

To add all recipients to this group, click the *Select All* button. The checkbox will be checked for all recipients.

To remove all recipients from this group, click the *Unselect All* button. The checkbox will be unchecked for all recipients.

4.4   Setting up E-mail Envelopes

Log*Ware*'s e-mail features require envelopes to be addressed to one or more groups. An envelope is used as the "container" for e-mail messages and isused to send the e-mail message generated by an event to the proper group(s) of recipients. An envelope may be addressed to be sent to as many groups as necessary.
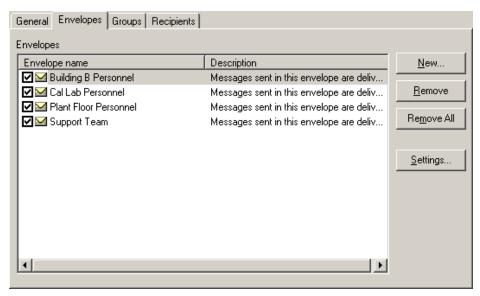
Figure 33 *SMTP E-mail Settings dialog - Envelopes tab*

To setup envelopes, select the *Envelopes* tab. By default, the *Envelopes* list is empty. To setup a new envelope, change the settings for an existing envelope, or remove envelopes, follow the instructions below.

T To setup a new envelope…

1. Click the *New* button to display the *Envelope Settings* dialog.
2. Fill in the information on this dialog.
3. Select the primary groups ('To') to receive the e-mail messages that use this envelope.
4. Select the groups to receive a carbon-copy ('CC') of the e-mail messages that use this envelope.
5. Select the groups to receive a blind-carbon-copy ('BCC') of the e-mail messages that usethis envelope.
6. Click *OK* to close the dialog. The new envelope should appear in the *Envelopes* list.

T To change the settings for an existing envelope…

1. In the *Envelopes* list, select the envelope to change.
2. Click the *Settings* button to display the *Envelope Settings* dialog.
3. Edit the information on this dialog.
4. Add or remove 'To', 'CC', or 'BCC' groups from the envelope.
5. Click *OK* to close the dialog. Updates to the envelope's name or description should be reflected in the *Envelopes* list.

T **To remove an existing envelope…**

1. In the *Envelopes* list, select the envelope to remove.

2. Click the *Remove* button.

3. A prompt is displayed to confirm removing the envelope. Click *Yes* to confirm. The envelope should be removed from the *Envelopes* list.

T **To remove all existing envelopes…**

1. Click the *Remove All* button.

2. A prompt is displayed to confirm removing all envelopes. Click *Yes* to confirm. All envelopes should be removed from the *Envelopes* list.

4.4.1 Envelope Settings

T The *Envelope Settings* dialog allows groups of recipients to be selected for receiving e-mail messages. To display this dialog, select the *New* or *Settings* button on the *Envelopes* tab of the *SMTP E-Mail Settings* dialog.

For help on determining how to setup envelopes, refer to Section 4, E-mail Features.

Before setting up e-mail envelopes, you should first setup e-mail groups. In order for Log*Ware* to successfully send e-mail messages, envelopes must be addressed to one or more groups.
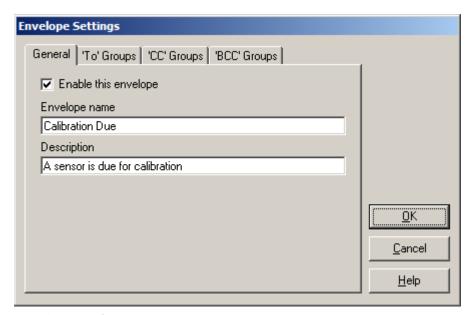

Figure 34 *Envelope Settings dialog*

On the *General* tab, select whether this envelope should be allowed to be assigned to Log*Ware* events by checking or unchecking the *Enable this envelope* checkbox.

Unchecking this box will prevent this envelope from being displayed when assigning envelopes to events.

Enter the name of the envelope in the *Envelope name* field. The envelope name is required. Typically, the envelope name should indicate either the groups that the envelope is addressed to, such as "All Managers and Supervisors" or it should indicate the type of event that is assigned to use this envelope to send e-mail messages, such as "Sensor Calibration Due". However, Log*Ware* allows you to name envelopes however you want.

Enter a description for this envelope in the *Description* field. The description is optional but can be used to indicate the groups this envelope is addressed to, the event(s) this envelope should be used for, or any other information about the envelope.

To select the primary group(s) ('To') for this envelope, select the *'To' Groups* tab. A list of all e-mail groups is displayed. Check each of the groups that should receive e-mail messages sent in this envelope.
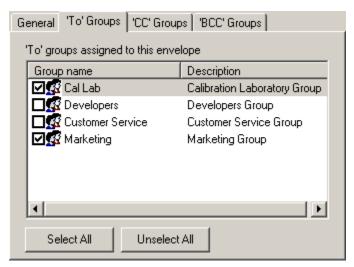

Figure 35 *Envelope Settings dialog - To Groups tab*

To select the group(s) to receive a carbon-copy ('CC') of e-mail messages sent in this envelope, select the *'CC' Groups* tab. A list of all e-mail groups is displayed. Check each of the groups that should receive a carbon-copy of the e-mail messages sent in this envelope.

To select the group(s) to receive a blind-carbon-copy ('BCC') of e-mail messages sent in this envelope, select the *'BCC' Groups* tab. A list of all e-mail groups is displayed. Check each of the groups that should receive a blind-carbon-copy of the e-mail messages sent in this envelope.

4.5 Setting up Default Events

🅣 Log*Ware*'s e-mail features allow various application, log session, logger, and sensor events to be linked to an envelope. An envelope is used as the "container" for

e-mail messages and is used to send the e-mail message generated by an event to the proper group(s) of recipients. Each event can be linked to only one envelope.

Log*Ware*'s default event settings can be accessed from the *LogWare III Options* dialog. To display this dialog, select the *Options* option from the *Tools* menu. On the *LogWare III Options* dialog, select the *General* tab and click the *Event Options* button to display the *Default Event Settings* dialog.

⚠️   *Note: In a client/server multi-user configuration, whereas LogWare's e-mail re-cipient, group, and envelope settings are system-wide and apply to all client computers, e-mail event settings are "per client". Each LogWare client com-puter can and must be configured independently of other LogWare client computers.*
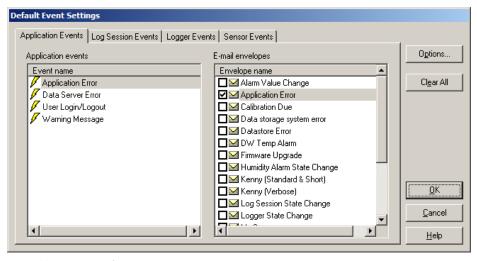
Figure 36 *Default Event Settings dialog*

In order for Log*Ware* to be able to send e-mail messages for an event, the event must be linked to an envelope. Each of the events supported by Log*Ware* can be linked to one envelope. This becomes the default envelope for the event. However, each time a real-time log session or remote monitoring log session is started, the user may custom-ize the events for that log session only by linking the events to different envelopes. If the user does not customize the event settings, the default settings are used.

To setup the default link for an event to an envelope, select the tab indicating the category of event to configure. The *events* list on the left displays all events associ-ated with the selected tab. The *E-mail envelopes* list on the right displays a list of all enabled envelopes. If a check appears next to an envelope, this indicates the currently selected envelope for the highlighted event. If an event is not linked to an envelope, no e-mail message will be generated when the event occurs.

To select the default envelope to use for an event, select the event in the *events* list on the left and check the box corresponding to the envelope to use in the *E-mail envelopes* list on the right. Repeat this process for other events.

To determine the recipients associated with an envelope, or to configure envelopes, groups, and recipients, click the *Options* button to display the *SMTP E-Mail Settings* dialog. For help on determining how to setup envelopes, refer to Section 4, E-mail Features.

To clear (reset) the links for all events on all tabs, click the *Clear All* button.

Log*Ware* supports the following categories of events.

Application Events

Application events are events that are not directly related to any given log session, logger, or sensor.

- **Warning Message** - The **Warning Message** event occurs when Log*Ware* needs to notify the user of an occurrence of notable importance but was unable to display a message on-screen. For example, when automatically starting real-time log sessions, if Log*Ware* is unable to synchronize the logger's clock or change a password protected setting in the logger, a **Warning Message** event occurs.

- **Application Error** - The **Application Error** event occurs when a critical error occurs in Log*Ware* when it is not appropriate to display a message on screen, such as during real-time log sessions. An e-mail message is generated that contains information about the error including the error number, description, and source of the error. This information can be helpful when contacting Technical Support for assistance on resolving issues with the soft*Ware*.

- **Data Server Error** - The **Data Server Error** event occurs when a critical data server error occurs in Log*Ware*. An e-mail message is generated that contains information about the error including the description and source. This information can be helpful when contacting Technical Support for assistance on resolving issues with the soft*Ware*.

- **User Login/Logout** - The **User Login/Logout** event occurs when a user logs into or out of Log*Ware*. An e-mail message is generated that contains user information.

Log Session Events

Log Session events are events that are directly related to real-time log sessions only.

- **Log Session State** - The **Log Session State** event occurs when the state of a real-time log session changes. A log session state change event is generated when a real-time log sessions is started, aborted, or finishes normally, or if a real-time log session fails to start automatically. This event also indicates when a real-time log session becomes inactive (readings cannot be acquired from the sensor) or becomes active again after a period of inactivity. An e-mail message is generated that contains log session state information.

Logger Events

Logger events are events that are directly related to a logger when a real-time log session is running.

- **Firmware Upgrade** - The **Firmware Upgrade** event occurs when the user configures Log*Ware* to use a logger that contains outdated firmware with known incompatibility issue with Log*Ware*. An e-mail message is generated that contains information regarding the logger's current firmware version. Note: This event does not notify the user when there is newer version of firmware available for the logger - only if there is a known incompatibility in the current firmware version.

- **Logger State** - The **Logger State** event occurs when the state of a logger changes during a real-time log session. A logger state change event is generated when a logger's backup battery is low and when the power was recently disconnected from the logger and subsequently reconnected. An e-mail message is generated that contains logger state information.

Sensor Events

Sensor events are events that are directly related to a sensor.

- **Alarm Settings Update** - The **Alarm Settings Update** event occurs when a user updates a sensor's temperature or humidity alarm settings during a real-time log session. An e-mail message is generated that contains alarm state and settings information. **Note: This event only applies to real-time log sessions, and only occurs if an alarm is enabled or disabled, or if the alarm's threshold value is changed. This event does not occur if any other alarm settings are changed.**

- **Calibration Due** - The **Calibration Due** event occurs when a sensor's calibration has expired or is coming due. An e-mail message isgenerated that contains the sensor calibration due date information. **Note: This event only applies to real-time log sessions.**

- **Hot-Swap Error** - The **Hot-Swap Error** event occurs when a sensor is hot-swapped during a real-time log session and Log*Ware* is unable to successfully acquire readings from the newly attached sensor. An e-mail message is generated that contains information regarding the reason Log*Ware* is unable to acquire readings from the sensor. **Note: This event only applies to real-time log sessions.**

- **Humidity Alarm** - The **Humidity Alarm** event occurs when the humidity reading from a sensor exceeds the current humidity alarm threshold value, or when the humidity reading returns to within the threshold value after having exceeded it. An e-mail message is generated that contains the sensor's reading and alarm settings information. **Note: This event applies to both real-time log sessions and remote monitoring log sessions.**

- **Sensor State** - The **Sensor State** event occurs when the state of a sensor changes during a real-time log session. A sensor state event is generated when a sensor is attached or detached (hot-swapping), or if the logger is unable to get readings from the sensor, or if the logger is configured to lock out the

sensor. An e-mail message is generated that contains sensor state information, including the reason the logger cannot get readings from the sensor. **Note: This event only applies to real-time log sessions.**

- **Temperature Alarm** - The **Temperature Alarm** event occurs when the temperature reading from a sensor exceeds the current temperature alarm threshold value, or when the temperature reading returns to within the threshold value after having exceeded it. An e-mail message is generated that contains the sensor's reading and alarm settings information. **Note: This event applies to both real-time log sessions and remote monitoring log sessions.**

4.5.1 Customizing Events

🆃 Log*Ware*'s e-mail features allow various application, log session, logger, and sensor events to be linked to an envelope. An envelope is used as the "container" for e-mail messages and is used to send the e-mail message generated by an event to the proper group(s) of recipients. Each event can be linked to only one envelope.

The events for any real-time log session or remote monitoring log session can be customized independently of all other log sessions. If events are not customized, the default event settings are used. To customize the e-mail event settings for a real-time log session, click the *E-mail Settings* button on the *Logger* tab of the *Real-Time Log Session Settings* dialog. To customize the e-mail event settings for a remote monitoring log session, click the *E-mail Settings* button on the *Sessions* tab of the *Remote Monitoring Options* dialog. The *Real-Time Log Session Event Settings* dialog or the *Remote Log Session Event Settings* dialog is displayed accordingly.
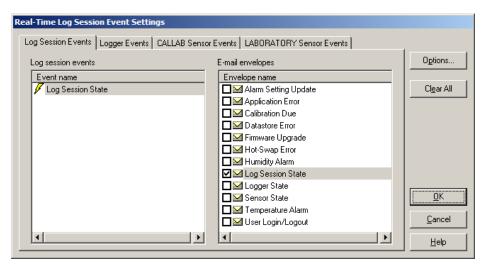

Figure 37 Real-Time Log Session Event Settings dialog

The *Real-Time Log Session Event Settings* dialog displays up to four tabs: *Log Session Events*, *Logger Events*, and one *Sensor Events* tab for each enabled sensor. The *Remote Log Session Event Settings* dialog displays only one *Sensor Events* tab cor-

responding to the sensor for the selected log session to monitor. The default e-mail envelope for each event is selected.

To customize an event, select the tab indicating the category of event to configure. The *events* list on the left displays all events associated with the selected tab. The *E-mail envelopes* list on the right displays a list of all enabled envelopes. Select the event in the *events* list on the left and check the box corresponding to the envelope to use in the *E-mail envelopes* list on the right. Repeat this process for other events. If an event is not linked to an envelope, no e-mail message will be generated when the event occurs.

These settings apply only to the real-time log session or remote monitoring log session currently being setup.

5 Real-Time Data Logging

The primary method of logging data using Log*Ware* is real-time data logging. Real-time data logging requires communicating with a logger using either a RS-232, Ethernet, or wireless connection. This allows Log*Ware* to configure various logger settings and to query the temperature and humidity measurements from the logger.

In a multi-user environment, any Log*Ware* client computer can run any number of real-time log sessions. Log*Ware* does not limit the number of real-time log sessions that can be run simultaneously on a client computer. However, practical limits do exist based on the computer's processor speed and amount of available memory, the real-time log session's sample interval, and the method of communication being used.

One real-time log session can acquire the readings from one or both sensors on a logger. However, if you need to acquire data from both sensors, you must do this in a single real-time log session. You cannot setup one real-time log session to acquire data from the sensor on channel 1 of a logger and a separate real-time log session to acquire the data from the sensor on channel 2 of the same logger. Log*Ware* prevents more than one real-time log session from being run against any one logger. Only one logger's data can be displayed in a *Real-Time Log Session* window.

When a real-time log session is running, you should avoid communicating with the logger using any other tools in Log*Ware* (i.e. downloading data, etc) or from any other application.

⚠️ *Warning: As a general rule, if you use LogWare to log data in real-time from a logger over a period of time, you should not attempt to import or download readings from the same logger that overlap that time period.*

Log*Ware*'s real-time data logging feature is very flexible and can be configured in many ways. Listed below are just a few examples of how Log*Ware* could be configured:

- Log temperature data in Celsius or Fahrenheit
- Log temperature data only, humidity data only, or both
- Log data from one or both sensors simultaneously or sequentially
- Log temperature data from one sensor and humidity data from another sensor
- Log data at virtually any rate from 1 second to 24 hours
- Start a log session immediately or at any future date and time
- Allow a log session to run indefinitely, or automatically terminate a log session after a certain number of readings have been logged, or after a specific amount of time has elapsed
- Automatically start one or more real-time log sessions when you login to Log*Ware*
- Setup Log*Ware* to automatically login when the computer boots up to resume real-time logging in case of a power failure
- Setup alarms with related alarm events to perform a certain task if an alarm value is exceeded

🅡 **To setup a real-time log session…**

1. Run Log*Ware* and login using an account with at least restricted access.
2. Make sure the logger to use is powered up and connected.
3. Select the *New Log Session* option from the *File* menu, or select the *Setup* option from the *Datalog* menu to display the *Real-Time Log Session Settings* dialog.
4. On the *Logger* tab, select the appropriate communication settings for communicating with the logger. Click the *Communication Settings* button to access detailed communication settings.
5. Click the *Query Logger* button to establish communications with the logger. Log*Ware* will read in all current logger settings, including the temperature scale, sensor information, location information, and alarm values.
6. Configure each sensor according to how the data should be logged. Selecting a sensor in the *Sensors* list and use the controls to setup the location, alarms, statistics, and graph trace color.
7. On the *Session* tab, select the logging interval, start log session and end log session criteria.
8. Click the *Start* button to start the real-time log session.

🅡 **To open a real-time log session configuration file…**

1. Run Log*Ware* and login using an account with at least restricted access.
2. Make sure the logger to use is powered up and connected.
3. Select the *Open Log Session* option from the *File* menu to display the *Open Log Session Settings File* dialog. Navigate to and select the log session settings file to open, and click the *Open* button.
4. The log session settings file is opened and the *Real-Time Log Session Settings* dialog is displayed. Communication is automatically established with the logger.
5. Check the log session settings and click the *Start* button to start the real-time log session.

A log session settings file may also be opened by clicking the *Open…* button on the *Real-Time Log Session Settings* dialog.

