

## 11.0 Remote Operation

The FM Pro can be remotely operated by a suitable personal computer running Microsoft Windows 3.1x or Windows 95. Remote control software is normally shipped with the FM Pro but is also available from any Apex dealer and it can be downloaded from the Internet web site at <http://www.aphexsys.com>. The computer may be connected to the FM Pro directly by an RS232 cable or by a telephone modem.

### 11.1 Hardware Requirements

1. 386-33 or higher class personal computer.
2. Windows 3.1, 3.11, 9x, 2000 operating system
3. Minimum 4MB RAM
4. 2.5MB Hard Disk Space for program files
5. 3.5"-1.44MB Floppy Drive
6. One available serial port (com1, 2, 3, or 4)
7. 800x600 or better Color or Monochrome Display
8. Pointing device (mouse, trackball, etc.)
9. Two modems-- one for the P.C. and one for the FM Pro (no modems needed for port-direct connection).

### 11.2 Software Installation

We constantly strive to improve our software. Please take into account any changes that may be implemented in newer software versions and alter your interpretation of these instructions accordingly. Check the 2020 web site at [www.aphex.com](http://www.aphex.com) for new release information.

The FM Pro comes ready for remote operation, so you will not be required to install software into the unit itself. You need only to install the remote control software onto your own computer.

**To begin installation, insert Install diskette 1 and, from the run menu, enter a:\setup then click OK. If your floppy drive letter is other than a:\ then simply substitute the correct drive letter, i.e., b:\setup.**

The setup program will automatically install all required components into your system and create a

directory named C:\FMPRO to contain the program files. You will be instructed to insert additional diskettes as needed.

### 11.3 Communications Cable Hook-Ups

You can connect your computer to the FM Pro through a direct RS232 cable or a pair of modems. The serial cable will differ depending upon the type of connection

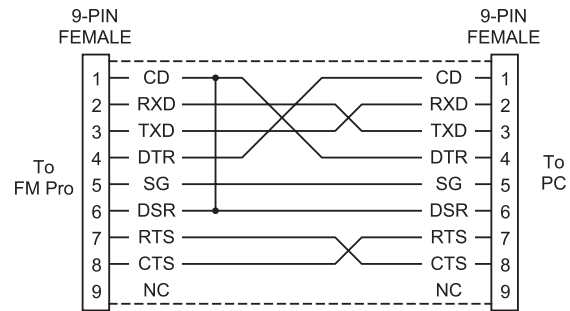


Figure 11-1 9-Pin To 9-Pin Null Modem Cable

#### 11.3.1 Direct Connection

The direct connection uses a “null modem” serial communications cable to connect your PC to the FM pro. Commercially available null modem cables come with various configurations of male and female connectors. The FM Pro wants a 9-pin female cable end while your PC wants either a 9-pin or 25-pin female cable end. Simply obtain or construct the proper cable and use gender changers, if necessary. If you make your own cable, then follow the pinouts of figure 11-1 or 11-2.

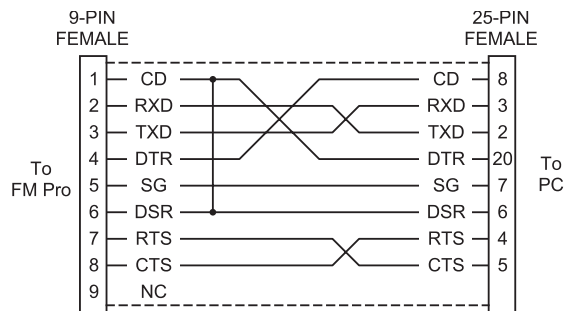


Figure 11-2 9-Pin To 25-Pin Null Modem Cable

#### 11.3.2 Modem Connections

##### 11.3.2.1 Modem To FM Pro

For remote control through telephone lines, an external modem must be connected to the serial port of the FM Pro. Most external modems contain

a 25-pin female serial port connector. Therefore you will need to obtain a standard modem cable, not a “null modem” cable as described above, with the proper connectors attached. If off-the-shelf cables are unavailable, you may may construct the cable according to the wiring diagram of figure 11-3.

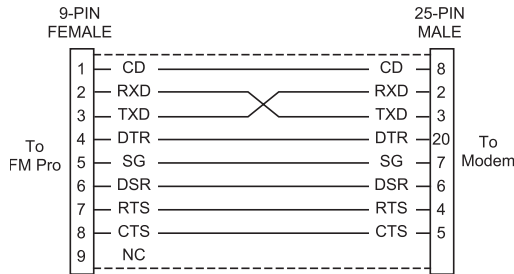


Figure 11-3 Modem to FM Pro Serial Cable

**11.3.2.2 PC To Modem**

You may use either an internal or an external modem with your PC. If using an external modem, you’ll need a standard serial cable from the PC serial port to the modem. You must not use a null modem cable. Your PC can have either a 25-pin or 9-pin serial port, therefore you need to get the appropriate cable and possibly an adapter. For a 25-pin serial port the proper cable contains a

