



INSTRUMENTS

SC-01 Data Logger Management Program Operator's Manual

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www.rkiinstruments.com

Warranty

RKI Instruments, Inc., warrants gas alarm equipment sold by us to be free from defects in materials and workmanship, and performance for a period of one year from date of shipment from RKI Instruments, Inc. Any parts found defective within that period will be repaired or replaced, at our option, free of charge. This warranty does not apply to those items which by their nature are subject to deterioration or consumption in normal service, and which must be cleaned, repaired, or replaced on a routine basis. Examples of such items are:

Absorbent cartridges	Batteries
Pump diaphragms and valves	Filter elements
Fuses	

Warranty is voided by abuse including mechanical damage, alteration, rough handling, or repairs procedures not in accordance with the instruction manual. This warranty indicates the full extent of our liability, and we are not responsible for removal or replacement costs, local repair costs, transportation costs, or contingent expenses incurred without our prior approval.

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This warranty covers instruments and parts sold to users only by authorized distributors, dealers, and representatives as appointed by RKI Instruments, Inc.

We do not assume indemnification for any accident or damage caused by the operation of this gas monitor and our warranty is limited to replacement of parts or our complete goods.

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CAUTION: *Read and understand this manual before using the SC-01 Data Logger Management Program. Also read and understand the SC-01 Operator's Manual included with the SC-01 portable gas detection unit.*

Introduction

Using an advanced microprocessor controlled detection system, the SC-01 Personal Single Gas Monitor detects the presence of one of a variety of toxic gasses depending on the sensor installed. The SC-01's compact size and easy-to-use design makes it ideally suited for a wide range of applications as described in the SC-01 Operator's Manual, which you should read first before using the SC-01 Data Logger Management Program.

The SC-01 Data Logger Management Program downloads data stored in the SC-01 to a Windows-based PC. After the data has been downloaded, you can view, save, or print it using your computer and the SC-01 Data Logger Management Program.

The purpose of this manual is to explain how to use and set up the SC-01 Data Logger Management Program. You will learn how to:

- install and launch the program
- install the downloading cable (if needed)
- download data from the SC-01
- view, print, and export, and delete data
- change data logging parameters
- change the appearance of the program screens
- change the color of graphed readings for a particular gas

Before you get started, be sure to review the system requirements in the next section.

WARNING: The SC-01 detects toxic gases which can be dangerous or life threatening. When using the SC-01, you must follow the instructions and warnings in the SC-01 Operator's Manual to assure proper and safe operation of the unit and to minimize the risk of personal injury.

CAUTION: *The operator of this instrument is advised that if the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.*

System Requirements

To use the GX-2003 Data Logger Management Program, your personal computer must meet the following requirements:

- **Operating Systems:** Windows[®] 98, Windows[®] 2000, or Windows[®] XP
- **Processor:** IBM[®] compatible PC running Pentium[®] 2 or higher.
- **Memory:** 32 MB RAM minimum
- **Available Hard Disk Space:** 32 MB minimum
- **CD-ROM Drive**
- **Infrared port or**
Serial port and a serial/IrDA adapter cable or
USB port and a USB/IrDA adapter cable

Installing the SC-01 Data Logger Management Program

1. Launch Windows®.
2. Exit from all applications and open windows.
3. Insert the SC-01 Data Logger Management Program Installation CD in your computer's CD-ROM drive.
4. After a few seconds, a screen appears indicating that the SC-01 InstallShield Wizard is preparing to install the data logging program, then the SC-01 InstallShield Wizard window appears to guide you through installation.

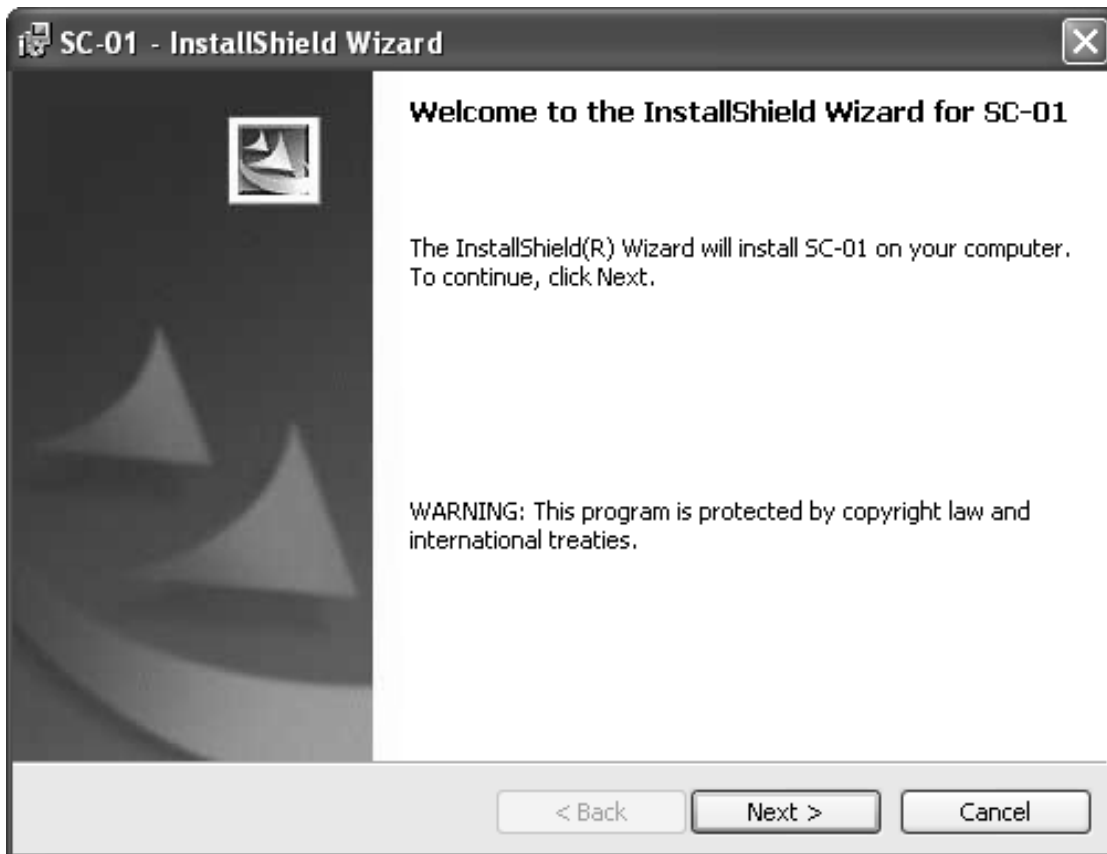


Figure 1: SC-01 InstallShield Wizard

5. Follow the on-screen instructions in the Installation Wizard window to install the program.

6. If the InstallShield Wizard finds versions of Windows[®] files on your computer newer than those in the installation CD, it will ask you if you want to keep these newer files. Click “Yes”.
7. When the InstallShield Wizard indicates that installation is complete, click the “Finish” button.
8. Eject the installation CD from the CD-ROM drive and store it in a safe place.

IrDA Downloading Cable

The SC-01 communicates with a computer via an on-board infrared data port that complies with IrDA protocol standards.

NOTE: If your computer has a built-in infrared port, you do not need an adapter cable to download data.

If your computer does not have an infrared port, you will need to install an IrDA/serial adapter cable or an IrDA/USB adapter cable on your computer to download data to the PC from your SC-01. Both types of cables are available from RKI Instruments, Inc. See the Spare Parts List at the end of this manual for the RKI part numbers. These cables can also be found in many electronic supply stores and computer stores.

Some versions of Windows[®] already have several infrared device drivers loaded in Windows[®] and will automatically recognize a cable during the installation process and guide you in installing the drivers. Other versions of Windows[®] will require you to load device drivers provided by the manufacturer of the cable during the installation process. RKI makes no warranty for the operation or compatibility of the drivers with any particular device.

Installing an IrDA Adapter Cable

After installing the Data Logger Management Program, connect an IrDA/serial or IrDA/USB cable to your computer and follow the manufacturer's instructions for installing the cable on your computer. Make sure the cable is compatible with your Windows[®] operating system.

If you do not have instructions from the cable manufacturer for installing your cable, see your Windows[®] documentation. In general, you must go to the Control Panel and use the Add Hardware Wizard to install the cable drivers.

Windows[®] Wireless Link Operation Note

When using an IrDA adapter cable and the SC-01 Data Logging Software on a Windows[®] computer, it is necessary to make a special setting in the Wireless Link Configuration window for proper communication between the SC-01 and the Data Logger Management Program. This must be done before attempting to use the program. To make this setting, perform the following steps:

1. Click **Start** in the Windows[®] Icon Tray.
2. If **Control Panel** is available to select in the **Start** menu, select it. The Control Panel will appear.

If **Control Panel** is not selectable in the Start menu but **Settings** is, select **Settings**, then select **Control Panel**. The Control Panel will appear.

3. Double click on **Wireless Link**. The Wireless Link Configuration window will appear.
4. Click on the Image Transfer tab.

5. Deselect the selection box for “Use Wireless Link to transfer images from a digital camera to your computer.”

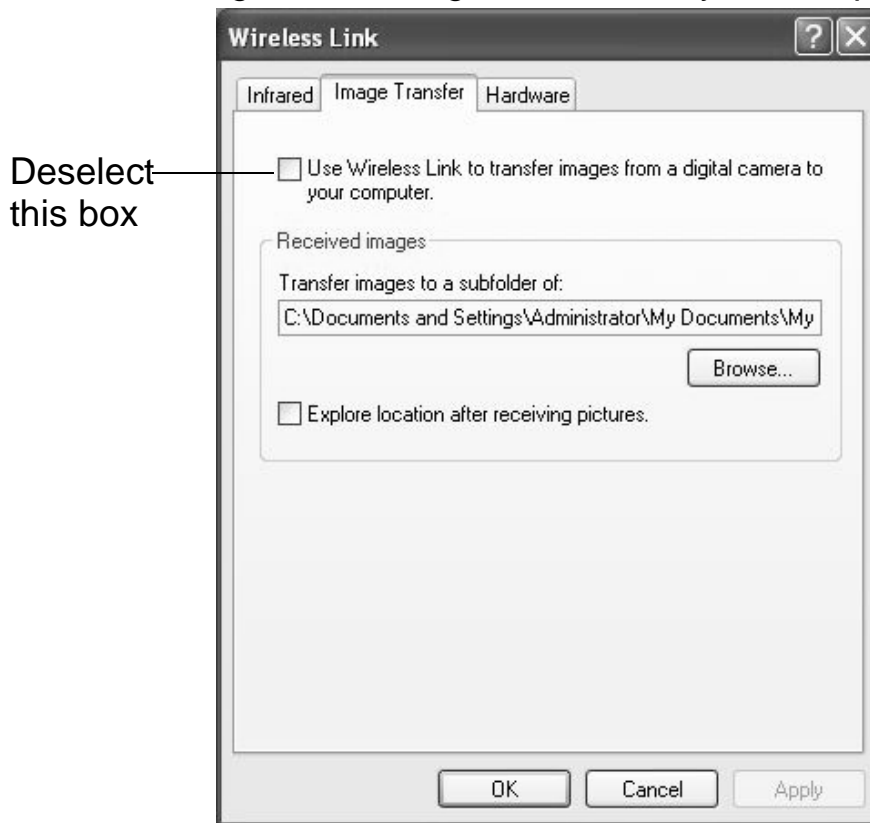


Figure 2: Image Transfer Tab

6. Click **OK**.
7. Close the Control Panel window.

Using a USB or Serial Port With an IrDA Cable Installed

When an IrDA cable is installed on a USB or serial port, that port is always being used by the cable. If you need to use that port for another device, you must disable the IrDA/serial cable or IrDA/USB cable using Windows[®] and then shut down your computer before disconnecting it, starting your computer up again, and then using the port with another device or cable. For example, if you have an IrDA/Serial cable installed in a serial port and want to download a different device using a standard straight through serial cable, you will need to disable the IrDA cable, remove it and install the straight through serial cable, then restart your computer. When you wish to download the SC-01

again, remove the straight through cable and reconnect the IrDA cable, enable the IrDA cable using Windows[®], and then restart your computer. See your IrDA cable and Windows[®] documentation for instructions to enable and disable an IrDA device. In general, you can enable or disable a device by going to the Control Panel, double clicking **System**, selecting the Hardware Tab, clicking **Device Manager**, double clicking the IrDa cable under Infrared Devices, and making the appropriate selection in the Device usage field. The process may differ slightly in your particular Windows[®] system.

Launching the Program

1. Click **Start** on the Windows[®] Icon Tray, then select **Programs**, then select the SC-01 icon. Your operating system may also have a shortcut installed in the **Start** menu.
2. The program will launch and the Download window will appear.

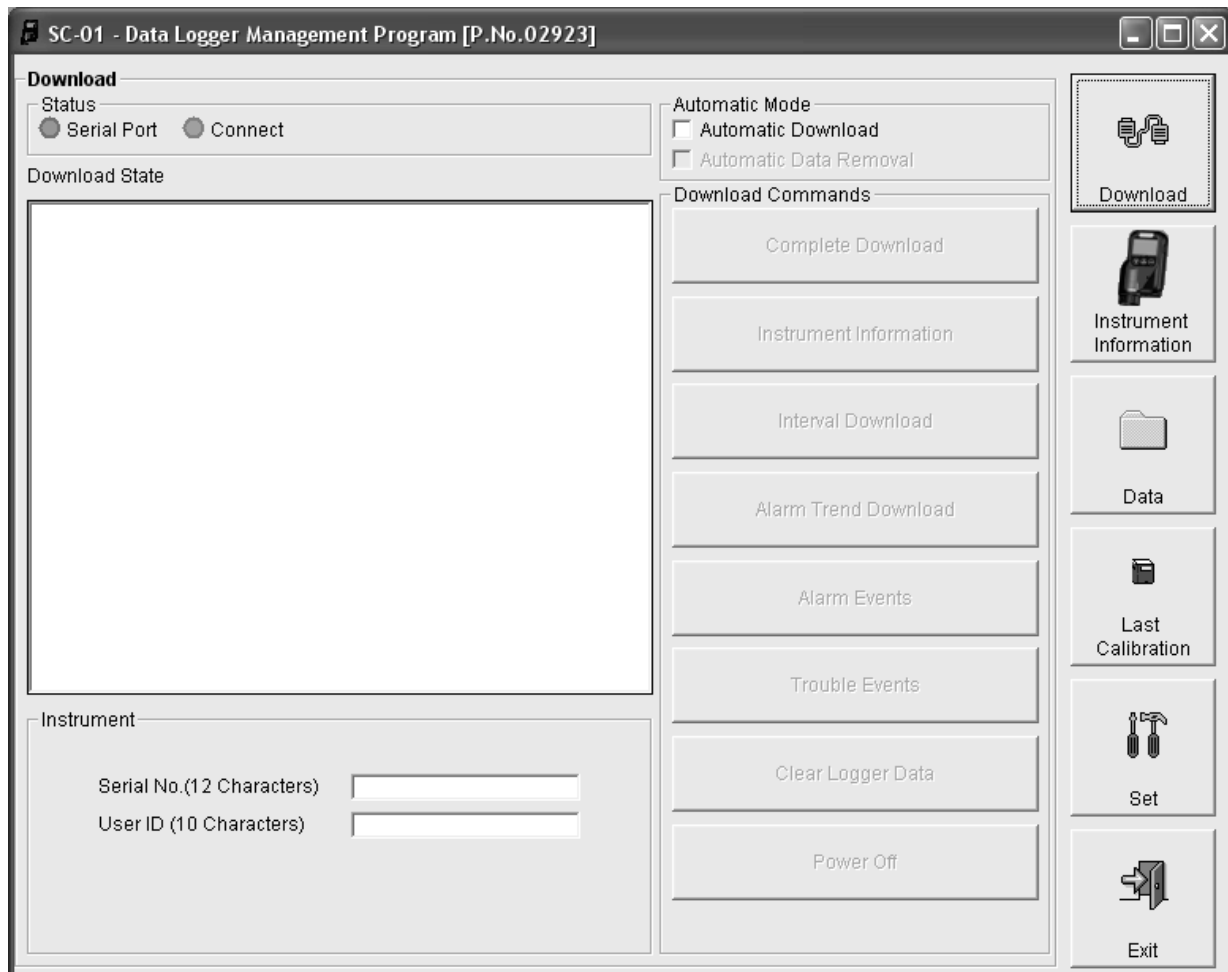


Figure 3: The Download Window

3. For convenience, make a shortcut of the SC-01 Data Logger Management Program and place it on the Windows[®] desktop. See your Windows[®] documentation for information about making shortcuts.

Control Buttons

This section describes the control buttons. Instructions for using each control button are given in other parts of this manual.

When the program is launched, it opens in the Download window. Along the right side of the Download window are six control buttons that access other windows in the program. Figure 4 below shows the various windows that you can access when you click these control buttons

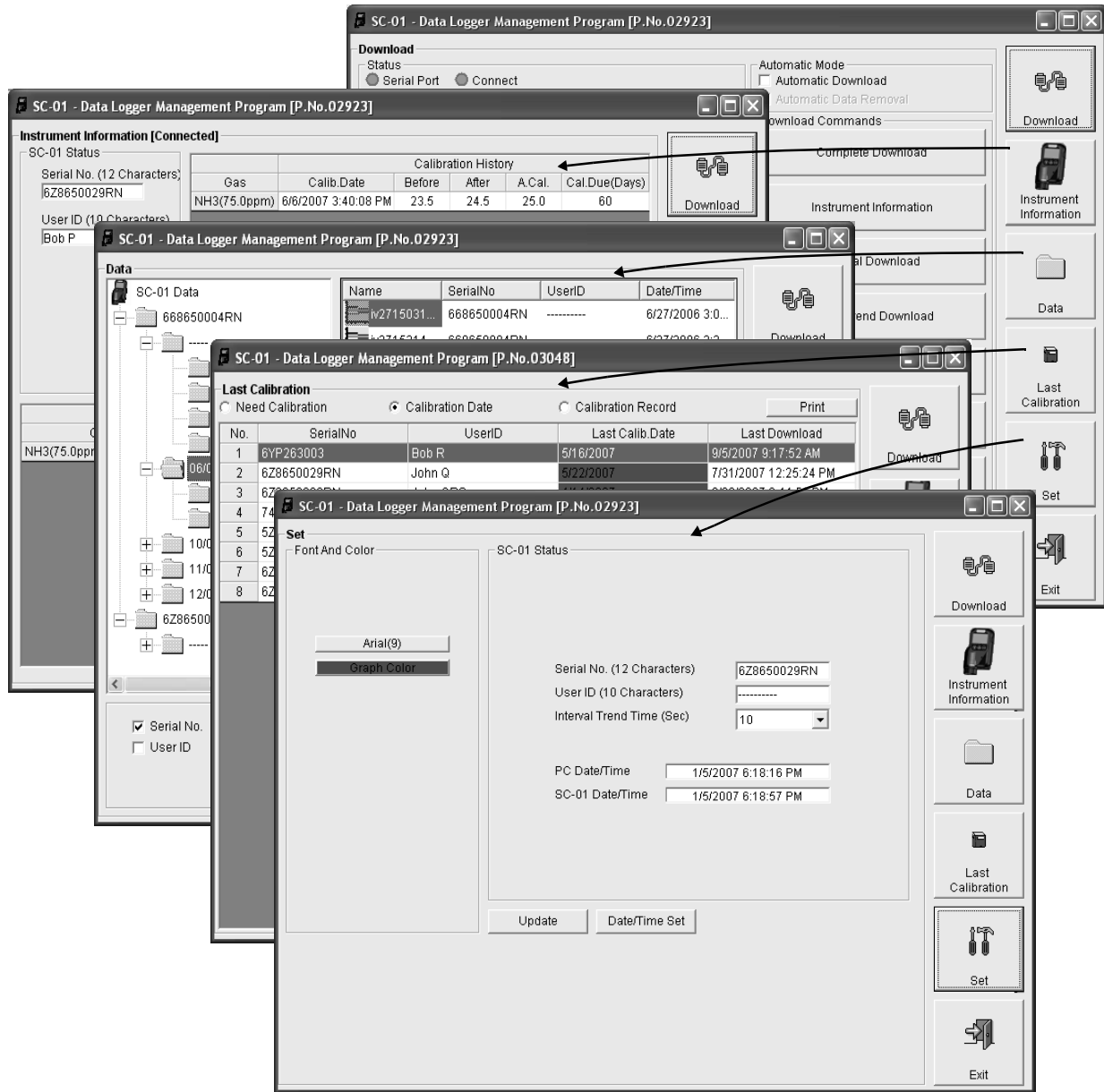


Figure 4: Windows Accessed by Control Buttons

Download Button

If you are in another program window, clicking the **Download** button opens the Download window (see Figure 3 on page 12). The Download window has several download commands that allow you to perform various data retrieval functions with an instrument that is connected to the program. Data can be retrieved from the instrument, data can be cleared from the instrument, and the instrument can be turned off. The Download State area on the left side of the window displays various messages about operations in progress or completed and the condition of the program's connection to the instrument. See "Downloading Data from the SC-01" on page 19 for a complete description of downloading data from a SC-01.

