AMVER-SEAS

Installation
Guide

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PhOD/AOML/NOAA

This installation guide provides instructions on how to install, and configure AMVER-SEAS on computer for cruise. Note that you can find it under the FTP site:

ftp://ftp.aoml.noaa.gov/pub/phod/seas/Installs.

Please Help Us Improve This Manual

We would be very interested to hear any comments you might have on this new installation manual. We are particularly interested in learning of mistakes or omissions and subjects that are unclear. Please call or e-mail and direct your comments to Caridad Ibis Gonzalez. Thank you very much for your assistance.

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Introduction to AMVER-SEAS

Under a cooperative agreement between the National Oceanic and Atmospheric Administration (NOAA) and the U. S. Coast Guard (USCG), AMVER-SEAS has been created to assist Volunteer Observing Ships (VOS) in submitting Shipboard Environmental data Acquisition System (SEAS) reports and participating in the Automated Mutual-assistance Vessel Rescue system (AMVER).

The SEAS reports consist of marine weather and ocean data. The VOS program allows ships to report marine weather to the National Weather Service (NWS) so that high seas forecasts will be as timely and accurate as possible.

The AMVER system allows ships to report their intended voyage track so that in the event of an emergency all available resources may be focused on aiding ships in distress.

Table of contents

Computer Hardware and Operating System Requirements

- Operating System: Windows XP.
- Works best with 200 MHz Pentium or better.
- Video card that supports 800 x 600 pixels with 65K colors or better.
- 10 MB of free hard disk space

Download

The latest AMVER-SEAS version will need to be downloaded from the FTP site ftp://ftp.aoml.noaa.gov/pub/phod/seas/Installs/. There are several versions that basically are the exact same executables except that the setup is different so that Hand Launching, Auto Launching AOML and Auto Launching SIO have different setups. It make easy to down load the ones that apply to the cruise.

You have to download and unpack the "**disk**" directory into the required zip file, and create a folder into a convenient location.

Step1: Removing anti virus software

Before you start the installation from AMVER-SEAS you have to remove all anti virus software or fix port 25 exception. Some anti virus like McAfee will prohibit the transmissions.

Step2: Installing WinMK21

WinMK21 is the Sippican's software for hand launching XBTs and other types of expendable probes. It includes the driver necessary to communicate with the MK21 board. Although WinMK21 must be installed on the computer, it should not be used to collect XBT data except in extreme circumstances for troubleshooting when AMVER-SEAS is not functioning properly.

This step may not be necessary as WinMK21 software may already be installed on your computer. It is installed if there is **C:\Program Files\Sippican** directory, additionally there should be a **WinMK21** logo on the desktop.

Double click this logo to run the software.

Never run WinMK21 at the same time as the XBT program. Use WinMK21 to do a drop is relatively self-explanatory. Refer to the program's help menu for more details and instructions for this software.

To install WinMK21, exit all programs and turn off any virus protection or screen saver software. Then double click on **Sippican install New Drivers/WinMK21Surface_v2.9.1_revK/setup.exe** version 4.1.222.0 (put the mouse over the file and version number should appear), that you can find into the zip folder **ftp://ftp.aoml.noaa.gov/Installs/Installs_XBT_AutoLaunchers/Sippican Install _All New Drivers.ZIP**
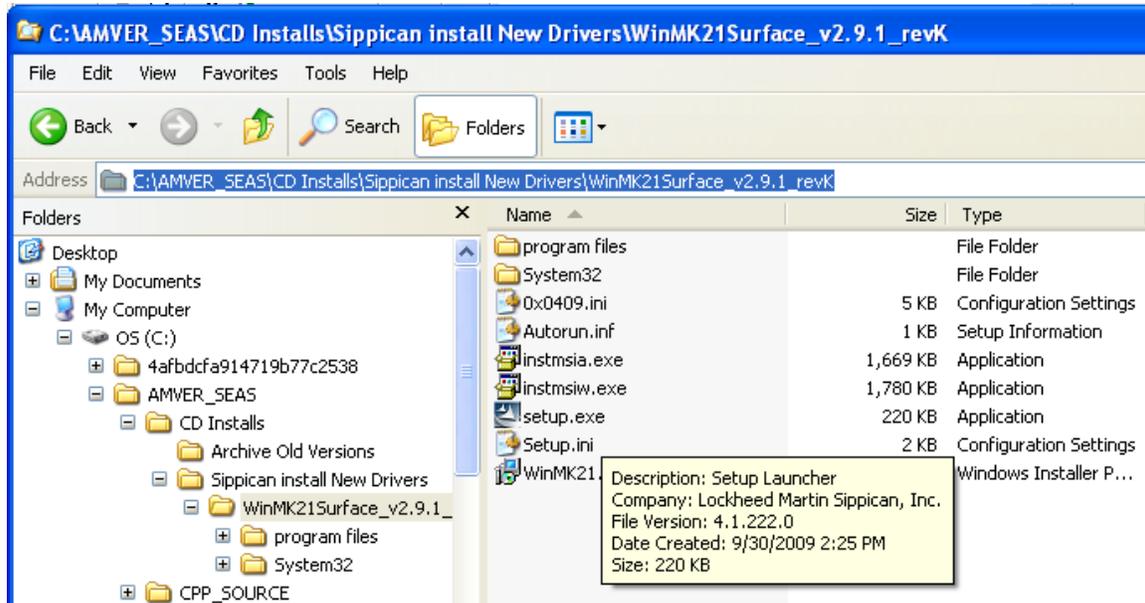
The **WinMK21 – InstallShield Wizard** should start automatically and the *Welcome* dialog box should open. Click **Next**.
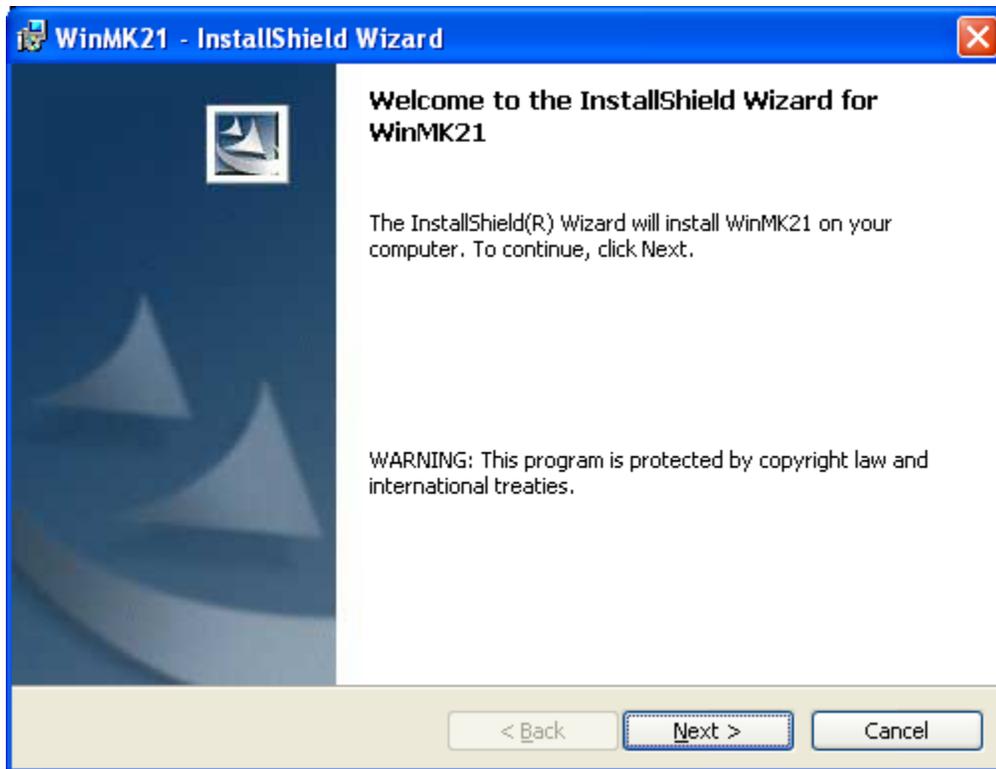
Select the radio button labeled **I accept the terms in the license agreement**. Click **Next**.
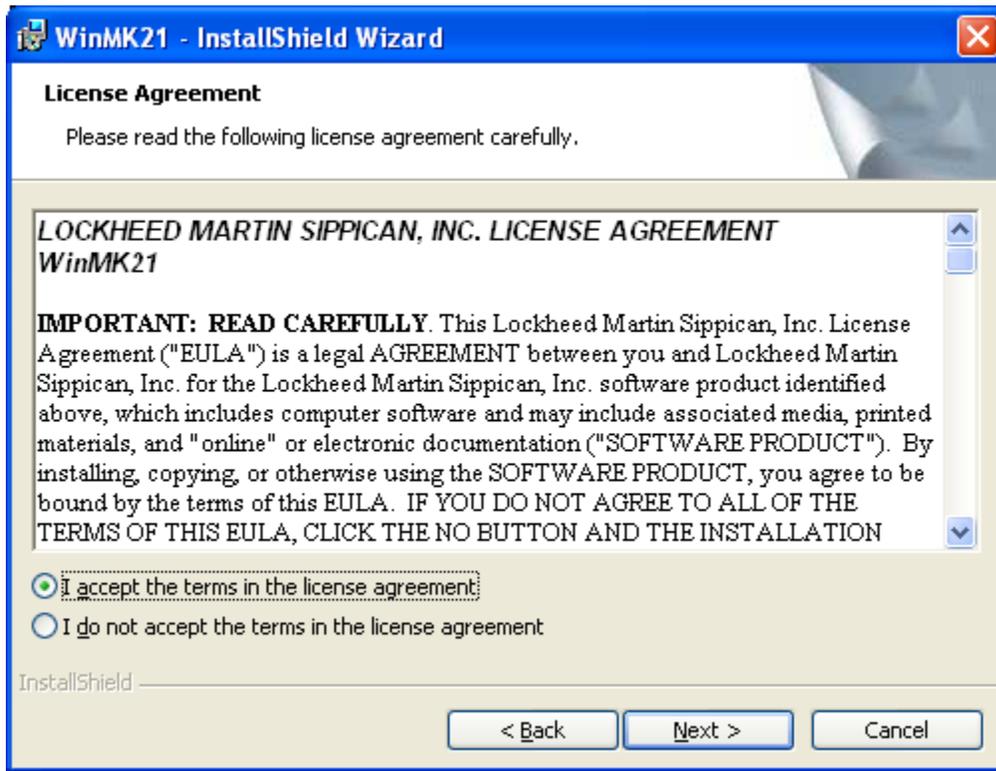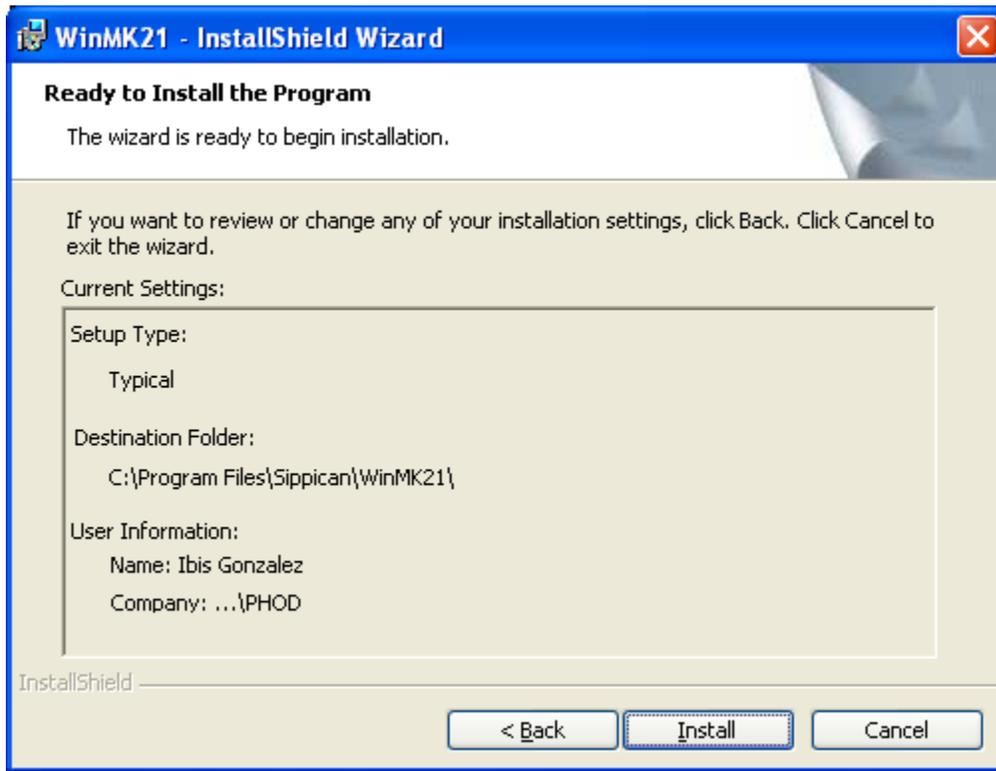
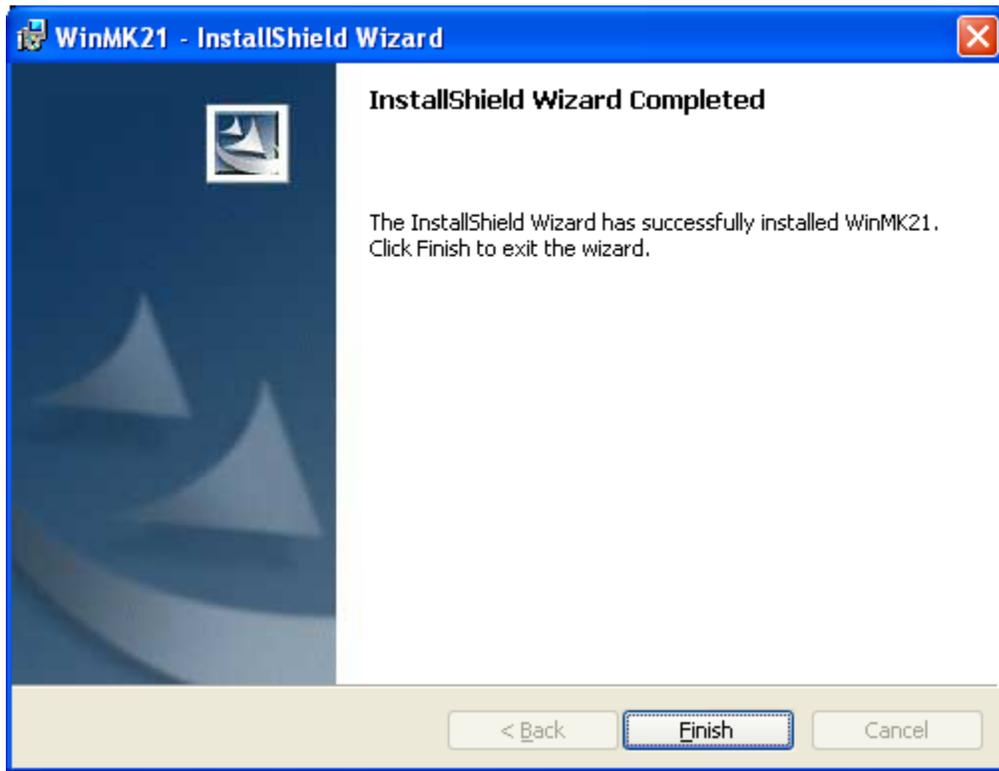Select the destination folder. Click **Next** to save this file in the default location.
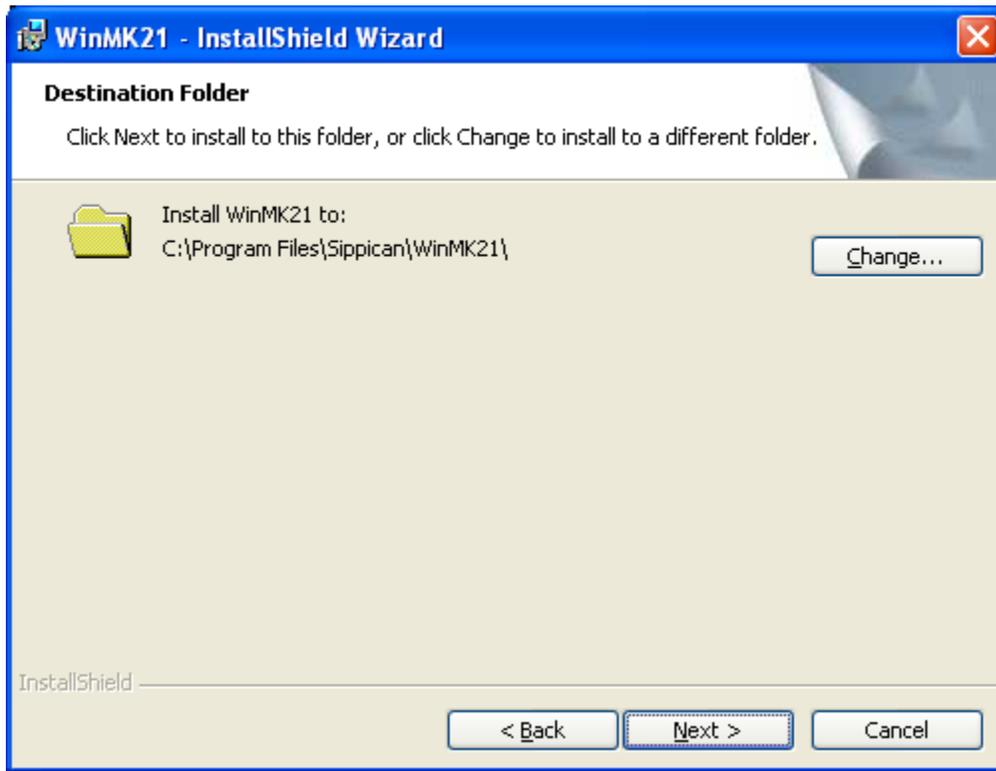
Select the radio button **Typical** and click **Next**.
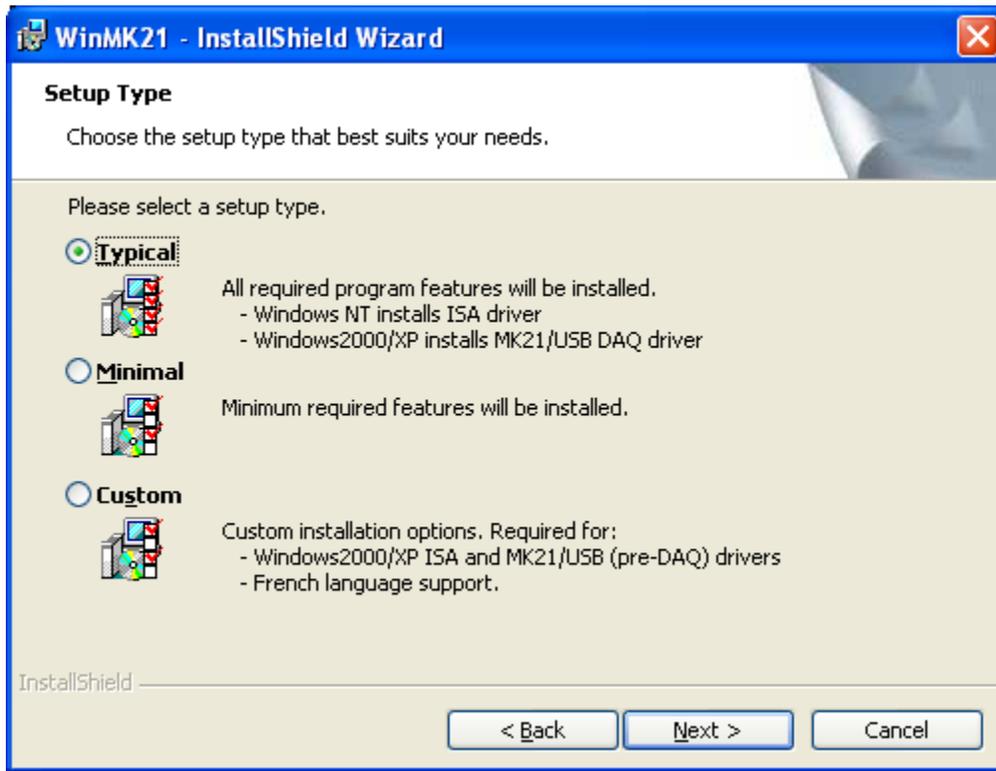
Review the installation settings and press **Install**.

