



AccuFIT 9000 and AccuFIT 9000 PRO

Firmware 2.1.5

Addendum to User Manual

This addendum is to provide the instruction set for the AccuFIT 9000 and AccuFIT 9000 PRO with the upgraded on-board firmware version 2.1.0 or higher. This new firmware will work with either the AccuFIT 9000 software (Legacy version) or the new AccuFIT PC software (either Single-Install or Cloud versions 2.0.9 or higher).

There are a few features in the new computer-based software that are not available in the Legacy version. One example is direct transfer of databases from the PC to the internal storage of the AccuFIT 9000 Fit Test Device for stand-alone operation.

The visual appearance of the user interface touchscreens has been modernized, but although the icons will open some pages with enhanced functions, they still have the same basic mapping as in the older versions of the firmware.

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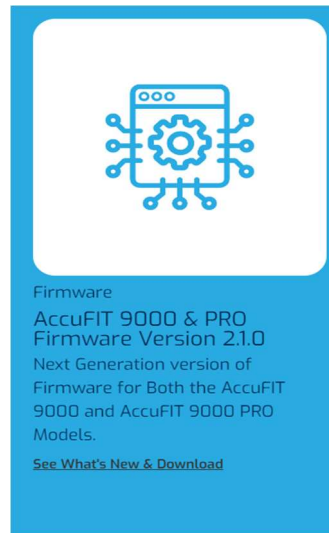
The database(s) can be sent to the AccuFIT 9000 device for stand-alone operation by synching Software-AccuFIT device and by re-importing with the Import App.

5. Fit Test

How to use the new Fit Test features

1. Upgrading the Device Firmware

Point your browser to the Accutec website: www.accutec.com and click on “Software” in the menu bar at the top of the page. Scroll down to the icon labeled “AccuFIT 9000 & PRO Firmware Version 2.1.0”



Click on “See what’s new & download”.

This brings up a page describing the new firmware features and provides a field for your email and device serial number. (There are some very early systems that may require talking to one of our tech support personnel, and we need to know the serial numbers involved.) We will send an email to the address you provided containing the download URL and instructions for installation of the firmware upgrade. You will need the USB thumb drive that was shipped with your system with the Accutec logo on it in order to perform the upgrade.

If you need assistance, please let us know at support@accutec.com

Installing the Firmware Update

Download the Firmware Update to your computer and unzip the zipped file. Copy the six folders and two files to the root directory of the AccuTec thumb drive supplied with your AccuFIT system.

The thumb drive should now have these six folders and two files in the root directory:

Name	Type	Compressed size	Password p...	Size	Ratio	Date modified
de	File folder					
es	File folder					
fr	File folder					
ja	File folder					
pt	File folder					
zh-CN	File folder					
MaskFit	Application	4,925 KB	No	5,824 KB	16%	2/2/2024 4:13 PM
MaskFit.pdb	PDB File	425 KB	No	1,502 KB	72%	2/2/2024 4:13 PM

With the AccuFIT 9000 or AccuFIT 9000 PRO powered off, insert the thumb drive into one of the “A” type USB ports in the back of the AccuFIT 9000. Press the “ON” button and allow the instrument to complete its warmup and self-check.

A screen will appear asking you if you want to upgrade to the firmware on the thumb drive.

“Copy from USB Flash Drive?”

Select “Yes”