Log*Ware* can also be configured to automatically start one or more Real-Time Log Sessions on login.

🅣 **To setup Log*Ware* to automatically open and start real-time log sessions on login…**

1. Run Log*Ware* and login using an account with at least typical access.
2. Select the *Options* option from the *Tools* menu to display the *LogWare III Options* dialog.
3. On the *General* tab, check the *Automatically start log session(s) upon login* checkbox.

4. Click the *Add* button to display the *Open Log Session Settings File* dialog. Navigate to and select the log session settings file(s) to open, and click the *Open* button. You may select multiple files by holding down the *CTRL* or *SHIFT* keys while clicking on files.

5. The selected file(s) should appear in the list.

6. Click *OK* on the *LogWare III Options* dialog to close the dialog and save the settings.

Info: *When logging into LogWare using an administrator account, auto-start settings are ignored. LogWare will only automatically open and start real-time log sessions when logging in using a restricted or typical user account.*

Info: *You can override automatically starting Real-Time Log Sessions upon log-in by holding down the CTRL key after the login prompt as LogWare is starting up.*

5.1 Real-Time Log Session Settings

The *Real-Time Log Session Settings* dialog allows the user to configure a real-time log session. This dialog is displayed when selecting the *New Log Session* option from the *File* menu or when selecting the *Setup* option from the *Datalog* menu.
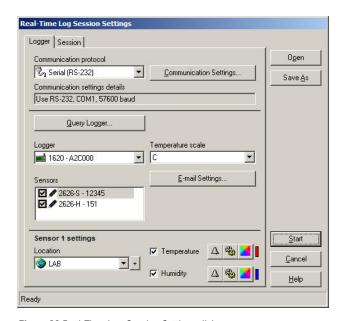
Figure 38 Real-Time Log Session Settings dialog

Real-time log session settings can be saved to a configuration file and opened using this dialog. If you frequently want to use the same alarm settings, logging interval, and

end log session settings to log real-time data, configure the session and save it to a log session settings file (.LSS file) by clicking the *Save As* button. The next time you need to start a log session, simply open the appropriate configuration file by clicking the *Open* button and making sure the logger is available.

The *Real-Time Log Session Settings* dialog has two tabs: *Logger* and *Session*.

Warning: Before configuring a real-time log session, familiarize yourself with the options on the Real-Time tab of the LogWare III Options dialog. In particular, be careful when using LogWare in Observation mode. This mode should only be used in specific circumstances. An indicator is displayed next to the Query Logger button when Observation mode is enabled. Refer to Section 3, LogWare III Options, on page 51, for more information.

5.1.1   Logger

The *Logger* tab allows the real-time log session settings regarding the logger and sensors to be configured.

When this dialog is displayed, all fields on this tab are disabled except the communication fields and the *Query Logger* button.

Note: Before proceeding, make sure the logger to use is powered up and connected as applicable.

Select the communication protocol to use to communicate with this logger using the *Communication protocol* drop-down list. Log*Ware* supports communicating with loggers using serial (RS-232), Ethernet (TCP/IP), and wireless protocols. To use wireless communications, select the **Serial (RS-232)** option from the drop-down list. Details of the current communication settings are indicated in the *Communication settings details* field. Click the *Communication Settings* button to change the current communication settings details. Refer to Section 1.10, Methods of Communication, on page 29, for more information on communication settings.

Info: In order to use the wireless method of communication, you must purchase and install a wireless RF modem. The RF modems currently come with either a RS-232 or USB interface. Follow the instructions provided with the RF modem to perform the installation. The RS-232 modem will connect directly to an existing COM port on the computer. Installing the USB modem creates a virtual COM port for the modem.

Once the communication settings are correct, click the *Query Logger* button. Log*Ware* attempts to communicate with the logger using the selected communication settings, reads in the current logger settings, and fills in the remaining fields on this tab.

When using the **Ethernet (TCP/IP)** communication settings in **DHCP** mode, Log*Ware* searches for any loggers on the network and displays the *Select Logger* dialog. Select the logger to use and click *OK* to proceed.
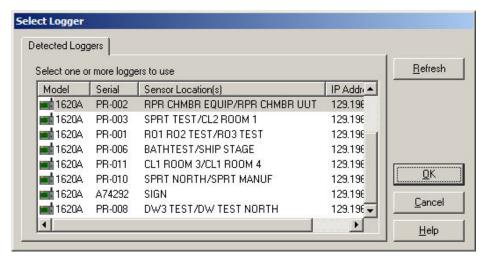
Figure 39 *Select Logger dialog*

Info: LogWare keeps track of all of the loggers, sensors, and locations used to log data. The first time a logger, sensor, or location is used, LogWare creates records for each item. Administrators can configure LogWare to prevent certain loggers, sensors, and locations from being used to log data. Every time a logger is queried, LogWare checks to make sure the logger, sensors, and locations are active and can be used.

The *Logger* field indicates the model and serial number of the logger being used. This information cannot be changed.

The *Temperature scale* field indicates the current temperature scale setting of the logger. If you wish to log data in a different scale, use the drop-down list to choose the scale to use. When running in Observation mode, the *Temperature scale* field is disabled.

The *E-mail Settings* button allows access to the e-mail event settings for this log session. This button is disabled if the user does not have permission to change e-mail related settings. The e-mail settings for a real-time log session default to the settings configured on the *Default Event Settings* dialog, which is accessible from the *General* tab on the *LogWare III Options* dialog

The *Sensors* list indicates the model, serial number, and state of the sensor(s) connected to the logger. The checkbox next to each sensor in this list indicates whether data should be logged from the sensor. Unchecking this checkbox indicates Log*Ware* should not log any data from the sensor. If the checkbox is checked, temperature and/or humidity data will be logged, depending on the state of the *Temperature* and *Humidity* checkboxes in the sensor settings section below.

To change the settings for a sensor, select the sensor in the *Sensors* list. The fields in the sensor settings section below are filled with the current settings for the selected sensor.

The *Location* field indicates the location of the selected sensor. Log*Ware* uses the SENSOR ID field of the sensor to store the location information. When logging data, it is important to know not only what sensor logged the data, but where the sensor was located when the data was logged (i.e. LABORATORY, MYDESK, OFFICE, CHAMBER, etc). Use this field to indicate where the selected sensor is located. Use the drop-down list to select an existing location, or add a new location by clicking the + button. When running in Observation mode, the *Location* field is disabled.

Note: By default, the SENSOR ID field for a new sensor is set to a value of 'ID'. If LogWare detects the SENSOR ID field is set to 'ID', a prompt is displayed indicating you should select or create a valid location name for this sensor and the Select Sensor Location dialog is displayed.

Note: You should avoid setting more than one sensor to the same location during a real-time log session. Setting more than one sensor to the same location makes it difficult to view the data by location after it is logged. Instead, create a new location with a similar, but unique, name if necessary (i.e. LABORATORY1 and LABORATORY2).

The *Temperature* and *Humidity* checkboxes determine whether temperature and/or humidity readings for the selected sensor should be logged. To log both temperature and humidity, check both checkboxes. To log only temperature, check only the *Temperature* checkbox. To log only humidity, check only the *Humidity* checkbox. If both options are unchecked, the checkbox in the *Sensors* list is automatically unchecked, indicating no data from the selected sensor should be logged.

The three buttons next to the *Temperature* and *Humidity* checkboxes allow alarm settings, statistics, and the trace color to be configured. These buttons are disabled if the corresponding *Temperature* or *Humidity* checkbox is unchecked. The vertical bar to the right of the buttons indicates the current trace color.

To configure the alarm settings, click the (*Alarm Settings*) button. When running in Observation mode, the alarm settings can be changed, however the logger will not be updated to reflect these settings.

To configure the statistics, click the (*Statistics Settings*) button.

To configure the trace color, click the (*Trace Color*) button.

5.1.1.1   Alarm Settings

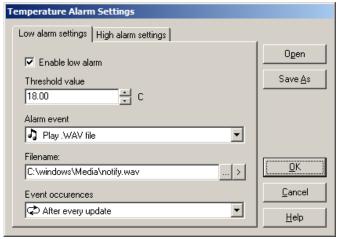The *Alarm Settings* dialog allows low and high alarms to be configured.

Figure 40 *Alarm Settings dialog*

The *Alarm Settings* dialog has two tabs: *Low alarm settings* and *High alarm settings*. Both tabs display an identical set of fields that can be used to indicate low and high alarm settings.

If the same alarm settings need to be used repeatedly, you may want to save the alarm settings to a configuration file. After configuring the settings, click the *Save As* button to save the alarm settings to an alarm configuration file (.ALM file). To open an alarm configuration file, click the *Open* button and select the configuration file to open.

The *Enable low alarm* or *Enable high alarm* checkbox indicates whether the low and high alarms are enabled. Check this checkbox to enable the alarm, or uncheck it to disable the alarm.

The *Threshold value* field indicates the low or high alarm value. Enter the value to use for the low or high alarm. The defined alarm event will be triggered if a reading is equal to or exceeds the threshold value.

The *Alarm event* field indicates the event that should occur if the alarm threshold value is met or exceeded. The supported alarm events include:

- **No event** - No further action is taken
- **System beep** - Causes the default operating system beep to sound
- **Display message** - Displays a modal message (logging stops - user must respond to continue logging)
- **Play .WAV file** - Causes the indicated .WAV file to play
- **Launch .EXE file** - Launches the indicated .EXE file

If the **Display message** option is selected, enter the message to display in the *Message to display* field. If no message is specified, a default message is displayed. To test the message, click the ⟩ button to the right of the field.

If either the **Play .WAV file** or **Launch .EXE file** option is selected, click the ... button to the right of the *Filename* field to locate the .WAV or .EXE file. To test the event, click the ⟩ button to play the .WAV file or launch the .EXE file to make sure the selected file can be played or launched.

The *Event occurrences* field indicates how often the alarm event should occur. The supported settings are:

- **Only once when alarm value is exceeded**
- **After every update**

Select the **Only once when the alarm value is exceeded** option to only allow the event to occur on the first reading that trips the alarm. Subsequent readings that also exceed the alarm threshold value will not cause the event to occur again until one or more readings are taken that reset the alarm.

Select the **After every update** option to allow the event to happen for every reading that trips the alarm and all subsequent readings that exceed the alarm threshold value.

Info: The **After every update** *option cannot be selected if the alarm event is set to* **Launch .EXE file**.

5.1.1.2   Statistics

The *Statistics Settings* dialog allows the statistical calculations that are to be displayed to be defined.
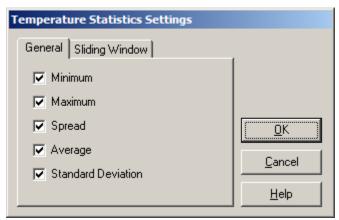
Figure 41 *Statistics Settings dialog*

The *Statistics Settings* dialog has two tabs: *General* and *Sliding Window*.

General

The *General* tab indicates the general statistical calculations to display. Check the options that should be displayed. Uncheck the options that should not be displayed.

Sliding Window

The *Sliding Window* tab indicates whether the statistics are calculated from all readings or only the most recent readings.
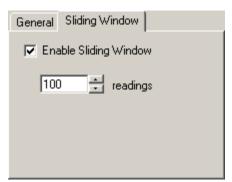
Figure 42 *Statistics Settings dialog - Sliding Window tab*

To enable the sliding window, check the *Enable Sliding Window* option and enter the number of readings to include in the sliding window. Only the most recent *n* readings will be used to calculate the statistical values displayed.

Note: The sliding window feature is only intended for use with dynamic data sets (during real-time log sessions and remote monitoring sessions). Changing the sliding window settings on a static data set (viewing logged data) will reset the statistics.

5.1.1.3   Color

The *Color* dialog can be used to select the graph trace colors.
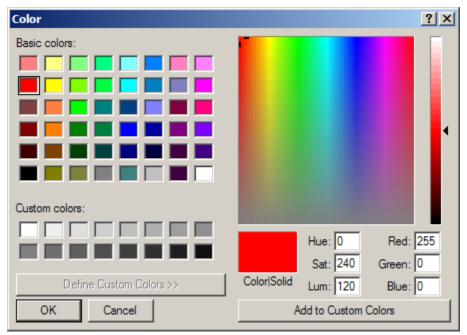
Figure 43 *Color dialog*

Use the controls on this dialog to select the color to use or to define custom colors.

5.1.2   Session

The *Session* tab allows the user to define when the log session should start, end, and the rate at which readings are logged to the database.

Figure 44 Real-Time Log Session Settings dialog - Session tab

The *Logging interval* fields determine the rate at which measurements are queried from the logger during the real-time log session. Log*Ware* is capable of logging data at intervals from once every second to once every 24 hours.

Info: The exact interval between measurements on a particular channel depends on the Sample all sensors simultaneously checkbox on the Real-Time tab of the LogWare III Options dialog. If this checkbox is checked, LogWare attempts to query measurements on all enabled channels at the interval indicated by the Logging interval fields (simultaneous mode). If this checkbox is not checked, LogWare queries the measurements on only one channel at a time at the indicated interval (sequential mode).

The *Interval between scan sequences* settings are only displayed if Log*Ware* is configured for sequential mode. If this feature is enabled, Log*Ware* will query measurements on each enabled channel, one at a time at the interval indicated in the *Logging interval* fields. Log*Ware* will then wait until the amount of time specified in the *Interval*

between scan sequences fields has elapsed since the measurement process began and query measurements on each enabled channel again.

By default, Log*Ware* expects to start logging real-time data as soon as you click the *Start* button. The *Start log session* settings can be used to force Log*Ware* to wait until a specific date and/or time before starting to log data. Select whether you want the log session to begin immediately or at a specified date and time using the drop-down list.

The *Delayed start date* and *Delayed start time* settings determine when the log session should begin if the **At date and time specified below** option is selected. Use the calendar to select the date, and enter the time in the field provided. These settings are disabled if a log session is set to begin immediately.

The *End log session* settings can be used to automatically stop the logging process after a specified time has elapsed or after a specific number of readings have been logged on each channel. Use the drop-down list to select the appropriate option, then set the criteria using the *End log criteria* fields. By default, log sessions continue until they are manually stopped by the user.

Once the logger and session settings are complete, start the log session by clicking the *Start* button.

⚠️ *Note: LogWare does not allow more than one Real-Time Log Session for any given logger to be running simultaneously. If LogWare detects an open log session for the selected logger, a warning message is displayed. This log session cannot start until the current log session is closed. If a log session is left open due to unexpected termination, use the Manage Log Sessions option in the Tools menu to close the open log session. Refer to Section 10.3, Managing Log Sessions, on page 162 for more information.*

5.1.3 Log Session Settings File

It is common to need to use the same real-time log session settings over and over again. To save time configuring a log session, Log*Ware* allows the real-time log session settings to be saved to a configuration file, called a log session settings file (.LSS file). Log session settings files can only be saved from the *Real-Time Log Session Settings* dialog. A log session settings file can be opened by selecting the *Open Log Session* option from the *File* menu or by clicking the *Open* button on the *Real-Time Log Session Settings* dialog.

A log session settings file contains information about the communication settings, temperature scale, logging interval, session start/end settings, and sensor settings including statistics and alarm settings for each sensor.

One or more log session settings files can be opened automatically when Log*Ware* runs. These settings are available on the *General* tab of the *LogWare III Options* dialog.

5.2 Real-Time Log Session

The *Real-Time Log Session* window is displayed when a real-time log session is started. The window displays the most recent measurements from each sensor in a spreadsheet style grid, real-time log session settings information, graphs of the measurements of all enabled sensors, and statistical calculations and alarm settings for the selected sensor. Only one logger's data can be displayed in a *Real-Time Log Session* window.

If the log session was configured for a delayed start date/time, the *Select Delayed Start Date/Time* dialog may be displayed prior to the *Real-Time Log Session* window if the start date/time passes before the log session starts. Select a new start date/time and click *OK* to continue. Refer to Section 5.2.1, Select Delayed Start Date/Time, on page 100, for more information on using this dialog.

If the manual synchronization feature is enabled, a prompt is displayed as soon as the log session is ready to begin logging data. Click the *OK* button to begin logging data.
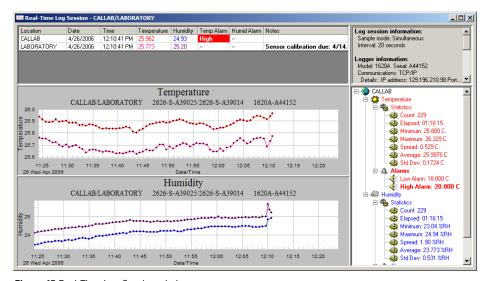
Figure 45 *Real-Time Log Session window*

Refer to Section 3, LogWare III Options, on page 51, for more information on the various settings and options for real-time log sessions.

ⓘ *Info: When starting a real-time log session, LogWare sends configuration infor-mation to the logger to synchronize many of its settings with the settings selected for the log session. Some of these settings are or may be password protected. If LogWare needs to change any password protected settings in the logger, a pass-word prompt is displayed. You must enter the correct password for the logger being used in order for LogWare to change the necessary settings. If the correct password is not entered, LogWare will log data using the location and alarm values configured on the Real-Time Log Session Settings dialog. This prompt is not displayed if the logger's settings are not password protected or do not need to be changed, if the logger's password has been stored, or if the Never attempt to update password protected settings checkbox on the LogWare III Options dia-log is checked. Note: This password is not related to the LogWare user account password!*

⚠ *Note: If the date/time stamp for the readings is being queried from the logger, this may cause the date and time information displayed on the graph to get slightly out of sync with the date and time stamps of the readings. However, the date and time stamps recorded with each reading will always be accurate.*

The *Real-Time Log Session* window is divided into three main sections: sensors grid, graphs, and statistics and alarms panel. These sections can be resized by dragging the dividers between each section. The upper right corner of the window also displays some basic information about the log session.

