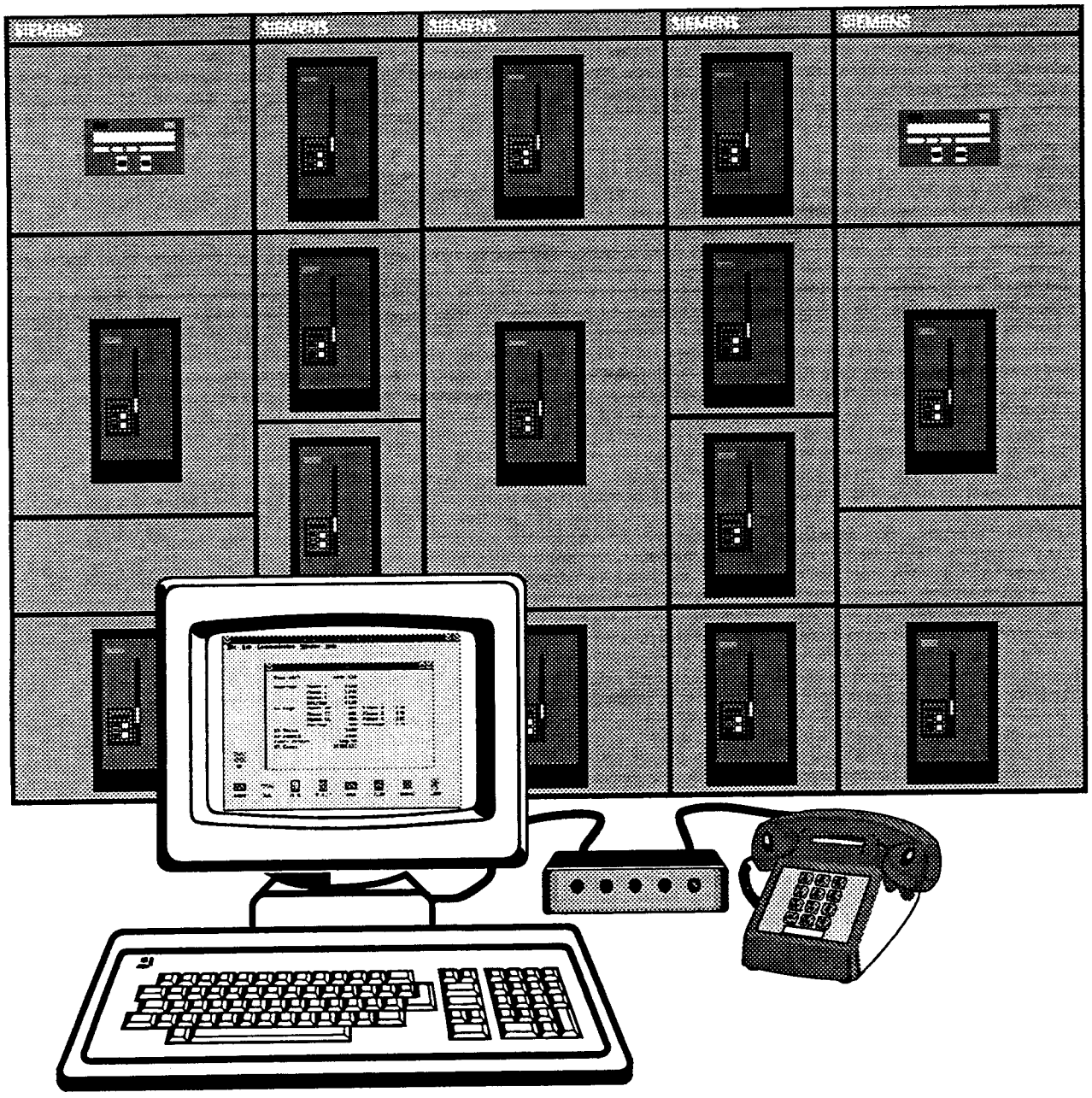
SIEMENS

SIEServe™ Electrical Distribution Communication Software

User's Manual



Manual No. SG-6058

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1 Introduction

SIEServe™ software is a program that operates in the Microsoft® Windows™ operating environment on a personal computer. It offers a means of collecting and displaying real-time data from devices comprised by the Siemens ACCESS™ electrical distribution communications system. Although SIEServe software does not offer the same monitoring and control capability as the Siemens Power Monitor™ display and monitoring unit, Power Monitor PC™ software, or ACCESS Host PC, it does enable you to collect and display some of the same real-time data as these other products. In addition, SIEServe software is capable of delivering its data to other compatible Windows applications, also in real time. It does this through dynamic data exchange (called DDE), a method of sharing information that is supported by a growing number of Windows applications.

SIEServe software allows you to connect the ACCESS devices on your distribution system, either directly or through a modem, to the ACCESS system's SEAbus communications bus.

Note: Although Siemens provides the SIEServe software to you free of charge, be sure to register your copy of the software on the registration card that comes with the program diskette. Or you can call Siemens at 919-365-2120 to register by telephone. As a registered user, you are eligible for free upgrades to SIEServe software and for information about Siemens' ongoing development of Windows software for its ACCESS systems. When you register, Siemens will also send you a free video tape that demonstrates how to use the software and how to connect other Windows applications to SIEServe data.

1.1 About the ACCESS System

Siemens ACCESS systems comprise a variety of "smart" devices that control, monitor, and display data from your electrical distribution system. The first level of control is in the field where microprocessor-based trip units, power meters, protective relays, and motor control devices also send and receive information about your system. At a second, higher level are supervisory devices that collect information from these field devices. Supervisory devices display the information and add the capabilities of programming, monitoring alarms, and logging system events. Field and supervisory devices are linked together by an industry-standard, RS-485 communications bus. Siemens' own SEAbus communications protocol (an open protocol) defines the exchange of information over a shielded, twisted-pair cable that links all devices. Presiding over the system is an ACCESS host personal computer that can monitor an entire electrical system consisting of more than 1000 devices.

SIEServe software is the newest element in this system. It lets you turn a personal computer into a collection point for real-time data from all the field devices on your system.

1.2 About This Manual

This manual is intended as a user's guide for SIEServe software. It contains all the information you need to install, set up, and run the software. It also addresses other topics related to using SIEServe software, such as dynamic data exchange (DDE) and connecting your personal computer to the ACCESS systems and devices.

Because SIEServe software is a Windows program, you need to be somewhat familiar with the Windows operating environment. This manual explains some Windows related tasks at a basic level, but it does not provide detailed instructions for these tasks. If you have not used Windows before, refer to your Windows documentation to learn the basics. You may also need to refer to the Windows documentation as you use SIESierve software if you have difficulty with any of the Windows tasks or terminology you encounter along the way.