Instrument Information Button

Clicking the **Instrument Information** button opens the Instrument Information window.

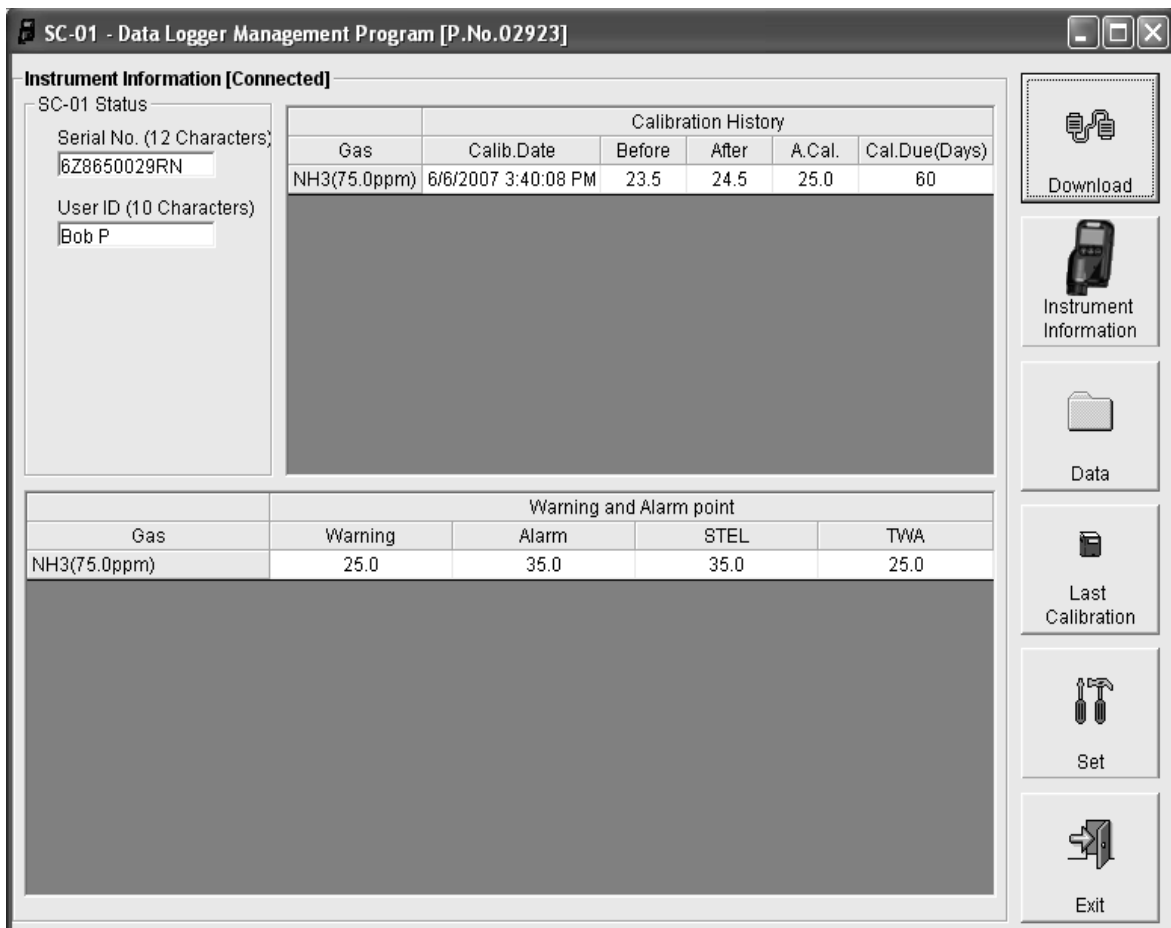


Figure 5: Instrument Information Window

The Instrument Information window displays various instrument parameters for an instrument that has been downloaded using the **Complete Download** or **Instrument Information** download commands in the Download window and is currently connected to the program. If an instrument is turned off after being connected to the program, then the program will lose the connection with the instrument and the fields in the Instrument Information window will become blank.

Data Button

Clicking the **Data** button opens the Data window.

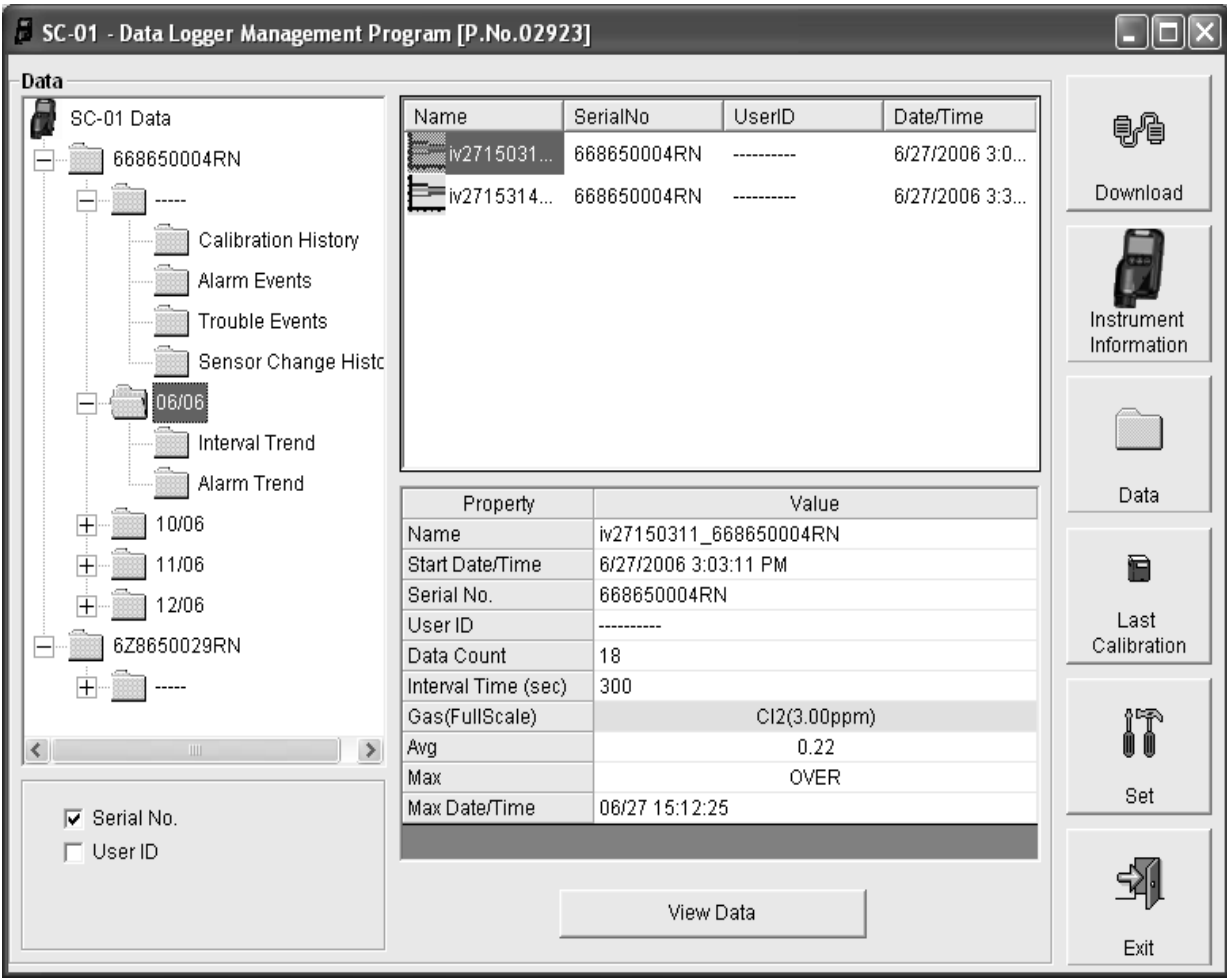


Figure 6: Data Window

In the Data window, you can view, print, export, and delete data that has been downloaded from instruments. The following types of data files are accessible in the Data window:

- Calibration History Files

A calibration history file is saved for each instrument that has been downloaded. It records the calibration information for every calibration that was downloaded. The SC-01 can save information for up to the 20 most recent calibrations in its memory.

- Alarm Event Files

Alarm event files record gas alarm events that have been downloaded from instruments. The SC-01 can save up to 100 alarm events in its memory.

- Trouble Event Files

Trouble event files record sensor failure and system failure events that have been downloaded from instruments. The SC-01 can save up to 100 trouble events in its memory.

- Sensor Change History Files

A sensor change history file is created for every downloaded instrument whose downloaded data indicates that the sensor has been replaced or changed to a different type (gas). The sensor replacements/changes are logged to provide a record of the instruments' sensor history.

- Interval Trend Data Files

Interval trend data is logged at the interval trend time saved in the SC-01. Each logged point is an average reading over the previous time interval.

- Alarm Trend Data Files

Data in an alarm trend data file is logged every five seconds and is logged around an alarm event. Each logged reading is the peak reading during the previous five second period. The SC-01 can save up to 8 alarm trend data files in its memory.

Last Calibration Button

Clicking the **Last Calibration** button opens the Last Calibration window.

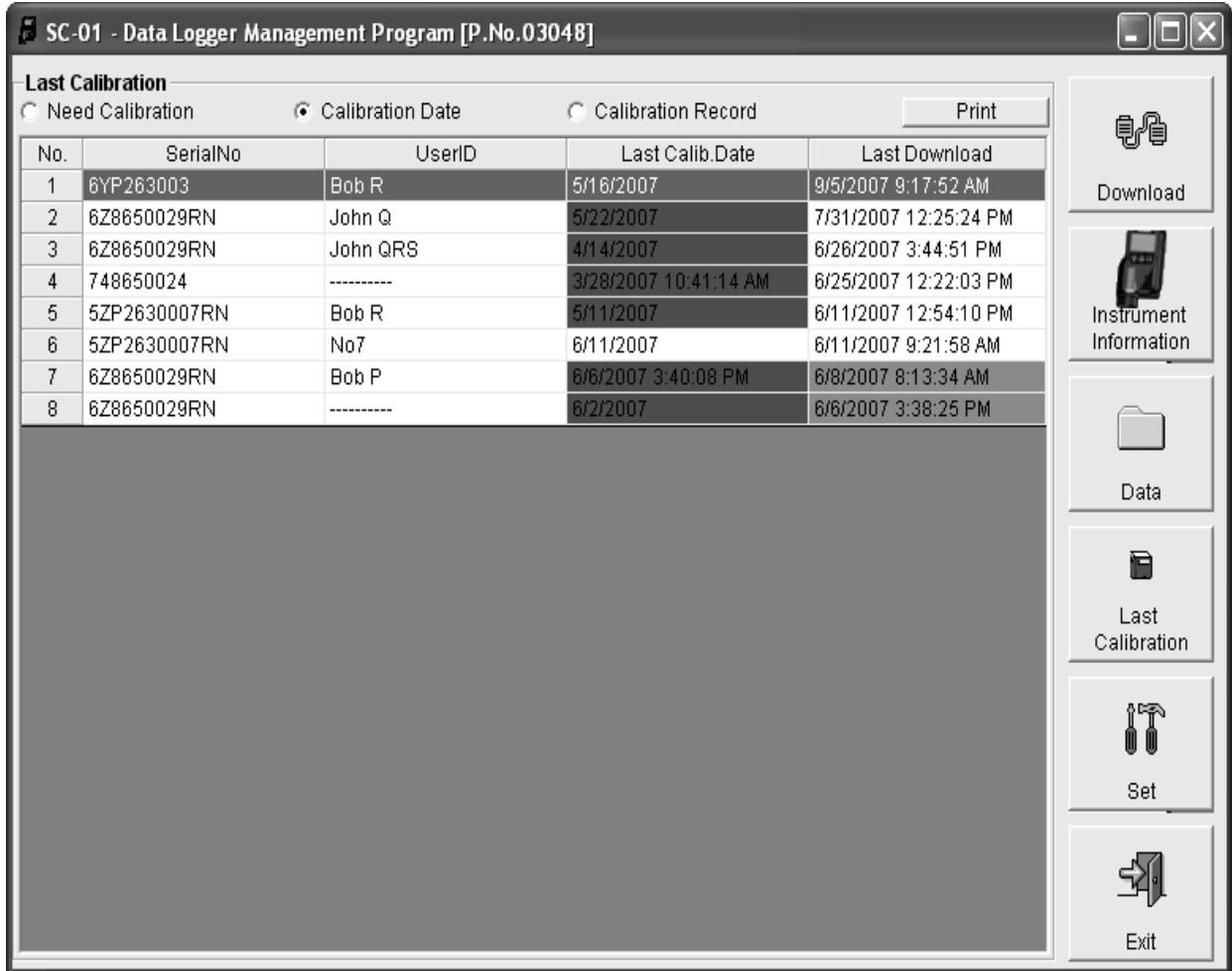


Figure 7: Last Calibration Window

The Last Calibration window stores the information for the most recent successful calibration for each SC-01 that has been downloaded. You can display the information three ways by using the Need Calibration, Calibration Date, or Calibration Record selection buttons. You can also print the information if you select the Need Calibration or Calibration Date display options.

Set Button

Clicking the **Set** button opens the Set window.

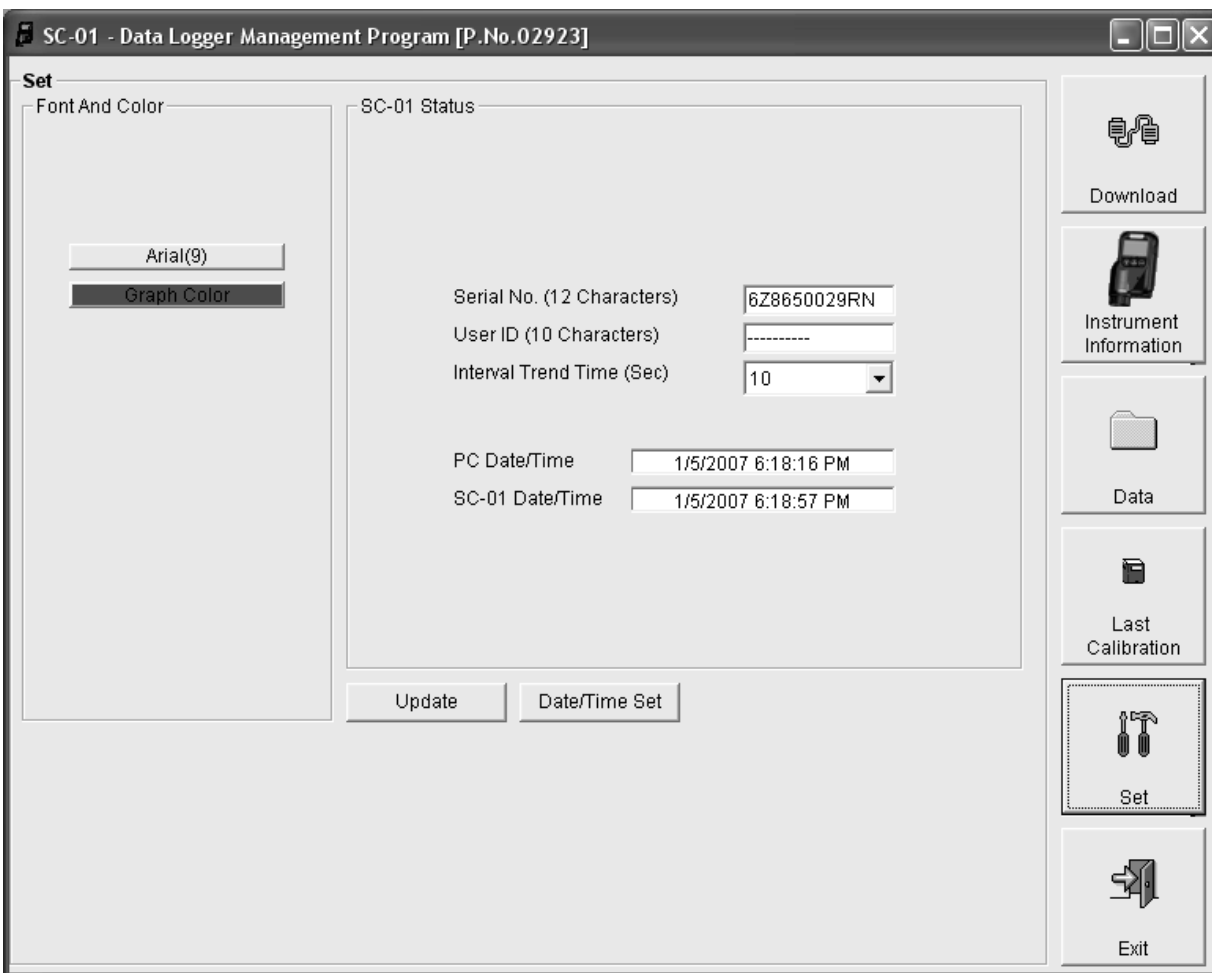


Figure 8: Set Window

In the Set window, you can perform the following functions:

- Alter the appearance of the program windows with the font and color buttons
- Change the instrument serial number, user ID, or interval trend time of a connected instrument by editing the fields in the SC-01 Status frame and then clicking the **Update** button
- Update the date and time in a connected instrument to be the same as the computer's by using the **Date/Time Set** button

Downloading Data from the SC-01

You have the option of downloading data manually or automatically. If you want to download data using the automatic download feature, click the Automatic Download selection box in the Download window before attempting to download data from the SC-01. Remember that if Automatic Download is selected, the Instrument Information window will remain blank and the SC-01 will turn off automatically after the data is downloaded. If you want the data in the SC-01 to be cleared automatically after an automatic download, select the Automatic Data Removal box. The Automatic Data Removal box is only available for selection if the Automatic Download box is selected.

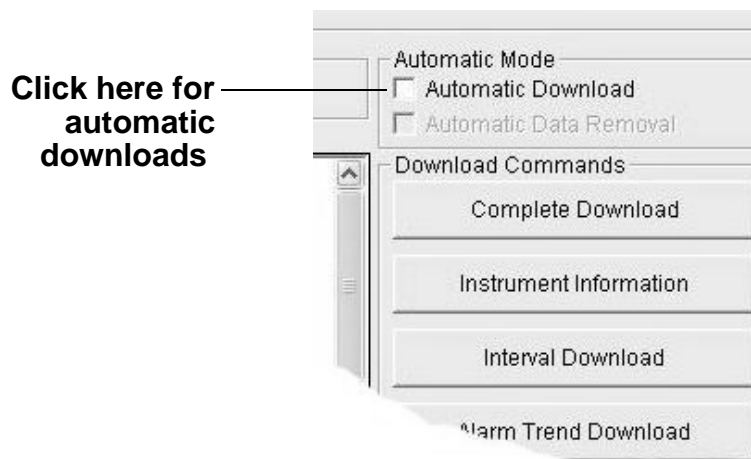


Figure 9: Automatic Download Selection Box

To download data from a SC-01:

1. Launch the SC-01 Data Logger Management Program (see “Launching the Program” on page 12). The Download window displays.
2. Place the SC-01 within an inch or two of the infrared port on your computer aligning the infrared port on the side of the SC-01 with the infrared port on your computer.

If your computer does not have a built in infrared port, place the SC-01 within an inch or two of the infrared port on the IrDA adapter cable as shown in Figure 10 below, aligning the infrared port on the side of the SC-01 with the infrared port on the cable.