⚠ *Warning: When using LogWare in Observation mode, an indicator is displayed at the top of the log session information list indicating Observation mode is enabled.*

Each sensor is listed in the sensors grid. This grid displays the location information, date and time the last measurement was taken, the most recent measurement values, current temperature and humidity alarm states (if applicable), and notes. The *Notes* column gives feedback regarding the sensor, such as sensor state messages, calibration due information (if enabled), and more.

Temperature and humidity readings and their alarm states are highlighted in the same colors as the graph traces defined for each sensor. If a current measured value exceeds an alarm value, the appropriate alarm state column for that sensor is highlighted.

Right-clicking on a row in the grid displays a popup menu that allows some of the sen-sor's settings to be changed.

Figure 46 Real-Time Readings Grid popup menu

Graph trace colors for the selected sensor can be changed by selecting the appropriate option(s) from the popup menu. The trace on the graph can be shown or hidden by selecting the *Show Trace on Graph* option, or by simply double-clicking on the appropriate row in the grid.

> **ℹ** ***Info:*** *You cannot hide the traces for both sensors at the same time. If one sensor's traces are currently hidden, and you attempt to hide the traces for the other sensor, the first sensor's traces will be shown. If there is only one sensor, the Show Trace on Graph menu option is disabled. Also, selecting the Use Default Trace Colors option resets <u>all</u> traces to their default colors, not just the trace(s) for the selected sensor.*

As measurements are logged, they are also plotted on the graphs. Temperature and humidity readings may be plotted on the same graph, or on separate graphs. You can zoom in on a small section of a graph by clicking on the graph and dragging the mouse to draw a box. When temperature and humidity readings are plotted on separate graphs, the zoom feature can be synchronized to cause both graphs to zoom to the same area.

Graphs can be printed by selecting the *Print | Graph* option in the *File* menu or by selecting the *Print Graph* option in the *Graph* menu. If the temperature and humidity readings are displayed in separate graphs, the *Select Graph to Print* dialog is displayed. Select the graph(s) to print, then click the *OK* button to print the graph(s).

The graphs can also be configured to show alarm lines and data point markers by selecting the appropriate options from the *Graph* menu or by clicking the corresponding toolbar buttons.

Right-clicking on a graph displays a popup menu with various options for customizing the graph's settings. Note that Log*Ware* does not "memorize" custom graph settings configured using this popup menu or the associated dialogs.

Figure 47 *Graph popup menu*

The right side of the window shows the statistical calculations for the selected sensor. Optionally, the alarm values may also be displayed in this list. If the selected sensor's current measurement exceeds an alarm value, the alarm in this list is highlighted in a bold typeface. Statistics and alarms are also displayed in the defined colors for the

selected sensor's graph traces. Right-clicking on any temperature or humidity item in the list displays a popup menu for working with the temperature or humidity statistics, alarms, and e-mail settings.
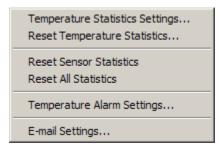
Figure 48 *Statistics popup menu*

Select the *Temperature/Humidity Statistics Settings* option to change which statistical values are displayed. Select the *Reset Temperature/Humidity Statistics* option to reset only the selected statistics. To reset all statistics for the selected sensor, select the *Reset Sensor Statistics* option. To reset the statistics for all sensors simultaneously, select the *Reset All Statistics* option.

Select the *Temperature/Humidity Alarm Settings* option to change the current alarm settings.

Note: Changing the alarm settings during a real-time log session also updates and synchronizes the alarm settings in the logger.

To change the e-mail event settings for this log session, select the *E-mail Settings* option. This menu option is disabled if the current user does not have permission to change e-mail settings.

To stop or abort a real-time log session, select the *Stop* option in the *Datalog* menu, click on the corresponding toolbar button, or click the ✕ button in the upper right corner of the window.

5.2.1   Select Delayed Start Date/Time

The *Select Delayed Start Date/Time* dialog is displayed when starting a real-time log session if the previously selected start date/time has passed.
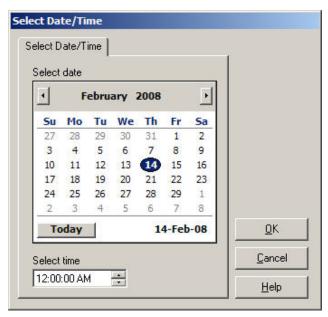
Figure 49 *Select Delayed Start Date/Time dialog*

Use the *Select date* calendar to select the new start date, and enter the time in the *Select time* field.

5.2.2   Select Graph to Print

The *Select Graph To Print* dialog is displayed when selecting the *Print | Graphs* option from the *File* menu or the *Print Graph* option from the *Graph* menu.
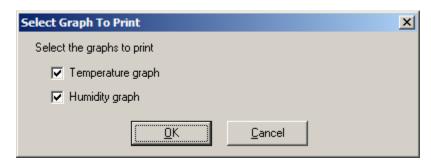
Figure 50 *Select Graph To Print dialog*

Select the graph(s) to print by checking the appropriate checkbox(es). Click *OK* to print the graph(s).

5.2.3 Observation Mode

Observation mode is a special mode of a real-time log session where readings are acquired from a logger but are not recorded. Also, Log*Ware* does not set or change the alarms, location (SENSOR ID), temperature scale, or resolution settings of the logger.

A! Observation mode can be enabled on the *Real-Time* tab of the *LogWare III Options* dialog. When Observation mode is enabled, a label is displayed on the *Real-Time Log Session Settings* dialog and on the *Real-Time Log Session* window.

6   Remote Monitoring

The primary method of logging data using Log*Ware* is real-time data logging. Real-time data logging requires communicating with a logger using either a RS-232, Ethernet, or wireless connection.

Any Log*Ware* client computer can run any number of real-time log sessions. However, Log*Ware* only permits one real-time log session per logger. In a multi-user environment, it may be necessary for multiple users to monitor real-time data for a location. Log*Ware* allows any Log*Ware* client to monitor logged data in real-time for any location where data is currently being logged without communicating with the logger to obtain the readings. This feature is called remote monitoring. Log*Ware* does not limit the number of remote monitoring sessions that can be open at a time.

Log*Ware*'s remote monitoring feature can be configured in many ways. Listed below are just a few examples of how a remote monitoring session could be configured:

- Monitor temperature data in Celsius or Fahrenheit
- Monitor temperature data only, humidity data only, or both
- Read in and graph historical data for the location
- Update data in real-time at an interval from 1 minute to 24 hours
- Customize statistical, alarm and e-mail settings (does not affect real-time log session alarms and e-mail settings)

To setup a remote monitoring session…

1. Run Log*Ware* and login using any account.
2. Select the *Remote Monitoring* option from the *View* menu to display the *Remote Monitoring Options* dialog.
3. On the *Sessions* tab, select the location to monitor from the *Current log sessions* list. Real-time log session information is displayed in the list to the right.
4. **Optional:** Indicate the readings to monitor by checking or unchecking the checkboxes for temperature and humidity readings accordingly. Customize statistics, alarms, trace colors, and e-mail settings as desired. To reset the remote monitoring session to use the same settings that are being used by the real-time log session, click the *Restore Default Settings* button.
5. On the *Misc. Settings* tab, select the historical data to read in, update interval, graphing options, temperature scale, and resolutions to use.
6. Click the *OK* button to start the remote monitoring session.

Also, Log*Ware* can be configured to automatically open one or more Remote Monitoring sessions on login.

To setup LogWare to automatically open Remote Monitoring sessions on login…

1. Run Log*Ware* and login using an account with at least typical access.
2. Select the *Options* option from the *Tools* menu to display the *LogWare III Options* dialog.

3. On the *General* tab, check the *Automatically start Remote Monitoring session(s) upon login* checkbox.

4. Click the *Add* button to display the *Select Remote Monitoring Locations* dialog. Select the location(s) to add to the list. You may select multiple locations by holding down the *CTRL* or *SHIFT* key when clicking on the location names. Click *OK*.

5. The selected location(s) should appear in the list.

6. Click *OK* on the *LogWare III Options* dialog to close the dialog and save the settings.

Info: *When logging into LogWare using an administrator account, auto-start settings are ignored. LogWare will only automatically open and start real-time log sessions when logging in using a restricted or typical user account.*

Info: *You can override automatically starting Remote Monitoring sessions upon login by holding down the CTRL key after the login prompt as LogWare is starting up.*

6.1   Remote Monitoring Options

The *Remote Monitoring Options* dialog allows the user to select the real-time log session data to be monitored. This dialog is displayed by selecting the *Remote Monitoring* option from the *View* menu.
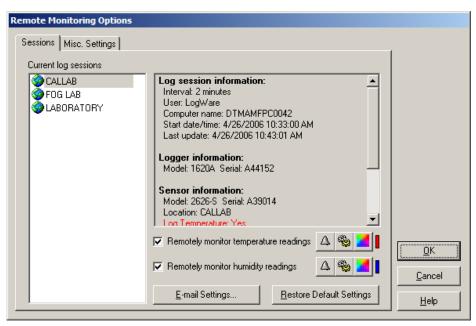
Figure 51 *Remote Monitoring Options dialog*

The *Remote Monitoring Options* dialog has two tabs: *Sessions* and *Misc. Settings*.

Sessions

The *Sessions* tab displays information about the locations for all current real-time log sessions. To configure a remote monitoring session, select a location from the *Current log sessions* list.

The *Current log sessions* list indicates all locations where real-time log sessions are currently running. If a real-time log session is logging data from both sensors (two locations), each location is listed as a separate item in this list. A remote monitoring session can only display the data for a single location. Selecting a location from the list displays information about the real-time log session in the details list on the right. This information includes the real-time logging interval, the Log*Ware* user name and computer name where the real-time log session is running, logger and sensor model and serial numbers, alarm settings, and other information.

If Log*Ware* has been unable to obtain readings from a location for a period of time, the item is highlighted in bold red text in the *Current log sessions* list and a bold red label appears above the details list when the item is selected. The log session is considered to be currently inactive. In the case of a Log*Ware* client computer shutting down unexpectedly, the system still indicates real-time log sessions are running because the log sessions were not terminated properly. However, these log sessions will likely appear as being inactive because Log*Ware* is no longer obtaining new readings. To close inactive log sessions and remove them from this list, use Log*Ware*'s Manage Log Sessions feature.

> **i**   *Info: If the Automatically remove inactive log sessions from Remote Monitoring dialog checkbox on the Misc tab of the LogWare III Options dialog is checked, log sessions that have been inactive for more than the specified amount of time will not appear in the list. If a log session resumes activity, it will re-appear in the list.*

The *Remotely monitor temperature readings* and *Remotely monitor humidity readings* checkboxes indicates whether temperature and/or humidity readings should be displayed in the Remote Monitoring window respectively.

The remote monitoring session's alarm and statistics settings default to the settings being used by the real-time log session if the selected location has never been remotely monitored before. If the selected location has been remotely monitored previously, the remote monitoring session's alarm and statistics settings default to the previously used settings for that location.

> **i**   *Info: All remote monitoring session alarm, statistics, and e-mail settings can be customized for each LogWare client independently. Customizing remote monitoring session settings do not affect the settings used by the real-time log session.*

To customize the alarm settings for the remote monitoring session for the selected location, click the ⚠ (*Alarm Settings*) button.

To customize the statistics for the remote monitoring session for the selected location, click the 🛠 (*Statistics Settings*) button.

To customize the trace color for the remote monitoring session for the selected location, click the 🎨 (*Trace Color*) button.

The e-mail event settings for a Remote Monitoring session can be configured by clicking the *E-mail Settings* button. Remote Monitoring sessions only support sending e-mail messages for the following events:

- Temperature Alarm event
- Humidity Alarm event

To restore all applicable settings to the settings being used on the corresponding Real-Time Log Session, click the *Restore Default Settings* button. Clicking this button affects the following settings:

- *Remotely monitor temperature readings* checkbox
- *Remotely monitor humidity readings* checkbox
- Temperature and humidity alarm states and threshold values (alarm events are not affected)
- *Temperature scale* setting
- *Update interval* setting

All other Remote Monitoring Session settings are specific to remote monitoring and are not affected by clicking then *Restore Default Settings* button.

Misc. Settings

The *Misc. Sessions* tab includes settings for the remote monitoring session for the selected location.

Figure 52 *Remote Monitoring Options dialog - Misc Settings tab*

The *Display data for previous* fields indicate how much historical data should be queried and displayed when initiating the remote monitoring session. This setting will determine the x-axis range on the graph(s) in the *Remote Monitoring* window. Querying more historical data causes the session to take longer to initiate. It is recommended to query only the amount of historical data that is necessary.

The *Update interval* fields indicate how often the remote monitoring session should check for more recent readings. Remote monitoring sessions may be updated up to once every minute. It is recommended that the update interval **not** be set to update more frequently than the logging interval used by the corresponding real-time log session. The real time logging interval is indicated on the *Sessions* tab.

The *Plot temperature and humidity readings on same graph* checkbox determines whether separate graphs are created in the *Remote Monitoring* window for temperature and humidity readings, or whether temperature and humidity readings are plotted on the same graph. When plotting temperature and humidity readings on the same graph, temperature readings use the left y-axis and humidity readings use the right y-axis of the graph.

Select the temperature scale for temperature data using the *Select temperature scale* drop-down list. Log*Ware* always records temperature readings in Celsius. Readings are converted to the desired scale for viewing.

The *Reading resolutions* fields indicate the number of decimal places to use to format the data. All readings are recorded using the resolution settings that were configured when the data was logged. Select the number of digits to use for temperature readings using the *Temperature* field and humidity readings using the *Humidity* field.

When all settings have been selected, click the *OK* button to initiate the remote monitoring session. The *Remote Monitoring* window is displayed and populated with the historical data. Updates will occur at the selected interval.

6.2   Remote Monitoring

The *Remote Monitoring* window is displayed when a remote monitoring session is started. The window displays the most recent measurements from the indicated location, remote monitoring session information and settings, graphs of the measurements, and statistical calculations and alarm settings.
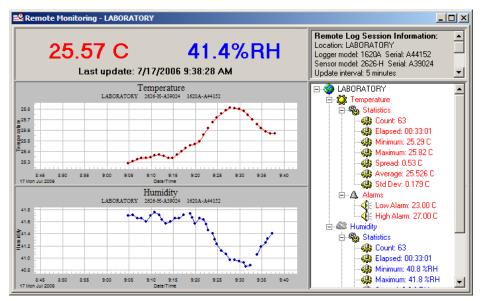
Figure 53 *Remote Monitoring window*

The *Remote Monitoring* window is divided into three main sections: current readings, graphs, and statistics and alarms panel. These sections can be resized by dragging the dividers between each section. The upper right corner of the window also displays some basic information about the remote monitoring session.

The icon displayed on the *Remote Monitoring* window indicates the status of the session: The icon indicates normal operation; The icon ⚠ indicates a problem querying data from the server (server busy, timeout, etc); The icon ❌ indicates a critical error occurred communicating with the server (server not responding, etc). A message

is also displayed briefly in the status bar of the main window if the Remote Monitoring session is unable to communicate with the server.

The most recent readings are displayed in large bold type at the top of the window in colors that match the corresponding graph trace colors. The date/time stamp of the most recent successful update is indicated below the readings. If no readings have been successfully queried for a period of time, a label appears above the readings in bold red type indicating the associated real-time log session appears to be inactive. To manage inactive log sessions, use Log*Ware*'s Manage Log Sessions feature.

As updates occur and new measurements are retrieved, they are also plotted on the graphs. Temperature and humidity readings may be plotted on the same graph, or on separate graphs. You can zoom in on a small section of a graph by clicking on the graph and dragging the mouse to draw a box. When temperature and humidity readings are plotted on separate graphs, the zoom feature can be synchronized to cause both graphs to zoom to the same area.

Graphs can be printed by selecting the *Print | Graph* option in the *File* menu or by selecting the *Print Graph* option in the *Graph* menu. If the temperature and humidity readings are displayed in separate graphs, the *Select Graph To Print* dialog is displayed. Select the graph(s) to print, then click the *OK* button to print the graph(s).

The graphs can also be configured to show alarm lines and data point markers by selecting the appropriate options from the *Graph* menu or by clicking the corresponding toolbar buttons.

Right-clicking on a graph displays a popup menu (see Figure 44) with various options for customizing the graph's settings. Note that Log*Ware* does not "memorize" custom graph settings configured using this popup menu or the associated dialogs.

The right side of the window shows the statistical calculations for the location. Optionally, the alarm values may also be displayed in this list. If the location's current measurement exceeds an alarm value, the alarm in this list is highlighted in a bold typeface. Statistics and alarms are also displayed in the defined colors for the location's graph traces. Right-clicking on any temperature or humidity item in the list displays a popup menu for working with the temperature or humidity statistics, alarms, and e-mail settings.
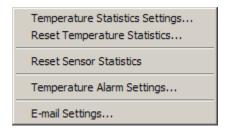
Figure 54 Remote Monitoring Statistics popup menu

Select the *Temperature/Humidity Statistics Settings* option to change which statistical values are displayed. Select the *Reset Temperature/Humidity Statistics* option to reset only the selected statistics. To reset all statistics for the selected location, select the *Reset Sensor Statistics* option.

Select the *Temperature/Humidity Alarm Settings* option to change the current alarm settings.

T To change the e-mail event settings for this log session, select the *E-mail Settings* option. This menu option is disabled if the current user does not have permission to change e-mail settings.

Note: Changing the statistics, alarms, and e-mail settings during a remote monitoring session does not affect the real-time log session settings for the selected location.

To stop or abort a remote monitoring session, click the ✕ button in the upper right corner of the *Remote Monitoring* window.

7 Downloading Logged Data

Log*Ware* provides a tool that allows data to be downloaded from the memory of a logger into Log*Ware*.