The following table tells you where to find the information you need in this manual:

If you want to know about . . .	Refer to section . . .
other documentation you may need when using SIEServe software	1
connecting your computer to an ACCESS system	2
installing the software	2
running the SIEServe demonstration program	2
navigating among device windows in your system	2
configuring SIEServe software for your ACCESS system	3
establishing communications with your ACCESS system	3
adding, changing, and deleting devices in the SIEServe program	3
using SIEServe data in other applications	4
running multiple copies of the SIEServe program	5
using SIEServe software on a network with NetDDE	5
dynamic data exchange (DDE)	Appendix A
the DDE item codes for any data quantity provided by SIEServe software	Appendix B
using SIEServe software to dial a modem	Appendix C

1.3 Other Documentation You Will Need

Although SIEServe software operates as an independent application, its primary function is to collect information from one source (the ACCESS devices on your electrical distribution system) and then make it available for display or for other applications (such

as Microsoft Excel or Word for Windows). Because SIEServe software operates in conjunction with so many other devices and applications, you will need to refer to their documentation as well, to help you make the most of the information that SIEServe software provides. And because SIEServe software runs in the Microsoft Windows operating environment, you may need to refer to Windows documentation from time to time. If you are not yet familiar with Windows, you need to learn the basics before you can successfully use SIEServe software. In addition to printed documentation, Windows comes with an on-line tutorial that leads you through a hands-on introduction on your computer.

To connect your computer to the ACCESS field devices on your distribution system, you need an RS-232 to RS-485 converter and the documentation that tells you how to set it up. If you use the Siemens Isolated Multi-Drop™ converter , you need *Isolated Multi-Drop™ RS-232 to RS-485 Converter* (Siemens manual no. SG-6048). If you are setting up your network of ACCESS devices for the first time, be sure to consult the operator's manuals for each of the ACCESS devices on your system. In addition, *Installing the ACCESS System* (Siemens manual no. SG-6028) provides a detailed overview of that process.

Finally, you may need user's manuals for other Windows applications. Because SIEServe software makes the information it collects available to DDE client applications (like Microsoft Excel) you will need documentation for those applications as well if you intend to use them.

2 Getting Started with SIEServe Software

This chapter describes how to set up and begin collecting data with SIEServe software. It tells you

- what you need to run SIEServe software
- how to connect your PC to an ACCESS system
- how to install SIEServe software
- how to run the SIEServe demonstration
- the simplest way to view SIEServe data

2.1 What You Need to Run SIEServe Software

To run SIEServe software on your personal computer, you need the following hardware, software, and minimum capability:

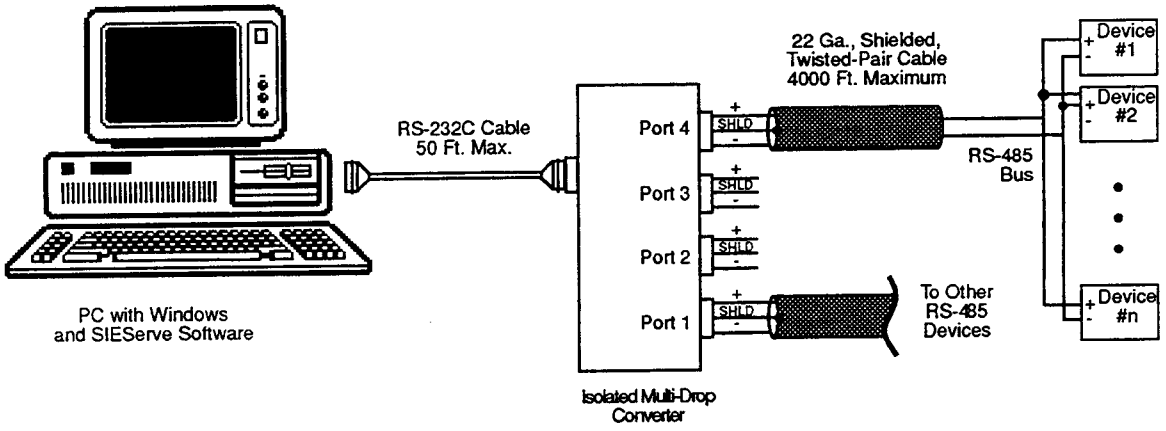
- SIEServe program diskette
- personal computer running Microsoft Windows 3.1
- disk storage space of at least 3 megabytes
- 3.5", high-density, floppy diskette drive
- a mouse supported by Windows (Although you can operate without a mouse, most people find it easier to use one with Windows.)
- RS-232 serial communications port or a modem
- RS-232 to RS-485 converter, either the Siemens Isolated Multi-Drop converter or the COM32 from Power Measurements, Ltd.)

In addition to the preceding items, you may want to consider connecting your computer, converter, and field devices to an uninterruptible power source, to avoid any interruption in data collection during an outage (when you may need the program the most).

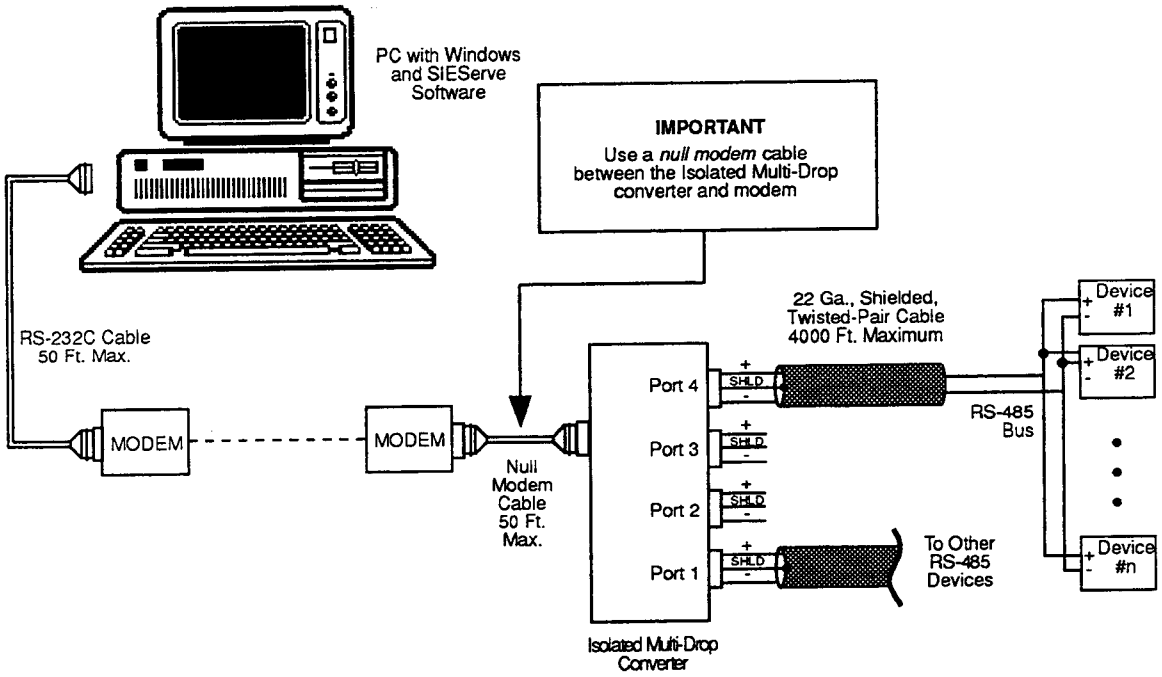
2.2 Connecting Your PC to an ACCESS System

Before you can use SIEServe software to communicate with the ACCESS field devices on your electrical distribution system, you must physically connect your computer to the SEAbus communications loop that links those devices. SIEServe software allows you the two options described and illustrated below for connecting your computer:

1. Use a Siemens Isolated Multi-Drop converter or a Power Measurements COM32 converter to connect a serial port on your computer to the SEAbus communications loop.



