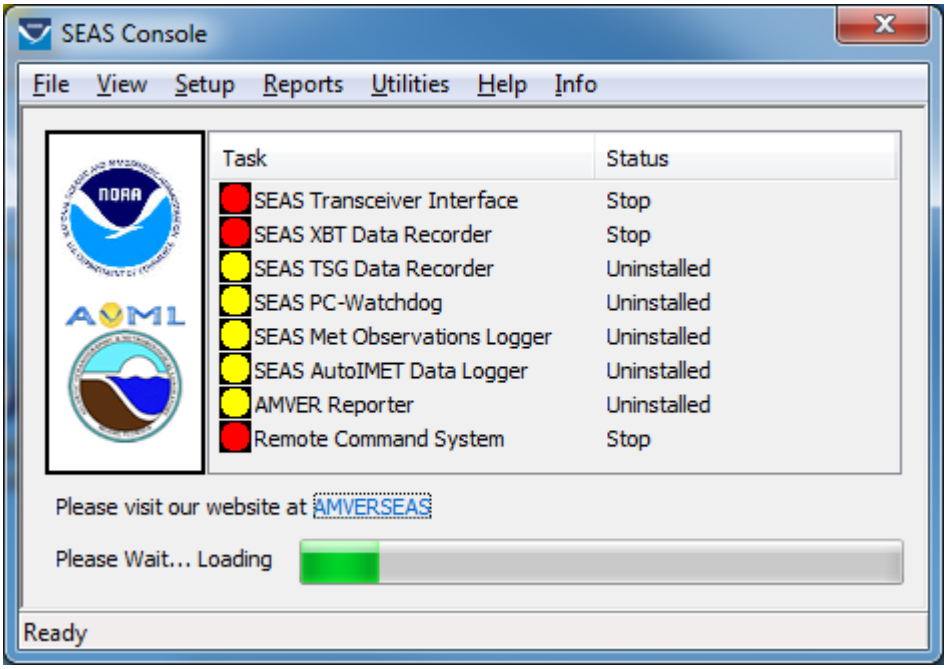
AMVERSEAS v 9.3 Setup Guide

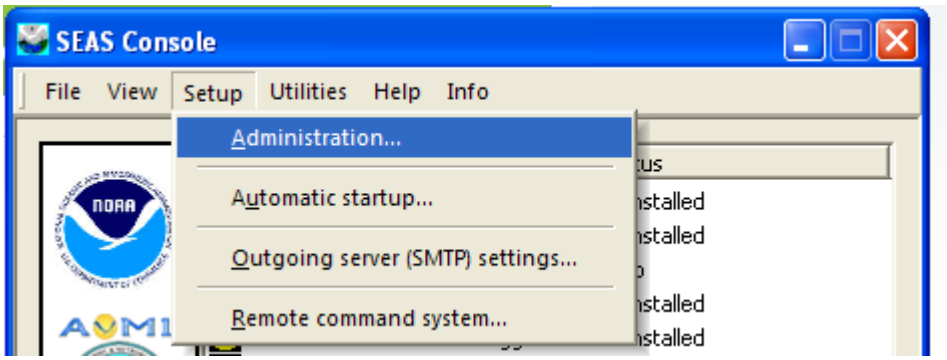
AMVERSEAS setup

Setting up SEAS Console

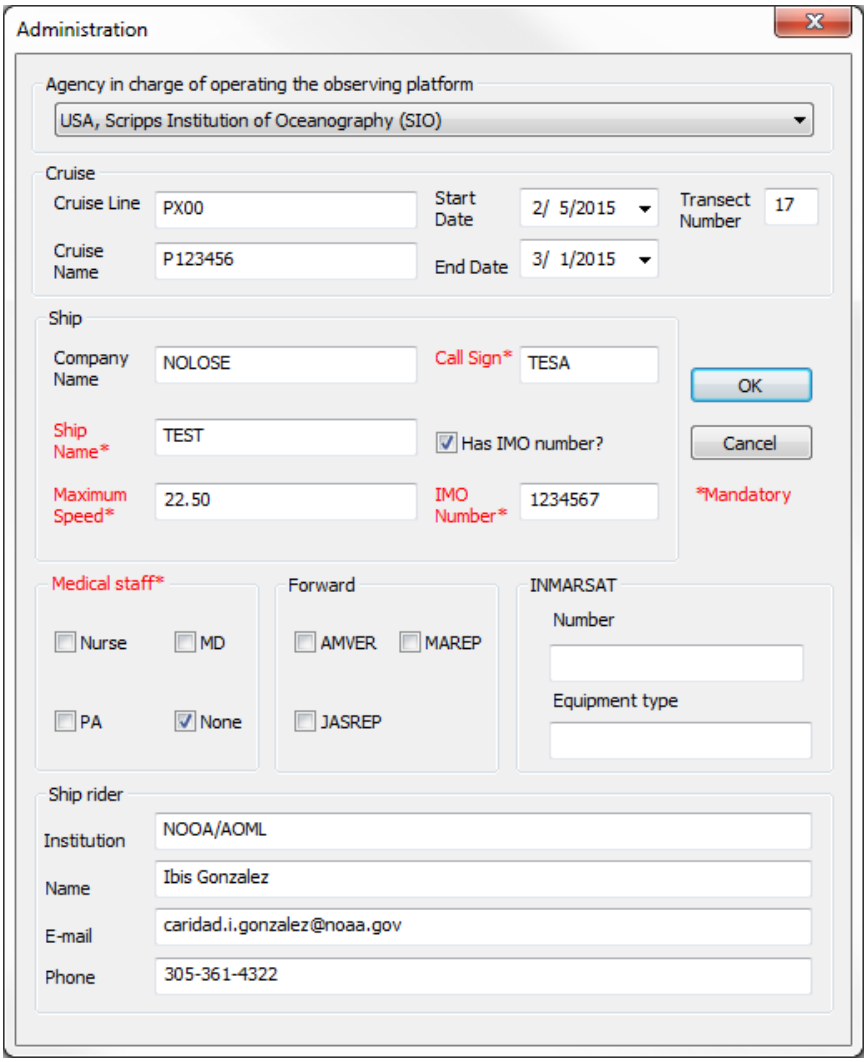
The SEAS Console is the interface to managing the AMVERSEAS applications' activities. It is a utility, where all the AMVERSEAS applications management functions are found.



Use the command **Main menu|Setup|Administration** to manage the AMVERSEAS administration information.



When the **Administration** dialog comes up, it allows the user insert the necessary administrative information for AMVERSEAS applications' operation. To use it, the user can edit the fields and click **OK.** Remember, red-labeled fields are mandatory.



Cruise group:

Line number is indicating the line number (e.g. AX10, AX8).

Date is indicating the cruise's date.

Transect number is a consecutive number indicating transect.

Ship group:

Company Name is indicating the company's name.

Ship Name is indicating the ship's name.

Call Sign is indicating the ship's call sign.

IMO Number is indicating the ship's IMO number.

Maximum speed is indicating the maximum ship's speed.

Medical staff group: Used to report the medical capability aboard the vessel during the voyage. It is important to accurately report your vessel's medical resources **EVERY VOYAGE**.

None if no medically trained personnel are aboard.

Nurse if a trained nurse is aboard.

PA if a physician's assistant or paramedic is aboard.

MD if a medical doctor or physician is aboard.

Forward group: Used to request relay of the AMVER report to certain other ship reporting systems.

INMARSAT group: Used to provide information on the best way to contact the vessel quickly.

Technician group:

Name is indicating the technician's name.

Email is indicating the technician's email address.

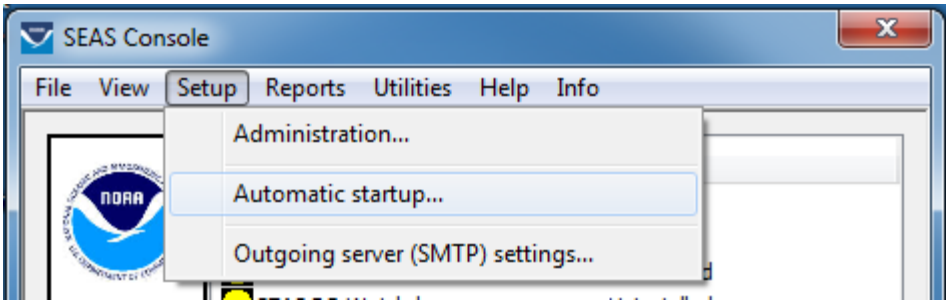
Phone is indicating the technician's phone number.

Alternate Name is indicating the alternate technician's name.

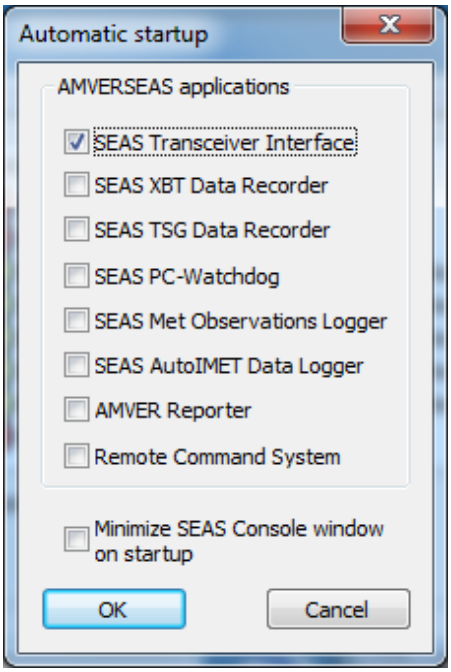
Alternate Email is indicating the alternate technician's email address.

Alternate Phone is indicating the alternate technician's phone number.

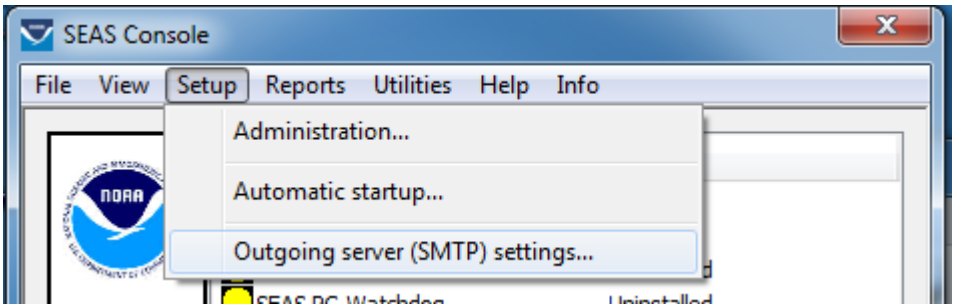
To define which application has to be started automatically use the command **Setup|Automatic startup**



Once the **Automatic startup** window appears select/unselect the applications that SEAS Console has to startup automatically. Also the user cans choice if the SEAS Console window will be minimized or not after it starts.

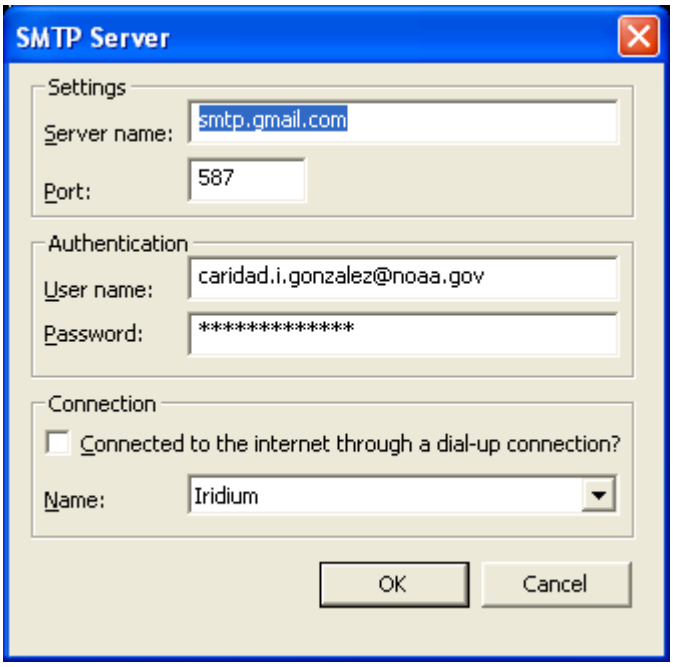


Use the command **Main menu|Setup|Outgoing server (SMTP) settings** to manage the AMVERSEAS SMTP server information.