Click **Finish** to complete the installation process from WinMK21.

After finishing, restart the computer.

Step3: Installing MK21 USB device driver

1. Start the computer with the MK21/USB Recording System (MK21/USB) **not connected**.

2. Turn on the MK21/USB and then plug in MK21/USB USB connector to the computer.

When MK21/USB Recording System is first time connected to the USB host Windows XP will detect the new hardware, then the device driver will be installed as follows:
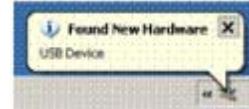
3. The **Found New Hardware Wizard** is started. Select the **Install from a list or specific location (Advanced)** option. Click the **Next** button to continue.
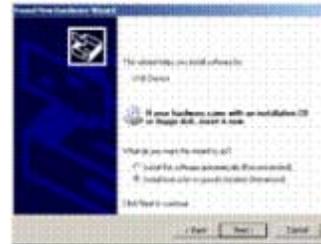
4. Select the **Search for the best driver in these locations** option. Select the **Include this location in the search** check box and uncheck the other alternatives. Click **Browse** and then select the
C:\Program Files\Sippican\MK21SDK\MK21USB\win-xp directory. Click the **Next** button to continue.

5. Windows XP displays the warning message. Please ignore the warning and click the **Continue Anyway** button.

6. The Found New Hardware Wizard will now install the MK21 USB device driver and configure the Window XP system. Then it indicates that the installation is complete. Click the **Finish** button to close the wizard.

The MK21 USB device driver has been successfully installed and is ready for use by the WinMK21 program. **The computer does not need to be restarted**.

Sippican has two versions of hardware. The original **MK21 ISA** interfaces with an ISA to USB card, and then the newer (came out early 2007) **MK21 DAQ** card that is connected directly to the USB port. AMVER-SEAS will work with both hardware versions. The MK21 ISA to USB (older version) shows up as **ARS Tech USB ISA Device** in the device manager, the MK21 DAQ shows up in the device manager as **USBXpress**.

If the PC was running on an older version of Sippican MK21 device drivers, please install new drivers.

Different files need to be located in the **C:\Program Files\AMVERSEAS\Execs** and the **C:\Program Files\AMVERSEAS\Administration\Lib** directories. AMVER-SEAS main menu does all of this automatically; when you select the hardware version on **Main Menu| Seas | XBT Hardware Versions.** The files will be adjusted as needed.

Files needed for MK21 ISA:
C:\Program Files\AMVERSEAS\Administration\Lib\mk21al.dll (version 2.13.1.0 291,840Kbytes)
C:\Program Files\AMVERSEAS\Execs\arsusb1.dll (118,784 bytes)
C:\Program Files\AMVERSEAS\Execs\SiUSBXp.dll (version 2.3.0.0)
C:\Program Files\AMVERSEAS\Execs\mk21usb_New.dll

Files needed for MK21 DAQ:
C:\Program Files\AMVERSEAS\Administration\Lib\mk21al.dll (version 2.13.1.0 291,840Kbytes)

C:\Program Files\AMVERSEAS\Execs\mk21usb.dll (version 1.1.0.0)
**C:\Program Files\AMVERSEAS\Execs**\SiUSBXp.dll (version 2.3.0.0)

Step 4: Installing AMVER-SEAS

Look in **C:\Program Files** for a directory called **AMVERSEAS**. If it exists, rename it by appending AMVER-SEAS with the previous cruise designation, or a description appropriate to the data it contains. **Never install AMVER-SEAS when a folder named AMVERSEAS already exists.**
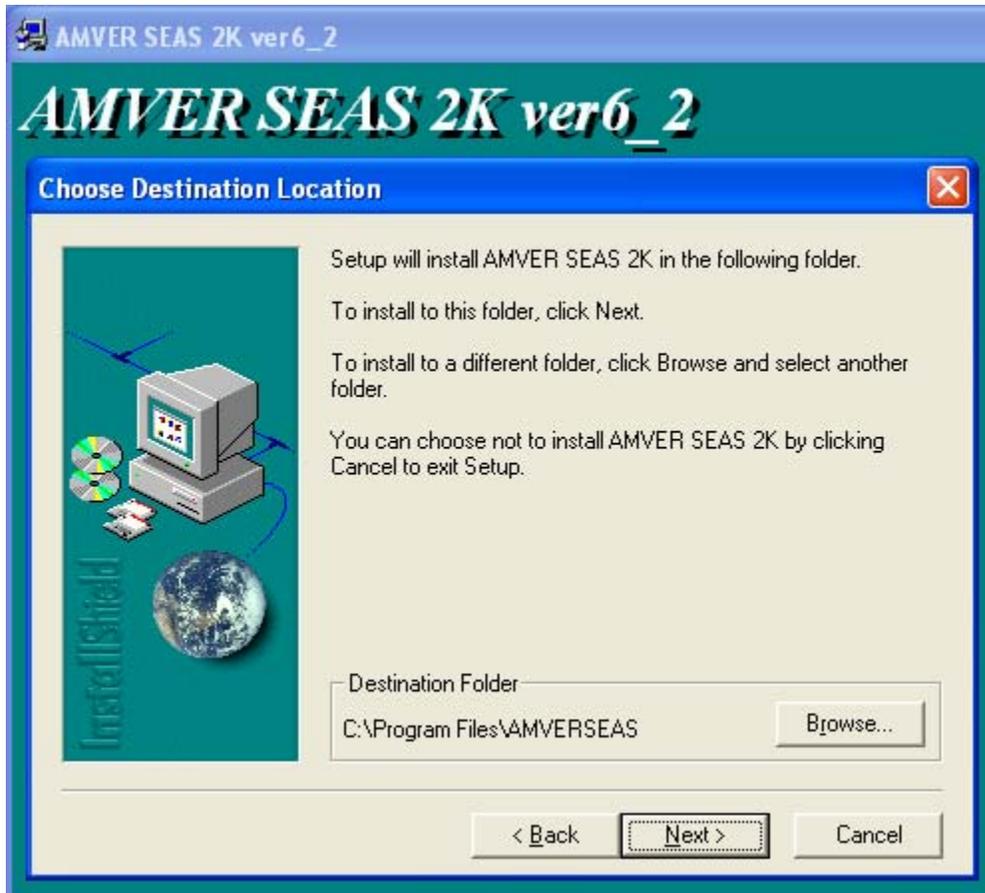
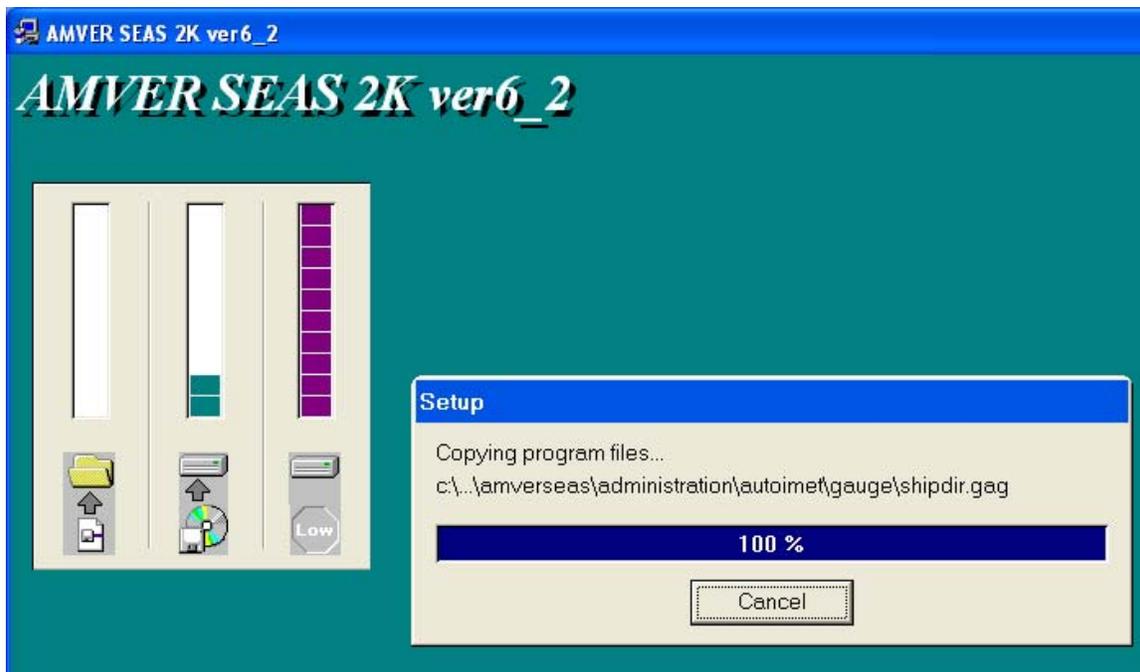In order to install AMVER-SEAS on the computer double click on SETUP.exe application on the AMVER-SEAS installation CD, this will start the loading of the AMVER-SEAS.
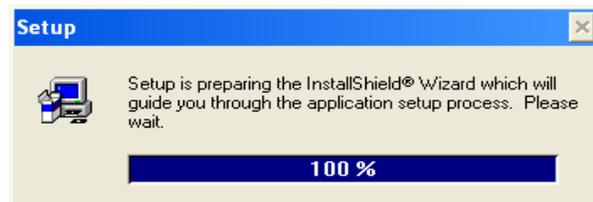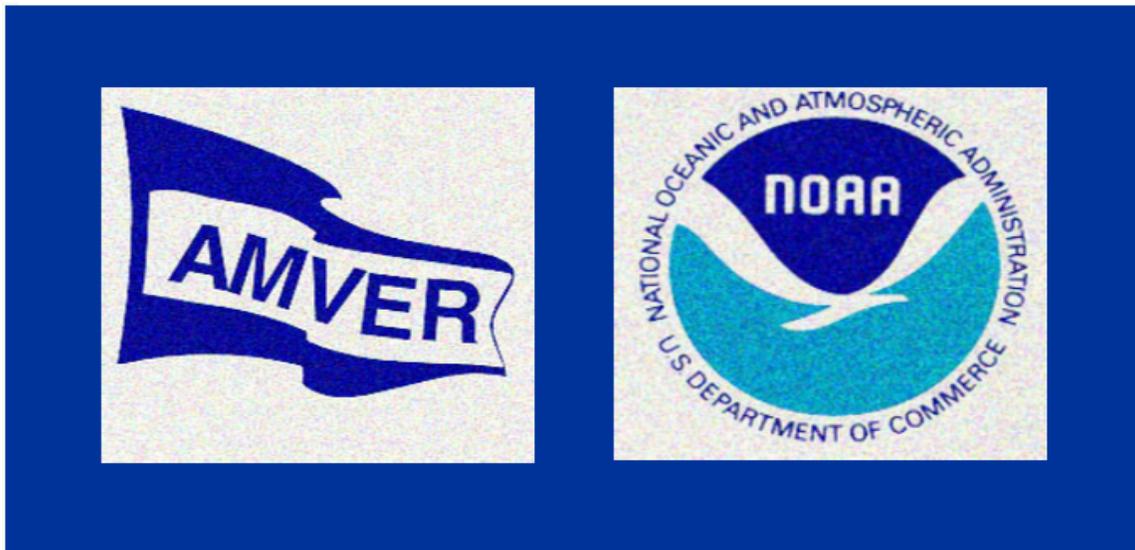
Please follow installation directions.
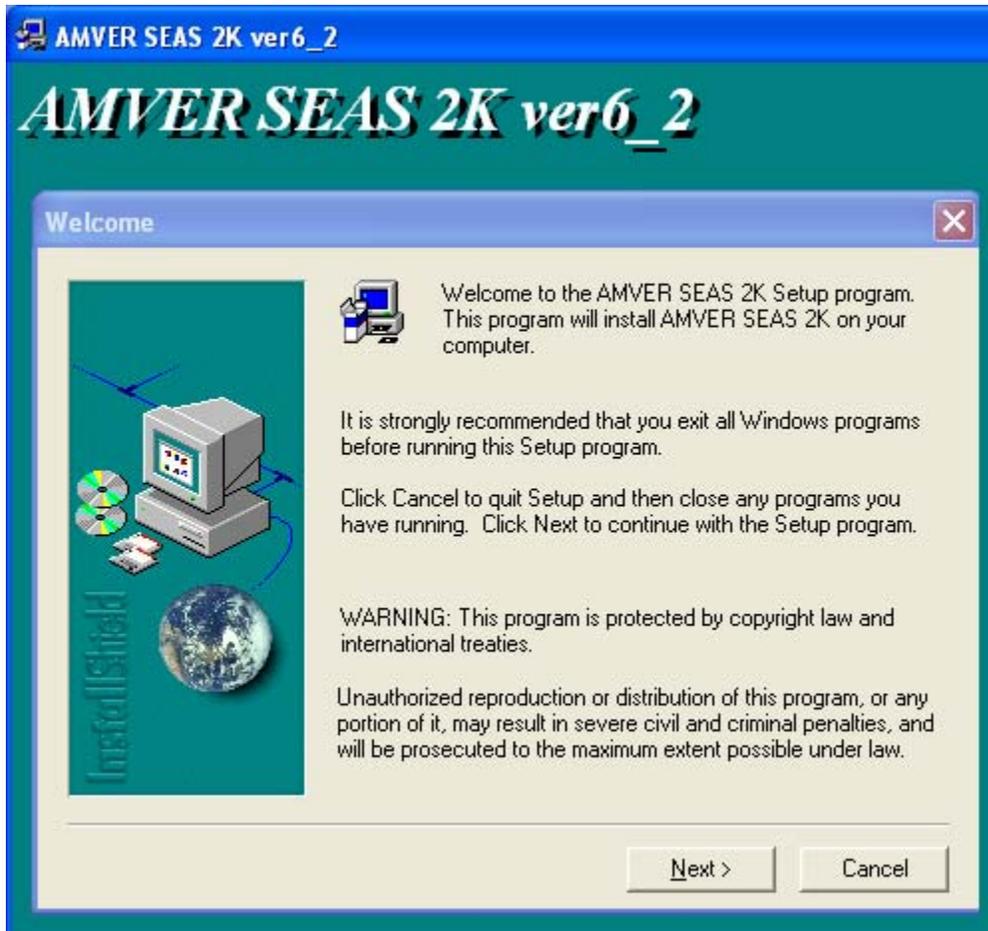
Click on **Next**