2. Use dial-up or short-haul modems and a Siemens Isolated Multi-Drop converter or a Power Measurements COM32 converter to connect a serial port on your computer to the SEAbus communications loop.



For complete information on choosing the right option and on installing the Siemens Isolated Multi-Drop converter, refer to

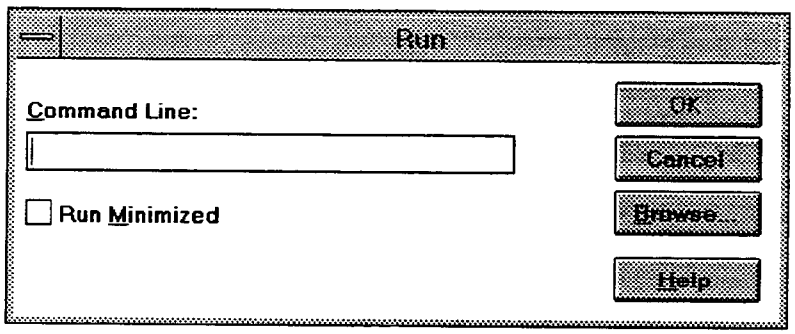
- *Isolated Multi-Drop RS-232 to RS-485 Converter* (Siemens manual no. SG-6048) or the user's manual for the Power Measurements COM32.
- *Installing the ACCESS System* (Siemens manual no. SG-6028), which provides complete information on connecting all devices to the SEAbus communications loop on the ACCESS system.
- user's manuals for your modems

2.3 Installing SIEServe Software

The SIEServe program diskette contains everything you need to install SIEServe software on your PC. All you need to do is run the installation program on the diskette. It creates a SIEServe program directory, copies all files into the directory, and creates a Windows program group and SIEServe icons.

To install SIEServe software on your PC, start Windows and follow these steps:

1. Insert the SIEServe program diskette into your diskette drive.
2. From the File menu of Windows Program Manager, select "Run . . .", and the Run dialog box appears:



3. In the Command Line box, type the designation of the diskette drive where you've inserted the SIEServe diskette (either "a:" or "b:"), followed by "setup". Choose the OK button to complete the installation.

SIEServe software's installation program creates a default directory (C:\SIESERVE) on your computer and a Windows program group called "Siemens ACCESS", in which it installs program icons for the SIEServe program, the SIEServe Demo, and the Windows Write file for this manual.

In addition to installing and setting up the SIEServe program, demonstration, and manual, the installation also copies data files for four other applications into the default directory: Microsoft Excel, Lotus® 1-2-3®, and Quattro® Pro spreadsheets and a Microsoft Word for Windows document. You can open these files while running the

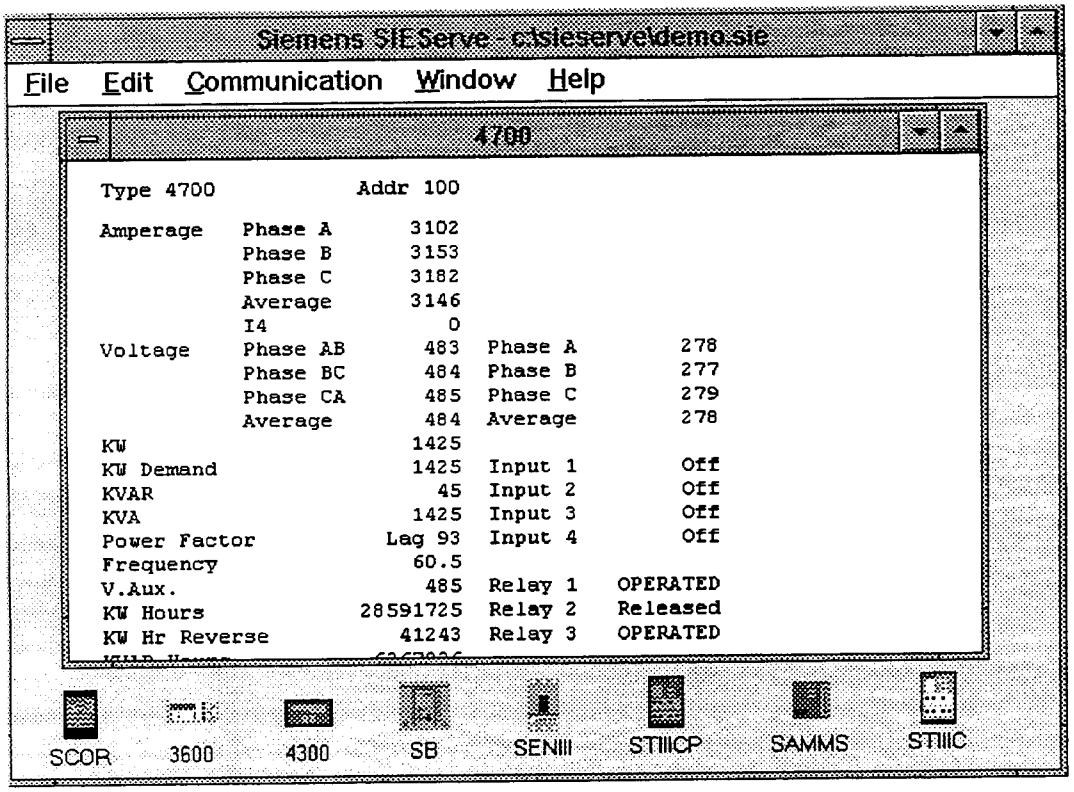
demonstration to see how SIEServe software provides real-time data to other applications supporting DDE.

2.4 Running the SIEServe Demonstration Program

After installing and setting up SIEServe software, you are ready to run the demonstration program. Even if your computer is not yet physically connected to your ACCESS system, you can still see how SIEServe software works. As mentioned in the preceding section, the Siemens ACCESS program group contains three items: the SIEServe program, demonstration, and user's manual. The demonstration configuration simulates data collection from an ACCESS system that comprises one device of each type supported by SIEServe software. So you can see how the program operates to display real-time data from any ACCESS device. After viewing the demonstration, read chapter 3 to learn how to configure SIEServe software to collect data from your own ACCESS system.

To run the SIEServe demonstration and see how SIEServe software works, follow these steps:

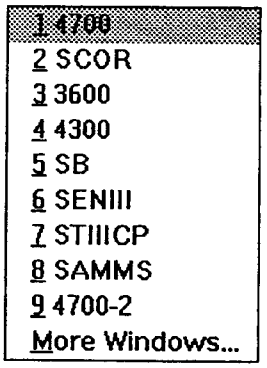
1. From the Windows Program Manager, open the Siemens ACCESS program group by double-clicking its icon with the mouse pointer.
2. Double-click the SIEServe Demo icon, and the application window appears:



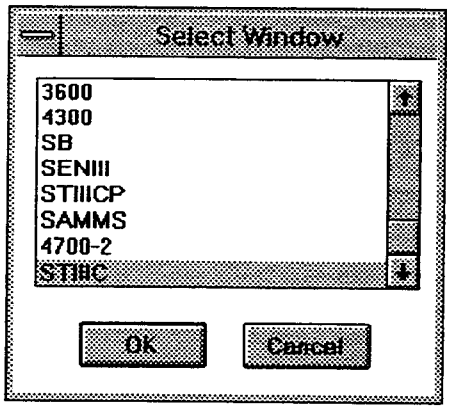
Notice that within the SIEServe application window are nine device icons, one for each type of ACCESS device supported by SIEServe software. Each time you minimize a device window, you will see the icon for that device type along with the device's unique name just below it. (Section 3.2 below talks about naming devices when you add them to your SIEServe system configuration.)