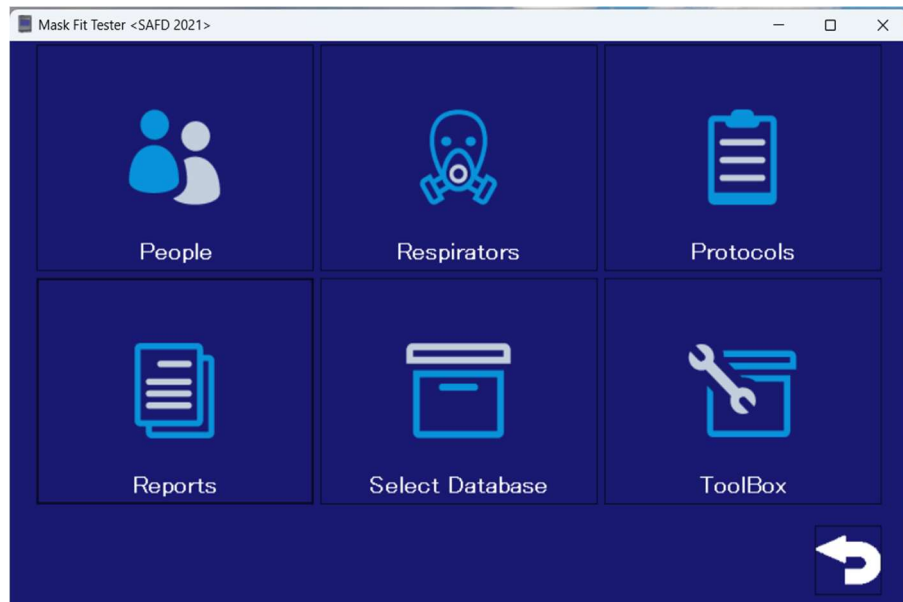
Allow the data to be copied to the AccuFIT 9000, and when this is complete, the instrument may ask if you want to re-start. Press “Yes” and remove the thumb drive.

After this is complete tap “Setup” and then “Device Info” and check that the correct updated version shows in the “App. Rev.” field.

2. Loading a Database to the AccuFIT 9000 Internal Memory

Using Legacy Software (ver. 1.5.4 and earlier.)

The legacy AccuFIT 9000 software does not have the ability to transfer data directly to the SD memory in the AccuFIT 9000 device, so it is necessary to use the USB Drive (Thumb Drive) to copy the existing database(s) from the PC. To accomplish this, open the software on the computer and use the “Toolbox” utility on the “Administration” Page:



Insert the USB Drive (thumb drive) you will use to transfer the database to the AccuFIT 9000 device into a USB port in your PC. Tap “ToolBox” and the next screen appears:

ToolBox Mask Fit Tester <SAFD 2021>

Record Source

	Include
People	<input checked="" type="checkbox"/>
Respirator	<input checked="" type="checkbox"/>
Protocol	<input checked="" type="checkbox"/>
Fit Test	<input checked="" type="checkbox"/>
Validation Check	<input checked="" type="checkbox"/>

People Respirator Protocol Fit Test Validation Check

Last Name	First Name	Middle Name	EMP. ID	Company
OdeBaca	Gloria	J	3231	Acme
Jaramillo	Carlos	J	2145	Acme
Johnson	Charles	E	3579	Acme
Ketenjian	Susan	A	2468	Acme
Miller	Robert	J	3456	Acme
Roberts	Michele	F	1234	Acme
Smith	Brian	R	9875	Acme
Waites	Lillian	M	1465	Acme

Search

Current Database (PC built-in storage device)

SAFD 2021 Load

Record Destination

DATABASE TEXT FILE

SOURCE DATABASE in PC

☐ Overwrite duplicate records in destination database

Destination Drive

☐ PC built-in storage device

☐ USB Memory

New Send

Exit

On the lower right side of the window select “USB Memory”. A pop-up window will appear asking you to select the destination USB thumb drive. This should be the thumb drive you will use to transfer the database(s) to the AccuFIT 9000 device.

ToolBox Mask Fit Tester <SAFD 2021>

Record Source

	Include
People	<input checked="" type="checkbox"/>
Respirator	<input checked="" type="checkbox"/>
Protocol	<input checked="" type="checkbox"/>
Fit Test	<input checked="" type="checkbox"/>
Validation Check	<input checked="" type="checkbox"/>

People Respirator Protocol Fit Test Validation Check

Last Name	First Name	Middle Name	EMP. ID	Company
OdeBaca	Gloria	J	3231	Acme
Jaramillo	Carlos	J	2145	Acme
Johnson	Charles	E	3579	Acme
Ketenjian	Susan	A	2468	Acme
Miller	Robert	J	3456	Acme
Roberts	Michele	F	1234	Acme
Smith	Brian	R	9875	Acme
				Acme

Current Database (PC built-in storage device)

SAFD 2021 Refresh Select Exit

Record Destination

DATABASE TEXT FILE

SOURCE DATABASE in PC

☐ Overwrite duplicate records in destination database

Destination Drive

☐ PC built-in storage device

☒ USB Memory

New Send

Exit

UsbDriveSelect Mask Fit Tester <SAFD 2021>

Select USB Drive

Refresh Select Exit

Using the dropdown menu in the new pop-up window highlight the correct thumb drive and tap “Exit” in the pop-up window.