Click on **Next**

This will create an AMVER-SEAS directory at the user specified location and install AMVER-SEAS on the Start Menu.
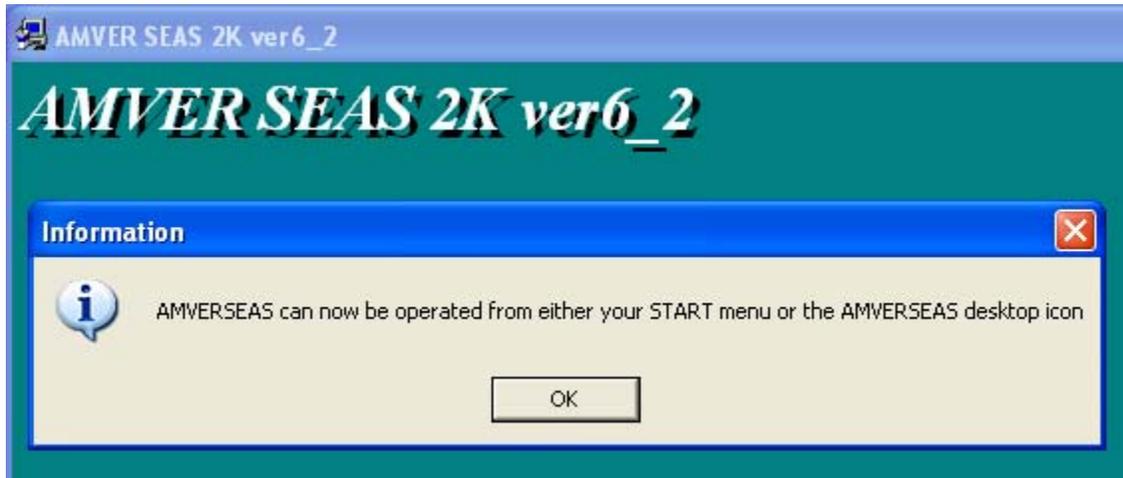
Click **OK**
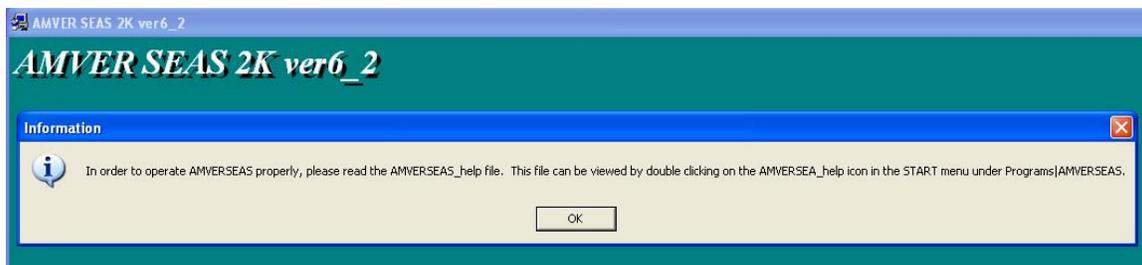
Click **OK**

Now you have the AMVER-SEAS icon on your desktop.

Also you can start the AMVER-SEAS program by selecting the AMVERSEAS icon in the **Start Menu**.
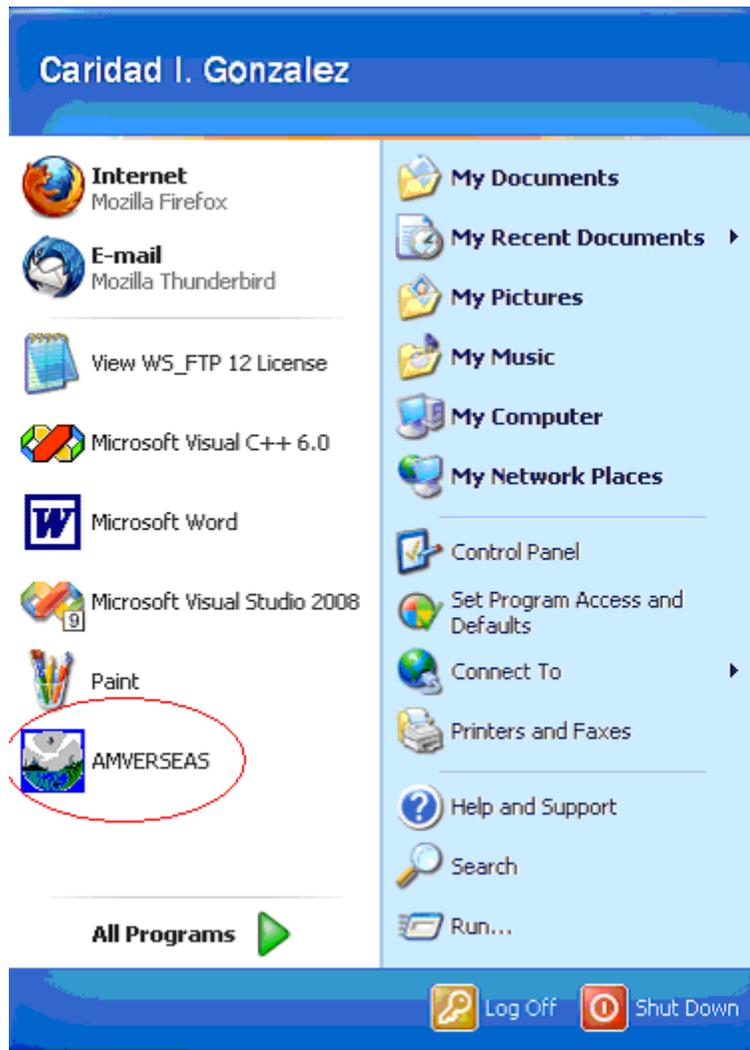
The AMVER-SEAS application must be able to read the Administration File (Admin.txt) file in the Administration directory in order to allow entry of AMVER and SEAS reports. If the Admin.txt file is not present then AMVER-SEAS will ask you to create and transmit the Administration File, please follow directions.

Press **OK**

Press **OK**

Proceed to fill out as much information as possible, and click on **Transmit Binary**.

Click on **Browse**
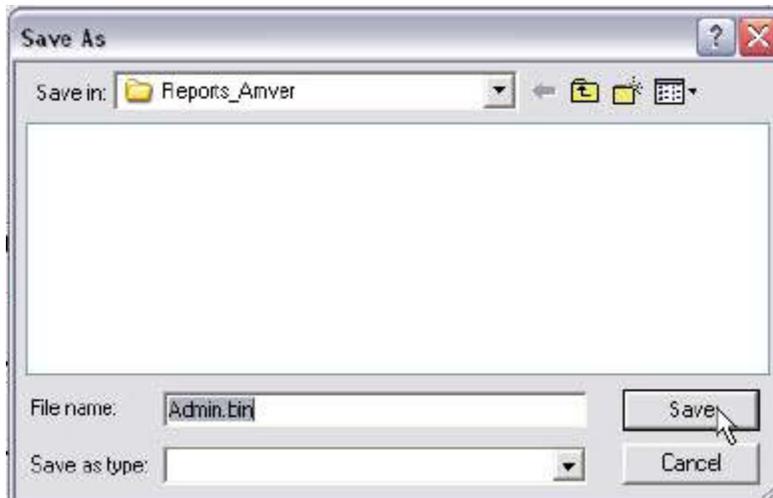
Click **Save**, and save this file in the default location.
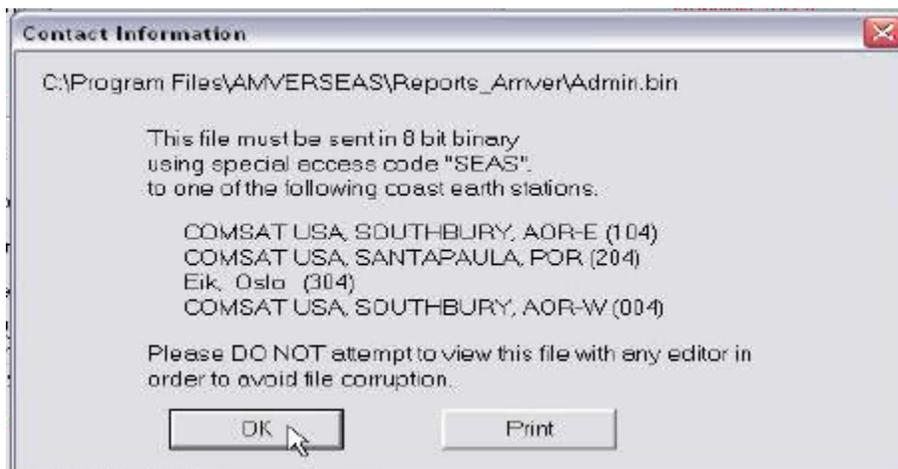
Click **OK**

Then you have successfully installed AMVER-SEAS. It is recommendable to check the setup.

Step 5: Checking AMVER-SEAS, and Iridium versions

To ensure that you use the correct AMVER-SEAS, and iridium software version for your cruise please look at ftp://ftp.aoml.noaa.gov/pub/phod/seas/Installs/Version info.xls.

Step 6: Setting up transmission

Select option **Main Menu|Setup|Setup AmverSeas Configuration|Setup All –
Enable/Disable**.
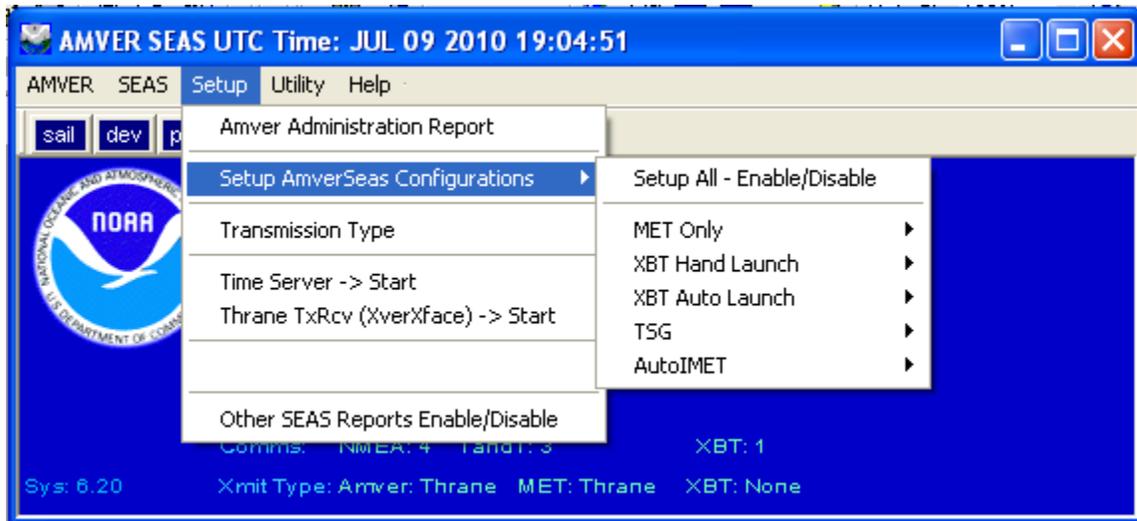
Be sure to check on all boxes that the cruise needs.
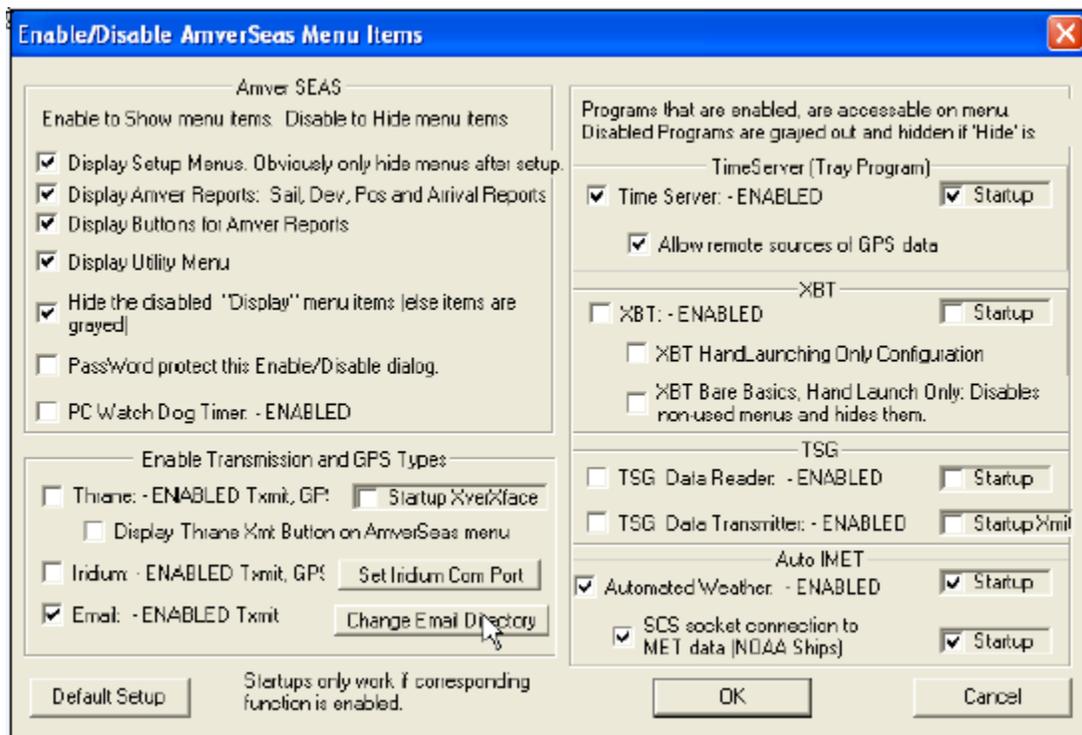
Step 7: Setting up transmission type

Select option **Main Menu|Setup|Transmission Type**.

