Lucent Technologies
Bell Labs Innovations

PassageWay® Service Provider for DEFINITY® Enterprise Communications Server

Getting Started

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What is the PassageWay Service Provider?

The PassageWay® Service Provider is a device driver that enables applications that are compliant with the Microsoft Windows® Telephony Application Programming Interface (TAPI) (such as PassageWay Telephony Manager) to communicate with your telephone and your company's DEFINITY® Enterprise Communications Server (ECS). The PassageWay Service Provider accepts the basic TAPI requests from your TAPI-compliant application and translates these requests into instructions to the PassageWay adapter (or "PassageWay link," if your telephone has the PassageWay adapter built in) to control your telephone and interact with your company's DEFINITY system.

The PassageWay Service Provider runs with Microsoft® Windows® 95, Microsoft Windows NT™ Workstation 4.0 or later, Microsoft Windows NT Server 4.0 or later, Microsoft Windows version 3.1 or later, and Microsoft Windows for Workgroups version 3.11 or later and provides you with an interface between your PC and your company's DEFINITY ECS via your telephone.

About This Guide

This document describes how to install, configure, and troubleshoot the PassageWay Service Provider. This guide contains three chapters, three appendices, and an index:

- **Chapter 1 - Introduction**

  This chapter describes the structure and content of this guide. This chapter also provides a brief introduction to the PassageWay Service Provider.

- **Chapter 2 - Installing and Configuring the PassageWay Service Provider**

  This chapter describes how to install and configure the PassageWay Service Provider software.

- **Chapter 3 - Troubleshooting**

  This chapter provides information about possible error conditions and how to respond to them when you use the PassageWay Service Provider.

- **Appendix A - PC Serial Ports**

  This appendix provides detailed information about PC serial ports.

- **Appendix B - Changing the Settings for the 8411 Telephone**

  This appendix provides the procedures and commands for changing or viewing options on the 8411 telephone.

- **Appendix C - PassageWay Service Provider Planning Form**

  This appendix provides a planning form to help you configure the PassageWay Service Provider.

- **Index**

  The index provides a quick way of locating information within this guide.

NOTE:
To determine whether you are using the proper issue of the Getting Started Guide for the PassageWay Service Provider installed on your PC, perform the following steps:

a. Start the PassageWay Configurator.

— If you have Windows 95 or Windows NT 4.0, select **PassageWay Configurator** from the application folder that contains the PassageWay Service Provider. (The default application folder is `PassageWay for DEFINITY`.)

— If you have Windows 3.1 or later or Windows for Workgroups 3.11 or later, open the program group that contains the PassageWay Service Provider, and double-click on the PassageWay Configurator icon. (The default program group is `PassageWay for DEFINITY Service Provider`.)

The PassageWay Configurator - COM Port dialog box appears.

b. Choose the Help button.

c. Depending on your system, perform one of the following steps:

— If you have Windows 95 or Windows NT 4.0, choose **Version** from the Help menu. The Version Information message box appears, displaying the issue of the Getting Started Guide that the software requires. The issue number should match the issue number on the cover of this book.

— If you have Windows 3.1 or later or Windows for Workgroups 3.11 or later, choose **About Help** from the Help menu. The About Help message box appears, displaying the issue of the Getting Started Guide that the software requires. The issue number should match the issue number on the cover of this book.

d. Choose the OK button.

User Responsibilities

Before using the PassageWay Service Provider, you should be familiar with basic Windows functions and procedures. If not, consult your *Microsoft Windows User's Guide*.

You also may need to contact your PC vendor for information on configuring your PC to meet the PassageWay Service Provider requirements.

Conventions Used in This Guide

The following conventions are used in this guide:

- Commands and text you should enter appear ***`in this style of type`***.
- Values, instructions, and prompts that appear on the screen are `in` **`this style of type`**.
- Components of dialog boxes (such as boxes) appear *in this style of type*.
- Key names that are always located on the keyboard in the same place appear in all capital letters (for example, ENTER).
- Key combinations (holding down one key while pressing another key) are connected with a "+" (for example, SHIFT+TAB).
- Only active windows are displayed.
- The terms *option buttons* and *radio buttons* refer to the same object.

- Throughout this guide, the term *DEFINITY* refers to all versions of the following systems:
  - — DEFINITY ECS
  - — DEFINITY ProLogix Solutions
  - — DEFINITY G1, G2, and G3
  - — System 75
  - — System 85

Getting Help

If you have questions about or problems with the PassageWay Service Provider that this guide does not resolve, call the Lucent Technologies National Customer Care Center at **1 800 242-2121** or your local Authorized Dealer.

Installing and Configuring the PassageWay Service Provider

2

Overview

This chapter provides the procedures for installing and configuring the PassageWay Service Provider.

The information you must follow in this chapter depends on whether you have an earlier version of the PassageWay Service Provider or PassageWay Solution installed on your PC.

NOTE:
The appearance of dialog boxes and message boxes in this chapter may differ from the dialog boxes and message boxes that appear on your system, depending on the operating system you are using (that is, Windows 95, Windows 3.1 or later, or Windows NT 4.0).

New PassageWay Service Provider Users

This section applies to new PassageWay Service Provider users. If you have an existing version of the PassageWay Service Provider or PassageWay Solution, proceed to the next section, "Upgrading the PassageWay Service Provider or PassageWay Solution."

If you are a new PassageWay Service Provider user, perform the following steps:

1. Read the section "PassageWay Service Provider Components" to make sure that you have all of the PassageWay Service Provider components.
2. Read the section "PassageWay Service Provider Requirements" to make sure that you have the required hardware and software to run the PassageWay Service Provider.
3. Read the section "Before You Begin" to make sure that you have the necessary information to set up and configure the PassageWay Service Provider.
4. Connect your 8411 telephone, Callmaster VI telephone, or PassageWay adapter to your PC:
   - If you have an 8411 telephone, perform the procedures in the section "Connecting Your 8411 Telephone to Your PC."
   - If you have a Callmaster VI telephone, perform the procedures in the section "Connecting Your Callmaster VI Telephone to Your PC."
   - If your telephone is not an 8411 or Callmaster VI, perform the procedures in the section "Installing the PassageWay Adapter."
5. Install and configure the PassageWay Service Provider software by performing the procedures in the section "Installing the Software."

Upgrading the PassageWay Service Provider or PassageWay Solution

This section applies to users who have an earlier version of the PassageWay Service Provider or PassageWay Solution installed. If you do not have an existing version of the PassageWay Service Provider or PassageWay Solution installed, refer to the previous section, “New PassageWay Service Provider Users.”

If you have an earlier version of the PassageWay Service Provider software or PassageWay Solution installed on your PC, perform the following steps:

1. Read the section “PassageWay Service Provider Components” to make sure that you have all of the PassageWay Service Provider components.
2. Read the section “PassageWay Service Provider Requirements” to make sure that you have the required hardware and software to run the PassageWay Service Provider.
3. Read the section “Before You Begin” to make sure that you have the necessary information to set up and configure the PassageWay Service Provider.
4. Uninstall your existing version of the PassageWay Service Provider software. Refer to the section “Removing the PassageWay Service Provider” for more information.
5. Install and configure the PassageWay Service Provider software by performing the procedures in the section “Installing the Software.”

PassageWay Service Provider Components

The PassageWay Service Provider consists of the following components:

- software (3.5-inch, 1.44-MB, high-density diskettes)
- this guide

PassageWay Service Provider Requirements

The PassageWay Service Provider requires the hardware and software listed below. Install the required hardware and software before installing the PassageWay Service Provider software. Note that system performance may be adversely affected by lower system speeds and lower memory capacities.

- an IBM-PC compatible or PS/2®-compatible PC with the following hardware:
  - — an 80386 or higher processor
  - — an available serial port
  - — a minimum of 4 MB of RAM
  - — a 3.5-inch, 1.44-MB, high-density diskette drive
  - — a hard disk with at least 4 MB of space available
  - — a VGA or better monitor

— a Windows-compatible pointing device (a mouse or trackball is recommended)

NOTE:
You must have an available serial port in your PC that is dedicated to the PassageWay Service Provider. The PassageWay Service Provider cannot share a serial port with other devices.

If all the serial ports in your PC are already in use, you must purchase an additional serial port or free up an existing serial port to use with the PassageWay Service Provider. Consult Appendix A for more information on choosing a suitable serial port for the PassageWay Service Provider.

- any of the following operating systems:

— Microsoft Windows 3.1 or later

— Microsoft Windows for Workgroups 3.11 or later

NOTE:
Throughout this document, the phrase *Windows 3.1 or later* is used to refer to Windows 3.1 or later and Windows for Workgroups 3.11 or later.

— Microsoft Windows 95

— Microsoft Windows NT Server 4.0 or later or Microsoft Windows NT Workstation 4.0 or later

NOTE:
Only English (United States) is supported.

- any of the following telephones:
  - — 6400 Series telephones
  - — 7400 Series telephones
  - — 8400 Series telephones
  - — Callmaster® Series telephones

  NOTE:
  A complete list of all the telephones supported by the PassageWay Service Provider is provided in the PassageWay Service Provider software (also known as the "PassageWay Configurator").

  For caller ID capabilities, your telephone must have:

  - — a display. However, you can use a non-display telephone for caller ID capabilities if your company's DEFINITY System Manager administers your extension as a display telephone. Consult your DEFINITY System Manager.
  - — an Inspect button and a Normal button programmed. The Inspect button is a display feature button that shows you call-related information for an incoming call when you are already active on a call. The Normal button is a display feature button that clears the information displayed by the Inspect button. The Normal button is not required if you have an 8411 telephone.

  If you are using an 8411 telephone or Callmaster VI telephone, you may need one of three serial cables (a 9-pin to 25-pin cable, a 25-pin to 25-pin cable, or a 9-pin to 9-pin cable). The serial cable connects the 8411 telephone or Callmaster VI telephone to the serial port on your PC. If you have an 8411 telephone, use the 9-pin to 25-pin cable if your PC has a 9-pin serial port or the 25-pin to 25-pin cable if your PC has a 25-pin serial port. If you have a Callmaster VI telephone, use the 9-pin to 25-pin cable if your PC has a 25-pin serial port or the 9-pin to 9-pin cable if your PC has a 9-pin serial port.

If you are using a telephone other than an 8411 or Callmaster VI, you will need the following items:

— the PassageWay adapter

The PassageWay adapter provides an interface between your telephone and an available serial (COM) port on your PC by connecting to the following objects:

- the line jack on your telephone
- the wall jack in your office
- the serial port on your PC

— one of two serial cables (a 9-pin to 9-pin cable or a 9-pin to 25-pin cable)

The serial cable connects the PassageWay adapter to the serial port on your PC. Use the 9-pin to 9-pin cable if your PC has a 9-pin serial port. Use the 9-pin to 25-pin cable if your PC has a 25-pin serial port.

— a 7-foot, 4-pair, modular phone cord (D8W)

This modular phone cord connects the PassageWay adapter to your telephone.

— a local power supply, a D6AP cord, and a 400B or 400B2 adapter

The local power supply, D6AP cord, and 400B or 400B2 adapter provide power for the PassageWay adapter if your telephone does not have auxiliary power supplied from a power source in the wire closet (telephone closet). Ask your company's DEFINITY System Manager if you have a question about whether you already have auxiliary power to your telephone.

- a telephone connected to a DEFINITY system that is configured and operating properly.

  The PassageWay Service Provider operates with all versions of the following DEFINITY systems:

  — DEFINITY ECS

  — DEFINITY ProLogix Solutions

  — DEFINITY Communications System G1, G2, and G3

  — System 75

  — System 85

  NOTE:
  Throughout this document, the term *DEFINITY* is used to refer to all of the systems listed above.

Before You Begin

This section describes the information that is required to install and configure the PassageWay Service Provider.

If your company has a DEFINITY G3 V5 or later system, you can download the configuration information for your telephone from the DEFINITY system automatically. However, to use this feature, you must:

- have a display telephone. However, you can use a non-display telephone if your company's DEFINITY System Manager administers your extension as a display telephone. Consult your DEFINITY System Manager. If you have a non-display telephone, you must also use the Advanced button in the Telephone Options dialog box to specify that your extension has display capabilities even though your telephone does not have a display.

  NOTE:
  You cannot automatically download the configuration information for your telephone if you have a 6402 telephone or a 6402D telephone.

- know the PASTE feature access code for your DEFINITY system. You must contact your DEFINITY System Manager for this feature access code.
- have a Next feature button administered on your telephone, depending on your type of telephone. If you have a 6400 Series telephone without a display, a 7400 Series telephone, an 8400 Series telephone, or a Callmaster telephone other than a Callmaster VI, you must have a Next feature button administered on your telephone. However, if you have a Callmaster VI telephone or a 6400 Series telephone with a display, you do not need a Next feature button administered on your telephone.

If your company's DEFINITY system supports the PASTE feature, you only need to know the following information to configure the PassageWay Service Provider. (Use Appendix C to record this information.)

- the type of telephone you have
- the PASTE feature access code for your DEFINITY system
- the location of the Next feature button administered on your telephone if you have a 6400 Series telephone without a display, a 7400 Series telephone, an 8400 Series telephone, or a Callmaster telephone other than a Callmaster VI. If you have a Callmaster VI telephone or a 6400 Series telephone with a display, you do not need a Next feature button administered on your telephone.

If your company's DEFINITY system does not support the PASTE feature, you must know the following information before installing the PassageWay Service Provider:

- the telephone number and type of call appearances on your telephone (that is, primary, bridged, or monitored)
- the location of call appearances on your telephone.
- the location of feature buttons on your telephone

NOTE:
If you have a 6400 Series telephone (other than a 6402 or 6402D), make sure your DEFINITY System Manager programmed a Drop feature button on your telephone. Consult your DEFINITY System Manager.

- the access codes for the features you want to program on your telephone. You can program the following features:
  - — Auto Call Back On
  - — Auto Call Back Off
  - — Call Answer Back
  - — Call Park
  - — Call Pickup
  - — Forward Off
  - — Forward On
  - — Leave Word Calling
  - — Leave Word Cancel
  - — Priority
  - — Send All Calls Off
  - — Send All Calls On
  - — Speed Call Program

  NOTE:
  Depending on your telephone, you may be unable to program some of these features. Any features that are not supported by your telephone will be disabled.

  You can get these access codes from your DEFINITY System Manager. If you need to modify any of this information at a later time, use the PassageWay Configurator application.

- whether your telephone has auxiliary power (either from the telephone closet [wire closet] or from an auxiliary power supply). The PassageWay adapter requires auxiliary power. You can obtain this information from your System Manager.

  NOTE:
  The 8411 telephone requires auxiliary power. An auxiliary power supply is provided with the 8411 telephone. Refer to your 8411 User's Guide for more information.

