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BEFORE YOU START

Congratulations on your purchase of the ESTeem Wireless Modem! This section of the manual will describe the basic functioning and programming of the ESTeem to get your wireless network up as soon as possible. It is recommended that any first time user of the ESTeem and those that are unfamiliar with its operation complete all steps in this section before proceeding.

Take a few minutes to inventory your equipment before you proceed. Report any missing or damaged items to Customer Support as soon as possible. We at Electronic Systems Technology, Inc. (EST) are constantly trying to improve our products and support system so if you have any comments or suggestions on improvement of this manual, please contact us at (509) 735-9092.

The completion of this section requires loading the ESTeem Utility program on your computer. The following section will describe the installation and use of this valuable utility program.

ESTEEM UTILITY

The ESTeem Utility is designed to assist the ESTeem user in programming and troubleshooting. The Utility covers basic operation, programming, PLC applications, and diagnostics of the ESTeem. The ESTeem Utility Program is designed to operate with Windows 95®, Windows 98® and Windows NT®.

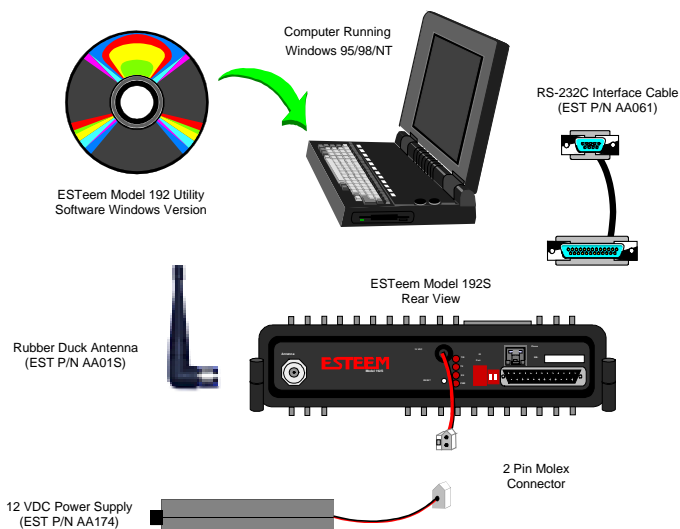


Figure 1: Installation Diagram



Figure 2: ESTeem Utility Main Menu

Installing ESTeem Utility Software Windows 95/98/NT

1. Place the ESTeem CD in your CD-ROM drive (Figure 1).
2. Select Run on the Start Menu.
3. Type (your CD-ROM drive letter):\Utility\Setup.exe
4. Click the OK button and the program will begin installation.

Running The Program

1. Select the ESTeem Utility Icon on Start>Programs menu. Figure 2 shows an example of the Main Utility Menu.

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This section covers the basics setup and testing for the ESTeem wireless modem. If this is your first experience with the ESTeem wireless modems or you are unclear on how to set the frequency, squelch, or test communication, the [ESTeem Starting Out](#) section will guide you through the basics of wireless communication.

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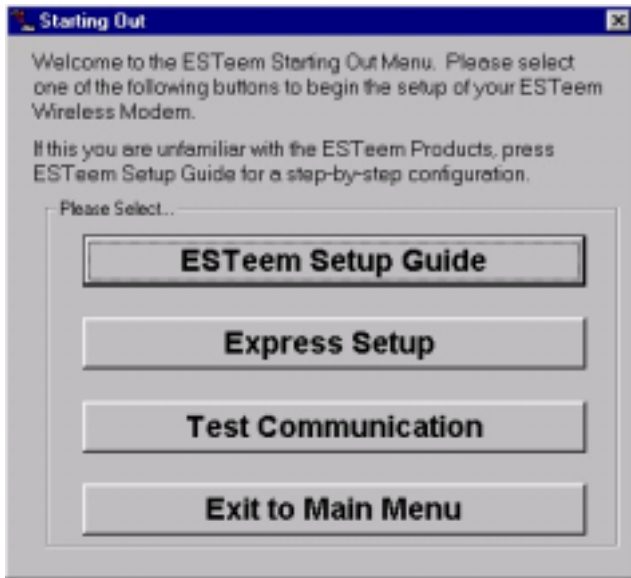


Figure 3: Starting Out Main Menu

1. Select ESTEem Starting Out from the main menu. A window like the one in Figure 3 will be displayed. If this is your first time using the ESTEem wireless modems, select ESTEem Setup Guide for a complete description of all ESTEem functions. Proceed to step 2.
2. Step 1 – Installing External Power window will be displayed (Figure 4). Select Model 192S on the menu and the voltage and current specifications will be displayed. The ESTEem model AA174 power supply can be used with all ESTEem products. If you are using the ESTEem in a solar power application,