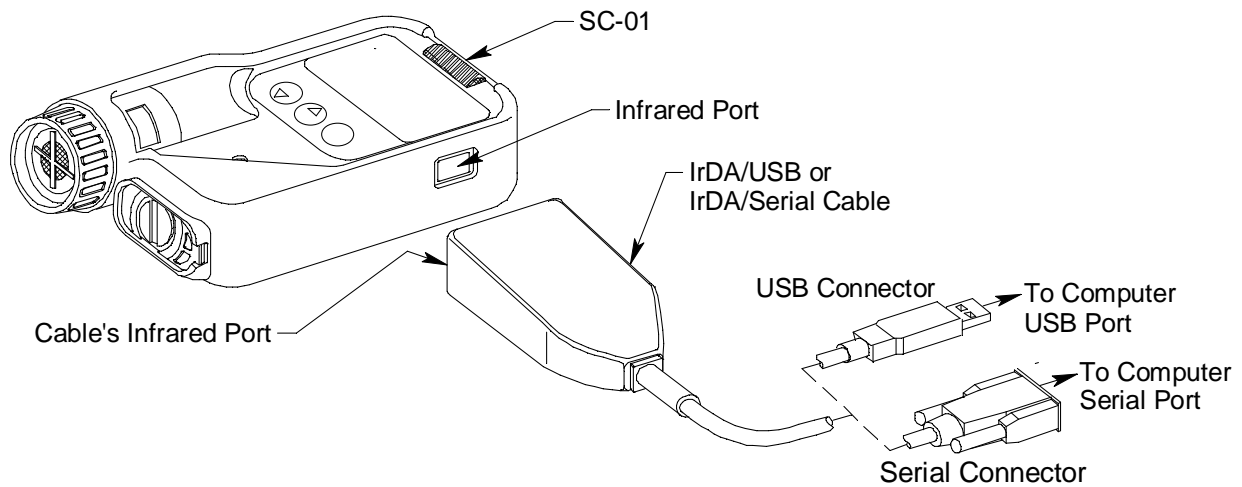


Figure 10: Aligning the SC-01 With the Cable Infrared Receiver

3. Press and hold the POWER button on the SC-01 until you hear a beep, then release it. The SC-01 will begin its power up sequence.
4. If the CAL. LIMIT menu item in the SC-01's Setup Mode is on, then one of the two following startup sequences takes place. If CAL. LIMIT is turned off, the startup sequence in Step 5 below takes place. See the SC-01 Operator's Manual for a description of the CAL. LIMIT Setup Mode menu item.
 - If calibration is past due, the following screen appears with "CAL." flashing and the LEDs and buzzer pulsing several times alerting you that the SC-01 is due for calibration. If this screen appears, wait for the buzzer and LED pulsing to stop, then press and release the POWER button to continue in the startup sequence.



The SC-01 will then show the current date for a few seconds before attempting to connect to the computer.

- If the calibration is up to date, the SC-01 then displays the calibration due date, how many days until the next

calibration, and the current date before attempting to connect to the computer.

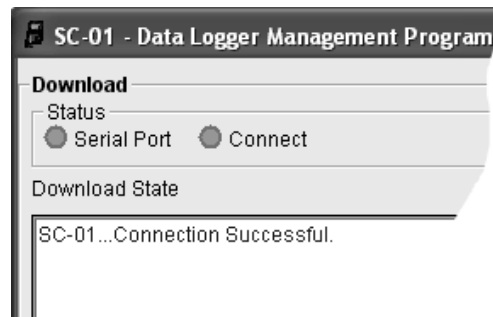
5. If the CAL. LIMIT menu item in Setup Mode is turned off, the SC-01 shows “WARMUP” in the upper left of the LCD for a few seconds, then displays the current date for a few seconds before attempting to connect to the computer.

CAUTION: *If the instrument gives a low battery warning or dead battery alarm, change the alkaline batteries before attempting to download data. See the SC-01 Operator’s Manual for the battery alarm indications.*

6. If a successful connection between the SC-01 and the computer occurs, the SC-01 displays the screen shown on the left in Figure 11 below, the Connect light in the program’s Download window turns green after a few seconds and “SC-01 Connection Successful.” displays in the Download State area of the Download window as shown on the right in Figure 11 below.



SC-01 Display



Program Indication

Figure 11: SC-01 and Program Connection Message

In addition, the Windows[®] icon tray will indicate that a wireless connection is in effect.

7. If you selected Automatic Download, the downloading process begins automatically after a successful connection is made.

If Automatic Download is not selected, the **Complete Download**, **Instrument Information**, and **Power Off** download command buttons become active.

8. If you are going to download data manually, you can download all the information at once, or you can download only the information you want by using the appropriate download command in the Download Commands area.

- To download all data and instrument information from the instrument, click **Complete Download**.
- To download instrument information only, click **Instrument Information**. Downloading instrument information activates the rest of the download commands that are described below.
- To download interval trend data only, click **Interval Download**.
- To download alarm trend data only, click **Alarm Trend Download**.
- To download alarm events only, click **Alarm Events**.
- To download trouble events only, click **Trouble Events**.

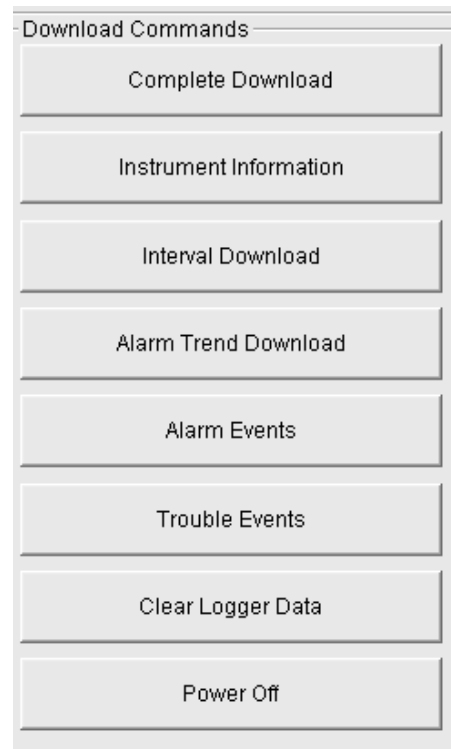


Figure 12: Download Commands

9. While the data is being downloaded, messages in the Download State message area of the Download window indicate what actions the program is performing. These messages also tell you what type of information has been downloaded and if there are any communication or downloading problems.

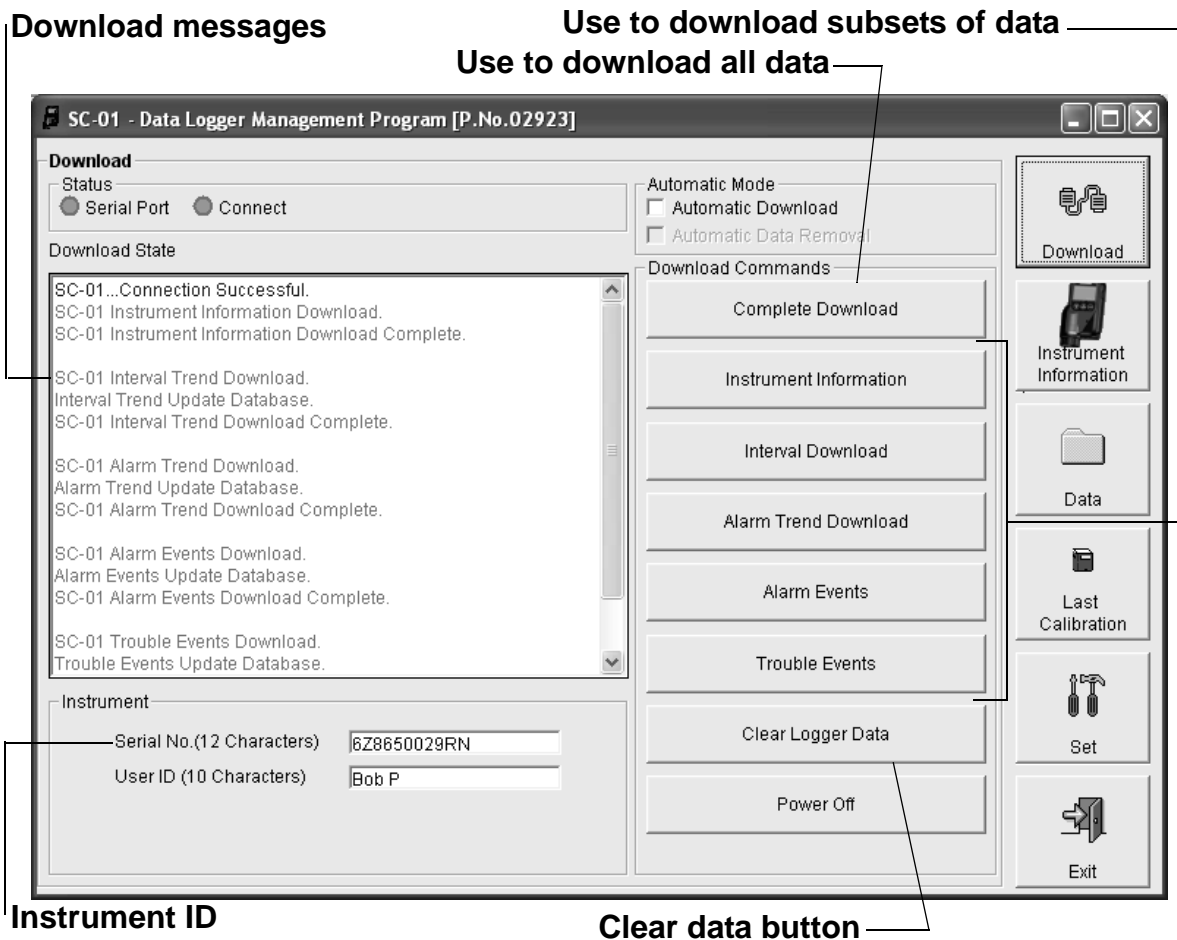


Figure 13: Download Messages in the Download Window



10.If the unit has been downloaded manually (Automatic Download not selected) using the **Complete Download** or **Instrument Information** commands, the unit's instrument information may be viewed after downloading by using the **Instrument Information** button *if the unit is still turned on and connected to the computer*. The instrument information includes instrument parameters such as serial number and alarm points, and also includes the results of the most recent successful calibration. To view instrument information for a unit, click the **Instrument Information** control button along the right side of the Download window. The Instrument Information window displays. This screen cannot be printed from the program. If the unit is turned off, the Instrument Information window will be blank.

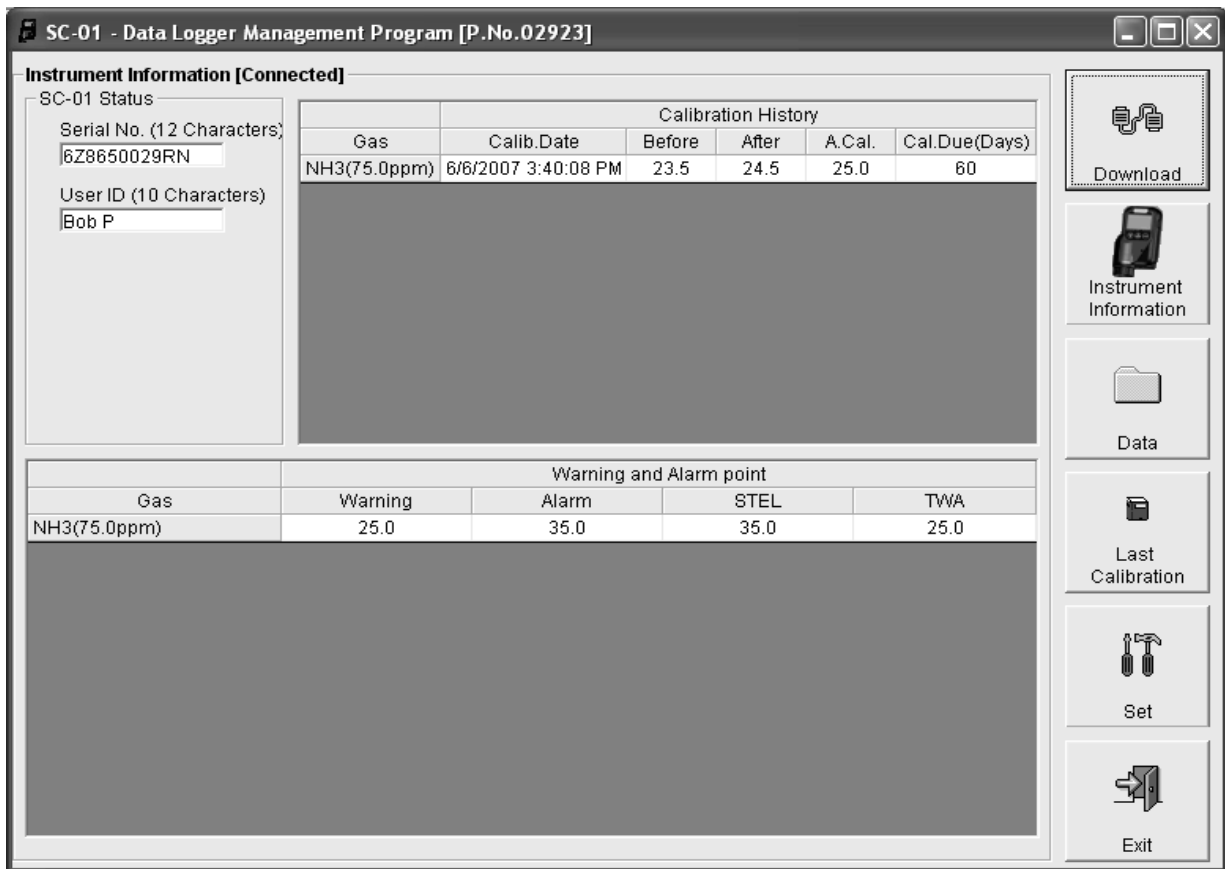


Figure 14: Instrument Information Window

11. You can view, print (calibration dates only), or delete downloaded calibration information for the most recent successful calibration of a downloaded instrument by entering the Last Calibration window. This window is accessed by clicking the **Last Calibration** control button along the right side of the Download window. See “Viewing, Printing, and Deleting Data in the Last Calibration Window” on page 26.
12. You can view, print, export, or delete downloaded data by entering the Data window. This window is accessed by clicking the **Data** control button along the right side of the Download window. See “Viewing, Printing, Exporting, and Deleting Data in the Data Window” on page 33.
13. After downloading data from an instrument, you can delete all the data in the SC-01 by clicking the **Clear Logger Data**

button if desired. This will not delete any data that has been saved in the Data Management Program's database or SC-01 instrument parameters such as serial number, alarm settings, or autocalibration settings.

WARNING: If you click the Clear Logger Data button, all data is erased in the SC-01, but not in the SC-01 Data Management Program's database. So it is advisable that you download the data from the SC-01 first before clearing the data.

SC-01 Data Logging Capacity

Table 1: SC-01 Data Logging Capacity

Interval Trend Time	Data Logging Hours ¹
10 seconds	150 hours
30 seconds	450 hours
60 seconds	900 hours
180 seconds (3 minutes)	2,700 hours
300 seconds (5 minutes)	4,500 hours
600 seconds (10 minutes)	9,000 hours
¹ Logging hours assume that no alarms or other events occur.	

Table 1 above lists the SC-01's data logging capacity for each interval trend time setting. The interval trend time setting can be set using the Set window (see "Changing SC-01 Instrument Parameters" on page 63). When the SC-01's memory is full, it overwrites the oldest saved data as new data is saved. To avoid overwriting data in the SC-01 before it can be downloaded, turn on the SC-01 and enter its Display Mode to note how much log time remains in the SC-01 when beginning a data logging session. If the SC-01's memory is full, it will indicate "0" as the amount of log time remaining. See the SC-01 Operator's Manual for instructions to use the SC-01's Display Mode.

Viewing, Printing, and Deleting Data in the Last Calibration Window

You can access data on the most recent successful calibration for each instrument that has been downloaded in the Last Calibration window. You can view, print (calibration date only), and delete this data in the Last Calibration window.

Viewing and Printing Last Calibration Data

Open the Last Calibration window by clicking the **Last Calibration** button along the right side of the program window. When you open the Last Calibration window the first time after launching the program, it will open with the Need Calibration view option selected. There are three view options in the Last Calibration window: Need Calibration, Calibration Date, and Calibration Record.

Need Calibration Option

Selecting this option shows the last calibration date and last download date for the SC-01s that are due for calibration.

NOTE: The calibration interval value, the number of days after a calibration that a new calibration is due, is saved in the SC-01. If the calibration interval is changed in the SC-01, the new calibration interval value will not be known by the program until the SC-01 is downloaded using the **Complete Download** button or the **Instrument Information** button.

NOTE: If an instrument's calibration interval is turned off in the CAL. LIMIT menu item of the SC-01's Setup Mode (see the SC-01 Operator's Manual), the SC-01 Data Logger Management Program will always show that calibration is due for that instrument.

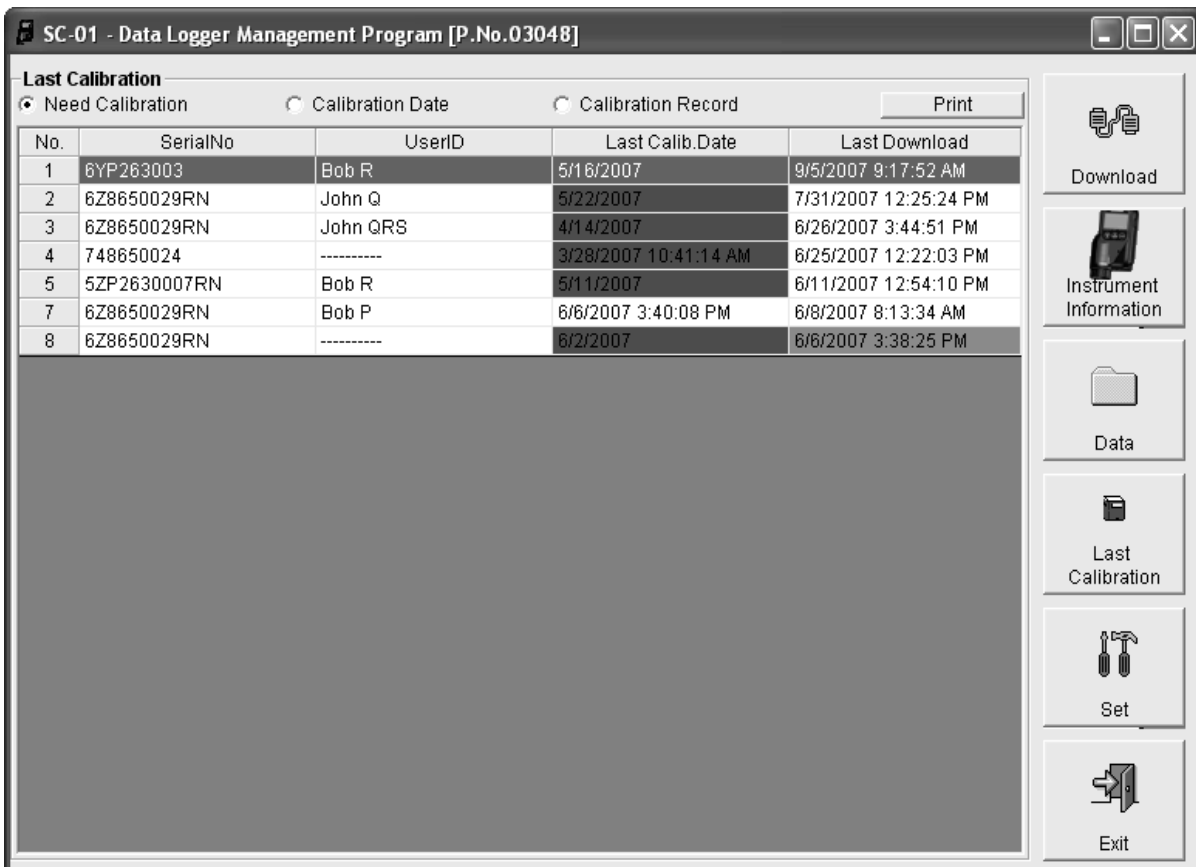


Figure 15: Last Calibration Information: Need Calibration Option

The Need Calibration view option shows the following fields:

- No. — lists, in numerical order, the sequence of units whose data has been downloaded to the computer. The most recently downloaded unit will be No. 1.
- SerialNo — shows the serial number of the unit that was downloaded.
- UserID — shows the user ID of the of the unit that was downloaded. If an instrument has calibration data stored under two different user IDs, information for the most recent successful calibration will appear for that instrument for each user ID.

- Last Calib. Date — shows date and time when the most recent successful calibration took place. If a sensor in an instrument was changed and the instrument was not calibrated before downloading, only the date will appear because in this case the information in the Last Calib. Date field will come from the sensor which only stores the date of the last successful calibration.
- Last Download — shows the date and time when the most recent download took place for a unit using the **MM/DD/YY** format for the date.