⚠️ *Warning: As a general rule, if you use LogWare to log data in real-time from a logger over a period of time, you should **not** attempt to import or download readings from the same logger that overlap that time period.*

Downloading can be an effective method of getting data into Log*Ware* because it does not require a computer to be running and connected to the logger at all times like real-time logging, and it does not require using a PC card to transport data from the logger like importing. When data is downloaded from a logger, it is actually written to a file, and then imported into Log*Ware* in exactly the same manner as if you were importing data from a PC card file.

ℹ️ *Info: Committing data to the data storage system is a slow process that can take many hours to complete, depending on the amount of data to commit. For this reason, it is recommended that you commit small amounts of data at a time. For larger data sets, you may want to commit the data during off hours (overnight). Progress and status information are displayed as records are processed and committed.*

🅡 **To download data from the memory of a logger…**

1. Run Log*Ware* and login using an account with at least restricted access.
2. Select the *Download* option from the *Tools* menu to display the *Download Options* dialog.
3. On the *Download Options* tab, select the appropriate communication settings for communicating with the logger containing the data to download. Click the *Communication Settings* button to access detailed communication settings.
4. Select the remaining options regarding the data to download from the logger.
5. Click the *Download* button to begin the download process.
6. The data will be downloaded and saved to a temporary file. This file is then imported into Log*Ware*.

7.1 Download Options

🅡 The *Download Options* dialog allows the user to specify the readings to be downloaded from a logger's memory. This dialog is displayed when selecting the *Download* option from the *Tools* menu.
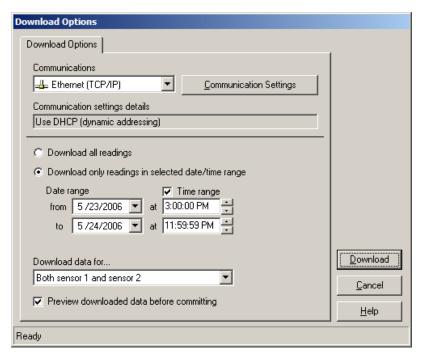
Figure 55 *Download Options dialog*

Choose the communication protocol to use to communicate with the logger. For wireless communications, select the **Serial (RS-232)** option. Details regarding the current communication settings are indicated in the *Communication settings details* field. To change the communication details, click the *Communication Settings* button. Refer to Section 1.10, Methods of Communication, on page 29n, for more information on communication settings.

ℹ️ *Info: In order to use the wireless method of communication, you must purchase and install a wireless RF modem. The RF modems currently come with either a RS-232 or USB interface. Follow the instructions provided with the RF modem to perform the installation. The RS-232 modem will connect directly to an existing COM port on the computer. Installing the USB modem creates a virtual COM port for the modem.*

When selecting the data to download from a logger's memory, there are two options to choose from: **Download all readings** and **Download only readings in selected date/time range.**

The **Download all readings** option indicates that all readings currently stored in the logger's memory should be downloaded. Use this option if data has never been downloaded from a logger before, or if the logger's memory had been cleared since the last download.

The **Download only readings in selected date/time range** option allows the user to select a specific range of readings to download. When this option is selected, the date and time fields can be used to select the range or readings to download. Use this option if data has been previously downloaded from the logger's memory, or if you are only interested in data from a specific time span.

The *Date range* fields are used to specify the *from* date and *to* date of the readings to download. Setting these dates to the same date causes all of the data from that day to be downloaded.

The *Time range* fields can be used to narrow down the range of the data to download even more. To specify a time range, check the *Time range* option, then select or enter the *from* time and the *to* time in the appropriate fields.

Info: Because the logger stores data in its memory in a highly compressed format, it may be necessary for LogWare to actually download more data than indicated by the selected date and time range settings. However, LogWare discards readings that fall outside the specified range after the data is downloaded.

The *Preview downloaded data before committing* checkbox allows the data to be viewed before Log*Ware* actually records the data. Leaving this checkbox unchecked indicates that the data should be recorded unconditionally. Refer to Section 8.2, Imported Data, on page 117, for more information on viewing downloaded data.

When the options are set appropriately, click the *Download* button to begin the download process. When using the **Ethernet (TCP/IP)** communication settings in **DHCP** mode, Log*Ware* searches for any loggers on the network and displays the *Select Logger* dialog. You may select one or more loggers from which to download data and click *OK* to proceed.
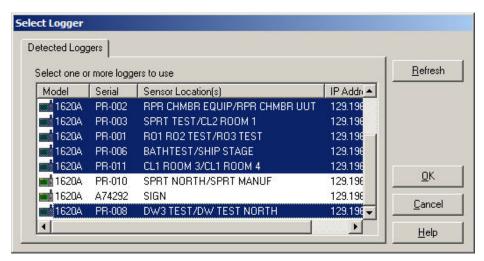
Figure 56 *Select Logger dialog - multiple loggers selected*

Note: Downloading large amounts of data can take several minutes to complete. For best results, use the fastest communication settings available.

The status bar at the bottom of the *Download Options* dialog indicates the download progress. When downloading is complete, the data will either be recorded or displayed in the *Imported Data* window.

Note: By default, the SENSOR ID field for a new sensor is set to a value of 'ID'. If LogWare detects the SENSOR ID field is set to 'ID' for any of the measurements being downloaded, a prompt is displayed indicating you should select or create a valid location name for this sensor and the Select Sensor Location dialog is displayed. Because of the way the logger records data to its memory, this prompt may be displayed multiple times during the download process for each sensor.

Log*Ware* does not prevent the same set of data from being committed to the data storage system multiple times. However, a unique log session is created each time the data is committed. Committing the same set of data multiple times will cause duplication of data when querying the data by location or by sensor. Duplicate log sessions should be avoided. If duplicate log sessions exist, they should be removed. Refer to Section 10.4, Deleting Log Sessions, on page 164, for more information on removing duplicate log sessions.

8 Importing Logged Data

Log*Ware* provides a tool that allows data to be imported from binary files written to a PC card by the logger. This tool can be useful when your logger is not located near a computer, or when you have multiple loggers in various locations.

Info: The Model 1620A no longer includes a PC card slot. This feature has been left in LogWare for backward compatibility with the 1620 and 5020A.

Importing is only one way to get data into Log*Ware*. Data can also be downloaded directly from a logger or logged in real-time.

Warning: As a general rule, if you use LogWare to log data in real-time from a logger over a period of time, you should not attempt to import or download readings from the same logger that overlap that time period.

Importing can be an effective method for getting data into Log*Ware* because it does not require a computer to be running and connected to the logger at all times like real-time logging, and it does not require the logger to be connected to the PC or to a network like downloading requires. It does, however, require the use of a PC card to transport the data from the logger to the computer.

Info: Committing data to the data storage system is a slow process that can take many hours to complete, depending on the amount of data to commit. For this reason, it is recommended that you commit small amounts of data at a time. For larger data sets, you may want to commit the data during off hours (overnight). Progress and status information are displayed as records are processed and committed.

Ⓡ To import data from a PC card …

1. Run Log*Ware* and login using an account with at least restricted access.
2. Select the *Import* option from the *File* menu to display the *Import Options* dialog.
3. On the *Log Files* tab, locate the file to import data from using the *Import from* drop-down list and navigation buttons.
4. Select the file to import.
5. Click the *Import* button to begin the import process.
6. The data will be imported.

8.1 Import Options

Ⓡ The *Import Options* dialog allows the user to select a file to import. This dialog is displayed when selecting the *Import* option from the *File* menu.
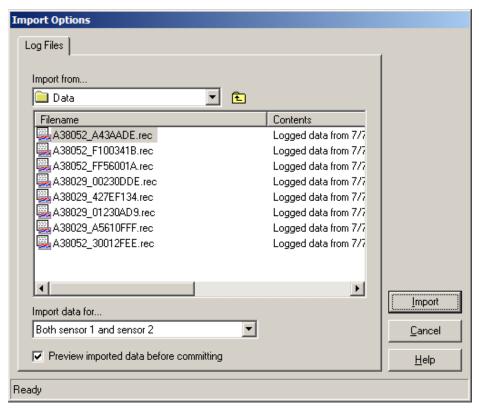
Figure 57 *Import Options dialog*

The *Import from* field indicates the location (drive letter or folder) where the import files are located. Use the drop-down list to select the drive or folder where the file to import is located. A list of folders and files found in the selected drive of folder are displayed in the list below. To open a subfolder, double-click the appropriate folder item in the list.

Valid logger files have a .REC extension. Only files with this extension can be imported into Log*Ware.* Log*Ware* analyzes each file before it is displayed in the list and displays information about the contents of each file in the *Contents* column. If Log*Ware* is unable to open a file, or if the file does not match the expected format, the marker *<unknown format>* appears in the *Contents* column.

The *Preview imported data before committing* checkbox allows the data to be viewed before Log*Ware* actually records the data. Leaving this checkbox unchecked indicates that the data should be recorded unconditionally. Refer to Section 8.2, Imported Data, on page 117, for more information on viewing imported data.

Select the file to import by clicking on the filename in the list.

Click the *Import* button to begin the import process. The status bar at the bottom of the *Import Options* dialog indicates the import progress. When importing is complete, the data will either be recorded, or displayed in the *Imported Data* window.

Note: By default, the SENSOR ID field for a new sensor is set to a value of 'ID'. If LogWare detects the SENSOR ID field is set to 'ID' for any of the measurements being imported, a prompt is displayed indicating you should select or create a valid location name for this sensor and the Select Sensor Location dialog is displayed. Because of the way the logger records data to its memory, this prompt may be displayed multiple times during the import process for each sensor.

Info: Committing data to the data storage system is a slow process that can take many hours to complete, depending on the amount of data to commit. For this reason, it is recommended that you commit small amounts of data at a time. For larger data sets, you may want to commit the data during off hours (overnight). Progress and status information are displayed as records are processed and committed.

LogWare does not prevent the same set of data from being committed to the data storage system multiple times. However, a unique log session is created each time the data is committed. Committing the same set of data multiple times will cause duplication of data when querying the data by location or by sensor. Duplicate log sessions should be avoided. If duplicate log sessions exist, they should be removed. Refer to Section 10.4, Deleting Log Sessions, on page 164, for more information on removing duplicate log sessions.

8.2 Imported Data

The *Imported Data* window displays data that has been imported from a file or downloaded from a logger's memory but has not yet been recorded (committed). This

window is displayed when importing or downloading data from a logger if the *Preview downloaded/imported data before committing* checkbox is checked.
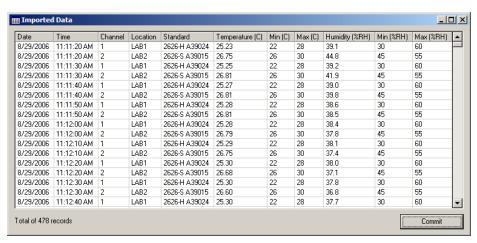
Figure 58 *Imported Data window*

Info: *Data columns in the grid can be resized as desired. The data columns can be reordered by dragging the column header to its new position. The data can also be sorted by simply clicking on a column header. These features are provided as a convenience only and do not have any affect on how the data is recorded.*

The data is displayed in a spreadsheet style grid. You can use the scroll bars to scroll through the data to review it before deciding whether or not to commit the data.

The data displayed consists of the date and time the readings were logged, the channel number, location, and sensor model and serial number, the temperature and humidity readings, and the temperature and humidity alarm settings (Min and Max columns). The total number of records is displayed at the bottom of the window.

If you decide to record (commit) the data, click the *Commit* button.

Info: *Committing data to the data storage system is a slow process that can take many hours to complete, depending on the amount of data to commit. For this reason, it is recommended that you commit small amounts of data at a time. For larger data sets, you may want to commit the data during off hours (overnight). Progress and status information are displayed as records are processed and committed.*

Log*Ware* does not prevent the same set of data from being committed to the data storage system multiple times. However, a unique log session is created each time the data is committed. Committing the same set of data multiple times will cause duplication of data when querying the data by location or by sensor. Duplicate log sessions should be avoided. If duplicate log sessions exist, they should be removed. Refer to Section 10.4,

Deleting Log Sessions, on page 164, for more information on removing duplicate log sessions.

To discard the data without recording it, simply close the window. A prompt is displayed to confirm discarding the data to prevent accidentally closing the window without the opportunity to commit the data.

9 Managing Logged Data

Once data has been logged, whether in real-time, imported from a file, or downloaded from a logger's memory, the data can be viewed, printed, and/or exported.

When viewing logged data, individual data points may be annotated to indicate special conditions, situations, or events that occurred while the data was being logged. Annotations can help identify the cause or source of out-of-tolerance data points or changes to settings.

Logged data can be exported to HTML, RTF or CSV files for distributing, archiving, or importing into other software applications such as Microsoft® Excel or Word for analysis, reporting, or additional calculations.

To view logged data…

1. Select the *Logged Data* option from the *View* menu to display the *View Logged Data Options* dialog.
2. On the *Criteria* tab, select the data to be viewed.
3. On the *Misc. Settings* tab, select other options related to how the data should be viewed.
4. Click the *OK* button to view the data.
5. The data will be displayed in a *Logged Data* window.

To print a report containing logged data…

1. Select the *Print | Report* option from the *File* menu to display the *Print Logged Data Options* dialog.
2. On the *Report Options* tab, select the appropriate settings for the data to be printed. Click the *Select Fields to Print* button to setup the fields to be printed.
3. On the *Criteria* tab, select the data to be printed.
4. On the *Misc. Settings* tab, select other options related to how the data should be printed.
5. Click the *OK* button to generate the report.
6. The data will be printed to a report.

Ⓡ To export logged data…

1. Select the *Export* option from the *File* menu to display the *Export Logged Data Options* dialog.
2. On the *Export Options* tab, select the appropriate settings for the data to be exported. Click the *Select Fields to Export* button to setup the fields to be exported.
3. On the *Criteria* tab, select the data to be exported.
4. On the *Misc. Settings* tab, select other options related to how the data should be exported.
5. Click the *OK* button to begin the export process.

6. The *Export Filename* dialog is displayed. Select the location and name of the export file and click *OK*.

7. The data will be exported to the indicated file.

9.1 Viewing Logged Data

Log*Ware* allows data that has been logged to be viewed on screen in a spreadsheet style grid and graphed. Statistics are also calculated for the data.

When viewing the data, the graphs can be zoomed, annotations can be added to individual data points, and the data and graphs can be printed or exported.

To view logged data…

1. Select the *Logged Data* option from the *View* menu to display the *View Logged Data Options* dialog.

2. On the *Criteria* tab, select the data to be viewed.

3. On the *Misc. Settings* tab, select other options related to how the data should be viewed.

4. Click the *OK* button to view the data.

5. The data will be displayed in a *Logged Data* window.

Once the logged data is displayed in the *Logged Data* window, it may be exported or printed.

9.1.1 View Logged Data Options

The *View Logged Data Options* dialog allows the user to choose the data to view and determine how it should be displayed. This dialog is displayed when selecting the *Logged Data* option from the *View* menu.
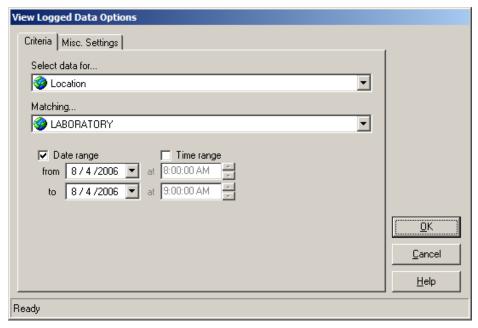
Figure 59 *View Logged Data Options dialog*

The *View Logged Data Options* dialog has two tabs: *Criteria* and *Misc. Settings*.

Criteria

The *Criteria* tab allows the user to select the data to be viewed.

When readings are logged in real-time or downloaded or imported, information about the logger, sensor, location, and the method used to log the data are recorded with the data. To view logged data, you must indicate which readings you want to view. Readings can be selected in one of four ways: by location, sensor, real-time log session, or download/import session. Use the *Select data for* drop-down list to choose how you want to select the readings to view. When you select an option, the *Matching* drop-down list is populated with appropriate selection information.

Use the *Matching* drop-down list to select the appropriate item that matches the readings you want to view. The following table indicates the options and choices for selecting readings.

Table 6 *View Logged Data Matching drop-down options*

When the *Select data for* drop-down list is set to…	The *Matching* drop-down lists includes…
Location	A list of all locations. Some locations may not have any logged data associated with them.
Sensor	A list of all sensor assets. Some sensors may not have any logged data associated with them.
Real-Time Log Session	A list of all complete real-time log sessions, sorted by location and date/time range of the logged data. Currently open (running) real-time log sessions are not displayed.
Imported/Downloaded Data	A list of all import/download data sets, sorted by location and date/time range of the imported data.

The *Date range* fields are used to specify the date range of the readings to view. If you want to view all readings from the selected location or sensor, leave the *Date range* checkbox unchecked. Otherwise, check this checkbox and select the *from* date and the *to* date. Setting these dates to the same date selects all of the readings from the selected location or sensor for that day. These fields are disabled when selecting data by **Real-Time Log Session** or by **Imported/Downloaded Data**.

The *Time range* fields can be used to narrow down the range of the readings to view even more. To specify a time range, check the *Time range* checkbox, then select or enter the *from* time and the *to* time in the appropriate fields. These fields are also disabled when selecting data by **Real-Time Log Session** or by **Imported/Downloaded Data**.

Note: LogWare is designed to handle large amounts of data. However, be aware that querying and viewing such large sets of data may take a few minutes. Some computers may not be able to view large amounts of data in a reasonable amount of time. You may wish to break up the data into smaller chunks to be more efficient.

Misc Settings

The *Misc. Settings* tab includes various options for determining how the data should be viewed.

Figure 60 *View Logged Data Options dialkog - Misc Settings tab*

The *Temperature readings* and *Humidity readings* checkboxes allow the user to specify which readings should be viewed.

The *Plot temperature and humidity readings on same graph* checkbox determines whether separate graphs are created in the *Logged Data* window for temperature and humidity readings, or whether temperature and humidity readings are plotted on the same graph. When plotting temperature and humidity readings on the same graph, temperature readings use the left y-axis and humidity readings use the right y-axis of the graph.