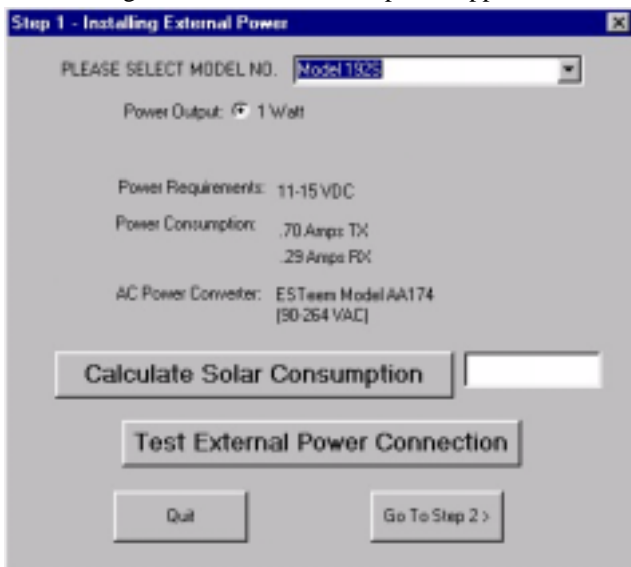


Figure 4: Step 1 - Installing External Power

- press Calculate Solar Consumption button for the Amp/Hours required.
3. Press Test External Power Connection button. If you have connected your power cable correctly your Power LED should be illuminated. Press OK to continue. Press Go To Step 2 button to proceed.
4. Step 2 – ESTEem Familiarization window will be displayed (Figure 5). This step will explain the connections to ESTEem Model 192S front panel and provide a setup diagram for testing.
5. Press the Front Panel Description button and a



Figure 5: Step 2 – ESTEem Familiarization

window containing the ESTEem Model 192S front panel will appear (Figure 6). Press any one of the buttons for a complete description of the item's function. For example, press the Power LED button and the description of the power LED and its use will

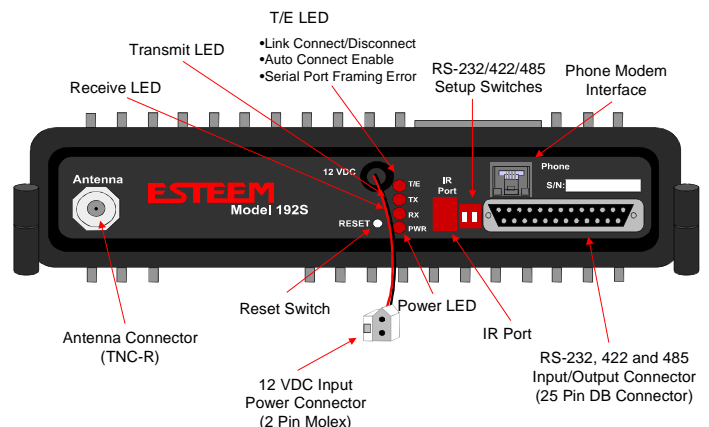


Figure 6: ESTEem Front Panel

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- be displayed.
6. Press the Testing Configuration button and a window containing the Testing Diagram (Figure 1) will be displayed. Press Go To Step 3 button to proceed.
 7. Step 3 – Serial Connection window will be displayed (Figure 7). This step will help configure the computer and the ESTeem to communicate with each other.
 8. Press Display Cable Diagrams button and all serial pins to the ESTeem Model 192S will be displayed.



Figure 7: Step 3 – Serial Connection

Press OK to continue.

- Note:** A standard 9-Pin serial port on a computer to ESTeem interface cable is the ESTeem AA061 (Figure 1).
9. Press Change Port Settings. This window will configure the communications port on your computer to operate with the ESTeem modem. Select the operating parameters you wish or set to the default of 19,200,N,8,1. Click OK to continue.
 10. Press Set Dip Switches button. This window will configure the ESTeem's RS-232/422/485 to operate at the setting selected in step 8. Turn both Switches 1 and 2 on the RS-232 setup switches (Figure 6) to the OFF/Down position and press the Reset Button on the ESTeem. Press Download Port Settings button to return to the Step 3 menu. Return Switch 1 on the RS-232/422/485 port setup switches to the ON position and press the reset button.