On the lower left side of the window in the dropdown menu labeled “Source Database in PC” select the database you want to transfer to the AccuFIT 9000 device. Please note: the database in the dropdown box will probably not default to the database you want to transfer; you must choose the desired database from the dropdown list.

Current Database (PC built-in storage device): SAFD 2021 [Load]

Record Destination

DATABASE TEXT FILE

SOURCE DATABASE in PC: SAFD 2021

☐ Overwrite duplicate records in destination database

Destination Drive: ☐ PC built-in storage device ☒ USB Memory

[New] [Send]

In this case we have selected “SAFD 2021” as the database to transfer to the thumb drive.

In order to prevent duplicate names and records, click the box to the left of “Overwrite duplicate records in destination database”.

Click “Send” to transfer the database. Confirm that you want to perform this operation, and acknowledge its completion.

The database you have selected is now on the thumb drive.

The next step is to transfer the database to the AccuFIT 9000 Device.

Transferring the Database to the AccuFIT 9000

Power on the AccuFIT 9000 Device. After the warm-up and self-checks are completed, the Main Screen will appear. Insert the thumb drive with the database you copied from the computer into one of the “A”-type USB ports in the rear of the AccuFIT 9000 Device. Tap the “Administration” icon, then tap “Database Tools”. “The Database Tools” page will appear.

Database Tools | No Database Selected 05/08/2024 12:25

Database Tools

Clean Copy Copy Statistics Create New

Save As Save Delete

DATABASE

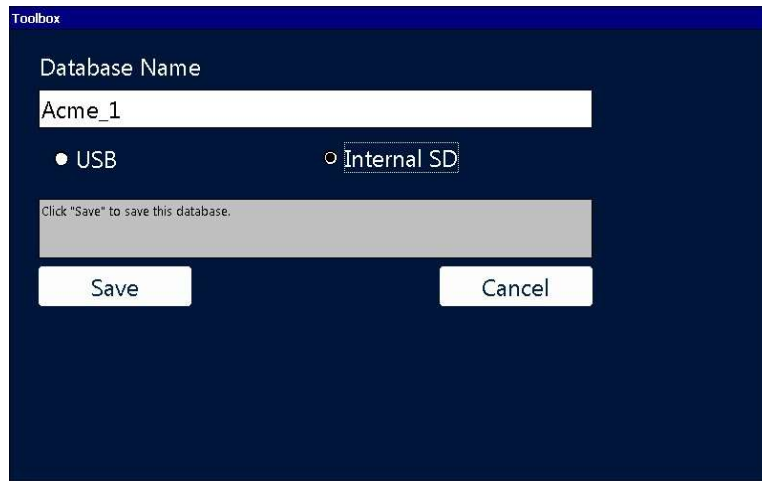
Warning: These tools are provided for advanced users. The users can result in the loss of files data if misused. Refer to the AccuFIT Operation Manual for details.

Select a database from the list, then select one of the tools below. Use the "Save" or "Save As" tools to save the currently loaded database to a file.