The SC-01s that are due for calibration (in the case of the Need Calibration view option, that will be all of them), will have their last calibration date highlighted in red. The SC-01s that have not been downloaded for more than 90 days will have their last calibration date highlighted in purple.

To print a list of the instruments shown in the Need Calibration view option along with their user ID and last calibration date, click the **Print** button. A Printer List dialog box will appear.

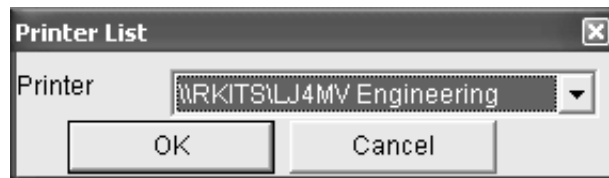


Figure 16: Printer List Dialog Box, Need Calibration View Option

Select a printer and click the **OK** button to print the instrument list.

Calibration Date View Option

Selecting this option shows the last calibration date and last download date for all the SC-01s that are in the program's database. The fields for the Calibration Date view option are the same as for the Need Calibration view option.

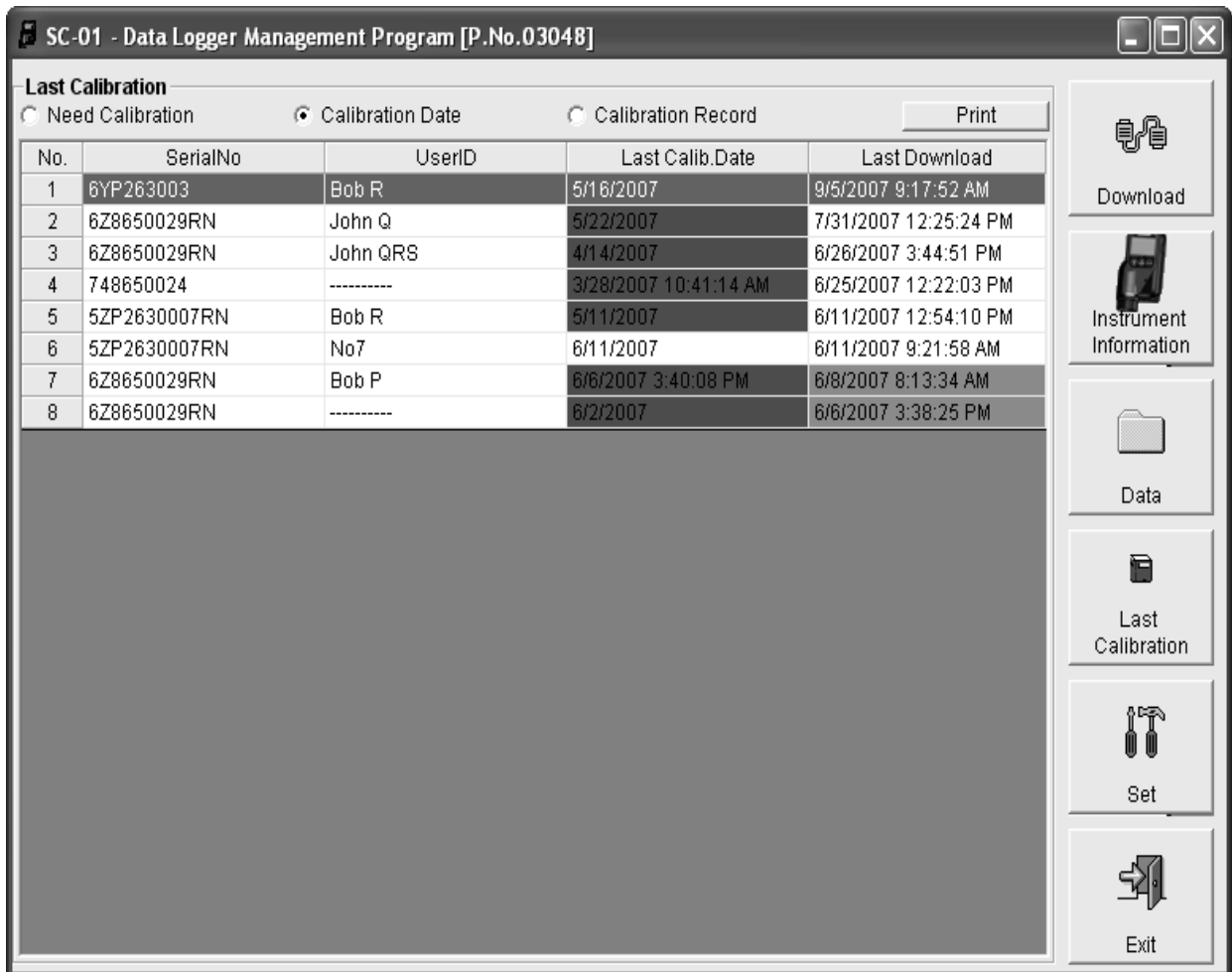


Figure 17: Last Calibration Window: Calibration Date View Option

To print a list of the instruments shown in the Calibration Date view option along with their user ID and last calibration date, click the **Print** button. A Printer List dialog box will appear.

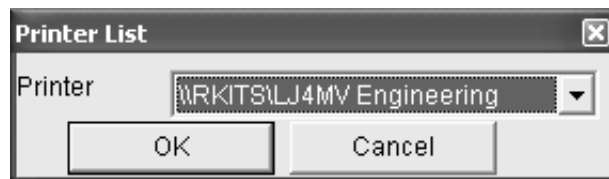


Figure 18: Printer List Dialog Box

Select a printer and click the **OK** button to print the instrument list.

Calibration Record View Option

Selecting the Calibration Record view option shows detailed calibration information for each SC-01's most recent successful calibration.

No.	SerialNo	UserID	Gas	Before	After	A.Cal.	Cal.Due(Days)
1	6YP263003	Bob R	NH3	----	----	35.0	Now
2	6Z8650029RN	John Q	Cl2	----	----	1.00	Now
3	6Z8650029RN	John QRS	SO2	----	----	5.00	Now
4	748650024	-----	SO2	2.45	2.45	2.50	Now
5	5ZP2630007RN	Bob R	NH3	----	----	25.0	Now
6	5ZP2630007RN	No7	NH3	----	----	35.0	Remaining 3 Days
7	6Z8650029RN	Bob P	NH3	23.5	24.5	25.0	Now
8	6Z8650029RN	-----	NH3	----	----	35.0	Now

Figure 19: Last Calibration Information: Calibration Record Option

The fields on this screen include SerialNo and UserID just as in the Need Calibration and Calibration Date screens. The fields also include the following:

- Gas — Shows the instrument's target gas.

NOTE: If a sensor in an instrument was changed and the instrument was not calibrated before downloading, dashes will appear in the Before and After fields because in this case the only information available for the last successful calibration comes from the sensor which only stores the date of the last successful calibration.

- Before — shows the gas reading prior to performing the calibration adjustment.

- After — shows the gas reading after performing the calibration adjustment.
- A. Cal. — lists the auto-calibration setting for each SC-01. If a unit passes its calibration, the “After” column should match the “A. Cal.” column. If a unit fails calibration it will retain the previous calibration information.
- Cal. Due (Days) — shows when calibration is due in days (e.g., “Remaining 25 days” means that calibration is due in 25 days, and “Now” means that calibration is past due).

It is not possible to print any information when the Calibration Record view option is selected.

To view and print all past calibrations for an instrument, see “Calibration History” on page 34.

Deleting Last Calibration Data

To delete an instrument and its calibration data from the Last Calibration window:

1. With the program launched, click the **Last Calibration** control button on the right side of the program window. The Last Calibration window will appear.
2. Select the Need Calibration or Calibration Date option.
3. Click the row for the instrument whose calibration information you want to delete to select it. It will be highlighted to show that it is selected.
4. Click the row with the right mouse button. The Delete box appears.
5. Click Delete with the left mouse button. The Password window appears.



Figure 20: Password Window, Deleting Last Calibration Data

6. Enter the password and click the **Continue** button. The password when the software is first installed is “rki”. The password is case sensitive. See “Changing the Password” on page 61 for instructions to change the password if desired.
7. When the password has been entered and the **Continue** button clicked, the Delete History window will appear asking you to confirm that you want to delete the most recent calibration information for the selected instrument.

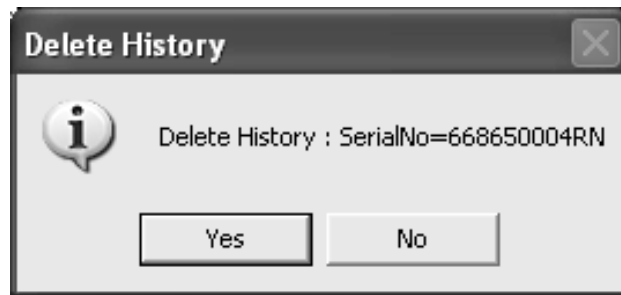


Figure 21: Delete History Window

8. If you want to delete the calibration information, click the **Yes** button. The information will be deleted by the software.
If you do not want to delete the calibration information, click the **No** button and the operation will be cancelled.

Viewing, Printing, Exporting, and Deleting Data in the Data Window

The SC-01 logs five types of data files: calibration history, event data, sensor change history data, interval trend data, and alarm trend data.

You can view, print, and export (save to a file) each of these types of data files. All of these types of data files can also be deleted. The deleting of files is password protected and is described in “Deleting Data in the Data Window” on page 60.

Data Window

All the data, other than the most recent calibration information accessible in the Last Calibration window, can be accessed in the Data window. The Data window is accessed by clicking the **Data** button along the right side of the program window.

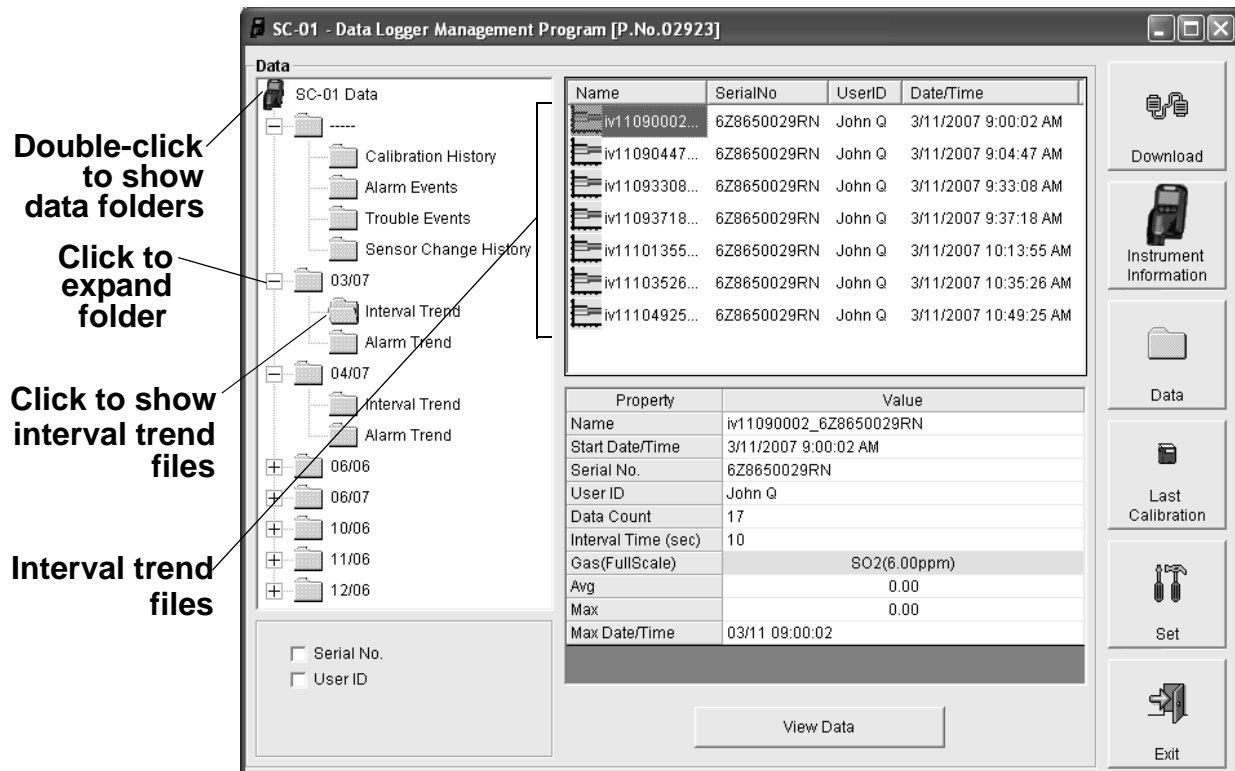


Figure 22: Data Window, Basic Data Organization

The Data window is divided into four frames. The upper left frame is the Data frame and displays all the data folders. They

are grouped under the SC-01 icon in the upper left corner of the frame. If the data folders are not visible, double click the icon to make them visible. If no data has been saved, then no folders will appear when the SC-01 icon is double clicked.

The lower left frame contains two selection boxes for organizing data. If neither of the boxes are selected, then the data is organized as shown in Figure 22. The data may be organized by either serial number, user ID, or both serial number and user ID. Click the selection box or boxes in the lower left frame to organize the data as desired.

NOTE: In the examples that follow, the data will be shown organized by serial number. If you do not select any of the organization boxes or select the Station ID box instead of or in addition to the Serial No. box, your Data window will look slightly different.

The upper right frame shows the contents of a data folder that is selected in the Data frame. The lower right frame shows the summary information for a data file that is selected in the upper right frame.

The **View Data** control button is located at the bottom of the lower right frame. The **View Data** button becomes active when a data file is selected in the upper right frame. Clicking the **View Data** button opens the selected data file and displays the data.

NOTE: If data is being viewed and the data folders are left open before instrument downloading is done, close all folders after downloading and re-open them to be able to view newly downloaded files.

Calibration History

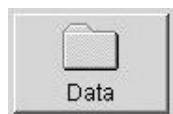
The SC-01 is capable of saving calibration information for up to the 20 most recent calibrations. This calibration history is retrieved by the Data Logger Management Program when a complete download is performed. Instrument calibration history is available in two separate locations. The information regarding the most recent successful calibration for each downloaded

instrument along with whether or not an instrument is due for calibration can be accessed using the **Last Calibration** button on the right side of the program window. See “Viewing, Printing, and Deleting Data in the Last Calibration Window” on page 26 for a complete description of the information that can be accessed by the **Last Calibration** button.

All downloaded calibration information for all downloaded instruments is available in the Calibration History folders in the Data window. This information is saved in a Calibration History folder that is located in an untitled folder for each instrument. The calibration history files are differentiated by instrument. The calibration information available here is more comprehensive than that in the Last Calibration window. The calibration information for all calibrations downloaded, whether successful or not, is saved instead of just the most recent successful calibration for each instrument.

To view the calibration history for an instrument in the database:

1. With the program already launched, click the **Data** control button along the right side of the program window. The Data window will appear.



Double-click to show data folders

Click to expand folder

Click to show Cal. Histories file

Cal. Histories file

Name	SerialNo	UserID	Date/Time
Calibration...	6Z8650029RN	John Q	6/13/2007 9:42:59 AM

DateTime	Gas	Before	After
5/16/2007 9:15:59 AM	NH3	29.5	25.0
4/16/2007 9:14:40 AM	NH3	31.0	25.0
4/14/2007 2:22:36 PM	SO2	4.85	5.00
1/14/2007 2:21:47 PM	SO2	4.95	5.00
1/14/2007 2:21:11 PM	SO2	0.00	FAIL(Sen.)
10/14/2006 2:21:20 P	SO2	5.15	5.00

Figure 23: Data Window - Selecting Calibration History Files

2. If necessary, double-click the SC-01 icon in the top of the Data window's upper left frame to see the folders of downloaded data.
3. Find your instrument by serial number, then click the Instrument folder's expanded view symbol (+) or double-click the folder to view the contents. The top folder is untitled and contains the Calibration History folder along with folders for alarm events, trouble events, and sensor change history. The rest of the folders contain folders for the interval trend files and alarm trend files and are named and organized by date (month/year).
4. Click the expanded view symbol (+) of or double-click the untitled folder. The Calibration History folder will appear along with the Alarm Events, Trouble Events, and Sensor Change History folders below the untitled folder.
5. Click the Calibration History folder. The Calibration Histories file or files for that instrument will appear in the top right frame. If multiple User ID's are used for an instrument, then more than one Calibration Histories file will appear.
6. Click the desired Calibration Histories file to select it. The first nine calibrations saved will be listed in the bottom right frame. If more than nine calibrations are saved, the total number of calibrations is shown at the bottom of the list.

- To view the Calibration Histories file, double click the Calibration Histories file or click the View Data button. Calibration Histories files can only be viewed in table format.

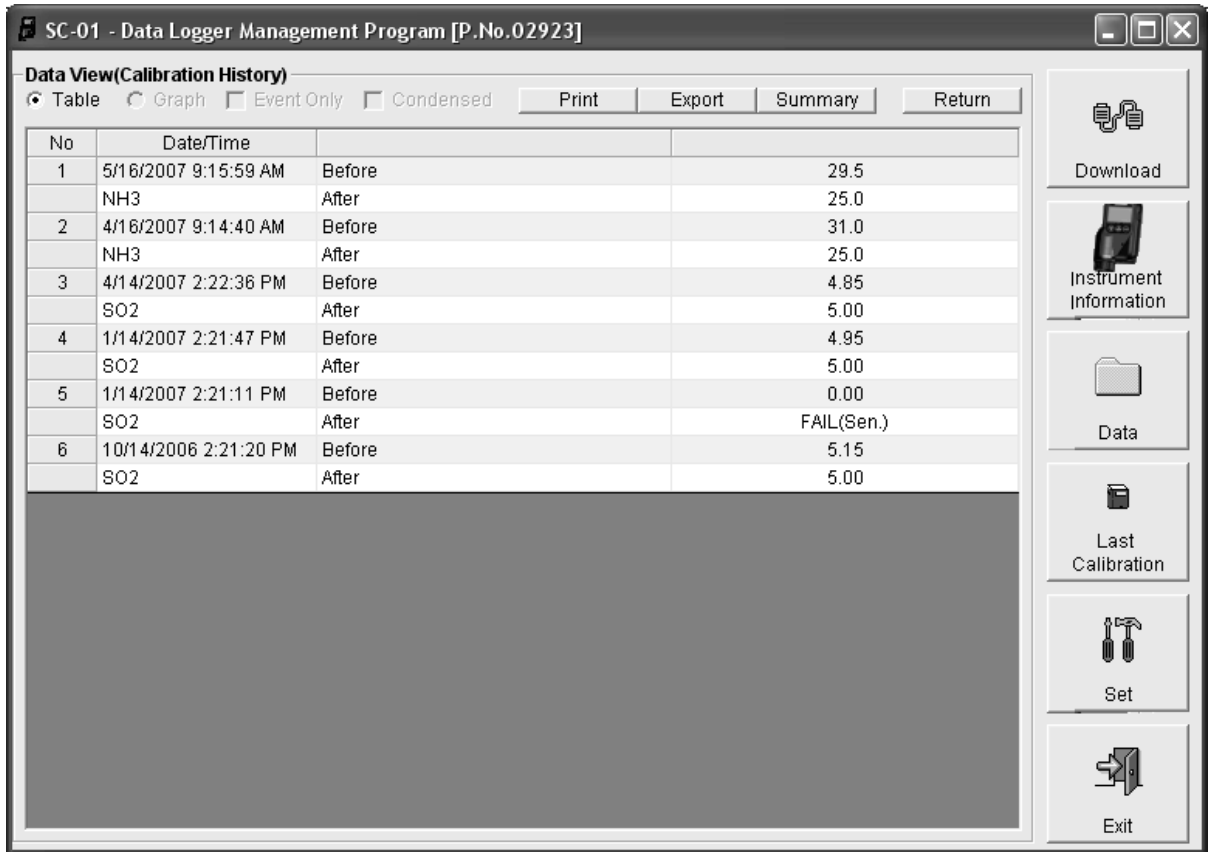


Figure 24: Data View - Calibration History

- If you want to print the data, click the **Print** button. A Printer List dialog box will appear for you to select a printer.

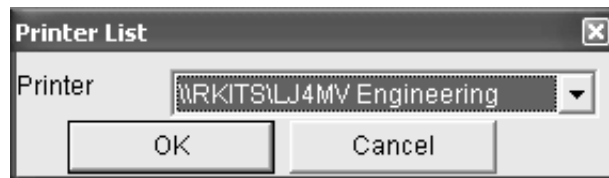


Figure 25: Printer List Dialog Box, Calibration History

- Select a printer and click the **OK** button to print the data.
- To export the data for use in another application, for example a spreadsheet, click the **Export** button. A "Save As" dialog box will appear for you to specify the filename and file location. The default file type is comma-separated values (.csv).