3. Double-click an icon that represents a type of device on your system, and a window opens showing the device's real-time data. Notice that the data changes every two or three seconds as the demo configuration emulates data collection. If all the device data is not visible, click the Maximize button in the upper right corner of the device window to expand it to full size.

4. Place the mouse pointer anywhere within the borders of the window, and click the right mouse button. A list appears showing the names of all the devices configured on your system:



5. Place the mouse pointer on a device name in the list and press the left mouse button to open that device's window. If you select "More Windows..." from the list, the Select Window dialog box appears:



Use the scroll bar to find the name of the device whose window you want to open. Select that name from and choose the OK button.

6. Now click the Minimize button in the upper right corner of the open device windows to reduce them to icons.
7. Finally, when you finish viewing data, click the Minimize button in the upper right corner of the application window to reduce the SIEServe program to an icon in Program Manager. SIEServe software continues running in the background and collects real-time data while you use other applications in Windows.

   Note: When you finally close the demonstration, the program may ask if you want to "Save changed configuration?" Select "No" in response to this question in order to leave the demonstration program intact for future viewing.

The application window and device windows in the SIEServe program function like any other Windows program. You can

- click the Maximize button in the upper right corner of a window to expand the window to its maximum size
- click the Minimize button in the upper right corner of a window to reduce it to an icon
- click the Restore button in the upper right corner of a maximized window to return it to its previous size
- resize a window by dragging its borders and corners with the mouse
- activate the Control menu from the Control-menu box in the upper left corner and selecting from the menu
- move a window within the application workspace by clicking on its title bar and dragging it to a new position

Hint: On systems with a large number of devices, you may find it confusing to operate with more than a few device windows open at the same time. Try reducing all device windows to icons in the SIEServe application workspace. Then, one at a time, maximize the device for which you want to view data. If you don't see a device you are looking for in the workspace, use the scroll bars to bring its icon into view. Or place the mouse pointer in an open window, and press the right mouse button to produce a pop-up list of all devices in your system configuration. Then select a device from the list to open its window and display its data.

After you take a few minutes to view the data available in the windows of devices like those you have on your ACCESS system, you might want to look at some of the demonstration files for other applications that come with SIEServe software. Once the SIEServe program is running in demo mode or real-time, if you have any of the following applications, you can open their respective files in the SIESERVE directory

and see examples of how to use SIEServe data in a spreadsheet or word processing document:

Application	SIESERVE Filename
Microsoft Excel (version 4.0)	SIESERVE.XLM
Microsoft Word for Windows (version 2.0)	SIESERVE.DOC
Lotus 1-2-3 (version 1.0)	SIESERVE.WK3
Quattro Pro (version 1.0)	SIESERVE.WB1

You can alter the accompanying files for these applications to suit your needs, or you can create new spreadsheets and word processing documents, establishing your own DDE links to the data you want. For information on how to alter or create links from and your DDE client applications to SIEServe software, refer to the user documentation of those applications.

3 Configuring Your ACCESS System with SIEServe Software

After you experiment with the demonstration program, you are ready to configure SIEServe software to collect and display real-time data from your own ACCESS system. In this chapter you will learn how to

- establish communications with an ACCESS system
- add a new device to a system configuration
- save a system configuration
- change an existing device on a system
- delete a device from a system

3.1 Setting Up Communications

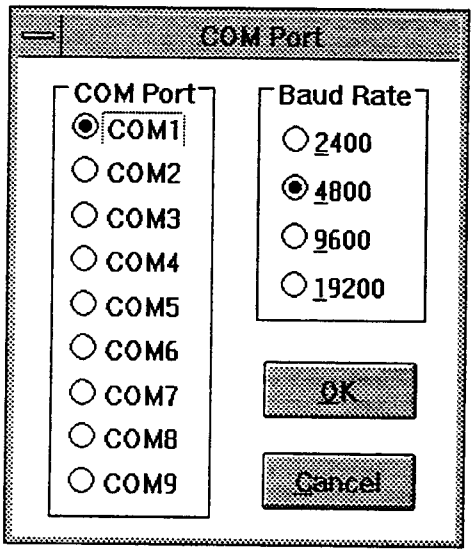
Before you configure the SIEServe program to collect data from all of the devices on your ACCESS system, set the communications parameters for your system. In setting up communications, you indicate how your computer is physically connected to the SEAbus communications loop. You identify the serial port on your computer through which it is connected to your ACCESS system and then identify the baud rate of data transfer on the SEAbus network. After the communications settings are established, the SIEServe program can begin polling ACCESS field devices on your system.

This section tells you how to set up communications, and it describes how to use SIEServe software to operate a dial-up modem if your distribution system is accessible by modem.

Note: Refer to section 2.2 above for instructions on connecting your PC to the ACCESS system. Version 1.0 of SIEServe software only allows you to connect directly to your SEAbus network. Connection through Power Monitor units will be possible in a future release.

To set up communications, follow these steps:

1. From the Communication menu, select "COM Port . . ." and the COM Port dialog box appears:



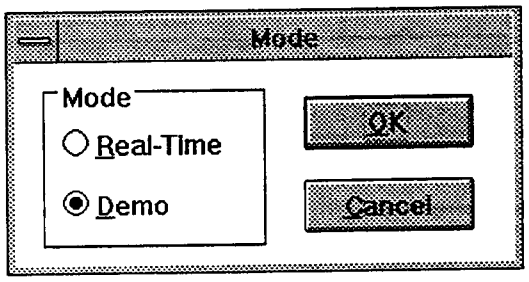
2. Select the COM (serial) port through which your computer is connected to the ACCESS system, or select the COM port to which a modem is connected if your ACCESS system is set up to communicate via a modem.
3. Select the baud rate of communications on the ACCESS system, and choose the OK button.

   Note: You cannot program the baud rate for your system or for any devices with SIEServe software; instead, the baud rate you select here in the SIEServe program must match the baud rate at which your system of devices is set to communicate. To set the baud rate for field devices, you must follow the procedure defined for each device. If you are setting up your system and devices for the first time, make sure that you set all devices for communication at the same baud rate and then select that same baud rate here in the SIEServe COM Port dialog box. The following table lists acceptable baud rates for each ACCESS device.

ACCESS Device	Baud Rates
3600 power meter	300, 600, 1200, 2400, 4800, 9600, 19,200
4300 power meter	300, 1200, 2400, 4800, 9600, 19,200
4700 power meter	300, 1200, 2400, 4800, 9600, 19,200
Static Trip III™C trip unit	2400, 4800
Static Trip IIICP trip unit	2400, 4800, 9600
SAMMS™ device	4800, 9600
SCOR relay	300, 600, 1200, 2400, 4800, 9600, 19,200
Sensitrip® III trip unit	4800, 9600
Type SB systems breaker	4800, 9600

(For more information about setting the baud rate of ACCESS devices, refer to the operator's manuals for individual devices and to Siemens' *Installing the ACCESS System* [manual no. SG-6028].)