Refresh USB Exit

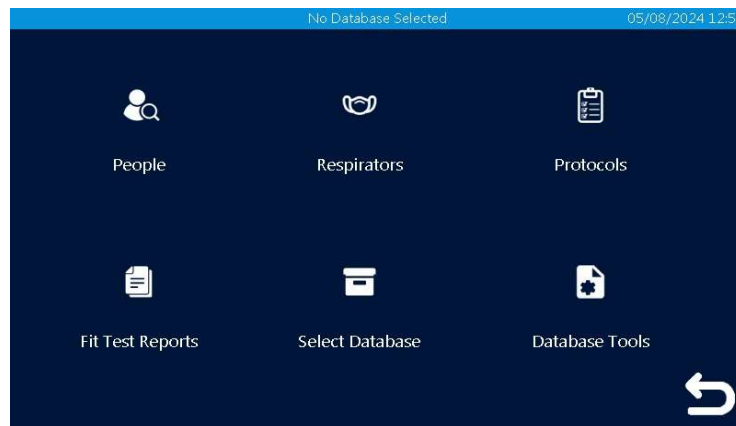
Highlight the database you want to transfer to the AccuFIT 9000 Device from the dropdown menu. If the database you want to transfer does not appear, tap “Refresh USB”. The database will then appear in the dropdown box, but will not be loaded into the device’s active memory. Tap the “Copy” command box in the top half of the screen if you want to copy the entire database

including completed fit tests. Tap “Clean Copy” if you only want to load the “People”, “Respirators”, and “Protocols”. Note that the database is given the following name: *mydatabase_x* where “x” is the first copy of the database to the internal memory.



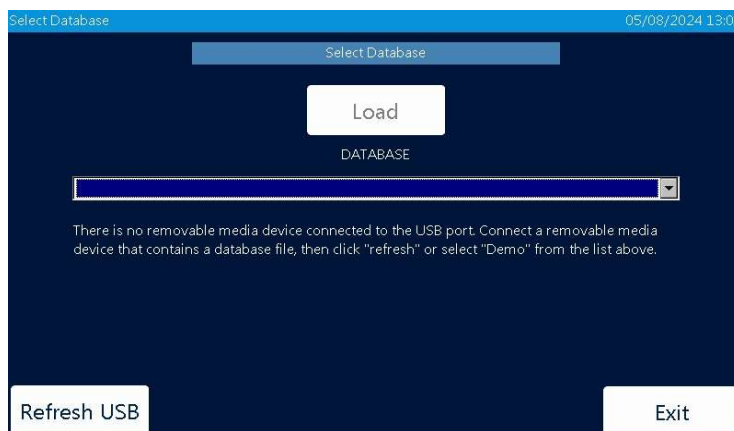
The Copy Screen appears and provides the choice of copying to “USB” (thumb drive) or “Internal SD” (the device’s internal memory). Select “Internal SD”. At this point you are given the opportunity to rename the database before saving to the internal memory by using the pop-up touchpad. Once you have renamed the database (or not, if you choose to accept the assigned name) tap “Save”.

The display returns to the “Database Tools” page, but the database you have copied to the Internal SD memory is still not loaded into active memory. Exit from the “Database Tools” page to return to the “Administration” page.



At this point you should remove the USB thumb drive from the AccuFIT 9000 device, as you want to be sure that you are addressing the database that has been transferred to the AccuFIT 9000 Internal memory rather than the database on the USB thumb drive. Tap “Select Database”.

Tap “Refresh USB” to ensure that the dropdown menu shows only those databases in the Internal SD memory.



From the dropdown menu choose the database you have loaded into the AccuFIT 9000 Internal Memory and tap “Load”

The AccuFIT 9000 device can now be used in a completely stand-alone mode to perform Validation Checks, observe the “Real Time” monitor, or perform the fit tests. All of the data you produce will now be captured to the internal memory of the AccuFIT 9000 device. If you want to transfer the data back to the computer for viewing or printing the fit test reports, merge or split the database(s), or produce summary reports, you will perform the reverse of the previously-described data transfer.

Transferring the database from the AccuFIT 9000 device to a PC (Legacy Software).

You can use the reverse process to move the database with the new fit test data you have developed in stand-alone mode back to the computer for database manipulation (e.g., merging, splitting, extracting, summary reporting, etc.), report viewing/printing, or other database exporting functions.