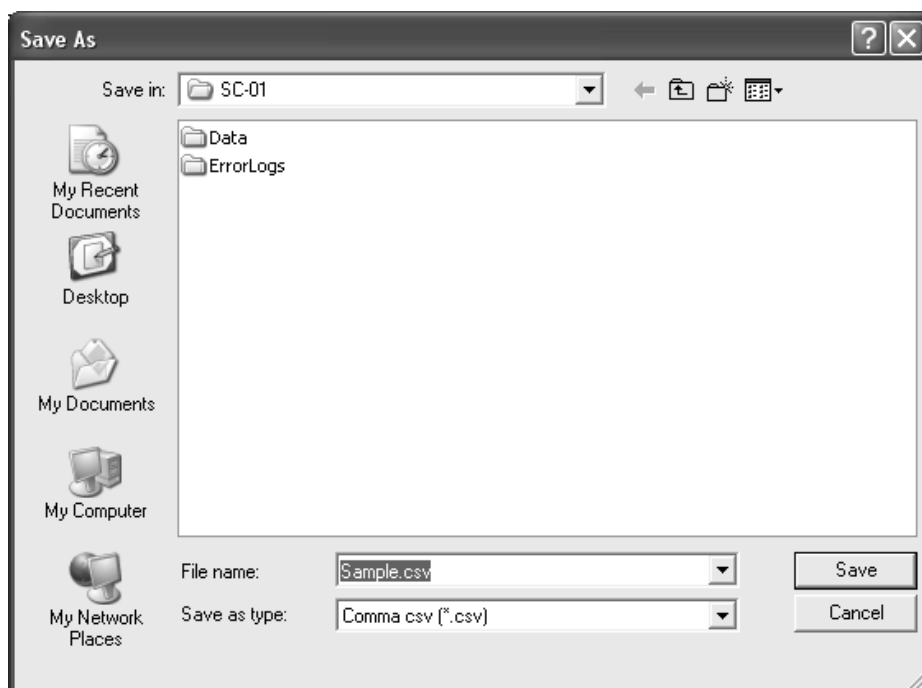


Figure 26: Save as Dialog Box, Calibration History

11. After specifying the file name, file location, and file type, click the **Save** button to save the file to the specified location.
12. To go back and view other data, click the **Return** button on the right side of the program window and select the data you want to view.

Event Data

The SC-01 saves the 100 most recent alarm events and the 100 most recent trouble events. When an instrument is downloaded, the SC-01 Data Logger Management Program will retrieve these events from the instrument and save them in alarm event files and trouble event files for each instrument that is downloaded.

Alarm event files save the date and time, gas, and alarm type of every gas alarm event that occurs on a particular instrument. Warn (alarm 1), alarm (alarm 2), STEL, TWA, and overscale events are saved.

Trouble event files note the date and time, whether the event is an instrument system failure or sensor failure and the specific type of failure. Calibration failures and sensor failures are

among the trouble events that are saved.

To view the event data for any instrument in the database:

1. With the software already launched, click the **Data** control button along the right side of the program window. The Data window will appear.

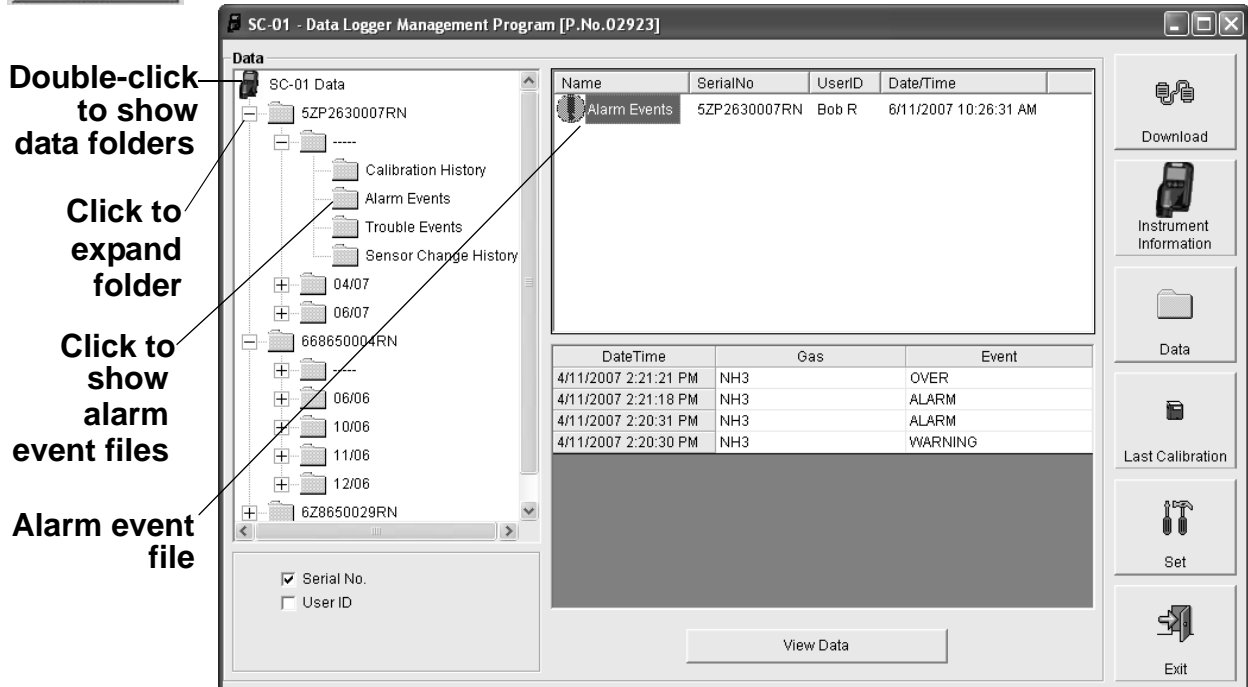
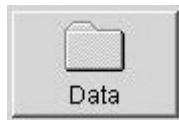


Figure 27: Data Window - Selecting Event Data Files

2. If necessary, double-click the SC-01 icon in the top of the Data window's upper left frame to see the folders of downloaded data.
3. Find your instrument by serial number, then click the expanded view symbol (+) of or double-click the folder to view the contents. The top folder is untitled and contains the alarm event and trouble event folders along with folders for calibration history and sensor change history. The rest of the folders for each serial number contain folders for the interval trend files and the alarm trend files and are named and organized by date (month/year).
4. Click the expanded view symbol (+) of or double-click the untitled folder. The Alarm Events and Trouble Events folder

will appear below the untitled folder along with the Calibration History and Sensor Change History folders.

5. Click the Alarm Events or Trouble Events folder. One or more alarm or trouble event files will appear in the top right frame. An Alarm Events folder has been opened in the example in Figure 27. If multiple User ID's are used for an instrument, then more than one event file will appear.
6. Click the desired event file to select it. An event list will appear in the bottom right frame with the date, time, gas type, and specific event for the first nine events saved in the selected file. If more than nine events are saved, the first eight events are shown and the total number of events in the file is shown at the bottom of the list.
7. Double-click the event file name to open the file and view it in table format. Event files can only be viewed in table format.

SC-01 - Data Logger Management Program [P.No.02923]

Data View(Alarm Events)

Table
 Graph
 Event Only
 Condensed

No	Date/Time	Gas	Event
1	12/28/2006 7:33:46 AM	SO2	WARNING
2	12/19/2006 1:19:15 PM	NH3	STEL
3	12/19/2006 1:18:53 PM	NH3	OVER
4	12/19/2006 1:18:52 PM	NH3	ALARM
5	12/19/2006 1:11:24 PM	NH3	STEL
6	12/19/2006 1:11:09 PM	NH3	ALARM
7	12/19/2006 1:11:08 PM	NH3	WARNING
8	12/19/2006 12:00:23 PM	NH3	ALARM
9	12/19/2006 12:00:21 PM	NH3	WARNING
10	12/19/2006 11:58:59 AM	NH3	OVER
11	12/19/2006 11:58:58 AM	NH3	ALARM
12	12/19/2006 11:58:56 AM	NH3	WARNING
13	12/12/2006 8:45:11 AM	NH3	OVER
14	12/12/2006 8:45:05 AM	NH3	ALARM
15	12/12/2006 8:45:04 AM	NH3	WARNING
16	12/12/2006 8:42:03 AM	NH3	OVER
17	12/12/2006 8:41:55 AM	NH3	ALARM
18	12/12/2006 8:41:54 AM	NH3	WARNING
19	10/26/2006 9:17:47 AM	NH3	ALARM
20	10/26/2006 9:16:58 AM	NH3	WARNING
21	10/25/2006 4:57:38 PM	NH3	ALARM
22	10/25/2006 4:56:37 PM	NH3	WARNING
23	6/27/2006 3:31:49 PM	Cl2	WARNING
24	6/27/2006 3:24:01 PM	Cl2	ALARM

Buttons on the right: Download, Instrument Information, Data, Last Calibration, Set, Exit

Figure 28: Data View - Alarm Events

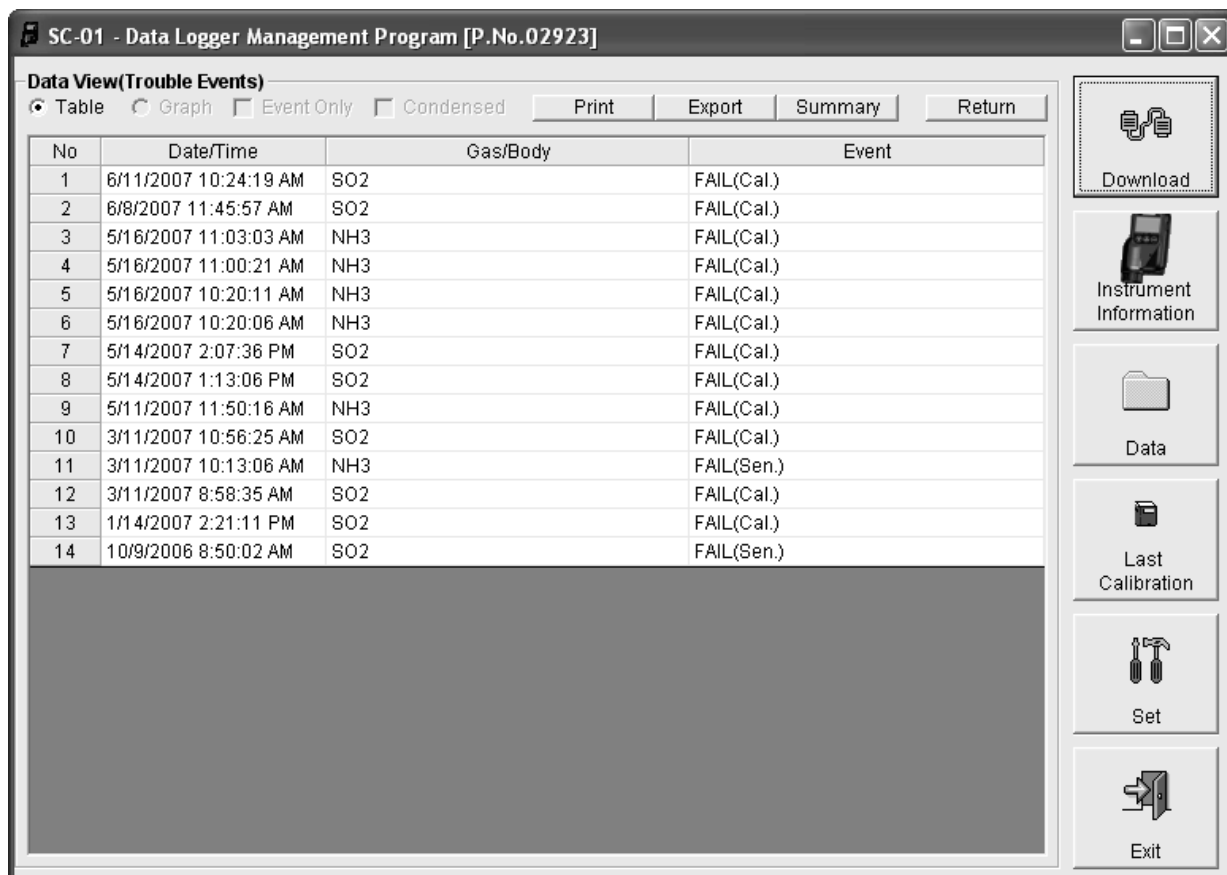


Figure 29: Data View - Trouble Events

8. If you want to print the data, click the **Print** button. A Print dialog box will appear for you to select a printer.

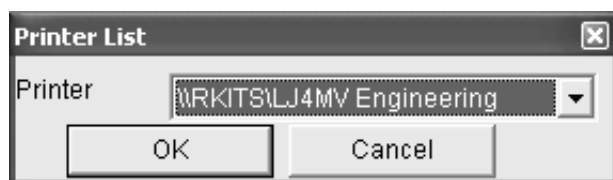


Figure 30: Printer List Dialog Box, Event Data

9. Select a printer and click the **OK** button to print the data.
10. To export the data for use in another application, for example a spreadsheet, click the **Export** button. A “Save As” dialog box will appear for you to specify the filename and file location. The default file type is comma-separated values (.csv).

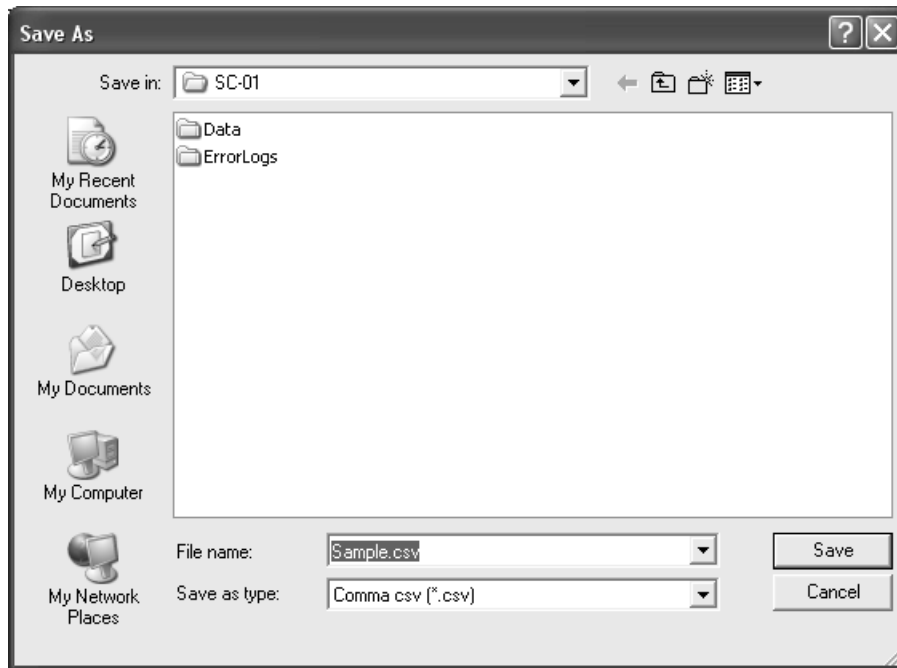


Figure 31: Save as Dialog Box, Event Data

11. After specifying the file name, file location, and file type, click the **Save** button to save the file to the specified location.
12. To go back and view other data, click the **Return** button on the right side of the program window and select the data you want to view.

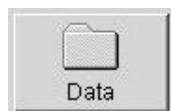
Sensor Change History

The Data Logger Management Program constructs a sensor history for each downloaded instrument by analyzing the downloaded data from each instrument when it is downloaded. All downloaded sensor change history information for all downloaded instruments is available in the Sensor Change History folders in the Data window. This information is saved in a Sensor Change History folder that is located in an untitled folder for each instrument. The sensor change history files are differentiated by instrument.

The sensor change history files save the date and time the instrument was first turned on with a new sensor, the sensor serial number, the gas type, and the full scale for each sensor that has been used in the instrument.

To view the sensor change history files for any instrument in the database:

1. With the program already launched, click the **Data** control button along the right side of the program window. The Data window will appear.



Double-click to show data folders

Click to expand folder

Click to show Sensor Change Histories File

Sensor Change Histories File

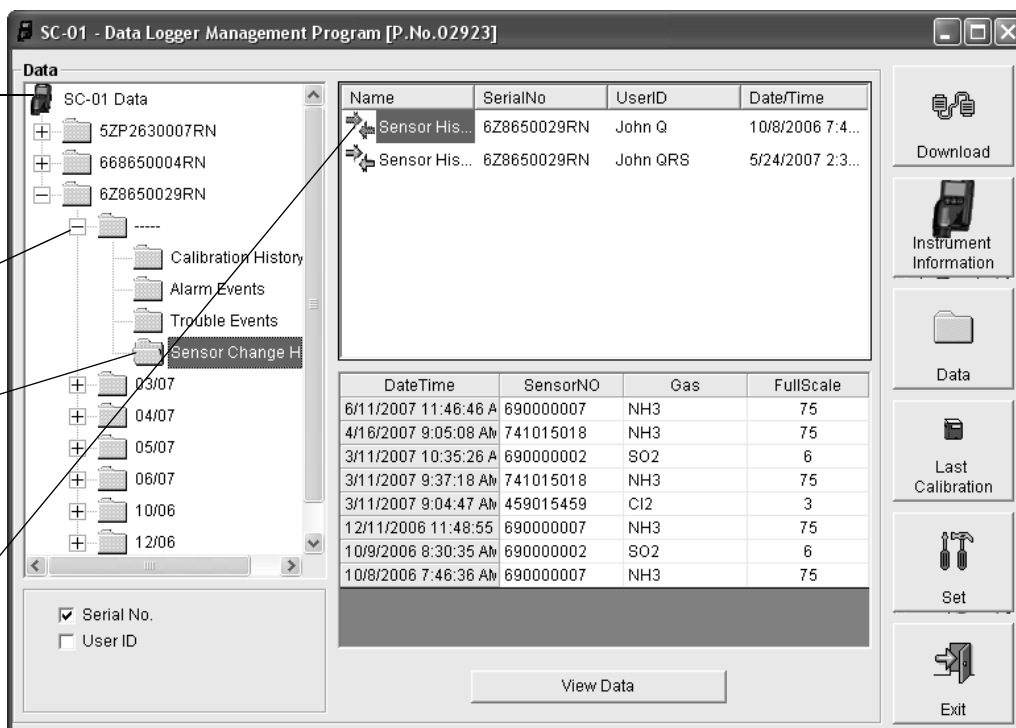
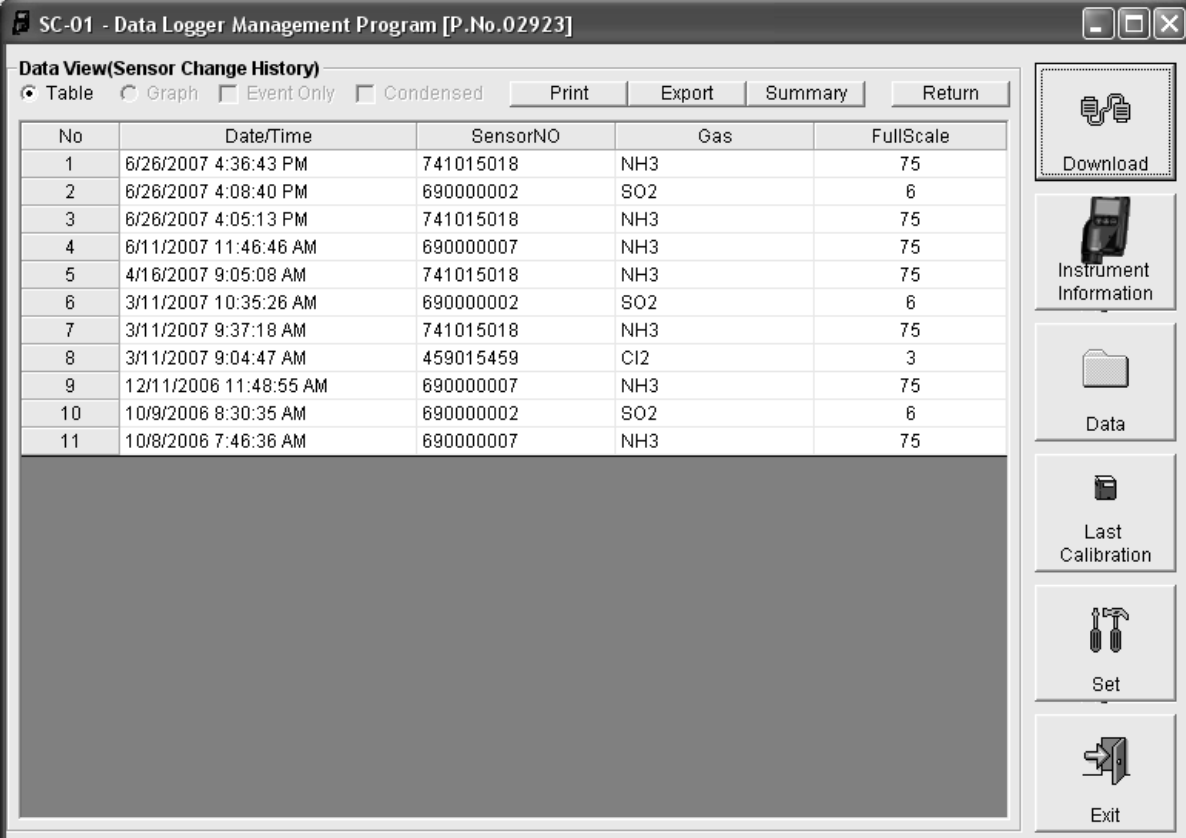


Figure 32: Data Window - Selecting Calibration History Files

2. If necessary, double-click the SC-01 icon in the top of the Data window's upper left frame to see the folders of downloaded data.
3. Find your instrument by serial number, then click the expanded view symbol (+) of or double-click the folder to view the contents. The top folder is untitled and contains the Sensor Change History folder along with folders for calibration history, alarm events, and trouble events. The rest of the folders contain folders for the interval trend files and alarm trend files and are named and organized by date (month/year).
4. Click the expanded view symbol (+) of or double-click the untitled folder. The Sensor Change History folder will appear

along with the Calibration History, Alarm Events, and Trouble Events folders below the untitled folder.