Be sure to check on all boxes that the cruise needs.

Step 8: Testing COM ports

You have to test that the ports that you will use work well. You can do it using any program like HyperTerminal or an AMVER-SEAS application.
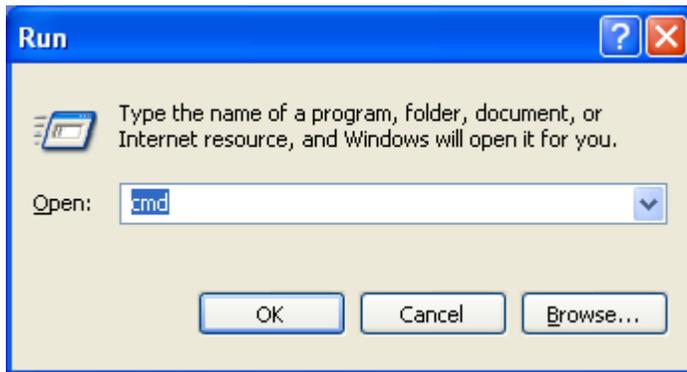
Step 9: Uninstalling previous Iridium Mailer Service

If a previous version of AMVER-SEAS using Iridium Mailer Service is on the computer, the older version of Iridium.exe must be uninstalled.

Open a DOS window pressing the Windows **Start** button to bring up the start menu and select **Run**.
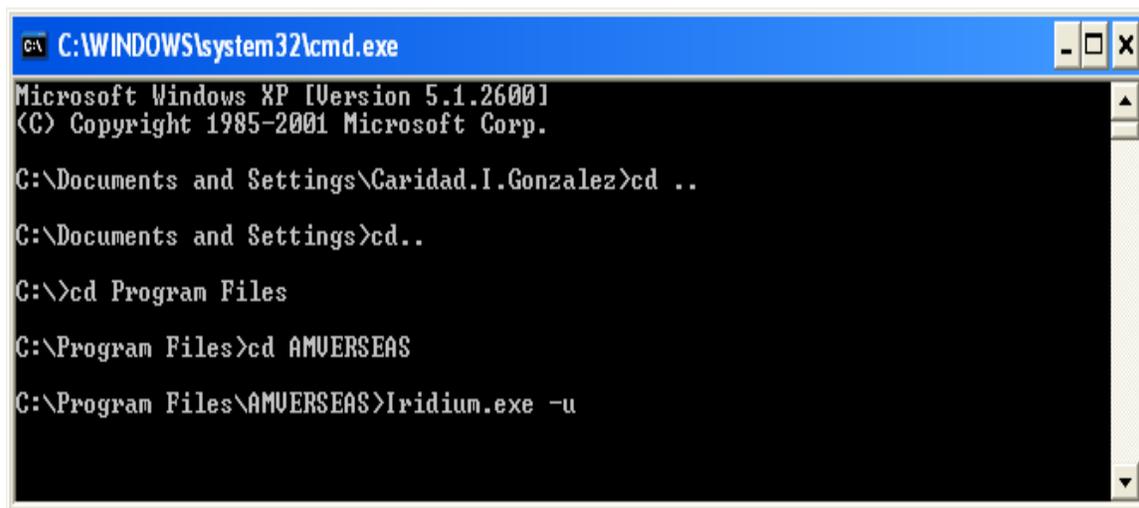
The **Run** window appears.

Type **cmd** and click **OK**. This will get you to a command prompt.

The command to be typed into the DOS window is:

Iridium.exe –u

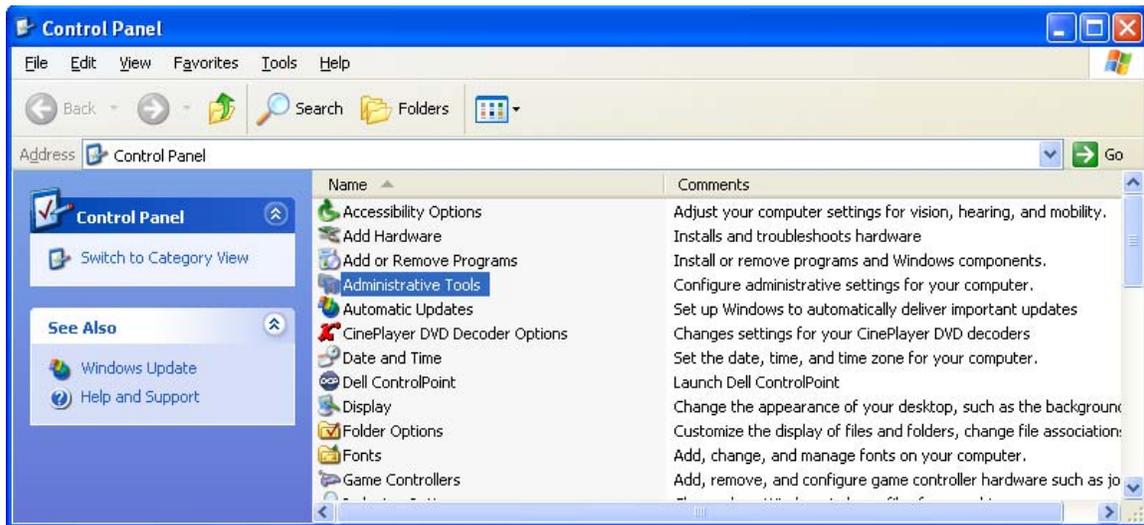In the **C:\Program Files\AMVERSEAS**.

Insure that there is no NOAA SEAS Iridium Mailer service on the computer.
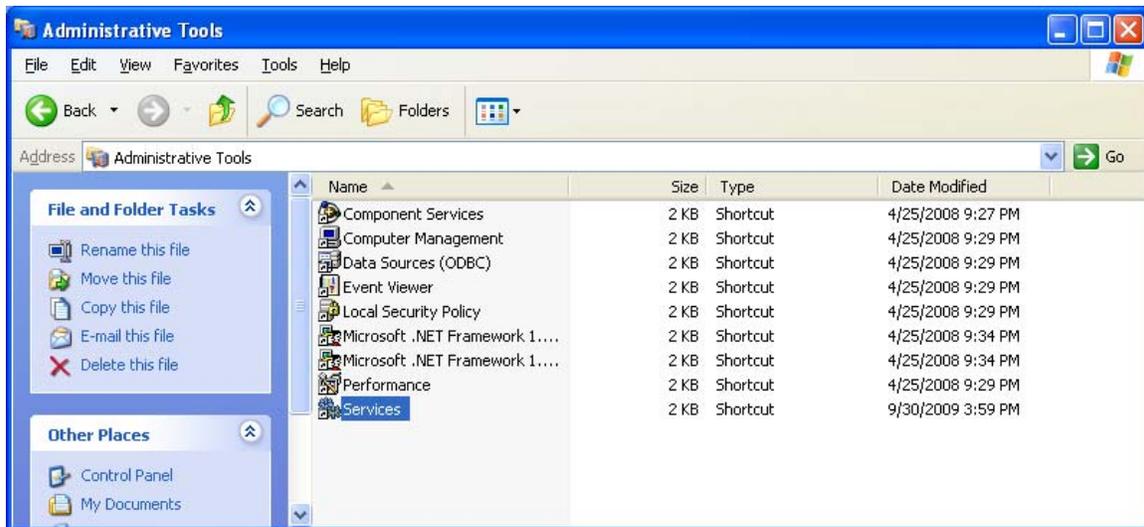
Press the Windows **Start** button to bring up the start menu and select **Control Panel**
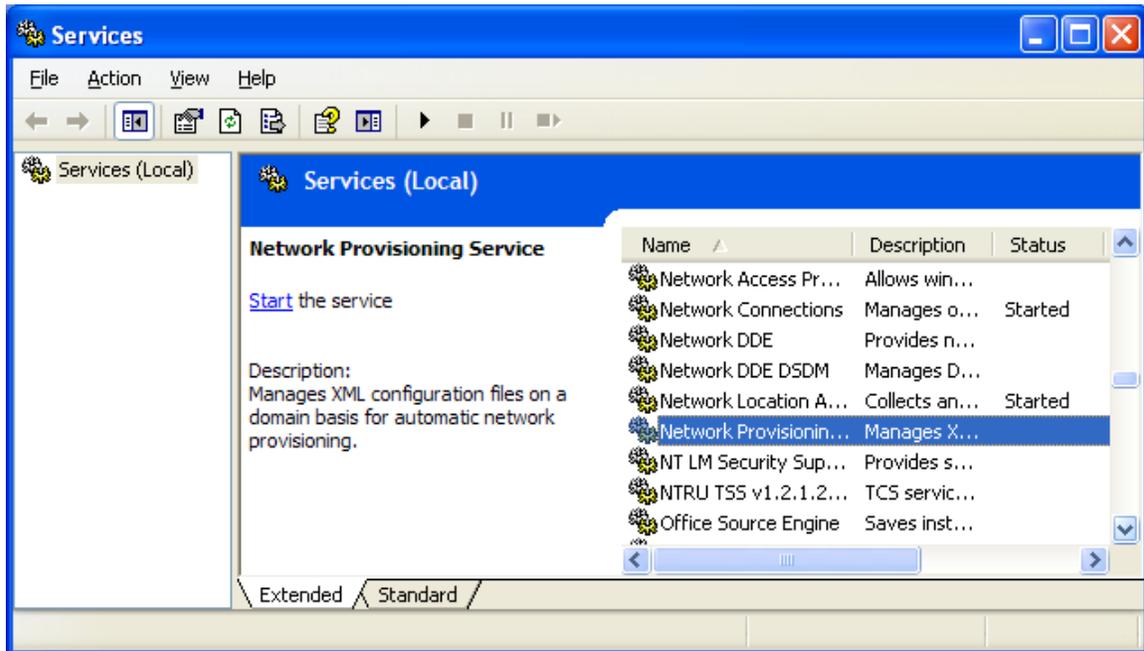
At the **Control Panel** window select **Administrative Tools**.

At the screen **Administrative Tools** select **Services**.

The **Service** window appears.

You should not see any service named **NOAA SEAS Mailer** or **NOAA SEAS Iridium Mailer**.

If the NOAA Iridium Mailer service is still there it means that you did not uninstall the version of Iridium.exe that goes with the NOAA mailer service that you have. Double-Click the service NOAA Iridium Mailer and look at the **Path to executable**. Go to that path with you DOS window and again do **Iridium.exe -u**.