11. Press Test ESTeem button. If the ESTeem serial interface cable and communication port are operating correctly the ESTeem Welcome Message will be displayed. This will confirm communication between the computer and the ESTeem. If you do not receive a welcome message, follow the on-screen troubleshooting guide that will be displayed. Press Go to Step 4 button to proceed.
12. Step 4 – ESTeem Setup Parameters window will be displayed (Figure 8). This step will complete the setup for your ESTeem Model 192S.
13. Press Set Address button. You must give each ESTeem a unique address in the system. Type in the

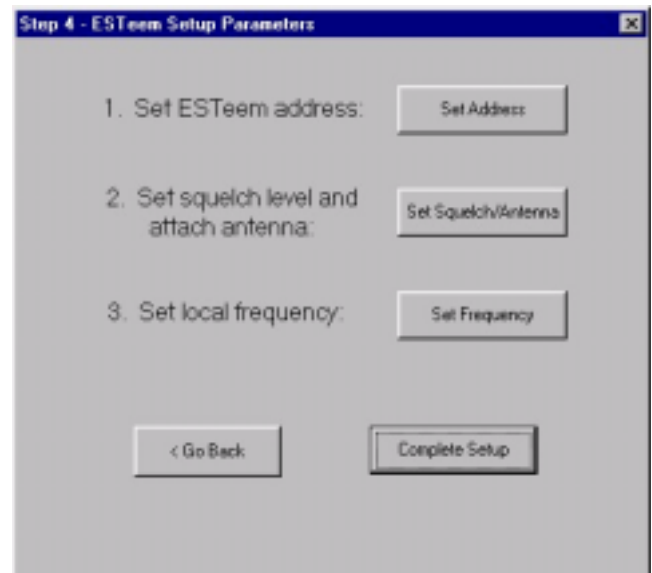


Figure 8: Step 4 – ESTeem Setup Parameters

- address number and press OK to continue.
14. Press Set Squelch/Antenna button. This section will give you instructions on antenna placement and installation. Press the Set Squelch button and follow the on-line guide to configure the ESTeem squelch. Press OK to continue.
 15. Press Set Frequency button. Select the center frequency for your ESTeem Model 192S and press Set Frequency to continue. Set all ESTeems to the same frequency for operation within this section.
 16. Press Complete Setup. You have just configured all operating parameters within the ESTeem. If this is your first ESTeem you have programmed for testing, press the Express Setup button on the Setup Main Menu (Figure 3) to program subsequent ESTeem Modems. The Express Setup will allow you to quickly configure the remaining ESTeem modems without additional instruction. If you have at least

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two ESTeems programmed and wish to test communication, proceed to step 17.

17. Press Test Communication button. This section will allow you to test the radio frequency (RF) communications between two or more ESTeems. Two types of tests are listed in this window (Figure 6). If you have a computer attached to both ESTeems proceed to step 18 and if you only have one computer to test both ESTeems proceed to step 19.
18. The first test will be used if you have a computer attached to both ESTeems. Select the first of two items and press ENTER. Follow the instructions on the screen to establish a communication link between modems.
19. This second test will allow you to use the remote ESTeem as a digi-repeater for your local modem. This procedure is explained in the window and can test communication with only one computer.
20. You now have completed the basic programming and setup of your ESTeem modems. You have tested their operation with each other and are now ready to proceed in programming them for your application. Press Exit to Main Menu and continue with the programming of the ESTeem for your application.

BASIC ESTEEM PROGRAMMING

Most of the ESTeem commands outlined in this section have been automatically input to the modem by the ESTeem Utility program. A few of the commands used most often in troubleshooting and programming are covered here. These commands can be programmed to the modem directly by the Terminal Emulation section of the utility or by any other terminal software package.

HELP Functions

The ESTeem has over a hundred software commands to aid the user in their application. The HELP command allow the user to list the various software commands and their respective values.

From the COMMAND mode, type HELP<cr>. Your display should list the following:

Help switches are:

ALL (Lists all settings).
CHANGE (List settings changed from factory default).
CONTROL (List settings dealing with control).
PLC (List settings for PLCs).
RADIO (List settings for ESTeem radio).
RS232 (List settings for RS-232/422/485)
SETUP (List settings for control).
SYSTEM (List settings for system).

These are the different software categories.

Example: HELP SETUP<cr> , will list all the programmable variables and their settings for the SETUP category.

You can interrogate a discrete software command by just typing the command followed by a <cr>.

Example: ADD<cr> , will list the current address saved in the connected ESTeem.

Note *Appendix E of this manual will have the complete listing of software commands and categories for the factory default of the ESTeem.*

Saving A Program

A program is saved by typing in the SAVE command at the CMD: prompt. The programming variables that have been changed will be written to the non-volatile memory. The programming parameters will be loaded each time the modem is powered up or reset.

Restoring Factory Defaults

The ESTeem has a very simple procedure to restore the program variables in the unit to the factory default setting. When the FA<cr> command is entered from the command mode the ESTeem will be configured from a variable table located in its EPROM. It is a good practice to restore the ESTeem to a factory defaults before any programming of the unit.

To ensure the modem is in the COMMAND MODE to set it back to the factory default perform the following:

1. Set Bit 2 on the RS-232 setup switches to the OFF position.

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2. Reset the ESTeem.
3. Type FA<cr> and the ESTeem welcome message should be displayed. The characters may not be echoed on the screen.
4. Type SA<cr> to save the factory default table.