Power on the AccuFIT 9000 device and insert the thumb drive into one of the “A” ports in the rear of the AccuFIT 9000 device. Tap “Administration”, then “Database Tools”. Select the database you want to export back to the computer (PC) and tap “Copy”. (**NB**, tapping “Clean Copy” will not export the fit tests you have captured on the AccuFIT 9000 device, so if you want the fit tests to be available in the PC-based software you must use the “Copy” command). Select “USB” for destination and tap “Save”. The database has now been copied to the USB thumb drive, and can be moved to the computer for re-import. Be sure to record or remember the suffixes if added to the database name so that you can select the correct file to re-import to the computer software.

Open the AccuFIT Software on the computer and navigate to the “Toolbox”.

In the lower right side of the window, select “PC Built-in storage device” as destination. In the pop-up window, click on the drop-down menu and highlight the thumb drive with the database you just loaded from the AccuFIT 9000 device. Press “Exit”.

On the left side of the screen in the box labeled “Source Database in USB” select the database you want to re-import to the computer. Check the box labeled “Overwrite duplicate records in destination database”. Click “Send” and acknowledge command.

Your database should now be in the database location in the PC, and should be available to load into the AccuFIT Software or the DataManager App.

3. Using the USB Thumb Drive to Capture Data.

The USB thumb drive supplied with the system is a version 2 USB Memory Drive with a known compatible chipset. It is warranted to work with the operating system of the AccuFIT 9000 device with regard to data transfer and stand-alone AccuFIT 9000 Fit Testing. However, there is a caveat that users should consider: when there are more than about 125 data records in a single database, lookup times can become excessive, wasting time on the part of the fit test administrator and the fit test subjects.

There are two solutions to the problem of long lookup times in stand-alone operation: First (if you want to continue using the thumb drive to collect data) split the database into smaller sub-databases of no more than 100 records. This is easily accomplished by using the DataManager App on the Accutec Website. The second solution is to use the Internal SD memory for stand-alone operations rather than using the thumb drive. The SD card has sufficient memory for several million records, and the lookup time does not degrade with large databases.

If your computer-based software is our Legacy version (ver. 1.5.4 or earlier) you will still have to use the thumb drive to transfer the data from computer to AccuFIT 9000 and back to computer, but the long lookup time won't be an issue

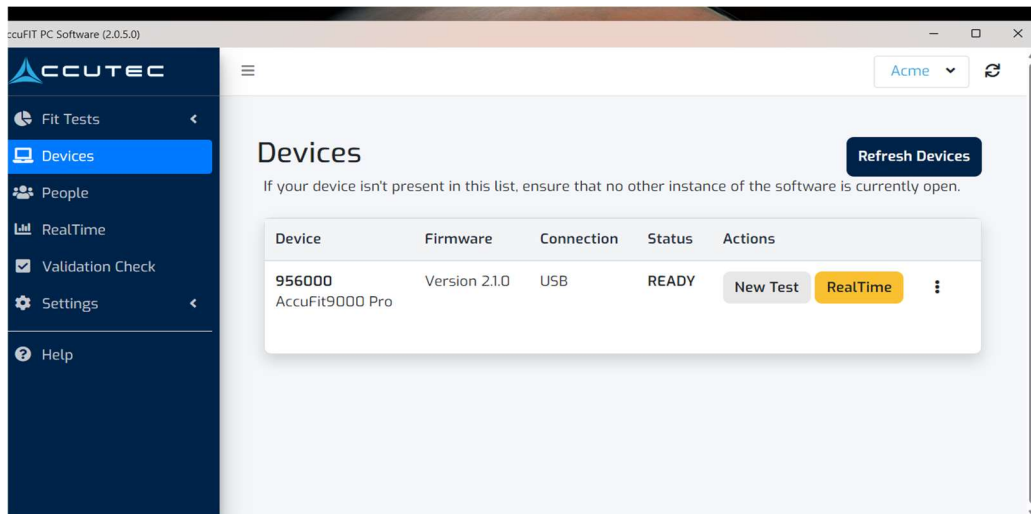
4. Transferring database(s) bidirectionally between AccuFIT 9000 and New AccuFIT PC Software.

The new AccuFIT 9000 PC Software has been designed to use a USB connection to directly move databases from the PC-based software to the AccuFIT 9000 device and from the AccuFIT 9000 device directly back to the computer-based software.