**Make sure to refresh Services window to account for changes. The previous Iridium mailer must be removed.**

Step 10: Adding Iridium Modem

This step is needed ONLY if using an Iridium modem. If using the computer's Internet connection to email then do not do this.
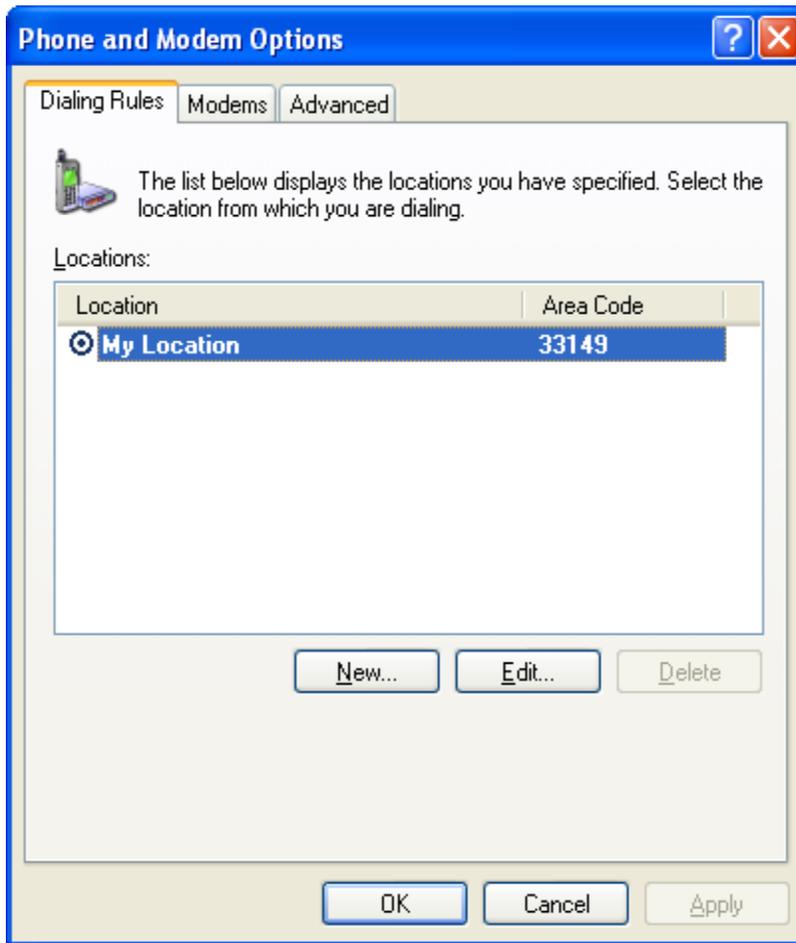
To add a serial external modem to Windows XP, press the Windows **Start** button to bring up the start menu and select **Control Panel**.
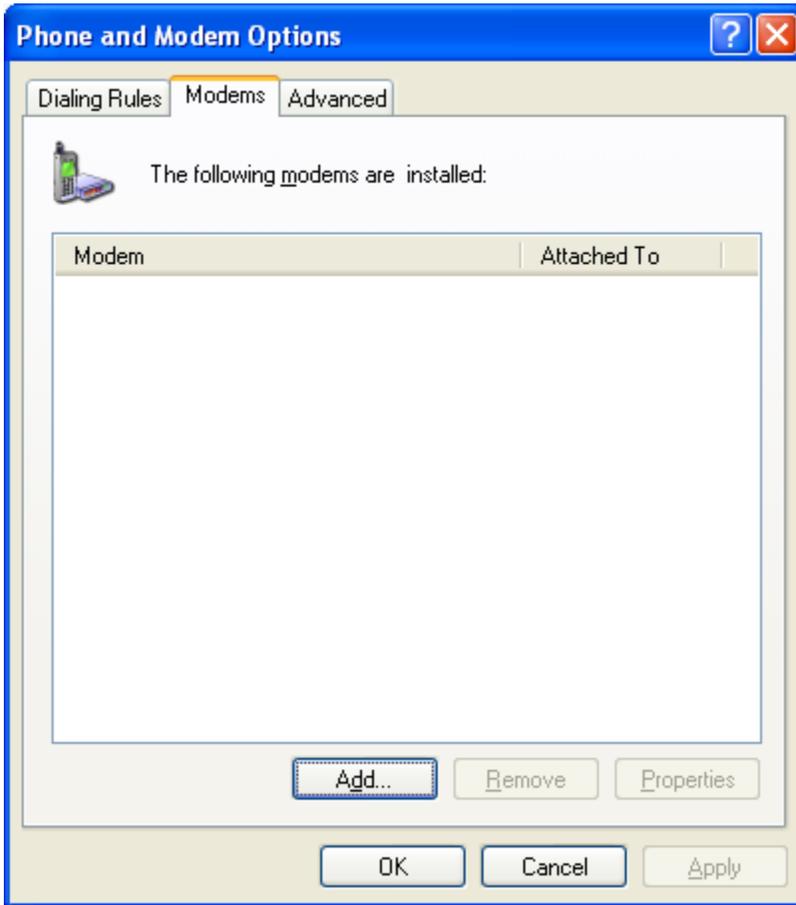
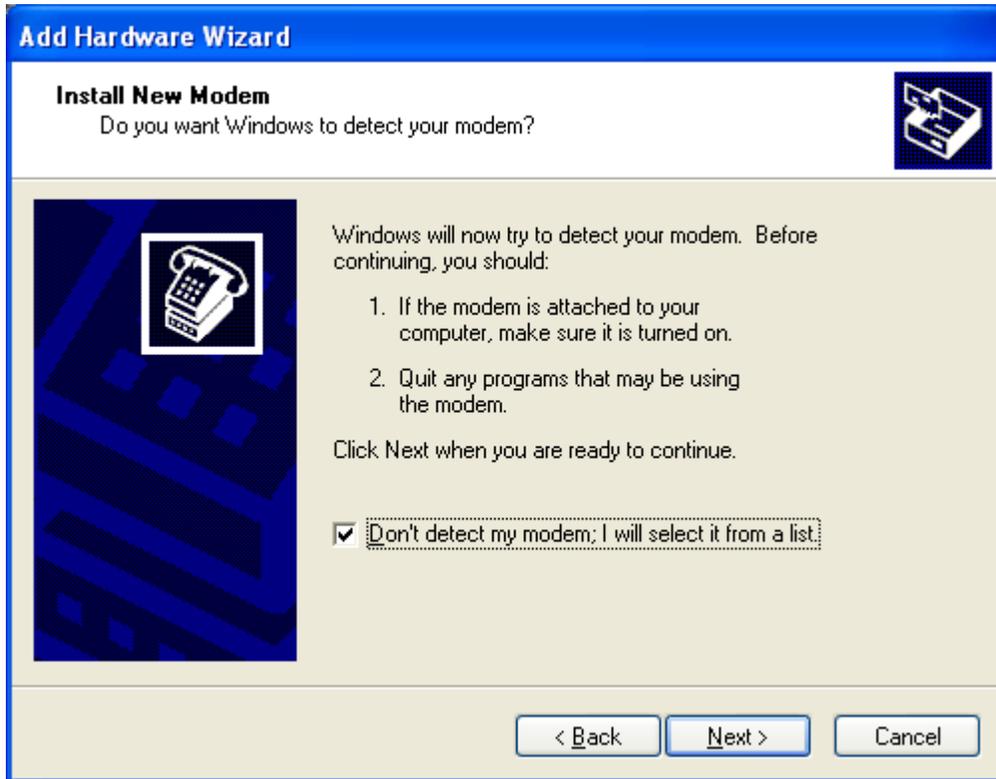At the **Control Panel** window select **Phone and Modem**.
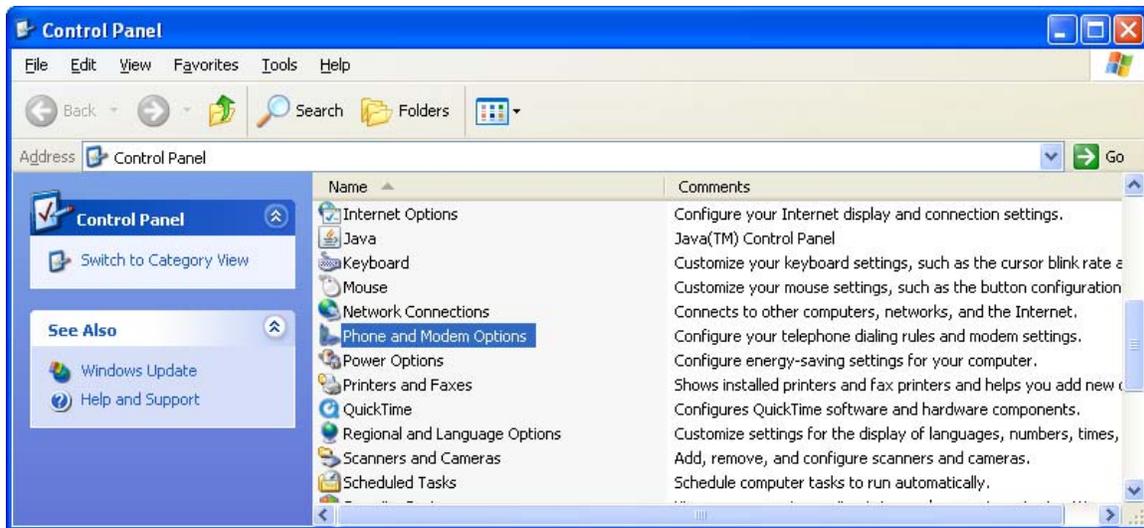
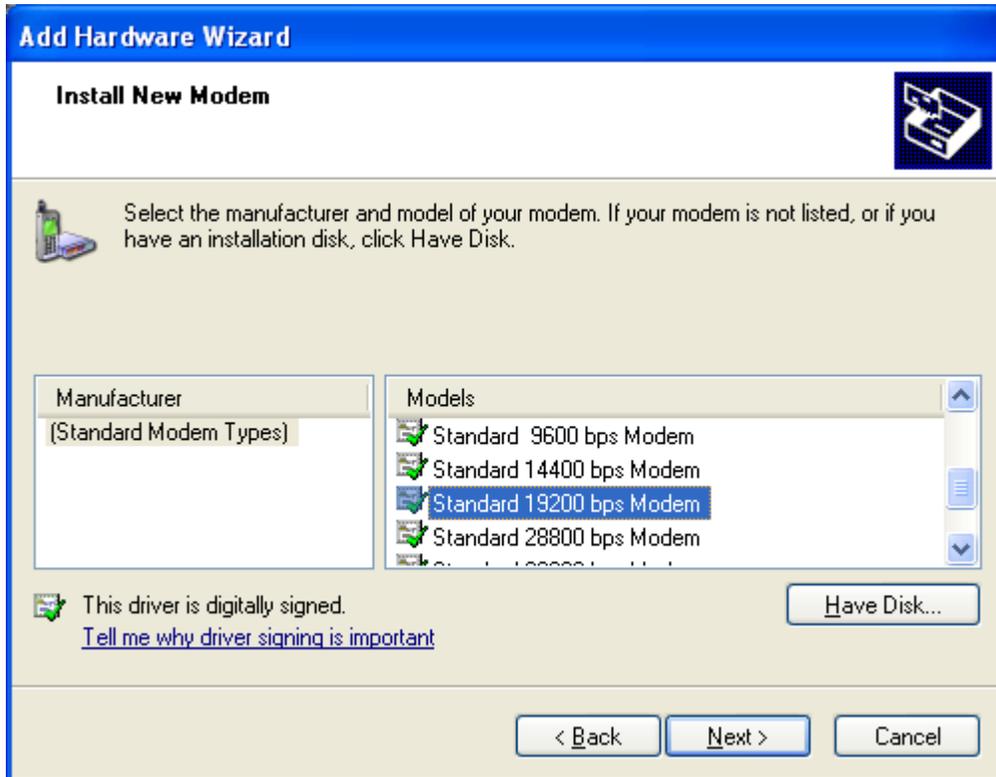The **Phone and Modem Option** window appears.
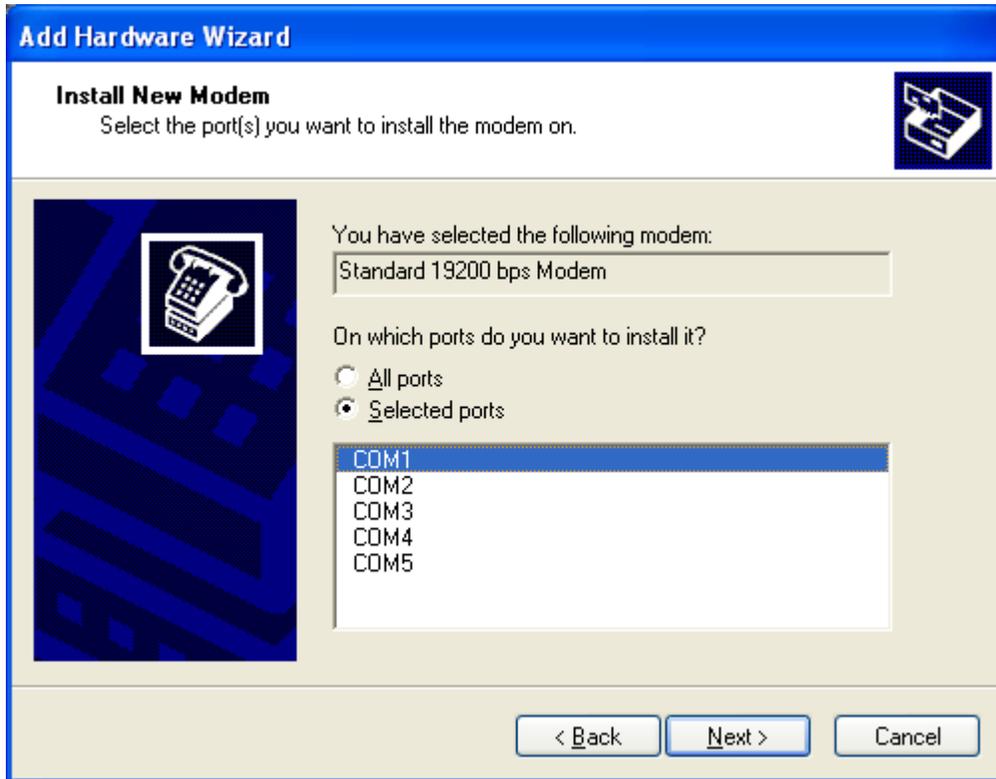
Click the **Modems** tab and then click **Add**.

The **Add Hardware Wizard** is launched. Click **Don't detect my modem; I will select it from a list**. Click **Next**.

Select **Standard Modem Types** in the left window and **Standard 19200 bps Modem** in the right window. Click **Next**.

Select the appropriate COM port to which you are going to connect the Iridium modem (for example: COM1). Click **Next.**
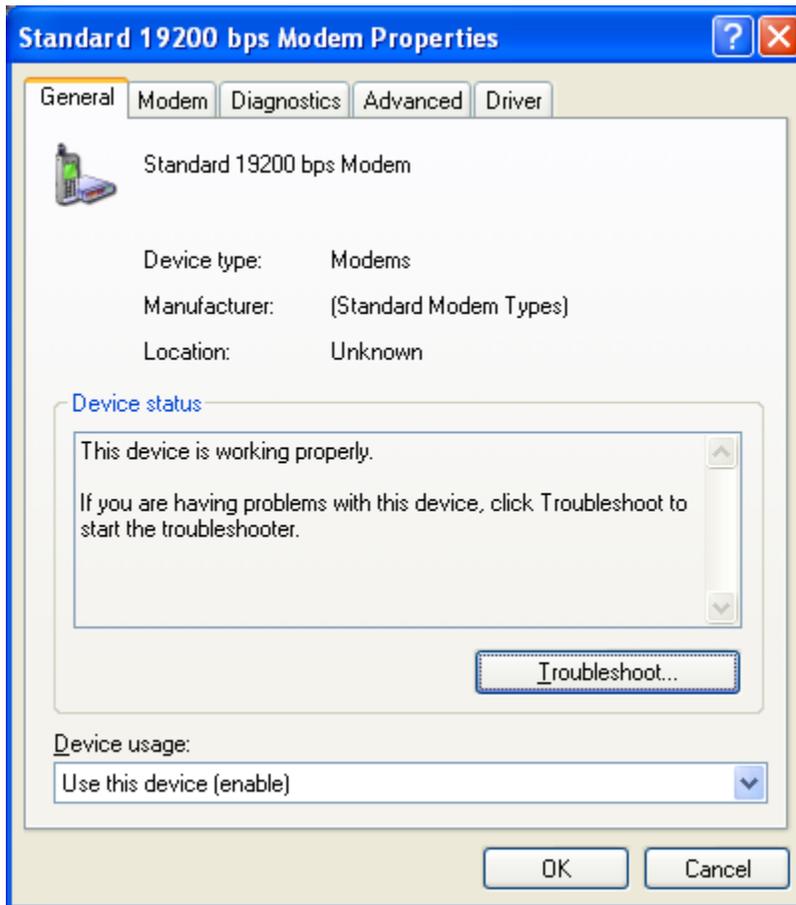
You will get a screen informing you to wait until Windows has installed the modem. The following screen then appears if everything worked. Click **Finish**.
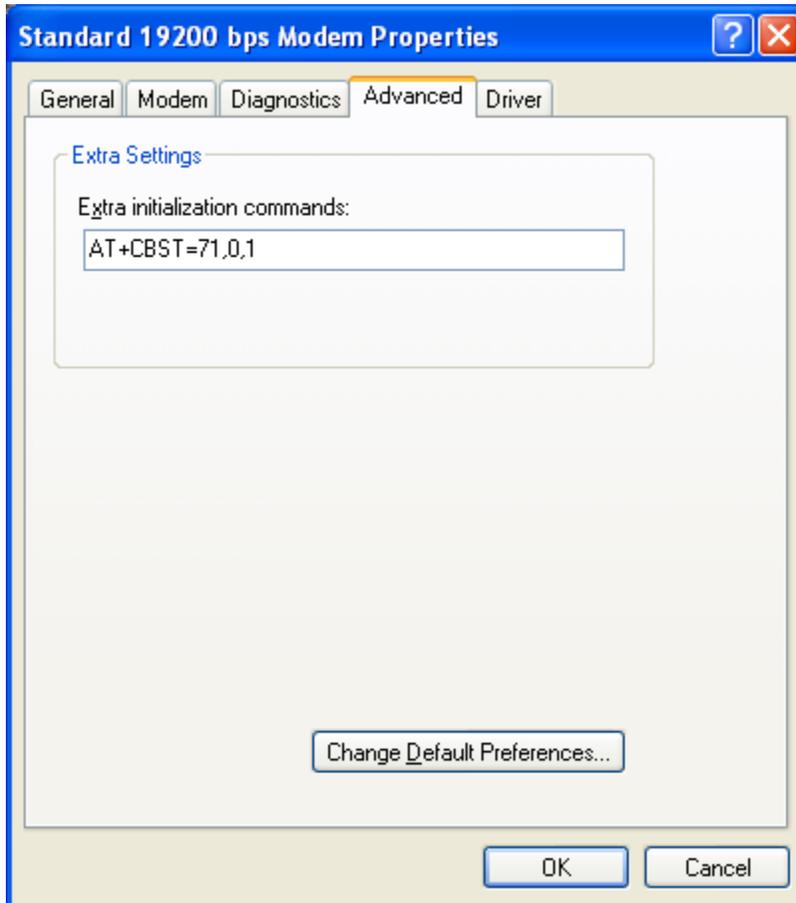
Automatically you will return to **Phone and Modem Options** window then select the modem on the **Modems** tab and click **Properties**.
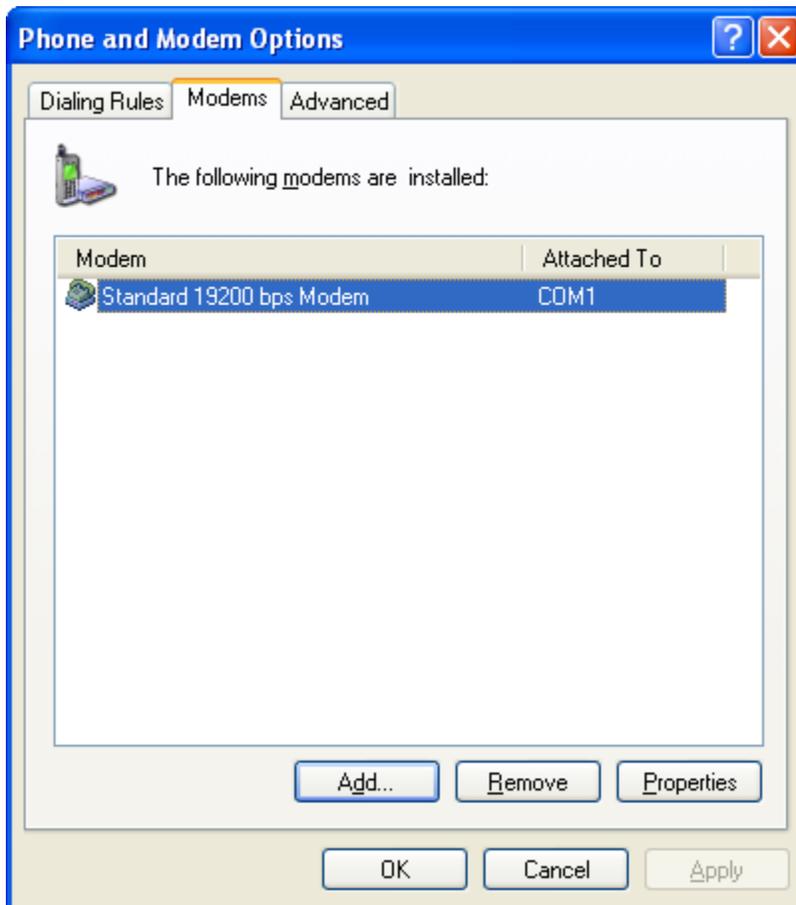
Modem Properties window appears.