4. From the Communication menu, select "Mode . . .", and the Polling Mode dialog box appears:



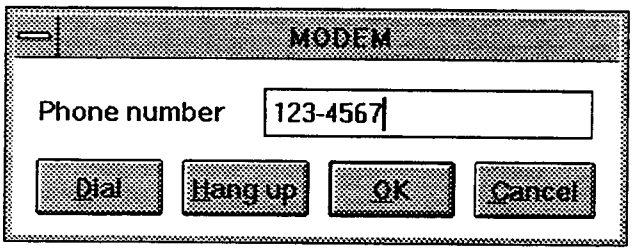
Real-time mode is the normal mode of operation for SIEServe software to collect data. Demo mode causes the devices of the present configuration to *appear* to be collecting and displaying real-time data.

5. Select "Real-Time Mode", and choose the OK button.
6. Select "Save" from the File menu to save the new communications setting for your system configuration. (If you do not save these settings, the next time you open this configuration file, the SIEServe program will operate with the last settings saved and may not be able to communicate with the ACCESS devices.) If you are saving for the first time to a new configuration file, the File Save As dialog box appears. Enter a name for your new system configuration file, and choose the OK button.

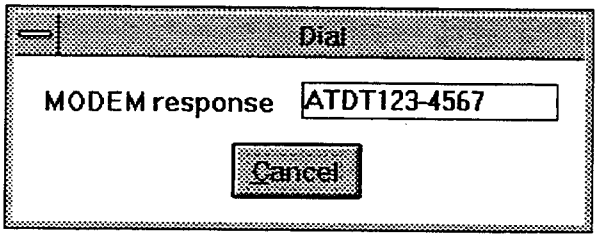
3.1.1 Dialing a Modem in the SIEServe Program

If you have a dial-up modem connected to your computer, you can use SIEServe software to dial up an ACCESS system that also has a modem attached. Make sure when you set up communications as described above that you select the COM port assigned to your modem. Then follow these steps:

1. From the Communication menu, select "MODEM . . .", and the MODEM dialog box appears:



2. Enter the telephone number of the modem attached to your ACCESS system. (If you have special dialing requirements, such as the need to first connect to an outside line or to use a credit card, refer to Appendix C for information on modifying the dial string accordingly.) Choose the Dial button, and the Dial dialog box appears:



The characters preceding the phone number in the modem response are modem command characters that are inserted automatically. When you are connected with the receiving modem, the Dial dialog box closes, and SIEServe software begins polling the system and collecting real-time data.

3. To save the phone number you have entered as part of this configuration, choose the OK button and then select "Save" from the File menu.
4. To end communications, choose "Hang up" from the MODEM dialog box.

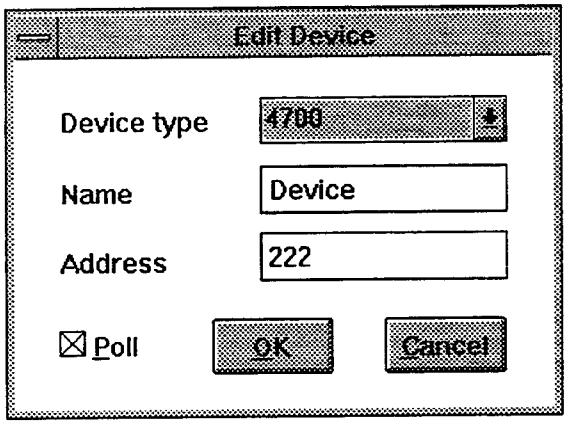
If you have problems, Appendix C of this manual offers more information about using SIEServe software with your modem, including information about dialing and interpreting response messages from the modem.

3.2 Adding Devices to Your System Configuration

Follow the procedure in this section anytime you want to add devices to your system configuration. If you are configuring SIEServe software for the first time, you need to begin by adding devices to match those of your own ACCESS system.

To add a device to your SIEServe configuration, start the program, and follow these steps:

1. From the Edit menu, select "Add Device", and the Add Device dialog box appears:



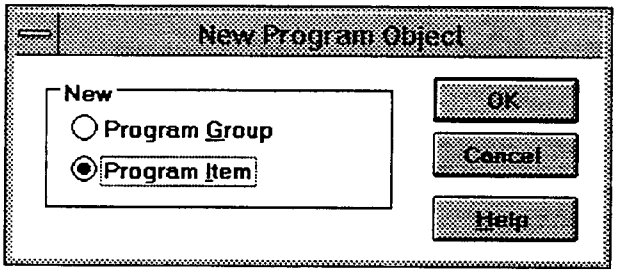
2. From the pull-down Device Type list, select the type of ACCESS device you want to add.
3. In the Name field, type a *unique* name (up to 14 characters) for the new device. Normally, you want the name to relate to the device's location and function in your system. This name will appear in the title bar of the device window and under the its icon. Also, use this name for any DDE links to other applications.
4. In the Address field, enter the device's unique SEAbus communications address.

   Note: When entering the address of Sensitrip III trip units or Type SB systems breakers, enter the address of the Multiplexer Translator (M/T) as the first two digits, and enter the device number of the trip unit or breaker attached to the M/T as the last digit. SIEServe software does not enable you to program device addresses; you can only enter an address that is already programmed into a device. For complete information about communications addresses for ACCESS devices, refer to the operator's manuals for individual devices and to Siemens' *Installing the ACCESS System* (manual no. SG-6028).
5. Ensure that the Poll box is checked, so that SIEServe software can poll the device for real-time data.

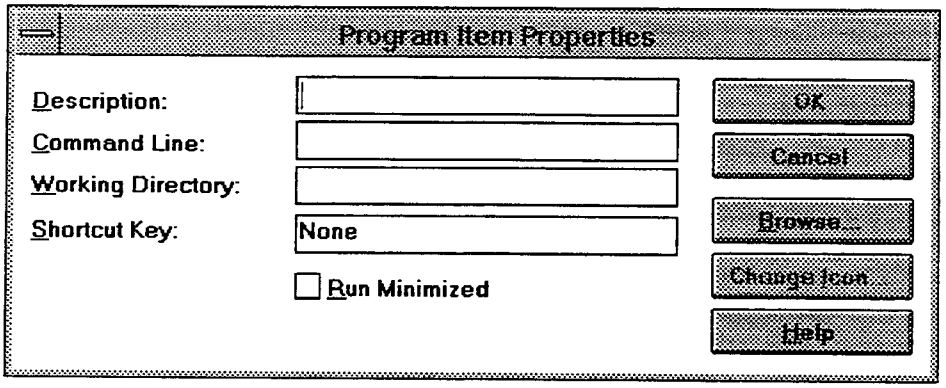
6. Choose the OK button.
7. Repeat steps 1-6 for all ACCESS devices on your system.
8. When you finish adding devices, select "Save" from the File menu to save the additions to your system configuration. If you are saving for the first time to a new configuration file, the File Save As dialog box appears. Enter a name for your new system configuration file, and choose the OK button.