The SMTP (short for Simple Mail Transfer Protocol) works like a post assistant, handling the sending of emails from an email client to an email server. It receives outgoing mail messages from users and routes them to the mail recipients they are intended for.

Once the dialog **SMTP Server** appears the user can configure the SMTP server.

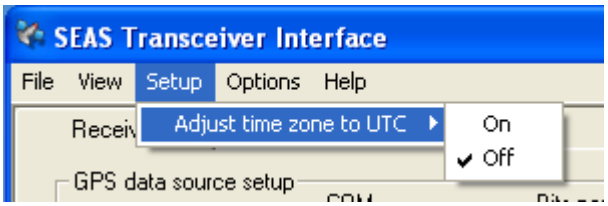


Setting up SEAS Transceiver Interface

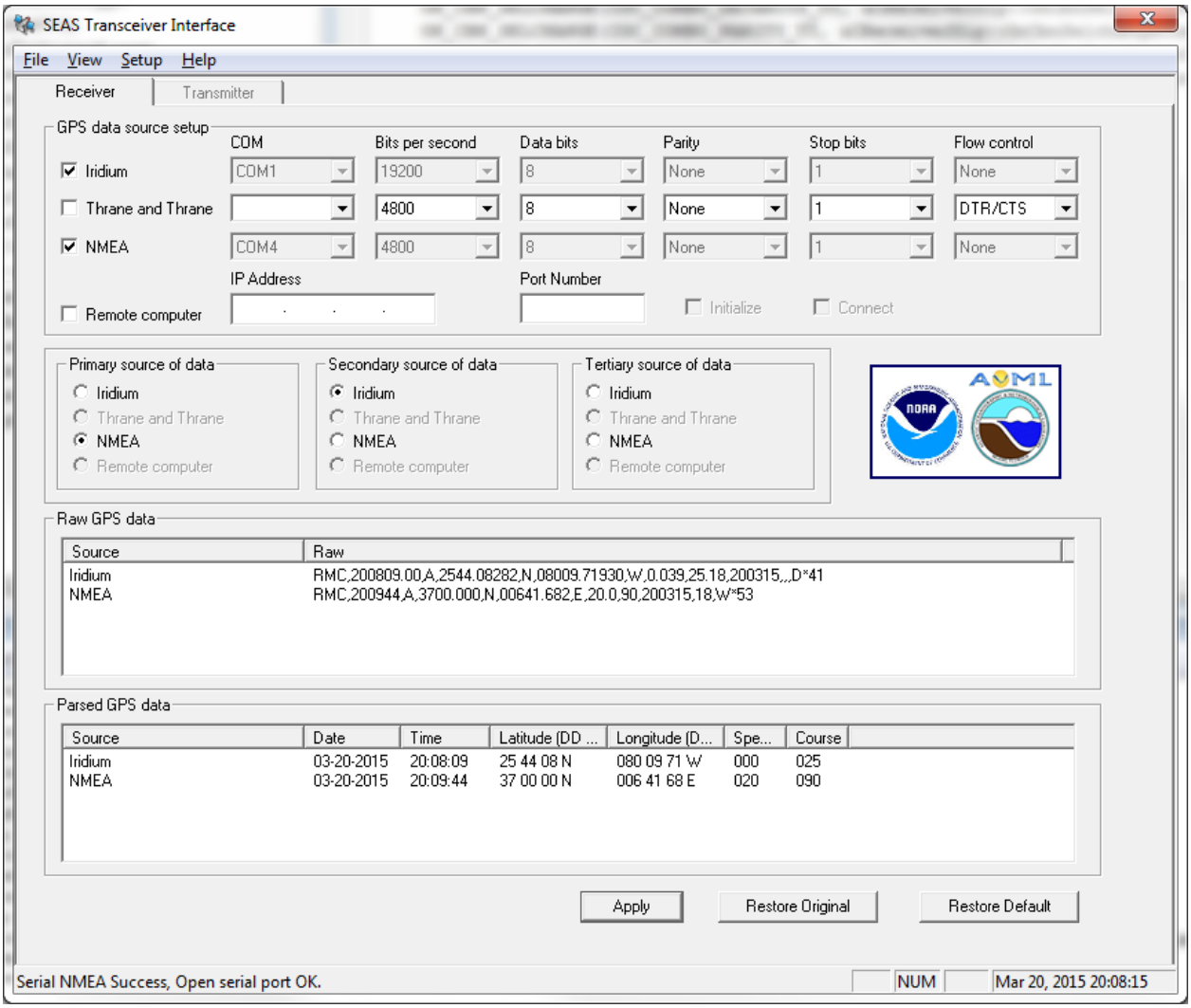
The SEAS Transceiver Interface is a real time application that combines reception of GPS data and transmission of recollected data over several devices. The application reads time,

position, velocity, and course heading, and puts all of this information in a shared memory to be used for other applications; this information is given out in encoded format. This is the called "**Receiver**". Also SEAS Transceiver Interface provides a reliable transmission of the collected data via satellite. It transmits binary reports out the serial port to the transceiver unit, or via internet to an ftp site. The work is transparent to the user, and can be used for verification of the transmission. This is the called "**Transmitter**".

Use the command **Main menu|Setup|Adjust time zone to UTC|On** or **Off** to activate or deactivate the automatic setting to UTC time zone.



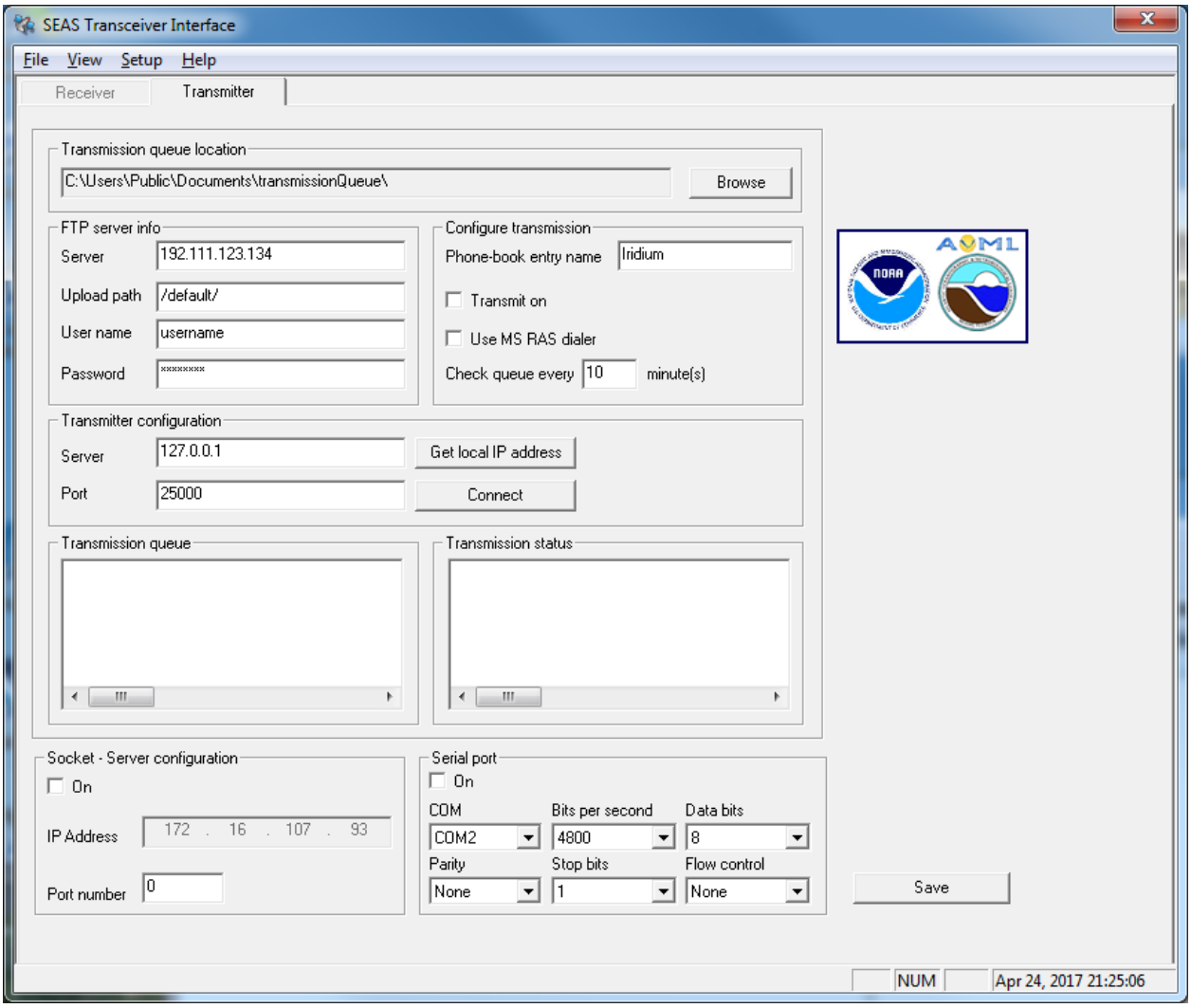
Receiver settings



The Receiver tab allows set the configuration from the serial ports of each supported device selecting the **COM** port, the **Bit per second**, the **Data bits**, the **Parity**, and the **Flow control**. Setting the checkboxes the user set the read data option as enabled.

Under the **source of data** groups the Receiver allows set the primary, secondary or tertiary source of collected data when a radio button is selected, at least one has to be selected.

Transceiver settings



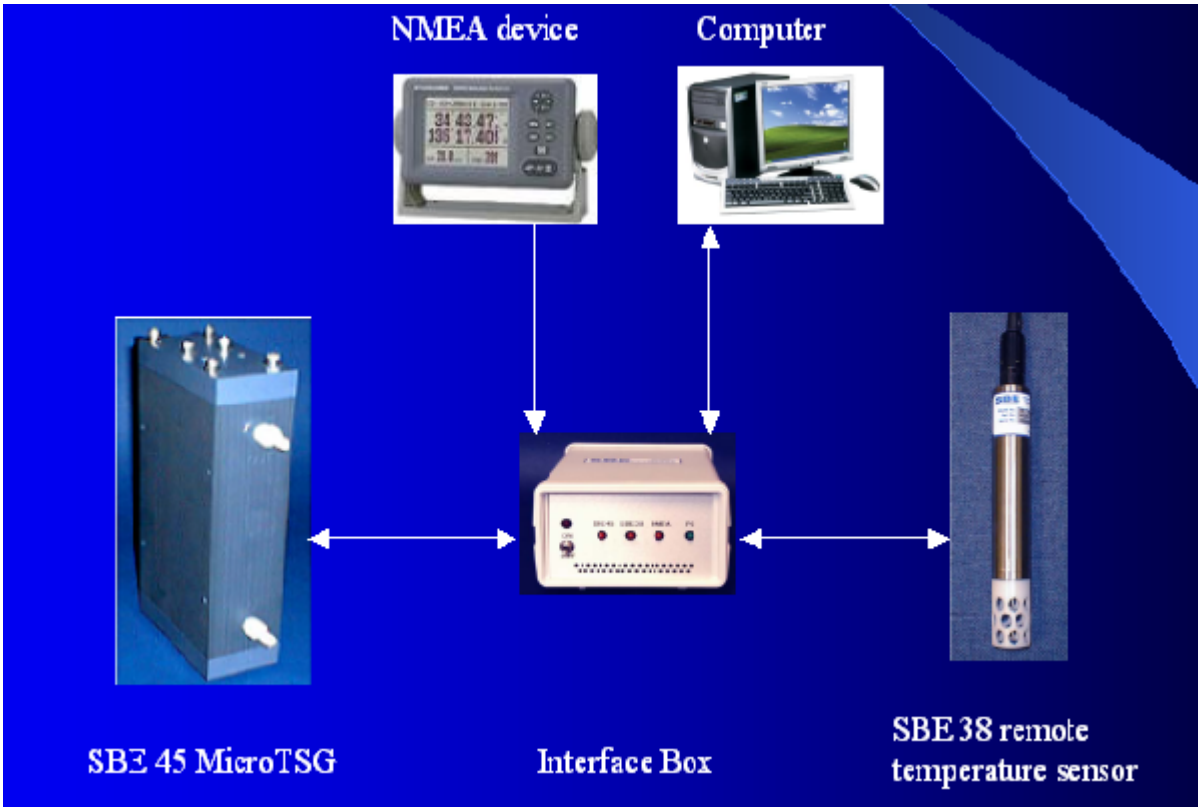
If you want to use Iridium to transmit, which decreases the transmission costs, check the box **Transmit on** to run the IridiumFTP program. This program is a minimal FTP program that performs binary uploads via a TCP/IP connection. Aside from a regular Ethernet connection, the program can use the Windows RAS dialer to establish a dialup connection. If a disconnection occurs in the middle of an upload, the program can resume where it left off the next time it connects.

The other options can be used simultaneously. They send a GPRMC sentence via socket and/or serial port to be used as source data for another system.

Don’t forget to press **Save** to save the changes.

Setting up SEAS TSG Data Recorder

Hardware installation

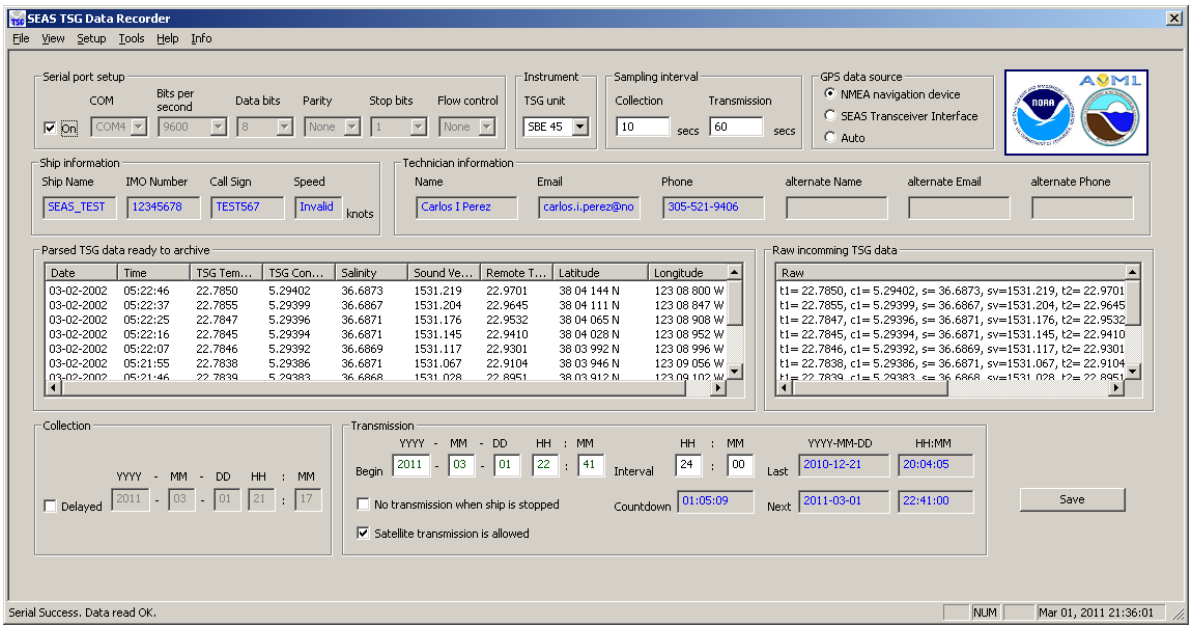


Hardware configuration

Before starting the SEAS TSG Data Recorder application the Interface Box, the SBE 45 MicroTSG, and the SBE 38 remote temperature sensor have to be connected and configured using the SEATERM software delivered with the equipment, or other program like HyperTerminal. Also it is possible using the options on **Main menu|Tools|Auto baud rate detection** and **Main menu|Tools|Set instruments default config**.

Software setup

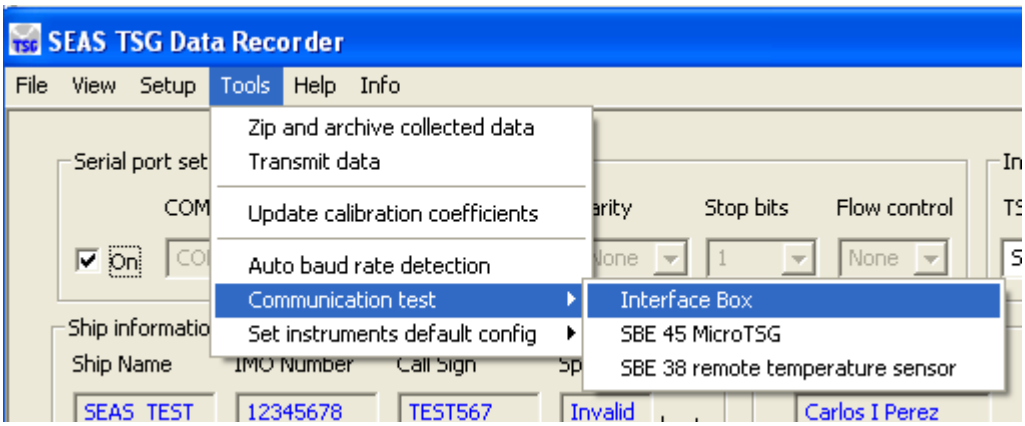
The SEAS TSG Data Recorder is a real time data acquisition, data processing, and data recording application that operates on vessels where there is a SBE 45 MicroTSG Thermosalinograph unit installed collecting TSG data.



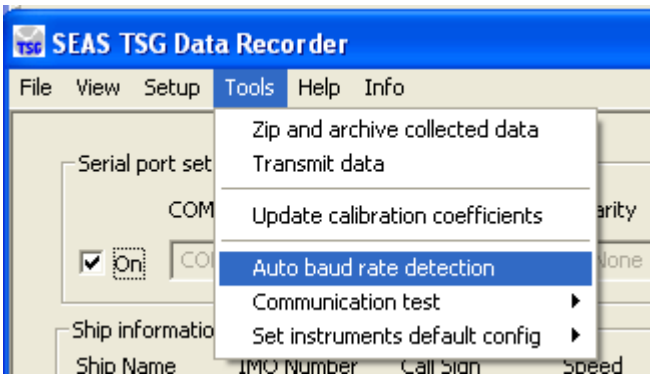
Step 1: Once the application is ready for deployment you have to setup the serial port and then check the box **ON**. The length of the cable and the baud rate are related, see hardware documentation for more information.

	SBE 45 MicroTSG
Baud rate	9600
Data bits	8
Parity	None
Stop bits	1
Flow Control	None

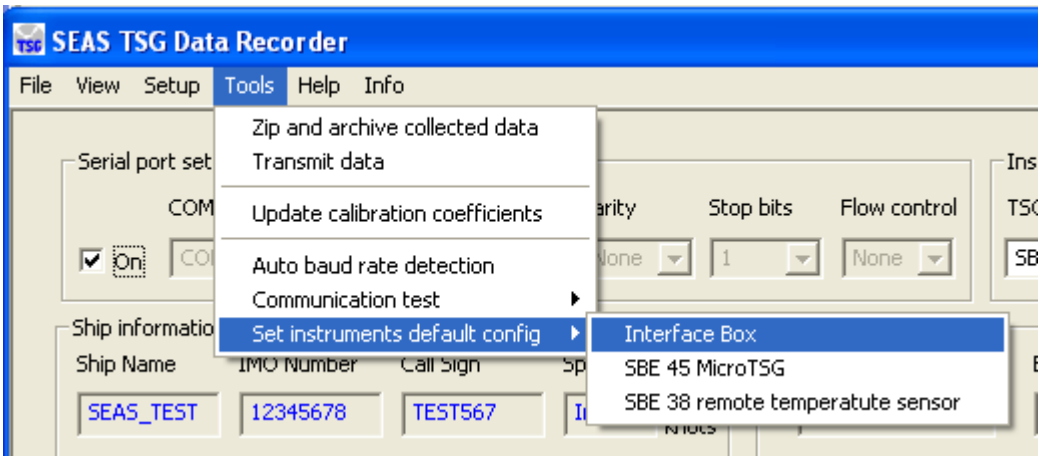
Step 2: Test if the application is able to communicate with the Interface Box by using the commands **Main menu|Tools|Communication test** that displays the configuration.



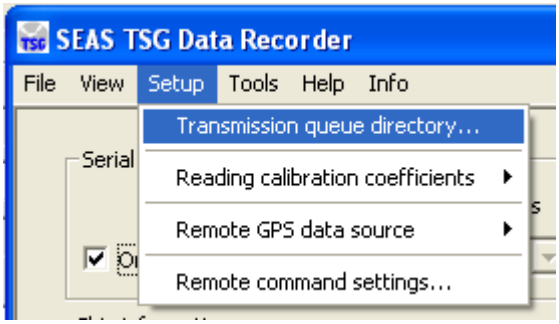
Step 3: If the application doesn't show the configuration means that it can't establish communication with the Interface Box then you have to change the baud rate using the command **Main menu|Tools|Auto baud rate detection** to change the baud rate in the SBE 45 and/or SBE 38 for compatibility with the Interface Box. To data acquisition AOML configures the baud rate between Interface Box and computer to 9600, and the baud rate between Interface Box and other instruments/devices to 4800. This automatic detection is useful for establishing communication between the instruments.



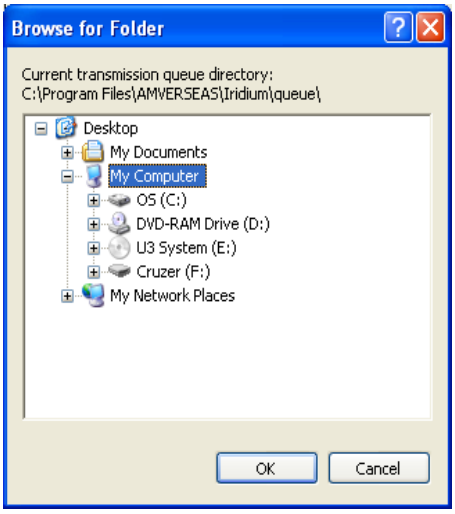
Step 4: Now you are almost ready to read the instruments default setup, and set them appropriately using the command **Main menu|Tools|Set instruments default config** for each of them.



Step 5: Under the **Main menu|Setup|Transmission queue directory…** select the transmission queue path



Use this command to select the transmission queue directory, where SEAS TSG Data Recorder will post the files ready to transmit. A **Browser for Folder** dialog appears that allows the user to select a folder.

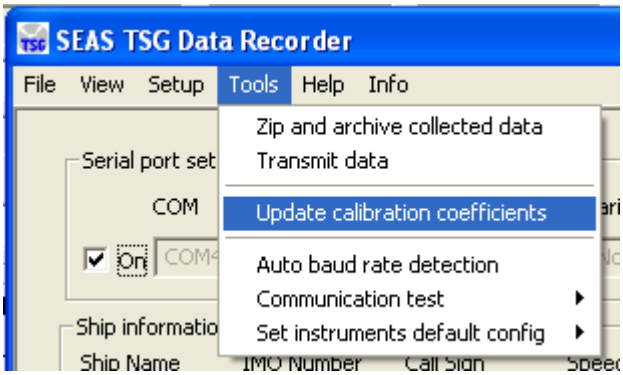


When this dialog box comes up, it displays the **Desktop** folder as the parent and all the other folders can be located from it. To use it, the user can click one of the folders or drives and click **OK**. If the desired folder is not seen but is available, the user can expand the existing folders and drives, click the desired folder, and click **OK**. If the necessary folder is not available at all, the user should first create the desired folder outside the application.

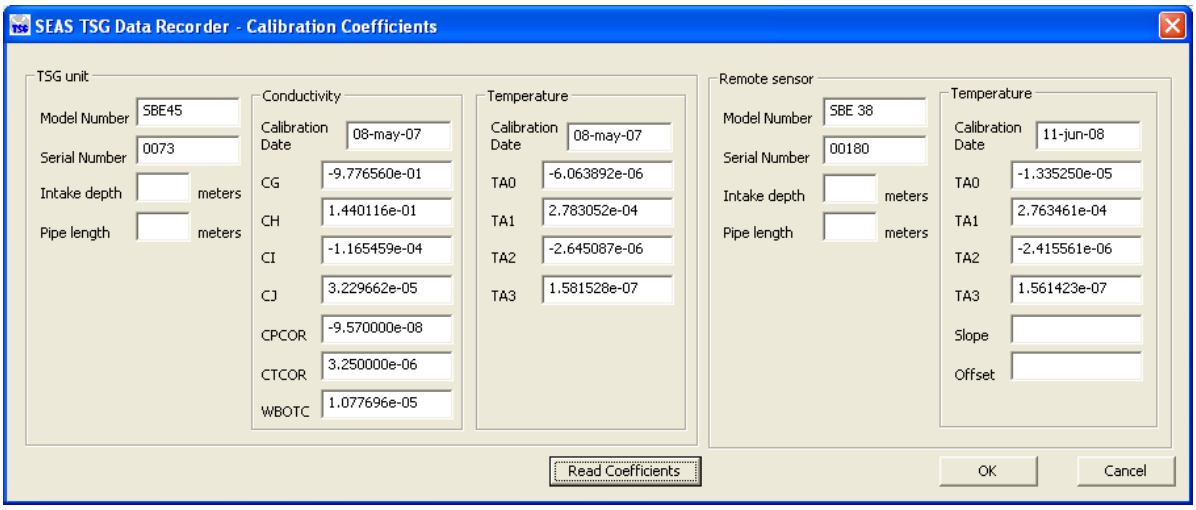
Step 6: Select how would you like to read the calibration coefficients using the command **Main menu|Setup|Reading calibration coefficients.** This command selects if the SEAS

TSG Data Recorder reads the calibration coefficients from the SBE 45 MicroTSG, and SBE 38 remote temperature sensor, and updates the GUI automatically or the user has to type them.

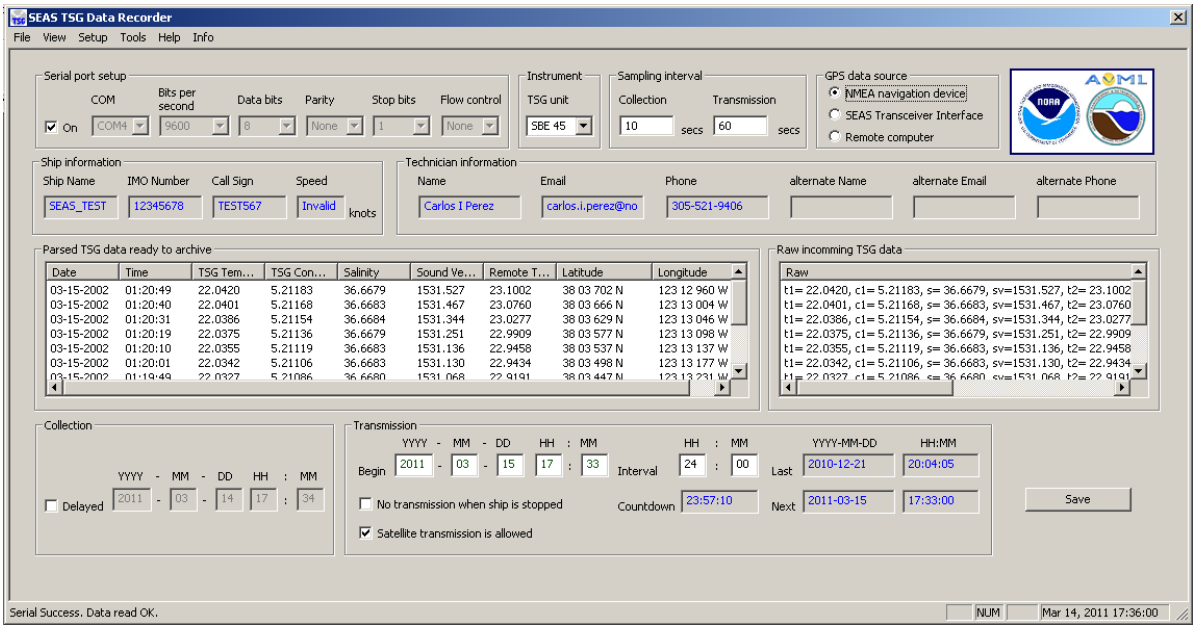
The calibration coefficients are very important metadata that have to be transmitted. Go to **Main menu|Tools|Update calibration coefficients** to ensure that the application knows the calibration coefficients that will be used as meta-data.



The Calibration Coefficients dialog appears. Click **Read Coefficients** button to update the information. Manually enter the missing information. To save it, click the **OK** button.



Step 6: Finish the setup by entering following settings in the main screen**.**



Instrument group: Chooses the used TSG unit (SBE 45).

Sampling interval group: Sets up the sampling interval.

Collection: Sampling interval in seconds between samples that the SEAS TSG Data Recorder takes and archives.

Transmission: Sampling interval in seconds between samples that the SEAS TSG Data Recorder takes and put ready to transmit.

GPS data source group: Selects the source to read the GPS data. It could be the connected NMEA device to the Interface Box, the SEAS Transceiver Interface application or a remote computer via socket.

Collection group: Sets up the collection process. The collection of data can be **Delayed** until a future time; this is when the collection of data will begin for transmission. This could be used if the user is in port and he/she knows when will be leaving later.

Transmission group: Sets the transmission process setup, and display information.

Begin: Sets the time to begin the transmission process.

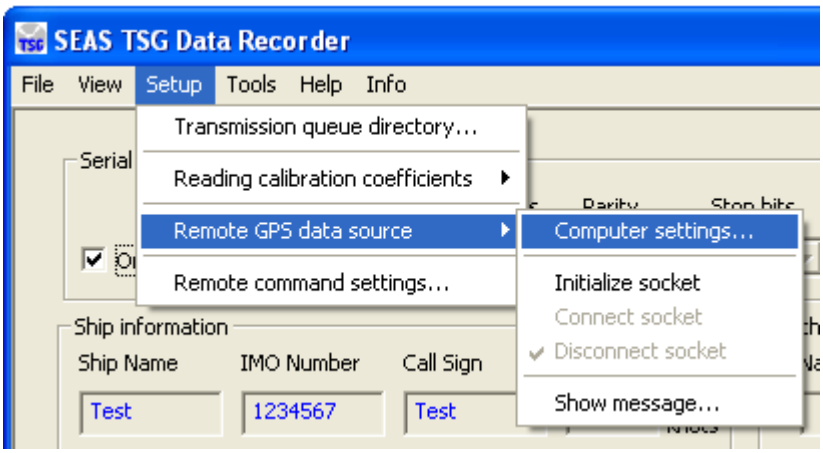
No transmission when ship is stopped: Chooses if the collected data to transmit will be transmitted when the ship is stopped (speed less than or equal to 1 knot) or not**.**

Satellite transmission is allowed: Starts or stops the task that copies the recorded data to the Iridium's queue for the real transmission via satellite.

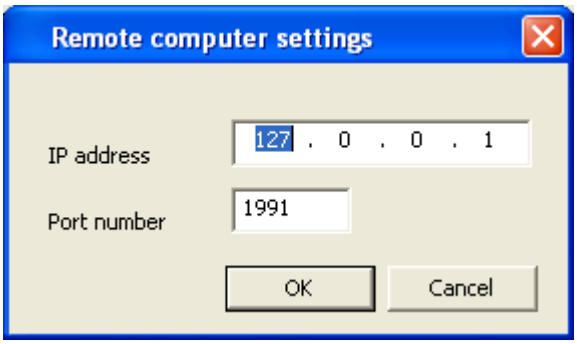
Interval: Sets the transmission lapse in which the data will be transmitted; it should be greater or equal 5 minutes, the time it takes to make the application initialization.

Don't forget to press the **Save** button to make active the new application configuration, and saves any configuration change into **TsgDataRecorder.ini** file.

If you want to read the GPS data from a remote computer you have to set the parameter using the command **Setup|Remote GPS data source|Computer settings.** Use this command to set the IP address, and the port number of the remote computer, which provides a GPRMC sentence.



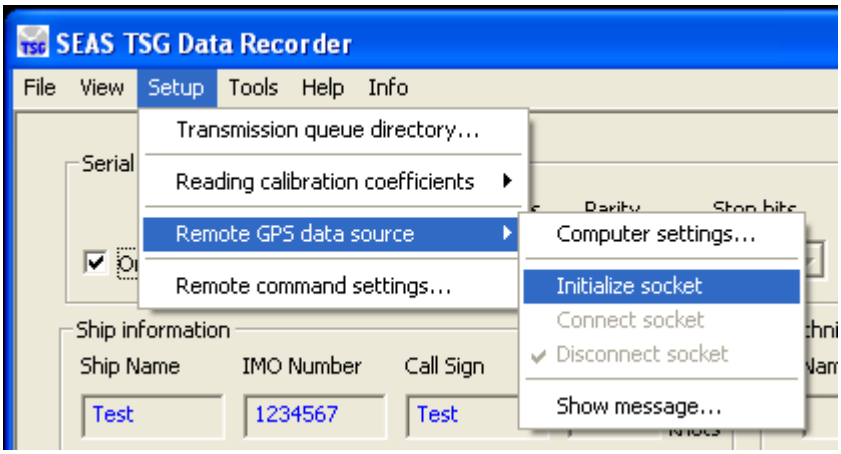
Once selected the window **Remote computer settings** appears.



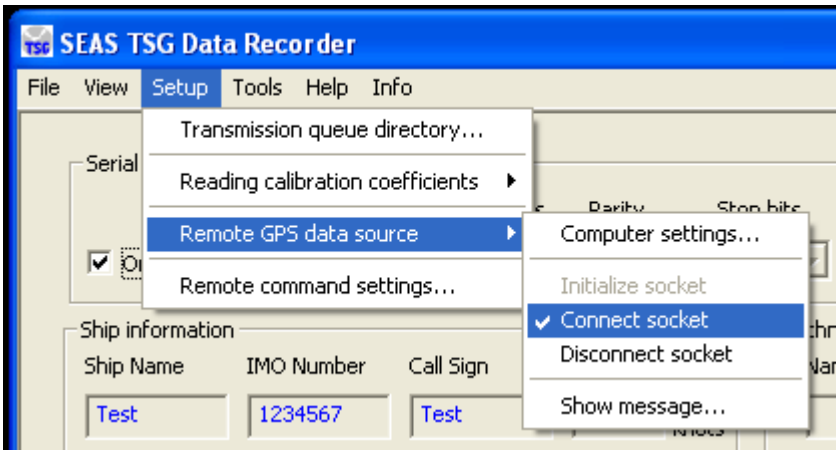
Type the IP address of the remote computer, and insert the port number. Click **OK**.

The TSG Data Recorder will connect with this remote computer via socket.

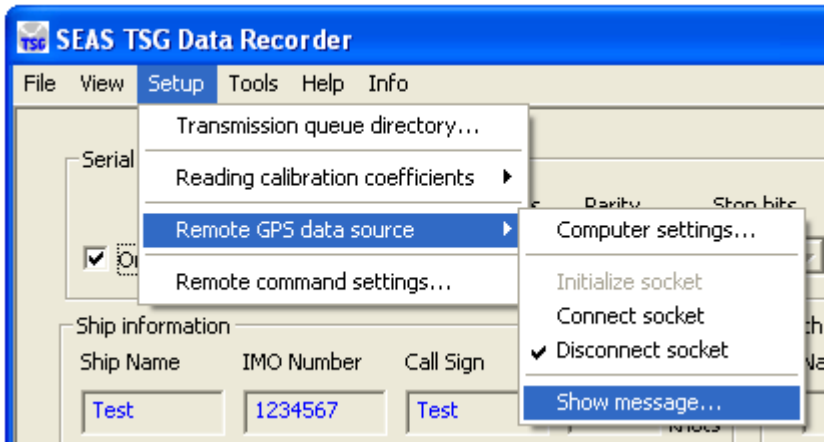
Then go to **Setup|Remote GPS data source|Initialize socket** to create, and to initiate the socket for connecting to server.



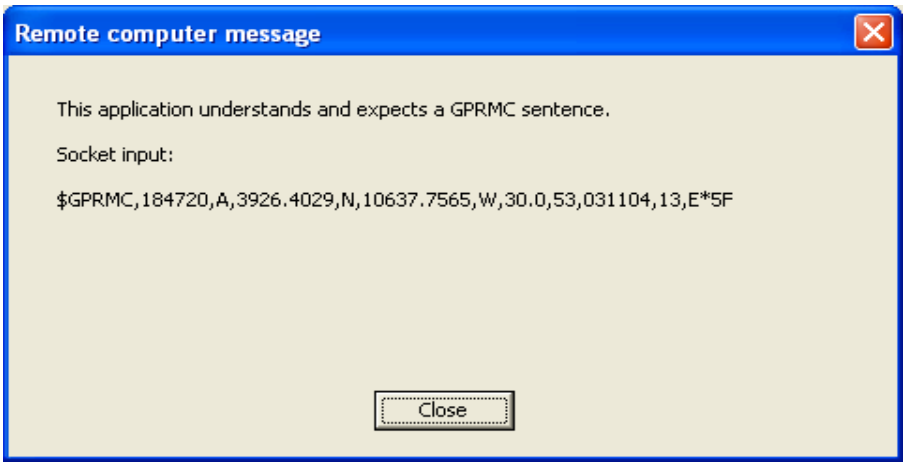
Then connect the socket using the command **Setup|Remote GPS data source|Connect socket**.



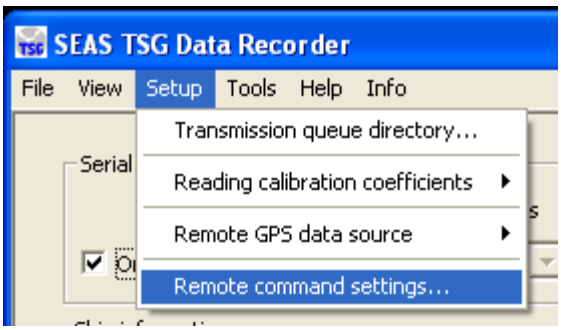
To verify the socket input use the command **Setup|Remote GPS data source|Show message**.



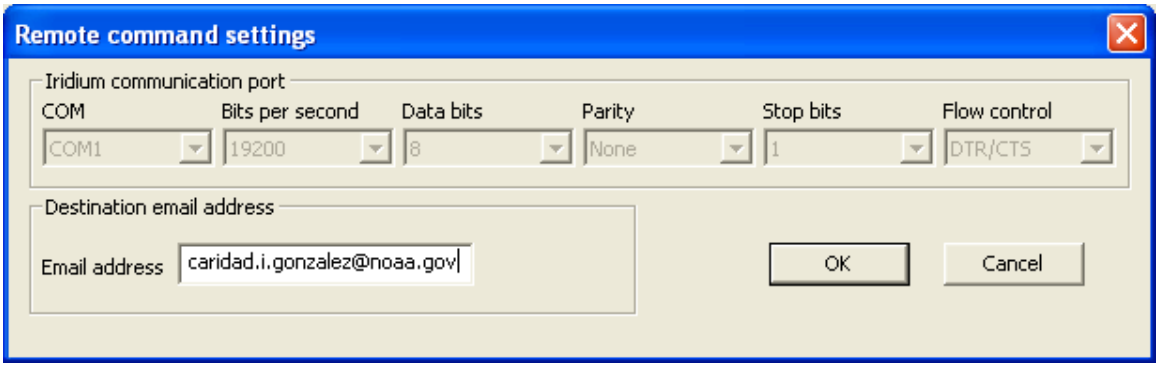
Once selected the window **Remote computer message** appears.



Use the command **Setup|Remote command settings** to set the destination email address, which eventually get a diagnostic text message.



Once selected the window **Remote command settings** appears.



Type the destination email address. Click **OK**.

Setting up SEAS PC-Watchdog

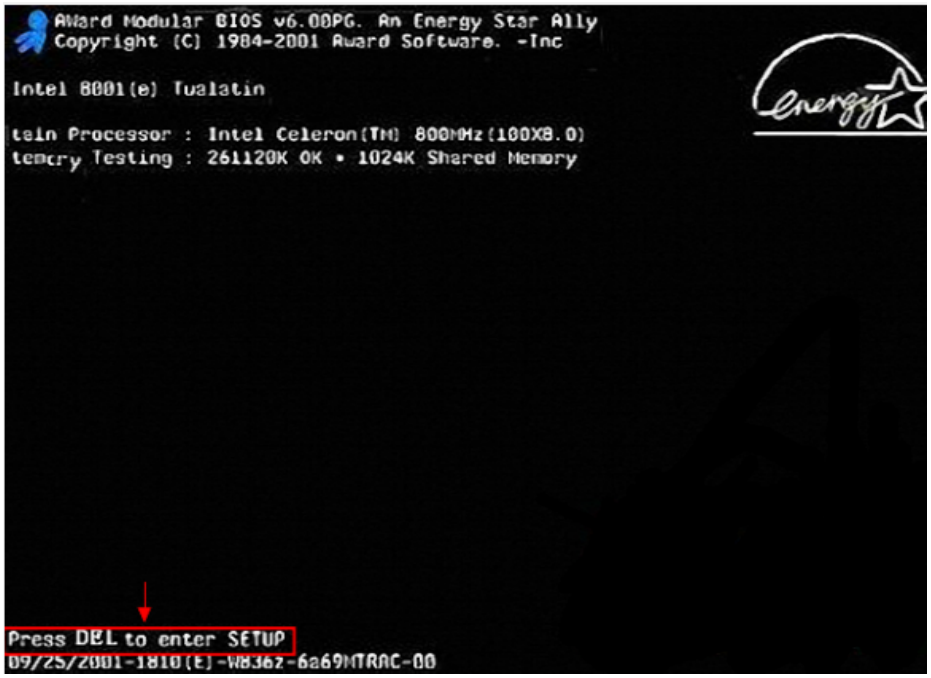
The SEAS PC-Watchdog is the ultimate application to monitor the proper operation of the AMVERSEAS components. It is designed to keep AMVERSEAS applications running continuously.

Standard Operating Procedures for PWRON After PWR-Fail

To set the computer to automatically start itself up when the power is restored the BIOS **Power Management Setup** has to be properly configured. The **PWRON After PWR-Fail** option has to be set **ON**.

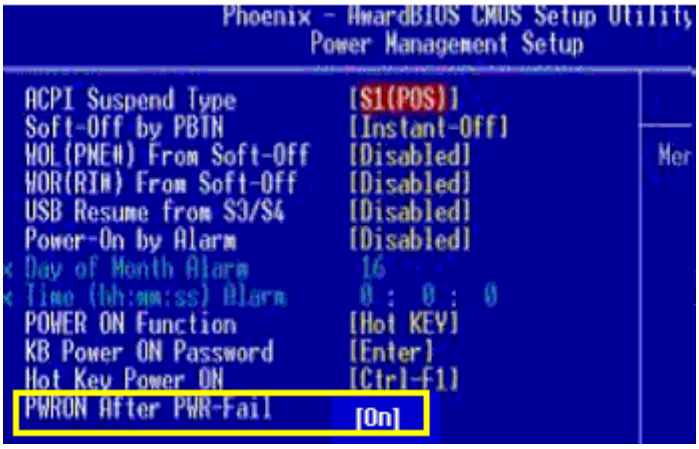
Manual Setup

When the computer is restarting press the **Delete** key to access the BIOS set up.



The **CMOS Main menu** appears.

Step 1: Select "**Power Management Setup**" then hit **Enter**.



Step 2: Select "**PWRON After PWR-Fail**", and then turn it **"ON**".

Step 3: Hit **Escape** key until back at the **CMOS Main menu** and select "**Save and Exit Setup**" then hit **Enter**. System will reboot maintaining selected settings.

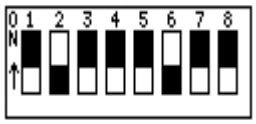
External PC Serial Watchdog

The External PC Serial Watchdog is an external device that is used to monitor a PC in order to ensure maximum system availability. It can monitor the PC's activity to determine if it has locked up. Dipswitches on the board can be set to monitor specific activity. If the External PC Serial Watchdog does not detect activity for the specified period of time, it reboots the machine. The device has a serial port that was used for enhanced watchdog control and monitoring.

Dip Switch Setting

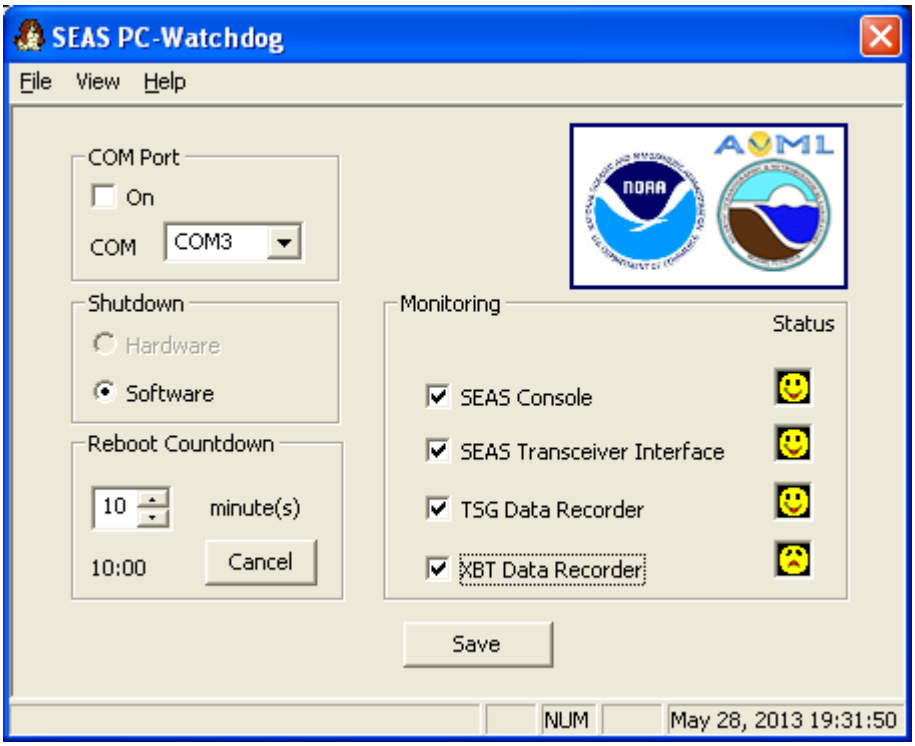
All the switches are read at power up and after each time that the External PC Serial Watchdog resets the PC. A switch that is **DOWN** is **ON** and a switch that is **UP** is **OFF**.

The device uses the first three dipswitches to configure its operation. To SEAS they are configured in order to require that the PC send commands to the External PC Serial Watchdog to make it reset the timeout counter. The last three dip switches set the delay time until the External PC Serial Watchdog resets the PC, to SEAS the delay time is 10 minutes (ON-OFF-OFF).

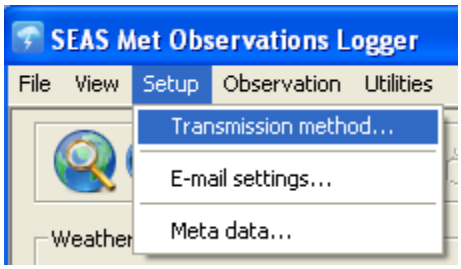


User Interface Setup

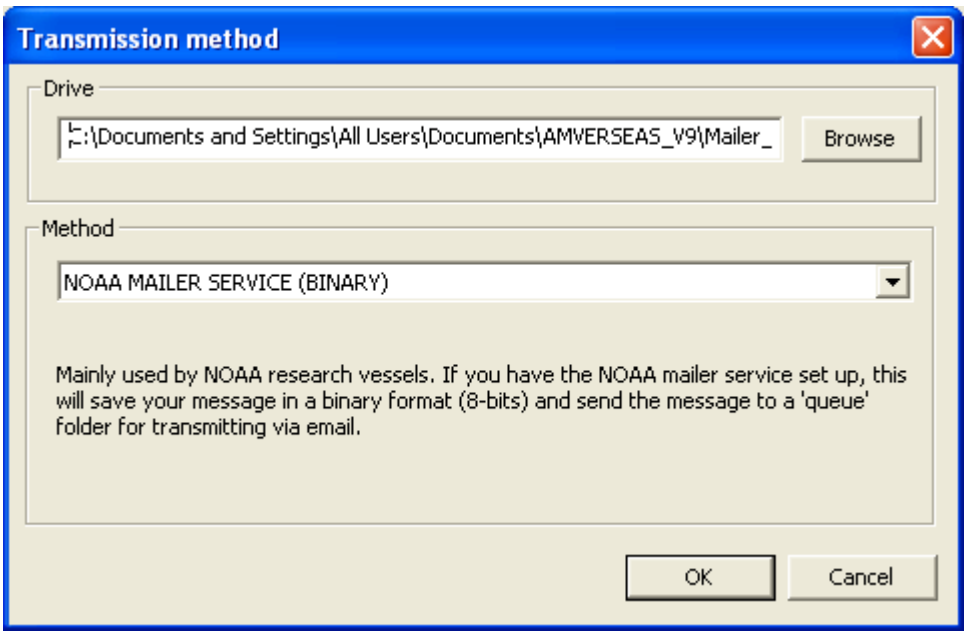
You must fill out the data in the main screen. To makes active the new application configuration, and saves any configuration you have to press the button "**Save**".



Setting up Met Observations Logger



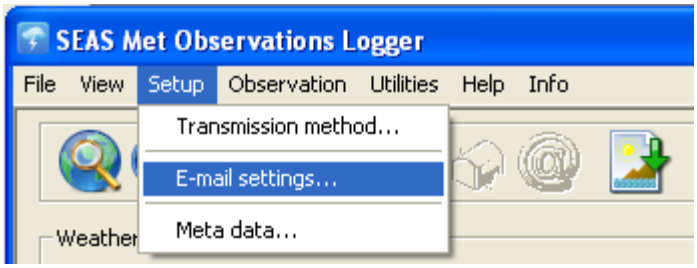
Before you can transmit you have to setup the transmission method using the command **Main menu|Setup|Transmission method…** Once this option was selected the Transmission method dialog appears.



The table below summarizes the possible transmission methods.

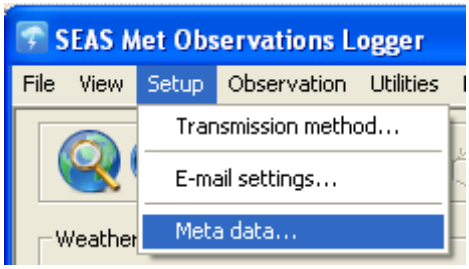
Transmission method	Description
INMARSAT C CODE 41 (ASCII)	This will save the meteorological message as met.txt in a designated drive/folder for transmitting via code 41 using INMARSAT C terminal.
INMARSAT C SPECIAL ACCESS CODE (SAC) SEAS (BINARY)	This will save the meteorological message as met.bin in a designated drive/folder for transmitting via SPECIAL ACCESS CODE (SAC) SEAS using your INMARSAT C terminal.
NOAA MAILER SERVICE (BINARY)	Mainly used by NOAA research vessels. This will save the meteorological message in a binary format (8-bits) and send the message to a 'queue' folder for transmitting via email.
EMAIL (ASCII)	This will save the meteorological message in ASCII format (txt) and automatically insert your message into the body of an email, using the default email client.

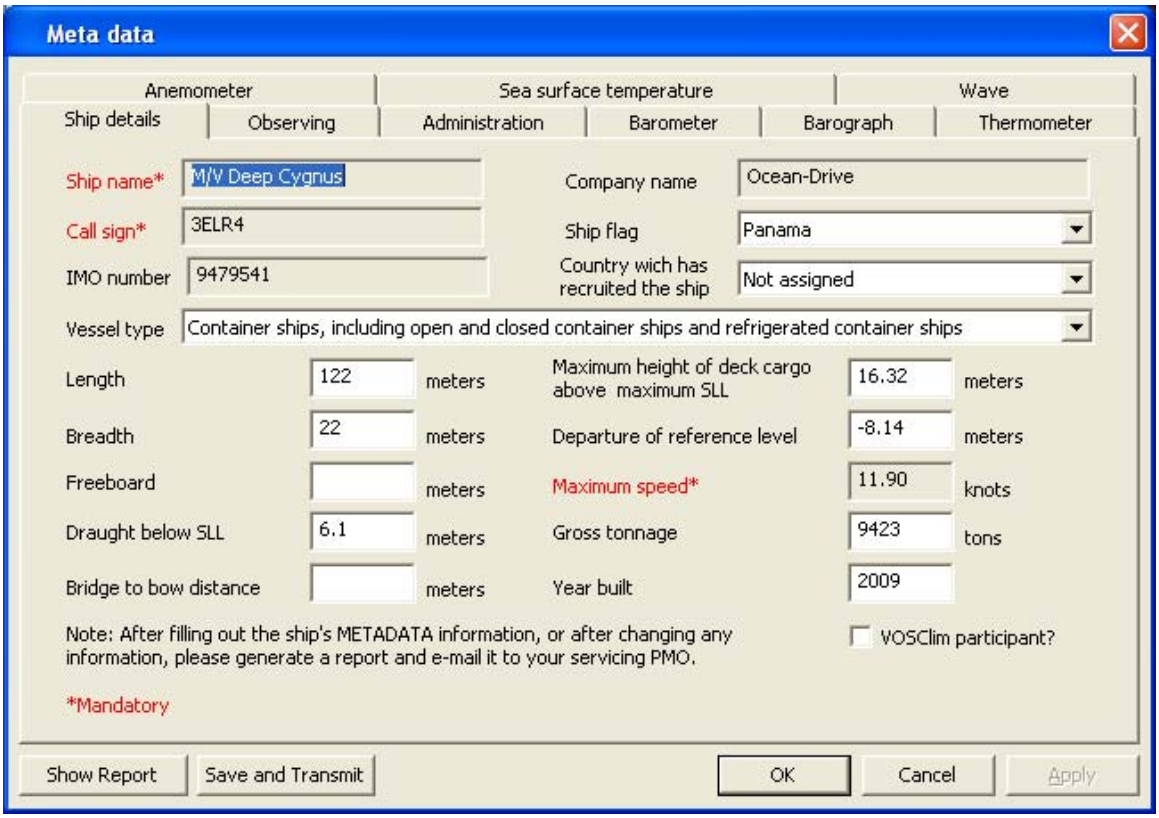
Selecting **Main menu|Setup|E-mail settings…** the user can manage the detailed e-mail settings.



The E-mail settings dialog appears. Just insert **From**, **To**, and **Subject** information.

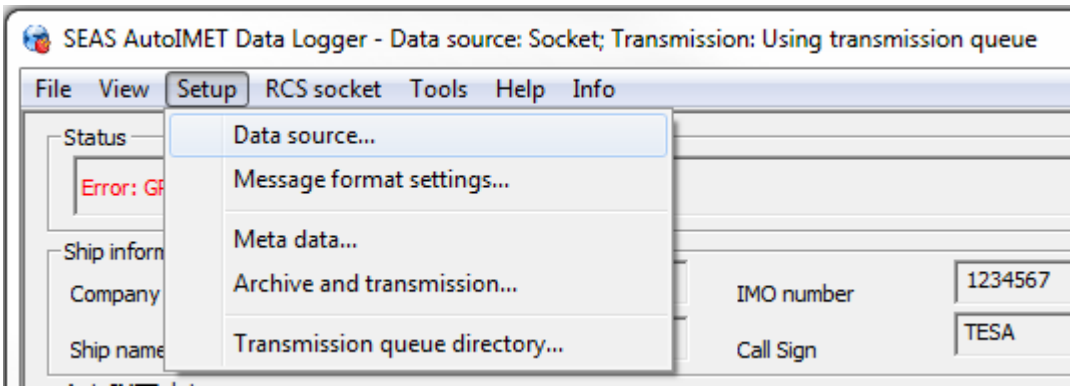
Even though you will not be transmitting the administrative message with ship's information, you must fill out the data in the **Meta data** dialog before the software will allow you to proceed. Go to **Main menu|Setup|Meta data…** and proceed to fill out as much information as possible with the ship's particulars and click **OK**. Remember red-labeled fields are mandatory.



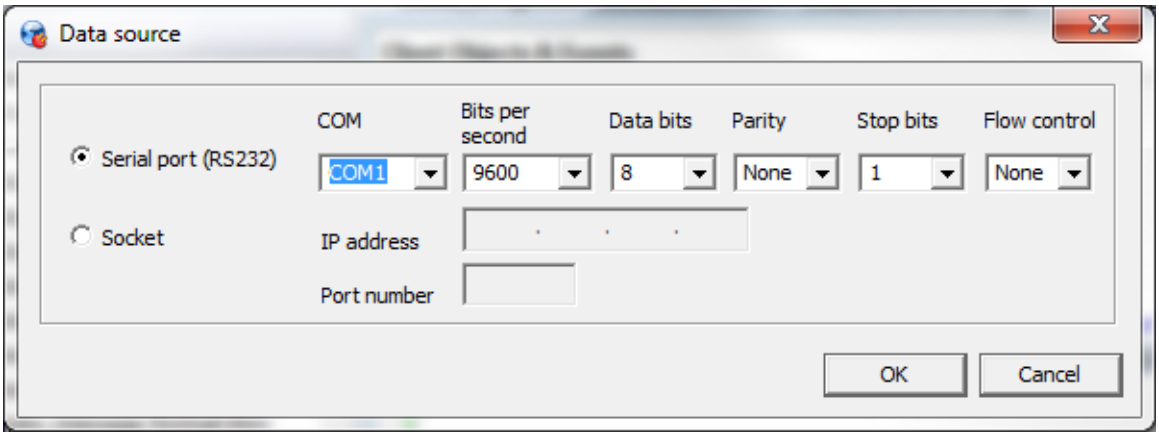


Setting up AutoIMET Data Logger

Manage the data source settings using the command **Setup|Data** source.



Once selected the windows **Data source** appears.

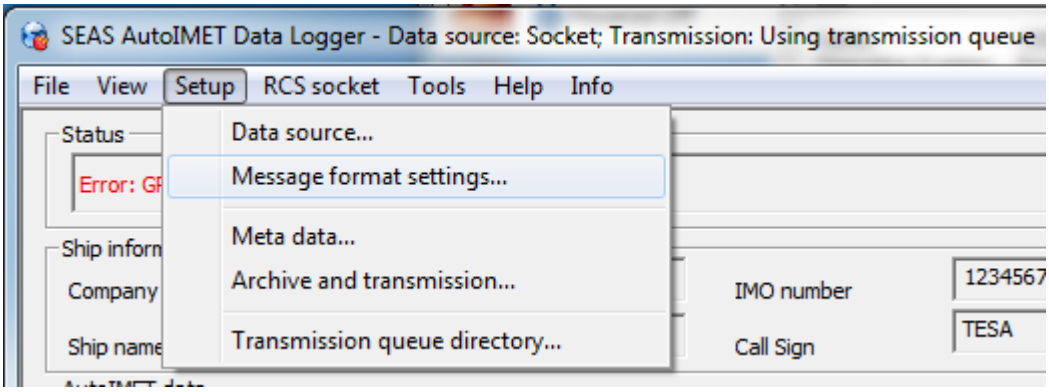


The user can select to connect SEAS AutoIMET Data Logger software to the Remote Computer System using socket or serial port to retrieve a comma delimited data stream containing the measured weather parameters.

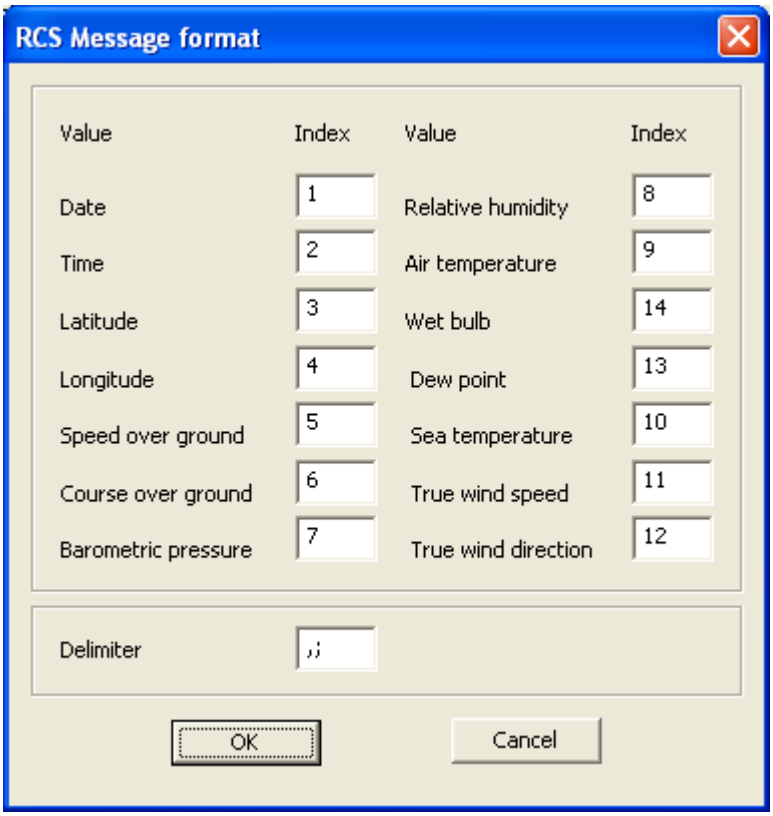
If the selection is **Serial port (RS232)** set up the serial port communication. Click **OK**. The SEAS AutoIMET Data Logger will be fed through the serial port.

If the selection is **Socket** type the IP address of the computer where the Remote Computer System is running, and insert the port number designated for your particular ship; each ship will have its own unique port number, it may be the same but it will probably be different. Click **OK**. The SEAS AutoIMET Data Logger will connect with this remote computer via socket.

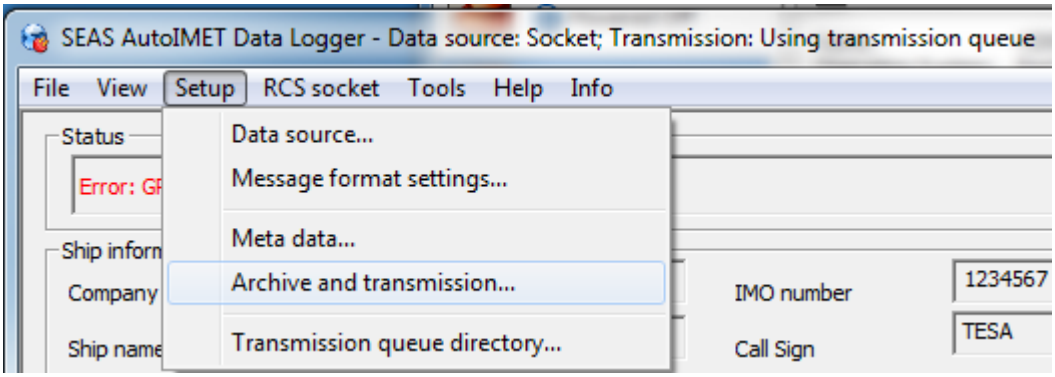
You can setup the Remote Computer System message format using the command **Setup|Message format settings…**



Once selected the window **RCS Message format** appears and the user can establish the value sequence in the incoming Remote Computer System's message. Also the user can set the possible delimiters.

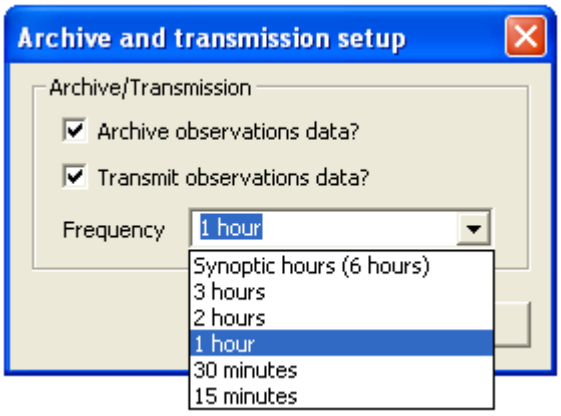

RCS Message format
Value
Index
Value
Index
Date
1
Relative humidity
8
Time
2
Air temperature
9
Latitude
3
Wet bulb
14
Longitude
4
Dew point
13
Speed over ground
5
Sea temperature
10
Course over ground
6
True wind speed
11
Barometric pressure
7
True wind direction
12
Delimiter
,;
OK
Cancel

Manage the archive and transmission's settings using the command **Setup|Archive and transmission**.



Once selected the window **Archive and transmission setup** appears, fill out the information and click **OK**.

.



- **Archive observation data?:** Determines either the user want to archive the acquired data or not.

- **Transmit observation data?:** Determines either the user want to transmit the acquired data or not.

- **Transmission frequency:** Determines the transmission schedule.

  Synoptic hours (6 hours): Observations taken at 6-hourly interval, at 00:00, 06:00, 12:00, 18:00 UTC. These are also known as the main synoptic times.

3 hours: Observations taken at 3-hourly interval, at 00:00, 03:00, 06:00, 09:00, 12:00, 15:00, 18:00, 21:00 UTC.

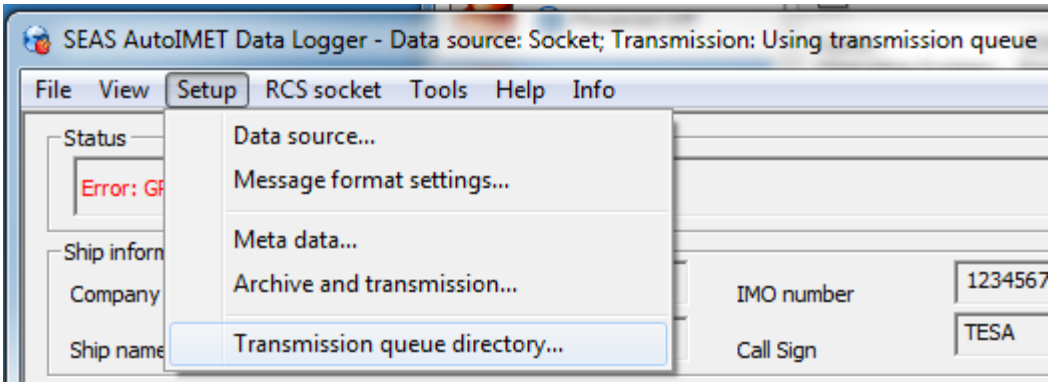
2 hours: Observations taken at 2-hourly interval, at 00:00, 02:00, 04:00, 06:00, 08:00, 10:00, 12:00, 14:00, 16:00, 18:00, 20:00, 22:00 UTC.

1 hour: Observations taken at 1-hourly interval at the top of the hour.

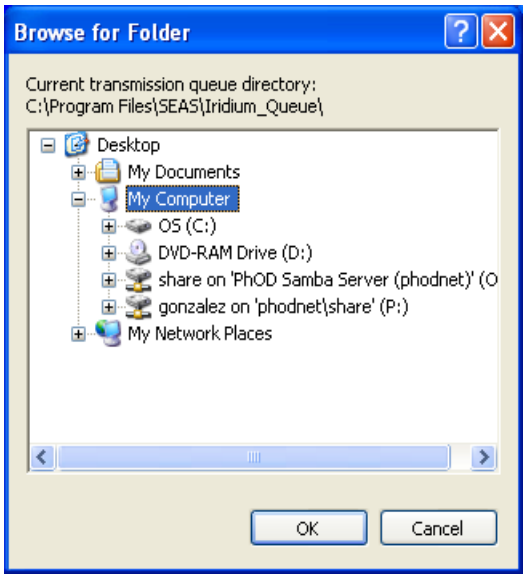
30 minutes: Observations every 30 minutes. So at 0 minutes and 30 minutes passed the top of the hour.

15 minutes: Observations taken at 0 minutes, 15 minutes, 30 minutes, 45 minutes passed the top of the hour.

To setup the transmission queue path use the command **Setup|Transmission queue directory**.

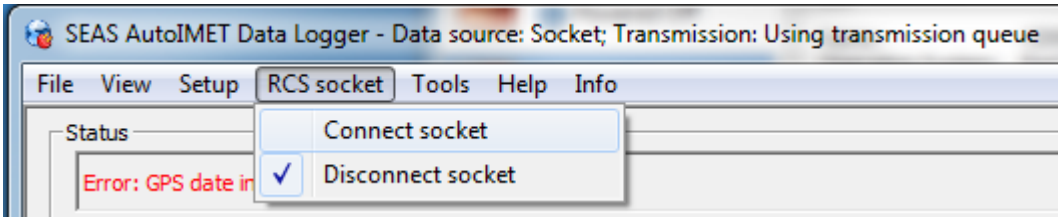


Use this command to select the transmission queue directory, where SEAS AutoIMET Data Logger will post the files ready to transmit. A **Browse for Folder** dialog appears that allows the user to select a folder.