Click the **Advanced** tab. Enter the string **AT+CBST=71,0,1** in the **Extra initialization commands** box.

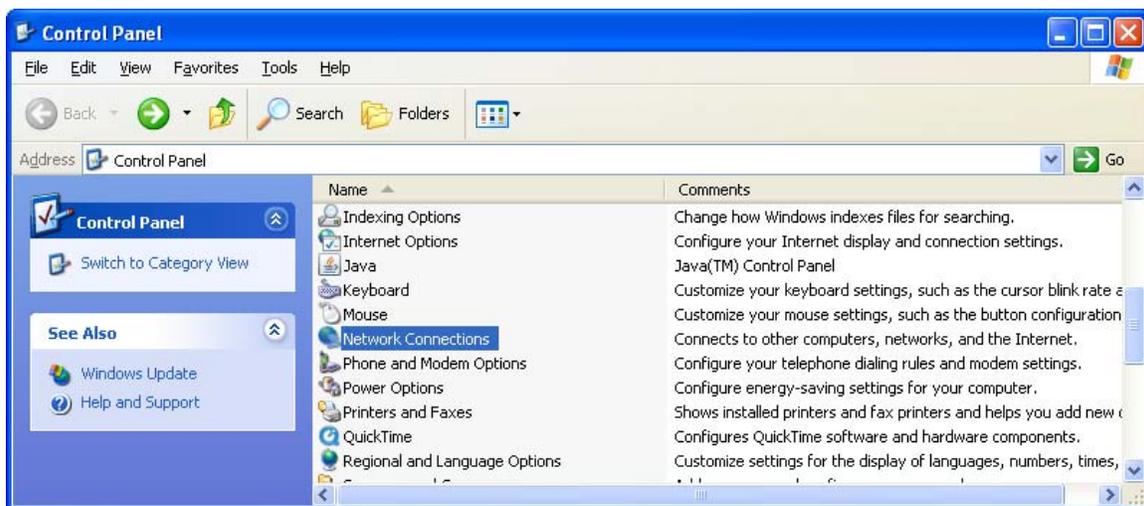Click **OK** and close the **Phone and Modem Options** window.

If you have difficulty operating the modem clear the modem by turning on and off a few times.

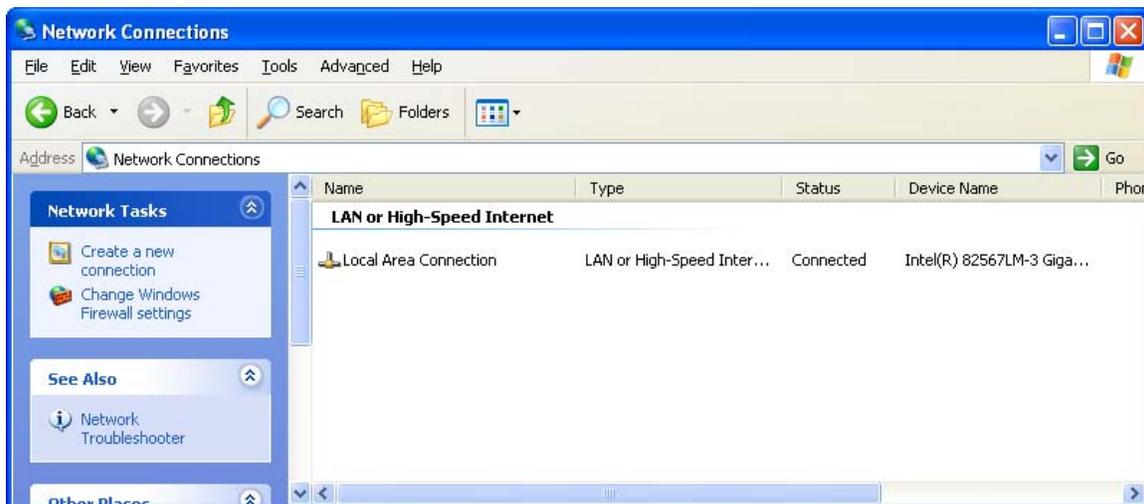### Step 11: Creating Iridium Mailer Network connections

Press the Windows **Start** button to bring up the start menu and select **Control Panel**.

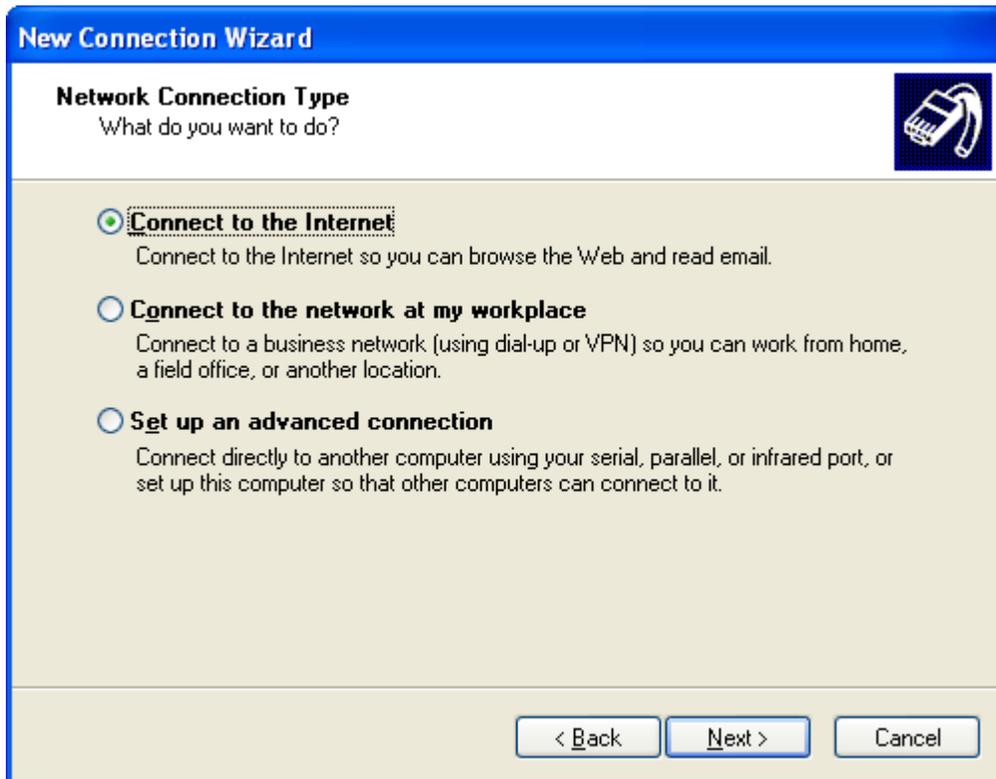At the **Control Panel** window select **Network Connections**.

At the **Network Connections** screen in the left panel click **Create a new connection**.

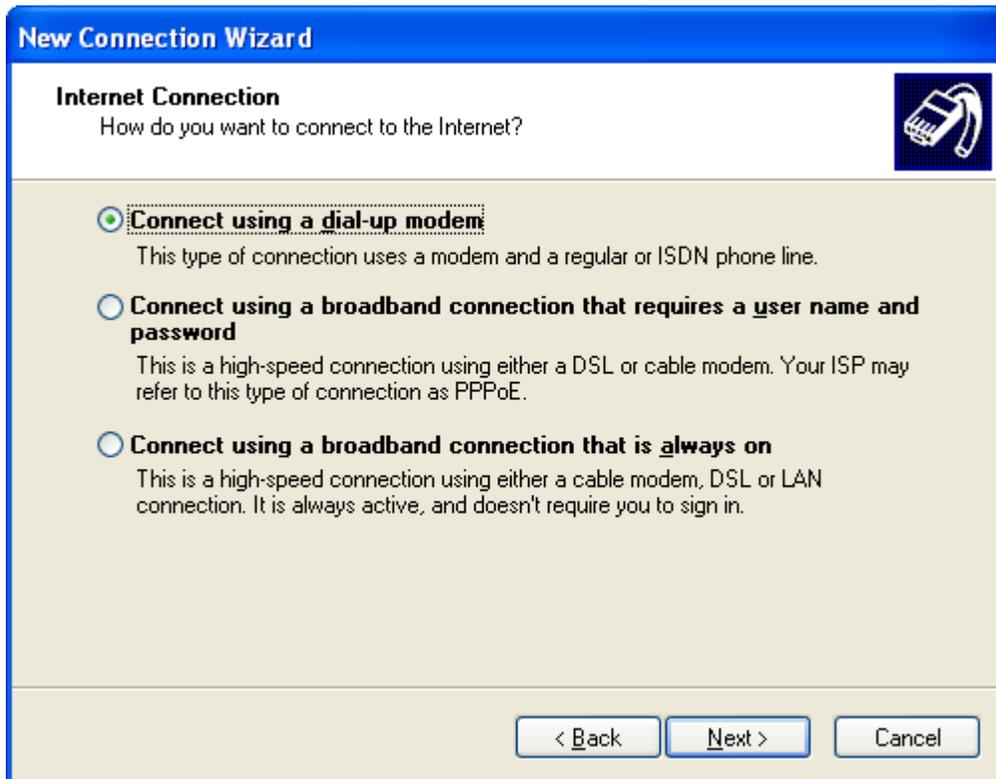The **New Connection Wizard** is launched. Click **Next**.

Click the radio button labeled **Connect to the Internet**. Click **Next**.

Click the radio button labeled **Set up my connection manually**. Click **Next**.

Click the radio button labeled **Connect using a dial-up modem**. Click **Next**.

Enter **Iridium** as the **ISP name** box. Click **Next**.

Enter the Iridium phone number **008816000023** in the **Phone number box**. Click **Next**.
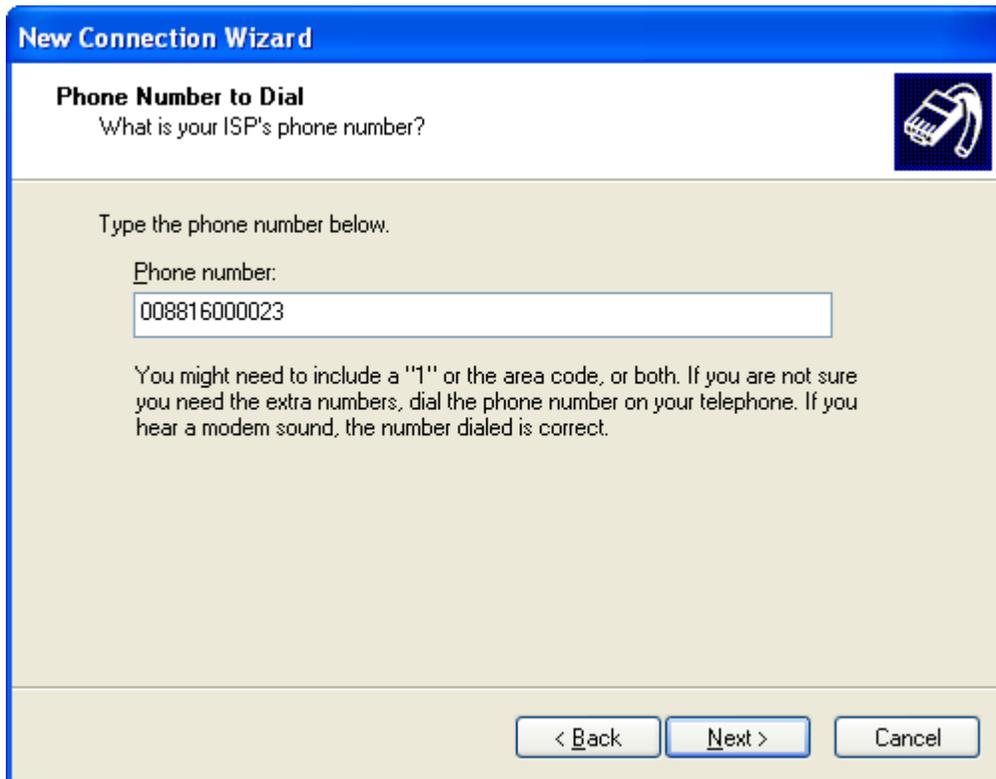
New Connection Wizard

Phone Number to Dial
What is your ISP's phone number?

Type the phone number below.

Phone number:

008816000023

You might need to include a "1" or the area code, or both. If you are not sure
you need the extra numbers, dial the phone number on your telephone. If you
hear a modem sound, the number dialed is correct.

< Back   Next >   Cancel

Click the radio button labeled **Anyone's use**. Click **Next**.
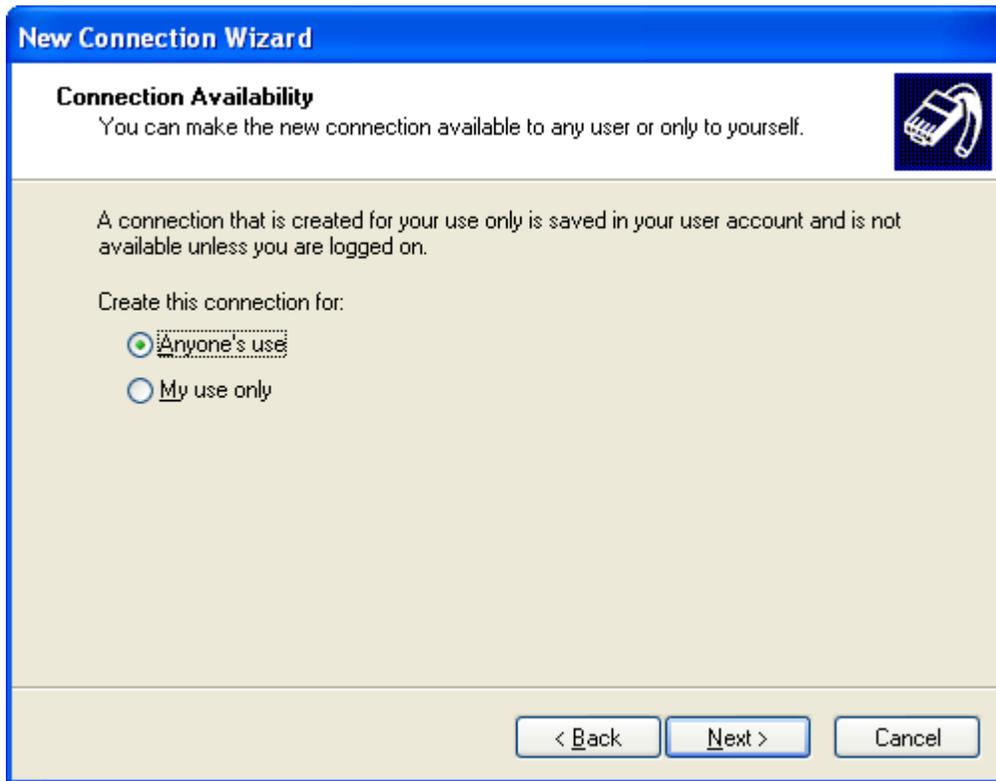
Leave **User name** and **Password** fields blank. Click **Next**.