5. Click the Sensor Change History folder. The Sensor Change Histories file or files for that instrument will appear in the top right frame. If multiple User ID's are used for an instrument, then more than one Sensor Change Histories file will appear.
6. Click the desired Sensor Change Histories file to select it. The first ten sensor changes saved will be listed in the bottom right frame. If more than ten sensor changes are saved, then the first eight sensor changes are shown and the total number of sensor changes is shown at the bottom of the list.
7. To view the Sensor Change Histories file, double click the Sensor Change Histories file or click the View Data button. Sensor Change Histories files can only be viewed in table format.



SC-01 - Data Logger Management Program [P.No.02923]

Data View(Sensor Change History)

Table Graph Event Only Condensed

Print Export Summary Return

No	Date/Time	SensorNO	Gas	FullScale
1	6/26/2007 4:36:43 PM	741015018	NH3	75
2	6/26/2007 4:08:40 PM	690000002	SO2	6
3	6/26/2007 4:05:13 PM	741015018	NH3	75
4	6/11/2007 11:46:46 AM	690000007	NH3	75
5	4/16/2007 9:05:08 AM	741015018	NH3	75
6	3/11/2007 10:35:26 AM	690000002	SO2	6
7	3/11/2007 9:37:18 AM	741015018	NH3	75
8	3/11/2007 9:04:47 AM	459015459	Cl2	3
9	12/11/2006 11:48:55 AM	690000007	NH3	75
10	10/9/2006 8:30:35 AM	690000002	SO2	6
11	10/8/2006 7:46:36 AM	690000007	NH3	75

Download

Instrument Information

Data

Last Calibration

Set

Exit

Figure 33: Data View - Sensor Change History

8. If you want to print the data, click the **Print** button. A Printer List dialog box will appear for you to select a printer.

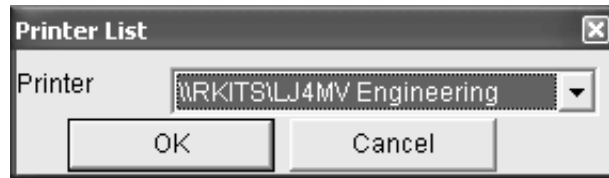


Figure 34: Printer List Dialog Box, Sensor History

9. Select a printer and click the **OK** button to print the data.
10. To export the data for use in another application, for example a spreadsheet, click the **Export** button. A “Save As” dialog box will appear for you to specify the filename and file location. The default file type is comma-separated values (csv.).

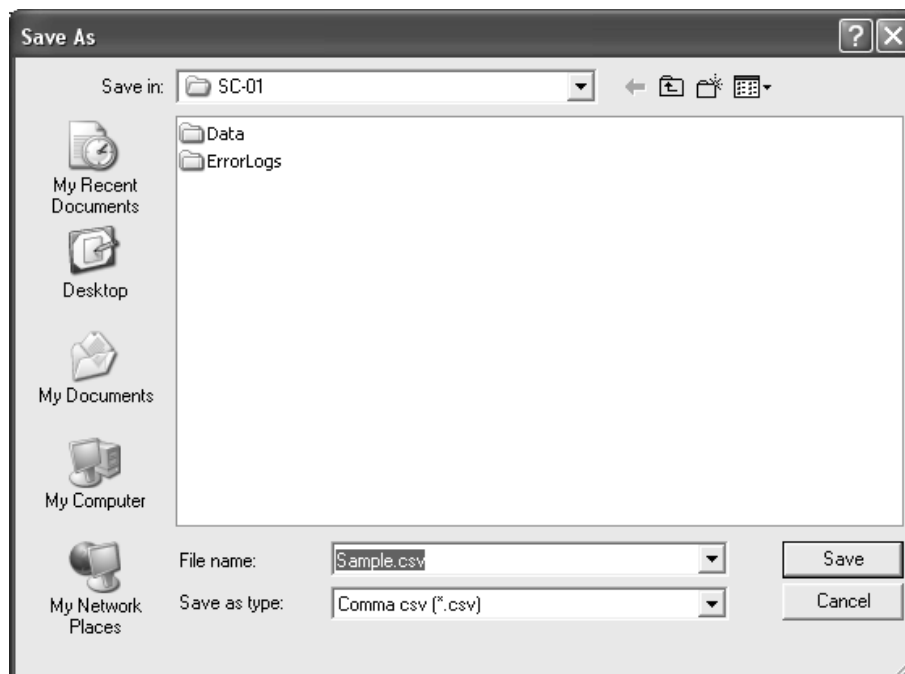


Figure 35: Save as Dialog Box, Sensor History

11. After specifying the file name, file location, and file type, click the **Save** button to save the file to the specified location.
12. To go back and view other data, click the **Return** button on the upper right side of the Data window or click the **Data** control button along the right side of the program window and select the data you want to view.

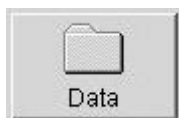
Interval Trend Data

Average gas concentrations over the user defined interval trend time are logged in the interval trend data files. The interval trend time is saved in the SC-01 and is set using the Set window (see “Changing SC-01 Instrument Parameters” on page 63). Events, such as gas alarms or sensor failures, are saved in the data file when they occur.

An interval trend file is created and saved in the SC-01 for an operating session when the instrument is turned off. The serial number and user ID that are saved in the instrument during an operating session are saved for the corresponding interval trend file. If the instrument’s serial number or user ID are changed, any interval trend files that result from subsequent operating sessions will have the new serial number or user ID saved in them.

The data may be viewed either in table format or graph format. Viewing data in graph format can only be done if at least 5 scheduled data points have been logged at the programmed interval. This does not include events. If an interval data file has fewer than five scheduled data points, the data cannot be graphed.

To view and perform desired operations with the interval trend data files:



1. With the program already launched, click the **Data** control button along the right side of the program window. The Data window will appear.

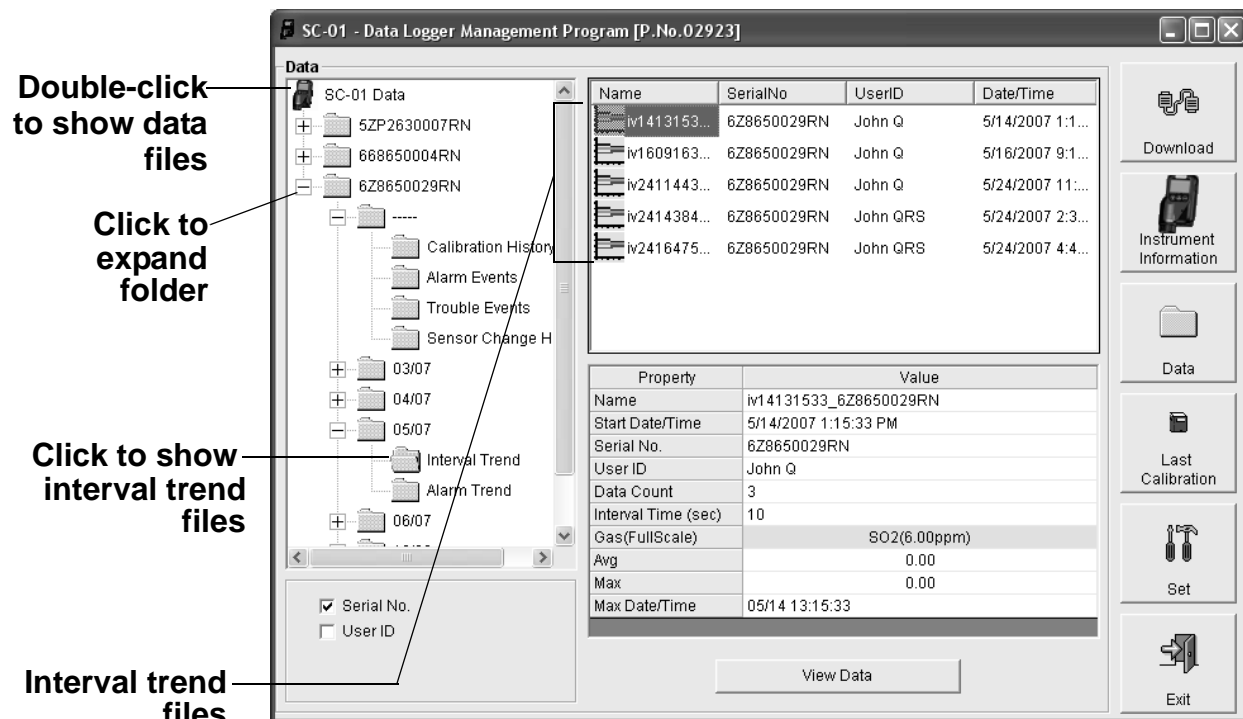


Figure 36: Data Window - Selecting Interval Trend Data Files

2. If necessary, double-click the SC-01 icon in the top of the Data window's upper left frame to see the folders of downloaded data.
3. Find your instrument by serial number, then click the expanded view symbol (+) of or double-click the folder to view the contents. The top folder is untitled and contains the Calibration History, Alarm Event, Trouble Event, and Sensor Change History folders. The rest of the folders contain folders for the interval trend files and alarm trend files and are named and organized by date (month/year).
4. Click the expanded view symbol (+) of or double-click the dated folder whose contents you want to see.
5. Click on the Interval Trend folder. In the upper right frame of the Data window, a list of file names will appear in the Name

column. A prefix of “iv” indicates an interval trend data file.

6. Click one of the interval trend data file names. A summary will appear in the bottom right frame with instrument and data file information. If you want to view, graph, print, or export the interval trend data, double-click the filename or click the **View Data** button at the bottom of the window.
7. Interval trend data can be viewed in either table or graph format by selecting the Table or Graph selection buttons. The example below shows the data in table format.

Select Table or Graph view

Click to see events only

Click to condense data

Click to print data

Click to save data to a file

Click to show session summary

Click to return to Data window

No	Date/Time	NH3(75.0ppm)
1	4/11/2007 2:19:54 PM	0.0
2	4/11/2007 2:20:04 PM	0.0
3	4/11/2007 2:20:14 PM	7.1
4	4/11/2007 2:20:24 PM	8.3
5	4/11/2007 2:20:30 PM	WARNING
6	4/11/2007 2:20:31 PM	ALARM
7	4/11/2007 2:20:34 PM	23.9
8	4/11/2007 2:20:44 PM	26.7
9	4/11/2007 2:20:49 PM	NORMAL
10	4/11/2007 2:20:54 PM	12.3
11	4/11/2007 2:21:04 PM	6.2
12	4/11/2007 2:21:14 PM	3.6
13	4/11/2007 2:21:18 PM	ALARM
14	4/11/2007 2:21:21 PM	OVER
15	4/11/2007 2:21:24 PM	51.5
16	4/11/2007 2:21:32 PM	ALARM
17	4/11/2007 2:21:34 PM	51.9
18	4/11/2007 2:21:44 PM	22.6
19	4/11/2007 2:21:54 PM	11.3
20	4/11/2007 2:21:57 PM	NORMAL
21	4/11/2007 2:22:04 PM	6.4
22	4/11/2007 2:22:14 PM	4.0
23	4/11/2007 2:22:24 PM	2.6
24	4/11/2007 2:22:34 PM	1.7

Figure 37: Interval Trend Data in Table Format

- In table format, the interval trend data is shown as the average gas reading over the user defined interval. So if the data logging session started at 4:13:38 PM and the interval trend time is set to 1 minute, then the reading

logged at 4:14:38 PM is the average reading over that one minute period.

- Events are displayed on the screen with the time of the event. Events are displayed whether they occurred at scheduled log times or in between them. Events include gas alarms such as a warning condition, trouble conditions such as a failed sensor or failed calibration, and an indication that the unit is returning to “normal” condition after an alarm has been reset using the POWER button on the SC-01.
 - If you click the **Summary** button, the data window will split into two frames, one above the other, with the data table in the lower frame and the session summary information shown in the upper frame. The session summary frame is the same as the one shown in the lower right frame in Figure 36.
8. When the data is viewed in table format, if you move the cursor over an alarm event, it will change into a small symbol that looks like an alarm trend data file while it is kept over the alarm event.

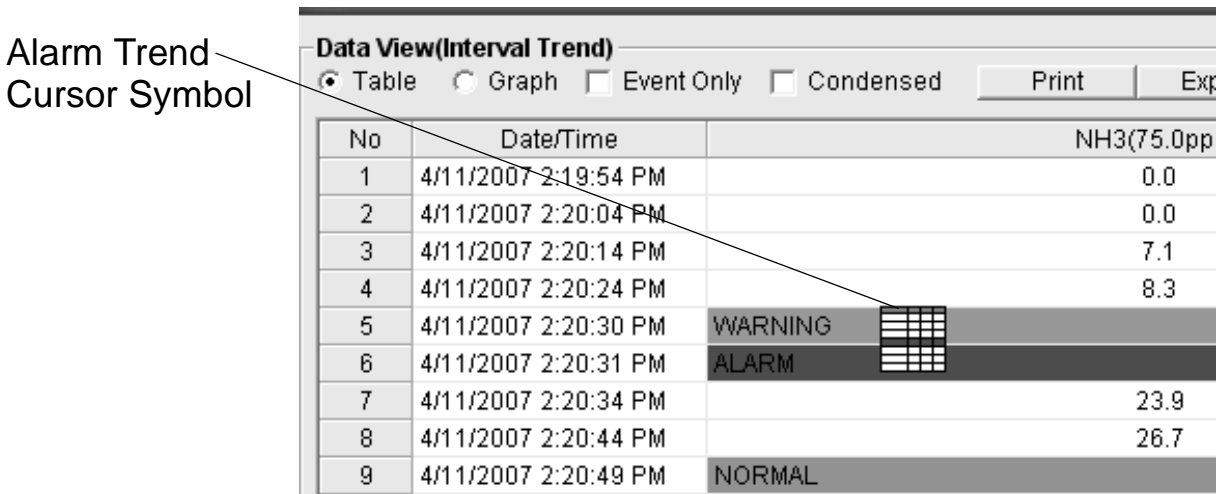
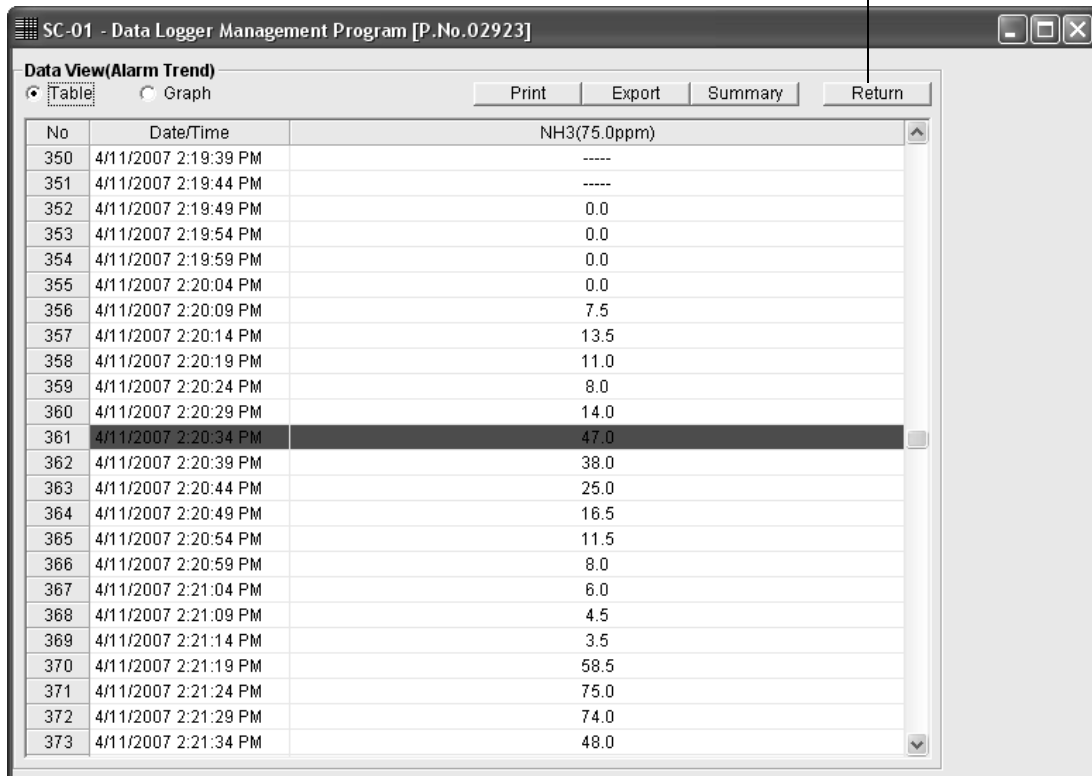


Figure 38: Alarm Trend Cursor Symbol

If you click on the event, the corresponding alarm trend data file will be opened and displayed in place of the interval trend data file. No control buttons will be visible along the right side

of the window when alarm trend data is displayed in this way. To return to the interval trend data file, click the **Return** button.

Click to return to interval trend data



No	Date/Time	NH3(75.0ppm)
350	4/11/2007 2:19:39 PM	----
351	4/11/2007 2:19:44 PM	----
352	4/11/2007 2:19:49 PM	0.0
353	4/11/2007 2:19:54 PM	0.0
354	4/11/2007 2:19:59 PM	0.0
355	4/11/2007 2:20:04 PM	0.0
356	4/11/2007 2:20:09 PM	7.5
357	4/11/2007 2:20:14 PM	13.5
358	4/11/2007 2:20:19 PM	11.0
359	4/11/2007 2:20:24 PM	8.0
360	4/11/2007 2:20:29 PM	14.0
361	4/11/2007 2:20:34 PM	47.0
362	4/11/2007 2:20:39 PM	38.0
363	4/11/2007 2:20:44 PM	25.0
364	4/11/2007 2:20:49 PM	16.5
365	4/11/2007 2:20:54 PM	11.5
366	4/11/2007 2:20:59 PM	8.0
367	4/11/2007 2:21:04 PM	6.0
368	4/11/2007 2:21:09 PM	4.5
369	4/11/2007 2:21:14 PM	3.5
370	4/11/2007 2:21:19 PM	58.5
371	4/11/2007 2:21:24 PM	75.0
372	4/11/2007 2:21:29 PM	74.0
373	4/11/2007 2:21:34 PM	48.0

Figure 39: Data Displayed by Alarm Trend Cursor Symbol

9. To view only events in the interval trend data file, click the **Events Only** selection box to select it.
10. To view the interval trend data in condensed form, click the **Condensed** selection box to select it. When the data is condensed, the software shows only important and eventful data as follows:
 - The first and last scheduled data points in the session are shown.
 - All data points that have a gas reading above 0 are shown.
 - If there are more than two consecutive data points with a gas reading of 0, only the first and last of these consecutive data points are shown.