- the number of the COM port (for example, COM1, COM2, COM3, COM4, etc.) to which you are connecting the serial cable from the 8411 telephone or the Callmaster VI telephone, or the PassageWay adapter for all other telephones. (PassageWay supports up to COM9.) If you are unable to determine the number of the COM port, you can set PassageWay to determine the COM port for you when you install the software.
- the location of the Inspect button and Normal button on your telephone (if an Inspect button and/or a Normal button is administered on your telephone).

  NOTE:
  The 8411 telephone does not have a Normal button.

- the location of the Next feature button on your telephone (if administered on your telephone).
- whether your telephone is administered as a display telephone (if you have a non-display telephone).

Connecting Your 8411 Telephone to Your PC

This section describes how to connect an 8411 telephone to your PC. Only perform the steps in this section if you have an 8411 telephone. Otherwise, see "Connecting Your Callmaster VI Telephone to Your PC" or "Installing the PassageWay Adapter."

The 9-pin to 25-pin serial cable connects your PC and your 8411 telephone, enabling you to access the DEFINITY system from your PC. This cable has a 9-pin connector for 9-pin serial ports. If you have a 25-pin serial port on your PC, use the 25-pin to 25-pin cable to connect your 8411 telephone to your serial port.

To connect your telephone to your PC:

1. Turn off your PC.
2. Determine the type of serial port (9 pin or 25 pin) you have on your PC. If you have a 9-pin serial port, you will use the 9-pin to 25-pin serial cable. If you have a 25-pin serial port, you will use the 25-pin to 25-pin serial cable.
3. Connect the 25-pin connector of the serial cable to the 25-pin connector on the back of your 8411 telephone.
4. Connect the other end of the serial cable to the serial (COM) port on your PC.
5. Turn on your PC.

Now, proceed to "Installing the Software."

Connecting Your Callmaster VI Telephone to Your PC

This section describes how to connect a Callmaster VI telephone to your PC. Only perform the steps in this section if you have a Callmaster VI telephone. Otherwise, see "Connecting Your 8411 Telephone to Your PC" or "Installing the PassageWay Adapter."

The 9-pin to 9-pin serial cable connects your PC and your Callmaster VI telephone, enabling you to access the DEFINITY system from your PC. This cable has a 9-pin connector for 9-pin serial ports. If you have a 25-pin serial port on your PC, use the 9-pin to 25-pin cable to connect your Callmaster VI telephone to your serial port.

To connect your telephone to your PC:

1. Turn off your PC.
2. Determine the type of serial port (9 pin or 25 pin) you have on your PC. If you have a 9-pin serial port, you will use the 9-pin to 9-pin serial cable. If you have a 25-pin serial port, you will use the 9-pin to 25-pin serial cable.
3. Connect the 9-pin connector of the serial cable to the 9-pin connector on the back of your Callmaster VI telephone.
4. Connect the other end of the serial cable to the serial (COM) port on your PC.
5. Turn on your PC.

Proceed to "Installing the Software."

Installing the PassageWay Adapter

This section describes how to connect the PassageWay adapter to your PC and your telephone. Only perform the steps in this section if your PassageWay adapter is not installed already or if you do not have an 8411 telephone or a Callmaster VI telephone. If you have an 8411 telephone, see "Connecting Your 8411 Telephone to Your PC." If you have a Callmaster VI telephone, see "Connecting Your Callmaster VI Telephone to Your PC."

The PassageWay adapter provides an interface between your PC and your telephone, enabling you to access the DEFINITY system from your PC. The PassageWay adapter has a 9-pin connector for 9-pin serial ports. If you have a 25-pin serial port on your PC, use the 9-pin to 25-pin cable to connect the PassageWay adapter to your serial port.

The PassageWay adapter requires auxiliary power. Before installing the PassageWay adapter, consult your System Manager to determine whether your telephone has auxiliary power. If your telephone does not have auxiliary power, refer to "Install the PassageWay Adapter with a Local Power Supply." If your telephone has auxiliary power, refer to "Install the PassageWay Adapter with Telephone Closet Power."

NOTE:
Do not install the PassageWay adapter while you are active on a call.

Install the PassageWay Adapter with a Local Power Supply

Perform the following steps if your telephone requires a local power supply. You will need the 400B or 400B2 adapter, D6AP cord, and power supply provided. Refer to Figure 2-1 while installing the PassageWay adapter. The numbers in Figure 2-1 indicate the procedure steps.

To install the PassageWay adapter with a local power supply:

1. Turn off your PC.
2. Unplug the line cord from the wall jack.
3. Connect the line cord to the jack labeled “Phone” on the PassageWay adapter.
4. Place the 400B or 400B2 adapter into the wall jack.
5. Connect one end of the 7-foot, 4-pair, modular phone cord (D8W) to the jack labeled “Line” on the PassageWay adapter.
6. Connect the other end of the 7-foot, 4-pair, modular phone cord (D8W) to the Line jack on the 400B or 400B2 adapter.
7. Determine the type of serial port (9 pin or 25 pin) you have on your PC. If you have a 9-pin serial port, you will use the 9-pin to 9-pin cable. If you have a 25-pin serial port, you will use the 9-pin to 25-pin cable.
8. Connect one end of the appropriate serial cable to the 9-pin connector on the PassageWay adapter.
9. Connect the other end of the serial cable to the serial (COM) port on your PC.
10. Connect the D6AP power line to the power supply.
11. Connect the other end of the D6AP power line to the Power jack on the 400B or 400B2 adapter.

12. Plug the power supply into an AC electrical outlet.
13. Check the LED on the top of the PassageWay adapter.

    If the red LED is “on,” proceed to Step 14.

    If the red LED is “off,” proceed to the section “PassageWay Adapter LEDs” in Chapter 3.

    If the red LED is “blinking,” proceed to the section “PassageWay Adapter LEDs” in Chapter 3.
14. Turn on your PC.

Now, proceed to “Installing the Software.”

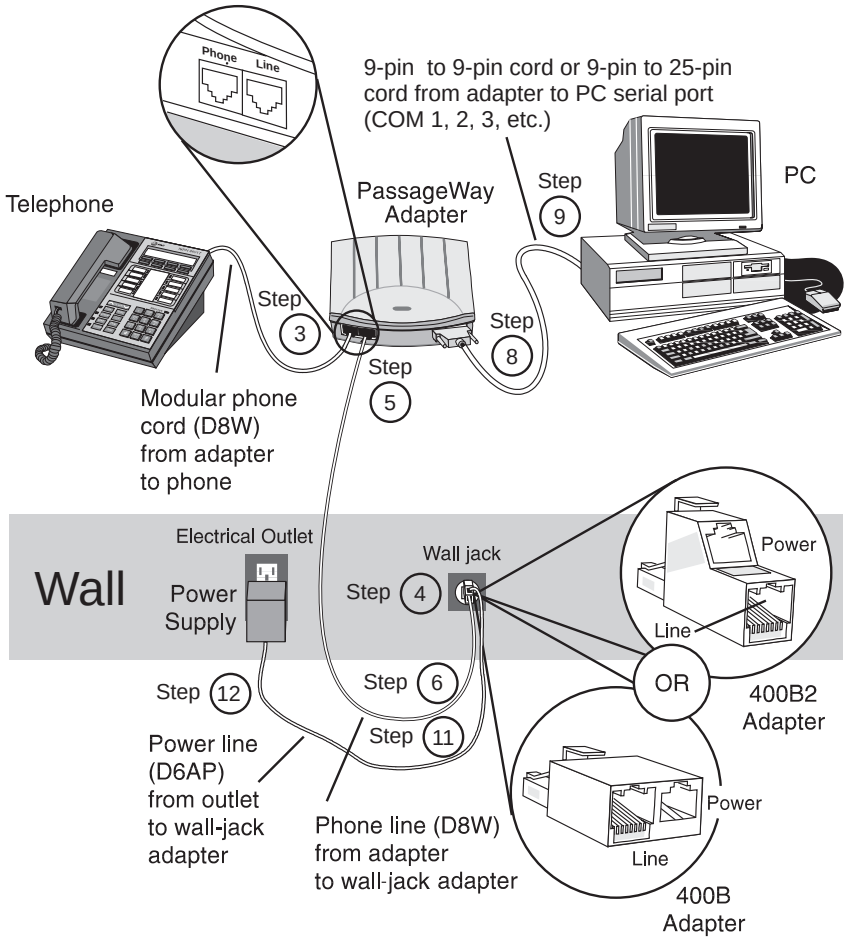

Figure 2-1. PassageWay Adapter Installed with a Local Power Supply

Install the PassageWay Adapter with Telephone Closet Power

Perform the following steps if your telephone has auxiliary power. Refer to Figure 2-2 while installing the PassageWay adapter. The numbers in Figure 2-2 indicate the procedure steps.

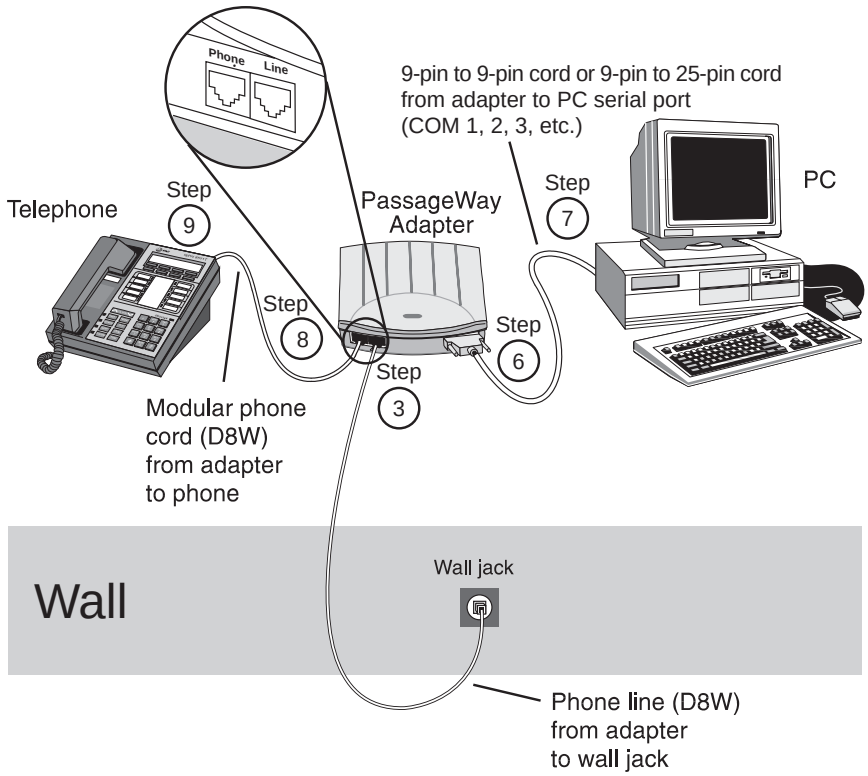

Figure 2-2. PassageWay Adapter Installed with Telephone Closet Power

To install the PassageWay adapter with telephone closet power:

1. Turn off your PC.
2. Unplug the line cord from your telephone.
3. Connect the line cord to the jack labeled “Line” on the PassageWay adapter.
4. Check the LED on the top of the PassageWay adapter.

   If the red LED is “on,” proceed to Step 5.

   If the red LED is “off,” proceed to the section “PassageWay Adapter LEDs” in Chapter 3.

   If the red LED is “blinking,” proceed to the section “PassageWay Adapter LEDs” in Chapter 3.
5. Determine the type of serial port (9 pin or 25 pin) you have on your PC. If you have a 9-pin serial port, you will use the 9-pin to 9-pin cable. If you have a 25-pin serial port, you will use the 9-pin to 25-pin cable.
6. Connect one end of the appropriate serial cable to the 9-pin connector on the PassageWay adapter.
7. Connect the other end of the serial cable to the serial (COM) port on your PC.
8. Connect one end of the 7-foot, 4-pair, modular phone cord (D8W) to the jack labeled “Phone” on the PassageWay adapter.
9. Connect the other end of the 7-foot, 4-pair, modular phone cord (D8W) to the Line jack on your telephone.
10. Turn on your PC.

Now, proceed to “Installing the Software.”

Installing the Software

This section describes how to install and configure the PassageWay Service Provider. You can modify the PassageWay Service Provider configuration information later by running the PassageWay Configurator.

NOTE:
If you have an earlier version of PassageWay Solution, you must exit Connect or AT&TConnect (if it is running) before installing the new PassageWay Service Provider.

To install the PassageWay Service Provider:

1. Start Windows (if it is not running already).
2. Shut down all applications running on your PC.
3. If you have an earlier version of PassageWay Solution applications (for example, AT&TCall, AT&TConnect, or AT&TBuzz) installed already, perform one of the following steps:

— If you do not want to run the earlier version of PassageWay Solution applications again, delete the Connect icon or AT&TConnect icon from your StartUp group (if present).

— If you want to run the earlier version of PassageWay Solution applications again, leave the Connect icon or AT&TConnect icon in your StartUp group (if present). Be sure to install the PassageWay Service Provider in the directory that contains the PassageWay Solution applications. If you install the PassageWay Service Provider in a different directory, you must manually change the properties of the Connect icon or AT&TConnect icon in the StartUp group so that it uses the new Connect application. (See your Windows User's Guide to change the properties of an icon in the StartUp group.)

4. If you are installing from diskette, insert diskette #1 of the PassageWay Service Provider software into the diskette drive of your PC.

   If you are installing from a shared directory on a network server, proceed to Step 5.

5. Perform one of the following steps:

— If you have Windows 95 or Windows NT 4.0:

   a. From the Task Bar, click on the Start button.

      The Start menu appears.

   b. Select **Run**.

      The Run dialog box appears.

— If you have Windows 3.1 or later, select **Run** from the File menu of Program Manager.

   The Run dialog box appears.

6. Depending on whether you are installing from diskette or a shared directory, perform one of the following steps:

— If the diskette is in drive A, type ***a:\setup*** in the Command Line box, and choose the OK button.

— If the diskette is in drive B, type ***b:\setup*** in the Command Line box, and choose the OK button.

— If you are installing from a shared directory, type the shared directory path (including the drive letter) provided by your Network Administrator and ***setup*** in the Command Line box, and choose the OK button.

The PassageWay for DEFINITY Service Provider Setup dialog box appears.

7. Choose the Next button.

   The Select Destination Directory dialog box appears. This dialog box displays the name of the directory where the PassageWay Service Provider software will be installed by default.

8. If the default directory is unacceptable, choose the Browse button and specify an alternate directory. Otherwise, proceed to Step 9.

9. Choose the Next button.

   If you are using Windows 95 or Windows NT 4.0, the Select App Folder dialog box appears. This dialog box displays the name of the application folder to which the PassageWay Service Provider icons will be added. Proceed to Step 10.

   If you are using Windows 3.1 or later, the Select ProgMan Group dialog box appears. This dialog box displays the name of the Program Manager group to which the PassageWay Service Provider icons will be added. Proceed to Step 10.

10. If the default application folder (for Windows 95 or Windows NT 4.0) or Program Group (for Windows 3.1 or later) is unacceptable, enter the name of the new folder or group to be created or select an existing folder or group. Otherwise, proceed to Step 11.

11. Choose the Next button.

    The Ready to Install dialog box appears.

12. Choose the Next button.

    The installation program copies files from the source diskette to the destination directory. The installation program displays a message box to inform you of its status as it installs files.

    When prompted, insert the requested PassageWay Service Provider software diskette into the PC, and choose the OK button.

    If you are using Windows 95 or Windows NT 4.0, the Creating Application Folder & Short Cuts message box appears.

    If you are using Windows 3.1 or later, the Creating Program Group & Icons message box appears.

13. Choose the OK button.

    The Installation Completed message box appears.

14. Choose the Finish button.

    If you are using Windows 95 or Windows NT 4.0, the PassageWay Configurator is launched, and it displays the Find PassageWay Phone dialog box.

    If you are using Windows 3.1 or later, the Configuring PassageWay Service Provider message box appears. Perform the following steps:

    a. Choose the OK button in the Configuring PassageWay Service Provider message box.

       The Telephony window appears.

    b. In the Telephony window, choose the Driver Setup button.

       The Telephony Drivers dialog box appears.

c. Perform one of the following steps:

- If the Lucent PassageWay Service Provider is listed in the Telephony Drivers dialog box, select it, and then choose the Setup button.
- If the Lucent PassageWay Service Provider is not listed in the Telephony Drivers dialog box:

  i. Choose the Add button.

     The Add Driver dialog box appears.

  ii. Select the **`Lucent PassageWay Service Provider`**, and then choose the Add button.

The PassageWay Configurator is launched, and it displays the Find PassageWay Phone dialog box.

Figure 2-3. Find PassageWay Phone Dialog Box

The PassageWay Configurator is a software application that enables you to set up the PassageWay Service Provider. Until you set up the PassageWay Service Provider, you will be unable to use any TAPI applications.

Setting up the PassageWay Service Provider consists of specifying the following information:

— the COM port to which the 8411 telephone, Callmaster VI telephone, or PassageWay adapter is connected

— type of telephone you have

— the telephone number, the type (that is, primary, bridged, or monitored), and the location of call appearances on your telephone

— the location of feature buttons on your telephone

— the access codes for the features you want to program on your telephone

NOTE:
The PassageWay Configurator does not verify whether the information you enter is correct. When you run a TAPI application (for example, Telephony Manager), the PassageWay Service Provider tries to use the information you entered via the PassageWay Configurator. If the information you entered in the PassageWay Configurator was correct, the TAPI application works properly. If any of the information you entered is incorrect, the TAPI application will not work. You must then run the PassageWay Configurator and change the incorrect information.

The Find PassageWay Phone dialog box enables you to have the PassageWay Configurator determine the COM port to which your telephone or PassageWay adapter is connected.

15. Choose the Yes button.

    If the PassageWay Configurator found the COM port to which your telephone or PassageWay adapter is connected, the PassageWay Link Found message box appears. Choose the OK button. The PassageWay Configurator - COM Port dialog box appears, and the option button for the corresponding COM port is selected.

    If the PassageWay Configurator did not find the COM port to which your telephone or PassageWay adapter is connected, the PassageWay Link Not Found message box appears. Choose the OK button. The PassageWay Configurator - COM Port dialog box appears, and no COM port option button is selected.

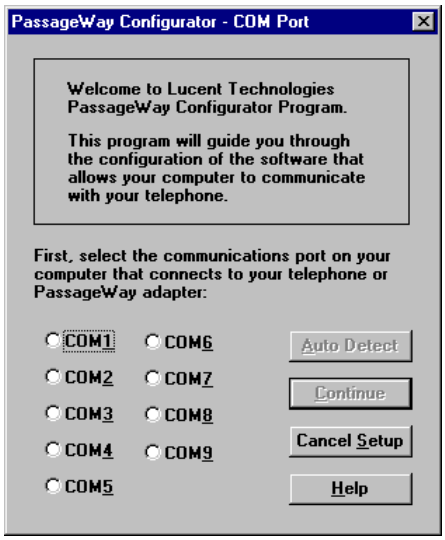

Figure 2-4. Sample PassageWay Configurator - COM Port Dialog Box

16. Perform one of the following steps:

    — If PassageWay "found" the COM port for you, choose the Continue button.

    — If PassageWay did not find the COM port for you, select the option button of the COM port in your PC to which your telephone (if you have an 8411 telephone or Callmaster VI telephone) or PassageWay adapter is connected, and then choose the Continue button.

    The Telephone Models dialog box appears.

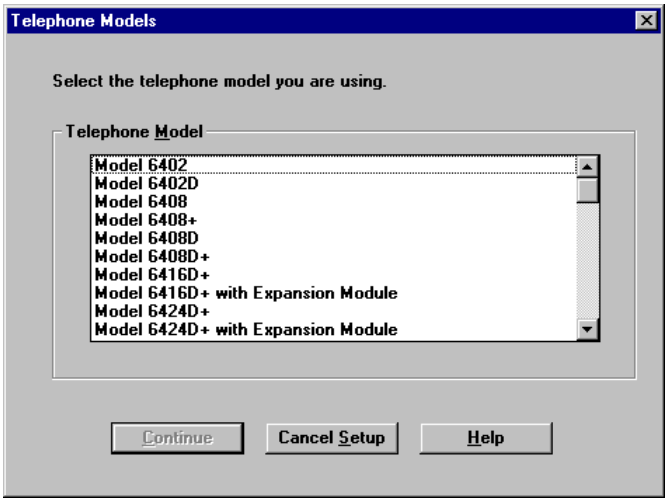

Figure 2-5. Telephone Models Dialog Box

Depending on the type of telephone you are using, proceed to the appropriate section of this chapter:

- If you are using a 7400 Series, 8400 Series, or Callmaster telephone, proceed to “Configuring 7400 Series, 8400 Series, and Callmaster Telephones” later in this chapter.
- If you are using a 6400 Series telephone, proceed to “Configuring 6400 Series Telephones” later in this chapter.

Configuring 7400 Series, 8400 Series, and Callmaster Telephones

If you are using a 7400 Series, 8400 Series, or Callmaster telephone, perform the following steps to configure your telephone:

1. From the Telephone Models dialog box, select the telephone you are using, and then choose the Continue button.

   If you are using a Callmaster VI telephone, the Phone Line Information dialog box appears. Proceed to Step 4.

   If you are using a 7400 Series, 8400 Series, or Callmaster telephone other than a Callmaster VI, the Telephone Options dialog box appears.

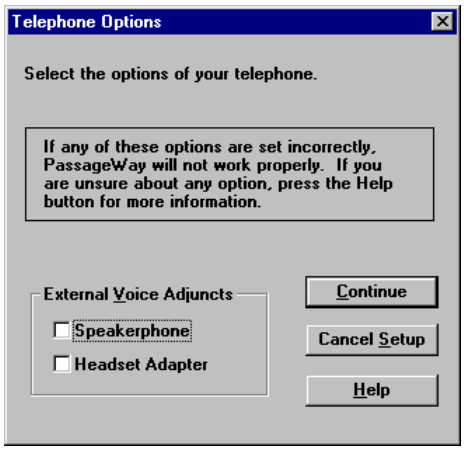

Figure 2-6. Sample Telephone Options Dialog Box

The Telephone Options dialog box enables you to specify whether your telephone has an external voice adjunct (that is, an external speakerphone or a headset adapter), if supported.

2. In the External Voice Adjuncts area, select the external voice adjunct you have (if any).

NOTE:
If you have a non-display telephone, the Advanced button is present. The Advanced button gives you the ability to use display features such as caller ID. By choosing the Advanced button, you can specify that your extension has display capabilities even though your telephone does not have a display. However, in order for your extension to have these display capabilities, your DEFINITY System Manager must administer your extension for display capabilities.

3. When you are finished, choose the Continue button.

   The Phone Line Information dialog box appears.

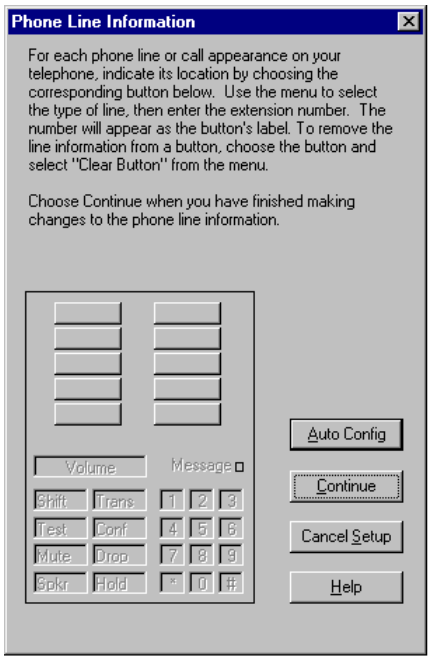

Figure 2-7. Sample Phone Line Information Dialog Box

This dialog box presents a representation of the buttons on your telephone.

If your company has a DEFINITY G3 V5 or later system, the PassageWay Configurator can automatically download the following information for your telephone from the DEFINITY system via the Auto Config button:

— the location and type (that is, primary line, bridged line, or monitored line) of call appearances on your telephone.

— the location of features assigned to buttons on your telephone.

— the feature access codes for certain features that are not programmed as buttons on your telephone.

If you want to configure your telephone automatically via the Auto Config button, you must:

— have a display telephone. However, you can use a non-display telephone if your company's DEFINITY System Manager administers your extension as a display telephone. Consult your DEFINITY System Manager. If you have a non-display telephone, you must also use the Advanced button in the Telephone Options dialog box to specify that your extension has display capabilities even though your telephone does not have a display.

— know the PASTE feature access code for your DEFINITY system. You must contact your DEFINITY System Manager for this feature access code.

— have a Next feature button administered on your telephone, depending on your type of telephone. If you have a 7400 Series telephone, an 8400 Series telephone, or a Callmaster telephone other than a Callmaster VI, you must have a Next feature button administered on your telephone. However, if you have a Callmaster VI telephone, you do not need a Next feature button administered on your telephone.

If you do not use the Auto Config button, you will use the Phone Line dialog box to specify the location and type for each call appearance on your telephone. You can specify the following types of call appearances:

— Primary Line, which is the extension of your telephone.

— Bridged Line, which is the extension of another person's telephone to which you have full access (that is, you can "bridge" onto calls appearing at that person's telephone).

— Monitored Line, which is the extension of another person's telephone for which you can monitor the status (that is, in use, on hold, or inactive).

4. Perform one of the following steps:

— If you want to manually configure the PassageWay Configurator, proceed to Step 5.

— If you want to automatically configure the PassageWay Configurator, perform the following steps:

   a. If you have a Callmaster VI telephone, proceed to Step c.

      If you do not have a Callmaster VI telephone, choose the button where the Next button is located on your telephone.

      A submenu appears.

   b. Choose **Next**.

      The Next label appears on the button you selected.

   c. Choose the Auto Config button.

      The PASTE Requirements dialog box appears, stating the requirements for using this feature. If your system meets the requirements, proceed to Step d. Otherwise, choose the Cancel button and proceed to Step 5 to manually configure the PassageWay Configurator.

d. Choose the OK button.

   The Enter PASTE Feature Access Code dialog box appears. You must enter the PASTE feature access code for your DEFINITY system. Without this feature access code, the PassageWay Configurator cannot download your telephone's configuration information from the DEFINITY system. Consult your DEFINITY System Manager to get this feature access code.

e. Enter the PASTE feature access code, and then choose the Continue button.

   The PASTE Download dialog box appears, and the OK button is disabled.

   NOTE:
   The download will take several minutes.

f. Choose the Begin button.

   The configuration information is downloaded from the DEFINITY system. If you have a PassageWay adapter installed, you may hear some dialing occur during the download.

   When the download is complete, the OK button is enabled.

g. Choose the OK button.

   If you have a Callmaster VI telephone, the Feature Access Codes dialog box appears, displaying the feature access codes for you DEFINITY system. You cannot change any of this information during this session. To change this information, you must restart the PassageWay Configurator. Proceed to Step i.

If you do not have a Callmaster VI telephone, the Phone Line Information dialog box appears, displaying the locations of all call appearances and feature buttons on your telephone. You cannot change any of this information during this session. To change this information, you must restart the PassageWay Configurator. Proceed to Step h.

h. Choose the Continue button.

   The Feature Access Codes dialog box appears, displaying the feature access codes for your DEFINITY system. You cannot change any of this information during this session. To change this information, you must restart the PassageWay Configurator.

i. Choose the Continue button.

   The PassageWay Configurator - Complete message box appears.

j. Proceed to Step 16.

5. Choose the location of a call appearance on your telephone.

   A submenu appears displaying “Clear Button,” “Primary Line,” “Bridged Line,” “Monitored Line,” and “Cancel.”

NOTE:
Make sure you specify the correct location and type of each call appearance on your telephone. If you incorrectly specify any of this information, your system will not work as expected.

6. Choose the appropriate type of call appearance for the selected button.

   If you select **`Clear Button`**, the programming (if any) and label (if any) are removed from that button.

   If you select **`Cancel`**, the submenu closes, and the programming for the selected button is not changed.

   If you select one of the other options, another dialog box appears. You must enter the appropriate information in that dialog box, and then choose the OK button in that dialog box.

7. Repeat Steps 5 and 6 for any other call appearances on your telephone.

8. When you are finished, choose the Continue button.

   If you are using a Callmaster VI telephone, the Feature Access Codes dialog box appears. Proceed to Step 13.

If you are using a 7400 Series, 8400 Series, or Callmaster telephone other than a Callmaster VI, the Feature Buttons dialog box appears.

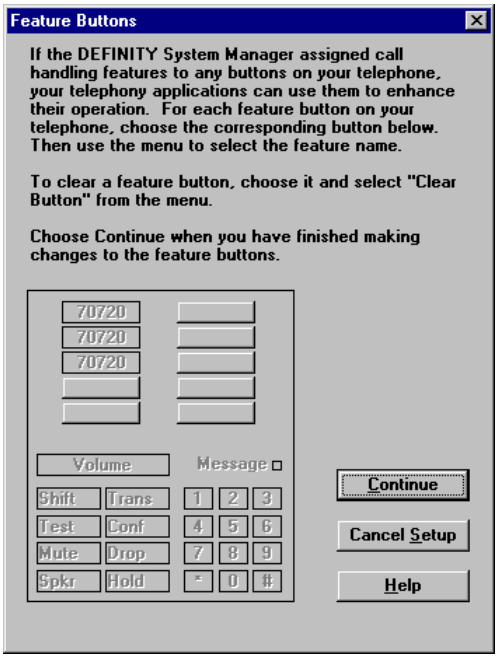

Figure 2-8. Sample Feature Buttons Dialog Box

NOTE:
The Feature Buttons dialog box only shows the buttons on your telephone to which features can be programmed. This dialog box does not show the soft keys on your telephone (if available).

Using this dialog box, you specify the location of call handling features assigned to buttons on your telephone by the DEFINITY System Manager. By specifying the locations of feature buttons, other telephony applications can use these call handling features to enhance their operation.

The PassageWay Service Provider can recognize the following call handling features programmed to your telephone:

— Auto Call Back

— Call Answer Back

— Call Forward

— Call Information

— Call Park

— Call Pickup

— Drop

— Inspect

— Leave Word Calling

— Leave Word Cancel

— Normal (if supported by your telephone)

— Release

— Send All Calls

— Speed Call Button

— Speed Call Program

NOTE:

- Features that cannot be programmed to buttons on your telephone are disabled (that is, you cannot program these features).
- Make sure you specify the correct type and location of each feature assigned to buttons on your telephone. If you incorrectly specify any of this information, your system will not work as expected.

9. Choose a button where a feature is assigned.

   A submenu appears, displaying the following options:

— Clear Button

— Auto Call Back

— Call Answer Back

— Call Forward

— Call Information

— Call Park

— Call Pickup

— Drop

— Inspect

— Leave Word Calling

— Leave Word Cancel

— Normal

— Release

— Send All Calls

— Speed Call Button

— Speed Call Program

— Cancel

10. Choose the appropriate feature for the selected button.

    The label for the selected feature appears on the button.

11. Repeat Steps 9 and 10 for any other buttons.

12. When you are finished, choose the Continue button.

    The Feature Access Codes dialog box appears.

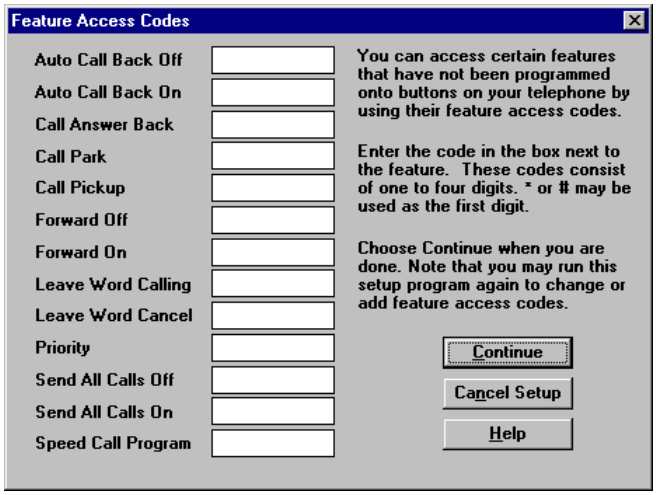

Figure 2-9. Feature Access Codes Dialog Box

Using this dialog box, you can program the following features to your telephone:

— Auto Call Back Off

— Auto Call Back On

— Call Answer Back

— Call Park

— Call Pickup

— Forward Off

— Forward On

— Leave Word Calling

— Leave Word Cancel

— Priority

— Send All Calls Off

— Send All Calls On

— Speed Call Program

NOTE:

- Before you can program these features to your telephone, you must know the associated feature access codes. If you incorrectly specify this information, your system will not work as expected. Consult your DEFINITY System Manager for these access codes.
- Features that your telephone does not support are disabled (that is, you cannot program these features).

13. In the box to the right of the feature you want to program, enter the access code for that feature.
14. Repeat Step 13 for any other features you want to program.
15. When you are finished, choose the Continue button.

    The PassageWay Configurator - Complete message box appears.
16. Choose the OK button.

    If you are using Windows 95 or Windows NT 4.0, the Configuration Complete message box appears. Proceed to Step 17.

    If you are using Windows 3.1 or later, the Telephony Drivers dialog box appears. Perform the following steps:

    a. In the Telephony Drivers dialog box, choose the Close button.

    b. In the Telephony window, choose the Close button.

       The Configuration Complete message box appears. Proceed to Step 17.
17. Choose the OK button.

    The Verify Firmware Version dialog box appears.

    NOTE:
    If you have a Callmaster VI telephone, do not verify the firmware version. Make sure the check box is not selected.

    If you want to verify that your PassageWay adapter or 8411 telephone has current firmware, make sure the check box is selected. (This check box is selected by default.) If the firmware in your PassageWay adapter or 8411 telephone is not current, you may be unable to make and receive calls with Telephony Manager. By selecting this check box, the version of the firmware in your PassageWay adapter or 8411 telephone will be checked.

If you are using Windows 95 or Windows 3.1, the Connect application will be started, and it will check the version of the firmware in your PassageWay adapter or 8411 telephone. If you are using Windows NT Workstation 4.0 or later or Windows NT Server 4.0 or later, the Pumpware Module will be started, and it will check the version of the firmware in your PassageWay adapter or 8411 telephone. If the firmware is not current, Connect or the Pumpware Module will "pump" new firmware to the PassageWay adapter or 8411 telephone.

18. Choose the Next button.

    If you are using Windows 95 or Windows 3.1 and the check box was selected, Connect starts, verifies the PassageWay link, and then checks the firmware version. If the firmware is current, the Connect button (with Window 95) or Connect icon (Windows 3.1) appears at the bottom of your screen. Proceed to Step 22.

    If the firmware is not current, a Connect dialog box appears, stating that the PassageWay firmware is not fully compatible with Connect. Proceed to Step 19.

    If you are using Windows NT and the check box was selected, the Pumpware Module starts, verifies the PassageWay link, and then checks the firmware version. If the firmware is current, the Pumpware window appears. Proceed to Step 22.

    If the firmware is not current, a dialog box appears, stating that the PassageWay firmware is not fully compatible with the Pumpware Module. Proceed to Step 19.

    If the check box was not selected, the View README file dialog box appears. If you want to view the Readme file now, make sure the check box is selected. (This check box is selected by default.) If you do not want to view the Readme file now, make sure the check box is not selected. Proceed to Step 23.

19. Choose the Yes button to update the PassageWay firmware now.

    A dialog box appears, stating that the PassageWay firmware is about to be downloaded.

    NOTE:
    You will be unable to make or receive any calls during the download. The download process takes several minutes.

20. Hang up any calls that are on your telephone, and then choose the OK button.

    The firmware is downloaded to the PassageWay adapter or 8411 telephone. A window displays the status of the download.

    If the download was successful, a message box appears, stating that the download was successful.

    If the download was unsuccessful, a dialog box appears, stating that an error occurred during the procedure and prompting you to repeat the download procedure. Choose the Retry button and repeat the download procedure.

21. Choose the OK button.

    Depending on your version of Windows, Connect or the Pumpware Module verifies the PassageWay link. While the PassageWay link is verified, the mouse arrow becomes an hourglass. When Connect or the Pumpware Module is finished verifying the link, the hourglass becomes an arrow again. The PassageWay link verification message box remains on your screen. Proceed to Step 22.

22. If you are using Windows 95, click on the Connect button on the bottom of your screen to open the Connect window, and then select **Exit** from the File menu in Connect to close Connect.

    If you are using Windows NT, select **Exit** from the File menu in the Pumpware window to close the Pumpware Module.

If you are using Windows 3.1, double-click on the Connect icon on the bottom of your screen to open the Connect window, and then select **Exit** from the File menu in Connect to close Connect.

The View README File dialog box appears. If you want to view the Readme file now, make sure the check box is selected. (This check box is selected by default.) If you do not want to view the Readme file now, make sure the check box is not selected.

23. Choose the Finish button.

    If the *Readme file* check box was selected, the Notepad window appears, displaying the contents of the Readme file. Proceed to Step 24.

    If the *Readme file* check box was not selected, the About To Restart Windows message box appears. Proceed to Step 25.

24. When you are finished reading the Readme file, select **Exit** from the File menu to close the Notepad window.

    NOTE:
    If you have any other Notepad windows open, you must close all of them now. The installation will not continue until all Notepad windows are closed.

    The About To Restart Windows message box appears.

25. Choose the OK button.

    The Install dialog box appears.

26. Remove the diskette from the diskette drive, and choose the OK button.

    Depending on your version of Windows, either the system or Windows restarts.

The PassageWay Service Provider is now installed.

If you need to modify any of the information for your telephone (for example, lines or features are added to or removed from your telephone), run the PassageWay Configurator. The PassageWay Configurator is located in the application folder/program group that contains the PassageWay Service Provider. (The default application folder is `PassageWay for DEFINITY`.)

NOTE:
If you experience any difficulties running telephony applications, ask your DEFINITY System Manager to check the administration of your telephone and then run the PassageWay Configurator again to correct any errors you may have made.

Configuring 6400 Series Telephones

If you are using a 6400 Series telephone, perform the following steps to configure your telephone:

1. From the Telephone Models dialog box, select the telephone you are using, and then choose the Continue button.

   Depending on the type of telephone you selected, one of the following dialog boxes appears:

— If you selected a 6402, 6408, or 6408+ telephone, the Advanced Options dialog box appears.

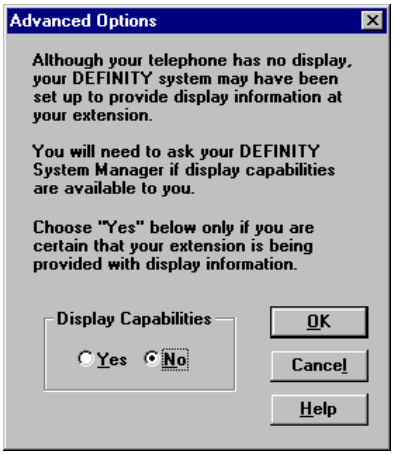

Figure 2-10. Sample Advanced Options Dialog Box

The Advanced Options dialog box gives you the ability to use display features such as caller ID. Using this dialog box, you can specify that your extension has display capabilities even though your telephone does not have a display. However, in order for your extension to have these display capabilities, your DEFINITY System Manager must administer you extension for display capabilities.

Perform the following steps:

i. Specify whether your extension has display capabilities. Choose the *Yes* option button if your extension has display capabilities. Otherwise, choose the *No* option button.

ii. Choose the OK button.

The Phone Line Information dialog box appears (Figure 2-11).

— If you selected a 6400 Series telephone other than a 6402, 6408, or 6408+ telephone, the Phone Line Information dialog box appears.

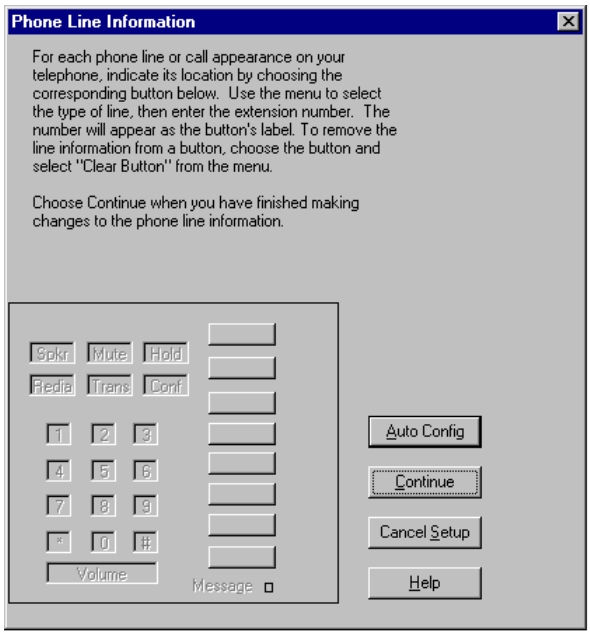

Figure 2-11. Sample Phone Line Information Dialog Box for a 6408D Telephone

This dialog box presents a representation of the buttons on your telephone.

If your company has a DEFINITY G3 V5 or later system, the PassageWay Configurator can automatically download the following information for your telephone from the DEFINITY system via the Auto Config button:

— the location and type (that is, primary line, bridged line, or monitored line) of call appearances on your telephone.

— the location of features assigned to buttons on your telephone.

— the feature access codes for certain features that are not programmed as buttons on your telephone.

If you want to configure your telephone automatically via the Auto Config button, you must:

— have a display telephone. However, you can use a non-display telephone if your company's DEFINITY System Manager administers your extension as a display telephone. Consult your DEFINITY System Manager. If you have a non-display telephone, you must also use the Advanced Options dialog box to specify that your extension has display capabilities even though your telephone does not have a display.

NOTE:
You cannot automatically download the configuration information for your telephone if you have a 6402 telephone or a 6402D telephone.

— know the PASTE feature access code for your DEFINITY system. You must contact your DEFINITY System Manager for this feature access code.

— have a Next feature button administered on your telephone, depending on your type of telephone. If you have a 6400 Series telephone without a display, you must have a Next feature button administered on your telephone. However, if you have a 6400 Series telephone with a display, you do not need a Next feature button administered on your telephone.

If you do not use the Auto Config button, you will use the Phone Line dialog box to specify the location and type for each call appearance on your telephone. You can specify the following types of call appearances:

— Primary Line, which is the extension of your telephone.

— Bridged Line, which is the extension of another person's telephone to which you have full access (that is, you can "bridge" onto calls appearing at that person's telephone).

— Monitored Line, which is the extension of another person's telephone for which you can monitor the status (that is, in use, on hold, or inactive).

2. Perform one of the following steps:

— If you want to manually configure the PassageWay Configurator, proceed to Step 3.

— If you want to automatically configure the PassageWay Configurator, perform the following steps:

   a. If you have a 6400 Series telephone with a display, proceed to Step c.

      If you have a 6400 Series telephone without a display, choose the button where the Next feature button is located on your telephone.

      A submenu appears.

b. Choose **Next**.

   The Next label appears on the button you selected.

c. Choose the Auto Config button.

   The PASTE Requirements dialog box appears, stating the requirements for using this feature. If your system meets the requirements, proceed to Step d. Otherwise, choose the Cancel button and proceed to Step 3 to manually configure the PassageWay Configurator.

d. Choose the OK button.

   The Enter PASTE Feature Access Code dialog box appears. You must enter the PASTE feature access code for your DEFINITY system. Without this feature access code, the PassageWay Configurator cannot download your telephone's configuration information from the DEFINITY system. Consult your DEFINITY System Manager to get this feature access code.

e. Enter the PASTE feature access code, and then choose the Continue button.

   The PASTE Download dialog box appears, and the OK button is disabled.

   NOTE:
   The download will take several minutes.

f. Choose the Begin button.

   The configuration information is downloaded from the DEFINITY system. If you have a PassageWay adapter installed, you may hear some dialing occur during the download.

   When the download is complete, the OK button is enabled.

g. Choose the OK button.

   The Phone Line Information dialog box appears, displaying the locations of all call appearances and feature buttons on your telephone. You cannot change any of this information during this session. To change this information, you must restart the PassageWay Configurator.

h. Choose the Continue button.

   The Feature Access Codes dialog box appears, displaying the feature access codes for your DEFINITY system. You cannot change any of this information during this session. To change this information, you must restart the PassageWay Configurator.

i. Choose the Continue button.

   The PassageWay Configurator - Complete message box appears.

j. Proceed to Step 14.

3. Choose the location of a call appearance on your telephone.

   A submenu appears displaying “Clear Button,” “Primary Line,” “Bridged Line,” “Monitored Line,” and “Cancel.”

   NOTE:
   Make sure you specify the correct location and type of each call appearance on your telephone. If you incorrectly specify any of this information, your system will not work as expected.

4. Choose the appropriate type of call appearance for the selected button.

   If you select **`Clear Button`**, the programming (if any) and label (if any) are removed from that button.

   If you select **`Cancel`**, the submenu closes, and the programming for the selected button is not changed.

   If you select one of the other options, another dialog box appears. You must enter the appropriate information in that dialog box, and then choose the OK button in that dialog box.

5. Repeat Steps 3 and 4 for any other call appearances on your telephone.

6. When you are finished, choose the Continue button.

   The Feature Buttons dialog box appears.

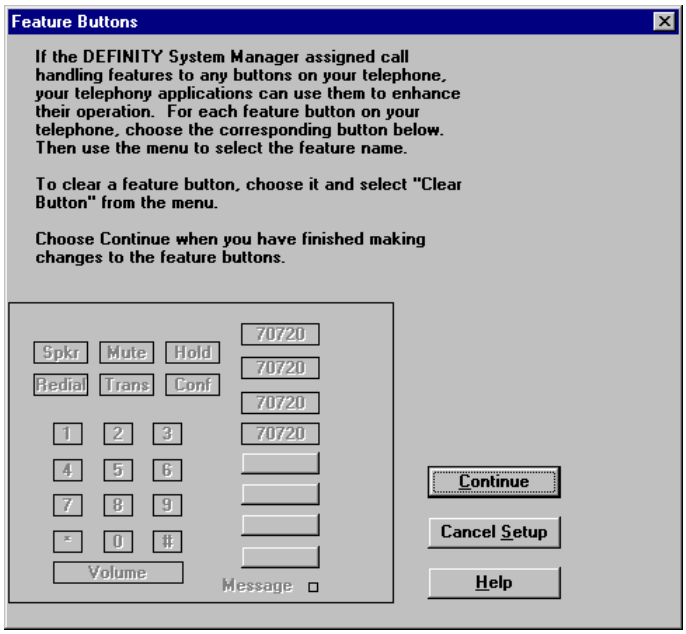

Figure 2-12. Sample Feature Buttons Dialog Box

NOTE:
The Feature Buttons dialog box only shows the buttons on your telephone to which features can be programmed. This dialog box does not show the soft keys on your telephone (if available).

Using this dialog box, you specify the location of call handling features assigned to buttons on your telephone by the DEFINITY System Manager. By specifying the locations of feature buttons, other telephony applications can use these call handling features to enhance their operation.

The PassageWay Service Provider can recognize the following call handling features programmed to your telephone:

— Auto Call Back

— Call Answer Back

— Call Forward

— Call Information

— Call Park

— Call Pickup

— Drop

NOTE:
You should have a Drop feature button programmed on your telephone. Consult your DEFINITY System Manager.

— Inspect

— Leave Word Calling

— Leave Word Cancel

— Normal (if supported by your telephone)

— Release

— Send All Calls

— Speed Call Button

— Speed Call Program

NOTE:

- Features that cannot be programmed to buttons on your telephone are disabled (that is, you cannot program these features).
- Make sure you specify the correct type and location of each feature assigned to buttons on your telephone. If you incorrectly specify any of this information, your system will not work as expected.

7. Choose a button where a feature is assigned.

   A submenu appears, displaying the following options:

— Clear Button

— Auto Call Back

— Call Answer Back

— Call Forward

— Call Information

— Call Park

— Call Pickup

— Drop

— Inspect

— Leave Word Calling

— Leave Word Cancel

— Normal

— Release

— Send All Calls

— Speed Call Button

— Speed Call Program

— Cancel

8. Choose the appropriate feature for the selected button.

   The label for the selected feature appears on the button.

9. Repeat Steps 7 and 8 for any other buttons.

10. When you are finished, choose the Continue button.

    The Feature Access Codes dialog box appears.

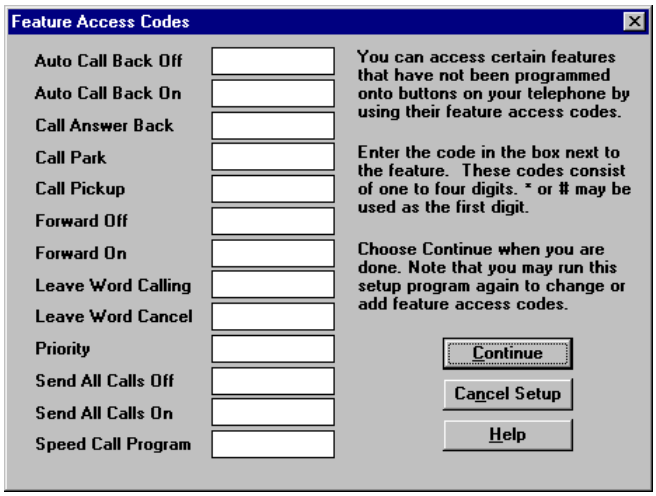

Figure 2-13. Feature Access Codes Dialog Box

Using this dialog box, you can program the following features to your telephone:

— Auto Call Back Off

— Auto Call Back On

— Call Answer Back

— Call Park

— Call Pickup

— Forward Off

— Forward On

— Leave Word Calling

— Leave Word Cancel

— Priority

— Send All Calls Off

— Send All Calls On

— Speed Call Program

NOTE:

- Before you can program these features to your telephone, you must know the associated feature access codes. If you incorrectly specify this information, your system will not work as expected. Consult your DEFINITY System Manager for these access codes.
- Features that your telephone does not support are disabled (that is, you cannot program these features).

11. In the box to the right of the feature you want to program, enter the access code for that feature.

12. Repeat Step 11 for any other features you want to program.
13. When you are finished, choose the Continue button.

    The PassageWay Configurator - Complete message box appears.
14. Choose the OK button.

    If you are using Window 95 or Windows NT 4.0, the Configuration Complete message box appears. Proceed to Step 15.

    If you are using Windows 3.1 or later, the Telephony Drivers dialog box appears. Perform the following steps:

    a. In the Telephony Drivers dialog box, choose the Close button.

    b. In the Telephony window, choose the Close button.

       The Configuration Complete message box appears. Proceed to Step 15.
15. Choose the OK button.

    The Verify Firmware Version dialog box appears. If you want to verify that your PassageWay adapter has current firmware, make sure the check box is selected. (This check box is selected by default.) If the firmware in your PassageWay adapter is not current, you may be unable to make and receive calls using the PassageWay Service Provider. By selecting this check box, the version of the firmware in your PassageWay adapter will be checked.

    If you are using Windows 95 or Windows 3.1, the Connect application will be started, and it will check the version of the firmware in your PassageWay adapter. If you are using Windows NT Workstation 4.0 or later or Windows NT Server 4.0 or later, the Pumpware Module will be started, and it will check the version of the firmware in your PassageWay adapter. If the firmware is not current, Connect or the Pumpware Module will “pump” new firmware to the PassageWay adapter.

16. Choose the Next button.

    If you are using Window 95 or Windows 3.1 and the check box was selected, Connect starts, verifies the PassageWay link, and then checks the firmware version. If the firmware is current, the Connect button (in Windows 95) or Connect icon (in Windows 3.1) appears at the bottom of your screen. Proceed to Step 20.

    If the firmware is not up-to-date, a Connect dialog box appears, stating that the PassageWay firmware is not fully compatible with Connect. Proceed to Step 17.

    If you are using Window NT and the check box was selected, the Pumpware Module starts, verifies the PassageWay link, and then checks the firmware version. If the firmware is current, the Pumpware window appears. Proceed to Step 20.

    If the firmware is not up-to-date, a Pumpware Module dialog box appears, stating that the PassageWay firmware is not fully compatible with the Pumpware Module. Proceed to Step 17.

    If the check box was not selected, the View README file dialog box appears. If you want to view the Readme file now, make sure the check box is selected. (This check box is selected by default.) If you do not want to view the Readme file now, make sure the check box is not selected. Proceed to Step 21.

17. Choose the Yes button to update the PassageWay firmware now.

    A dialog box appears, stating that the PassageWay firmware is about to be downloaded.

    NOTE:
    You will be unable to make or receive any calls during the download. The download process takes several minutes.

18. Hang up any calls that are on your telephone, and then choose the OK button.

    The firmware is downloaded to the PassageWay adapter. A window displays the status of the download. The download process takes several minutes.

    If the download was successful, a message box appears, stating that the download was successful.

    If the download was unsuccessful, a dialog box appears, stating that an error occurred during the procedure and prompting you to repeat the download procedure. Choose the Retry button and repeat the download procedure.

19. Choose the OK button.

    Depending on your version of Windows, Connect or the Pumpware Module verifies the PassageWay link. While the PassageWay link is verified, the mouse arrow becomes an hourglass. When Connect or the Pumpware Module is finished verifying the link, the hourglass becomes an arrow again. The PassageWay link verification message box remains on your screen. Proceed to Step 20.

20. If you are using Windows 95, click on the Connect button on the bottom of your screen to open the Connect window, and then select **Exit** from the File menu in Connect to close Connect.

    If you are using Windows NT, select **Exit** from the File menu in the Pumpware window to close the Pumpware Module.

    If you are using Windows 3.1, double-click on the Connect icon on the bottom of your screen to open the Connect window, and then select **Exit** from the File menu in Connect to close Connect.

    The View README File dialog box appears. If you want to view the Readme file now, make sure the check box is selected. (This check box is selected by default.) If you do not want to view the Readme file now, make sure the check box is not selected.

21. Choose the Finish button.

    If the *Readme file* check box was selected, the Notepad window appears, displaying the contents of the Readme file. Proceed to Step 22.

    If the *Readme file* check box was not selected, the About To Restart Windows message box appears. Proceed to Step 23.

22. When you are finished reading the Readme file, select **`Exit`** from the File menu to close the Notepad window.

    NOTE:
    If you have any other Notepad windows open, you must close all of them now. The installation will not continue until all Notepad windows are closed.

    The About To Restart Windows message box appears.

23. Choose the OK button.

    The Install dialog box appears.

24. Remove the diskette from the diskette drive, and choose the OK button.

    Depending on your version of Windows, either the system or Windows restarts.

The PassageWay Service Provider is now installed.

If you need to modify any of the information for your telephone (for example, lines or features are added to or removed from your telephone), run the PassageWay Configurator. The PassageWay Configurator is located in the application folder/program group that contains the PassageWay Service Provider. (The default application folder is `PassageWay for DEFINITY`.)

NOTE:
If you experience any difficulties running telephony applications, ask your DEFINITY System Manager to check the administration of your telephone and then run the PassageWay Configurator again to correct any errors you may have made.

Verifying the PassageWay Firmware

This section describes how to verify that you have an up-to-date version of the PassageWay firmware in your 8411 telephone or PassageWay adapter. If the PassageWay firmware is out of date, you must load the new firmware. If the PassageWay firmware is out of date and you do not load the new firmware, you will be unable to run any telephony applications.

NOTE:
You cannot verify or load new firmware for Callmaster VI telephones.

Verifying the PassageWay Firmware in Windows 95

To verify the PassageWay firmware in Windows 95:

1. Select the Start button.

   The Start menu appears.

2. Select **Programs**.

3. Select the application folder that contains the PassageWay Service Provider. (The default application folder is `PassageWay for DEFINITY`.)

4. Select **PassageWay Connect**.

   If the Connect button appears at the bottom of your screen, the PassageWay firmware is up to date.

   If a dialog box appears informing you that the PassageWay firmware is out of date, choose the Yes button to load (or "pump") the new PassageWay firmware to the 8411 telephone or PassageWay adapter. Follow the on-screen prompts to "pump" the new firmware.

5. Close Connect.

The PassageWay firmware is now verified.

Verifying the PassageWay Firmware in Windows NT 4.0

To verify the PassageWay firmware in Windows NT 4.0:

1. Select the Start button.

   The Start menu appears.

2. Select **Programs**.

3. Select the application folder that contains the PassageWay Service Provider. (The default application folder is `PassageWay for DEFINITY`.)

4. Select **PassageWay Pumpware Module**.

   A dialog box appears informing you whether the PassageWay firmware is out of date.

   If the dialog box states that the PassageWay firmware is out of date, choose the Yes button to load (or "pump") the new PassageWay firmware to the 8411 telephone or PassageWay adapter.

   If the dialog box states that the PassageWay is up to date, choose the No button.

The PassageWay firmware is now verified.

Verifying the PassageWay Firmware in Windows 3.1 or Later

To verify the PassageWay firmware in Windows 3.1 or later:

1. Open the program group that contains the PassageWay Service Provider. (The default program group is PassageWay for DEFINITY Service Provider.)
2. Double-click on the PassageWay Connect icon.

   If the Connect icon appears at the bottom of your screen, the PassageWay firmware is up to date.

   If a dialog box appears informing you that the PassageWay firmware is out of date, choose the Yes button to load (or "pump") the new PassageWay firmware to the 8411 telephone or PassageWay adapter.
3. Close Connect.

The PassageWay firmware is now verified.

Removing the PassageWay Service Provider

Use the following procedure to remove the PassageWay Service Provider.

If you are using Windows 95 or Windows NT 4.0, proceed to "Removing the PassageWay Service Provider in Windows 95 or Windows NT 4.0."

If you are using Windows 3.1 or later, proceed to "Removing the PassageWay Service Provider in Windows 3.1 or Later."

Removing the PassageWay Service Provider in Windows 95 or Windows NT 4.0

To remove the PassageWay Service Provider from your PC in Windows 95 or Windows NT 4.0:

1. Close all PassageWay applications and telephony applications.
2. Select the Start button.

   The Start menu appears.
3. Select **`Programs`**.
4. Select the application folder that contains the PassageWay Service Provider. (The default application folder is `PassageWay for DEFINITY`.)
5. Select **`UnInstaller for Service Provider`**.

   The PassageWay for DEFINITY UnInstaller dialog box appears.
6. Choose the Next button.

   The Ready to UnInstall dialog box appears.

7. Choose the Finish button.

   The Perform Uninstall status box appears, displaying the status of the uninstall process. When the uninstall is completed, the UnInstaller Finished message box appears.

8. Choose the OK button.

Removing the PassageWay Service Provider in Windows 3.1 or Later

To remove the PassageWay Service Provider from your PC in Windows 3.1 or later:

1. Close all PassageWay applications and telephony applications.
2. Open the program group that contains the PassageWay Service Provider. (The default program group is `PassageWay for DEFINITY`.)
3. Double-click on the UnInstaller for Service Provider icon.

   The PassageWay for DEFINITY UnInstaller dialog box appears.

4. Choose the Next button.

   The Remove Service Provider dialog box appears.

5. Choose the OK button.

   The Telephony window appears.

6. Choose the Driver Setup button.

   The Telephony Drivers dialog box appears.

7. In the Installed Drivers box, select **`Lucent PassageWay Service Provider`**, and choose the Remove button.

   A Telephony dialog box appears, prompting you to confirm that you want to remove the selected Telephony Service Provider.

8. Choose the Yes button.

   The PassageWay Service Provider is removed from your PC and is no longer displayed in the Installed Drivers box of the Telephony Drivers dialog box.

9. Choose the Close button to close the Telephony Drivers dialog box.

10. Choose the Close button to close the Telephony window.

    The Ready to UnInstall dialog box appears prompting you to confirm that you want to remove the PassageWay Service Provider and all associated files.

11. Choose the Finish button.

    The Perform Uninstall status box appears, displaying the status of the uninstall process. When the uninstall is completed, the UnInstaller Finished message box appears.

    NOTE:
    If you are running SHARE, a Share Violation error message box appears soon after the PassageWay Service Provider UnInstaller starts removing the files from your system. Choose the Cancel button (you may have to choose it two or more times), and you will be able to continue uninstalling the files. Two PassageWay UnInstaller files will not be removed from your PC. As a result, the directory containing the PassageWay Service Provider will not be removed. (The default directory for the PassageWay Service Provider is `pwdef`.) The Share Violation error message box will appear two or more times.

12. Choose the OK button.

Troubleshooting

3

Overview

This chapter provides information that can assist you in solving problems you might encounter when you use the PassageWay Service Provider. This chapter is divided into the following sections:

- General Troubleshooting
- PassageWay Adapter LEDs
- Troubleshooting Connect

Refer to the appropriate section to find the information required to solve your particular problem.

If you are using Windows 95 or Windows 3.1 or later, keep in mind that TAPI applications depend on Connect in order to communicate with your telephone. Connect is installed when you install the PassageWay Service Provider with Windows 95 or Windows 3.1 or later. As a result, Connect may be used to help diagnose problems.

NOTE:
Connect is only present with Window 95 and Windows 3.1 or later. Connect is not present with Windows NT 4.0.

General Troubleshooting

This section presents some common problems you might encounter while using TAPI applications (for example, Telephony Manager). For each problem, a strategy is presented that you can follow to isolate and solve your problem.

Problem 1: When you start the PassageWay Configurator, a message box appears displaying the message: `PassageWay Link Not Found`.

This message box appears if at least one of the following conditions exists:

- The COM port you selected in the PassageWay Configurator - COM Port dialog box is not the COM port to which you connected the 8411 telephone, Callmaster VI telephone, or PassageWay adapter.
- A telephony application is currently running on your PC.
- There is a problem with the connection between your PC and your 8411 telephone, Callmaster VI telephone, or PassageWay adapter.
- You are using a PassageWay adapter that is incompatible with your telephone (that is, you are using a 4-wire PassageWay adapter with a 2-wire telephone, or you are using a 2-wire PassageWay adapter with a 4-wire telephone).
- Your PassageWay adapter is not receiving power.
- Your PassageWay adapter is defective.

Perform the following steps:

1. Make sure no telephony applications are running on your PC. If any telephony applications are running, close them.
2. Look at the back of your PC and verify the COM port to which the serial cable from your 8411 telephone, Callmaster VI telephone, or PassageWay adapter is connected.
3. Check the PC-side and telephone-side cabling associated with your 8411 telephone, Callmaster telephone, or PassageWay adapter. Insure that all of the cables are completely inserted into the correct jacks. If you have a PassageWay adapter, refer to “Installing the PassageWay Adapter” in Chapter 2. If you have an 8411 telephone, refer to “Connecting Your 8411 Telephone to Your PC” in Chapter 2. If you have a Callmaster VI telephone, refer to “Connecting Your Callmaster VI Telephone to Your PC” in Chapter 2.
4. If you have a PassageWay adapter, look at the LEDs on top of the adapter.

   If the LED is “off,” your telephone system may not support the remote powering of adjuncts. Consult your DEFINITY System Manager to obtain the proper wall power supply to power your PassageWay adapter or to correct any wiring problems that may be the cause. If you already have an auxiliary power supply installed, make sure it is installed properly. Refer to “Installing the PassageWay Adapter” in Chapter 2.

   If both LEDs are “blinking,” perform the following steps:

   a. Determine whether you have a 2-wire or 4-wire telephone.

      - If you have a 6400 Series telephone, you have a 2-wire telephone, which requires a 2-wire PassageWay adapter.
      - If you have a 7400 Series telephone, you have a 4-wire telephone, which requires a 4-wire PassageWay adapter.

- If you have an 8400 Series telephone (with display), press the following buttons on your telephone dialpad: SHIFT MUTE # #.

  The bottom, left-corner of the telephone's display will show either `LINK:2W` or `LINK:4W`. `LINK:2W` indicates that you have a 2-wire telephone, while `LINK:4W` indicates that you have a 4-wire telephone.

b. Look at the bottom of your PassageWay adapter to determine whether it is a 2-wire adapter or a 4-wire adapter. If the label states, "PassageWay Solution Two-Wire DCP Interface," you have a 2-wire PassageWay adapter, which only operates with 2-wire telephones. If the label does not state, "PassageWay Solution Two-Wire DCP Interface," you have a 4-wire PassageWay adapter, which only operates with 4-wire telephones.

   Contact your DEFINITY System Manager if your PassageWay adapter is incompatible with your telephone.

5. Choose the OK button in the PassageWay Link Not Found message box, and then choose the Auto Detect button in the PassageWay Configurator - COM Port dialog box.

Problem 2: You are unable to dial from a TAPI-compliant application.

Perform the following steps:

1. Start the PassageWay Configurator and verify that the PassageWay Service Provider was installed and configured properly.
2. If you are using Windows NT, proceed to Step 3.

   If you are using Windows 95 or Windows 3.1 or later, close all telephony applications, and then run Connect. Select **`Test Link`** from the Setup menu, and follow the instructions on the screen.

   NOTE:
   Connect is only available on Windows 95 and Windows 3.1 or later.

If the PassageWay Link Test fails, note the error number and refer to the next section, “Troubleshooting Connect.”

If all tests pass successfully, run the TAPI-compliant application.

3. Verify that you have an up-to-date version of the PassageWay firmware in your 8411 telephone or PassageWay adapter. Refer to “Verifying the PassageWay Firmware” in Chapter 2. You must have an up-to-date version of the PassageWay firmware before you can use any TAPI-compliant applications.

NOTE:
If you have a Callmaster VI telephone, you cannot update the PassageWay firmware.

Problem 3: You are unable to hang up calls from your TAPI application using a 6400 Series telephone.

Perform the following steps:

1. Start the PassageWay Configurator and verify that you specified a Drop button in the Feature Buttons dialog box. Also verify that you specified the correct location of the Drop button in the Feature Buttons dialog box.
2. Contact your DEFINITY System Manager to verify that a Drop feature button is programmed on your telephone.

Problem 4: During a conference call started by another caller, you are unable to drop/hang up from the call while using the telephone handset.

If you are participating in a conference call that was started by another caller (that is, you did not start the conference) and you are not using your speakerphone, you will be unable to use the TAPI application to hang up from the conference. To hang up, you must place the handset back in the cradle.

Problem 5: Call Forwarding is not supported on phones without speakerphones.

Due to a limitation with the Service Provider, call forwarding is not supported on telephones that do not have speakerphones. This is true even if you go off-hook on such a telephone.

Additionally, the Send All Calls (SAC) feature is not supported on these telephones unless a feature button is administered. That is, if you are trying to use the SAC feature solely with a feature access code (FAC) that is defined in the Configurator of the Service Provider, this feature will not work.

Problem 6: There is a long delay before you are able to place a call on hold.

Due to a limitation with the PassageWay hardware, you may experience a long delay (around six or more seconds) before you can place a call on hold. This problem is most often seen when trying to place a call after answering an incoming call.

Problem 7: You are unable to use the Conference and Transfer features.

If your telephone is configured with one bridged call appearance or multiple bridged call appearances to different extensions, you will be unable to conference and transfer calls using the TAPI application. This situation will not occur if you have more than one bridged appearance for each number.

Problem 8: You are unable to drop/hang up a call using a 500A headset adapter.

If you are using a 500A headset adapter, you will be unable to drop/hang up calls using a TAPI application. (Even if the person you are talking with hangs up, your telephone will still be “off hook.”) You must manually disconnect the call.

Problem 9: You are unable to hear digits being dialed when making calls with TAPI applications.

If you have a 7403, 7405, or 7407D01A telephone, you will not hear the digits being dialed when you make calls with TAPI applications. Even though you cannot hear the digits being dialed, the call will be completed properly.

Problem 10: When you receive a call, two call appearances appear in the TAPI application's window.

This situation occurs if you are a member of a call pickup group, and you did not specify the location of the Call Pickup button on your telephone when you configured the PassageWay Service Provider. Both of the call appearances represent the same call. If you answer one of the calls, the other call appearance disappears.

To solve this problem, perform the following steps:

1. Close your TAPI application, and then start the PassageWay Configurator.

   The PassageWay Configurator - COM Port dialog box appears.

2. Choose the Continue button until you access the Feature Buttons dialog box.

3. In the Feature Buttons dialog box, choose the button where your Call Pickup button is assigned.

   A submenu appears.

4. Choose **`Call Pickup`**.

   The Call Pickup label appears on the button.

5. Choose the Continue button.

   The Feature Access Codes dialog box appears.

6. Choose the Continue button.

   The PassageWay Configurator - Complete message box appears.

7. Choose the OK button.
8. Restart your TAPI application.

Problem 11: A message box appears displaying the message:
A required component of the DEFINITY Service Provider is corrupt. The registry does not contain a SwitchType setting. Re-installing the DEFINITY software may fix this problem.

Uninstall and reinstall the PassageWay Service Provider.

Problem 12: A message box appears displaying the message:
A required component of the DEFINITY Service Provider is corrupt. The registry contains an inconsistent SwitchType. Re-installing the DEFINITY software may fix this problem.

Uninstall and reinstall the PassageWay Service Provider.

Problem 13: A message box appears displaying the message:
A required component of the DEFINITY Service Provider is corrupt. The registry does not contain a valid PassageWayPath setting. Re-installing the DEFINITY software may fix this problem.

Uninstall and reinstall the PassageWay Service Provider.

Problem 14: A message box appears displaying the message:
A required component of the DEFINITY driver (file name) is missing. Re-installing the DEFINITY software may fix this problem.

Uninstall and reinstall the PassageWay Service Provider.

Problem 15: A message box appears displaying the message:
A required component of the DEFINITY driver (file name) is corrupt. Re-installing the DEFINITY software may fix this problem.

Uninstall and reinstall the PassageWay Service Provider.

Problem 16: A message box appears displaying the message:
A required component of the DEFINITY driver (file name) could not initialize properly. Check your COM port setting.

Uninstall and reinstall the PassageWay Service Provider.

Problem 17: A message box appears displaying the message:
A required component of the DEFINITY driver (file name) could not initialize properly. Re-installing the DEFINITY software may fix this problem.

Uninstall and reinstall the PassageWay Service Provider.

Problem 18: A message box appears displaying the message:
A required registry entry of the DEFINITY Service Provider is missing (DEFINITY). Re-installing the DEFINITY software may fix this problem.

Uninstall and reinstall the PassageWay Service Provider.

Problem 19: A message box appears displaying the message: The DEFINITY adapter firmware is out of date. Please upgrade the firmware.

Choose the OK button and update the PassageWay firmware.

To update the PassageWay firmware in Windows 95 or Windows NT4.0 or later, perform the following steps:

1. Select the Start button.

   The Start menu appears.

2. Select **Programs**.

3. Select the application folder that contains the PassageWay Service Provider. (The default application folder is `PassageWay for DEFINITY`.)

4. Perform one of the following steps:

— If you are using Windows 95, select **PassageWay Connect**.

A dialog box appears informing you that the PassageWay firmware is out of date.

Choose the Yes button to load (or "pump") the new PassageWay firmware to the 8411 telephone or PassageWay adapter.

Follow the on-screen prompts to "pump" the new firmware.

When you are finished, close Connect.

— If you are using Windows NT 4.0 or later, select **PassageWay Pumpware Module**.

A dialog box appears informing you that the PassageWay firmware is out of date.

Choose the Yes button to load (or "pump") the new PassageWay firmware to the 8411 telephone or PassageWay adapter.

Follow the on-screen prompts to “pump” the new firmware.

To update the PassageWay firmware in Windows 3.1 or later, perform the following steps:

1. Open the program group that contains the PassageWay Service Provider.(The default program group is `PassageWay for DEFINITY`.)
2. Double-click on the PassageWay Connect icon.

   A dialog box appears informing you that the PassageWay firmware is out of date.
3. Choose the Yes button to load (or “pump”) the new PassageWay firmware to the 8411 telephone or PassageWay adapter.
4. Follow the on-screen prompts to “pump” the new firmware.
5. When you are finished, close Connect.

PassageWay Adapter LEDs

This section describes the error conditions represented by the LEDs on top of the PassageWay adapter.

Problem 1: All LEDs are "off."

This indicates that your PassageWay adapter is not receiving power. Your telephone system wiring may not support the remote powering of adjuncts. Consult your DEFINITY System Manager to obtain the proper wall power supply to power your PassageWay adapter or to correct any wiring problems that may be the cause.

If you already have an auxiliary power supply installed, make sure it is installed properly. Refer to "Installing the PassageWay Adapter" in Chapter 2.

Problem 2: Both LEDs are "blinking."

This indicates that your PassageWay adapter is incompatible with your telephone (that is, you are using a 4-wire PassageWay adapter with a 2-wire telephone, or you are using a 2-wire PassageWay adapter with a 4-wire telephone).

1. Determine whether you have a 2-wire or 4-wire telephone.

— If you have a 6400 Series telephone, you have a 2-wire telephone, which requires a 2-wire PassageWay adapter.

— If you have a 7400 Series telephone, you have a 4-wire telephone, which requires a 4-wire PassageWay adapter.

— If you have an 8400 Series telephone (with display), press the following buttons on your telephone dialpad: SHIFT MUTE # #.

The bottom, left-corner of the telephone's display will show either `LINK:2W` or `LINK:4W`. `LINK:2W` indicates that you have a 2-wire telephone, while `LINK:4W` indicates that you have a 4-wire telephone.

2. Look at the bottom of your PassageWay adapter to determine whether it is a 2-wire adapter or a 4-wire adapter. If the label states, “PassageWay Solution Two-Wire DCP Interface,” you have a 2-wire PassageWay adapter, which only operates with 2-wire telephones. If the label does not state, “PassageWay Solution Two-Wire DCP Interface,” you have a 4-wire PassageWay adapter, which only operates with 4-wire telephones.

   Contact your DEFINITY System Manager if your PassageWay adapter is incompatible with your telephone.

Troubleshooting Connect

This section presents some common problems that you might encounter while using Connect. For each problem, a strategy is presented that you can follow to isolate and solve your problem.

NOTE:
Connect is only present with Window 95 and Windows 3.1 or later. Connect is not present with Windows NT 4.0 or later.

Problem 1: Connect displays the message: `This application requires a serial port` and terminates.

This message indicates that Connect cannot find an available serial port on your system. This message will most likely appear immediately after you have completed the installation of the PassageWay software using the setup program since this is the first time Connect tries to run.

If you do not have an available serial port (for example, if you have only one serial port, and this port is being used by your mouse), you will need to add an additional serial port to your PC in order to use the PassageWay Service Provider. Your computer vendor can assist you in obtaining the necessary hardware to add another serial port. See Appendix A for more information.

If you are certain that you have an available serial port (other than a port being used by your mouse), the available port might be disabled, in which case Connect will be unable to detect its presence.

If you are able to determine that your PC has no active COM ports, or only COM1 is active (but is used by your mouse under Windows), you will need to either purchase an additional COM port for your PC or consult your PC's hardware documentation to determine how to re-enable a COM port that might be disabled. (Refer to Appendix A for information on COM ports.) Re-enabling a COM port may require changing the placement of a jumper on your computer's system board or running your PC's setup program.

Problem 2: Connect displays its Communications Error dialog box within a few seconds after it is run.

This message indicates that Connect cannot communicate properly with your telephone. This message can appear for one of the following reasons:

- If you have an 8411 telephone or Callmaster VI telephone, your telephone is not connected properly to your PC serial port. If you do not have an 8411 telephone or Callmaster VI telephone, your PassageWay adapter is not connected properly to your PC serial port and/or your telephone.
- Your 8411 telephone, Callmaster VI telephone, or PassageWay adapter is not receiving power.
- Connect is administered to use a different serial port than the one to which the telephone is connected.
- One or more cables and/or adapters are damaged, not properly attached, or not compatible with the PassageWay Service Provider.

You should follow the instructions provided in this dialog box to troubleshoot the problem. These instructions ask you to verify the following items:

- The PC-side and phone-side cabling are connected properly.

  If you have an 8411 telephone or Callmaster VI telephone, insure that the phone cord between the wall jack and the jack marked “Line” on the telephone is completely inserted into both the wall jack and the jack marked “Line” on the telephone. A proper connection is confirmed by a tactile “click” as the cord is fully inserted.

  If you do not have an 8411 telephone or Callmaster VI telephone, insure that the 7-foot phone cord between the jack marked “Line” on the telephone and the jack marked “Phone” on the PassageWay adapter is completely inserted into both jacks. A proper connection is confirmed by a tactile “click” as the cord is fully inserted.

Also insure that any RS-232 cables and adapters that you might be using to connect the telephone or PassageWay adapter to your PC are NOT null modem cables (a special type of cable), and that the total length of the combined RS-232 cabling does not exceed about 40 feet (the length should be as short as is convenient for your setup).

- Insure your 8411 telephone or Callmaster VI telephone is receiving power.

  If your 8411 telephone or Callmaster VI telephone is not receiving power, you should consult your account representative or authorized dealer to obtain the proper wall power supply to power your telephone or to correct any wiring problems that may be the cause.

- Insure your PassageWay adapter is receiving power (as indicated by the illumination of the power LED).

  If you have verified that the PassageWay adapter is properly connected to your telephone, yet the LED on the adapter is NOT illuminated, your telephone system wiring may not support the remote powering of adjuncts. If this is the case, you should consult you account representative or authorized dealer to obtain the proper wall supply to power your PassageWay adapter or to correct any wiring problems that may be the cause.

- Connect's software-based link test passes.

  To assist you in diagnosing problems, Connect contains a built-in link test procedure. This test can be run directly from the Communications Error dialog box by choosing the Test button.

  If the test procedure concludes successfully, Connect is communicating properly with your 8411 telephone, Callmaster VI telephone, or PassageWay adapter over the COM port you selected, and you should select the Continue button on the Communications Error dialog box to restore normal operation.

  If, however, the test fails, an error number will be provided. Refer to the following pages to interpret the error numbers and to find suggestions for how to resolve the particular error you encountered.

Failure Code -101
Meaning: The Link test could not be completed due to insufficient memory.
Things to Try: Close one or more applications; then retry the Link test.

Failure Code -102, -103
Meaning: The Link test could not be completed because the currently selected COM port is in use by another application.
Things to Try: Close the application that is using the designated COM port; then retry the Link test.

Failure Code -104
Meaning: The currently selected COM port is incompatible with PassageWay Solution.
Things to Try: Try connecting your telephone to a different COM port on your PC.

Failure Code -111
Meaning: The PassageWay adapter is not receiving power.
Things to Try: If you are using an auxiliary power supply, verify that it is properly installed. (See Chapter 2 for more information.)

If you are not using an auxiliary power supply, you will need to obtain one unless your DEFINITY system is wired to provide adjunct power to your extension. (Your DEFINITY System Manager can provide this information.) Your Lucent sales representative can supply you with the proper power supply, if needed.

Failure Code -112
Meaning: The connection between your PC's COM port and the 25-pin connector on your telephone may be faulty.
Things to Try:

- Verify that the connection between your PC's COM port and the telephone is secure.
- Verify that the COM port number you selected during the Connect setup procedure matches the number of the COM port that is physically connected to your telephone.
- If you are using an auxiliary power supply, verify that it is properly installed.
- If you are not using an auxiliary power supply, you will need to obtain one unless your DEFINITY system is wired to provide adjunct power to your extension (your System Manager can provide this information). Your Lucent sales representative can supply you with the proper power supply, if needed.
- Verify the connections between your telephone and your DEFINITY system.

Failure Code -121
Meaning: Connect is not receiving data over the specified COM port.
Things to Try: Follow the instructions for failure code -112.

Failure Code -122, -142
Meaning: Your PassageWay Link has reported an internal problem.
Things to Try:

- Try connecting your 8411 telephone, Callmaster VI telephone, or PassageWay adapter to a different COM port on your PC.
- Verify that the connection between your PC's COM port and the 8411 telephone, Callmaster VI telephone, or PassageWay adapter is secure.
- Verify that the COM port number you selected during the PassageWay Service Provider setup procedure (via the PassageWay Configurator) matches the number of the COM port that is physically connected to your 8411 telephone, Callmaster VI telephone, or PassageWay adapter.
- If you are using an auxiliary power supply, verify that it is properly installed.
- If you are not using an auxiliary power supply, contact your System Manager.
- Unplug and plug the cable connected to the Line jack on the back of the telephone and PassageWay adapter.

Failure Code -123, -131, -141
Meaning: Connect is receiving incorrect data over the specified COM port.
Things to Try: Verify that the COM port number you selected during the PassageWay Service Provider setup procedure (via the PassageWay Configurator) matches the number of the COM port that is physically connected to your 8411 telephone, Callmaster VI telephone, or PassageWay adapter. This failure usually indicates that the specified COM port is connected to a modem or data module rather than your telephone or PassageWay adapter.

Failure Code -143
Meaning: The 8411 telephone, Callmaster VI telephone, or PassageWay adapter is not properly connected to your DEFINITY system. The PassageWay adapter may also not be properly connected to your telephone.
Things to Try: Verify the connections between your 8411 telephone, Callmaster VI telephone, or PassageWay adapter and your DEFINITY system.

Failure Code -144
Meaning: The PassageWay adapter is not properly connected to your telephone.
Things to Try: Verify the connection between your PassageWay adapter and your telephone.

Failure Code -2xx
Meaning: An unexpected Windows communications error has occurred.
Things to Try: Try closing all applications except Connect and Program Manager, and then repeat the Link test procedure.

Problem 3: Connect will not work on COM ports other than COM1 and COM2.

By default, many PCs are not configured to permit the simultaneous use of three or more COM ports. Specifically, most PCs are configured such that COM ports are grouped into pairs: COM1 is paired with COM3, and COM2 is paired with COM4. By default, such PCs permit only one COM port from each pair to be operating at the same time (for example, COM1 with COM2). COM ports within the same pair will usually conflict with one another and are not supported (that is, COM1 with COM3, or COM2 with COM4).

If you cannot get Connect to work properly on COM3, check if another device is using COM1 at the same time. Similarly, if you cannot get Connect to work on COM4, determine if another device is using COM2 at the same time. If so, you may need to make some changes to your PC configuration to support using the PassageWay Service Provider on COM3 or COM4. Refer to Appendix A for more information. If you need additional assistance in setting up devices on COM ports other than COM1 and COM2, consult your PC hardware vendor.

Problem 4: Connect occasionally displays its initialization window while one or more PassageWay applications are running.

Connect displays its initialization window whenever it establishes (or re-establishes) communication with the telephone. Generally, this window is displayed only once, at the time when a single PassageWay application is first executed. However, if a communications problem occurs at any time, Connect attempts to clear the problem by reinitializing itself, which causes the initialization window to reappear temporarily. If this occurs while a PassageWay application is performing a task involving the telephone, the operation in progress will be aborted and must be restarted manually once the initialization window disappears. If no task involving the telephone is in progress during this process, the operation of PassageWay applications is unaffected.

The chance of a communications problem depends on your PC's configuration. The PassageWay Service Provider operates at a data rate of 9600 baud, and it relies on Windows to manage the flow of data through your PC's serial port. Depending upon the speed of your PC, the number and type of applications you are using, and various hardware components in your PC configuration, Windows will be able to manage serial communications with varying degrees of effectiveness.

If you encounter frequent communications errors using the PassageWay Service Provider, your PC's current hardware configuration may not support reliable high-speed communications under Windows. Appendix A includes information about choosing serial port hardware that can work reliably at high speeds under Windows.

Problem 5: Connect will not run. It displays the message: `Connect must terminate due to an unexpected communications error` and then terminates.

This message indicates that Connect cannot communicate with the COM port you specified using the PassageWay Configurator. Run the PassageWay Configurator and select a different COM port.

PC Serial Ports

A

Overview

This appendix provides detailed information about PC serial ports, including background information about what they are and how they work. It also explains how Microsoft Windows 3.1 manages serial ports, how to resolve problems using COM3 or COM4 under Windows, and how to choose serial port hardware that is well-suited to the PassageWay Service Provider. If you are familiar with serial port terminology (for example, I/O port addresses, IRQs, etc.), you may wish to skip over the background section. If not, you should review the background section before reading further.

If you are having problems using the PassageWay Service Provider on COM3 or COM4, you should refer to "Workarounds and Solutions to the IRQ Conflict Problem." If you intend to purchase an add-on serial port card for use with the PassageWay Service Provider, you should refer to "Selecting an Add-On Serial Port Card" for information that can assist you in selecting a card.

Background

Serial ports (also sometimes referred to as communications ports or COM ports) are hardware interfaces that permit your PC's microprocessor to communicate with peripheral devices using a communications standard called RS-232 (hence, serial ports are also sometimes referred to as RS-232 ports). Many common computer accessories make use of serial ports, including serial mice, modems, and serial printers.

Under DOS (and Windows, which works cooperatively with DOS), the serial port interfaces in a PC are uniquely identified by specific device names: COM1 ("serial communications port 1"), COM2 ("serial communications port 2"), and so on, usually up through COM4. A particular PC might have none of these devices, some of them, or all of them installed. For example, most PCs currently on the market arrive from the manufacturer with two serial ports already installed (COM1 and COM2), often integrated onto the computer's main system board. Installing additional serial ports (for example, COM3 or COM4) is usually accomplished by purchasing an add-on card and installing it into a free expansion slot.

For most purposes (such as configuring software), the generic description of serial ports provided by their device names is sufficient. For example, during the PassageWay Service Provider installation procedure, you are asked to provide the device name of the serial port to which you have connected the telephone (for example, COM2). Unfortunately, this abstract view of serial ports is not sufficient for other purposes, notably for troubleshooting problems: To be able to do this effectively, a basic understanding of serial port hardware is required. In particular, it is essential to understand the mechanics by which the computer's microprocessor communicates with serial port hardware.

The microprocessor/serial port communication consists of two aspects: an I/O port address and an interrupt request signal (IRQ). The I/O port address represents a small region of the microprocessor's input/output memory space that is used to pass data back and forth to the serial port. This memory region acts something like a mailbox: Outgoing mail (data from the microprocessor to be transmitted to the peripheral device) is placed in the mailbox by the owner (the microprocessor) to be picked up by the mail carrier (the serial port hardware) for subsequent delivery to the destination party (the peripheral device). In turn, the mail carrier (the serial port hardware) places incoming mail (data from the peripheral device) into the box to be picked up by the owner (the microprocessor). This analogy illustrates an additional important point about I/O port addresses: Just as individual mailboxes help the residents in a neighborhood keep their mail from getting mixed up, each device using an I/O port address to communicate with the microprocessor should have a unique address that does not conflict with that of any other device.

IRQ Mechanism

The mailbox analogy is also helpful in understanding the IRQ mechanism. Normally, we place our outgoing mail in our mailbox at any convenient time before the mail carrier arrives to pick it up. The outgoing mail sits in our mailbox until the mail carrier arrives, at which time it is picked up and possibly some incoming mail is placed in the mailbox. Then, some time later, we check our mailbox and retrieve our new incoming mail. The problem with this scheme is that it is not very efficient; both the outgoing and incoming mail spend some time just sitting in the mailbox. A better approach would be if the mail carrier provided some sort of signal (for example, ringing the doorbell) to announce his or her arrival, in which case we could hand over the outgoing mail and pick up the incoming mail immediately.

In the PC architecture, IRQs acts like the doorbell in our analogy: They provide a method by which hardware devices in the computer can get the microprocessor's attention to deal efficiently with some process. The serial port hardware makes use of an IRQ to announce that it is ready to receive more outgoing data and/or that new data have arrived from the peripheral device that need to be processed.

Like I/O port addresses, IRQs must generally be unique among the active hardware devices in a computer system. In the mailbox analogy, the doorbell is probably not a good signal since virtually anyone could ring the doorbell for any number of reasons, not just to indicate the arrival of mail. Similarly, if a particular IRQ signal is used (PCs generally support 16 unique IRQ signals, denoted IRQ0, IRQ1, and so on, up through IRQ15), the microprocessor must take the appropriate action for the device associated with that IRQ. If there is a mix-up, or if more than one device attempts to use the same IRQ at the same time, a conflict occurs, and the outcome is often unpredictable and usually undesirable (for example, the computer may "hang"). Because IRQs are a limited resource, some newer PCs support IRQ sharing, a hardware mechanism that permits more than one device to make use of the same IRQ, but most PCs do not. For example, all PCs that use IBM's MicroChannel Architecture (MCA) support IRQ sharing, as do most PCs that use the Enhanced Industry Standard Architecture (EISA) design. However, most PCs in the marketplace -- even new models -- are based on the traditional Industry Standard Architecture (ISA), which generally does not support IRQ sharing.

NOTE:
IRQ sharing is a PC feature. If your PC supports IRQ sharing, you can put two COM ports on one IRQ. You will not encounter the types of complications that this appendix addresses if your PC supports IRQ sharing.

The specific I/O port address and IRQ that a particular serial port uses is determined by the hardware configuration of the serial port. Generally, these parameters cannot be changed for built-in serial ports, but add-on cards containing serial ports often provide jumpers or switches that can be used to configure them to use one of several I/O port addresses and IRQ combinations.

The table below lists the default I/O port addresses and IRQs used by the serial ports of IBM-PC/AT-compatible computers:

Serial Port Device Name	I/O Port Address	IRQ
COM1	03F8	4
COM2	02F8	3
COM3	03E8	4
COM4	02E8	3

The values in this table play an important part in understanding the "wrinkles" associated with serial ports: although there is provision for up to four serial ports, with four unique I/O addresses, there are only two unique IRQs associated with them (recall that most PCs require the IRQs used by each active device to be unique to avoid conflicts). To understand why, it is useful to recall what the PC world was like before the widespread availability of products like Windows.

When the architecture of the current generation of PCs was first being designed (for the IBM PC/AT), the concept of multitasking was not nearly as important in the PC marketplace as it is today. Consequently, since DOS (before Windows) did not permit multiple applications to run simultaneously (with the notable exception of certain specialized programs such as mouse drivers), there was little need to provide a mechanism by which several serial ports could be operated simultaneously. Consequently, the strategy used was to conserve IRQs by assigning the same IRQ to more than one COM port (that is, the COM1 and COM3 ports were both assigned to IRQ4, and the COM2 and COM4 ports were both assigned to IRQ3). Then, under the assumption that at most two serial ports would be active simultaneously (for example, COM1 and COM2, which have unique IRQs), conflicts would not occur.

Serial Ports Under Windows 3.1

Unlike the DOS-only world of yesterday, today's multitasking environments like Windows permit the microprocessor to communicate with up to four active serial port devices at the same time (COM1 through COM4). For example, under Windows, if you are using a serial mouse (on COM1) within a terminal emulator program that operates a data modem (on COM2), while using a fax board (on COM3) to transmit or receive a fax "in the background," you are using three serial port devices simultaneously. You might even wish to make a phone call using the PassageWay Service Provider (on COM4) at the same time, bringing the total up to four simultaneously active serial port devices.

The fact that Windows permits this kind of powerful multitasking does not guarantee that the underlying PC hardware can support this level of operation, at least without some customizing at the hardware level. Since some PCs can support it by default (for example, those that support IRQ sharing), Windows does not prohibit you from configuring your system and attempting tasks like the one in the previous paragraph. Unfortunately, most PCs cannot support this operation by default, and the most likely result of attempting the above scenario is "hanging" the PC due to an IRQ conflict. On such systems, using COM1 along with COM2 is generally fine (recall that these devices have unique IRQs by default), but the addition of COM3 or COM4 causes the system to fail.

Fortunately, Windows 3.1 permits complete customization of all parameters involving serial ports through the Control Panel, including configuring nonstandard I/O port addresses and IRQs (that is, values different from those in the table -- these parameters can be viewed and/or modified by selecting the desired port in the Control Panel's Ports icon, selecting the Settings... button, and then selecting the Advanced... button). This flexibility offers the opportunity of salvation for owners of PCs that do not support IRQ sharing who require the use of three or more COM ports simultaneously.

Workarounds and Solutions to the IRQ Conflict Problem

It is important to remember that the IRQ conflict is a problem in hardware; it cannot be resolved in software alone. Consequently, there are only three alternatives for working around or resolving it:

Workaround 1: Configure your serial devices such that you use only two at any one time, and those two use serial ports with unique IRQs.

This is the simplest workaround to the IRQ conflict problem, but it does not solve the underlying conflict. The idea is to assign your peripheral devices to your available serial ports in such a way as to avoid using any devices simultaneously which might conflict. For example, if you have a serial mouse on COM1 (IRQ4), a fax/modem card on COM2 (IRQ3), and your telephone on COM3 (IRQ4), you cannot effectively use the PassageWay Service Provider since you need to use your mouse under Windows while TAPI applications are running.

A better arrangement would be to move the PassageWay Service Provider to COM4 (IRQ3), which then could be safely used with your mouse on COM1 (IRQ4). In this case, the workaround is to avoid trying to use the PassageWay Service Provider at the same time you use the fax/modem on COM2, since the conflict now would be over IRQ3 (COM2 and COM4).

Workaround 2: Replace one or more of your serial peripherals with equivalent devices that do not require a serial port.

The idea with this approach is to eliminate the conflict by reducing the number of peripherals in your system that require serial ports. For example, replacing a serial mouse with a bus mouse (that is, a mouse that requires its own add-on card) would make another serial port available that then could be used by another device.

Given the scenario described in item (1) above (that is, a mouse on COM1, a fax/modem card on COM2, and the PassageWay Service Provider on COM3), you might buy a bus mouse and configure it to use, say, IRQ2 or IRQ5. This would then permit you to move the PassageWay Service Provider onto COM1 (IRQ4), where it then could be used simultaneously with both the mouse and the fax/modem.

Likely candidates for conversion from a serial interface to some other interface include mice (which can be converted to bus mice) and serial printers (which can be converted to an additional parallel printer port).

Workaround 3: If your serial port hardware permits you to select IRQs other than the default ones (IRQ3 and IRQ4), make use of one or more unused IRQs in your system to assign to each COM port a unique IRQ.

This solution is generally not possible for built-in serial ports since these are usually "hard-wired" and cannot be changed. Although most add-on cards containing serial ports permit you to change the IRQs assigned to them, many cards do not let you select IRQs other than IRQ3 and IRQ4. For example, an internal modem card generally has jumpers or switches that permit you to administer the serial interface on the card to be COM1, COM2, COM3, or COM4, but the I/O port addresses and IRQs associated with each of these configurations are usually fixed to the settings in the table.

Fortunately, some serial port add-on cards do permit you to select IRQs other than 3 or 4 (the additional choices are often IRQ2 and IRQ5). If your serial port hardware provides this flexibility — and at least one of the IRQ numbers available as an option is currently unused in your PC setup — you can solve the IRQ conflict directly.

For example, consider once again the scenario of a COM1 mouse, a COM2 fax/modem card, and a COM3 PassageWay Service Provider. If the COM3 serial port is located on an add-on card that permits IRQs other than 3 or 4 to be selected, you could configure the COM3 serial port to use a different (available) IRQ in your system, say IRQ5. After making the necessary changes to the card (for example, adding or removing some jumpers or adjusting the positions of some switches), the last step would be to configure Windows to monitor IRQ5 rather than IRQ4 for the COM3 serial port -- this is accomplished using the Windows Control Panel under the "Ports" option (see your Windows documentation for details).

If you attempt this solution, you must be certain that you do not choose an IRQ that is in use by some other device in your system -- if so, you will only trade one type of IRQ conflict for another. You should be aware that many common add-on cards use IRQs, including network cards and multimedia sound cards, both of which are commonly used under Windows. Your PC hardware vendor can assist you in configuring IRQs. You may also need to consult the documentation for your PC and any add-on cards that are installed to determine which IRQs, if any, are available on your system.

Selecting an Add-On Serial Port Card

This section presents advice on how to choose an add-on serial port card for use with the PassageWay Service Provider. Because the PassageWay Service Provider does not have any unique requirements with respect to serial ports, this advice applies generically to selecting a serial port for use with any peripheral.

In general, there are two main things to consider when selecting a serial port for use with the PassageWay Service Provider:

1. Choose a card that offers the flexibility to configure its serial port IRQs to values other than IRQ3 and IRQ4 (for example, to IRQ2 or IRQ5).

   This capability often proves to be very beneficial, especially if you are purchasing the card to add a COM3 and/or COM4 port to your system. As was described at length in "Workarounds and Solutions to the IRQ Conflict Problem," for PCs that do not support IRQ sharing (which includes most PCs, unfortunately), the ability to relocate the IRQ for COM3 or COM4 away from the defaults (IRQ4 and IRQ3, respectively) represents the only direct solution to conflicts that may arise when attempting to use COM1 along with COM3 or COM2 along with COM4 under Windows.

   If you know that your PC does not support IRQ sharing, or if you are not sure, it is a good idea to purchase a card with this capability. If you know that your PC supports IRQ sharing, this capability is not as potentially important.

2. For best performance with the PassageWay Service Provider, choose a card that has hardware support for high-speed communications.

   The PassageWay Service Provider operates at a relatively high data rate (9600 baud), and it relies on Windows to manage the flow of data through your PC's serial port. Depending upon your configuration, Windows may have problems maintaining high data rates through traditional serial ports. In these situations, a serial port designed for high-speed communications can eliminate such problems while providing a reduced load on the microprocessor (thus increasing the performance of Windows during data transfers relative to standard serial ports). In most cases, the price differential for such a card is quite modest and a worthwhile investment.

   Many serial port cards on the market (and most built-in serial ports) use either the 8250 or 16450 Universal Asynchronous Receiver Transmitter (UART) as their key component. Although these UARTs can operate at high speeds, they do not assist the PC's microprocessor in dealing with high-speed data transfer. Under Windows, in particular, data can be lost at high baud rates using these UARTs. If this data loss occurs, the PassageWay Service Provider cannot function properly.

   Whenever possible, select a serial port card that uses the 16550 UART. This industry-standard UART is an improved version of the 16450 with hardware support to help offload the microprocessor during high-speed data transfers. Windows 3.1 has built-in support for the 16550, so no special software configuration is required to obtain the benefits of the 16550's enhanced capabilities. In addition, any high-speed peripheral can benefit from the 16550 (for example, a 9.6-Kbps or 14.4-Kbps data and/or fax modem), not only the PassageWay Service Provider.

   In general, since there is no way of knowing ahead of time if your particular PC configuration requires an enhanced serial port for the PassageWay Service Provider, Lucent strongly recommends that you purchase a card based on the 16550 UART to insure trouble-free operation with the PassageWay Service Provider.

Changing the Settings for the 8411 Telephone

B

Overview

Using the SHIFT and MUTE buttons on your 8411 telephone, you can change or view the following settings:

- Enable or disable the speakerphone (the default is 2-way speakerphone enabled)

  2-digit code: **77** or **SP**

  Setting: **1** - Enable 2-way speakerphone

  2 - Enable 1-way speaker

  3 - Disable 2-way speakerphone

- Enable or disable the Mute functions (the default is Mute enabled)

  2-digit code: **68** or **MU**

  Setting: **1** - Enable the Mute function

  2 - Disable the Mute function

- Select a ringing preference for an incoming call when you are busy on another call (the default is Continuous Ringing)

  2-digit code: **74** or **RG**

  Setting: **0** - No Ring

  1 - One Ring

  2 - Continuous Ringing

- Enable or disable the status lights (next to Button #9) for the PassageWay interface (the default setting is Status Lights disabled)

  2-digit code: **79** or **PW**

  Setting: **1** - Enable the status lights

  2 - Disable the status lights

  NOTE:
  By default, Button #9 is enabled for use by the PassageWay status lamp. It is in your best interest to disable this button (using the SHIFT MUTE code listed above). By disabling the default setting for this button, you gain one more feature button that you can program.

- Enable or disable the status lights (next to Button #10) for the Analog (Tip/Ring) Adjunct connected to the Analog Adjunct jack (the default setting is Status Lights disabled)

  2-digit code: **25** or **AL**

  Setting: **1** - Enable the status lights

  2 - Disable the status lights

  NOTE:
  By default, Button #10 is enabled for use by the analog line status lamps. It is in your best interest to disable this button (using the SHIFT MUTE code listed above). By disabling the default setting for this button, you gain one more feature button that you can program.

- Select whether the I-1 Channel or the I-2 Channel will be used for Analog Adjunct transmission

  2-digit code: **42** or **IC**

  Setting: **1** - Select I1-Channel for Analog Adjunct transmission

  2 - Select I2-Channel for Analog Adjunct transmission

- Set the audio volume control levels for the speakerphone and handset (the default is retention of the current volume settings for both speakerphone and handset until you change the settings)

  2-digit code: **48** or **HV**

  Setting: **0** - Fix the handset volume at a mid-range level, and reset the speakerphone volume level to a mid-range level after each call

  1 - Retain the handset and speakerphone volume at the current volume level (that is, the volume level does not automatically revert back to the mid-range level after each call)

  2 - Fix the handset volume at a mid-range level, and retain the speakerphone at its current level (does not revert back to mid-range level after each call)

  3 - Reset the handset and speakerphone volume to its mid-range volume level after each call

- View the settings for the Speakerphone, Mute, Handset Expander, and Ringer Preference options

  2-digit code: **00**

  NOTE:
  You can perform this procedure only with an 8411D telephone.

- View the settings for the Compander, Display Font (Domestic or International), DLI, Primary level, and Adjunct level

  2-digit code: **11**

  NOTE:
  You can perform this procedure only with an 8411D telephone.

- View the software version currently installed in the 8411 telephone and determine whether the telephone is operating in 4-wire or 2-wire mode.

  2-digit code: **##**

  NOTE:
  You can perform this procedure only with an 8411D telephone.

Programming Procedure

This section describes how to change or view the setting for your 8411 telephone.

NOTE:
You can view the settings for your telephone only if you have an 8411D telephone.

To change or view the settings for your 8411 telephone:

NOTE:
Make sure the ringer is off, and the display (if present) is in Normal mode. If a headset adapter is connected to the telephone, make sure it is in the on-hook state.

1. While the telephone is on hook (that is, the handset is hung up, and the speakerphone is off), press SHIFT.

   The light next to SHIFT goes on.

2. Press MUTE.

   The light next to SHIFT goes off.

3. Enter the 2-digit code for the option you want to set or view.

4. If you are changing a setting, enter the new setting.

   NOTE:
   If you have an 8411D telephone, you can press the ***** button to scroll through each available setting. You can press the **#** button to save the displayed setting and exit programming mode.

PassageWay Service Provider Planning Form

C

Overview

This appendix provides a planning form to help you configure the PassageWay Service Provider. On this form, record the following information:

- the type of telephone you have
- the feature access codes for your DEFINITY system. Consult your DEFINITY System Manager for these access codes

Use this form when you install and configure the PassageWay Service Provider.

NOTE:
If your company has a DEFINITY G3 V5 or later system, you can download the configuration information for your telephone from the DEFINITY system automatically. However, to use this feature, you must know the PASTE feature access code for your DEFINITY system. If your DEFINITY system supports the PASTE feature, you only need to know the following information:

— the type of telephone you have

— the PASTE feature access code for your DEFINITY system

Telephone Type: _____

Feature	DEFINITY Feature Access Code
PASTE	
Auto Call Back Off	
Auto Call Back On	
Call Answer Back	
Call Park	
Call Pickup	
Forward Off	
Forward On	
Leave Word Calling	

Leave Word Cancel	
Priority	
Send All Calls Off	
Send All Calls On	
Speed Call Program	

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