The new connection is complete. Click **Finish**.

The **Connect Iridium** window should appear. Click **Properties**.

The window **Iridium Properties** appears. Click the **Networking** tab.
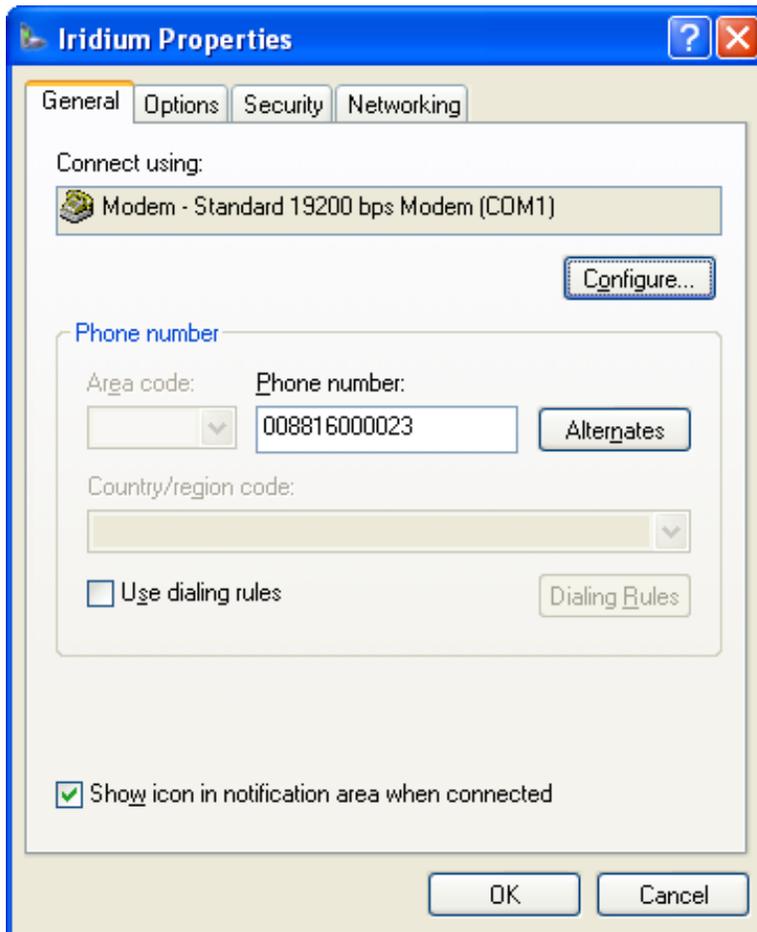
Make sure only **Internet Protocol** and **QoS Packet Scheduler** is checked.
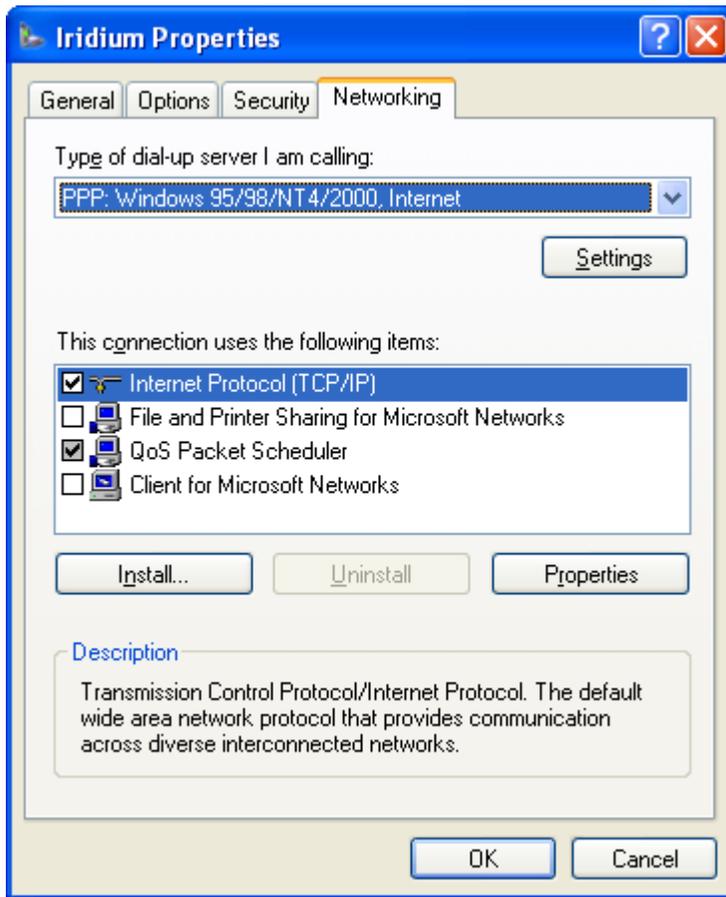
Click **Settings** and uncheck **Enable software compression**. Click **OK**.
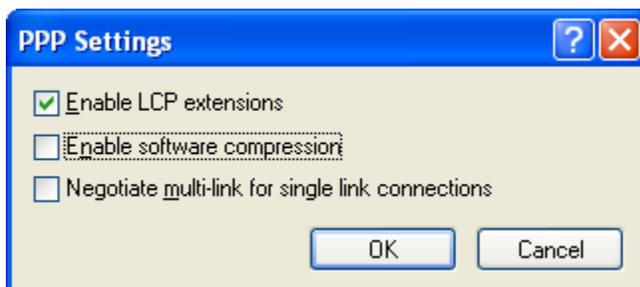
You will return to the **Iridium Properties** window.

Click the **Options** tab. Make sure check boxes are checked as shown below.
Redial **MUST** be turned OFF! **Or else we will pay too much money!**
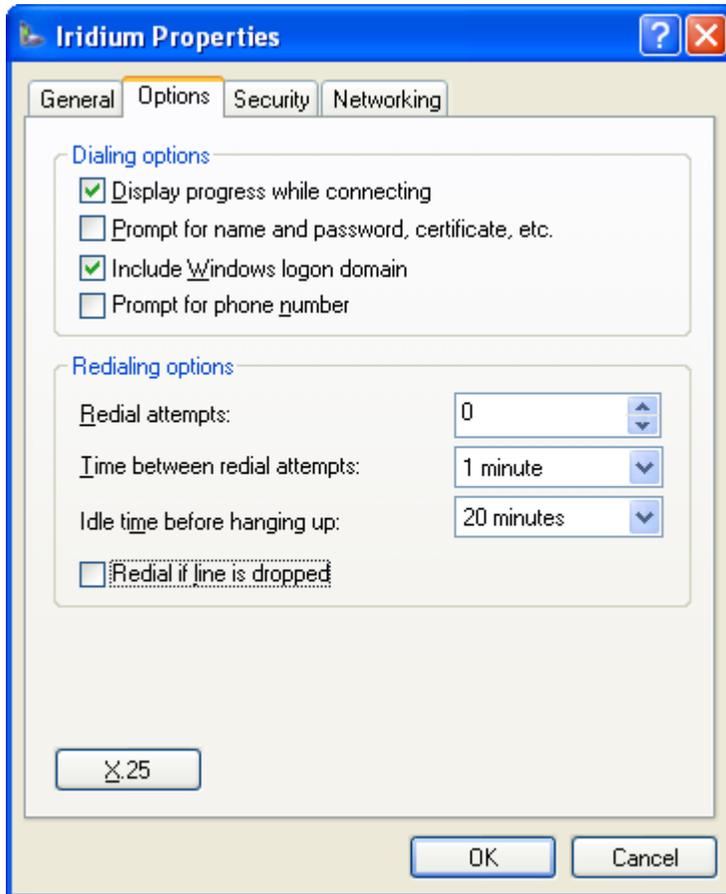
Click **OK** and close the **Network Connections** window.

Step 12: Installing Iridium Mailer Service

While **Iridium** is the name of this Mailer Service, this service is an SMTP service that can configure an Internet connection via Iridium modem or LAN connection. Once installed this service will restart automatically on reboot.

Insure that the **Iridium.exe** is found in the path **C:\Program Files\AMVERSEAS**.

Open a DOS window pressing the Windows **Start** button to bring up the start menu and select **Run**.

The **Run** window appears.
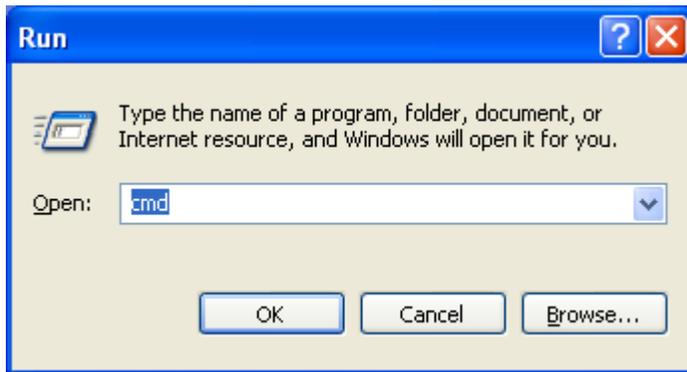
Type **cmd** and click **OK**. This will get you to a command prompt.

The command to be typed into the DOS window is:

Iridium.exe –i, if transmitting using Iridium Modem.
Iridium.exe –i -lan, if transmitting using computer Internet connection.

In the **C:\Program Files\AMVERSEAS**.
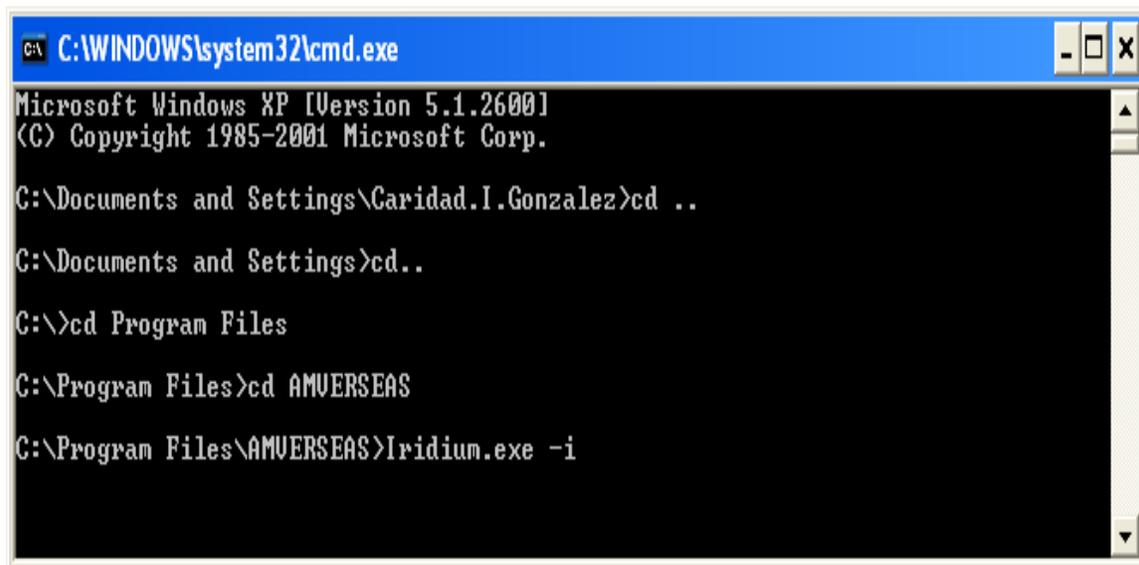
Executing this command installs the e-mailer as a Windows service. The command will create the directory path **C:\Program Files\AMVERSEAS\Iridium\bin** and copy the executable to that location.
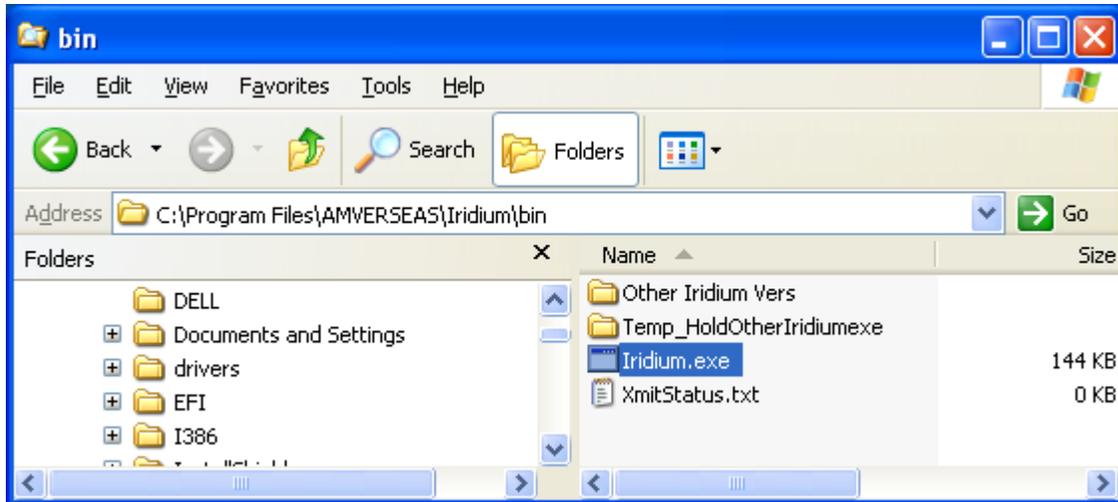
Please be sure that you see
C:\Program Files\AMVERSEAS\Iridium\bin\Iridium.exe.

If no, run **Iridium.exe -u** to uninstall and then reinstall by retyping the command. **Iridium.exe -i** or the **Iridium.exe -i -lan** as specified above.

Step 13: Checking if only one Iridium Mailer Service is up

Only one Iridium Mailer Service is permitted to run, check it.

Press the Windows **Start** button to bring up the start menu and select **Control Panel**.