- All events, such as gas alarms or sensor failures, are shown.
- For any event, the data point before and after the event is always shown.

11. To view the data in graph format, click the Graph selection button. Five or more scheduled data points are required in an interval trend file to be able to display it in graph format.

NOTE: The data count shown when you have selected an interval trend data file, as in Figure 36 above, can be more than five if you have events, such as the GX-2003 going into and out of alarm, but you may not have five scheduled data points.

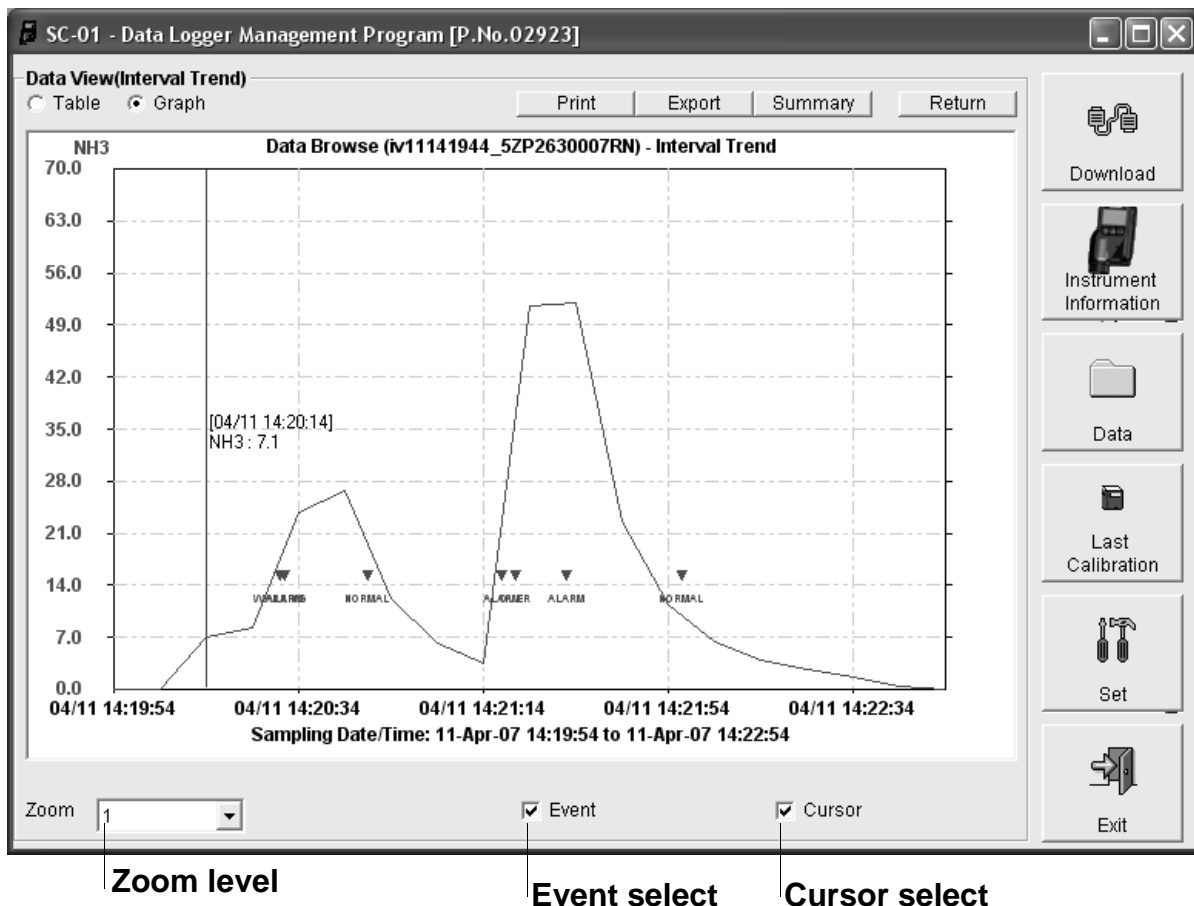


Figure 40: Interval Trend Data in Graph Format

When viewing interval trend data in graph format, you have several options:

- You can choose the zoom level, or displayed time period, on the graph. The zoom feature shows greater detail relative to time. Thus, the length of a time division on the graph will depend on both the length of the datalogging session and on the zoom factor.
 - When the **Event** box is selected, the software displays the events that occurred during the logging session on the graph.
 - When the **Cursor** box is selected, the software allows you to display the gas reading and log time for each data point one at a time. A vertical line on the graph indicates the left-right position of the reading (the time). As you use the left and right arrow buttons on your keyboard to move the line across the graph horizontally, readings at specific log times are displayed. You may also click on the graph and the vertical line will move to the closest log time and the reading for this log time will be shown on the graph. Use the up and down arrows on the keyboard to move the readings up or down on the screen.
 - If you click the **Summary** button, the data window will split into two frames one above the other with the graph in the lower frame and the session summary information shown in the upper frame. The session summary frame is the same as the information shown in the lower right frame in Figure 36.
12. To print the data, whether it is viewed in table or graph format, click the **Print** button. A Print dialog box will appear for you to select a printer.

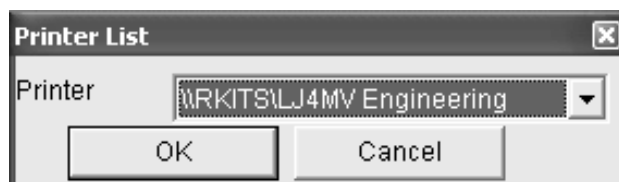


Figure 41: Printer List Dialog Box, Interval Trend Data

13. Select a printer and click the **OK** button to print the data.
Data displayed in Graph view will print as a graph and data displayed in Table view will print as a table.
14. To export the table or graph data to a file so it can be used by another application, for example a spread sheet program, click the **Export** button. A “Save As” dialog box will appear for you to specify the filename, file location, and file type. For Graph view the export file type is Windows bitmap (.bmp). For Table view the default file type is comma-separated values (.csv).

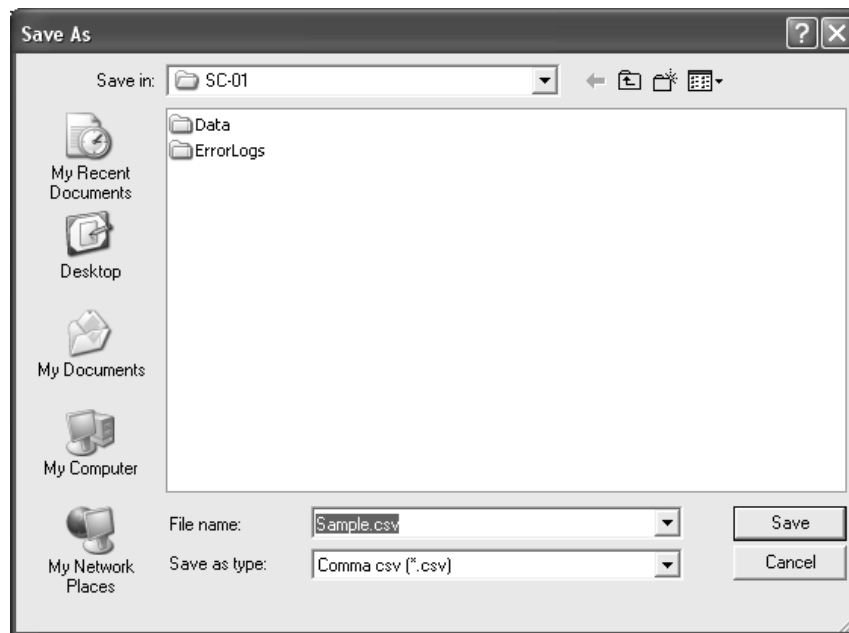


Figure 42: Save as Dialog Box, Interval Trend Data

15. After specifying the file name, file location, and file type, click the **Save** button to save the file to the specified location.
16. To go back and view other data, click the **Return** button in the upper right side of the data window or click the **Data** control button along the middle right side of the program window and select the data you want to view.

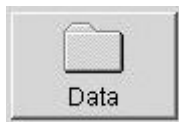
Alarm Trend Data

In addition to the interval trend data, the SC-01 also saves files that describe the most recent gas alarm events. If a gas alarm event occurs, then an alarm trend data file that is centered around the event is saved separately from the interval trend data files. It shows the gas reading up to 30 minutes before and 30 minutes after the event, with the log interval time every five seconds. The gas reading logged at the time of the alarm event is highlighted in red and the gas reading logged every 5 seconds around the alarm event is the peak reading for the previous five seconds. If the SC-01 has not been on for 30 minutes before the alarm event occurs, the data during this time is left blank. If the SC-01 is turned off less than 30 minutes after an alarm event occurs, the data file will only have logged data until the unit was turned off.

The SC-01 saves up to 8 alarm trend files. When an alarm event triggers an alarm trend file to be saved, subsequent alarm events must occur 15 minutes after the previous triggering event in order to trigger the saving of another alarm trend file. If 8 alarm trend files are already saved in the SC-01's memory, the oldest alarm trend file is overwritten when a new alarm trend file is saved. Alarm trend data can always be displayed in either table or graph format.

To view and perform desired operations with the alarm trend files:

1. With the software already launched, click the **Data** control button along the right side of the program window. The Data window will appear.



The screenshot shows the "SC-01 - Data Logger Management Program [P.No.02923]" window. The "Data" window is open, displaying a tree view of folders on the left and a table of data on the right. Annotations with arrows point to specific elements:

- Double-click to show data folders:** Points to the "SC-01 Data" folder icon.
- Click to expand folder:** Points to the "+" icon next to the "10/06" folder.
- Click to show alarm trend files:** Points to the "Alarm Trend" folder icon.
- Alarm trend files:** Points to the "Alarm Trend" folder icon.

The table on the right shows the following data:

Name	SerialNo	UserID	Date/Time
al0807495...	6Z8650029RN	John Q	10/8/2006 7:49:51 AM
al0907523...	6Z8650029RN	John Q	10/9/2006 7:52:30 AM
al0908440...	6Z8650029RN	John Q	10/9/2006 8:44:09 AM

Below the table is a "Property Value" section:

Property	Value
Name	al08074951_6Z8650029RN
Alarm Date/Time	10/8/2006 7:49:51 AM
Serial No.	6Z8650029RN
User ID	John Q
Data Count	720
Interval Time (sec)	5
Gas(FullScale)	NH3(75.0ppm)
Value	43.5

On the right side of the window, there are several buttons: Download, Instrument Information, Data, Last Calibration, Set, and Exit. A "View Data" button is located at the bottom center.

Figure 43: Data Window - Selecting Alarm Trend Data Files

2. If necessary, double-click the SC-01 icon in the top of the Data window's upper left frame to see the folders of downloaded data.
3. Find your instrument by serial number, then click the expanded view symbol (+) of or double-click the folder to view the contents. The top folder is untitled and contains the Calibration History, Alarm Event, Trouble Event, and Sensor Change History folders. The rest of the folders contain folders for the interval trend files and alarm trend files and are named and organized by date (month/year).
4. Click the expanded view symbol (+) of or double-click the dated folder whose contents you want to see.
5. Click on the Alarm Trend folder in the upper left frame. In the

upper right frame of the Data window, a list of file names will appear in the Name column. A prefix of “a” indicates an alarm trend data file.

6. Click one of the alarm trend data file names. A summary will appear in the bottom right frame with instrument and data file information. If you want to view, graph, print, or export the alarm trend data, double-click the filename or click the **View Data** button at the bottom of the window.
7. Alarm trend data can be viewed in either table or graph format by selecting the Table or Graph selection buttons.

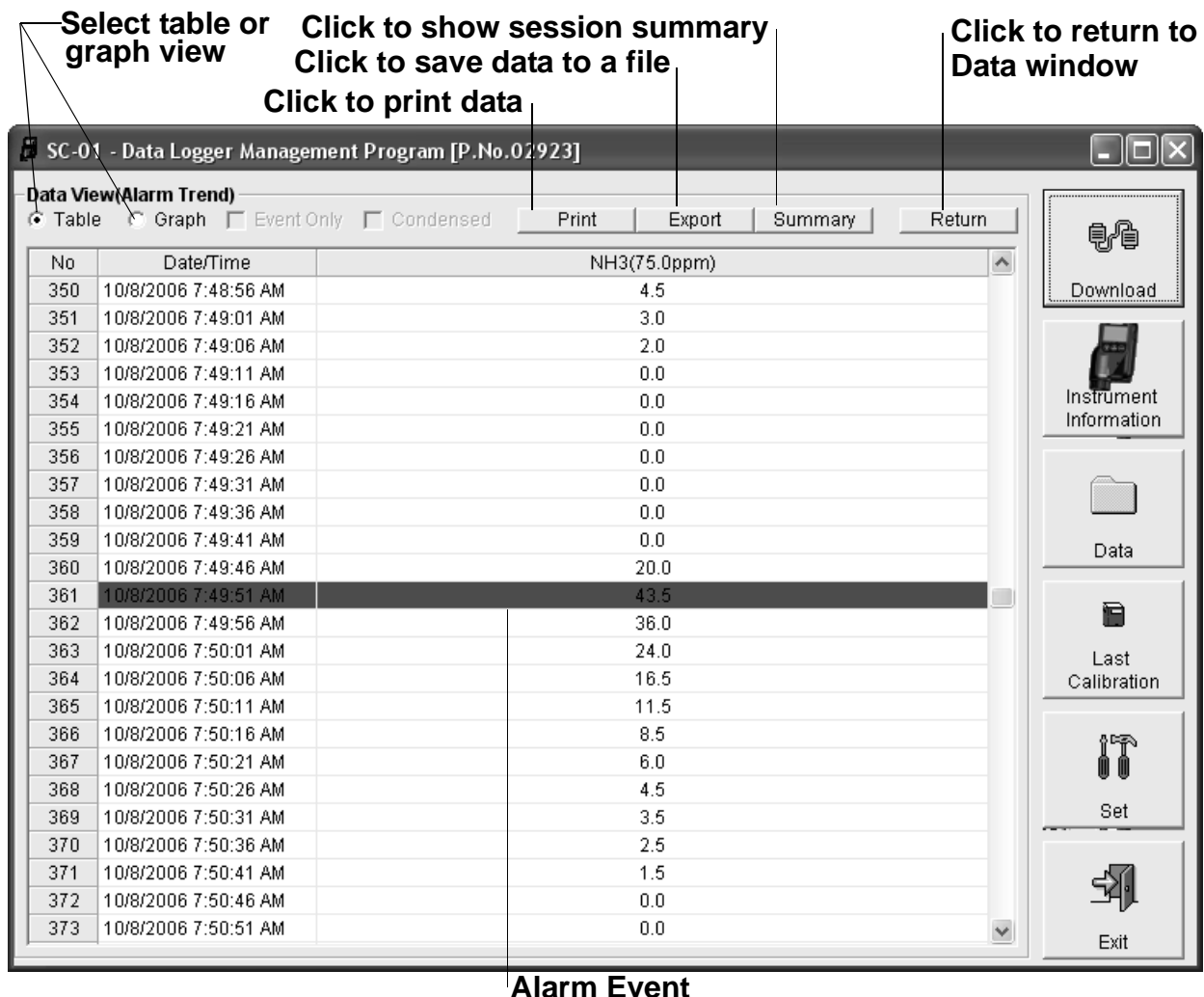


Figure 44: Alarm Trend Data in Table Format

- In Table format, the gas reading at the time of the alarm event around which the logged data are centered is

highlighted in red and is the instantaneous reading at that time.

- The log times are shown along with the peak gas reading for the previous five seconds.
 - If you click the **Summary** button, the data window will split into two frames, one above the other, with the data table in the lower frame and the session summary information shown in the upper frame. The session summary frame is the same as the one shown in the lower right frame in Figure 43.
8. To view the data in graph format, click the **Graph** button. An alarm trend file can always be graphed regardless of the number of logged points.

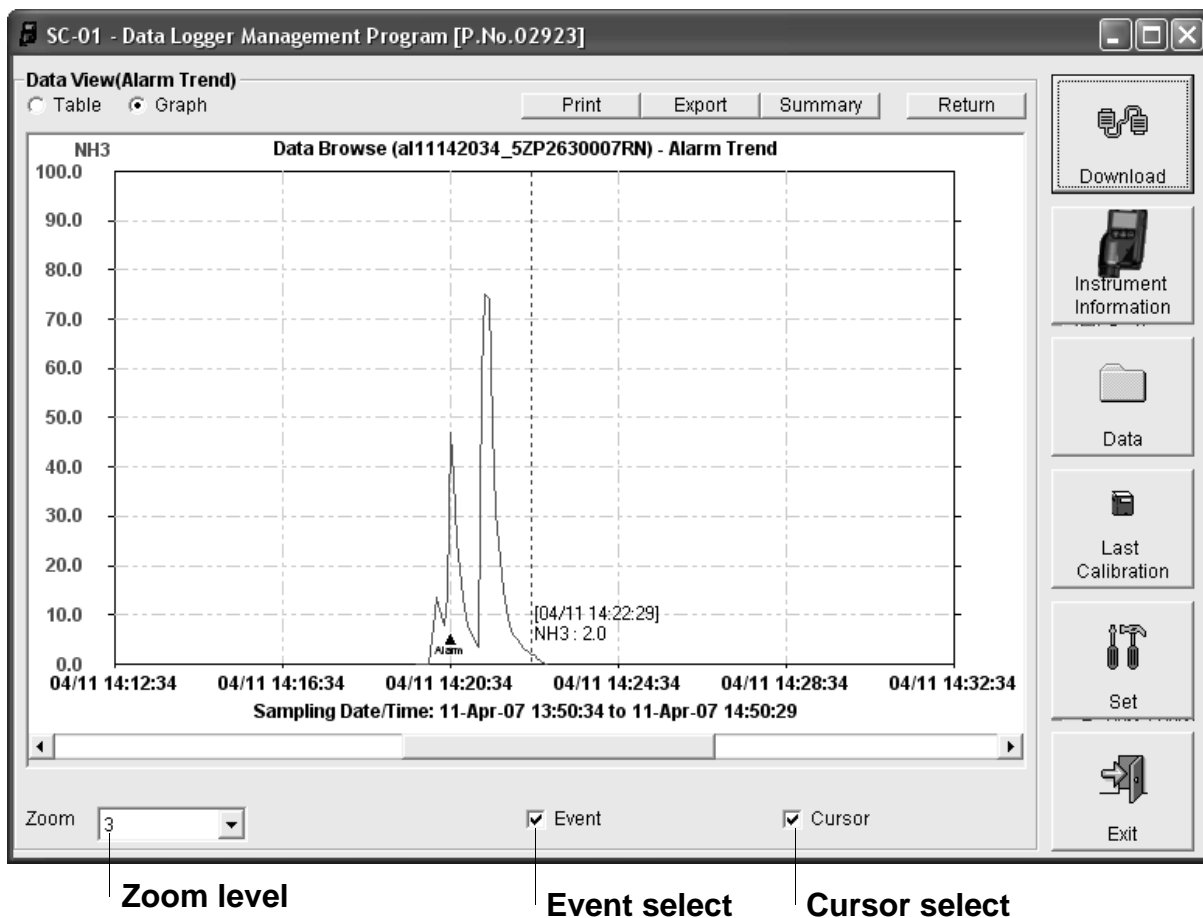


Figure 45: Alarm Trend Data in Graph Format

When viewing alarm trend data in graph format, you have several options:

- You can choose the zoom level, or displayed time period, on the graph. The zoom feature allows you to show greater detail relative to time. Thus, the length of a time division on the graph will depend on the zoom factor.
 - When the **Event** box is selected, the program points out on the graph the event that triggered the saving of the alarm trend data file.
 - When the **Cursor** box is selected, the program allows you to display the gas reading and log time for each data point one at a time. A vertical line on the graph indicates the left-right position of the reading (the time). As you use the left and right arrow buttons on your keyboard to move the line across the graph horizontally, readings at specific log times are displayed. You may also click on the graph and the vertical line will move to the closest log time and the reading for this log time will be shown on the graph. Use the up and down arrows on the keyboard to move the readings up or down on the screen.
 - If you click the **Summary** button, the data window will split into two frames one above the other with the graph in the lower frame and the session summary information shown in the upper frame. The session summary information is the same as the information shown in the lower right frame in Figure 43.
9. To print the data, whether it is viewed in table or graph format, click the **Print** button. A Print dialog box will appear for you to select a printer.