Select the temperature scale for temperature data using the *Select temperature scale* drop-down list. Log*Ware* always records temperature readings in Celsius. Readings are converted to the desired scale for viewing.

The *Reading resolutions* fields indicate the number of decimal places to use to format the data. All readings are recorded using the resolution settings that were configured when the data was logged. Select the number of digits to use for temperature readings using the *Temperature* field and humidity readings using the *Humidity* field.

When all settings have been selected, click the *OK* button to view the selected data. The data is displayed in the *Logged Data* window.

9.1.2 Logged Data

The *Logged Data* window displays data in a spreadsheet style grid, in graphs and also displays statistical calculations for the data. This dialog is displayed when selecting the *Logged Data* option from the *View* menu, and selecting the criteria for the data to view on the *View Logged Data Options* dialog.
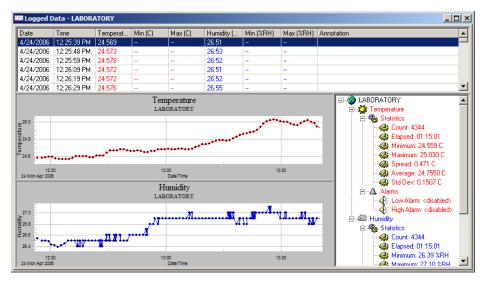
Figure 61 *Logged Data window*

The *Logged Data* window is divided into three main sections: the readings grid, graphs, and statistics and alarms panel. These sections can be resized by dragging the bars that divide the sections.

The individual readings of the selected data can be viewed in the spreadsheet style grid in the upper section of the window. Use the scroll bars to scroll through the data. The displayed data consists of the date and time the readings were logged, the temperature and humidity readings (as applicable), the temperature and humidity alarm values (as applicable) and annotations. Columns may be resized as desired. The readings are always ordered by date and time.

Temperature and humidity readings and their alarm values are displayed in the colors defined on the *Graph* tab of the *LogWare III Options* dialog. Temperature or humidity readings that exceed an alarm value are highlighted in the grid in the defined color.

Annotations can be added to any temperature or humidity reading in the grid to indicate special conditions, occurrences, or events that can help identify specific points in the data by selecting the *Annotations* option in the *Tools* menu or by right-clicking on the readings grid to display the annotations popup menu.

Figure 62 *Logged Data Grid popup menu*

The *Annotation* column of the grid displays annotation text that has been manually entered by a user or automatically entered by Log*Ware*. Log*Ware* allows an annotation to be added to each temperature and/or humidity reading independently. Annotations for temperature readings are preceded with the label "T:" while annotations for humidity readings are preceded with the label "H:".

Other information may also be displayed in the *Annotation* column of the grid. For readings that were acquired after a sensor's calibration date has passed, the *Annotation* column is highlighted and a message displayed.

Figure 63 *Logged Data Calibration Overdue Annotations*

Info: Sensor calibration overdue annotations are only displayed if the Enable sensor calibration due notifications checkbox on the Real-Time tab of the LogWare III Options dialog is checked.

The data is also graphed. Temperature and humidity readings may be plotted on the same graph, or on separate graphs. You can zoom in on a small section of a graph by clicking on the graph and dragging the mouse to draw a box. When temperature and humidity readings are plotted on separate graphs, the zoom feature can be synchronized to cause both graphs to zoom to the same area. Refer to Section 3, Log*Ware* III Options, for more information.

Graphs can be printed by selecting the *Print | Graph* option in the *File* menu or by selecting the *Print Graph* option in the *Graph* menu. If the temperature and humidity readings are displayed in separate graphs, the *Select Graph To Print* dialog is displayed. Select the graph(s) to print, then click the *OK* button to print the graph(s).

The graphs can also be configured to show alarm lines, annotations, and data point markers by selecting the appropriate options from the *Graph* menu.

When showing annotations on the graphs, there are two types of annotations displayed: **Selected data point** and **Data point annotation**. The colors that are used to display these annotations are defined on the *Graph* tab of the *LogWare III Options* dialog.

- The **Selected data point** annotation indicates the currently selected row in the grid and consists of a dashed vertical line and the text indicating the date and time of the selected reading.

- The **Data point annotation** indicates annotations manually added to readings or annotations that were automatically added by Log*Ware* during a real-time log session (for example, when a sensor is detached from or attached to a logger channel). These annotations consist of a dashed vertical line and an asterisk (*). Refer to Section 9.1.3, Annotations, on page 128, for more information on manually adding annotations to data points.

The right section of the *Logged Data* window shows the statistical calculations for the readings displayed in this window. Optionally, the alarm values may also be displayed in this area. The statistical calculations are always for all readings displayed. The alarm values are for the currently selected reading in the grid only. If the currently selected reading exceeds an alarm value, the alarm in this list is highlighted in a bold typeface.

The statistical values displayed can be changed by right-clicking on any of the temperature or humidity nodes in the list. The *Statistics Settings* popup menu is displayed.

Temperature Statistics Settings...

Figure 64 *Logged Data Statistics popup menu*

Select the *Statistics Settings* option to change which statistical values as displayed.

> **Info:** *The sliding window feature of the statistics cannot be used when viewing logged data. This feature is only useful when logging data or monitoring logged data in real-time.*

9.1.3   Annotations

Annotations can be added to any temperature or humidity reading once it has been logged. Annotations are very useful for making notes about special conditions, occurrences, or events that can help identify specific points in the data. During real-time log sessions, Log*Ware* may also automatically annotate certain readings, for example, when a sensor is detached from or attached to a logger channel.

Annotations can only be added to readings from a *Logged Data* window. To display data in a *Logged Data* window, select the *Logged Data* option in the *View* menu.

Annotations can be added to any temperature or humidity reading using the *Annotations* option in the *Tools* menu or by right-clicking on the readings grid to display the popup menu.

Add Annotation...
Edit Annotation...
Remove Annotation

Figure 65 *Annotations popup menu*

R **To add an annotation to a reading…**

1. Select the reading in the readings grid of a *Logged Data* window.

2. Right-click on the grid and select *Add Annotation* from the popup menu or select *Add* from the *Annotations* sub-menu of the *Tools* menu to display the *Add Annotation* dialog.
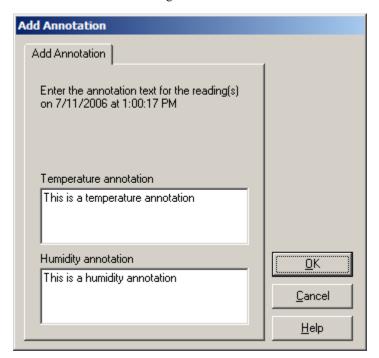
Figure 66 *Add Annotation dialog*

3. Enter the annotation text for the temperature and/or humidity reading(s) and click *OK*. The annotation text should appear in the *Annotation* column in the readings grid. Temperature reading annotation text is preceded with the label "T:" and humidity reading annotation text is preceded with the label "H:".

Date	Time	Temperature (C)	Min (C)	Max (C)	Humidity (...	Min (%RH)	Max (%RH)	Annotation
7/11/2006	1:00:13 PM	28.072	--	--	36.98	--	--	
7/11/2006	1:00:15 PM	28.065	--	--	36.92	--	--	
7/11/2006	1:00:17 PM	28.071	--	--	36.88	--	--	T:This is a temperature annotation; H:This is a humid...
7/11/2006	1:00:19 PM	28.071	--	--	36.85	--	--	
7/11/2006	1:00:21 PM	28.072	--	--	36.83	--	--	
7/11/2006	1:00:23 PM	28.072	--	--	36.81	--	--	
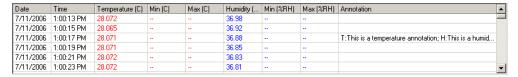
Figure 67 *Logged Data Annotations*

A **To edit/change an existing annotation…**

1. Select the reading containing the annotation in the readings grid of a *Logged Data* window.

2. Right-click on the grid and select *Edit Annotation* from the popup menu or select *Edit* from the *Annotations* sub-menu of the *Tools* menu to display the *Edit Annotation* dialog. The current annotation text for the temperature and/or humidity reading(s) should be displayed.
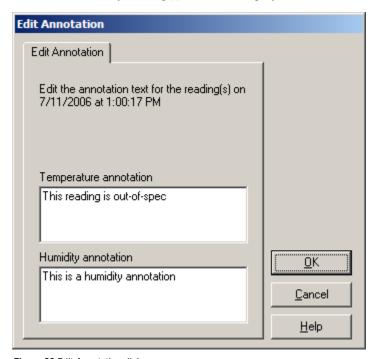
Figure 68 *Edit Annotation dialog*

3. Edit the annotation text for the temperature and/or humidity reading(s) and click *OK*. The new annotation text should appear in the *Annotation* column in the readings grid.

A To remove an annotation from a reading…

1. Select the reading containing the annotation in the readings grid of a *Logged Data* window.
2. Right-click on the grid and select *Remove Annotation* from the popup menu or select *Remove* from the *Annotations* sub-menu of the *Tools* menu.
3. A confirmation prompt is displayed to remove the annotation text from the temperature and/or humidity reading(s) as applicable. Click *Yes* to remove the annotation(s).

9.2 Exporting Logged Data

Log*Ware* has a feature that allows logged data to be exported to a variety of file formats. Statistics can also be calculated and exported with the data.

R **To export logged data…**

1. Select the *Export* option from the *File* menu to display the *Export Logged Data Options* dialog.
2. On the *Export Options* tab, select the appropriate settings for the data to be exported. Click the *Select Fields to Export* button to setup the fields to be exported.
3. On the *Criteria* tab, select the data to be exported.
4. On the *Misc. Settings* tab, select other options related to how the data should be exported.
5. Click the *OK* button to begin the export process.
6. The *Export Filename* dialog is displayed. Select the location and name of the export file and click *OK*.
7. The data will be exported to the indicated file.

Logged data displayed in a *Logged Data* window can also be exported.

R **To export logged data from a *Logged Data* window…**

1. Run Log*Ware* and login using an account with at least restricted access.
2. Follow the steps to view the logged data in a *Logged Data* window.
3. With the *Logged Data* window active, select the *Export* option from the *File* menu to display the *Export Logged Data Options* dialog.
4. On the *Export Options* tab, select the appropriate settings for the data to be exported. Click the *Select Fields to Export* button to setup the fields to be exported.
5. On the *Misc. Settings* tab, select other options related to how the data should be exported.
6. Click the *OK* button to begin the export process.
7. The *Export Filename* dialog is displayed. Select the location and name of the export file and click *OK*.
8. The data in the *Logged Data* window will be exported to the indicated file.

9.2.1 Export Logged Data Options

The *Export Logged Data Options* dialog allows the user to choose the data to export and determine how it should be exported. This dialog is displayed when selecting the *Export* option from the *File* menu.
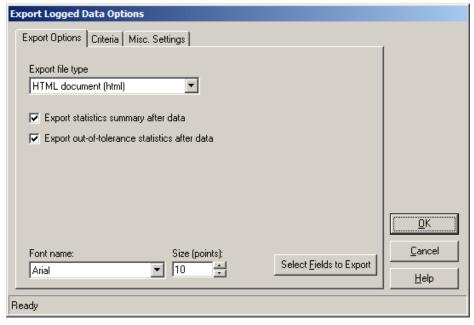
Figure 69 *Export Logged Data Options dialog*

The *Export Logged Data Options* dialog has three tabs: *Export Options*, *Criteria* and *Misc. Settings*. If you are exporting data from a *Logged Data* window, only the *Export Options* tab is displayed.

Export Options

The *Export Options* tab contains various settings regarding how the data is to be exported.

The *Export file type* field determines the file type that the data is exported to. Log*Ware* can export data to one of three file types:

- **Comma-separated values (csv)**
- **Rich Text Format (rtf)**
- **HTML document (html)**

Each of these formats can be useful for different applications. If you want to import the data into a spreadsheet, the **Comma-separated values (csv)** option may be best. If you want to open the file in a word processor, use the **Rich Text Format (rtf)** option. If you want to share or e-mail the data, the **HTML document (html)** option is prob-

ably the best choice. Select the type of file format you want the data to be exported to using the drop-down list.

The *Export statistics summary after data* option determines whether the calculated statistics for the selected data are exported at the end of the file. This option is disabled if the selected file format is **Comma-separated values (csv)**.

The *Export out-of-tolerance statistics after data* option determines whether the statistics regarding what percentage of the readings in this data are "out of tolerance" (exceeded the alarm values) are exported at the end of the file. This option is disabled if the selected file format is **Comma-separated values (csv)**.

The *Font name* and *Size (points)* settings determine the font to be used to export the report. Select the font and size that best suits your needs. These fields are disabled if the selected file format is **Comma-separated values (csv)**.

Click the *Select Fields to Export* button to determine the data columns, column widths, and column order to use when exporting reports. Refer to Section 9.2.2, Export Fields, on page 136, for more information on customizing the format of the data to export.

Criteria

The *Criteria* tab allows the user to select the data to be exported. This tab is not displayed when printing data from a *Logged Data* window.
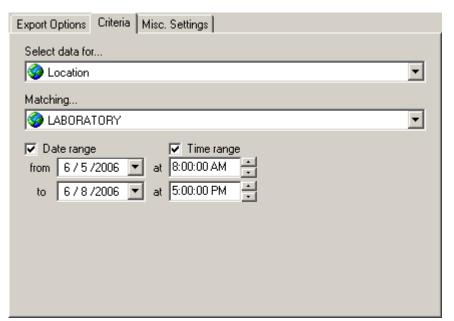
Figure 70 *Export Logged Data Options dialog - Criteria tab*

When readings are logged in real-time or downloaded or imported, information about the logger, sensor, location, and the method used to log the data are recorded with the data. To export data, you must indicate which readings you want to export. Read-

ings can be selected in one of four ways: by location, sensor, real-time log session, or download/import session. Use the *Select data for* drop-down list to choose how you want to select the readings to export. When you select an option, the *Matching* drop-down list is populated with appropriate selection information.

Use the *Matching* drop-down list to select the appropriate item that matches the readings you want to export. The following table indicates the options and choices for selecting readings.

Table 7 Export Logged Data Matching drop-down options

When the *Select data for* drop-down list is set to…	The *Matching* drop-down lists includes…
Location	A list of all locations. Some locations may not have any logged data associated with them.
Sensor	A list of all sensor assets. Some sensors may not have any logged data associated with them.
Real-Time Log Session	A list of all complete real-time log sessions, sorted by location and date/time range of the logged data. Currently open (running) real-time log sessions are not displayed.
Imported/Downloaded Data	A list of all import/download data sets, sorted by location and date/time range of the imported data.

The *Date range* fields are used to specify the date range of the readings to export. If you want to export all readings from the selected location or sensor, leave the *Date range* checkbox unchecked. Otherwise, check this checkbox and select the *from* date and the *to* date. Setting these dates to the same date selects all of the readings from the selected location or sensor for that day. These fields are disabled when selecting data by **Real-Time Log Session** or by **Imported/Downloaded Data**.

The *Time range* fields can be used to narrow down the range of the readings to export even more. To specify a time range, check the *Time range* checkbox, then select or enter the *from* time and the *to* time in the appropriate fields. These fields are also disabled when selecting data by **Real-Time Log Session** or by **Imported/Downloaded Data**.

Note: LogWare is designed to handle large amounts of data. However, be aware that querying and exporting such large sets of data may take a few minutes. Some computers may not be able to export large amounts of data in a reasonable amount of time. You may wish to break up the data into smaller chunks to be more efficient.

Misc. Settings

The *Misc. Settings* tab includes various options for determining how the data should be exported. This tab is not displayed when printing data from a *Logged Data* window.
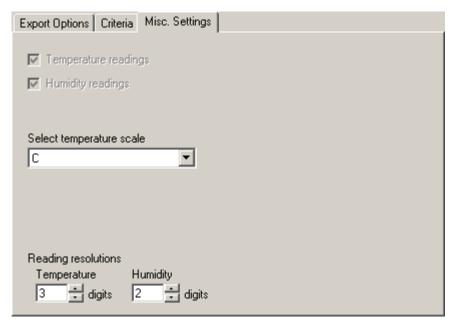
Figure 71 *Export Logged Data Options dialog - Misc Settings tab*

The *Temperature readings* and *Humidity readings* checkboxes are disabled when exporting. To choose whether temperature or humidity readings are exported, click the *Select Fields to Export* button on the *Export Options* tab. Refer to Section 9.2.2, Export Fields, on page 136, for more information on customizing the format of the data to export.

Select the temperature scale for temperature data using the *Select temperature scale* drop-down list. Log*Ware* always records temperature readings in Celsius. Readings are converted to the desired scale for exporting.

The *Reading resolutions* fields indicate the number of decimal places to use to format the data. All readings are recorded using the resolution settings that were configured when the data was logged. Select the number of digits to use for temperature readings using the *Temperature* field and humidity readings using the *Humidity* field.

When all settings have been selected, click the *OK* button to export the selected data. The *Export Filename* dialog is displayed. Choose the filename and folder to write the data to and click the *Save* button.

9.2.2 Export Fields

The *Export Fields* dialog is used to customize the fields to be exported. This dialog is displayed when clicking the *Select Fields to Export* button on *Export Options* tab of the *Export Logged Data Options* dialog.
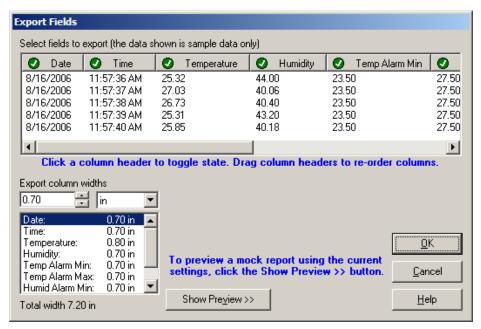
Figure 72 *Export Fields dialog*

This dialog is used to determine which columns of data are exported, the order in which the columns are exported, and the width of each column.

Columns that are to be exported are indicated in the spreadsheet style grid with the symbol
. Columns that are not to be exported are indicated with the symbol . To toggle the state of a column, click the column header. The symbol will change indicating the current state of the column.

To set the order to the columns to export, simply drag the column header to the new position and drop it.

To set the width of each column, use the *Export column widths* fields. Select the column in the list, then enter the width in the field provided. You can change the scale using the drop-down list. Supported scales are **in (inches)** and **cm (centimeters)**. When switching scales, the column widths are automatically converted to the new scale. The total combined width of all columns is indicated below the list.

Info: *Adjusting the width of the columns in the grid does not affect the width of the columns when exported. You must use the Export column widths fields to set the column widths.*

To display a preview of the format of the exported data, click the *Show Preview >>* button. The preview uses mock data, but uses the actual selected fields and column width settings. After changing a column width or fields to export, click the *Update Preview* button to apply the current settings to the preview.

9.3   Printing Reports

Log*Ware* has a feature that allows logged data to be printed in tabular format to a printer. Statistics can also be calculated and printed with the data.

To print a report for logged data…

1. Select the *Print | Report* option from the *File* menu to display the *Print Logged Data Options* dialog.
2. On the *Print Options* tab, select the appropriate settings for the data to be printed. Click the *Select Fields to Print* button to setup the fields to be printed.
3. On the *Criteria* tab, select the data to be printed.
4. On the *Misc. Settings* tab, select other options related to how the data should be printed.
5. Click the *OK* button to generate the report.
6. The data will be printed to a report.

Logged data displayed in a *Logged Data* window can also be printed.

To print a report for logged data from a *Logged Data* window…

1. Follow the steps to view the logged data in a *Logged Data* window.
2. With the *Logged Data* window active, select the *Print | Report* option from the *File* menu to display the *Print Logged Data Options* dialog.
3. On the *Print Options* tab, select the appropriate settings for the data to be printed. Click the *Select Fields to Print* button to setup the fields to be printed.
4. Click the *OK* button to generate the report.
5. The data from the *Logged Data* window will be printed to a report.

9.3.1 Print Logged Data Options

The *Print Logged Data Options* dialog allows the user to choose the data to print and determine how it should be printed. This dialog is displayed when selecting the *Print | Report* option from the *File* menu.
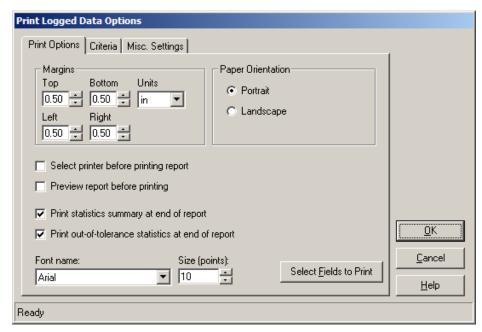
Figure 73 *Print Logged Data Options dialog*

The *Print Logged Data Options dialog* has three tabs: *Print Options*, *Criteria* and *Misc. Settings*. If you are printing a report of the data in a *Logged Data* window, only the *Print Options* tab is displayed.

Print Options

The *Print Options* tab contains various settings regarding how the data is to be printed.

The *Margins* options allow the print margins to use to be specified. Use the *Top*, *Bottom*, *Left*, and *Right* fields to set the margins to use. The *Units* drop-down list allows the units of measure to be selected. The choices are **in** (**inches**) and **cm** (**centimeters**).

The *Paper Orientation* options, *Portrait* and *Landscape*, determine the paper orientation to use when printing the report. Select the orientation to use.

The *Select printer before printing report* checkbox determines whether the *Print* dialog is displayed before the report is printed. This allows the printer to be selected. Unchecking this checkbox causes the report to be printed to the default printer.

The *Preview report before printing* checkbox determines whether the report is displayed on screen in the *Print Preview* window instead of being sent to the printer.

Reports can be printed from the *Print Preview* window if desired. Refer to Section 9.3.3, Print Preview, on page 144, for more information.

The *Print statistics summary at end of report* checkbox determines whether the calculated statistics for the selected data are printed at the end of the report.

The *Print out-of-tolerance statistics at end of report* checkbox determines whether the statistics regarding what percentage of the readings in this report are "out of tolerance" (exceeded the alarm values) are printed at the end of the report.

The *Font name* and *Size (points)* settings determine the font to be used to print the report. Select the font and size that best suits your needs.

Click the *Select Fields to Print* button to determine the data columns, column widths, and column order to use when printing reports. Refer to Section 9.3.2, Print Fields, on page 143, for more information on customizing the format of the data to print.

Criteria

The *Criteria* tab allows the user to select the data to be printed. This tab is not displayed when printing data from a *Logged Data* window.
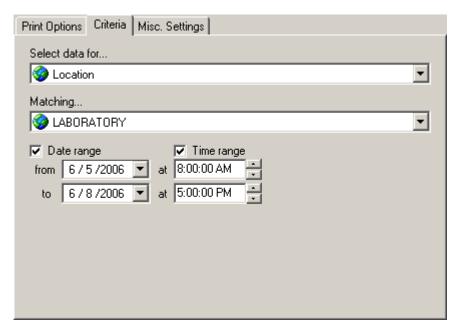
Figure 74 Print Logged Data Options dialog - Criteria tab

When readings are logged in real-time or downloaded or imported, information about the logger, sensor, location, and the method used to log the data are recorded with the data. To print a report, you must indicate which readings you want to print. Readings can be selected in one of four ways: by location, sensor, real-time log session, or download/import session. Use the *Select data for* drop-down list to choose how you

want to select the readings to print. When you select an option, the *Matching* drop-down list is populated with appropriate selection information.

Use the *Matching* drop-down list to select the appropriate item that matches the readings you want to print. The following table indicates the options and choices for selecting readings.

Table 8 *Print Logged Data Matching drop-down options*

When the *Select data for* drop-down list is set to…	The *Matching* drop-down lists includes…
Location	A list of all locations. Some locations may not have any logged data associated with them.
Sensor	A list of all sensor assets. Some sensors may not have any logged data associated with them.
Real-Time Log Session	A list of all complete real-time log sessions, sorted by location and date/time range of the logged data. Currently open (running) real-time log sessions are not displayed.
Imported/Downloaded Data	A list of all import/download data sets, sorted by location and date/time range of the imported data.

The *Date range* fields are used to specify the date range of the readings to print. If you want to print all readings from the selected location or sensor, leave the *Date range* checkbox unchecked. Otherwise, check this checkbox and select the *from* date and the *to* date. Setting these dates to the same date selects all of the readings from the selected location or sensor for that day. These fields are disabled when selecting data by **Real-Time Log Session** or by **Imported/Downloaded Data**.

The *Time range* fields can be used to narrow down the range of the readings to print even more. To specify a time range, check the *Time range* checkbox, then select or enter the *from* time and the *to* time in the appropriate fields. These fields are also disabled when selecting data by **Real-Time Log Session** or by **Imported/Downloaded Data**.

Note: LogWare is designed to handle large amounts of data. However, be aware that querying and printing such large sets of data may take a few minutes. Some computers may not be able to print large amounts of data in a reasonable amount of time. You may wish to break up the data into smaller chunks to be more efficient.

Misc Settings

The *Misc. Settings* tab includes various options for determining how the data should be printed. This tab is not displayed when printing data from a *Logged Data* window.
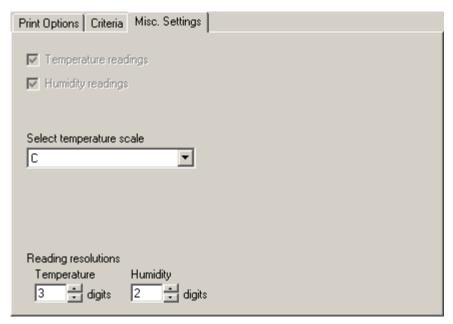
Figure 75 *Print Logged Data Options dialog - Misc Settings tab*

The *Temperature readings* and *Humidity readings* checkboxes are disabled when printing reports. To choose whether temperature or humidity readings print on the report, click the *Select Fields to Print* button on the *Print Options* tab. Refer to Section 9.3.2, Print Fields, on page 143, for more information on customizing the format of the data to print.

Select the temperature scale for temperature data using the *Select temperature scale* drop-down list. Log*Ware* always records temperature readings in Celsius. Readings are converted to the desired scale for printing.

The *Reading resolutions* fields indicate the number of decimal places to use to format the data. All readings are recorded using the resolution settings that were configured when the data was logged. Select the number of digits to use for temperature readings using the *Temperature* field and humidity readings using the *Humidity* field.

When all settings have been selected, click the *OK* button to print the selected data. Below is an example page of a printed report:

Report for location "LABORATORY" on 5/31/2006....

Date	Time	Temperature (C)	Humidity (%RH)	Temp Alarm Min (C)	Temp Alarm Max (C)	Humid Alarm Min (%RH)	Humid Alarm Max (%RH)	Annotation
5/31/2006	5:17:46 PM	25.496	28.10	1.111	24.444	12.00	60.00	Sensor attached (2626-S - 1)
5/31/2006	5:18:06 PM	25.474	28.06	1.111	24.444	12.00	60.00	
5/31/2006	5:18:26 PM	25.463	28.06	1.111	24.444	12.00	60.00	
5/31/2006	5:18:46 PM	25.444	28.03	1.111	24.444	12.00	60.00	
5/31/2006	5:19:06 PM	25.419	28.03	1.111	24.444	12.00	60.00	
5/31/2006	5:19:26 PM	25.389	28.02	1.111	24.444	12.00	60.00	
5/31/2006	5:19:46 PM	25.357	28.04	1.111	24.444	12.00	60.00	
5/31/2006	5:20:06 PM	25.352	28.09	1.111	24.444	12.00	60.00	
5/31/2006	5:20:26 PM	25.348	28.11	1.111	24.444	12.00	60.00	
5/31/2006	5:20:46 PM	25.348	28.16	1.111	24.444	12.00	60.00	
5/31/2006	5:21:06 PM	25.359	28.19	1.111	24.444	12.00	60.00	
5/31/2006	5:21:26 PM	25.374	28.19	1.111	24.444	12.00	60.00	
5/31/2006	5:21:46 PM	25.379	28.21	1.111	24.444	12.00	60.00	
5/31/2006	5:22:06 PM	25.381	28.22	1.111	24.444	12.00	60.00	
5/31/2006	5:22:26 PM	25.383	28.21	1.111	24.444	12.00	60.00	
5/31/2006	5:22:46 PM	25.392	28.23	1.111	24.444	12.00	60.00	

Temperature statistics:
Count: 16
Elapsed: 00:05:00
Minimum: 25.348 C
Maximum: 25.496 C
Spread: 0.148 C
Average: 25.3974 C
Standard Deviation: 0.0478 C

Humidity statistics:
Count: 16
Elapsed: 00:05:00
Minimum: 28.02 %RH
Maximum: 28.23 %RH
Spread: 0.21 %RH
Average: 28.122 %RH
Standard Deviation: 0.078 %RH

Out-of-tolerance statistics:
100.00% of temperature readings are out-of-tolerance
0.00% of humidity readings are out-of-tolerance

Figure 76 Example report

9.3.2   Print Fields

The *Print Fields* dialog is used to customize the fields to be printed on a report. This dialog is displayed when clicking the *Select Fields to Print* button on *Print Options* tab of the *Print Logged Data Options* dialog.
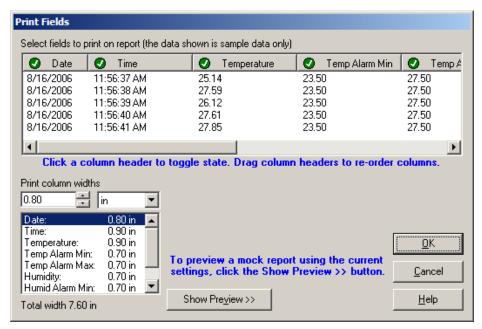
Figure 77 *Print Fields dialog*

This dialog is used to determine which columns of data print on reports, the order in which the columns are printed, and the width of each column.

Columns that are to be printed on the report are indicated in the spreadsheet style grid with the symbol ✓. Columns that are not to be printed on the report are indicated with the symbol ⊖. To toggle the state of a column, click the column header. The symbol will change indicating the current state of the column.

To set the order to the columns to print, simply drag the column header to the new position and drop it.

To set the printed width of each column, use the *Print column widths* fields. Select the column in the list, then enter the width in the field provided. You can change the scale using the drop-down list. Supported scales are **in (inches)** and **cm (centimeters)**. When switching scales, the column widths are automatically converted to the new scale. The total combined width of all columns is indicated below the list.

Info: *Adjusting the width of the columns in the grid does not affect the printed width of the columns on the report. You must use the Print column widths fields to set the column widths.*

To display a preview of the format of the printed report, click the *Show Preview >>* button. The preview uses mock data, but uses the actual selected fields and column width settings. After changing a column width or fields to print, click the *Update Preview* button to apply the current settings to the preview.

9.3.3   Print Preview

The *Print Preview* window is used to view reports on screen without having to print a hard copy. This window is displayed when printing reports and the preview setting is enabled.
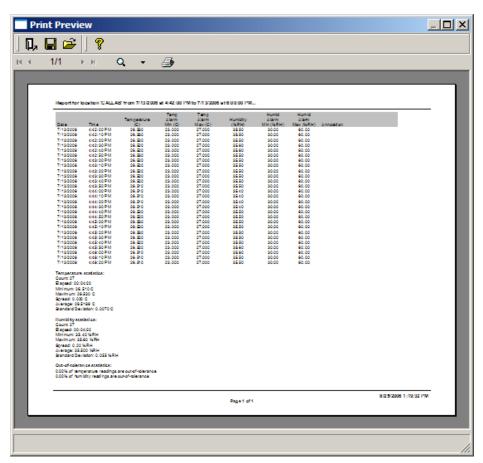
Figure 78 Print Preview window

The *Print Preview* window toolbar provides buttons to close the window, open and save reports to files, open the help file, navigate through all of the pages of the report, zoom in and out, and print the report.

i   ***Info:*** *Printing a report from the Print Preview window always displays the Select Printer dialog, regardless of the setting selected when the report was generated.*

Reports can be saved to a report file (.RPT file). However, these files have a proprietary format and cannot be opened or viewed by other applications. Report files can only be opened and printed from the *Print Preview* window itself. If you need to share a report with others in a standard file format such as HTML (.HTM file) or RTF (.RTF file), use Log*Ware*'s Export feature to export the data to a standard format file. Refer to Section 9.2, Exporting Logged Data, on page 130, for more information.

10   Management Features

Log*Ware* includes many tools for managing logged data and other information. Using management features typically requires logging in as an administrator. The following sections describe how to use each of the management features in Log*Ware*.

10.1   Managing Licenses

Access to Log*Ware* is controlled using licenses. A license grants one user (client) the right to connect to Log*Ware's* data storage system on the server. Log*Ware* is designed to allow multiple concurrent users to connect, but each user requires a license.

For stand-alone, single-user configurations, Log*Ware* only supports one concurrent user, therefore only one license is required. For client/server, multi-user configurations, Log*Ware* requires one license for every concurrent user. Log*Ware* does not limit the number of licenses that may be applied to a system, but practical limits exist (based on the processor speed, available memory, etc.) of the server computer.

When purchased, Log*Ware* comes with one single user license and a serial number. The serial number acts as a proof-of-purchase and must be used in order to apply licenses to the system. Additional licenses must be purchased separately if needed. Licenses are sold individually and in packs (5 pack, 10 pack, etc.). A site license is also available. A site license allows an unlimited number of concurrent logins to the server.

When Log*Ware* is installed as a demo, two time-limited demo licenses are automatically installed. These licenses allow up to 2 concurrent users to connect to the system. The demo licenses are valid for up to 50 total logins (maximum 25 logins for each user) or for 2 months from the date of installation, whichever comes first. At that time, the demo licenses will expire and will no longer permit logins. This allows Log*Ware* to be evaluated for a period of time without having to purchase the software. Valid licenses must be purchased and applied to the system to continue using Log*Ware*.

Note: Before installing LogWare, be sure to read Section 13, Appendix A – License Agreement, on page 173.

A To apply new licenses to the system…

1. Run Log*Ware*. The *LogWare User Login* dialog is displayed.

2. Login to Log*Ware* using an account with administrator permissions.

3. Select the *Manage Licenses* option from the *Tools* menu to display the *Manage Licenses* dialog.

4. Click the *Add* button.

5. **Optional:** If Log*Ware* was installed as a demo, the *Serial Number* dialog is displayed. You must enter the software serial number (provided upon purchase of the software) and click *OK* before additional licenses may be applied.

6. The *Open License File* dialog is displayed.

7. Insert the USB drive (or other media) containing the license file and navigate to the folder containing the license file.

8. Select the license file and click the *Open* button. The license file is opened, validated, and applied to the system.

9. The new licenses appear in the list on the *Manage Licenses* dialog.

To apply licenses when all existing licenses have expired…

1. Run Log*Ware*. If no valid or non-expired licenses are found in the system, a message is displayed. Click *OK*.

2. **Optional:** If Log*Ware* was installed as a demo, the *Serial Number* dialog is displayed. You must enter the software serial number (provided upon purchase of the software) and click *OK* before additional licenses may be applied.

3. The *Open License File* dialog is displayed.

4. Insert the USB drive (or other media) containing the license file and navigate to the folder containing the license file.

5. Select the license file and click the *Open* button. The license file is opened, validated, and applied to the system.

6. Log*Ware* then displays the *LogWare User Login* dialog to login to the server.

ⓘ **Info:** *Once valid licenses have been applied to the system, all demo licenses can (and should) be removed. The demo licenses can continue to be used to login until they expire, however messages will be displayed during the login process indicating demo licenses are being used.*

Ⓐ **To remove licenses from the system…**

1. Run Log*Ware*. The *LogWare User Login* dialog is displayed.

2. Login to Log*Ware* using an account with administrator permissions.

3. Select the *Manage Licenses* option from the *Tools* menu to display the *Manage Licenses* dialog.

4. On the *Licenses* tab, select the type of license to remove.

5. Click the *Remove* button to display the *Remove Licenses* dialog.

6. On the *Licenses* tab, select the license(s) to remove and click the *Remove* button. A prompt is displayed to confirm removing the selected license(s). Click *Yes* to confirm removing the license(s).

10.1.1   Manage Licenses

The *Manage Licenses* dialog allows the user to manage system licenses. This dialog is displayed when selecting the *Manage Licenses* option from the *Tools* menu.
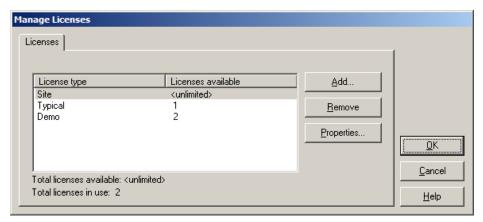
Figure 79 *Manage Licenses dialog*

Licenses are used to control access to the server. Log*Ware* supports multiple types of licenses: **Demo**, **Typical**, and **Site** license. A description of each license type follows.

The *Licenses* tab displays a list of all installed licenses, grouped by license type. Beneath the list is an indication of the total number of licenses available and the current number of licenses in use.

Demo license

A demo license allows full access to the system for a limited time. When Log*Ware* is installed as a demo (by not entering a valid serial number during installation), two demo licenses are automatically applied to the system. These demo licenses allow up to 2 concurrent logins to the system for up to 50 total logins. Demo licenses automatically expire two months from the date of installation. Log*Ware* may be used in its entirety until demo licenses expire. At that time, the software must be purchased and new license(s) applied to continue using Log*Ware*.

Typical license

A typical license allows one user to connect to the system. One typical license is included with Log*Ware* when it is purchased. For client/server, multi-user configurations, one license is required for each concurrent user. Typical licenses can be shared by multiple users, but only one user can use a license at a time. Typical licenses are recommended for client/server, multi-user configurations where there are fewer than 20 concurrent users.

Site license

A site license allows an unlimited number of users to connect to the system. Site licenses are recommended for client/server, multi-user configurations where there is likely to be more than 20 regular concurrent users, or in a situation where a temporary need may arise for many concurrent users.

To apply new licenses to the system, click the *Add* button. If Log*Ware* was installed as a demo, the *Serial Number* dialog is displayed. Refer to Section 10.1.1.3, Serial Number, on page 152, for more information. In order to apply licenses, you must purchase Log*Ware*. A serial number is provided when Log*Ware* is purchased. Enter the serial number and click *OK* to display the *Open License File* dialog. Insert the USB drive (or other media) containing the license file, navigate to the folder, select the license file, and click *Open*. The new license(s) are displayed in the list.

> **ℹ** *Info: When unplugging a USB drive, be sure to use the Safely Remove Hardware feature of Windows® before unplugging the drive to prevent possible file corruption.*

To remove a license from the system, select the type of license in the list and click the *Remove* button. The *Remove License* dialog is displayed with an itemized list of all of the selected type of licenses currently in the system. Select the license(s) to remove and click the *Remove* button. A prompt is displayed to confirm removing the license(s). Click the *Yes* button to remove the license(s).

To view the details of a license, select the license in the list and click the *Properties* button. The license details are displayed on the *License Properties* dialog.

10.1.1.1 Licenses Properties

The *License Properties* dialog displays detailed information for a specific type of license. This dialog is displayed when the *Properties* button on the *Manage Licenses* dialog is clicked.
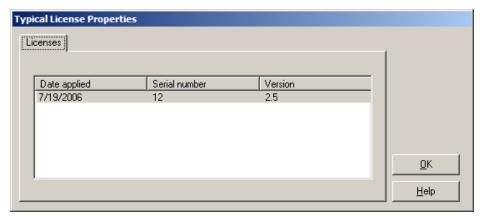
Figure 80 *License Properties dialog*

License details are indicated in the list on the *Licenses* tab. Details include date applied, license serial number, and the maximum software version with which the license may be used.

For demo licenses only, the number of logins remaining is also displayed. Demo licenses automatically expire after a specific number of logins or two months from the date of application, whichever comes first.

10.1.1.2   Remove License

Ⓐ The *Remove Licenses* dialog displays detailed information for a specific type of license to be removed. This dialog is displayed when the *Remove* button on the *Manage Licenses* dialog is clicked.
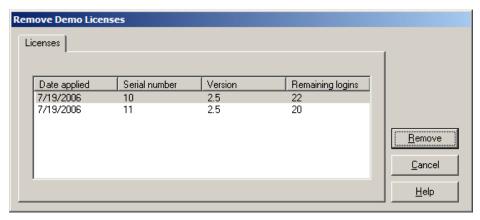
Figure 81 *Remove Licenses dialog*

License details are indicated in the list on the *Licenses* tab. Details include date applied, license serial number, and the maximum software version with which the license may be used.

For demo licenses only, the number of logins remaining is also displayed. Demo licenses automatically expire after a specific number of logins or two months from the date of application, whichever comes first.

To remove one or more licenses from the system, select the appropriate item(s) in the list and click the *Remove* button. A prompt is displayed to confirm removing the selected license(s). Click *Yes* to remove the selected license(s).

Info: If a license is currently in use, it cannot be removed from the system. To remove a license, you must wait until the license is no longer in use. Since a connection to the system is required to remove licenses, it is impossible to remove all licenses from the system.

10.1.1.3   Serial Number

The *Serial Number* dialog allows the user to enter the software serial number that was provided when the software was purchased. This dialog is displayed when attempting to apply licenses to the system if the serial number was not entered during the software installation.
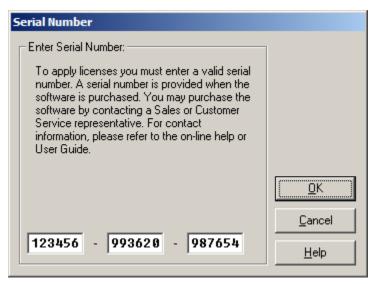
Figure 82 *Serial Number dialog*

Enter the serial number in the boxes provided. If you do not have a serial number, you must purchase Log*Ware*. A serial number is provided upon purchase.

10.2   Managing Assets and Locations

Whenever Log*Ware* records data, whether in real-time or by importing or downloading, Log*Ware* also records information about the assets (loggers and sensors) and locations associated with the data.

Log*Ware* administrators can manage the assets and locations, including deactivating them to prevent them from being used to log data in real-time or to prevent data associated with them from being imported or downloaded.

T **To add new assets (loggers and sensors) …**

Assets cannot be manually added to Log*Ware*. Instead, Log*Ware* automatically adds the assets as needed when configuring a real-time log session or when downloading or importing logged data.

A **To manage assets (loggers and sensors) …**

1. Select the *Manage Assets and Locations* option from the *Tools* menu to display the *Manage Assets and Locations* dialog.

2. Select either the *Loggers* or *Sensors* tab and select the asset to manage.

3. To delete an asset, click the *Remove* button. To change an asset's settings, click the *Settings* button to display the *Logger Asset Settings* or *Sensor Asset Settings* dialog.

4. Asset model and serial numbers cannot be changed. To activate or deactivate an asset, check or uncheck the *Active* checkbox. Enter remarks for the asset if desired. Click *OK* to close the dialog.

T **To add new locations …**

1. Select the *Manage Assets and Locations* option from the *Tools* menu to display the *Manage Assets and Locations* dialog.

2. On the *Locations* tab, click the *New* button to display the *New Location Settings* dialog.

3. Enter a unique location name and remarks for the new location. To make this location active, make sure the *Active* checkbox is checked. Click *OK* to create the new location.

4. The new location appears in the *Locations* list.

A **To manage locations …**

1. Select the *Manage Assets and Locations* option from the *Tools* menu to display the *Manage Assets and Locations* dialog.

2. Select the *Locations* tab and select the location to manage.

3. To delete a location, click the *Remove* button. To change a location's settings, click the *Settings* button to display the *Location Settings* dialog.

4. The location name cannot be changed. To activate or deactivate a location, check or uncheck the *Active* checkbox. Enter remarks for the location if desired. Click *OK* to close the dialog.

Note: Removing a logger, sensor or location from the system will prevent LogWare from accepting any logged data from that asset or location, whether by logging in real-time or by downloading or importing. You should only remove assets and locations that are no longer in service. To prevent data from being logged from an asset or location, simply uncheck the Active checkbox on the corresponding settings dialog instead of removing the asset or location. If you unintentionally remove an asset or location from the system, refer to the Recovering Removed Assets, Locations and Users topic in the online help.

10.2.1   Manage Assets and Locations

A The *Manage Assets and Locations* dialog allows the user to manage and control which assets (loggers and sensors) and locations can be used to log data. This dialog is displayed when selecting the *Manage Assets and Locations* option from the *Tools* menu.
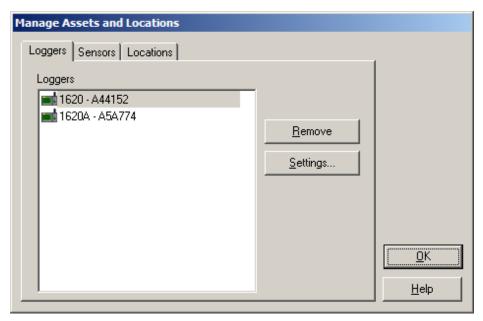
Figure 83 *Manage Assets and Locations dialog*

The *Manage Assets and Locations* dialog has three tabs: *Loggers*, *Sensors*, and *Locations*.

Loggers

The *Loggers* list displays the model and serial number all logger assets that have been used. Logger assets are automatically added to the system when configuring a real-time log session or the first time data is imported or downloaded from a logger. If the logger is currently inactive, the word "Inactive" appears in the list next to the item. Log*Ware* does not allow real-time log sessions to be run using inactive assets. Log-*Ware* also prevents data from being imported or downloaded from inactive assets.
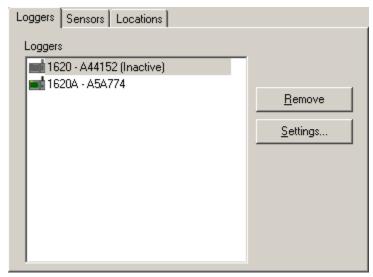
Figure 84 *Manage Assets and Locations dialog - Loggers tab*

Ⓐ To remove a logger asset, select the logger to remove and click the *Remove* button. A prompt is displayed to confirm removing the logger. Click *Yes* to remove the logger.

⚠️ *Note: Removing a logger, sensor or location from the system will prevent LogWare from accepting any logged data from that asset or location, whether by logging in real-time or by downloading or importing. You should only remove assets and locations that are no longer in service. To prevent data from being logged from an asset or location, simply uncheck the Active checkbox on the cor-responding settings dialog instead of removing the asset or location. If you unin-tentionally remove an asset or location from the system, refer to the Recovering Removed Assets, Locations and Users topic in the online help.*

Ⓐ To change logger asset settings, select the logger from the *Loggers* list and click the *Settings* button to display the *Logger Asset Settings* dialog. Refer to Section 10.2.1.1, Logger Asset Settings, on page 158, for more information.

Sensors

The *Sensors* list displays the model and serial number all sensor assets that have been used. Sensor assets are automatically added to the system when configuring a real-

time log session, or the first time data is imported or downloaded from a logger. If the sensor is currently inactive, the word "Inactive" appears in the list next to the item. Log*Ware* does not allow real-time log sessions to be run using inactive assets. Log-*Ware* also prevents data from being imported or downloaded from inactive assets.
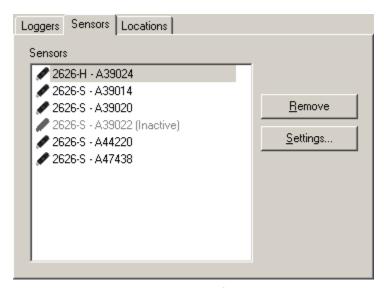
Figure 85 *Manage Assets and Locations dialog - Sensors tab*

Ⓐ To remove a sensor asset, select the sensor to remove and click the *Remove* button. A prompt is displayed to confirm removing the sensor. Click *Yes* to remove the sensor.

⚠️ *Note: Removing a logger, sensor or location from the system will prevent LogWare from accepting any logged data from that asset or location, whether by logging in real-time or by downloading or importing. You should only remove assets and locations that are no longer in service. To prevent data from being logged from an asset or location, simply uncheck the Active checkbox on the corresponding settings dialog instead of removing the asset or location. If you unintentionally remove an asset or location from the system, refer to the Recovering Removed Assets, Locations and Users topic in the online help.*

Ⓐ To change sensor asset settings, select the sensor from the *Sensors* list and click the *Settings* button to display the *Sensor Asset Settings* dialog. Refer to Section 10.2.1.2, Sensor Asset Settings, on page 160, for more information.

Locations

The *Locations* list displays all locations that have been used. Locations are automatically added to the system when configuring a real-time log session, or the first time data is imported or downloaded from a logger. Locations may also be manually added to the system. If the location is currently inactive, the word "Inactive" appears in the list next to the item. Log*Ware* does not allow real-time log sessions to be run using

inactive locations. Log*Ware* also prevents data from being imported or downloaded from inactive locations.

Info: LogWare uses the SENSOR ID field of the sensor to store the location name associated with the sensor. This allows the location name to appear on the display of the logger. By default, the SENSOR ID field of a new sensor is set to a value of 'ID'. If LogWare detects the SENSOR ID field is set to 'ID' when configuring a real-time log session or when downloading or importing logged data, a prompt is displayed indicating you should select or create a valid location name for this sensor and the Select Sensor Location dialog is displayed.
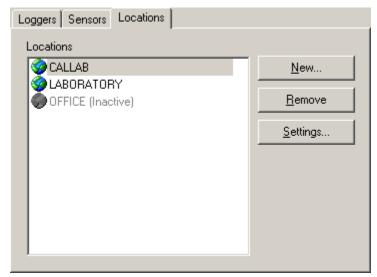
Figure 86 *Manage Assets and Locations dialog - Locations tab*

T To manually create a new location, click the *New* button to display the *New Location Settings* dialog.

A To remove a location, select the location to remove and click the *Remove* button. A prompt is displayed to confirm removing the location. Click *Yes* to remove the location.

Note: Removing a logger, sensor or location from the system will prevent LogWare from accepting any logged data from that asset or location, whether by logging in real-time or by downloading or importing. You should only remove assets and locations that are no longer in service. To prevent data from being logged from an asset or location, simply uncheck the Active checkbox on the corresponding settings dialog instead of removing the asset or location. If you unintentionally remove an asset or location from the system, refer to the Recovering Removed Assets, Locations and Users topic in the online help.

Ⓐ To change location settings, select the location from the *Locations* list and click the *Settings* button to display the *Location Settings* dialog. Refer to Section 10.2.1.3, Location Settings, on page 161, for more information.

10.2.1.1 Logger Asset Settings

The *Logger Asset Settings* dialog allows the user to manage logger assets. This dialog is displayed by clicking the *Settings* button on *Loggers* tab of the *Manage Assets and Locations* dialog.

Figure 87 *Logger Asset Settings dialog*

The model, serial number, state, and remarks are shown for the logger. By default, when a logger is added to the system, it is marked as active.

The *Model* and *Serial number* fields indicate the model and serial number of the logger and are not editable.

The *Active* checkbox indicates the current state of this logger. If a logger is active, Log*Ware* is allowed to log data in real-time using this logger and data from this logger may be downloaded or imported into the system.

Ⓐ To prevent a logger from being used to log real-time data and prevent data from a logger from being imported or downloaded, uncheck the *Active* checkbox.

The *Remarks* field is automatically populated with the date and time the logger asset was added to the system. The *Remarks* field can be changed as desired.

The *Store Password* button allows the logger's password to be stored in Log*Ware's* data store for use when any password-protected logger settings need to be changed. Storing the logger's password prevents the password prompt from being displayed, which requires user interaction to continue.

A **To store a logger's password …**

1. Make sure the logger is powered up and connected to the computer or to the network.

2. On the *Logger Asset Settings* dialog, click the *Store Password* button to display the *Select Communications Protocol* dialog.
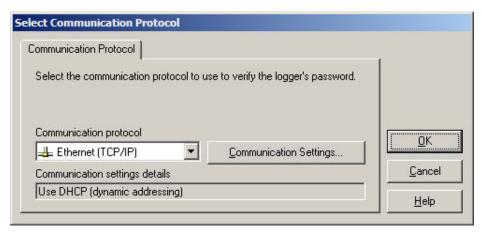
Figure 88 *Select Communication Protocol dialog*

3. Select the appropriate communication settings and click *OK*.

4. Log*Ware* will attempt to establish communications with the logger and display the *Enter Password* dialog.

Figure 89 *Enter Password dialog - storing logger password*

5. Enter the logger's password in the *Password* box and click *OK*.

6. If Log*Ware* is able to verify the entered password is correct, the password is stored. Click *OK*. Otherwise, the *Invalid Password* prompt is displayed. Click *Retry* to enter the password again or click *Cancel* to abort.

The *Reset Password* button removes the logger's stored password from the data store.

ⓘ ***Info:*** *Resetting a logger's password does not change the logger's password. To change a logger's password, you must use the logger's menus. Refer to the logger's User Guide for more details.*

🅐 **To reset a logger's stored password …**

1. On the *Logger Asset Settings* dialog, click the *Reset Password* button.

2. The *Reset Logger Password* confirmation prompt is displayed. Click *Yes* to confirm removing the logger's password from the data store, or click *No* to abort.

10.2.1.2 Sensor Asset Settings

The *Sensor Asset Settings* dialog allows the user to manage sensor assets. This dialog is displayed by clicking the *Settings* button on *Sensors* tab of the *Manage Assets and Locations* dialog.
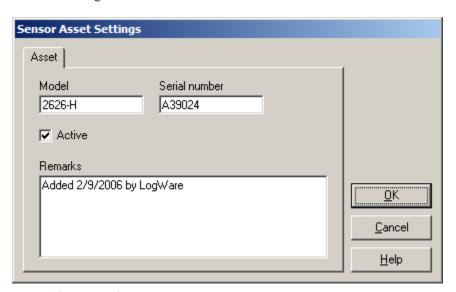
Figure 90 *Sensor Asset Settings dialog*

The model, serial number, state, and remarks are shown for the sensor. By default, when a sensor is added to the system, it is marked as active.

The *Model* and *Serial number* fields indicate the model and serial number of the sensor and are not editable.

The *Active* checkbox indicates the current state of this sensor. If a sensor is active, Log*Ware* is allowed to log data in real-time using this sensor and data from this sensor may be downloaded or imported into the system.

(A) To prevent a sensor from being used to log real-time data and prevent data from a sensor from being imported or downloaded, uncheck the *Active* checkbox.

The *Remarks* field is automatically populated with the date and time the sensor asset was added to the system. The *Remarks* field can be changed as desired.

10.2.1.3   Location Settings

The *Location Settings* dialog allows the user to manage locations. This dialog is displayed by clicking either the *Settings* or *New* button on the *Locations* tab of the *Manage Assets and Locations* dialog.

Figure 91 *Location Settings dialog*

The location name, state, and remarks are shown for the location. By default, when a new location is added to the system, it is marked as active.

When adding a new location to the system manually, enter a unique name for this location in the *Location name* field. When managing an existing location, the *Location name* field is not editable.

Info: Because LogWare stores the location name information in the SENSOR ID field of the sensor, location names are limited to 16 characters in length, and can only consist of numbers (0-9), uppercase letters (A-Z), and/or any of the following characters: - + . < > @ ! # $ % & ^ _ | ~

The *Active* checkbox indicates the current state of this location. If a location is active, Log*Ware* is allowed to log data in real-time using this location and data associated with this location may be downloaded or imported into the system.

A To prevent a location from being used to log real-time data and prevent data from a location from being imported or downloaded, uncheck the *Active* checkbox.

The *Remarks* field is automatically populated with the date and time the location was added to the system. The *Remarks* field can be changed as desired.

10.3 Managing Log Sessions

The primary purpose of Log*Ware* is to log data in real-time and allow others to remotely monitor the real-time data as it is being logged.

In order for this to happen, Log*Ware* must keep track of all the real-time log sessions that are currently running on the system. When starting a remote monitoring session, Log*Ware* can then display a list of all locations where real-time data is currently being logged.

During a real-time log session, certain events can occur that prevent Log*Ware* from obtaining readings from a logger or sensor for a period of time. Log*Ware* will, however, continue to attempt to query the logger for readings as long as the real-time log session is running. Such events may include, but are not limited to:

- Power was disconnected from the logger
- Logger's power switch was turned off
- Communications cable was disconnected from the logger
- Sensor is unplugged from logger channel
- Log*Ware* client computer loses network connection
- Log*Ware* client computer shuts down unexpectedly (power outage, application error, etc)

If Log*Ware* is unable to obtain readings from a logger for 10 consecutive attempts (logging interval periods), the log session is marked as appearing to be inactive.

In the case of a Log*Ware* client computer shutting down unexpectedly, the system still indicates real-time log sessions are running because the log sessions were not terminated properly. Since Log*Ware* only allows one real-time log session to be run against each logger, a new real-time log session cannot be started until the previous log session is closed. The *Manage Log Sessions* dialog allows these inactive log sessions to be closed manually.

Info: LogWare also has a feature that forces log sessions that have been inactive for a specified amount of time to be closed automatically. These settings are found on the Misc tab of the LogWare III Options dialog. Also, if LogWare is configured to login and start real-time log sessions automatically on startup, inactive log sessions will be closed automatically to allow the new real-time log session to start.

T **To close a log session…**
1. Select the *Manage Log Sessions* option from the *Tools* menu to display the *Manage Log Sessions* dialog.
2. A list of all currently running real-time log sessions is displayed.
3. Select the log session to close and click the *Close Selected Log Session* button.

⚠️ *Note: Closing a log session using this dialog will cause the corresponding real-time log session to terminate!!*

T **To close all inactive log sessions…**
1. Select the *Manage Log Sessions* option from the *Tools* menu to display the *Manage Log Sessions* dialog.
2. A list of all currently running real-time log sessions is displayed.
3. Click the *Close All Inactive Log Sessions* button.

10.3.1   Manage Log Sessions
T The *Manage Log Sessions* dialog allows the user to manage real-time log sessions. This dialog is displayed when selecting the *Manage Log Sessions* option from the *Tools* menu.
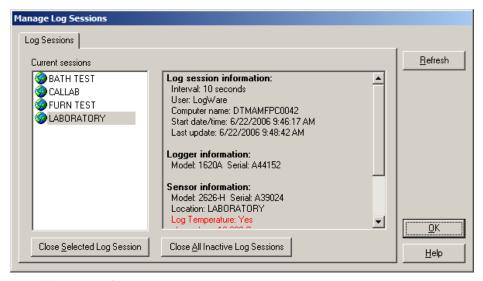
Figure 92 *Manage Log Sessions dialog*

The *Current sessions* list indicates each location of all currently running real-time log sessions. Select a log session from the list to view the details of the log session. The details of the log session are displayed in the list to the right of the *Current sessions* list. When a real-time log session is terminated normally, it no longer appears in this list.

If Log*Ware* has been unable to obtain readings from a location for a period of time, the item is highlighted in bold red text in the *Current sessions* list and a bold red label appears above the details list when the item is selected. The log session is considered to be currently inactive. In the case of a Log*Ware* client computer shutting down unexpectedly, the system still indicates real-time log sessions are running because the log sessions were not terminated properly. However, these log sessions will likely appear as being inactive because Log*Ware* is no longer obtaining new readings. Since Log*Ware* only allows one real-time log session to be run against each logger, a new real-time log session cannot be started until the previous log session is closed.

To close an inactive log session, select the log session from the *Current sessions* list and click the *Close Selected Log Session* button. Although active log sessions may also be closed, closing active log sessions is not recommended.

Note: Closing a log session using this dialog will cause the corresponding real-time log session to terminate!!

The time period used by Log*Ware* to determine if a log session appears to be inactive is based on the logging interval (*Interval*) and the *Last update* date/time stamp as indicated in the log session details list: if 10 times the logging interval has elapsed since the last update, the log session is considered to be inactive. For example, if the logging interval is 2 minutes, and the last update date/time stamp is older than 20 minutes (10 x 2 minutes), the log session is considered to be inactive.

Info: LogWare also has a feature that forces log sessions that have been inactive for a specified amount of time to be closed automatically. These settings are found on the Misc tab of the LogWare III Options dialog. Also, if LogWare is configured to login and start real-time log sessions automatically on startup, inactive log sessions will be closed automatically to allow the new real-time log session to start.

To close all currently inactive log sessions, click the *Close All Inactive Log Sessions* button.

The information on this dialog is read in at the time the dialog is opened. If this dialog is left open for a long period of time, the information becomes outdated. To refresh the information, click the *Refresh* button.

10.4   Deleting Log Sessions

The primary purpose of Log*Ware* is to log data in real-time. Log*Ware* also allows data to be downloaded and imported from a logger. Log*Ware* stores all logged, downloaded, and imported data in its data storage system on the server. Once data is written to the server, Log*Ware* does not allow the data to be altered. Data may, however, be removed from the server by an administrator if needed.

Log*Ware* only allows data to be deleted from the server for an entire real-time log session or download/import session. Individual data points or ranges of data points cannot

be removed. This is intended to prevent unauthorized tampering of the data by removing, for example, only data points that fell outside of alarm limits.

⚠️ *Note: Deleting log session data from the server is permanent! Deleted data cannot be recovered. Be very careful when using this feature not to inadvertently delete the wrong data. As a precaution, LogWare displays prompts to confirm the deletion of data prior to performing the operation. Also, make sure the LogWare server is properly maintained and backed up regularly. Refer to Section 11, Maintenance , on page 169, for more information.*

Ⓐ To delete data for a log session…

1. Select the *Delete Log Sessions* option from the *Tools* menu to display the *Delete Log Sessions Options* dialog.
2. On the *Criteria* tab, select the log session to delete.
3. Click the *OK* button to delete the data for the log session.

10.4.1 Delete Log Sessions Options

The *Delete Log Sessions Options* dialog allows the user to select the log session to be deleted. This dialog is displayed when selecting the *Delete Log Sessions* option from the *Tools* menu.
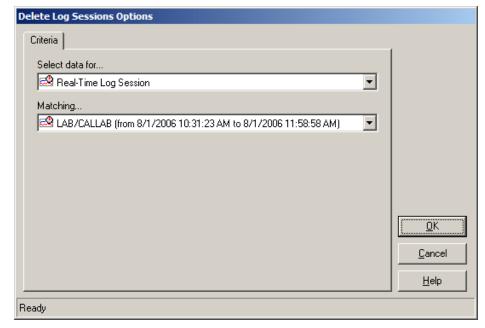
Figure 93 *Delete Log Sessions Options dialog*

LogWare distinguishes between data logged in real-time and data that was down-loaded or imported into the server. Use the *Select data for* drop-down list to choose the method that was used to log the data that is to be deleted. When you select an option, the *Matching* drop-down list is populated with appropriate selection information.

⚠️ *Note: In order to maintain the integrity of the data, for real-time log sessions where data was logged from both sensors, or for downloaded or imported data where data from both sensors was imported, LogWare does not allow data from only one of the sensors to be deleted. Data for BOTH sensors will be deleted.*

Use the *Matching* drop-down list to select the appropriate item that matches the data you want to delete. The following table indicates the options and choices for selecting data.

Table 9 Delete Log Sessions Matching drop-down options

When the *Select data for* drop-down list is set to…	The *Matching* drop-down lists includes…
Real-Time Log Session	A list of all complete real-time log sessions, sorted by location and date/time range of the logged data. Currently open (running) real-time log sessions are not displayed.
Imported/Downloaded Data	A list of all import/download data sets, sorted by location and date/time range of the imported data.

⚠️ *Note: Deleting log session data from the server is permanent! Deleted data cannot be recovered. Be very careful when using this feature not to inadvertently delete the wrong data. As a precaution, LogWare displays prompts to confirm the deletion of data prior to performing the operation. Also, make sure the LogWare server is properly maintained and backed up regularly. Refer to Section 11, Maintenance , on page 169, for more information.*

When the appropriate selections are made, click the *OK* button to continue. The *Confirm Deleting Log Session* dialog is displayed to confirm the deletion of the selected data. You <u>must</u> check the checkbox <u>and</u> click the *OK* button for Log*Ware* to delete the selected data. Leaving the checkbox unchecked or clicking the *Cancel* button aborts the deletion process.
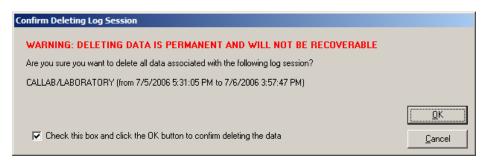
Figure 94 Confirm Deleting Log Session prompt

Note: *LogWare is designed to handle large amounts of data. However, be aware that deleting large sets of data may take a few minutes. LogWare displays a warning message when a large data set is selected indicating the allotted time for the delete process may be exceeded. The delete process should succeed even if the allotted time is exceeded.*

11   Maintenance

It is important to regularly backup your system to minimize the loss of data in the event of unforeseen problems, such as virus infections, hardware failures, and malicious and accidental activities.

Log*Ware* stores all logged data, asset and location information, software licenses, user accounts, and other information in a database. For stand-alone, single-user configurations, the data resides on the computer on which Log*Ware* is running. For client/server, multi-user configurations, the data resides on the computer designated as the server. Log*Ware* is isolated from the database and never interfaces directly with it. Instead, Log*Ware* relies on an open source application server, JBoss® , to interface with the database. Log*Ware* communicates with the application server using an open source SOAP library, pocketSOAP®. The database the application server currently interfaces with is an open source database, PostgreSQL®

11.1   Database Maintenance

When Log*Ware*'s server files were installed, an administrative account was automatically created for accessing the database. Also installed were a set of tools for maintaining the PostgreSQL® database. It is strongly recommended that the administrator of the Log*Ware* system review the PostgreSQL® documentation and become familiar with the database maintenance utilities and backup capabilities. Regular maintenance of the database can reduce the chance of problems and keep the size of the database operating as efficiently as possible.

Server Operation

The computer designated as the server for Log*Ware* is required to run a couple of services. These services allow Log*Ware* to communicate with the data storage system on the server. Communication is handled through a TCP port on the server. If the server computer has firewall software installed, the firewall must be configured to allow communications on the TCP port. For more information on these services and other server related settings, refer to Section 1.6, Installation, on page 4.

12 Technical Support

Please contact one of the following authorized Service Centers to coordinate service on your product:

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> **E-mail:** antng@singa.fluke.com

Check our website on the Internet regularly for answers to Frequently Asked Questions, software updates, and Service Releases.

Before contacting Technical Support, check the items listed below to see if the problem you are having can be resolved by information contained in these sections:

- Section 1.5, Requirements, on page 2
- Section 1.6, Installation, on page 4
- Section 1.7, Running LogWare, on page 20
- Section 2, Security Features, on page 37
- Section 2.1, Administration, on page 38
- Section 2.2, User Accounts, on page 39

When calling or sending a fax, please send or have the following information ready:

- Name of the software (Log*Ware* III)
- Software version (as found on the Help | About dialog)
- Detailed description of the problem
- What the software was doing when the problem arose
- The exact wording and/or number of any error message received
- Any other information that may help to solve the problem

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14 Appendix B – Copyright Notices

Log*Ware* III Temperature and Humidity Logging Software

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15 Appendix C – Migrating Data From Previous Versions

When upgrading to Log*Ware* III version 2.x from version 1.x, you may want to migrate the data that was logged by the previous version into the data storage system used by version 2.x. A migration utility is provided to facilitate this process.

When the Log*Ware* server files are installed, the **LWMigrate.exe** application is installed in the same folder as the Log*Ware* application files on the server computer.

⚠️ *Note: The LogWare client files **must** be installed on the computer where you want to run the migration utility. Failure to install the LogWare client files on the computer will cause the migration utility to fail to run.*

The process of migrating previously logged data to the new data storage system may take several hours, depending on the amount of data to migrate. This process will also require a lot of processing time on the server and generate a lot of network traffic if done on a client/server configuration. For this reason, we make the following recommendations:

- It is *strongly recommended* to run the migration utility on the *server computer only* in client/server configurations to minimize network traffic. If the server computer is running Windows® Server 2003, you will be required to run the migration utility from one of the client computers.

- It is *strongly recommended* to migrate previously logged data *prior to allowing real-time log sessions to be started* to allow the server to dedicate as much processing time to the migration process as possible.

- It is recommended to run the migration process overnight or over a weekend when there is less activity on the server computer and the network.

- It is recommended that the version 1.x database be located on the same computer that you run the migration utility on to minimize network traffic. You may need to copy the database files from another computer if necessary. The database files for version 1.x are all included in the **\Database** subfolder, typically found at **C:\Program Files\Fluke-Hart Scientific\LogWare III**. You must copy both the **LOGWARE3.MDB** and **LOGWARE3.MDW** files to the server!
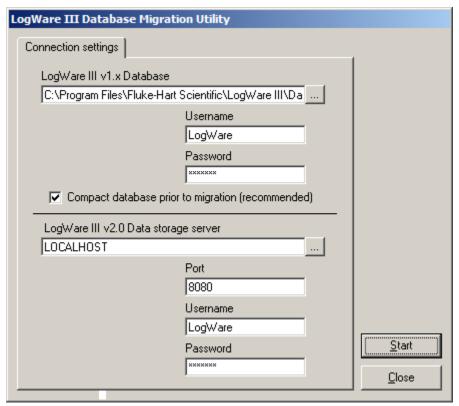
Figure 95 *LogWare III Database Migration Utility*

To begin the migration process…

1. Double-click the **LWMigrate.exe** file icon on the server computer. By default, this file is located in the **C:\Program Files\Fluke-Hart Scientific\LogWare III Client** folder on the server.

2. If the computer that you are running the migration utility on is the same computer that the previous version of Log*Ware* was installed on, the *LogWare III v1.x Database* field will be filled in. Otherwise, click the ... button to locate the **LOGWARE3.MDB** file.

3. Enter the *Username* and *Password* to use to access the version 1.x database. It is recommended to use the built-in **LogWare** username with its associated password.

4. Check the *Compact database prior to migration* checkbox.

5. Enter the name of the computer where the Log*Ware* III version 2.x server files are installed. This field should be filled in automatically. For stand-alone configurations, use **LOCALHOST** as the server's computer name. The *Port*

field should be set to **8080** (default) or the TCP port that was entered during the server installation process.

6. Enter the *Username* and *Password* to use to access the version 2.x database. It is recommended to use the built-in **LogWare** username with its associated password.

7. To begin the migration process, click the *Start* button. The migration progress is displayed in the *Migration Status* window.

Because migrating the data is a long process, there is the potential that the process may get interrupted. If the process does not complete, you may simply start the process again. The migration utility will not create duplicate asset, location, user, or other records in the new data storage system. It keeps track of how much data has already been migrated and picks up where it left off.

⚠️ *Note: If the migration process does get interrupted, you may be required to manually close a migration log session before continuing. Run the LogWare III client application and login using the built-in administrator account. Select the Manage Log Sessions option from the Tools menu and close any "inactive" log sessions.*

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