At the **Control Panel** window select **Administrative Tools**.
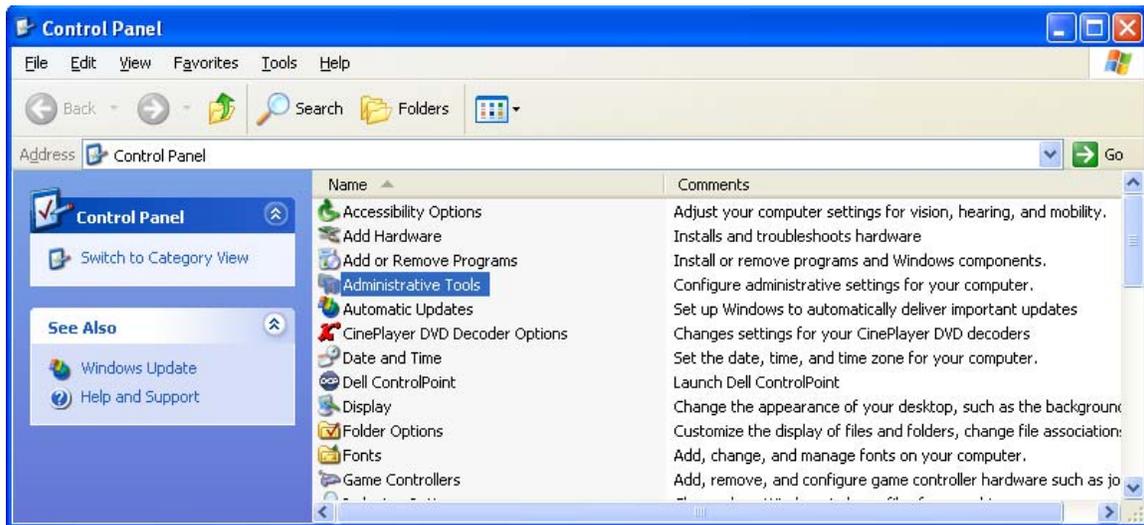
At the **Administrative Tools** screen select **Services**.
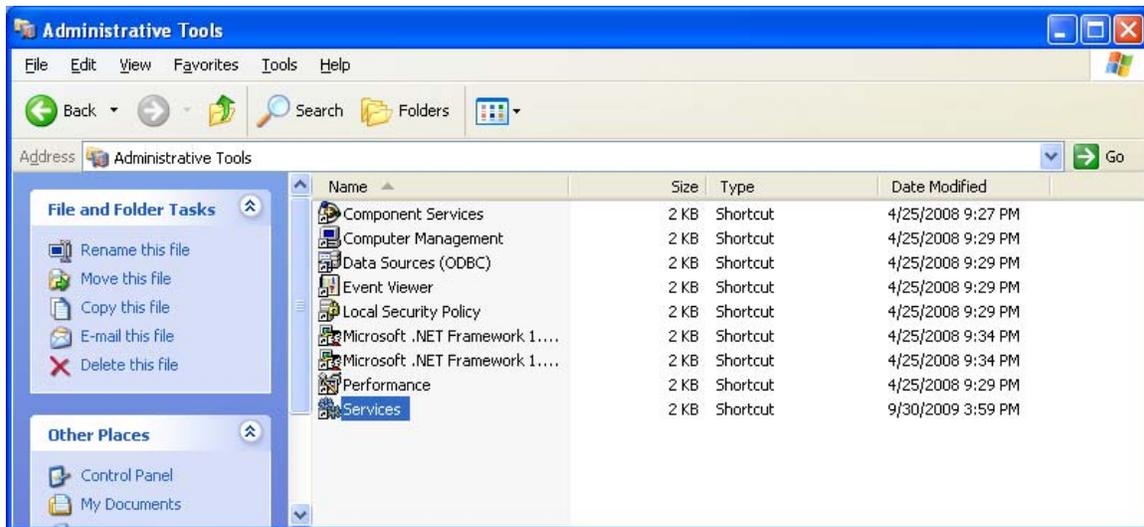
The **Service** window appears.
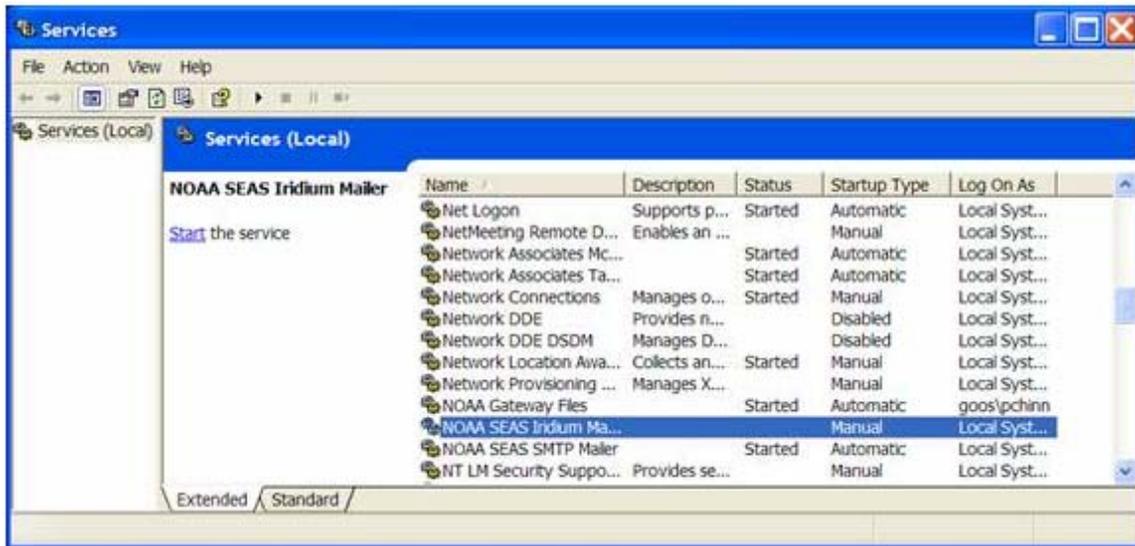
Be sure that only one Iridium Mailer Service is up.

Step 14: Starting Iridium Mailer Service to run automatically

Press the Windows **Start** button to bring up the start menu and select **Control Panel**.

At the **Control Panel** window select **Administrative Tools**.

At the **Administrative Tools screen** select **Services**.

The **Service** window appears. Double-Click the service **NOAA Iridium Mailer**.

The **Iridium Mailer Properties** appears.

Change the **Startup type** to **Automatic**. Click **Start** button. The Service will now monitor the directory **C:\Program Files\AMVERSEAS\Iridium\queue** once per minute and send any deliverable files through e-mail.

If the call does not complete, a retry will occur 6 minutes after the initial try and if there is another failure a retry will occur 11 minut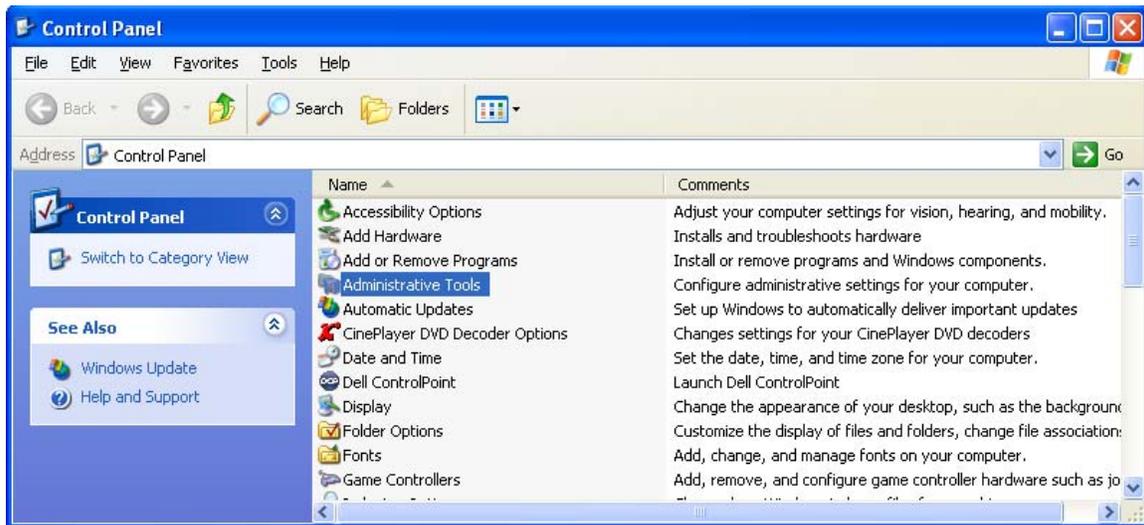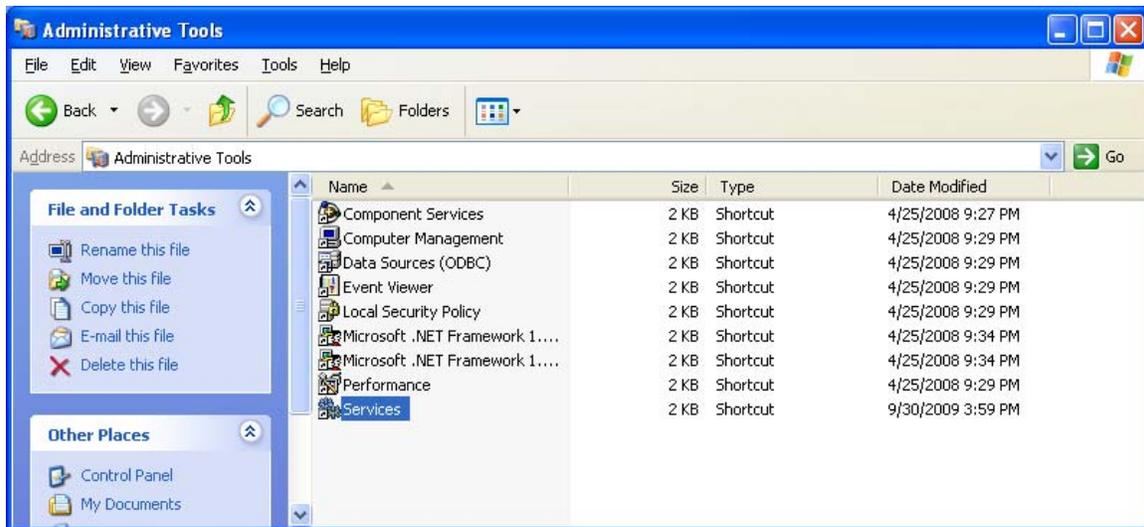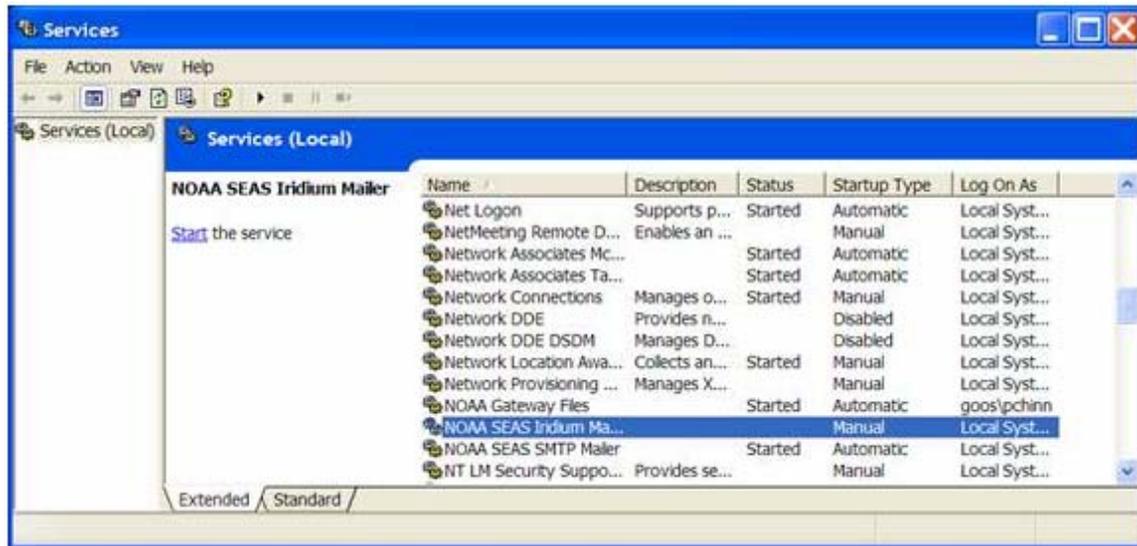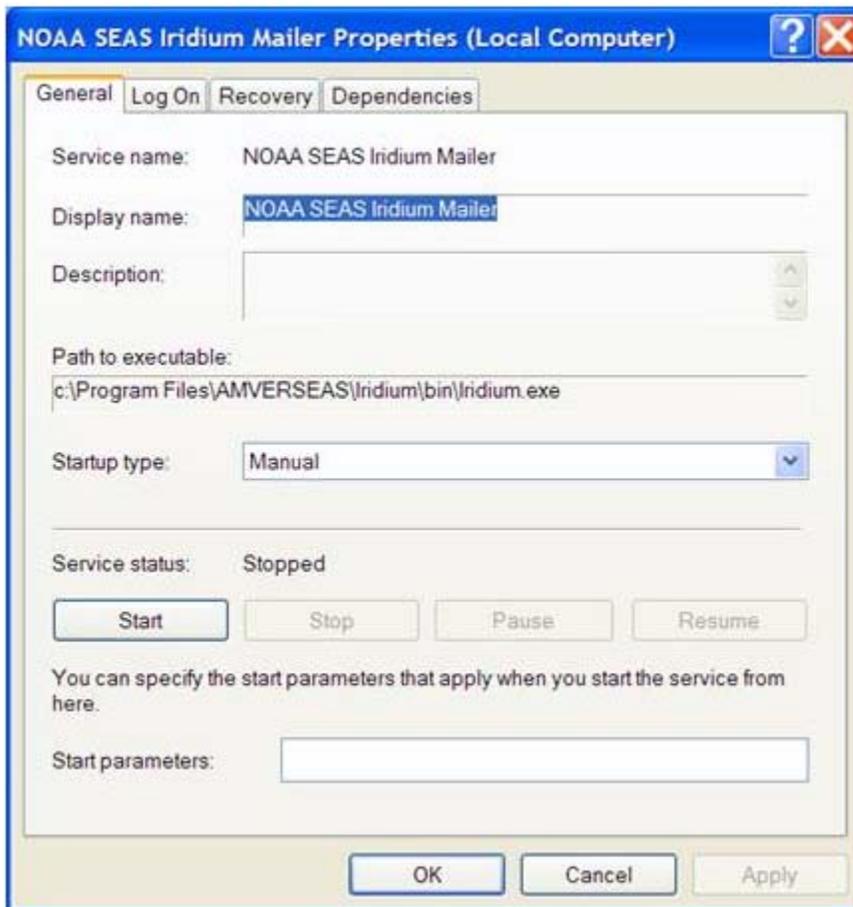es after the first retry. If the second retry fails, there will be a 12-hour wait before another attempt unless the service is restarted.

 In order stop this service double click on service to **Stop**. This will need to be done if the **AMVERSEAS** folder is moved or renamed. Please restart service when ready.

Customizing Installations

After you have installed the AMVER-SEAS application, it is wise to perform a simple startup test to validate that there are no major problems. You can also customize your installation by setup the AMVER-SEAS components, performance hardware test and downloading some software that can help you on the debug process. We recommend following test, and software:

- Check applications' setup of:
    1. TimeServer
    2. Thrane & Thrane Transceiver
    3. AutoIMET
    4. XBT
    5. TSG
- Test MK21 with Hand Launcher -performance a drop.
- Test Iridium transmission -if applicable.
- Test Thrane & Thrane transmission -if applicable.
- Check TSG Xmitter setup for correct transmission interval.
- Install back up(s) AMVER-SEAS software on the computer on the Desktop.
- Load NAL SatTerm software for Iridium computers Version 3.3.0.
- Load any software relevant to cruise.
- Load this and other manuals relevant to cruise.

Troubleshooting

1. If ever you need to remove AMVER-SEAS of the computer be sure that the Iridium Mailer Service is disabled or it will lock up your computer.

Setup of AMVER-SEAS computer for cruise check list

Step	Task	Check	Comments
1	Remove all anti virus software or fix port 25 exception.		
2	Install WinMK21.		
3	Install MK21 USB device driver.		
4	Install AMVER-SEAS.		
5	Check AMVER-SEAS and Iridium version for this ship setup. Look at ftp://ftp.aoml.noaa.gov/pub/phod/seas/Installs/Version info.xls.		
6	Set AMVER-SEAS Startup setup. Look at **Main Menu|Setup|Setup AmverSeas Configuration|Setup All – Enable/Disable**.		
7	Set appropriate transmission type. Look at **Main Menu|Setup|Transmission Type.**		
8	Test comports. (COM1, COM2, COM3, …)		
9	Uninstall previous Iridium application's version if any installed.		
10	Add Iridium modem (COM1).		
11	Create Iridium mailer network connection.		
12	Install Iridium Mailer Service.		
13	Iridium Service - Only 1 up.		
14	Start Iridium Mailer Service to run automatically.		
15	Check applications' setup: TimeServer Thrane & Thrane Transceiver AutoIMET XBT TSG		
16	Test MK21 with Hand Launcher -performance a drop.		
17	Test Iridium transmission -if applicable.		
18	Test Thrane & Thrane transmission -if applicable.		
19	Check TSG Xmitter setup for correct transmission interval.		
20	Install back up(s) AMVER-SEAS software on the computer on the Desktop.		
21	Load NAL SatTerm software for Iridium computers Version 3.3.0.		
22	Load any software relevant to cruise.		
23	Load any manuals relevant to cruise.		

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Notes: