

***FitPlus™ for Windows®  
Fit Test Software***

*User's Manual*

*September 2000  
PN 1980284 Rev. C*



*TSI Incorporated*



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Fit Test Software**

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# About This Manual

## Introduction

This manual describes how to install, set up, and use FitPlus™ for Windows® Fit Test Software version 2.0 and higher. FitPlus for Windows is intended for use with the PORTACOUNT® Plus Model 8020. Instructions for setting up the PORTACOUNT with FitPlus software appear in Chapter 3, Getting Started.

## Organization

This manual is organized as follows:

Chapter	Description
1 Introducing FitPlus for Windows Fit Test Software	Introduces FitPlus for Windows Fit Test Software and describes its functions and features.
2 Getting Started	Provides instructions for installing the FitPlus software and setting up the PORTACOUNT Plus Model 8020.
3 Conducting a Fit Test - Basic Procedures	Provides the basic procedures for conducting a fit test.
4 Using the FitPlus for Windows Menu Options	Provides a detailed description of each of the FitPlus menu options.

## Conventions

The following conventions are used throughout this manual:

Convention	Description
<b>Boldface</b>	Menu options and dialog box fields are shown in boldface type.
<b>R</b>	Key names, such as <b>R</b> , are shown in keyboard type.
<b><u>Underline</u></b>	Menu items can be selected with the mouse or by pressing the <b>A</b> key and the shortcut key for the menu or option. The shortcut key is underlined on the screen display and in this manual. For example, to select the <b><u>F</u>ile</b> menu, you can press <b>A F</b> .

## Related Publications

When using this manual and FitPlus™ for Windows software, you may need to refer to your Windows®, Windows® 95, or Windows NT® documentation. You may also need to refer to the TSI *PORTACOUNT® Plus Operation and Service Manual*.

The latest version of FitPlus for Windows and the latest version of this manual are available for download from the TSI Web site:

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# Chapter 1

## Introducing FitPlus™ For Windows Fit Test Software

FitPlus for Windows fit test software runs under either Windows 3.x, Windows 95, or Windows NT®. The software is designed for use with the PORTACOUNT® Plus Model 8020, and expands the features available with the DOS-based version of FitPlus software. This chapter introduces the FitPlus for Windows features, and briefly describes the tasks you can perform with the software.

### *FitPlus for Windows Features*

In addition to the Windows interface, features provided by FitPlus for Windows include:

- Selection of the person to be fit tested from a database using a mouse. You no longer have to re-key the same names again and again.
- Separate databases for employees, respirators, exercise protocols, and fit test results. You also can merge databases, and can add fit-test data manually.
- Expanded report capabilities, including a tickler feature indicating who is due for a fit test. There is also a single page report for each test subject, user-designed reports, and other reports.
- Automated daily diagnostic checks.
- A real-time fit factor display for use in employee respirator training.
- A database locking capability to prevent tampering.
- Support for the Model 8095 N95-Companion accessory.

### *FitPlus for Windows Tasks*

FitPlus for Windows software allows you to perform the following tasks. Each task is described briefly. Instructions for performing these tasks appear in Chapter 3, “Conducting a Fit Test,” and Chapter 4, “Using the FitPlus for Windows Menu Options.” The tasks are:

- **Conducting a fit test**  
FitPlus for Windows software opens in daily check mode, followed automatically by the first step of the fit test. Fit testing comprises five basic steps: selecting a test subject; selecting a respirator; selecting an exercise protocol; entering mask size and operator information; and running the fit test. An optional sixth step lets you view the fit test results before beginning the next test. These steps are discussed in detail in Chapter 3.
- **Performing daily diagnostic checks**  
You can run diagnostic checks on the PORTACOUNT Plus, including the particle check, zero check, maximum fit factor check, and valve check. You either can print or save the results of these checks for permanent record keeping.
- **Conducting respirator training**  
The real-time fit factor display assists you in employee respirator training. This feature allows trainees to see the real-time effects of mask positioning and strap tightness while learning proper donning techniques.

- **Viewing, modifying, and printing reports**  
FitPlus for Windows software generates reports for fit test subjects, respirators, protocols, fit tests, next due dates, daily check results, and user-defined reports. You have the option of viewing the reports or printing the reports. You also can customize the reports to include specific fields only, or to sort the data in a specific order and specific ranges.
- **Setting up communications ports**  
You can select any of four communications ports on your PC for the FitPlus/PORTACOUNT communications, depending on your hardware configuration.
- **Modifying setup options**  
You can customize the setup for saving fit test data, printing fit test data, and alerting you to failed exercises and failed overall fit factors.
- **Opening and setting up databases**  
There are four default databases: People, Respirator, Protocol, and Fit Test. You can open each of these databases to add, delete, duplicate, or search for information. You can also create new databases.
- **Copying, merging, and exporting databases**  
These features allow you to move data from one database to another, to merge two databases, or to export the database to a tab-delimited ASCII file.

FitPlus for Windows software also contains an online help facility.

## Chapter 2

### Getting Started

This chapter describes how to install FitPlus for Windows software. It also describes how to connect the PORTACOUNT Plus Model 8020 to your computer.

### *Installing FitPlus for Windows Software*

To install FitPlus for Windows, you must have the following minimum hardware and software configurations:

#### Hardware Requirements

- PORTACOUNT Plus Model 8020
- 386 or higher microprocessor
- 5 MB free hard-disk space for program files
- Windows-compatible printer
- Serial port
- Pointing device

#### Software Requirements

- Microsoft Windows 3.x, Windows 95, or Windows NT
- FitPlus for Windows disk

#### Installation Procedures

The procedures for installing FitPlus for Windows are different for Windows 3.x or Windows 95/NT. Both procedures are included here.

**Note:** If you are upgrading from FitPlus for Windows version 1.32 or lower, you should install version 2.0 into the existing directory (folder). This is usually C:\fpwin. Version 2.0 will automatically convert existing databases to the new format if necessary without loss of data. Original data files will be backed up with the file extension “.old”. Converted files cannot be used with versions prior to 2.0.

#### *Installing FitPlus for Windows with Windows 3.x*

1. Insert the FitPlus disk into drive A:.
2. In the Program Manager, click the **F**ile Menu and choose **R**un.
3. Type A:SETUP in the Command Line box.
4. Click **O**K.

The setup procedure creates the TSI Products group if it is not already present on your PC. The FitPlus for Windows icon appears in this group.

### *Installing FitPlus for Windows with Windows 95/NT*

1. Insert the disk into drive A:.
2. Choose **Run** from the **Start** menu.
3. Type A:SETUP in the **Open** bar.
4. Click **OK**.
5. Follow the installation instructions on the screen.

The setup procedure creates the TSI Products group if it is not already present on your PC. When you select **Programs** from your **Start** menu, **TSI Products** appears on the list. Highlight **TSI products** and then select **FitPlus for Windows**.

### **Connecting the PORTACOUNT Plus**

The PORTACOUNT Plus connects to the serial port on your computer. The PORTACOUNT Plus is shipped with an RS-232 interface cable with an 8-pin RJ 45 modular connector on one end and a 25-pin or 9-pin female connector marked “COMPUTER” on the other end. (Do not confuse this with the TSI printer cable, which has a 9-pin male connector and is marked “PRINTER”.) As many computers have more than one serial port and may have either 25-pin or 9-pin connectors, TSI supplies an adapter with the PORTACOUNT Plus to adapt the connector if necessary.

Follow the instructions below to connect your PORTACOUNT Plus to your computer:

*Note: IBM-PC compatible serial ports always have pins (male) on the computer side. Ports with holes (female) are not serial ports.*

#### **Using the 25-pin Cable with the 25-pin Computer Port**

1. Plug the 25-pin RS-232 cable into the 25-pin connector on the back of your computer.
2. Tighten the keeper screws to prevent the cable from accidentally disconnecting.
3. Plug the other end of the cable into the Data Port located on the back of the PORTACOUNT Plus.

#### **Using the 25-pin Cable with the 9-pin Computer Port**

1. Connect the small end of the adapter to the 9-pin serial port connector on your computer.
2. Tighten the keeper screws to prevent the cable from accidentally disconnecting.
3. Connect the 25-pin RS-232 cable to the 25-pin end of the adapter.
4. Plug the other end of the cable into the Data Port located on the back of the PORTACOUNT Plus.

#### **Using the 9-pin Cable with the 9-pin Computer Port**

1. Plug the 9-pin RS-232 cable into the 9-pin connector on the back of your computer.
2. Tighten the keeper screws to prevent the cable from accidentally disconnecting.



3. Plug the other end of the cable into the Data Port located on the back of the PORTACOUNT Plus.

### **Using the 9-pin Cable with the 25-pin Port**

1. Connect the large end of the adapter to the 25-pin serial port connector on your computer.
2. Tighten the keeper screws to prevent the cable from accidentally disconnecting.
3. Connect the 9-pin RS-232 cable to the 9-pin end of the adapter.
4. Plug the other end of the cable into the Data Port located on the back of the PORTACOUNT Plus.

### **Setting Up the PORTACOUNT Plus**

Before you begin fit testing, you also need to set up the PORTACOUNT Plus. The *PORTACOUNT Plus Operation and Service Manual* contains the instructions you need if you are not already familiar with setting up the instrument.

If you are using the Model 8095 N95-Companion with the PORTACOUNT to fit test filtering-facepiece (disposable) respirators, you also need the *Model N95-Companion Operation and Service Manual*.



## Chapter 3

### Conducting a Fit Test - Basic Procedures

This chapter provides the basic procedures you follow to conduct a fit test using FitPlus for Windows software. These procedures begin by default when you open the software. The chapter discusses what you must do before you begin fit testing, and presents the dialog boxes you must fill in to complete a fit test. The dialog boxes are easy to fill in by following the information on the screen. However, if you need additional information, each dialog box is discussed in detail in Chapter 4, “Using the FitPlus for Windows Menu Options.”

**If this is the first time you have used FitPlus for Windows**, you must also set the COM (communications) port and set up the fit test options for automatically saving fit test results, automatically printing fit test results, and automatically terminating fit tests. You must do this *before* you begin fit testing. Basic instructions for completing these tasks appear in the next section.

FitPlus for Windows always starts in daily check mode. TSI Incorporated strongly recommends that you run daily checks of the PORTACOUNT Plus before you run the first fit test.

Each fit test includes five steps:

1. Selecting a person to be fit tested from the **People** database.
2. Selecting a respirator from the **Respirator** database.
3. Selecting an exercise protocol from the **Protocol** database.
4. Entering mask size and operator identification information.
5. Running the fit test.

**If this is the first time you have used FitPlus for Windows**, your **People** and **Respirator** databases will be empty. The instructions in this chapter and the information in Chapter 4 explain how to add records to the databases. FitPlus for Windows provides a **Protocol** database which includes the most commonly used exercise protocols. If your protocol is not in this database, FitPlus also lets you add it.

#### ***Before you Begin the Fit Test***

Before you start the software, you must make sure the PORTACOUNT Plus is connected to the computer, is on, and is operating properly. Also, if you plan to use the N95-Companion with the PORTACOUNT Plus, to fit test filtering-facepiece (disposable) respirators, you should connect the N95-Companion now. Refer to the *Model 8095 N95-Companion Operation and Service Manual* for specific information.

- Check the cable connections to the PORTACOUNT Plus.
- If the PORTACOUNT Plus is not already running, press the ON/OFF key on the to begin the 60-second warm-up cycle.

Then, start the software:

## IMPORTANT MESSAGE FOR FIRST-TIME USERS

Start the software as described below, **EXCEPT** do not run the Daily Checks. Click the **Cancel** button in the **Daily Checks** dialog box. When the Step 1 dialog box appears, also click the **Cancel** button. Then, follow the steps below:

1. From the FitPlus main menu (Figure 3-1), select **Setup/Communications Port**. Choose the correct Com port from the dialog box and click **OK**.
2. Select **Setup/Fit Test Options**. Choose the options you want to apply to your fit tests from the dialog box and click **OK**.
3. Select **PORTACOUNT/Daily Checks**. Run the daily checks (Figure 3-2). When the checks are complete, click **OK**.
4. Select **PORTACOUNT/Fit Test**. The first fit test dialog box appears on your screen (Figure 3-3).

You are now ready to begin fit testing.

*Note: Details for the dialog boxes referenced above appear in Chapter 4, “Using the FitPlus Menu Options,” under the descriptions of the **Setup** and **PORTACOUNT** menus.*

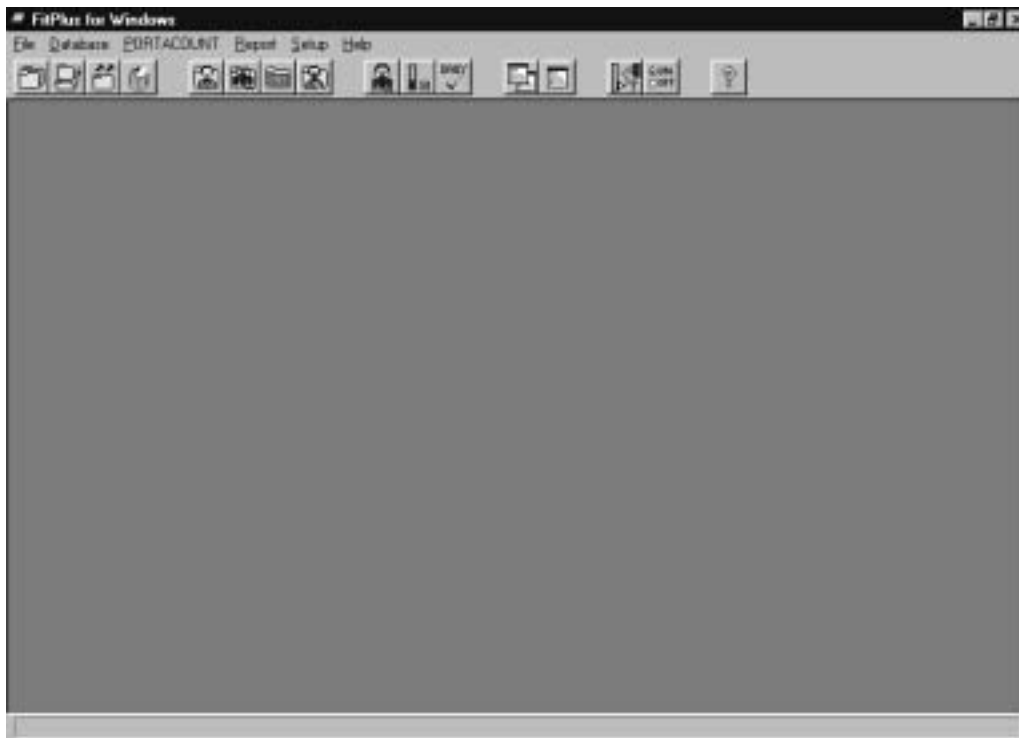


Figure 3-1. FitPlus for Windows Main Menu

- Double-click the FitPlus for Windows icon from your TSI Products group (Windows 3.x), or select **TSI Products/FitPlus for Windows** from the list that appears when you select **Programs** from your **Start** menu. A dialog box asking if you want to do the daily checks appears on your screen (Figure 3-2). Click **Yes**. The **Daily Checks** dialog box appears (Figure 3-3). Run the daily checks at least once a day. When the checks are complete, click the **OK** button. The first fit test dialog box appears on your screen (Figure 3-4).

*Note: If you did not start the PORTACOUNT before starting the software, or if the PORTACOUNT has not completed the warm-up period, you will receive this message: **PORTACOUNT is not responding**, including suggestions to check the PORTACOUNT and communications cable connections. Start the PORTACOUNT and wait for the countdown. Click **OK** to continue. You may also select **Cancel** to skip the daily checks.*

You are now ready to begin fit testing.

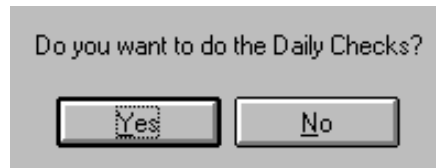


Figure 3-2. Daily Checks Inquiry Dialog Box

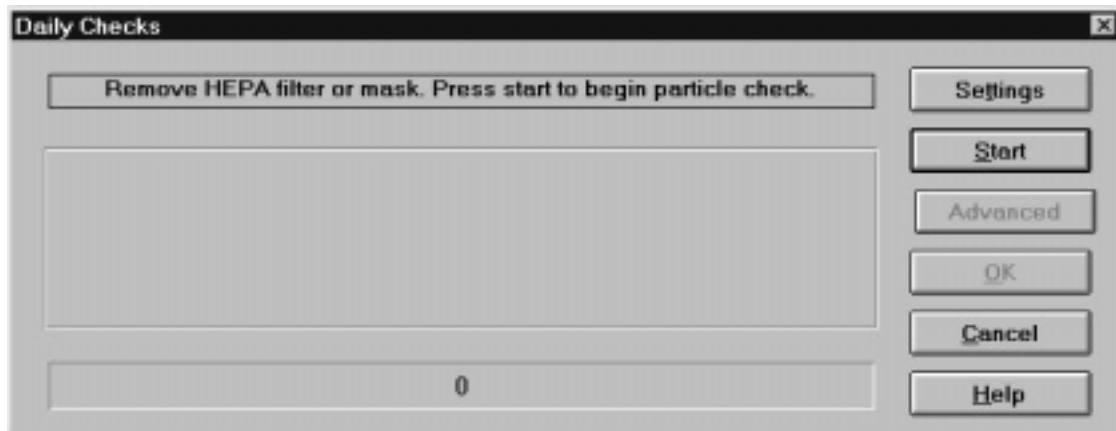


Figure 3-3. Daily Checks Dialog Box

## Step 1 - Select a Person

When the **People Database** (Step 1) dialog box appears, it shows the record of the first person in the **People** database. The records are arranged in alphabetical order.

*Note: If this is the first time you have used FitPlus for Windows, your People database will be blank. The following instructions indicate which buttons you must click to add records to the database. However, you must refer to Chapter 4, Using the FitPlus for Windows Menu Options, for detailed descriptions of the fields in the database dialog boxes.*



The screenshot shows a dialog box titled "People Database [C:\FPWIN\PEOPLE\PEOPLE.DBF]". It contains a "People Information" section with the following fields: ID Number (123-45-6789), Last Name (SMITH), First Name (ANN), Company (XYZ COMPANY), Location (JANESVILLE), and Note (WEARS GLASSES). To the right of these fields is a "Sorted List" dropdown menu showing "SMITH". Below the Sorted List are four "Custom" fields (Custom1, Custom2, Custom3, Custom4). On the right side of the dialog are buttons for "New", "Delete", "Duplicate", and "Search". At the bottom are buttons for "< Back", "Next >", "Cancel", and "Help".

Figure 3-4. People Database (Step 1)

If the person shown is the one you want to fit test, click the **Next** button. Otherwise:

1. Click the **Sorted List** field arrow to display all the names in the **People** database, or use the **Search** button to find the name you need.

*Note: If the person you want to fit test is not in the database, or if the record is blank, click the **New** button and create a new record.*

2. Click the selected person's name to display the correct record.
3. Click the **Next** button to proceed to Step 2.

## Step 2 - Select a Respirator

When the **Respirator Database** (Step 2) dialog box appears, it shows the name of the first respirator in the **Respirator** database. The records are in alphabetical order (Figure 3-5).

*Note: If this is the first time you have used FitPlus for Windows, your Respirator database will be blank. The following instructions indicate which buttons you must click to add records to the database. However, you must refer to Chapter 4, Using the FitPlus for Windows Menu Options, for detailed descriptions of the fields in the database dialog boxes.*

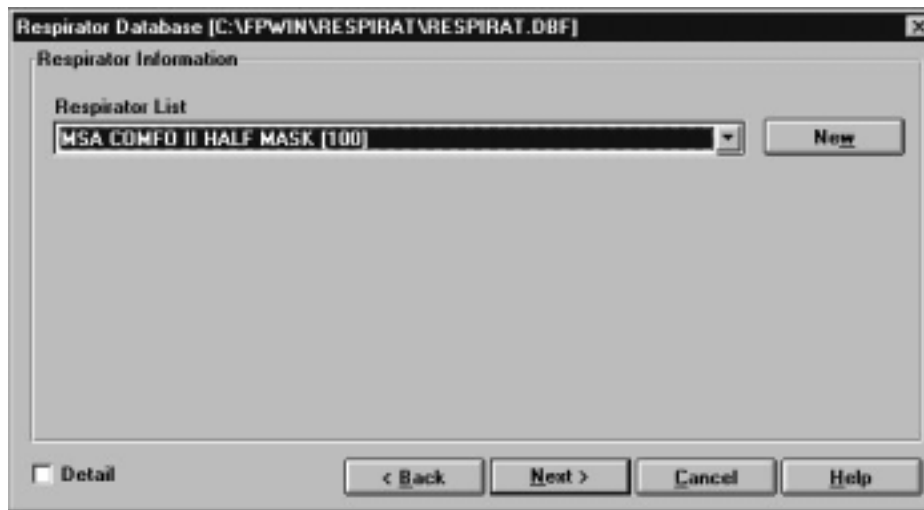


Figure 3-5. Respirator Database (Step 2)

If the record for the respirator you want to use is displayed, click the **Next** button. Otherwise:

1. Click the **Respirator List** field arrow to display all the respirators in the database. Use the scroll bar to find the respirator you need.  
*Note: If the name of the respirator you want to use is not in the database, or if the record is blank, click the **New** button and create a new record.*
2. Click the selected respirator name to display it in the records field. If you want to see details for the selected respirator, click the **Detail** box to display the Respirator details dialog box (Figure 3-6).
3. Click the **Next** button to proceed to Step 3.

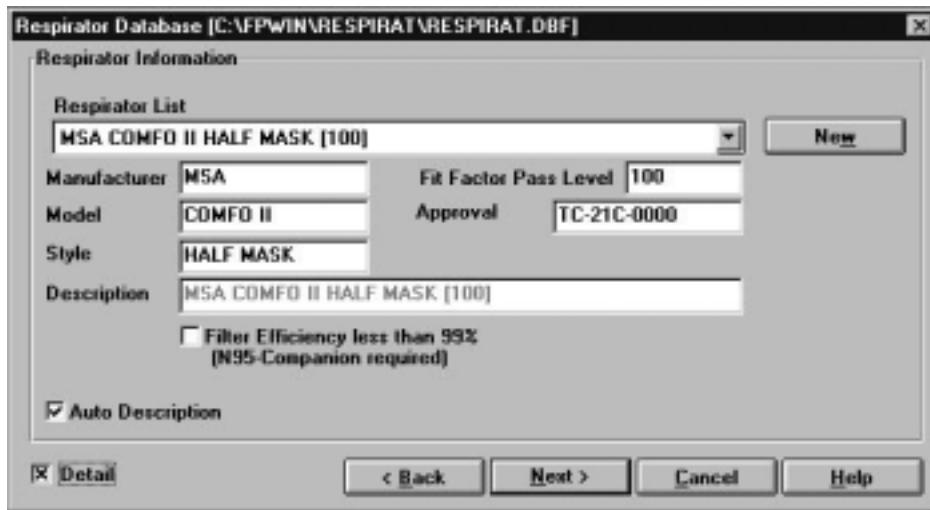


Figure 3-6. Respirator Details Dialog Box

*Note:* The following warning appears if the N95-Companion is connected to the PORTACOUNT Plus but **should not** be used to fit test the selected mask.

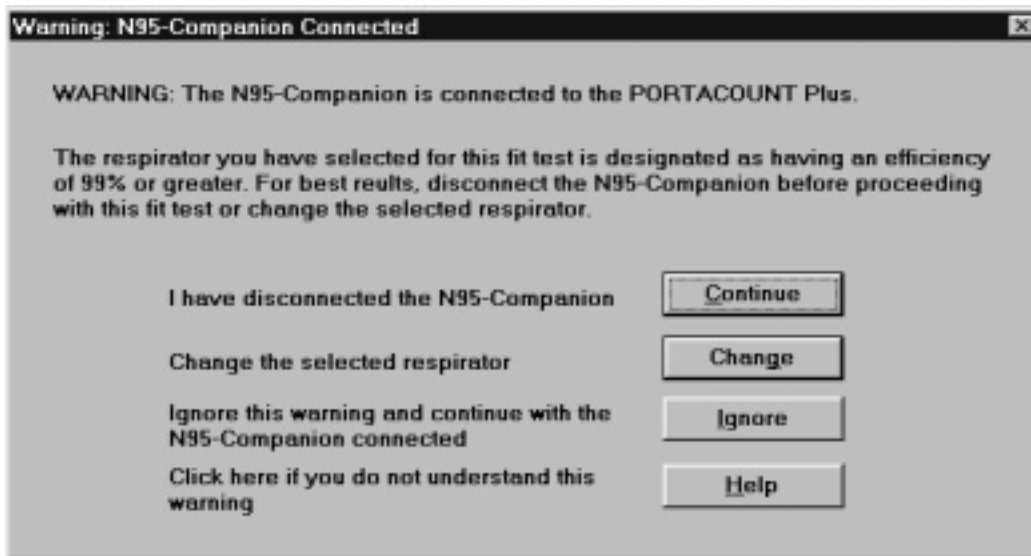


Figure 3-7. N95-Companion Connected Warning



Respirators equipped with particulate filters having 99% or greater efficiency should be fit tested **without** using the optional Model 8095 N95-Companion. This allows you to measure high fit factors more precisely. If you choose to ignore the warning and use the N95-Companion, the highest fit factor you can measure is 200.

*Note: The following warning appears if the N95-Companion is **not** connected to the PORTACOUNT Plus but **should** be used to fit test the selected mask.*

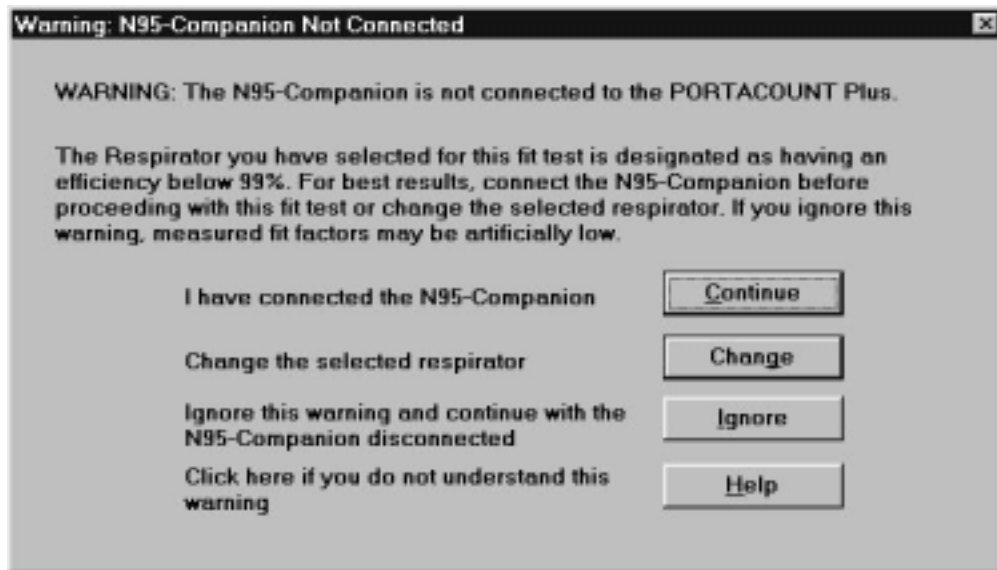


Figure 3-8. N95-Companion Not Connected Warning

Most respirators equipped with particulate filters having less than 99% efficiency should be fit tested using the optional Model 8095 N95-Companion with the PORTACOUNT Plus. If you choose to ignore the warning, artificially low fit factors will occur. This can cause a respirator with a good fit to fail the test.

### Step 3 - Select a Protocol

When the **Protocol Database** (Step 3) dialog box appears, it shows the exercise protocol that was last used (Figure 3-9).

*Note: If this is the first time you have used FitPlus for Windows software, the dialog box displays the most commonly used 6-exercise protocol named “Default.” The protocols are listed in alphabetical order.*

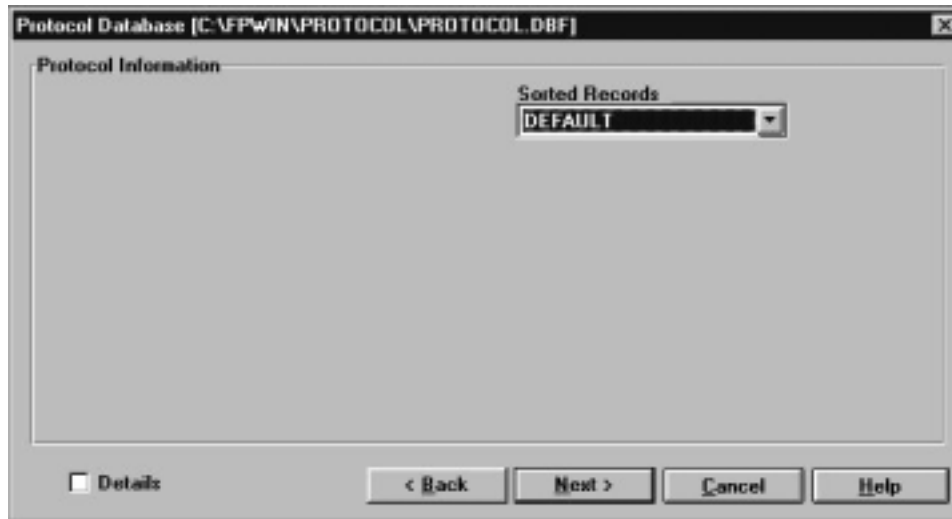


Figure 3-9. Protocol Database (Step 3)

If you want to use this protocol, click the **Next** button. Otherwise:

1. Click the **Sorted Records** field arrow to display all the exercise protocols in the database. Use the scroll bar to find the protocol you need.  
*Note: If the name of the protocol you want to use is not in the database, or if the record is blank, click the **New** button and create a new record.*
2. Click the selected protocol name to display it in the **Sorted Records** field. If you want to see details for this protocol, click the **Details** box to display the Protocol details dialog box (Figure 3-10).
3. Click the **Next** button to proceed to Step 4.

*Note: FitPlus for Windows remembers the protocol you last used and defaults to that protocol for the next fit test. If you always use the same protocol, this saves you from searching for it over and over again.*

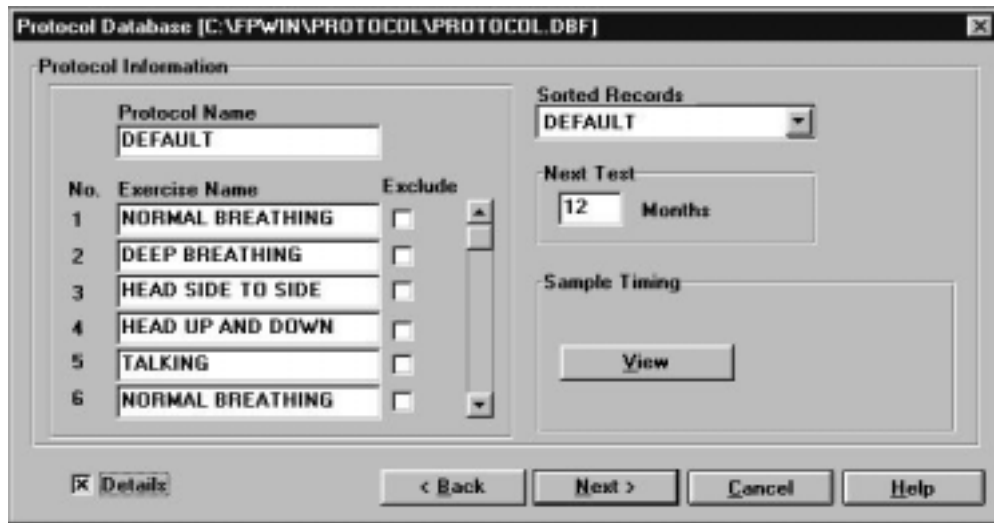


Figure 3-10. Protocol Details Dialog Box

Click the **V**iew button in the Sample Timing area of the **Protocol Details** dialog box to display the Sample Timing Details dialog box appears (Figure 3-11). The exercise protocol timing details shown on the screen differ depending on whether or not the N95-Companion is connected to the PORTACOUNT Plus. When you use the PORTACOUNT Plus alone, or if you enter data manually, PORTACOUNT Plus timing details appear. When you use the N95-Companion with the PORTACOUNT Plus, N95 Companion timing details appear.