Once you configure a system in the SIEServe program and save it to a file, you can open its configuration file after you start the program. From the File menu, select "Open . . .", and the File Open dialog box appears. Then choose a configuration file from the Files list. If you have more than one system or configuration file, you might want to create a program icon for each one, which would enable you to start that configuration from the Siemens ACCESS program group. To create a program icon for a configuration file, follow these steps:

1. Go to the Windows Program Manager, and select "New..." from the File menu. The New Program Object dialog box appears:



2. Select "Program Item" and choose the OK button. The Program Item Properties dialog box appears:



3. In the Description box, type a name for your configuration. This name will appear in the title bar of the application window and under the icon for the configuration.

4. In the Command Line box, type the path to your SIEServe directory, followed by the program filename (SIEServe.EXE). Then type the configuration (*.SIE) filename. For example, to create an icon for a configuration file called "Feeder1" in a directory named C:\SIESERVE, type **c:\sieserve\sieserve.exe feeder1.sie** in the Command Line box.
5. In the Working Directory box, type the name of the directory where the SIEServe program files are located. (C:\SIESERVE is the default directory.)
6. To designate a shortcut key combination for this configuration, enter it in the Shortcut Key box. This key combination enables you to switch to this configuration while it is running.

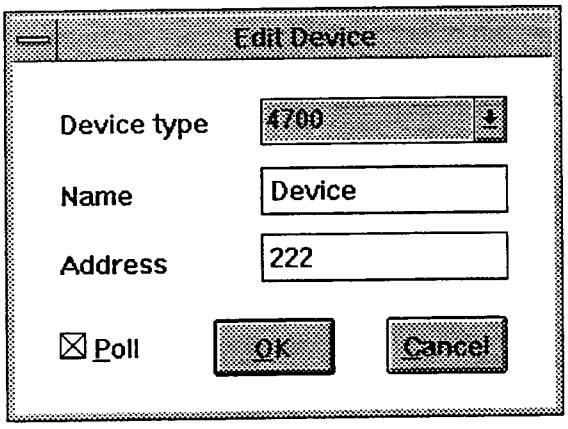
If you need additional help in creating a program item, refer to your Windows documentation.

3.3 Changing an Existing Device on Your System

Follow the procedure in this section whenever you need to change some configuration parameter(s) for a device already on your SIEServe system. For example, if you change the communications address for a particular device, you need to tell the SIEServe program what the new address is, so that it can continue to communicate with the device and collect real-time data.

To change any of the configuration parameters for a device, follow these steps:

1. Make the window of the device you want to change the active window, or choose its icon from the SIEServe workspace.
2. From the Edit menu, select "Edit Device...", and the Edit Device dialog box appears:



The Edit Device dialog box contains the same fields as the Add Device dialog box.

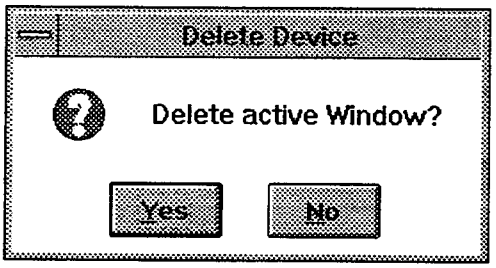
3. Make any changes you want to the device type, name, address, or polling fields.
4. Choose the OK button.
5. Select "Save" from the File menu to save the device's new settings in your system configuration.

3.4 Deleting a Device from Your System

The procedure in this section tells you how to delete a device from your system, whether you actually remove the device from your ACCESS network or you no longer want SIEServe software to collect data from that device. (If you only want to stop collecting data from a device temporarily, you can stop the program from polling that device, instead of deleting it entirely. To turn off polling for a device, make that device the active window and unselect "Poll" in the Edit Device dialog box.)

To delete a device from the SIEServe program, follow these steps:

1. Make the window of the device you want to delete the active window, or choose its icon from the SIEServe workspace.
2. From the Edit menu, select "Delete Device", and a dialog box appears asking you to confirm the deletion:



3. Choose the Yes button to delete the device from your system, or choose the No button to cancel the deletion.
4. Select "Save" from the File menu to save the deletion from your system. If you do not save these configuration changes, the next time you start the SIEServe program it will operate with the last configuration saved.

Another way to delete a device from your system is to close the device's window from the Control-menu box. You can then save this change to your configuration, or you can restart the SIEServe program without saving any changes, and any device windows you closed or deleted will remain a part of your configuration.

4 Using SIEServe Data in Other Applications

One of the greatest values of SIEServe software is its support of dynamic data exchange (DDE) with other applications that also support DDE. You can use any application that does support DDE to establish direct links to SIEServe data, so that the client application constantly receives real-time data from the SIEServe program. To show you how this works, SIEServe software comes with files from several popular applications. These files already have links established to the SIEServe Demo configuration. All you need to do is to start the SIEServe Demo program and open any of these other files to see simulated real-time data as it is updated in the application.

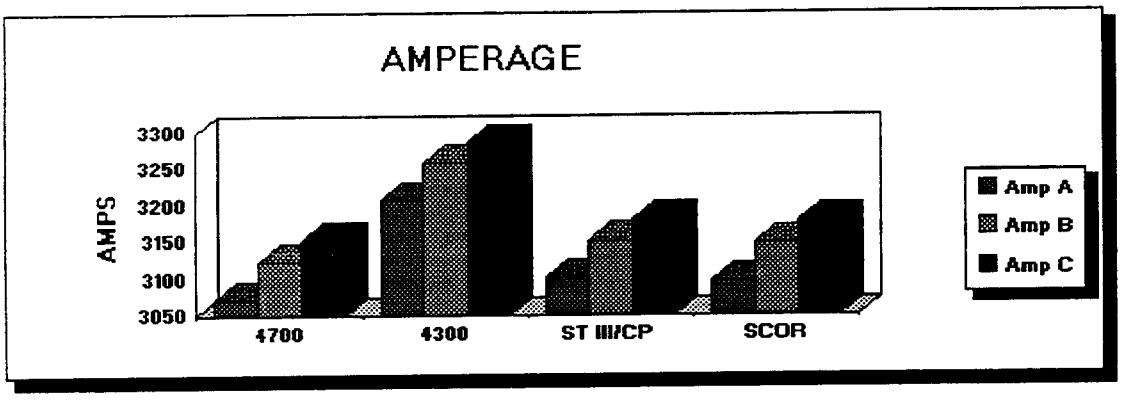
The SIEServe program disk comes with sample files from these applications:

- Microsoft Excel (version 4.0)
- Microsoft Word for Windows (version 2.0)
- Lotus 1-2-3 for Windows (version 1.0)
- Quattro Pro (1.0)

Each spreadsheet contains a sample trend chart, single-line diagram, bar chart, and table of historical data. The Word for Windows document contains a typical report of kilowatt-hours, kilowatt demand, and power factor.

4.1 The Microsoft Excel Template

The illustration below shows one example of the many ways you can use SIEServe software's real-time data.



5 Advanced Uses of SIEServe Software

Although SIEServe software as described up to this point in the manual is quite powerful, there are still other ways to use it to take full advantage of its capabilities. For example, on one computer you can use SIEServe software to simultaneously supply real-time data to as many DDE client applications as your computer's system capability allows. This chapter briefly describes some of these other uses.

5.1 Running Multiple Copies of SIEServe Software

Windows and SIEServe software allow you to run as many as nine copies of the SIEServe program simultaneously on the same computer, each using a separate COM (serial) port. There are two basic reasons that you might want to run multiple copies of SIEServe program.

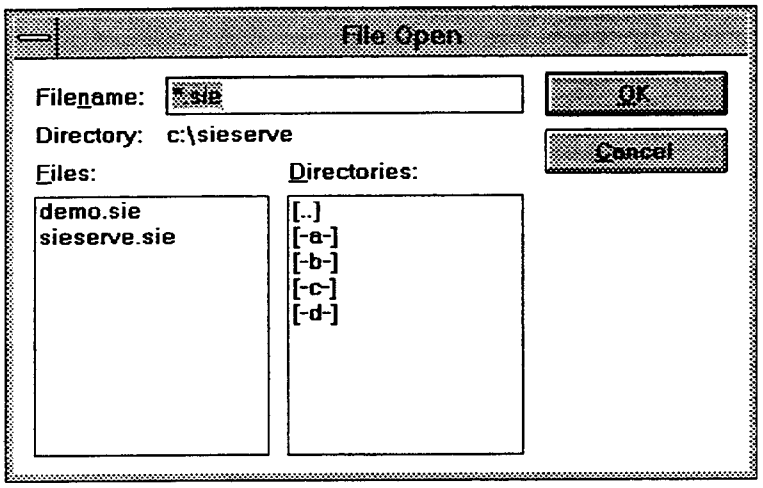
First, you may want to communicate with more than one ACCESS system. For example, you may want to connect to a local network of devices inside your facility and to a separate, remote network accessible only by dial-up modem. If so, connect and configure each system as described in chapters 2 and 3 of this manual.

Second, you may want to communicate with only one ACCESS system, such as the electrical distribution at one plant or facility; however, you might want to monitor parts of that system separately, or the number of devices may be so large as to slow communications. For example, if you have a system with 120 devices, it can take an excessive amount of time to poll every device. Instead of a configuration comprising all 120 devices, you could develop four "subsystems" of 30 devices each, thus speeding up communications. Whether you want to monitor parts of the system separately or to speed up communications, the solution is to

1. divide the system among multiple communications loops
2. connect each loop to a separate serial port on the PC (which requires one RS-232 to RS-485 converter for each loop)
3. develop separate configuration files for each
4. run multiple copies of the SIEServe program, one for each "subsystem"

To run multiple copies of the SIEServe program, follow these steps:

1. From the Windows Program Manager, open the Siemens ACCESS program group.
2. Start the SIEServe program.
3. From the SIEServe File menu, select "Open..." and the File Open dialog box appears:



4. Enter the Filename for the configuration you want to run, or select a file from the Files list in the dialog box. Choose the OK button.
5. Return to Program Manager and start another copy of the SIEServe program. Repeat the process for as many copies as your PC is able to run at one time.

You can run each copy of the program with its application window open or minimized to an icon. If you want to create a separate icon for each configuration, refer to the procedure at the end of section 3.2 above.

5.2 SIEServe Software and Wonderware's NetDDE

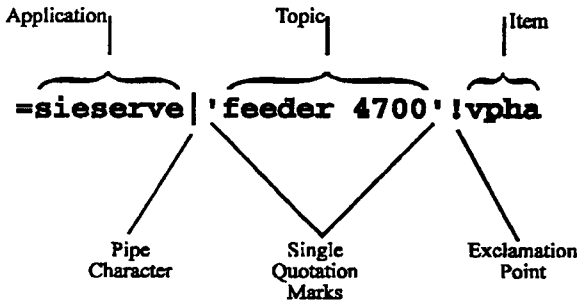
Wonderware Software's NetDDE greatly enhances SIEServe software's ability to deliver real-time data to a variety of client applications. NetDDE enables you to communicate simultaneously among a virtually limitless number of Windows, VMS, OS/2, and UNIX systems.

On a system that contains SIEServe software, NetDDE, and any DDE client applications, a single SIEServe program can provide real-time data to users on different systems or platforms running a variety of DDE client applications. Also, a single user can receive real-time data from multiple SIEServe programs running on one, or more than one, computer. In short, SIEServe software's ability to deliver its real-time data to any number of users and to any number of DDE client applications is only limited by the computer system on which it operates.

5.3 How to View Your System's Data from Anywhere

If you have a dial-up modem on your SIEServe computer and a copy of Symantec Corporation's pcAnywhere, you can view SIEServe's real-time data from any other computer running pcAnywhere. A particular advantage of this set-up is to connect your ACCESS system directly to software support. Your Siemens representative can call up and view your system without the necessity of a service call. This setup also enables you

into a spreadsheet the amount of the voltage on phase A of the ACCESS 4700 power meter mentioned in the preceding paragraph. Select a cell in the Excel spreadsheet, and type the following character string (which Excel calls a "remote reference formula") in the formula bar:



In this formula, "sieserve" is the *application* reference, "feeder 4700" is the unique name (or *topic*) of a particular device, and "vpha" is the *item* code for the data quantity, voltage on phase A. (The other characters are necessary components of the formula in Excel.) You can enter similar formulas in Excel (and other applications supporting DDE) for all data collected and displayed by SIEServe software. You can also request arrays of all real-time data for individual devices.

Chapter 5 of this manual briefly discusses the uses of SIEServe data with other applications, giving examples of DDE conversations for several programs that support DDE. Consult the user documentation for those programs, or any others, in which you want to use data from SIEServe software.

Appendix B: DDE Item Codes for Real-time Data

The tables in this Appendix give you the DDE *Item* codes for all real-time data for each device type supported by SIEServe software. Use these item codes in a DDE formula to provide real-time data in client applications served by SIEServe software.

The item codes, listed in the right column of the tables, are abbreviations of the data quantities given in the left column of the tables. Although the codes are written in upper-case and lower-case letters, you can enter them in a line of DDE code without regard to case.

In addition to the codes for individual data quantities, SIEServe software provides several arrays of multiple items. The item code 'devices' provides a one-dimensional array of the names of all field devices configured on your system. The item code 'realtime' provides a one-dimensional array of all real-time data for the specified device type. The item code 'realtime labels' provides a one-dimensional array of labels for all data quantities provided by the specified device type. The 'realtime' and 'realtime labels' arrays vary in size according to device, as shown in the following list:

ACCESS Device	Size of Data Array
3600 power meter	1 column by 16 rows
4300 power meter	1 column by 17 rows
4700 power meter	1 column by 23 rows
Static Trip IIIC trip unit	1 column by 9 rows
Static Trip IIICP trip unit	1 column by 29 rows
SCOR relay	1 column by 12 rows
SAMMS device	1 column by 15 rows
Sensitrip III trip unit	1 column by 9 rows
Type SB systems breaker	1 column by 9 rows

Refer to the documentation for each client application, such as Microsoft Excel, for procedures on creating arrays.