To send a specific database from the computer to the AccuFIT 9000 device, you must have the Organization or sub-organization where the database is located in “active status” in the AccuFIT PC Software as indicated by the box in the upper right corner of the software screen. You can use the dropdown arrow in the box to select the active Organization or sub-organization. Be sure to check that the database you wish to synch with the AccuFIT 9000 device is the correct one by checking the “People” list.

Name	Employee ID	Company	Medical Clearance	Last Test	Next Due	Status
Wylie Coyote	608786	Acme	<input checked="" type="checkbox"/>	05/02/2024 06:09 PM	04/11/2025	Up to Date
John Doe	1357	AccuTec-IHS	<input checked="" type="checkbox"/>	05/02/2024 06:37 PM	05/02/2025	Up to Date
Linda Smith	2468		<input type="checkbox"/>	04/16/2024 08:06 AM	04/09/2025	Up to Date
William Hill	1234	Accutec	<input checked="" type="checkbox"/>	05/02/2024 06:14 PM	05/02/2025	Up to Date

To send that Organization’s database from the computer-based software to the AccuFIT 9000 device, click “Device” in the menu screen at upper left.



The “Device” pop-up appears as shown above.

Click on the triple-dot “More” button on the right of the Device pop-up to open another pop-up with the “Synch to Device” command.

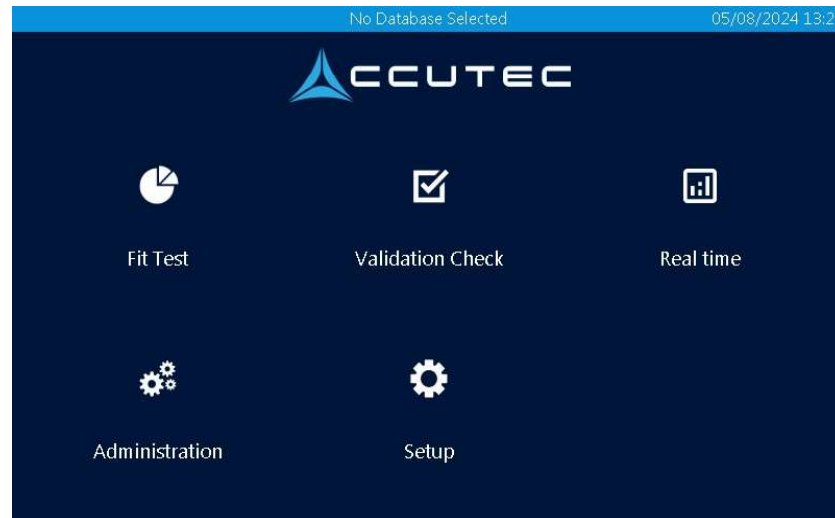
Clicking the “Synch to Device” command opens another window which asks you what to export to the AccuFIT device’s SD Memory. Your choices are: “Clean Copy” (no fit test results), “Full Copy (includes fit test results), or “Manual” which lets you chose which components to export.

The data will be sent to the SD memory of the AccuFIT 9000 device where it will be available to load as the active database in stand-alone operation.