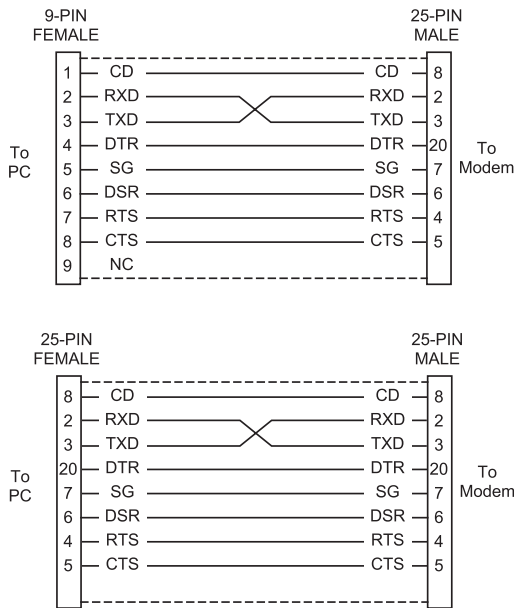


Figure 11-4 Modem to PC Cables

25-pin male and a 25-pin female connector. For a 9-pin serial port the proper cable contains a 25-pin male and a 9-pin female connector. If off-the-shelf cables are not available, you can make the cable according to figure 11-4.

**11.4 Operation By Modem**

**11.4.1 Usable Modem Types**

Generally, any Hayes-compatible modem capable of 9600 baud or greater should work. Newer V32.bis modems will connect at the highest speed the line quality supports, usually 14,400 to 33,600 baud, while older fixed rate modems will just lock up at their specified baud. The serial communications of the FM Pro and the PC are set to 9600 and need only to see support for 9600 baud from the modems. The newer, faster modems usually offer better performance because of improved error handling.

**11.4.2 Modem In The Windows Operating System**

Even though the Apex remote software runs under Windows 3.1x or Windows 95, you do not have to configure the modem for the Windows environment. We take care of all modem control through the software. If your PC modem is already configured with windows drivers that is not a problem. You only need to check which com port it is attached to. If the modem is internal, usually it will be configured to Com4 but you should double check your modem configuration so you will select the correct port in the remote program.

**11.4.3 Modem Installation Procedure**

When setting up the FM Pro for a modem connection, please follow these steps to properly initialize and activate the modem.

1. Power down the FM Pro.
2. Connect the FM Pro to the modem by a standard (not a ‘null modem’) cable.
3. Power up the FM Pro and the modem.
4. In the remote link menu, set the remote link “OFF” then set the link type to “modem”. You can only set the link type when the remote link is off. Lastly, set the remote link to “ON”. The link status should first show “wait” and then “M-OK” indicating that the modem is initialized. The FM pro will force the correct modem settings regardless of how the dip switches may be set on the modem.

**Note: Do Not set the “Remote Link” ON if the modem is not connected! This will cause the FM pro to lock up it’s front panel for about 20 seconds.**

The FM pro will continuously check if the modem is still connected. In case of power interruptions, the FM Pro will automatically recover itself and re-initialize the modem.

**11.4.4 Troubleshooting The Modem**

If you have problems connecting to the modem, here is an easy way to check if the units are communicating properly.

1. Power-off the modem.
2. Turn off the modem’s auto answer feature using the modem’s dip switches or jumpers. If using a US Robotics modem, flip switch #5 “DOWN” to set auto answer off.
3. Set remote link “OFF” and link type to “modem”.
4. Power-on the modem. The AA (auto answer) light must be off.
5. Set remote link “ON” and watch the modem’s AA light. When you turn the remote link on, the AA light must come on. If the light comes on, that proves the FM Pro is commanding the modem and the unit should work properly. If the modem’s AA light does not come on, then either the modem or the cable is defective.

**11.4.5 Compatibility Issues**

We have experienced problems supporting some manufacturer’s modems. Our lab has verified that the 33.6K baud modems by US Robotics, Best Data, and Supra will work with the FM Pro. If you have another brand of modem and you find it works well with the FM Pro, we would like you tell us so we may add it our list of known modems. As time goes by, we will post additional modem information on the Internet at our web site [www.aphex.com](http://www.aphex.com).

**11.5 PC Remote Control Main Form**

When you first start the program you will see the Main Form of figure 11-5. This form links you to all the program functions such as the control panels, presets, and communications. The various indicators on this form show you how well the data is being passed between the FM Pro and your PC.

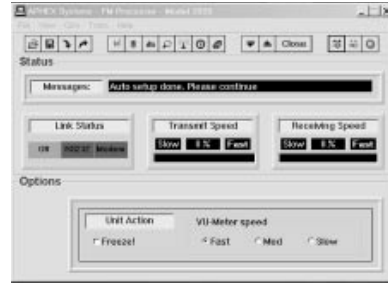


Figure 11-5 Main Form

**11.5.1 Link Status**

This indicator shows you if your link status is working, and whether by direct line or modem. The operating condition is indicated in green.

**Note: The FM Pro must have the Remote Interface feature turned on and set to the correct mode (modem or direct) or you cannot establish a remote link.**

**11.5.2 Transmit Speed**

This shows how efficiently the data is being carried from your PC to the FM Pro. Data is not always being transmitted, so this indicator may be blank or at a low value until you begin moving settings.

**11.5.3 Receive Speed**

Your PC normally receives a continuing stream of meter data. This indicator allows you to see how efficiently the receive data is streaming through the link. If your modem is operating on a bad phone line, you may see this value fall low and the meters on the panels may become erratic.

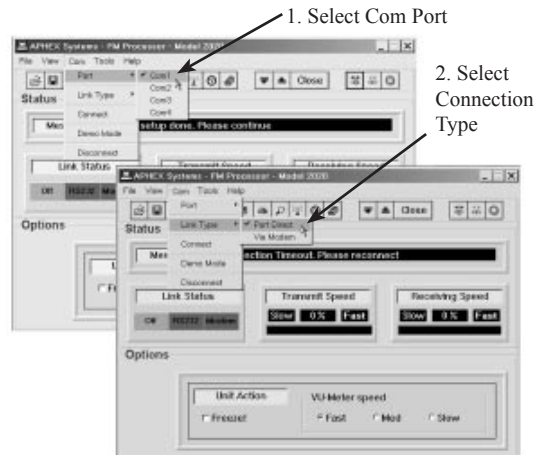


Figure 11-6 Establishing a Connection

### 11.6 Port Direct Linking

To begin direct communications, open the “Com” menu and select the com port you will be using. Next, select “Port Direct” out of the “Connect” choices. If the FM pro is properly connected to your PC, then you will immediately receive a series of messages indicating the success of the connection.

**Note: You must set the remote link status on the FM Pro to “DIRECT” (not “modem”) to allow direct linking.**

If there is a password in the FM Pro, you will be shown a dialog box requiring the password to be entered. Once the password is correctly entered you’ll be able to continue.

#### 11.6.1 A Note On Day Parting

If day parting by the FM Pro is currently in effect at the time you are logging into the remote link, you will get the dialog box of figure 11-7. This box allows you to decide if you want to turn off the day parting, leave it on while you work, or put it at rest. When at rest, the day parting is temporarily shut off while you are connected, but automatically turns back on when you disconnect the remote link.



Figure 11-7 Day Parting Dialog Box

### 11.7 Modem Linking

Follow the same procedures as 11.6 above, but select “Modem” instead of “Port Direct”. A dialog box will open up indicating the modem is being initialized. When the modem initializes, you will be then be given an input box to enter the telephone number which must be dialed. While the number is being dialed, you can abort by pressing “cancel” on the dialing message box. If a password is in effect, you will be asked to enter the log-in password.

**Note: You must set the remote link status on the FM Pro to “MODEM” (not “direct”) to allow modem linking. To avoid trouble, please read the information about modem hook-ups included later in this section.**

### 11.8 Using The Remote Control Panel

From the Tools menu, select Controls. This opens up the tabbed control of figure 11-8, giving you access to all the FM Pro programmable functions. Each major processing group can be reached by clicking the appropriate choice tab. To adjust any variable control, simply put the pointer on the handle, hold down the left mouse button, and drag the mouse pointer.

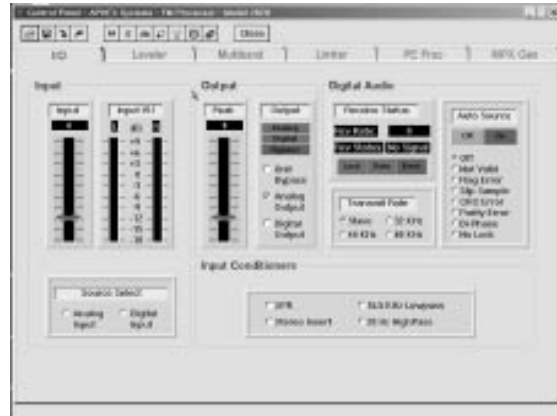


Figure 11-8 Remote Control Panel

### 11.9 Dealing With Presets

There are several ways you can deal with presets in the remote link. You can import and export presets to and from data files and you can recall or save presets in the FM Pro memory. Recalling and saving are similar to what you can do on the FM Pro front panel itself. Import and export are additional capabilities given to you by the remote software program. You can upload one or more presets to a file on your PC or floppy disk for transport to other FM Pro units, and you can download presets from such a file. Export files contain the extension \*.fmd.

#### 11.9.1 Recall Preset

From the Tools menu, select Recall Preset. This opens the recall form which proceeds to download all the presets currently in the FM Pro’s memory including the factory and user presets. Simply select the preset you want from the list and click recall.

#### 11.9.2 Save Preset

From the Tools menu, select Save Preset. A panel will open showing you all the user presets currently in the FM Pro and allowing you to chose one

location for your new preset. Once you chose the location, click Save. The preset editor opens and allows you to name the preset, and add other information. When you again click Save the information will be uploaded to the FM Pro's presets memory.

#### **11.10 The View Menu**

This menu gives you several useful choices such as the current on-air preset, day parting status, and unit info from the FM Pro. You can readily find out what software version is running on the FM Pro through this menu.

end