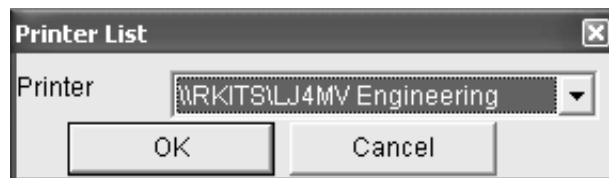


Figure 46: Printer List Dialog Box, Alarm Trend Data

10. Select a printer and click the **OK** button to print the data.
Data displayed in Graph view will print as a graph and data displayed in Table view will print as a table.
11. To export the table or graph data to a file so it can be used by another application, for example a spread sheet program, click the **Export** button. A “Save As” dialog box will appear for you to specify the filename, file location, and file type. For Graph view the export file type is Windows bitmap (.bmp). For Table view the default file type is comma-separated values (.csv).

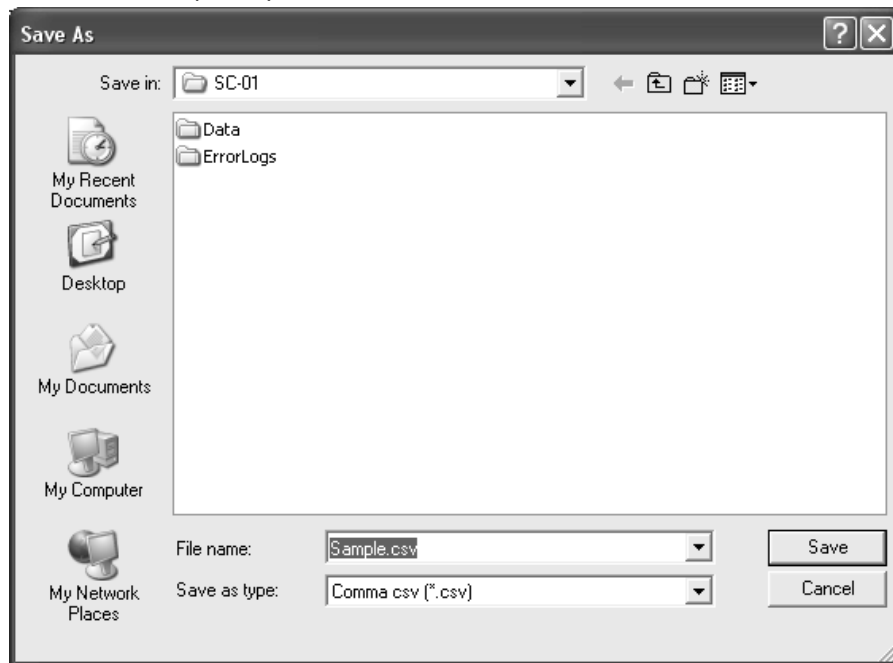


Figure 47: Save as Dialog Box, Alarm Trend Data

12. After specifying the file name, file location, and file type, click the **Save** button to save the file to the specified location.
13. To go back and view other data, click the **Return** button in the upper right side of the data window or click the **Data** button along the right side of the program window and select the data you want to view.

Deleting Data in the Data Window

The following items can be deleted in the Data window:

- Data folders
- Calibration History files
- Alarm and Trouble Event files
- Sensor Change History files
- Interval Trend and Alarm Trend data files

To delete any of the above items in the Data Window:

1. With the program launched, click the Data control button on the right side of the program window.
2. Find the data folder or data file you want to delete.
3. Place the cursor on the data folder or data file you want to delete and click it with the right mouse button. The Delete box will appear.
4. Click Delete with the left mouse button. The Password window appears.

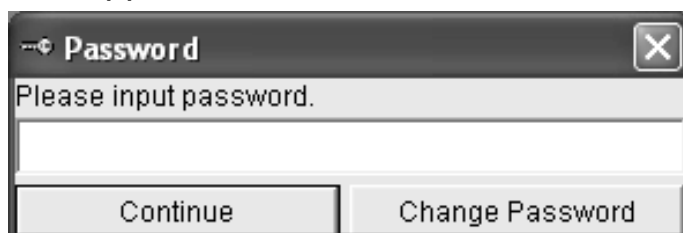


Figure 48: Password Window

5. Enter the password and click the **Continue** button. The password when the program is first installed is "rki". The password is case sensitive. See "Changing the Password" on page 61 for instructions to change the password if desired.
6. When the password has been entered and the **Continue** button clicked, the Delete Data window (if a folder is selected for deletion) or Delete Sample window (if a file is selected for deletion) will appear asking you to confirm that you want to delete the selected data folder or data file. In the example

below, the Delete Data window appears because an Interval Trend data folder has been selected for deletion.

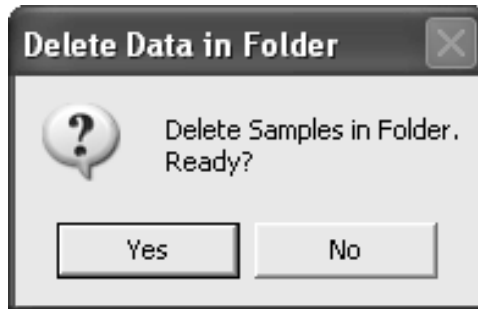


Figure 49: Delete Data Window

7. If you want to delete the selected item, click the **Yes** button. The item will be deleted by the program.

If you do not want to delete the selected item, click the **No** button and the operation will be cancelled.

Changing the Password

CAUTION: *Changing the password requires use of the Delete box. Take care to avoid accidentally deleting data if you decide to change the password.*

It is possible to change the password as follows:

1. Right-click a data folder, data file, or event file. The Delete box will appear.
2. Click Delete with the left mouse button. The Password window appears.



Figure 50: Password Window

3. Click the **Change Password** button. The Password window asks you to input the current password.

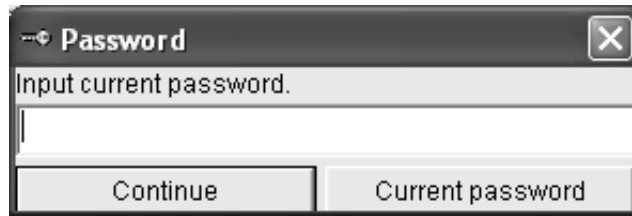


Figure 51: Inputting Current Password

4. Type the current password, then click the **Current password** button. The Password window asks you to input the new password.

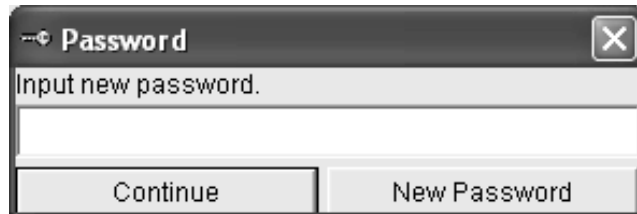


Figure 52: Inputting New Password

5. Type the new password and click the **New Password** button. The Password window asks you to input new password again to confirm it.

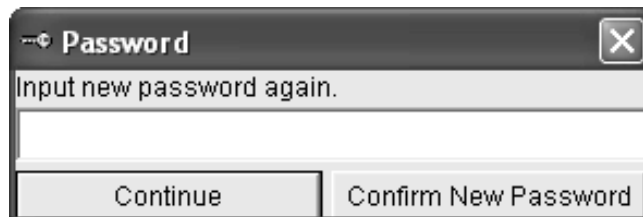


Figure 53: Confirming New Password

6. Type the new password again, then click the **Confirm New Password** button.
7. Click **OK** when the program confirms that you have changed the password.
8. Close the Password window by clicking the red "X" in the upper right corner of the window.

Changing SC-01 Instrument Parameters

To make changes to parameters stored in the SC-01, use the SC-01 Data Logger Management Program's Set window. Follow the steps below to make these changes.

1. Launch the SC-01 Data Logger Management Program.
2. If the Automatic Download selection box is selected, deselect it.

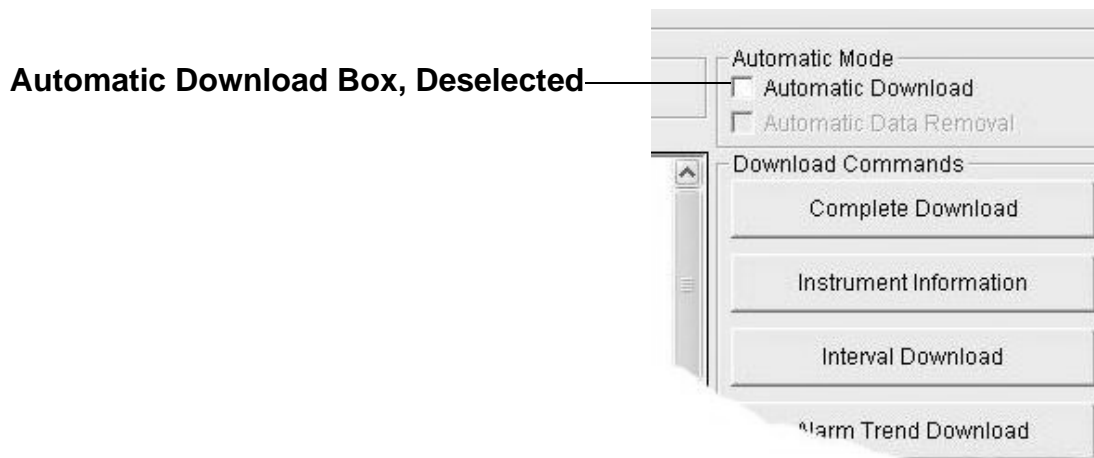


Figure 54: Automatic Download Selection Box

3. Connect an SC-01 to the program. See “Downloading Data from the SC-01” on page 19, instruction 1 through instruction 6, to connect an instrument to the program.
4. Once the connection is made, the **Complete Download, Instrument Information, and Power Off** download commands will be selectable. Click the **Instrument Information** download command to retrieve the instrument information from the SC-01. If you wish to download data before making changes, click **Complete Download** instead of **Instrument Information**.



5. Click the **Set** button to display the Set window. Use the SC-01 Status frame to change parameters stored in the SC-01.

Click to
upload
changes to
GX-2003

SC-01 - Data Logger Management Program [P.No.02923]

Set

Font And Color

SC-01 Status

Arial(9)

Graph Color

Serial No. (12 Characters) 6Z8650029RN

User ID (10 Characters) -----

Interval Trend Time (Sec) 10

PC Date/Time 1/5/2007 6:18:16 PM

SC-01 Date/Time 1/5/2007 6:18:57 PM

Update Date/Time Set

Download

Instrument Information

Data

Last Calibration

Set

Exit

Figure 55: Set Window

6. To change the serial number or user ID stored in the SC-01, click the field you wish to change (e.g., user ID), use the backspace key to remove the current entry, then type the new information.
7. To change the datalogging interval trend time, click on the down arrow in the Interval Trend Time field and select the desired interval trend time in seconds. The available choices are 10, 20, 30, 60, 180, 300, and 600 seconds.

8. After you have finished entering new parameters, you must upload this information to the SC-01 by clicking the **Update** button, then confirm that you want to update the information by clicking the **Yes** button when the Update window appears.

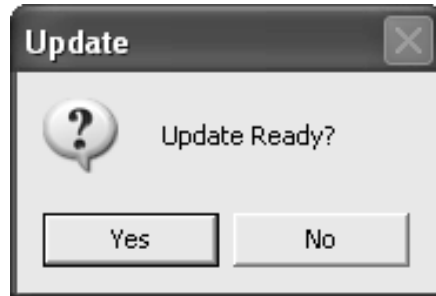


Figure 56: Update Window

9. To update the SC-01's date and time to match the computer's, click the **Date/Time Set** button and then click the **Yes** button when the Update window appears.
10. If you wish to use other functions in the software, click the appropriate control button along the right side of the program window.
11. If you wish to exit the software, click the **Download** control button to return to the Download window. Turn off the SC-01 by using the POWER button on the SC-01 or by clicking the program's **Power Off** control button and confirming that you want to turn off the SC-01 when the Power Off window appears. Then click the **Exit** button to exit the program.

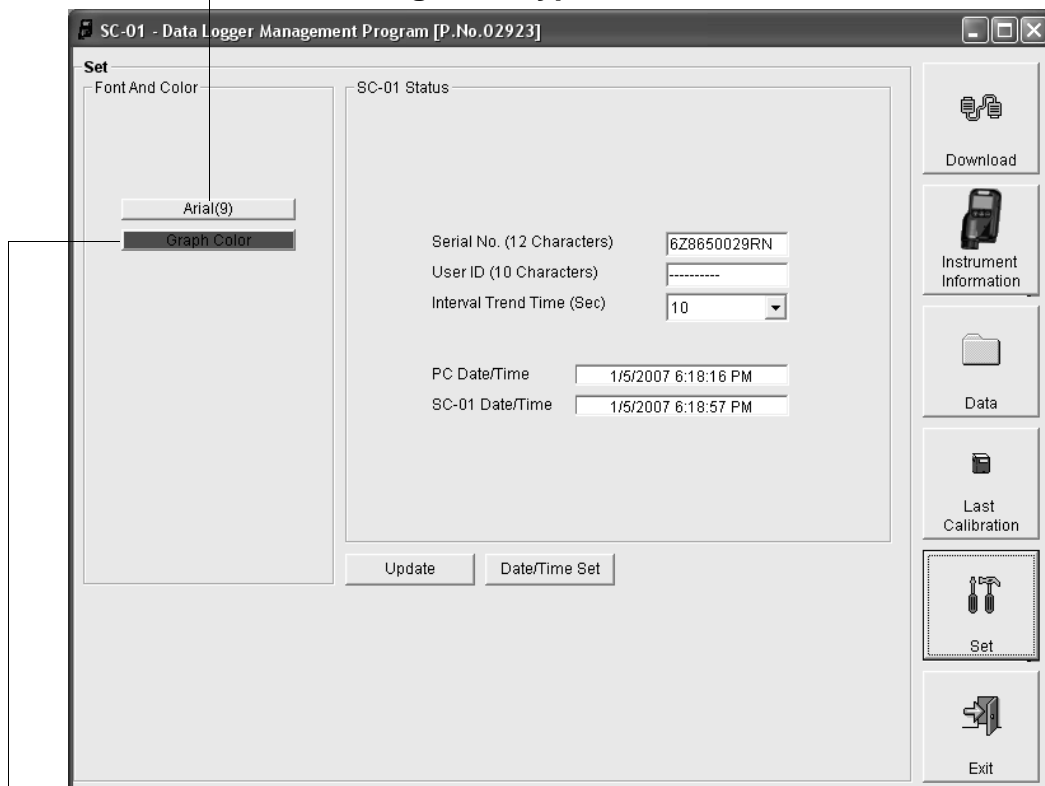
Changing the Appearance of the Program Screens

To change how information is displayed in the software (e.g., text font and graph color), use the program's Set window. Follow the steps below to make changes.



1. Launch the SC-01 Data Logger Management Program.
2. Click the **Set** button to display the Set window. Use the Font And Color frame in the left side of the window to change fonts and graph colors.

Click to change font type



Choose the Graph Color option to change the graph color for graph format of data

Figure 57: Set Window, Changing Fonts and Graph Colors

3. Specify new fonts by clicking the button with the name of a font inscribed on it. This action will display the Font window. Choose the font type, style, and size, then click **OK**.

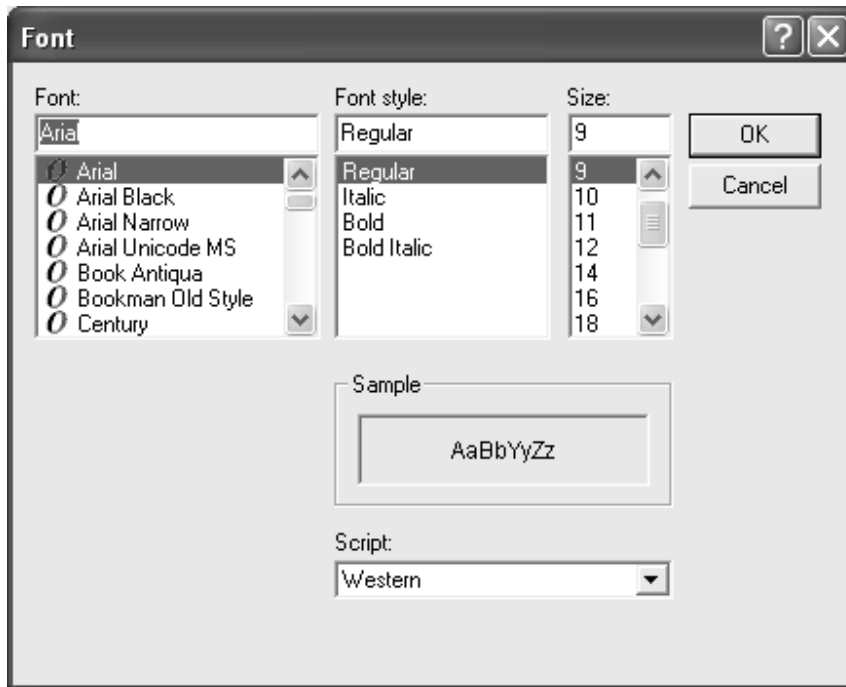


Figure 58: Font Window

4. Select the color used to graph the data in the interval trend and alarm trend data files by clicking the **Graph Color** button on the left side of the Set window in the Font and Color frame.

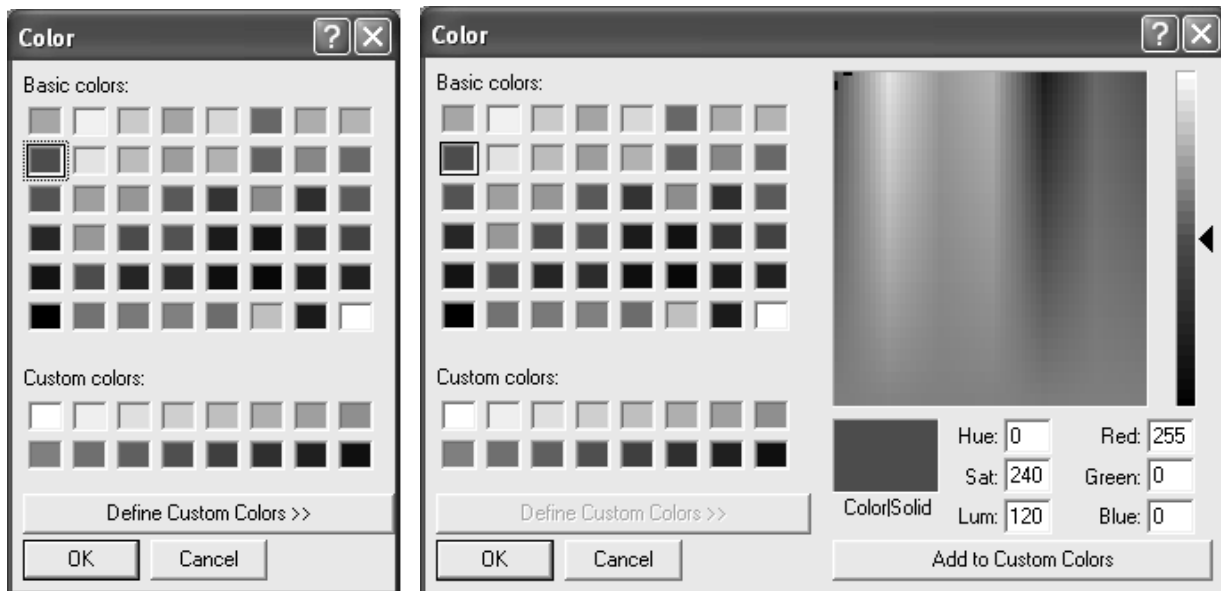


Figure 59: Color and Custom Color Windows

- The Color window shown on the left above appears when the **Graph Color** button is clicked.
 - If you want to define a custom color, click the Define Custom Colors button and the Custom Color window shown on the right above replaces the Color window.
5. After making the desired changes, click **OK**.
 6. The changes you have made will take effect after you exit and restart the SC-01 Data Logger Management Program.

Spare Parts List

Table 2: Spare Parts List

Part Number	Description
47-5026RK	Cable, serial/IrDA adapter
49-5027RK	Cable, USB/IrDA adapter
71-0136RK	SC-01 Operator's Manual
71-0138RK	SC-01 Data Logger Management Program Operator's Manual (this document)
82-5011RK-SER	Data Logging Package for SC-01, installation CD and IrDA/Serial cable
82-5011RK-USB	Data Logging Package for SC-01, installation CD and IrDA/USB cable
83-0010RK	SC-01 Data Logger Management Program Installation CD (includes Data Logger Management Program Operator's Manual and SC-01 Operator's Manual)