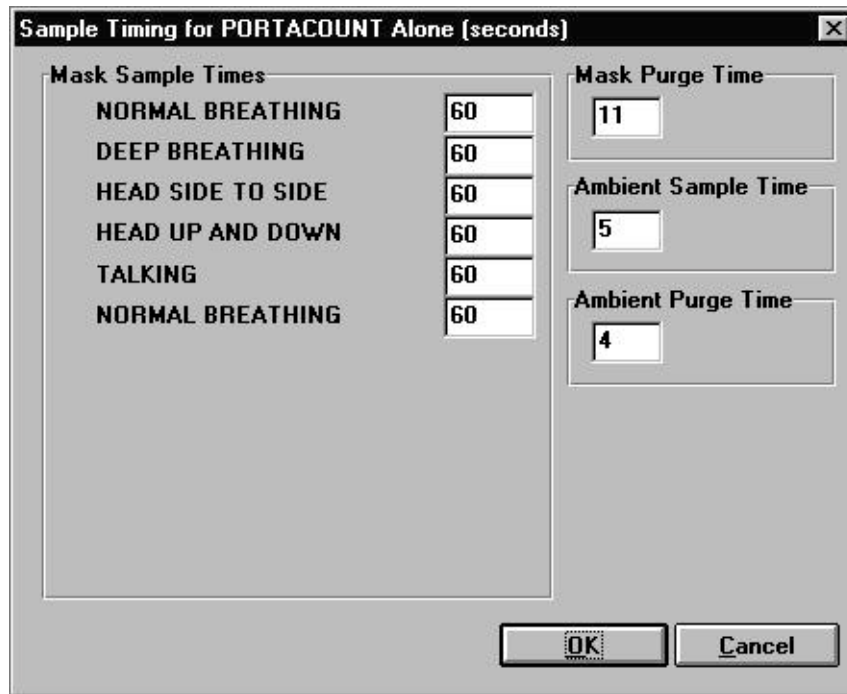


Figure 3-11. Sample Timing Details Dialog Box

## Step 4 - Information

When the **Information** (Step 4) dialog box appears, the mask size and operator fields are blank. (Figure 3-12.) You must fill in these fields before the FitPlus software will let you continue.

The screenshot shows a dialog box titled "Information - Step 4 of 5 [C:\FPWIN\FITTEST\FITTEST.DBF]". It contains several input fields and a "Data Input" section. The "Mask Size" field is set to "SMALL", the "Operator" field is set to "ROGER JONES", the "Pass Level" field is set to "100", the "Test Date" field is set to "01/07/1998", the "Test Time" field is set to "08:55", and the "Due Date" field is set to "01/07/1999". The "Data Input" section has two radio buttons: "PORTACOUNT" (selected) and "Manual". At the bottom of the dialog are four buttons: "< Back", "Next >", "Cancel", and "Help".

Figure 3-12. Information (Step 4) Dialog Box

1. Fill in the **Mask Size** field. For example: SMALL, MEDIUM, or LARGE. This is a required field.
2. Fill in your name in the **Operator** field. This is a required field.
3. Override the **Pass Level** and **Due Date** by typing in new information, if necessary.
4. Click the **Next** button to proceed to Step 5.

*Note: The default setting for data input is **PORTACOUNT**. If you want to input data manually, click **Manual**. When you click the **Next** button, the **Manual Entry - Step 5 of 5** (Figure 3-14) screen appears. You can use this screen to fill in information from a fit test conducted without the computer.*

## Step 5 - Conducting the Fit Test

The **Fit Test** (Step 5) dialog box (Figure 3-13) is not active until you begin the fit test by clicking the **Start** button. Before you click the **Start** button, *make sure the PORTACOUNT sample tube is connected to the respirator and the test subject is ready to begin the exercise protocol immediately.* Refer to the *PORTACOUNT Plus Operation and Service Manual* if you need additional information. If you are also using the N95-Companion, refer to the *Model 8095 N95-Companion Operation and Service Manual*.

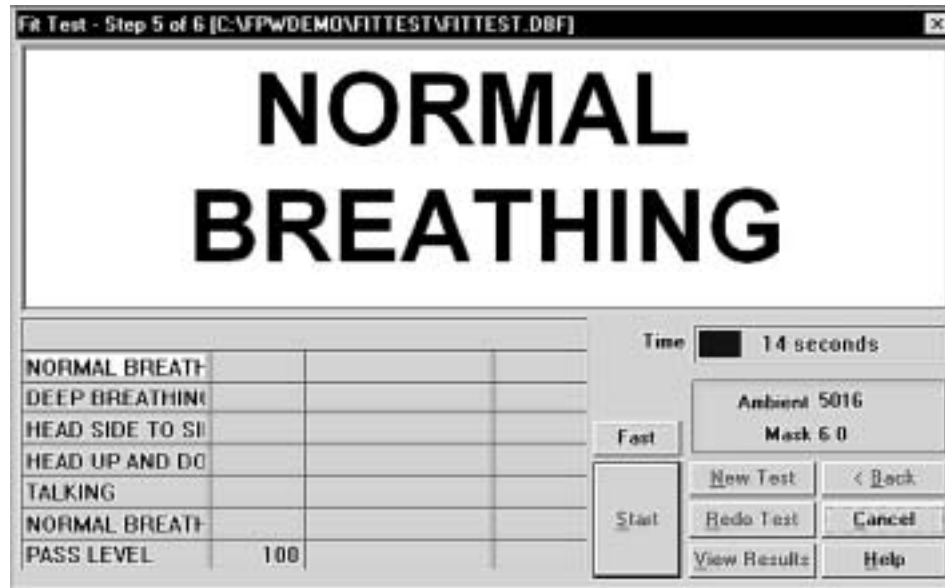


Figure 3-13. Fit Test (Step 5) Dialog Box

1. Click the **Start** button. The fit test begins immediately and the first exercise description appears in large type. The elapsed exercise time appears in the **Time** box. As each exercise is completed, the results appear in the grid at the lower left of the screen. The **Ambient** and **Mask** fields show the ambient and mask particle concentrations as they are measured.
2. FitPlus prompts you when it begins a new exercise. The exercises proceed one after another without pause.
3. When the fit test is complete, the main portion of the dialog box displays either a pass or fail status. The grid at the lower left of the screen displays the results of each exercise and the overall fit factor. You can now begin a new fit test on another person by clicking the **New test** button, redo the test on the same person/respirator by clicking the **Redo test** button, cancel fit testing by clicking the **Cancel** button, or view the detailed fit test record by clicking the **View record** button.

### Alternate Step 5 - Manual Entry

If you clicked the **Manual** button in Step 4, you will be allowed to edit the test date and time if necessary. If you then click **N**ext, the **Manual Entry** (alternate Step 5) screen appears (Figure 3-14). You use this screen to enter the results of a fit test conducted without a computer. Fill in the results in the **Fit Factor** column of the screen. After you complete the manual entry of data, you can begin a new fit test on another person by clicking the **N**ew test button, or go on to view the detailed fit test record by clicking the **V**iew record button.

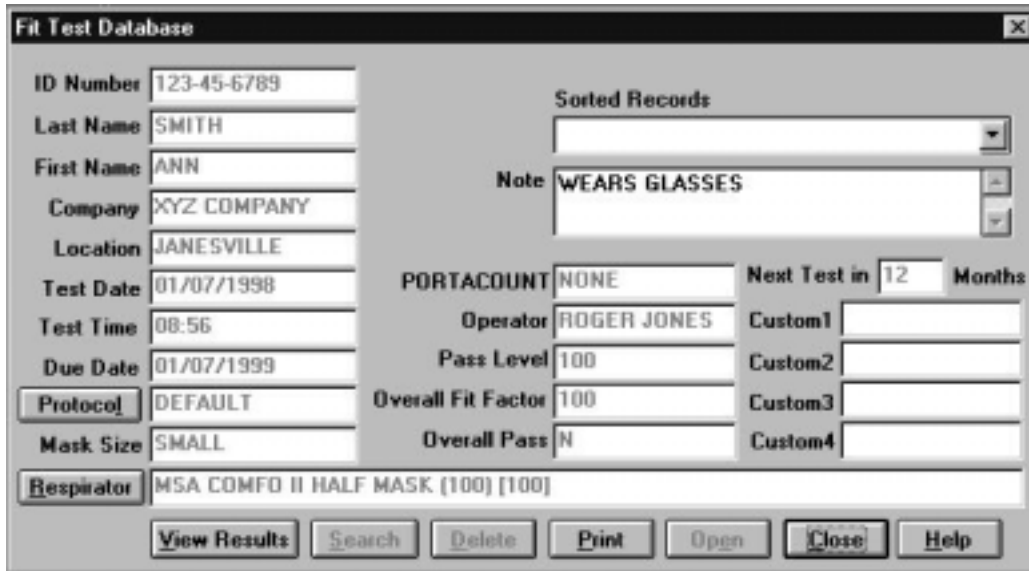
Exercise Name	Fit Factor
NORMAL BREATHING	
DEEP BREATHING	
HEAD SIDE TO SIDE	
HEAD UP AND DOWN	
TALKING	
NORMAL BREATHING	

New Test  
View Record  
Cancel  
Help

Figure 3-14. Manual Entry (Alternate Step 5)

## View Record (optional)

Clicking **View Record** at the completion of a fit test allows you to look at the detailed information from the fit test you just finished (Figure 3-15). You cannot edit the information from this dialog box, but you may view all information and optionally print a single page fit test report. When your are done, click **OK** to begin fit testing another person.



The screenshot shows a window titled "Fit Test Database" with a close button (X) in the top right corner. The window contains a form with the following fields and values:

ID Number	123-45-6789	Sorted Records	
Last Name	SMITH	Note	WEARS GLASSES
First Name	ANN		
Company	XYZ COMPANY		
Location	JANESVILLE		
Test Date	01/07/1998	PORTACOUNT	NONE
Test Time	08:56	Operator	ROGER JONES
Due Date	01/07/1999	Pass Level	100
Protocol	DEFAULT	Overall Fit Factor	100
Mask Size	SMALL	Overall Pass	N
Respirator	MSA COMFO II HALF MASK (100) [100]		

At the bottom of the window, there are several buttons: "View Results", "Search", "Delete", "Print", "Open", "Close", and "Help".

Figure 3-15. Fit Test Record

## Summary

This chapter presented the basic fit testing procedures provided by the FitPlus for Windows software. For detailed information on all the options available in FitPlus for Windows, refer to Chapter 4.



## Chapter 4

### Using the FitPlus for Windows Menu Options

This chapter discusses how to use the FitPlus for Windows menu options to perform all the tasks available in the FitPlus for Windows software. It is organized in the same order as the FitPlus for Windows main menu bar, shown in Figure 4-1. You can perform FitPlus for Windows tasks independently of the default basic procedures discussed in Chapter 3 by selecting them from the menu.

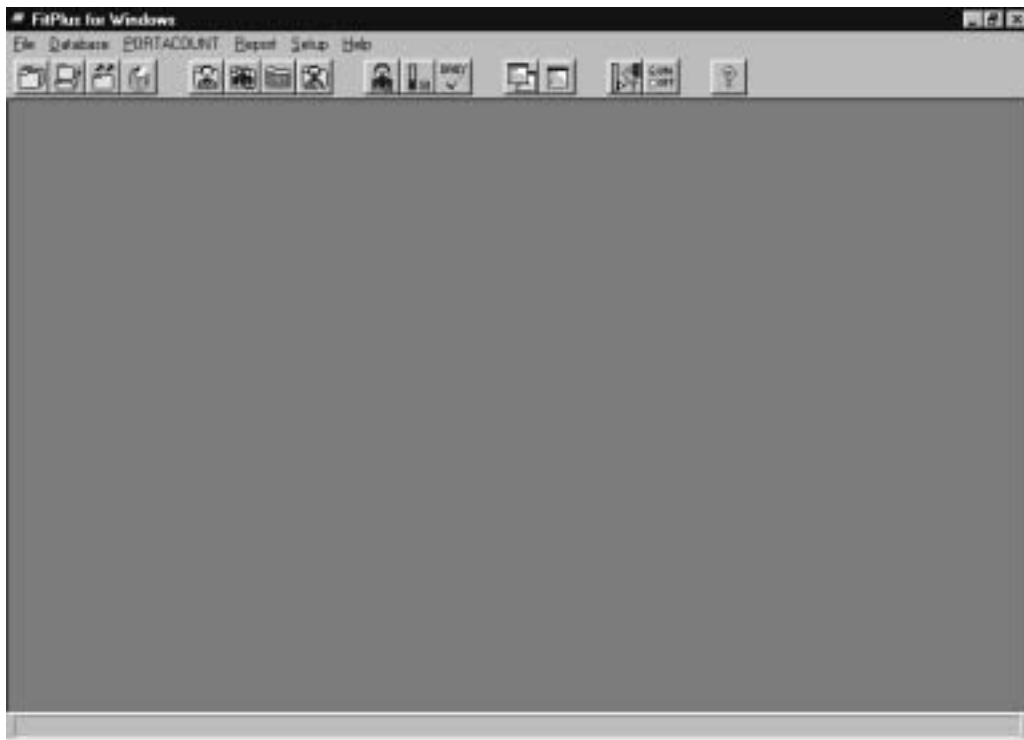


Figure 4-1. Main Menu

The following table lists all of the menu selections.

Menu	Description
<b><u>F</u>ile</b>	The <b><u>F</u>ile</b> menu contains three options: <ul style="list-style-type: none"> <li>• <b><u>C</u>opy Database</b></li> <li>• <b><u>M</u>erge Databases</b></li> <li>• <b><u>E</u>xport Database</b></li> <li>• <b><u>D</u>elete Database</b></li> <li>• <b><u>E</u>xit</b></li> </ul>
<b><u>D</u>atabase</b>	The <b><u>D</u>atabase</b> menu contains two options: <ul style="list-style-type: none"> <li>• <b><u>O</u>pen</b></li> <li>• <b><u>S</u>etup/Create Default Filenames</b></li> </ul>
<b><u>P</u>ORTACOUNT</b>	The <b><u>P</u>ORTACOUNT</b> menu contains three options: <ul style="list-style-type: none"> <li>• <b><u>F</u>it Test</b></li> <li>• <b><u>R</u>ealtime</b></li> <li>• <b><u>D</u>aily Checks</b></li> </ul>
<b><u>R</u>eport</b>	The <b><u>R</u>eport</b> menu contains two options: <ul style="list-style-type: none"> <li>• <b><u>S</u>elect Report</b></li> <li>• <b><u>S</u>ingle <u>F</u>it Test</b></li> </ul>
<b><u>S</u>etup</b>	The <b><u>S</u>etup</b> menu contains two options: <ul style="list-style-type: none"> <li>• <b><u>C</u>ommunications Port</b></li> <li>• <b>PORTACOUNT Daily Checks</b></li> <li>• <b>N95-Companion Daily Checks</b></li> <li>• <b>Fit test <u>O</u>ptions</b></li> </ul>
<b><u>H</u>elp</b>	The <b><u>H</u>elp</b> menu contains four options: <ul style="list-style-type: none"> <li>• <b><u>C</u>ontents</b></li> <li>• <b>FitPlus <u>F</u>eatures</b></li> <li>• <b>FitPlus <u>T</u>asks</b></li> <li>• <b><u>A</u>bout FitPlus</b></li> </ul>

You can select any of the options using the mouse or the keyboard.

- To select an item using the mouse, move the cursor to the menu and click the left mouse button. Then click the menu option you want to select.
- To select an item using the keyboard, press the **A** key and the underlined letter of the menu you want to select. For example, to select the **Database** menu, press and hold **A**, and then press **D**. Then, to select the menu option, press the underlined letter for the option you want.

In addition to the menu bar, FitPlus for Windows includes toolbar buttons. These buttons, located directly below the menu bar, offer easy access to the most common menu options.

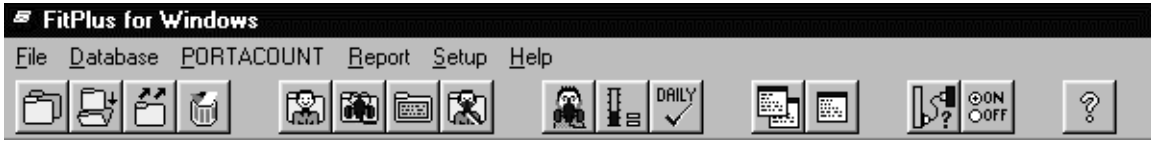


















Figure 4-2. Toolbar Buttons

Toolbar button descriptions in order from left to right are:

	Copy a database file to another location and optionally rename the file		Start a fit test
	Merge one database into another and optionally rename the file		Start the Real-time fit factor display
	Export a database to a tab-delimited ASCII file		Start daily checks
	Delete a database		Select a report format from a list
	View or edit the People database		View or print a single-page fit test report
	View or edit the Respirator database		Select or test a communications port
	View or edit the Protocol database		Set fit test options
	View or edit the Fit Test database		Online help

## Using the File Menu

The **F**ile menu allows you to copy, merge, or export databases, or to exit the program. FitPlus for Windows provides a distinct directory structure for the four types of database files: People, Respirator, Protocol, and Fit Test. Each file type has a specific directory. When you open any of the **Select Source/Destination Database File** dialog boxes, explained below, FitPlus for Windows automatically displays the directory structure in the right-hand side of the dialog box.

## Copying a Database

To copy a whole database from one location to another, open the **F**ile menu and click **C**opy Database. The **Copy Database** dialog box appears (Figure 4-3).



Figure 4-3. Copy Database Dialog Box

1. Click the **B**rowse button under **S**elect Source Database. The **S**elect source database file dialog box appears (Figure 4-4).
2. In the **F**olders list on the right-hand side of the dialog box, double-click the folder for the type of database you want to copy. The names of the files in the selected folder appear in the **F**ile name list on the left-hand side of the dialog box.
3. Using your mouse, select the name of the database you want to copy. (If the database name does not appear in the list, search for the desired database in other folders. If you are not familiar with basic Windows browse techniques, please refer to your Windows documentation.) The name of the file to be copied must appear in the **F**ile name bar at the top left of the screen. Click the **O**K button. The **C**opy Database dialog box reappears with the name of the source database filled in.

4. Click the **Browse** button under **Select Destination Database**. The **Select destination database file** dialog box appears. This dialog box looks exactly like the **Select source database file** dialog box, and functions in the same way.
5. The name of the *source* database file appears in the destination database **File name** bar by default. To change the name, type the new name in the bar. (The default destination drive is **A:**. If you want to change the drive, select a new drive from the **Drives** bar at the bottom of the screen.)  
If you want to copy and rename the file, enter the name of the new file in the **File name** bar. The Copy procedure will copy and rename the file. Click the **OK** button. The **Copy Database** dialog box reappears, with the names of the source and destination databases filled in.
6. Click the **Copy Database** button under **Execute**. The file is copied from the source to the destination.



Figure 4-4. Select source database file Dialog Box

If you need to cancel the **Copy Database** procedure at any time, click the **Cancel** button that appears on all of the dialog boxes. You immediately return to the main FitPlus window.

If you are on a network, click the **Network** button on the **Select Source/Select Destination Database** file dialog boxes to access other drives on the network.

## Merging Databases

To merge data from one database file into another, open the **File** menu and click **Merge Databases**. The **Merge Databases** dialog box appears (Figure 4-5). This procedure adds data from the source database to the destination database. It does not alter the source database file.

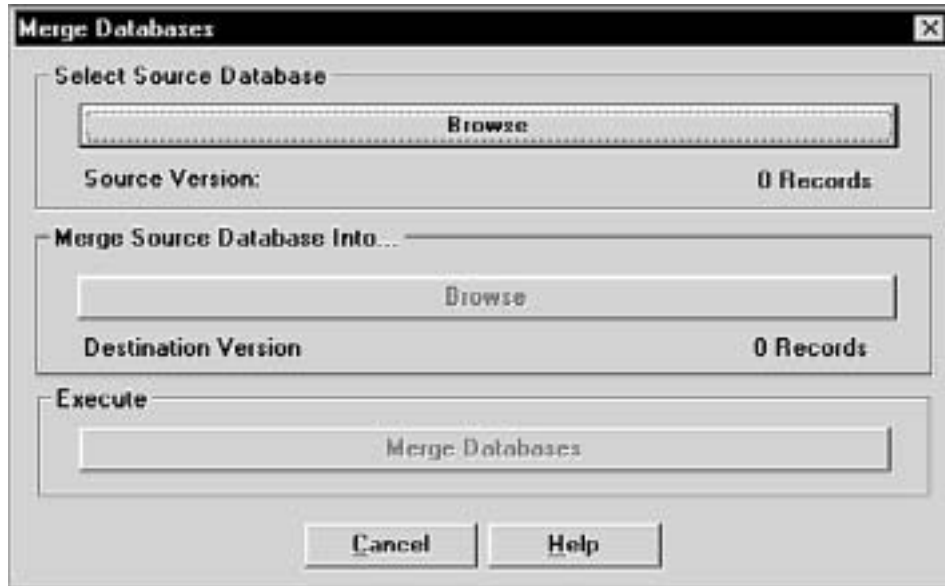


Figure 4-5. Merge Databases Dialog Box

1. Click the **Browse** button under **Select Source Database**. The **Select source database file** dialog box appears (Figure 4-4).
2. In the **Folders** list on the right-hand side of the dialog box, double-click the folder for the type of database you want to merge. The names of the files in the selected folder appear in the **File name** list on the left-hand side of the dialog box.
3. Using your mouse, select the name of the source database you want to merge data *from*. (If the database name does not appear in the list, search for the desired database in other folders. If you are not familiar with basic Windows search techniques, please refer to your Windows documentation.) The name must appear in the **File name** bar at the top left of the screen. Click the **OK** button. The **Merge Databases** dialog box reappears with the name of the source database filled in.
4. Click the **Browse** button under **Merge Source Database Into...** The **Select destination database file** dialog box appears. This dialog box looks exactly like the **Select source database** dialog box, and functions in the same way.
5. Select the name of the database you want to merge data *into*. Search for the database if it does not appear in the list. The file must already exist or you cannot execute the merge function. Click the **OK** button. The **Merge Databases** dialog box reappears, with the names of the source and destination databases filled in.
6. Click the **Merge Databases** button under **Execute**. The data is copied from the source database and added to the destination database. The source database is not altered.

If you need to cancel the **Merge Databases** procedure at any time, click the **Cancel** button that appears on all of the dialog boxes. You immediately return to the previously displayed dialog box.

If you are on a network, click the **Network** button on the **Select Source/Select Destination Database** file dialog boxes to access other drives on the network.

## Exporting Databases

The **Export Database** function allows you to transfer data to programs that cannot read dBASE IV format databases. Most popular database and spreadsheet software can read dBASE IV format databases directly.

The export database function creates a tab-delimited ASCII file containing all data in the database. There is no way to filter records.

To export data from one database file into a tab-delimited ASCII file, open the **F**ile menu and click **E**xport Databases. The **Export Database** dialog box appears (Figure 4-6).



Figure 4-6. Export Database Dialog Box



1. Click the **Browse** button under **Select Source Database**. The **Select source database file** dialog box appears (Figure 4-4).
2. In the **Folders** list on the right-hand side of the dialog box, double-click the folder for the type of database you want to export. The names of the files in the selected folder appear in the **File name** list on the left-hand side of the dialog box.
3. Using your mouse, select the name of the database you want to export. (If the database name does not appear in the list, search for the desired database in other folders. If you are not familiar with basic Windows search techniques, please refer to your Windows documentation.) The name must appear in the **File name** bar at the top left of the screen. Click the **OK** button. The **Export Database** dialog box reappears with the name of the source database filled in.
4. Click the **Browse** button under **Select Destination File**. The **Select destination file** dialog box appears (Figure 4-7).
5. Select the name of the file you want to export the data *to*.

**WARNING:** *If you select the name of an existing file, the file will be overwritten.*

Create a new file by typing the file name in the **File name** bar, or search for the file if it does not appear in the list. (The file extension **.txt** is used by default and may be changed if you want.) Click the **OK** button. The **Export Database** dialog box reappears, with the names of the source and destination files filled in.

6. Click the **Export Database** button under **Execute**. The data is copied from the source to the destination database.

If you need to cancel the **Export Database** procedure at any time, click the **Cancel** button that appears on all of the dialog boxes. You immediately return to the previously displayed dialog box.

If you are on a network, click the **Network** button on the **Select Source/Select Destination Database** file dialog boxes to access other drives on the network.

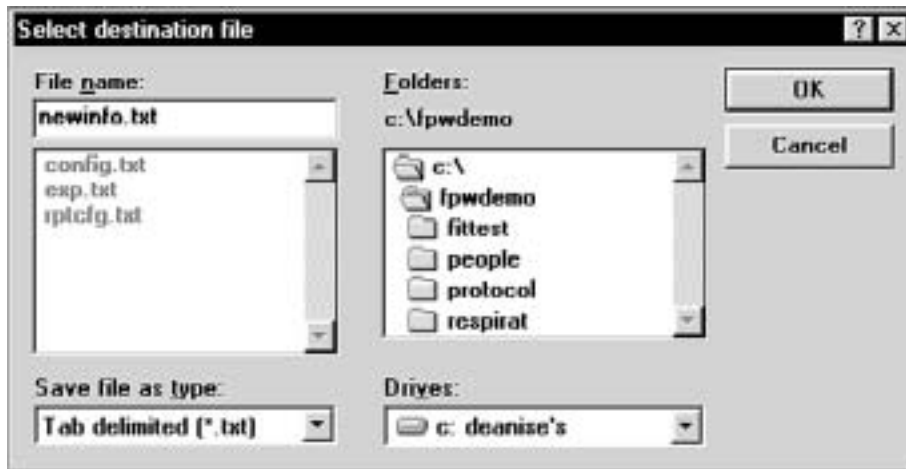


Figure 4-7. Select destination file Dialog Box - Export Database

## Deleting Databases

To delete a database, open the **File** menu and click **Delete Database**. The **Select file to delete** dialog box appears (Figure 4-8).

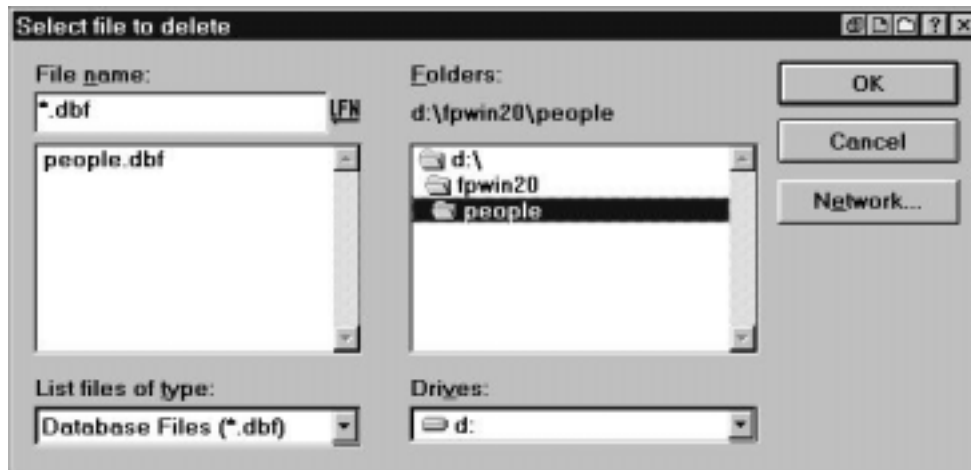


Figure 4-8. Select file to delete Dialog Box

1. In the **Folders** list on the right-hand side of the dialog box, double-click the folder for the type of database you want to delete. The names of the files in the selected folder appear in the **File name** list on the left-hand side of the dialog box.
2. Using your mouse, select the name of the database you want to delete. (If the database name does not appear in the list, search for the desired database in other folders. If you are not familiar with basic Windows search techniques, please refer to your Windows documentation.) The name must appear in the **File name** bar at the top left of the screen. Click the **OK** button. A dialog box appears, asking if you really want to delete this file.
3. Click **Yes** to delete the file.

If you need to cancel the **Delete Database** procedure at any time, click the **Cancel** button that appears on all of the dialog boxes. You immediately return to the previously displayed dialog box.

If you are on a network, click the **Network** button on the **Select file to delete** dialog box to access other drives on the network.

### **Exiting FitPlus for Windows Software**

To exit the program, open the **File** menu and click **Exit**. The main FitPlus window closes, terminating the application.

## ***Using the Database Menu***

FitPlus for Windows uses four types of database files: People; Respirator; Protocol; and Fit Test. The **Database** menu allows you to open the database files, add new data to these database files, change the default database file, or create a new database file.

All database files carry the **.dbf** extension. The default files supplied with FitPlus for Windows software are **People.dbf**, **Respirator.dbf**, **Protocol.dbf**, and **Fittest.dbf**.

The default databases are the databases used for fit testing. In other words, Step 1 of a fit test uses the default people database, Step 2 uses the default respirator database, Step 3 uses the default protocol database, and the fit test results are stored in the default fit test database. The only way you can change a default database is by using the **Setup/Create Default Filenames** option, described later in this section.

## **Opening and Updating the Default Database Files**

To open one of the database files, click the **Database** menu, select **Open**, and select one of the four database files: People, Respirator, Protocol, or Fit Test. The first record in the default database appears. If you want to work on another database that is not currently defined as the default, click the **Open** button and select another database from the **Select Database File** dialog box.

***Note:** Each of the four database files is described in a separate section below.*

### Updating the People Database File

The **People Database** dialog box automatically displays the first record in the default people database (Figure 4-9), sorted by last name. If the database is empty, the dialog box contains all blank fields. You enter information for a new record in the fields in the **People Information** section of the dialog box. You can also change any of the displayed information for any existing record by overwriting these fields.



The screenshot shows a dialog box titled "People Database [C:\FPWIN\PEOPLE\PEOPLE.DBF]". It contains a "People Information" section with the following fields:

ID Number	123-45-6789	Sorted List	SMITH	New
Last Name	SMITH	Custom1		Delete
First Name	ANN	Custom2		Duplicate
Company	XYZ COMPANY	Custom3		Search
Location	JANESVILLE	Custom4		
Note	WEARS GLASSES			

At the bottom of the dialog box are three buttons: "Open", "Close", and "Help".

Figure 4-9. People Database Dialog Box

The following table describes the function of each of the buttons or fields in the **People Database** dialog box.

Button or Field Name	Function
<b><u>N</u>ew</b> button	Clicking the <b><u>N</u>ew</b> button opens a new blank record, allowing you to enter a new record in the database.
<b><u>D</u>el</b> ete button	Clicking the <b><u>D</u>el</b> ete button allows you to delete the displayed record. A warning message first appears, asking if you are sure you want to delete the record. If you click <b><u>Y</u>es</b> , the record is deleted permanently.
<b><u>D</u>uplicate</b> button	Clicking the <b><u>D</u>uplicate</b> button duplicates the displayed record, adds it to the database, and displays the duplicate record. You can use this feature to create a record similar to the displayed record, and edit the fields as necessary.
<b><u>S</u>earch</b> button	<p>Clicking the <b><u>S</u>earch</b> button displays the <b>Database Search</b> dialog box (Figure 4-10). Type the name of the person you want to find in the <b>Text to search for...</b> bar and click <b><u>O</u>K</b>. The <b>People Database</b> dialog box reappears, displaying the selected record.</p> <p>You may search other fields besides the last name field by changing the field shown in the <b>Data to search through</b> .</p> <p>If the record you are searching for is not in the database file, the first record in the file reappears. Click <b><u>N</u>ew</b> and add the new record.</p>
<b>ID Number</b> field	Displays the person's ID number. Limited to 11 alpha-numeric characters.
<b>Last Name</b> field	Displays the person's last name. Limited to 25 characters.
<b>First Name</b> field	Displays the person's first name. Limited to 25 characters.
<b>Company</b> field	Displays the person's company name. Limited to 25 characters.
<b>Location</b> field	Displays the person's division or department name. Limited to 25 characters.
<b>Note</b> field	Displays any information about the person that can affect the fit test circumstances or results, such as "wears safety goggles," or "wears dentures." Limited to 128 characters.

Button or Field Name	Function
<b>Sorted List</b> field	Clicking the arrow to the right of the sorted list field displays a list of all the records in the database file. It is used to select a record for display.
<b>Custom</b> fields (1, 2, 3, and 4)	Displays any user-defined data you may want to keep track of. The field names “custom1”, “custom2”, etc. cannot be changed.
<b>Open</b> button	Clicking the <b>Open</b> button displays the <b>Select people database</b> file dialog box. You can select another file for editing. However, this does not change the default people database for fit test purposes.
<b>Close</b> button	Clicking the <b>Close</b> button closes the dialog box.
<b>Help</b> button	Clicking the <b>Help</b> button accesses the FitPlus online help information.

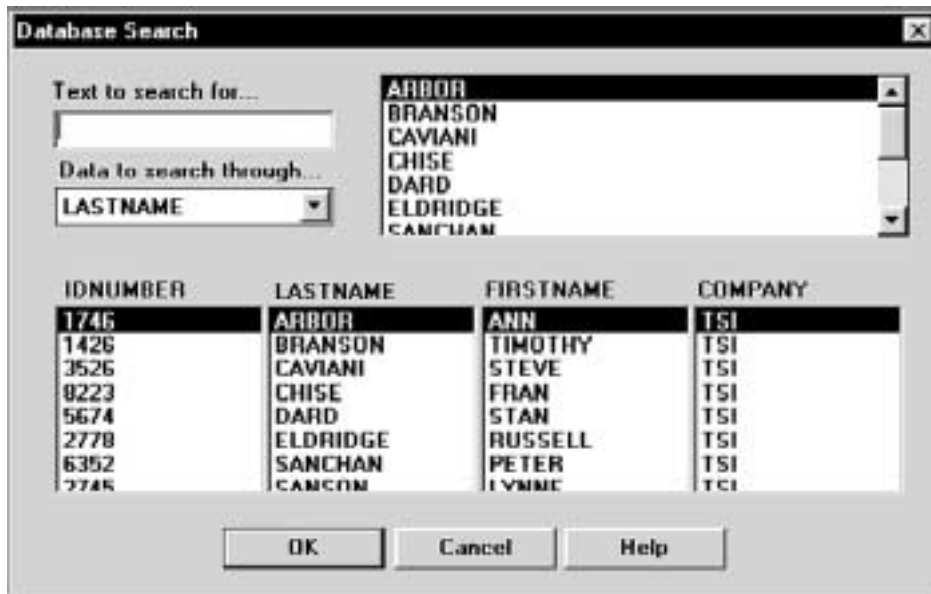


Figure 4-10. Database Search Dialog Box

### Updating the Respirator Database

The **Respirator Database** dialog box automatically displays the first record in the default respirator database (Figure 4-11), sorted by description. You use the **Respirator List** field to display and select any existing respirator record. If the database is empty, the dialog box contains all blank fields. You enter information for a new respirator in the **Respirator Information** section of the dialog box. You can also change the displayed information for any existing record by updating the appropriate fields.

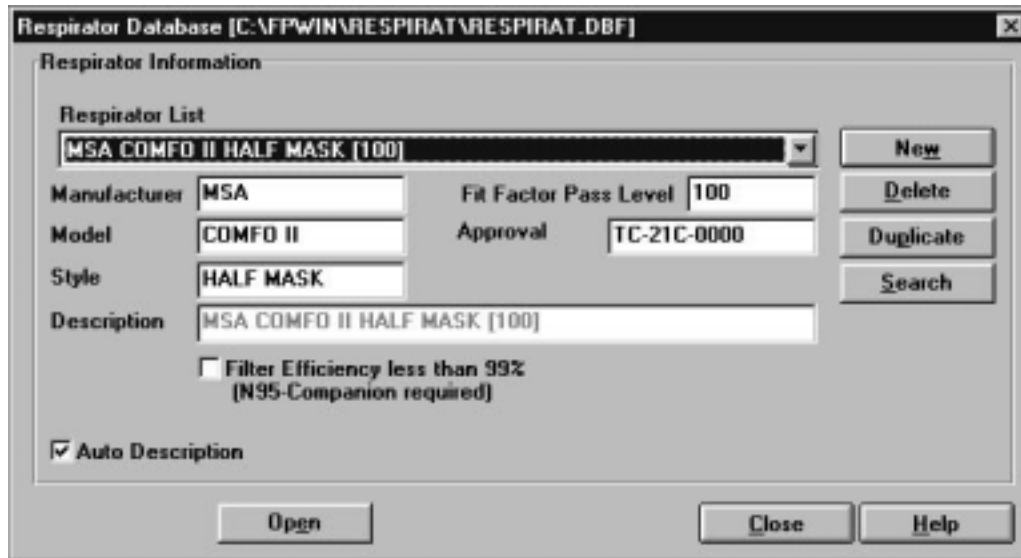


Figure 4-11. Respirator Database Dialog Box



The following table describes the function of each of the buttons or fields in the **Respirator Database** dialog box.

Button or Field Name	Function
<b><u>N</u>ew</b> button	Clicking the <b><u>N</u>ew</b> button opens a new blank record, allowing you to enter a new record in the database.
<b><u>D</u>elete</b> button	Clicking the <b><u>D</u>elete</b> button allows you to delete the displayed record. A warning message first appears, asking if you are sure you want to delete the record. If you click <b><u>Y</u>es</b> , the record is deleted permanently.
<b><u>D</u>uplicate</b> button	Clicking the <b><u>D</u>uplicate</b> button duplicates the displayed record, adds it to the database, and displays the duplicate record. You can use this feature to create a record similar to the displayed record, and edit the fields as necessary.
<b><u>S</u>earch</b> button	<p>Clicking the <b><u>S</u>earch</b> button displays the <b>Database Search</b> dialog box. (This box is structured exactly like the box shown in Figure 4-10, although it displays respirator information.) Select the data to search through, and type the information to search for in the <b>Text to search for...</b> bar. Click <b><u>O</u>K</b>. The <b>Respirator Database</b> dialog box reappears, displaying the selected record.</p> <p>If the record you are searching for is not in the database file, the first record in the file reappears. Click <b><u>N</u>ew</b> and add the new record.</p>
<b><u>S</u>orted Records</b> field	Clicking the arrow to the right of the <b><u>S</u>orted Records</b> field displays a list of all the respirator records in the database. You can select a new record or leave the current record in the dialog box.
<b><u>M</u>anufacturer</b> field	Displays the respirator manufacturer's name.
<b><u>M</u>odel</b> field	Displays the respirator model.
<b><u>S</u>tyle</b> field	Displays the description of the respirator style, such as half- or full-face.
<b><u>A</u>pproval</b> field	Displays the respirator approval number. This is typically the NIOSH approval number.

Button or Field Name	Function
<b>Fit Factor Pass Level</b> field	Displays the fit factor pass level number for this respirator, such as 100 for half masks and 500 for full-face masks. Consult the applicable regulations for additional information.
<b>Description</b> field	Displays the respirator description, also shown in the <b>Sorted Records</b> field. See <b>Auto Description</b> at the end of this table.
<b>Filter efficiency less than 99% (N95-Companion required)</b> box	<p>A check mark in this box indicates that the N95-Companion must be used with the PORTACOUNT Plus to guarantee accurate fit test results for the selected respirator.</p> <ul style="list-style-type: none"> <li>• If the respirator you are fit testing with has HEPA, class 100 or class 99 filters, leave this box un-checked. The N95-Companion is not needed.</li> <li>• If the respirator has DM, DMF or class 95 filters, you should check this box so that the N95-Companion will be used (if present).</li> <li>• International users should leave this box un-checked for P3 filters and checked for P1 or P2 filters.</li> </ul>
<b>Auto Description</b> Check Box	If <b>Auto Description</b> is checked, the description field will automatically be filled in using the information from the manufacturer, model, style and fit factor pass level fields. You may overwrite the automatic description if necessary.
<b>Open</b> button	Clicking the <b>Open</b> button displays the <b>Select respirator database file</b> dialog box. You can select another file for editing purposes. However, this does not change the default respirator database for fit test purposes.
<b>Close</b> button	Clicking the <b>Close</b> button updates the displayed record and closes the dialog box.
<b>Help</b> button	Clicking the <b>Help</b> button accesses the FitPlus online help information.

### Updating the Protocol Database

The **Protocol Database** dialog box automatically displays the records in the default protocol database in alphabetical order. (Figure 4-12). You use the **Sorted Records** field to display and select any existing exercise protocols. If the database is empty, the dialog box contains all blank fields. You enter information for a new exercise protocol in the **Protocol Information** section of the dialog box. You can also change the displayed information for any existing record by updating the appropriate fields.



Figure 4-12. Protocol Database Dialog box

The following table describes the function of each of the buttons or fields in the **Protocol Database** dialog box.

Button or Field Name	Function
<b><u>N</u>ew</b> button	Clicking the <b><u>N</u>ew</b> button opens a new blank record, allowing you to enter a new record in the database.
<b><u>D</u>el</b> ete button	Clicking the <b><u>D</u>el</b> ete button allows you to delete the displayed record. A warning message first appears, asking if you are sure you want to delete the record. If you click <b><u>Y</u>es</b> , the record is deleted permanently.
<b><u>D</u>uplicate</b> button	Clicking the <b><u>D</u>uplicate</b> button duplicates the displayed record, adds it to the database, and displays the duplicate record. You can use this feature to create a record similar to the displayed record, and edit the fields as necessary.
<b><u>S</u>earch</b> button	<p>Clicking the <b><u>S</u>earch</b> button displays the <b>Database Search</b> dialog box. (This box is structured exactly like the box shown in Figure 4-10, although it contains only the protocol names.) Type the name of the protocol for this fit test in the <b>Text to search for...</b> bar and click <b><u>O</u>K</b>. The <b>Protocol Database</b> dialog box reappears, displaying the selected record.</p> <p>If the record you are searching for is not in the database file, the first record in the file reappears. Click <b><u>N</u>ew</b> and add the new record.</p>
<b><u>P</u>rotocol Name</b> field	Displays the name of the displayed exercise protocol.
<b>Sorted Records</b> field	Clicking the arrow to the right of the <b>Sorted Records</b> field displays a list of all the Protocol records in the database. You can select a new record or leave the current record information in the dialog box.

<b>Exercise Name</b> fields	Displays the names of all the exercises in the protocol. There are up to 12 exercises. Use the scroll bar to the right of the <b>Exclude</b> buttons to display Exercises 7 through 12.
<b>Mask Time</b> field	Displays the mask sample time in seconds for each exercise. Use 60 seconds unless applicable regulations allow other settings.
<b>Total Time</b> field	Displays the total time in seconds for each exercise. The total time is the mask plus ambient purge plus ambient sample plus mask purge times. FitPlus for Windows automatically updates the total when you move to the next field. You cannot update this field directly.
<b>Exclude</b> buttons	Clicking the <b>Exclude</b> button for an exercise excludes those exercise results from the overall fit factor result for the entire fit test. Do not exclude exercises unless you are absolutely certain that they are not required for the overall fit factor result.
<b>Ambient Purge</b> field	Displays the ambient purge time in seconds. The default is 4. Do not change this setting under normal circumstances.
<b>Ambient Sample</b> field	Displays the ambient sample time in seconds. The default is 5. Do not change this setting under normal circumstances.
<b>Mask Purge</b> field	Displays the mask purge time in seconds. The default is 11. Do not change under normal circumstances.
<b>Next Test</b> field	Displays the number of months before the next fit test is due. This is typically 12 months, although some regulations call for 6 months. Consult the applicable regulations for additional information.
<b>99% and greater</b> button	Clicking the <b>99% and greater</b> button displays the <b>Sample timing for PORTACOUNT (alone)</b> dialog box (Figure 4-13). This box lists Mask Sample Times, Mask Purge Time, Ambient Sample Time, and Ambient Purge Time when you are conducting a fit test with the PORTACOUNT alone.
<b>Less than 99%</b> button	Clicking the <b>Less than 99%</b> button displays the <b>Sample timing for N95-Companion</b> dialog box (Figure 4-14). This box lists Mask Sample Times, Mask Purge Time, Ambient Sample Time, and Ambient Purge Time when you are using the N95-Companion and PORTACOUNT together to conduct a fit test.

<b><u>O</u>pen</b> button	Clicking the <b><u>O</u>pen</b> button displays the <b>Select protocol database file</b> dialog box. You can select another file for editing purposes. However, this does not change the default protocol database used for fit testing.
<b><u>C</u>lose</b> button	Clicking the <b><u>C</u>lose</b> button updates the displayed record and closes the dialog box.
<b><u>H</u>elp</b> button	Clicking the <b><u>H</u>elp</b> button accesses the FitPlus online help information.

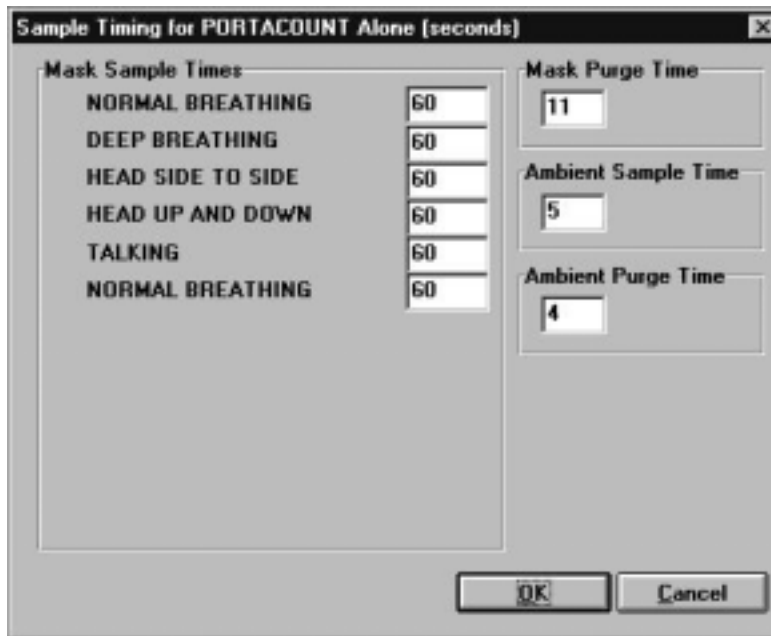


Figure 4-13. Sample timing for PORTACOUNT (alone) Dialog Box

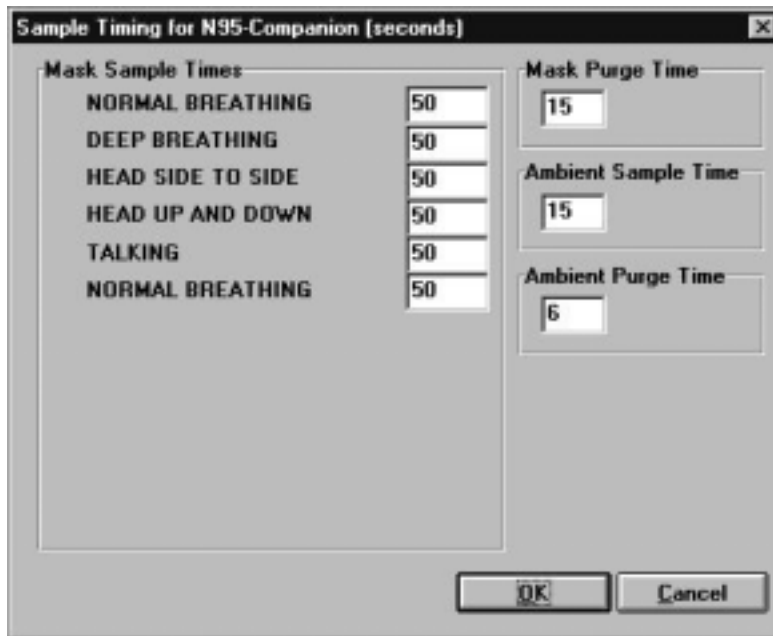


Figure 4-14. Sample timing for N95-Companion Dialog Box

### Viewing the Fit Test Database

The **Fit Test Database** file dialog box automatically displays the first record in the default fit test database, sorted by last name (Figure 4-15). Many of the fields in this dialog box are display only, you cannot modify them.

The screenshot shows a dialog box titled "Fit Test Database [C:\APPWIN\FITTEST\FITTEST.DBF]". It contains the following fields and values:

ID Number	123-45-6789	Sorted Records	SMITH
Last Name	SMITH	Note	WEARS GLASSES
First Name	ANN	PORTACOUNT	NONE
Company	XYZ COMPANY	Operator	ROGER JONES
Location	JANESVILLE	Pass Level	100
Test Date	01/07/1998	Overall Fit Factor	0.0
Test Time	09:40	Overall Pass	N
Due Date	01/07/1999	Next Test in	12 Months
Protocol	DEFAULT	Custom1	
Mask Size	SMALL	Custom2	
Respirator	MSA COMFO II HALF MASK [100]	Custom3	
		Custom4	

Buttons at the bottom: View Results, Search, Delete, Print, Open, Close, Help.

Figure 4-15. Fit Test Database Dialog Box

You can display a new record by clicking the arrow next to the **Sorted Records** field and selecting a new record from the resulting list. You can also click the **Search** button at the bottom of the screen to display a dialog box that allows you to select a specific fit test record.

The following table describes the function of each button and field in the **Fit Test Database** dialog box. It also indicates whether or not you can modify the field.



<b>Button or Field Name</b>	<b>Modify?</b>	<b>Function</b>
<b>First Name</b> field	Y	Displays the first name of the fit test subject.
<b>Last Name</b> field	Y	Displays the last name of the fit test subject.
<b>ID Number</b> field	Y	Displays the ID number of the fit test subject.
<b>Company</b> field	Y	Displays the company name of the fit test subject.
<b>Location</b> field	Y	Displays the division or department name of the fit test subject.
<b>Test Date</b> field	N	Displays the date of the fit test.
<b>Test Time</b> field	N	Displays the time the fit test began.
<b>Due Date</b> field	Y	Displays the date that the next fit test is due.
<b>Protocol</b> field	N	Displays the protocol used for the fit test.
<b>Mask Size</b> field	Y	Displays the size of the mask used for the fit test.
<b>Respirator</b> field	Y	Displays the name of the respirator used for the fit test.
<b>Sorted Records</b> field	n/a	Clicking the arrow to the right of the <b>Sorted Records</b> field displays a list of all the Fit Test records in the database. You can select a new record or leave the current record information in the dialog box.
<b>Note</b> field	Y	Displays any information about the person that can affect the fit test circumstances or results.
<b>Custom</b> fields (1, 2, 3, and 4)	Y	Displays any user-defined data.
<b>PORTACOUNT</b> field	N	Displays the serial number of the PORTACOUNT used for the fit test.
<b>Operator</b> field	Y	Displays the name of the operator who conducted the fit test.
<b>Pass Level</b> field	N	Displays the pass level used for the fit test.
<b>Overall Fit Factor</b> field	N	Displays the overall fit factor result for the fit test.
<b>Overall Pass</b> field	N	Displays a Y for a passed fit test; an N for a failed fit test.
<b>Protocol</b> button	n/a	Clicking the <b>Protocol</b> button displays the Protocol Information dialog box (Figure 4-16). To view detailed exercise protocol information for this fit test, click the <b>View</b> button.

Button or Field Name	Modify?	Function
<b><u>R</u>espirator</b> button	n/a	Clicking the <b><u>R</u>espirator</b> button displays detailed information on the respirator used for this fit test (Figure 4-17).
<b><u>V</u>iew results</b> button	n/a	Clicking the <b><u>V</u>iew results</b> button displays the detailed exercise results for this fit test (Figure 4-18).
<b><u>S</u>earch</b> button	n/a	<p>Clicking the <b><u>S</u>earch</b> button displays the <b>Database Search</b> dialog box. (This box is structured exactly like the box shown in Figure 4-9, although it contains fit test information). Select the type of data to search through, and type the information to search for in the <b>Text to search for...</b> bar. Click <b><u>O</u>K</b>. The <b>Respirator Database</b> dialog box reappears, displaying the selected record.</p> <p>If the record you are searching for is not in the database file, the first record in the file reappears. Click <b><u>N</u>ew</b> and add the new record.</p>
<b><u>D</u>elete</b> button	n/a	Clicking the <b><u>D</u>elete</b> button permanently deletes this record from the fit test database. A warning message first appears asking if you are sure you want to delete the record.
<b><u>P</u>rint</b> button	n/a	Clicking the Print button prints a detailed one-page report for this fit test.
<b><u>O</u>pen</b> button	n/a	Clicking the <b><u>O</u>pen</b> button displays the <b>Select fit test database file</b> dialog box. You can select another file for editing purposes. However, this does not change the default fit test database used for fit testing.
<b><u>C</u>lose</b> button	n/a	Clicking the <b><u>C</u>lose</b> button updates the displayed record and closes the database dialog box.
<b><u>H</u>elp</b> button	n/a	Clicking the <b><u>H</u>elp</b> button accesses the FitPlus online help information.

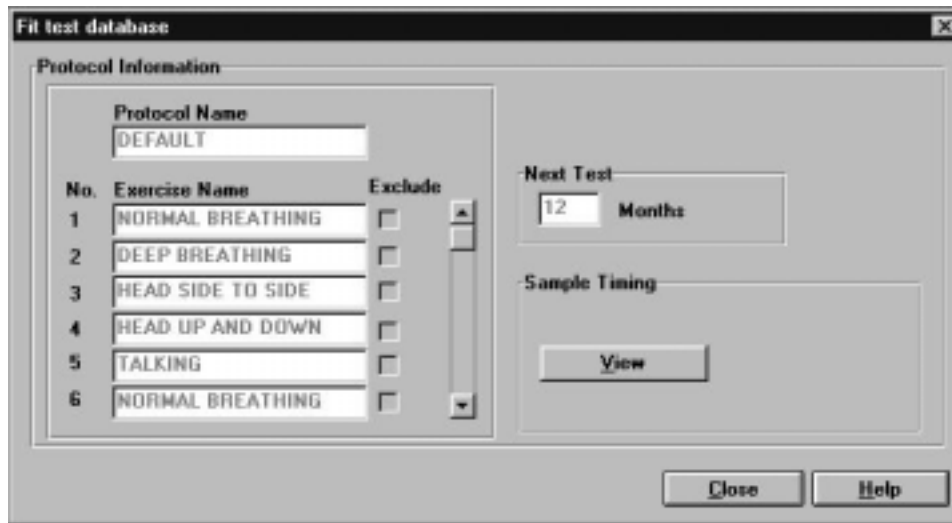


Figure 4-16. Protocol Information

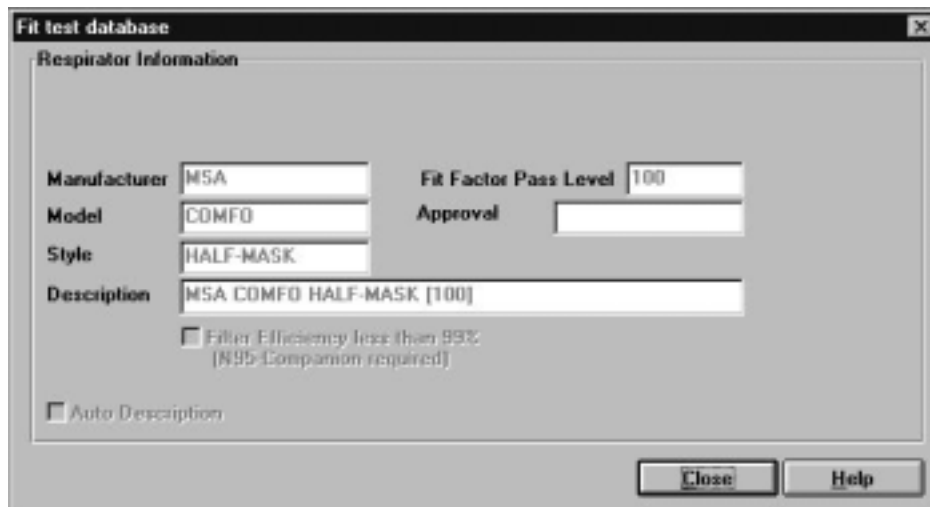


Figure 4-17. Respirator Information

Exercise Name	Fit Factor	Pass	
NORMAL BREATHING	1030	Y	Overall Fit Factor 1103
DEEP BREATHING	1172	Y	Pass Level 100
HEAD SIDE TO SIDE	1167	Y	Overall Pass Y
HEAD UP AND DOWN	1030	Y	
TALKING	1156	Y	
NORMAL BREATHING	1083	Y	

OK

Figure 4-18. Complete Fit Test Results

## Changing the Default Database Files

The default databases are the databases you use for new fit tests. Although you can have numerous databases in your database directories, only those designated as the defaults are used for new fit tests. To change the default database files, open the **Database** menu and select **Setup/Create Default Filenames**. The **Setup/Create Default Database Filenames** dialog box appears (Figure 4-19).



Figure 4-19. Setup/Create Default Database Filenames Dialog Box

The **Setup/Create Default Database Filenames** dialog box displays the names of each of the default databases. Clicking the **People**, **Respirator**, **Protocol**, or **Fit Test** button displays the **Select xxxxx Database** dialog box (Figure 4-20). The dialog box name changes depending on the database you select.

FitPlus for Windows provides a distinct directory structure for the four types of database files. Each file type (People, Respirator, Protocol, and Fit Test) has a specific sub-directory under the main FitPlus for Windows directory (usually C:\FPWIN). When you open any of the **Select xxxxx Database** dialog boxes, FitPlus for Windows automatically opens the correct database directory for the database type you selected.

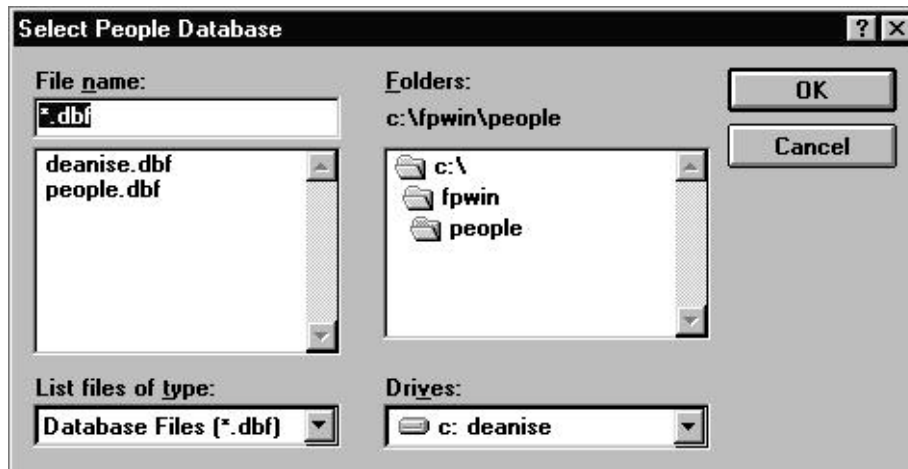


Figure 4-20. Select xxxxx Database Dialog Box

Follow these instructions to select a new default database file. The instructions are the same for all database types.

1. Select **S**etup/Create Default Filenames from the **D**atabase menu. The **S**etup/Create Default Database Filenames dialog box appears (Figure 4-19).
2. Select the type of database you want to change. The **S**elect xxxxx Database dialog box appears (Figure 4-20).
3. Using your mouse, select the name of the new default database. (If the database name does not appear in the list, search for the desired database in other folders. If you are not familiar with basic Windows search techniques, please refer to your Windows documentation.) The name must appear in the **F**ile name bar at the top left of the screen after you have selected it. If you want to create a new database, type the new file name into the file name bar.
4. Click the **O**K button. The **S**etup/Create Default Database Filenames dialog box reappears with the name of the new default database displayed in the field next to the appropriate button. Click the **P**rotected box next to the database name to protect existing records in the database from being changed. With this box selected, you can only add new records to the database, but you cannot edit existing records.
5. To edit the new database file, return to the **D**atabase menu. Select **O**pen. Refer to the instructions in the previous section, “Opening/Updating the Default Database Files,” if you need additional information.

You now see this default database file when you select **O**pen from the **D**atabase menu, and when you begin a fit test.

You can cancel the selection at any time by clicking the **C**ancel button to return to the **S**etup/**C**reate **D**efault **D**atabase **F**ilenames dialog box.

If you are on a network, click the **N**etwork button on the **S**elect or **c**reate **d**efault **d**atabase dialog box to access other drives on the network.

## Creating New Default Database Files

To create new database files, open the **D**atabase menu and select **S**etup/**C**reate **D**efault **F**ilenames. The **S**etup/**C**reate **D**efault **D**atabase **F**ilenames dialog box appears (Figure 4-19). Click the button for the type of database file you want to create. The **S**elect **x**xxxx **D**atabase dialog box appears (Figure 4-20).

Follow these instructions to create a new default database file. The instructions are the same for all database types.

1. Click the **F**ile **n**ame field of the **S**elect **x**xxxx **d**atabase dialog box. Enter the name of your new database file. Overwrite the name already in the box if necessary. You do not need to include the .dbf file extension.
2. Click the **O**K button. The **S**etup/**C**reate **D**efault **F**ilenames dialog box reappears, with the new database name in the field next to the appropriate button.
3. Click the **O**K button to return to the main menu. Open the **D**atabase menu and select **O**pen, choosing the type of database file you just created. The database opens and displays a blank record.
4. Complete all the necessary fields in the new record. Refer to the tables earlier in this chapter for descriptions of the fields. When you are finished, click the **N**ew button to display another blank record.
5. Add all your new records. After you have added the last record, click **O**K. The main menu reappears.

To view your new file, select the appropriate database type using **O**pen from the **D**atabase menu. The first record of your new file appears in the database dialog box.

## **Using the PORTACOUNT Menu**

FitPlus for Windows software allows you to run daily diagnostic tests and provides real-time fit factor displays for use in employee respirator training. Both of these selections are available from the **P**ORTACOUNT menu. The **P**ORTACOUNT menu also includes a Fit Test selection.

### **Conducting a Fit Test**

To begin the fit test, open the **P**ORTACOUNT menu and select **F**it test. The **People Database** dialog box appears. The fit test procedure is identical to the procedure described in Chapter 3, “Conducting a Fit Test - Basic Procedures.” Please refer to Chapter 3 for additional information.

### **Displaying Real-time Fit Factors**

FitPlus for Windows software allows you to display real-time fit factors to assist in employee respirator training. This allows a person to experiment with respirator straps and fit while watching the effect in real-time. The person then learns how each adjustment affects the fit, and learns how to achieve a fit that is comfortable and has minimum leakage. This feature is intended for classroom training and should not be used immediately before a fit test. Using the feature to help the test subject immediately before the official fit test defeats one of the main purposes of fit testing: *to prove that the test subject knows how to don the mask properly without help*. Use the Real-time Fit Factor feature in the classroom for training and practice only.

*Note:* You can use the real-time fit factor display just prior to a fit test as long as you have the test subject remove the mask and put it on again (without help) before the final test.

Before you start the real-time fit factor display, you must have the PORTACOUNT on and properly attached to the computer, and must have someone wearing a respirator that is properly attached to the PORTACOUNT.



To begin the display, open the **PORTACOUNT** menu and select **Realtime**. The **Realtime Fit Factor Display** dialog box appears. Figure 4-21 shows the realtime fit factor when only the PORTACOUNT Plus is in use. Figure 4-22 shows the realtime fit factor when the PORTACOUNT Plus is used with the N95-Companion.

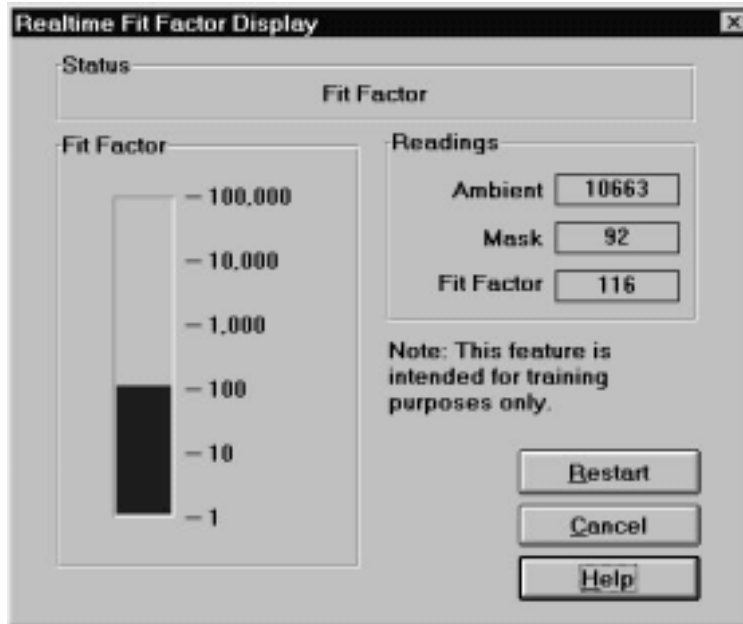


Figure 4-21. Realtime Fit Factor Display - PORTACOUNT Only Dialog Box

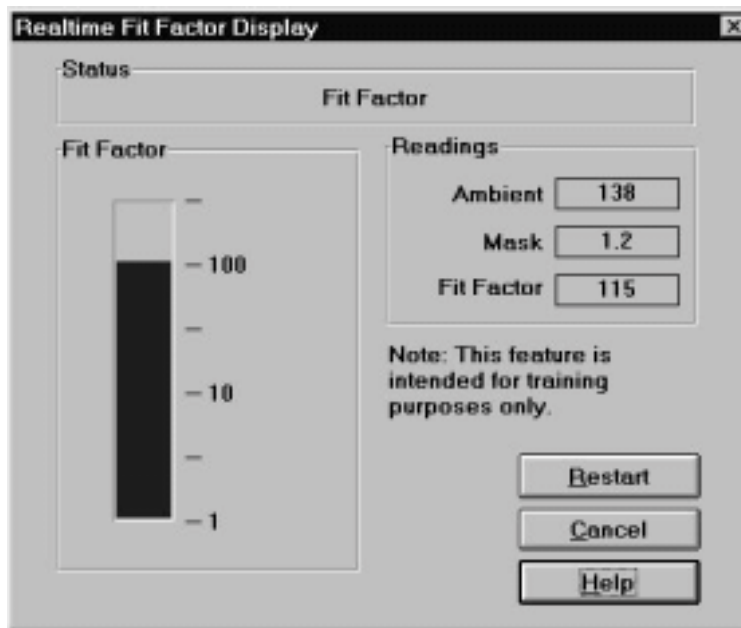


Figure 4-22. Realtime Fit Factor Display - N95-Companion Only Dialog Box

Because this dialog box monitors a process as it occurs, you cannot modify any of the fields manually. You can observe which process is occurring in the **Status** field, see the actual readings for the Ambient and Mask Purges and the Fit Factor in the **Readings** field, and watch the Fit Factor reading fluctuate in the graph portion of the dialog box. You can also stop the display by clicking the **Cancel** button, and stop and restart the display by clicking the **Restart** button. The display pauses periodically while the PORTACOUNT takes an ambient reading. Clicking the **Restart** button forces a new ambient reading immediately.

## Performing Daily PORTACOUNT Checks

Daily checks consist of the particle check, zero check, and maximum fit factor check. There is also an optional valve check. TSI Incorporated strongly recommends daily checks of the PORTACOUNT before you begin fit testing. FitPlus for Windows software provides a very easy way for you to complete these checks. Daily Check results are automatically recorded in a database named **daily.dbf**. This database is located in the directory that holds the FitPlus for Windows executable files (usually C:\FPWIN).

FitPlus for Windows automatically initiates the daily checks when you first start the program. The PORTACOUNT must be on and the 60-second countdown must be completed for this to work. You may click **Cancel** to skip the checks.

To start the daily checks manually, open the **PORTACOUNT** menu and select **Daily Checks**. The **Daily Checks** dialog box appears (Figure 4-23).

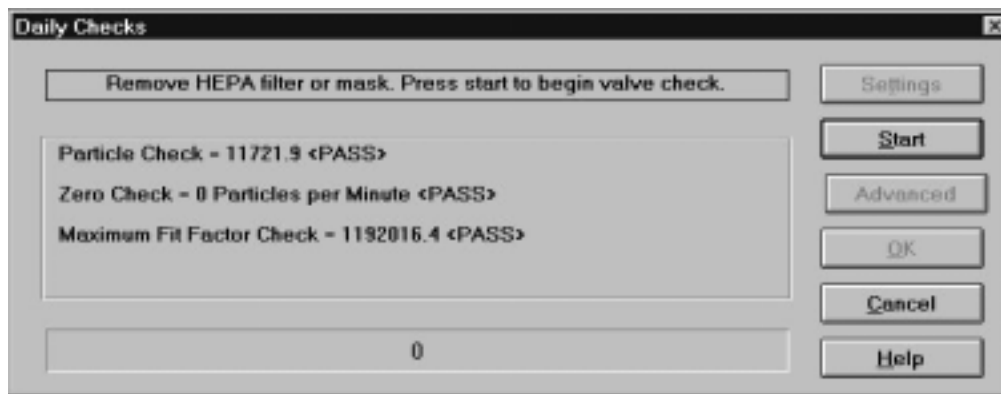


Figure 4-23. Daily Checks Dialog Box

*Note:* The Daily Check process detects whether or not the N95-Companion is attached to the PORTACOUNT Plus and adjusts the pass/fail values accordingly. Figure 3-3 shows pass/fail values for the PORTACOUNT Plus alone.

The dialog box instructs you to remove the HEPA filter or mask and press **Start**. Once you click the **Start** button, the daily check process begins and the status appears in the middle of the dialog box, with the elapsed time in seconds appearing in the bar at the bottom of the dialog box.

*Note:* If you want to change the settings for the Daily Checks before starting, click the **Settings** button. Either the **Daily Checks Settings for PORTACOUNT Alone** dialog box (Figure 4-24) or the **Daily Checks Setting for N95-Companion** dialog box (Figure 4-25) appears, depending on your system configuration. Each dialog box displays the current settings and allows you to reset them. Do not change these settings unless you are sure you should do so.

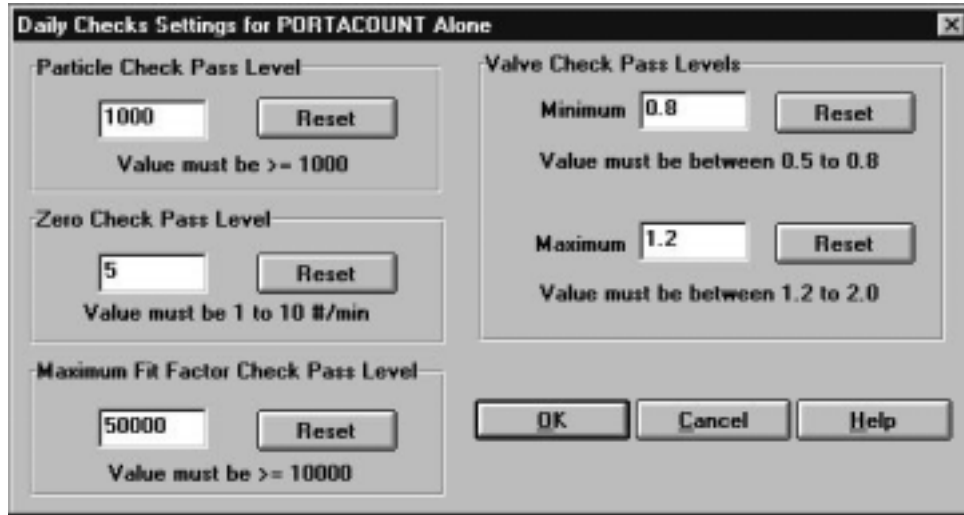


Figure 4-24. Daily Checks Settings for PORTACOUNT Alone Dialog Box

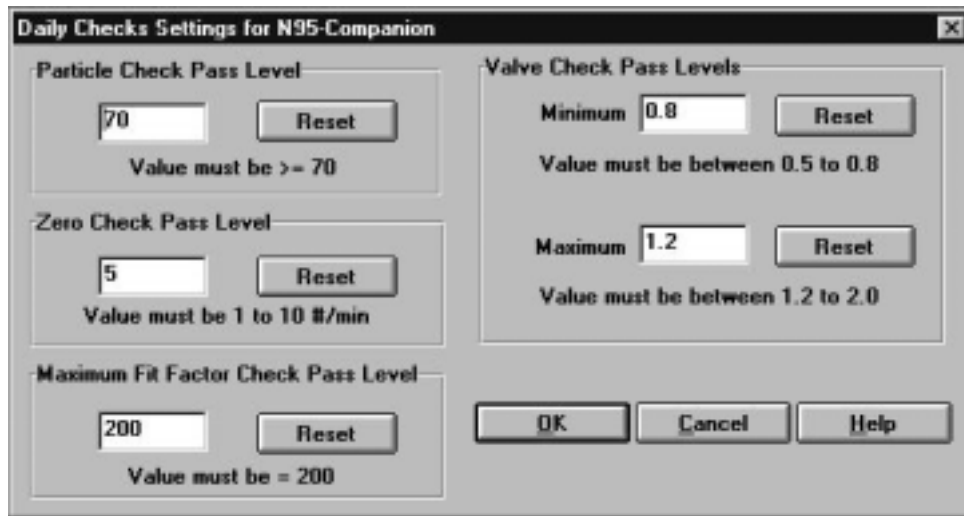


Figure 4-25. Daily Checks Settings for N95-Companion Dialog Box

The Particle check is performed first. After the Particle check is complete, the dialog box instructs you to attach a HEPA filter and press **Start** again. This starts the Zero check and Maximum Fit Factor check.

When these checks are complete, you can click the **OK** button to save the results and close the dialog box, or click **Advanced** to run the optional Valve check. The dialog box instructs you to again remove the HEPA filter and press **Start**. This starts the Valve check. When the Valve check is complete, all the test results appear in the dialog box. Click the **OK** button to save the results and close the dialog box. The results are saved in a database called **daily.dbf**. You can access them through the **Report** menu, discussed in the next section.

## Using the Report Menu

FitPlus for Windows provides the following reports:

- People Database report
- Respirator Database report
- Protocol Database report
- Fit test Database report
- Next Due report
- Daily check Results report
- DOS Fit Test Database report
- User defined reports 1 through 4 (You can rename and customize these reports.)

You can access these reports by opening the **Report** menu and selecting **Select Report**. The **Report List** dialog box appears (Figure 4-26).

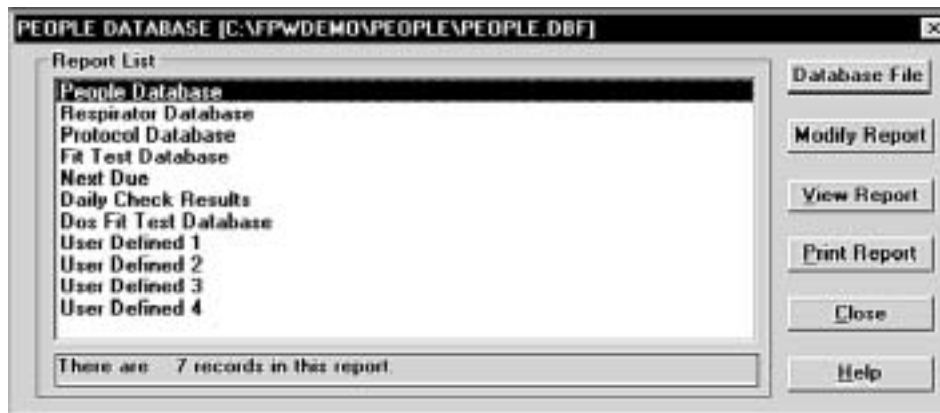


Figure 4-26. Report List Dialog box

The **People Database** is the first in the list, and is highlighted. The name of the database file used for the report appears across the top of the dialog box. This is the default database, although you can choose another database if you wish. The number of records included in the highlighted report appears in the field under the list. The following table describes each of the fields and buttons in the **Report List** dialog box.

Button or Field Name	Function
<b>Report List</b> field	Displays the names of the reports provided by FitPlus for Windows.
Number of Records field	Displays the number of records contained in the report highlighted in the <b>Report List</b> field.
<b>Database File</b> button	<p>Clicking the <b>Database File</b> button opens the <b>Select xxxxx Database</b> (Figure 4-20) dialog box and allows you to choose another database for report purposes. The <b>Select xxxxx Database</b> dialog box is described previously in the “Changing the Default Database Files” section.</p> <p><b>Note:</b> Selecting another database in this dialog box does not permanently change the default database used for fit testing.</p> <p>If you do select another file for report purposes and click the <b>OK</b> button, the new filename then appears at the top of the <b>Report List</b> dialog box.</p>

Button or Field Name	Function
<p><b>Modify Report</b> button</p>	<p>Clicking this button displays the <b>Select Fields to Use for Sorting</b> dialog box (Figure 4-27). This dialog box lets you select fields to use for sorting reports. To select a new field:</p> <ol style="list-style-type: none"> <li>1. Use your mouse to highlight the sort field name on the left hand list. You can add more than one field if you wish. Note that the right-hand list has <b>&lt;end of list&gt;</b> highlighted. Any fields you add to the list appear at the end of the list by default. If you want to insert the fields elsewhere in the list, highlight the field name that you want the new field to appear <i>above</i>. The order of the fields in the right-hand list determines the sort order of the fields in your report.</li> <li>2. Click the <b>Add</b> arrow. The names appear in the right hand list. These fields are now used in order to sort the selected report.</li> <li>3. To remove sort fields, be sure they are highlighted in the right hand list and click the <b>Remove</b> arrow. The names move back into the left hand list and are not used for sorting.</li> </ol> <p>Click the <b>Next</b> button at the bottom of the <b>Select Fields to Use for Sorting</b> dialog box. The <b>Select Records to Include in Report</b> dialog box appears (Figure 4-28). If you want to include all records in the report, click the <b>All Records</b> button at the top left of the dialog box. To include selected records only, click <b>Selected Records</b> and choose the field you want to use for filtering in the <b>#1 Select Record with</b> section of the screen, such as <b>Company</b> or <b>Last Name</b>; the filtering operation, such as “equal to” or “greater than”; and the specific filter criteria, such as an actual company name. You can include a second criteria by clicking the <b>And</b> button and completing the <b>#2 Select Record with</b> section of the screen, click <b>None</b> to use no second criteria, or click <b>Or</b> to use the second criteria only. Click the <b>Next</b> button to redisplay the Report List. Click <b>View Report</b> to display your modified report. All changes to your reports are saved.</p> <p><b>TO MODIFY USER DEFINED REPORTS</b></p> <p>If you selected a user defined report to modify, the <b>Rename Report Title (Optional)</b> dialog box appears (Figure 4-29). Type a name for the report if you wish and click <b>Next</b>. The <b>Select Database</b> dialog box appears (Figure 4-30). Choose the type of database you want to associate with this report and click <b>Next</b>. The <b>Select Fields to Include in Report</b> dialog box appears (Figure 4-31). Choose the fields you want in your report and click <b>Next</b>. The <b>Select Fields to Use for Sorting</b> dialog box appears. Refer to the beginning of this <b>Modify Report</b> button description.</p>



Button or Field Name	Function
<b><u>V</u>iew Report</b> button	Clicking this button displays the first record in the selected report. Click <b>N</b> ext to view the next record in the report. Click <b>C</b> lose to return to the <b>Report List</b> dialog box. To select another database, refer to the <b>Database File</b> button description above.
<b><u>P</u>rint Report</b> button	Clicking this button sends the selected report to your designated printer. The entire multi-page report is printed. If you want to print selected records only, refer to the <b>Modify report</b> button description above.
<b><u>C</u>lose</b> button	Clicking this button closes the <b>Report List</b> dialog box.
<b><u>H</u>elp</b> button	Clicking this button accesses the FitPlus online help information.



Figure 4-27. Select Fields to Use for Sorting Dialog Box

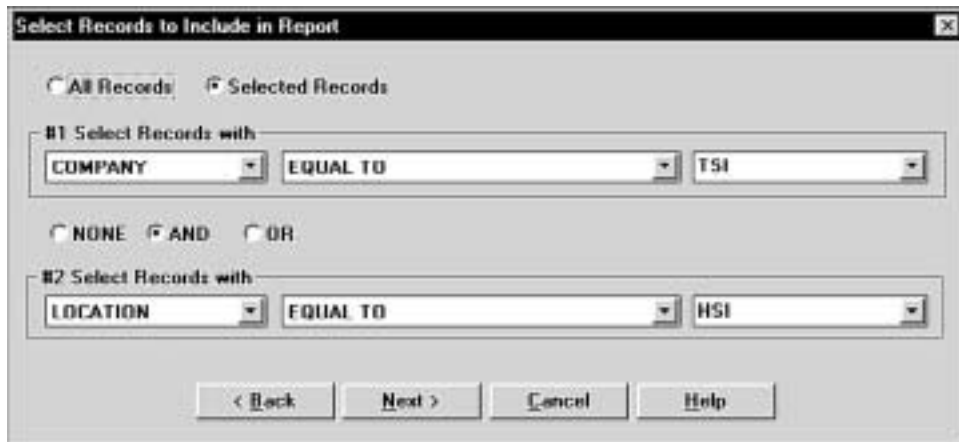


Figure 4-28. Select Records to Include in Report Dialog Box

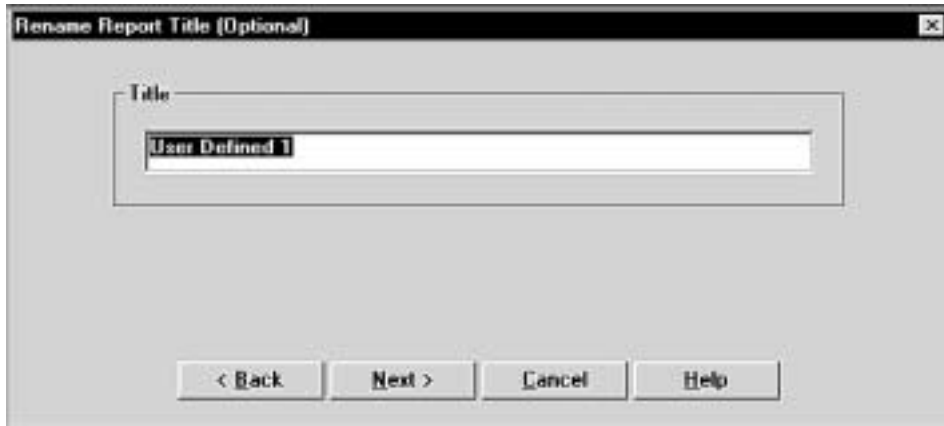


Figure 4-29. Rename Report Title (Optional) Dialog Box



Figure 4-30. Select Database Dialog Box

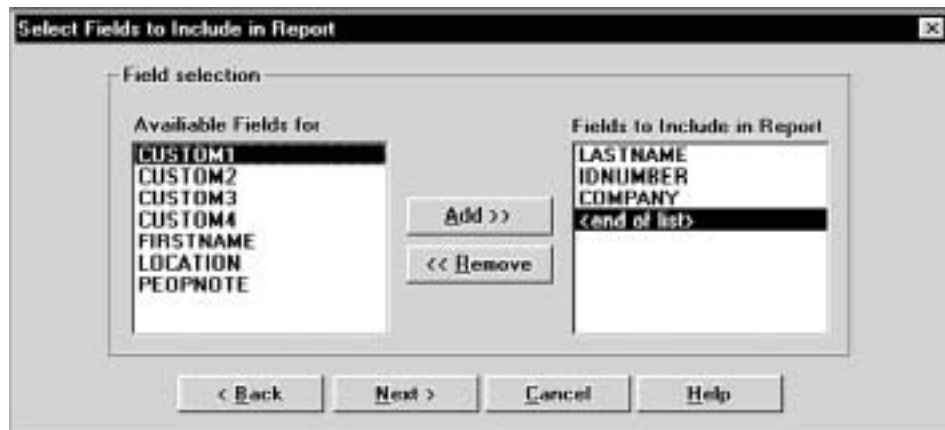


Figure 4-31. Select Fields to Include in Report Dialog Box

When you display the reports using the **View report** button described in the above table, the first record in the report appears on the screen. All reports have a **Next** and a **Close** option in the menu bar across the top of the report screen. Click **Next** to view the next record in the report. Click **Close** to return to the **Report List** dialog box.

## Report Examples

The following examples include instructions for generating four different types of reports: a Next Due report; a single page Fit Test report; a user defined report; and report based on FitPlus for DOS database files. Although these are only a representative sample of the many reports you can generate with FitPlus for Windows, the examples show how to navigate through the many Report dialog boxes, and should provide some basic guidelines for generating other types of reports.

### *Example 1 - Next Due Report*

Follow the steps below to generate a report showing who is due for a fit test. This report will have one record per line.

1. Open the **R**eport menu and choose **S**elect Report. From the **R**eport List dialog box, select **N**ext Due. The report obtains the data from the default Fit Test database. If you want to use a different Fit Test database, click **D**atabase File and choose another one. The name of the database file used for the report always appears across the top of the **R**eport List dialog box.
2. Click **M**odify Report to choose the fields to use for sorting: for example, **L**ast Name and **I**D number. If you do not select any fields, the report appears blank when you view it.
3. Click the **N**ext button to choose the records to include in the report: for example, click **S**elect Records and choose **D**ue Date less than **xx/xx/1996**, using whatever date you wish.
4. Click **N**one for the #2 filter.
5. Click **N**ext and choose **V**iew Report or **P**rint Report. The report shows all people due for a fit test prior to the date you entered.

### *Example 2 - Single Page Fit Test Report*

Follow the steps below to generate a single page fit test report. Each fit test will be printed on a separate page.

1. Open the **R**eport menu and choose **S**elect Report. From the **R**eport List dialog box, select **F**it Test Database. The report obtains the data from the default Fit Test database. If you want to use a different database, click **D**atabase File and choose another one. The name of the database file used for the report always appears across the top of the **R**eport List dialog box.
2. Click **M**odify Report to choose the fields to use for sorting. If you do not select any fields, the report appears blank when you view it.
3. Click the **N**ext button to choose the records to include in the report: for example **C**ompany equal to **ABC**.
4. Click **N**one for the #2 filter.
5. Click **N**ext and choose **V**iew Report or **P**rint Report. The report shows each fit test report on a separate page.

### *Example 3 - User Defined Reports*

Follow the steps below to generate a user-defined report.

1. Open the **R**eport menu and choose **S**elect Report. From the **Report List** dialog box, select **User Defined 1**.
2. Click **M**odify Report and type a name for the report in the **Rename Report Title (Optional)** dialog box.
3. Click **N**ext and choose the type of database you want to take the data from. The report will obtain data from the default database.
4. Click the **N**ext button to choose the fields to include in the report. The report will be structured in columns with one field per column. The first field in the list is used for column one, the second field for column two, and so forth.
5. Click **N**ext and select the fields to use for sorting the report.
6. Click **N**ext and select the records to include in the report.
7. Click **N**ext and choose **V**iew Report or **P**rint Report.

*Note: If you want to change the database used for the report, click **Database File** and select a different one.*

### *Example 4 - Reports Based on FitPlus for DOS Data Files*

Follow the steps below to generate a report based on a FitPlus for DOS database file.

1. Open the **R**eport menu and choose **S**elect Report. From the **Report List** dialog box, select **DOS Fit Test Database**.
2. Click **D**atabase File to choose a FitPlus for DOS database file. You can usually find these files in the FitPlus directory on your hard drive. The most commonly used file name is **testdata.dbf**. When you have chosen the file, click **O**K.
3. Click **M**odify Report and select a field to sort on.
4. Click **N**ext and choose **All Records** or **Selected Records** from the **Select Records to Include in Report** dialog box.
5. Click **N**ext and choose **V**iew Report or **P**rint Report. A one page report from each fit test is displayed or printed.

## Using the Setup Menu

The four selections on the **Setup** menu allow you to select the communications port for your computer, change Daily Checks settings depending on your system configuration, and change the default fit test options.

### Selecting the Communications Port

To select the communications port for the PORTACOUNT, open the **Setup** menu and choose **Communications port**. The Communications Port dialog box appears (Figure 4-32).

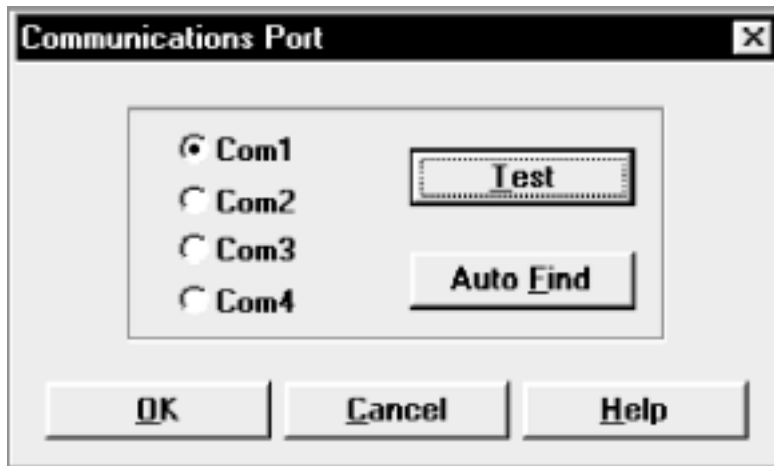


Figure 4-32. Communications Port Dialog box

Make sure your PORTACOUNT is attached to your computer, the power is on, and the 60-second countdown is complete. If you don't know which port number the instrument is attached to, click **Auto Find**. The software will assign the correct port number.

If you do know the port number, click **Com1**, **Com2**, **Com3**, or **Com4**. Then, click **Test**. The software will verify that you have selected the selected the correct port.

Clicking **OK** saves the information, closes the dialog box, and returns you to the main menu.

## Changing Daily Checks Settings

To change Daily Checks settings when you are using the PORTACOUNT Plus alone, open the **S**etup menu and select **P**ORTACOUNT Daily Checks. The **D**aily Checks Settings for PORTACOUNT Alone dialog box appears (Figure 4-24). Refer to the “Using the PORTACOUNT Menu” section earlier in this chapter for additional information.

To change Daily Checks settings when you are using the PORTACOUNT Plus with the N95-Companion, open the **S**etup menu and select **N95-Companion Daily Checks**. The **D**aily Checks Settings for N95-Companion dialog box appears (Figure 4-25). Refer to the “Using the PORTACOUNT Menu” section earlier in this chapter for additional information.

## Changing the Default Fit Test Options

To change the default fit test options, open the **S**etup menu and select **F**it test options. The Fit Test Options dialog box appears (Figure 4-33).

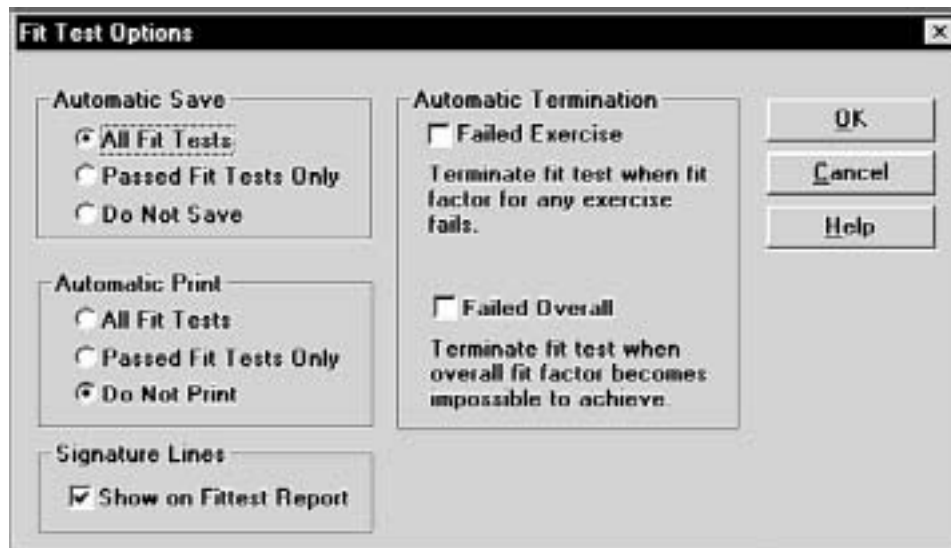


Figure 4-33. Fit Test Options Dialog box

The default settings are to automatically save all fit tests, to not automatically print fit test results, to not automatically terminate fit testing, and to include signature lines on reports. Once you have made any changes to these options, click **OK**. The dialog box closes, the options are changed, and the main menu reappears.

### *Automatic Save and Automatic Print*

To change the **Automatic Save** and **Automatic Print** options, click the options you want.

**Automatic Save** allows you to:

- Save every fit test, regardless of the end result (except manually terminated fit tests).
- Save passed fit tests only
- Never save fit tests

**Automatic Print** allows you to:

- Print all fit tests, automatically at the end of each test
- Print passed fit tests only, automatically at the end of each test
- Never print automatically

You must have the printer attached to the computer with the power on during fit testing to use the autoprnt options.

### *Automatic Termination*

Automatic termination allows you to terminate a fit test when only one exercise fails, or when it is certain that the overall fit factor will fail.

#### **Failed Exercise**

Technically, it is possible to fail an exercise but still pass the overall test. If you want to require that all exercises pass, select the **Failed Exercise** box.

#### **Failed Overall**

FitPlus for Windows always warns you when a fit test in progress is progressing so poorly that a passing fit factor is impossible. The fit test continues as usual until the last exercise is complete. The fit test then fails. If you would like to terminate fit tests automatically when an overall failure warning appears, select the **Failed Overall** box.

### *Signature Lines*

The default setting is to show signature lines on single-page fit test reports. If you do not want signature lines, click the checked box to deselect this feature.





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