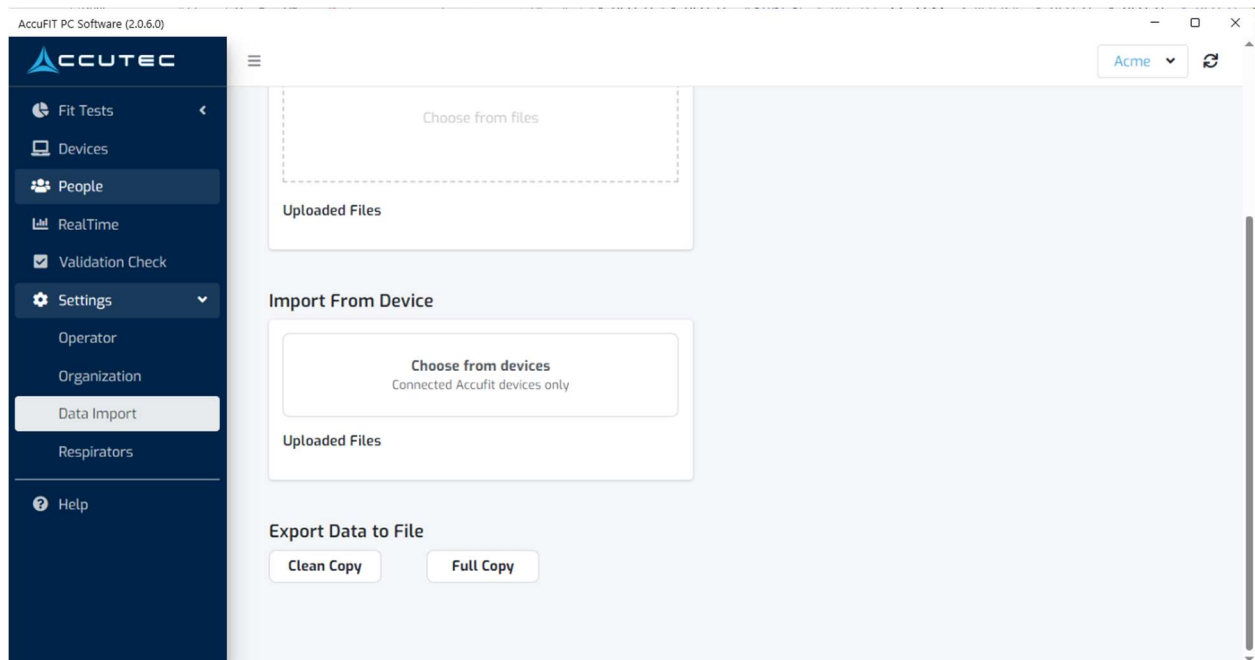
Please note: the synch/export process has added a date/timestamp suffix to the database name in order to identify it as having been exported from the computer-based software.

Re-importing the data from the AccuFIT Device to the PC Software.

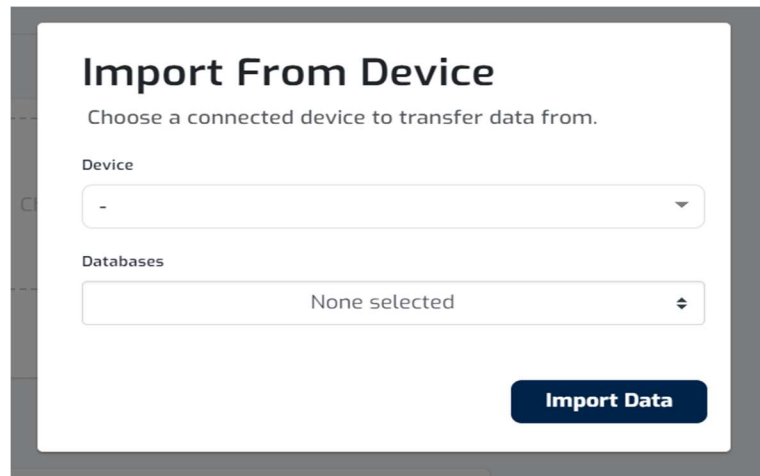
The AccuFIT PC Software can only communicate with the AccuFIT 9000 Devices when the device is showing the main (opening) screen.



Importing the data from the AccuFIT 9000 Device uses the AccuFIT PC Software Import Utility which can be invoked by clicking "Settings" > "Data Import", and Choosing "Import from Device".

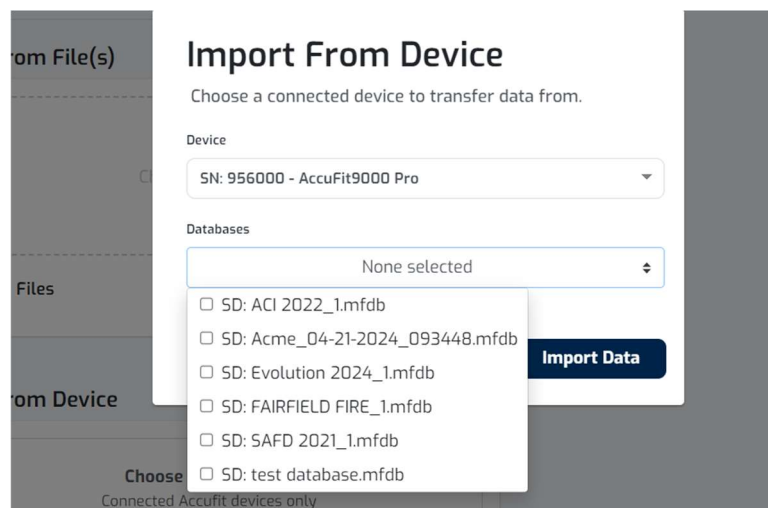


Clicking “Choose from devices” brings up the next window:



The screenshot shows a window titled "Import From Device" with the subtitle "Choose a connected device to transfer data from." It contains two dropdown menus: "Device" with a hyphen "-" and "Databases" with "None selected". A blue "Import Data" button is at the bottom right.

Select the device from the dropdown and choose the database to import.

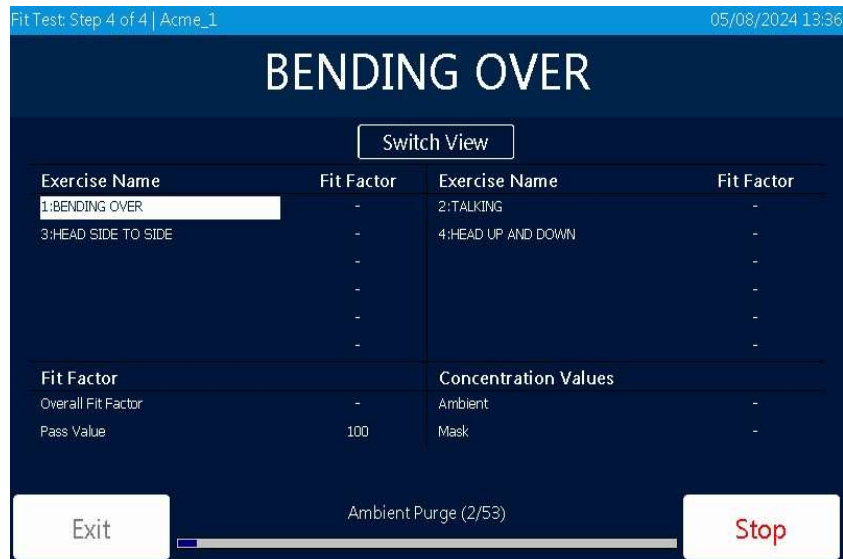


This screenshot shows the "Import From Device" window with the "Device" dropdown set to "SN: 956000 - AccuFit9000 Pro". The "Databases" dropdown is open, showing a list of databases with checkboxes: "SD: ACI 2022_1.mfdb", "SD: Acme_04-21-2024_093448.mfdb", "SD: Evolution 2024_1.mfdb", "SD: FAIRFIELD FIRE_1.mfdb", "SD: SAFD 2021_1.mfdb", and "SD: test database.mfdb". The "Import Data" button is visible in the background.

The database will now be imported into the Organization you have chosen in the AccuFIT 9000 PC Software.

5. Fit Test Screen Enhancements

There are several changes that have been added to the Fit Test user interface on the AccuFIT 9000 Devices. The most obvious one is the animation images that are available in stand-alone operation when the “Switch View” box is fapped, or automatically when the fit test is run from the computer-based software.



The “details” page which is invoked when “Switch View” box is tapped is shown below.



However, there are several other feature changes that are not immediately obvious to the user. One of these is the warning flag that prevents the use of the incorrect protocol if the user attempts to use a protocol for N95's or other filtering facepieces with an elastomeric respirator, and *vice versa*.

There are other enhancements to the on-board firmware such as a more robust USB connection, but most of these changes are transparent to the user, and do not noticeably change the operation of the device.

Please let us know if we can help with any technical support at support@accutec.com.