3600 Power Meter

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Amps Neutral	Amp_Neu
Volts Phase A-B	VPhAB
Volts Phase B-C	VPhBC
Volts Phase C-A	VPhCA
Volts Average (L-L)	VAvg
Kilowatts	KW
Kilowatt Demand	KWD
Kilovolt Amps (Reactive)	KVar
Kilovolt Amps	KVA
Kilowatt-hours	KWHr
Kilovolt Amps (Reactive) Hours	KVarHr
Power Factor	PF
Frequency	Freq

4300 Power Meter

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Volts Phase A-B	VPhAB
Volts Phase B-C	VPhBC
Volts Phase C-A	VPhCA
Volts Average (L-L)	VLLAvg
Volts Phase A	VPhA
Volts Phase B	VPhB
Volts Phase C	VPhC
Volts Average (L-N)	VAvg.
Kilowatts	KW
Kilowatt Demand	KWD
Kilowatt-hours	KWHr
Power Factor	PF

4700 Power Meter

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Auxiliary Current Input	I4Amp_In
Volts Phase A-B	VPhAB
Volts Phase B-C	VPhBC
Volts Phase C-A	VPhCA
Volts Average (L-L)	VLLAvg
Volts Phase A	VPhA
Volts Phase B	VPhB
Volts Phase C	VPhC
Volts Average (L-N)	VAvg
Auxiliary Voltage Input	VAux
Kilowatts	KW
Kilowatt Demand	KWD
Kilovolt Amps (Reactive)	KVar
Kilovolt Amps	KVA
Kilowatt-hours	KWHr
Reverse Kilowatt-hours	KWRHr
Kilovolt Amps (Reactive) Hours	KVarHr
Power Factor	PF
Frequency	Freq
Discrete Inputs [1-4]	Discrete[1-4]
Discrete Input Counter	DIn1_Count
Relay Outputs [1-3]	Relay[1-3]

SAMMS Device

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Amps % Unbalance	A%Unbal
Winding Temperature	Winding_%Temp
Time Until Restart	Restart_Time
Elapsed Motor Run Time	Elaps_Hrs
Number of Starts	Start_Count
Number of Overload Trips	Trip_Count
Current at Time of Last Trip	ATrip
Pickup	PkUp_Text
Microprocessor Watchdog	Watchdog_Text
Motor Status	Brkr_Pos_Text
Trip Targets	Target_Text
Discrete Inputs [1-4]	Discrete[1-4]
Contactor Outputs [1-3]	Relay[1-3]

SCOR Relay

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Amps Ground	AGnd
Amp Demand Phase A	ADmd_PhA
Amp Demand Phase B	ADmd_PhB
Amp Demand Phase C	ADmd_PhC
Pickup	PkUp_Text
Microprocessor Watchdog	Watchdog_Text
Breaker Position	Brkr_Pos_Text
Trip Targets	Target_Text

STIIIC Trip Unit

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Amps Ground	AGnd
Pickup	PkUp_Text
Microprocessor Watchdog	Watchdog_Text
Breaker Position	Brkr_Pos_Text
Trip Targets	Target_Text

Sensitrip III Trip Unit

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Amps Ground	AGnd
Pickup	PkUp_Text
Multiplexer Trans. Comm.	Watchdog_Text
Breaker Position	Brkr_Pos_Text
Trip Targets	Target_Text

Type SB Breaker

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Amps Ground	AGnd
Pickup	PkUp_Text
Multiplexer Trans. Comm.	Watchdog_Text
Breaker Position	Brkr_Pos_Text
Trip Targets	Target_Text

STIIICP Trip Unit

Data Quantity	Item Code
Amps Phase A	APhA
Amps Phase B	APhB
Amps Phase C	APhC
Amps Average	AAvg
Amps Neutral	Amp_Neu
Amps Ground	AGnd
Amps % Unbalance	A%Unbal
Volts Phase A-B	VPhAB
Volts Phase B-C	VPhBC
Volts Phase C-A	VPhCA
Volts Average (L-L)	VLLAvg
Volts Phase A	VPhA
Volts Phase B	VPhB
Volts Phase C	VPhC
Volts Average (L-N)	VAvg.
Volts % Unbalance	V%Unbal
Kilowatts	KW
Kilowatt Demand	KWD
Kilovolt Amps (Reactive)	KVar
Kilovolt Amps	KVA
Kilowatt-hours	KWHr
Reverse Kilowatt-hours	KWRHr
Kilovolt Amps (Reactive) Hours	KVarHr
Power Factor	PF
Frequency	Freq
Pickup	PkUp_Text
Microprocessor Watchdog	Watchdog_Text
Breaker Position	Brkr_Pos_Text
Trip Targets	Target_Text

Appendix C: Using Your Modem with SIEServe Software

This appendix contains some information that you may find useful when using SIEServe software to connect to systems accessible by dial-up modem. It lists characters you can use to modify your dial string, and it defines the modem response messages used by SIEServe software. It also provides a few brief suggestions for troubleshooting specific problems. If you don't find the information you need in this appendix, consult the documentation for your modem(s), or consult a reference source for Hayes compatible modems.

In some instances, your phone system may require you to do more than enter a telephone number in the SIEServe program's MODEM dialog box. For example, you may have to first dial "9" for an outside line at your office. If so, preface the telephone number you want to dial with the characters "9W", as in this string: 9W18001234567. In this example, the "9" gives you the outside line, and the "W" instructs the modem to wait for a second dial tone before continuing to dial. In another example, when you are away from your plant, you might want to dial up your ACCESS system and charge the long distance call to a credit card. In this case, you alter the dial string to include the characters necessary for your long distance service. The following table lists the characters and definitions dial modifiers recognized by SIEServe software:

Dial Modifier	Description
0-9 * # A B C D	Specifies the letters, numbers, and symbols that the modem uses when dialing.
T	Instructs the modem to dial using the Tone method. (This character is already a part of the default dial string in SIEServe software.)
P	Instructs the modem to dial using the Pulse method.
,	Pauses before continuing the dial string. The length of this pause is programmed into your modem; usually, it is 1 or 2 seconds long. For longer pauses, enter multiple commas or reprogram your modem.
W	Waits for another dial tone.
@	Waits for silent answer from those modems that do not offer a tone when they answer.
!	Issues a hook flash, which is the equivalent of pressing and quickly releasing the switch hook on your phone as you would to answer a call waiting.
R	Places your call in reverse mode (originates your call in answer mode), to call an originate-only modem. This character must be the last one in the dial string before the carriage return.
;	Returns the modem to the command state.
S=*n*	Dials the telephone number *n* stored in your modem. (You cannot program telephone numbers with SIEServe software. Consult your modem's documentation.)

In addition to modifying the dial string with the characters above, you may need to issue some specific commands to enable your modem to communicate while using SIEServe software. If you have trouble connecting through your modem, you might try resetting the modem's factory defaults. To reset them, go to the terminal screen of your communications software and type "AT&F".

If you have call waiting on the telephone line you use, you should disable it to avoid interrupting communications, if your phone company supports the ability to disable the service. You may be able to disable call waiting for the period of one call by beginning your dial string with "*70,". (If you use pulse dialing, try "1170".)

After dialing, SIEServe software shows you the modem response in the Dial dialog box. The following table presents a complete list of the modem responses and their descriptions for SIEServe software.

Response	Description
OK	Command executed successfully.
CONNECT	Connected to receiving modem.
RING	Ring signal detected.
NO CARRIER	Carrier signal was not detected or was lost. Or a period of inactivity, which was longer than the time set in the time-out register, caused the modem to hang up.
ERROR	Invalid command, invalid checksum, error in the command line, or the command line exceeds 255 characters.
NO DIALTONE	No dial tone detected on your phone line.
BUSY	The receiving modem or phone line is engaged.
NO ANSWER	No silence detected from a system not providing a dial tone. (This response comes only when you use the @ modifier.