When this dialog box comes up, it displays the **Desktop** folder as the parent and all the other folders can be located from it. To use it, the user can click one of the folders or drives and click **OK**. If the desired folder is not seen but is available, the user can expand the existing folders and drives, click the desired folder, and click **OK**. If the necessary folder is not available at all, the user should first create the desired folder outside the application.

The SEAS AutoIMET Data Logger will connect with this remote computer via socket after using the command **RCS|Connect socket**. *Troubleshot: If it doesn't work try restarting the application.*



Installing, setting up and starting the Mailer Service (it also applies for Windows 7)

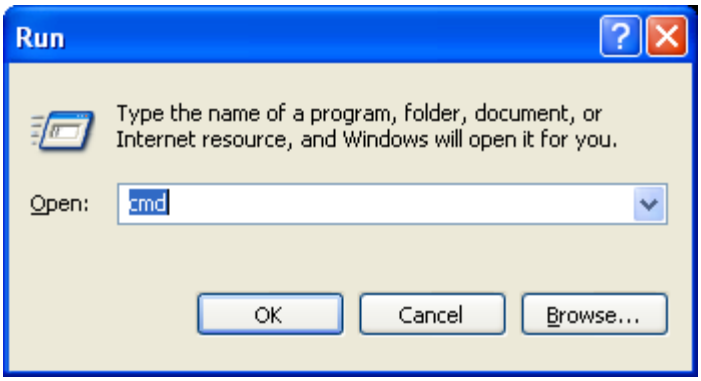
(Once installed this service will restart automatically on reboot)

This Mailer Service is an SMTP service that can configure an Internet connection via Iridium modem or LAN connection.

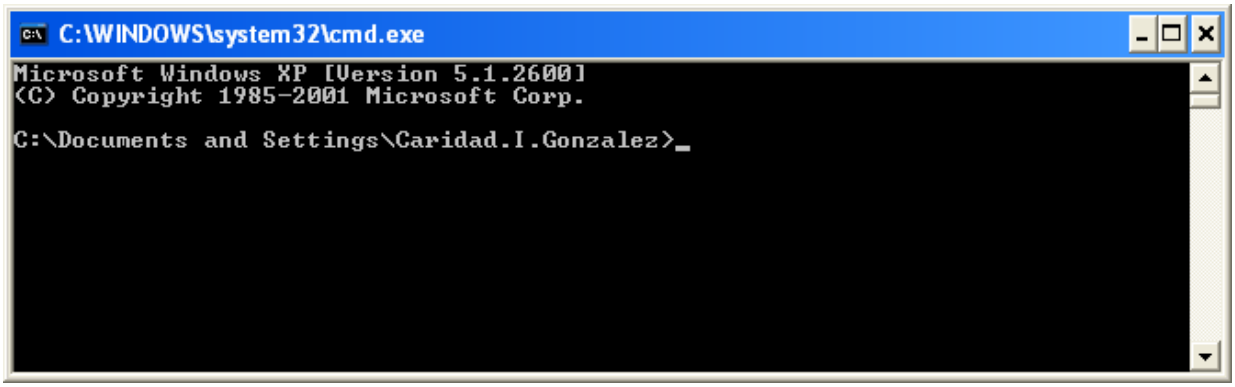
Installing SMTP mailer service

Open a MS-DOS command prompt. Go to Windows ***start*** menu (located at the very lower-left corner of your computer's desktop) then move your mouse to the right column of commands and select **Run…** as shown.

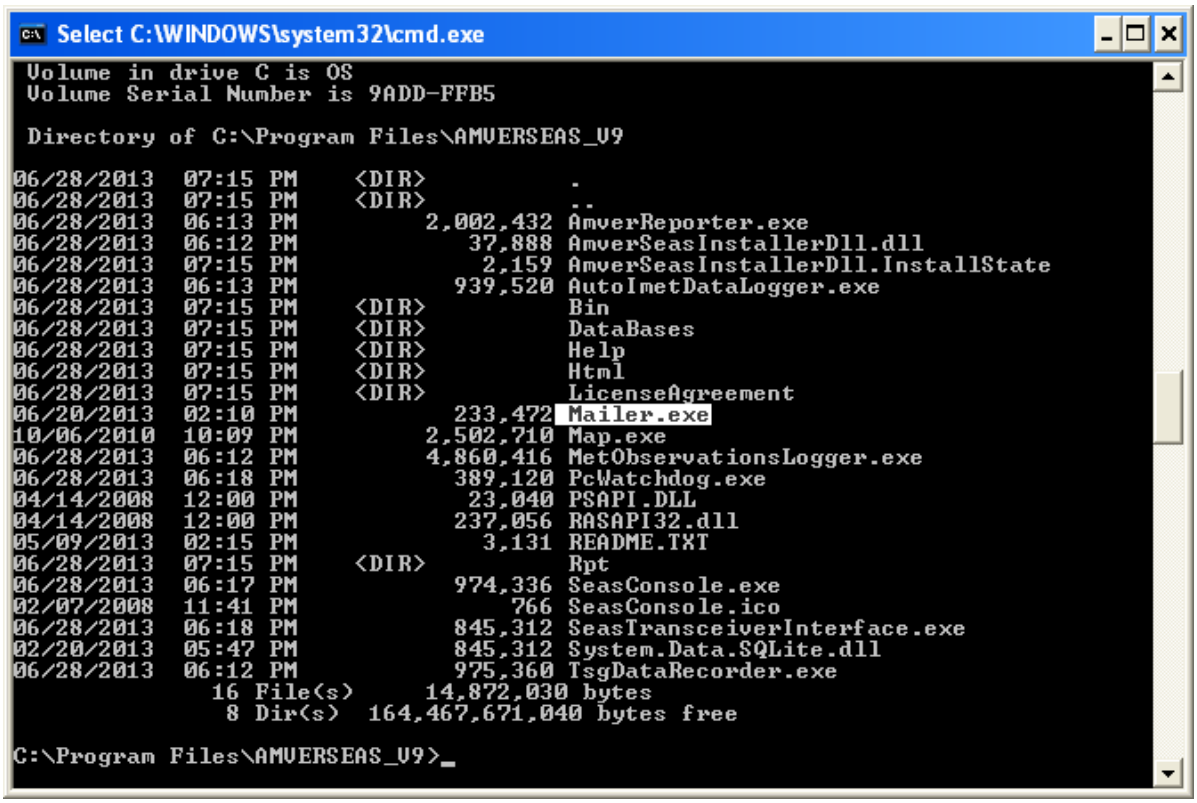
Then if you are using Windows XP or Windows 7, type **cmd** into the Run dialog box and click **OK**.



This will get you the command prompt.



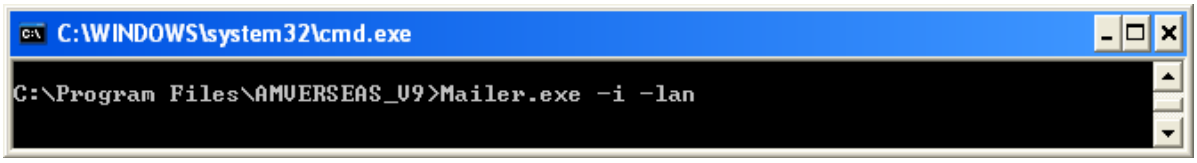
Insure that the Mailer.exe is found in the directory where you have installed AMVERSEAS.



Run the installation using following commands.

Commands

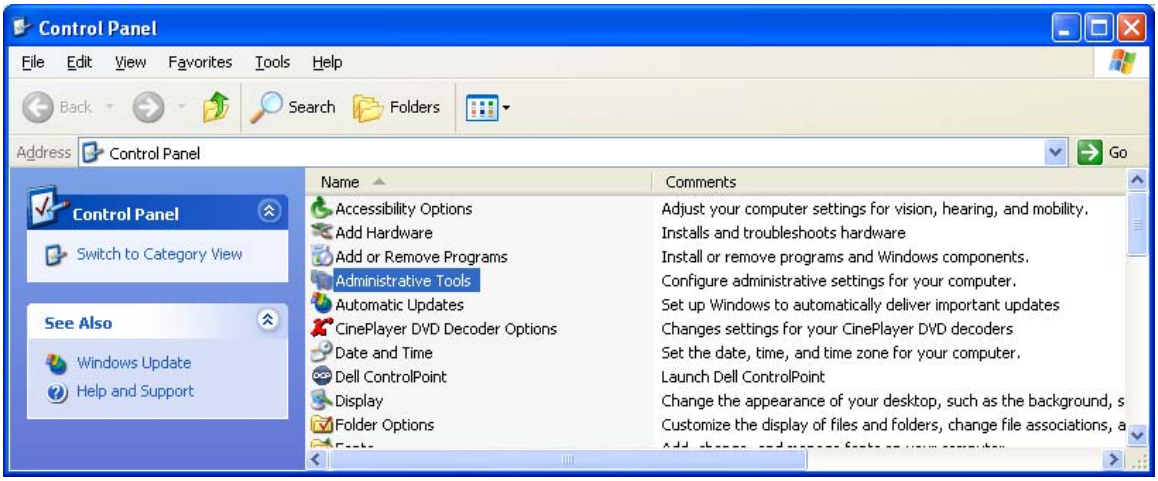
- To transmit using Iridium modem type **Mailer.exe -i**
- To transmit using computer Internet connection type **Mailer.exe -i –lan**



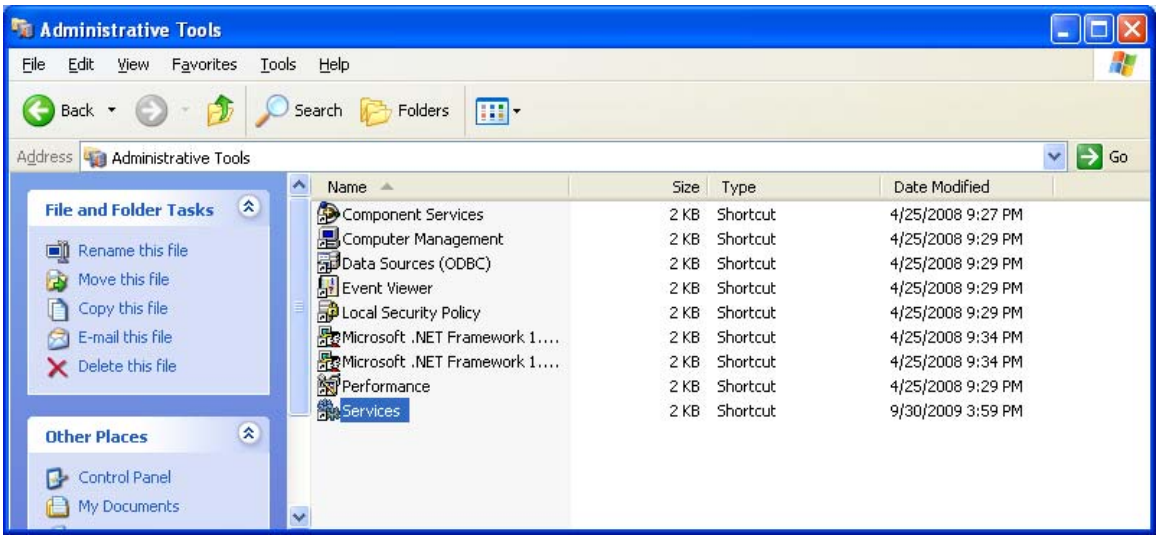
Then hit **Enter** to execute this command. Executing this command installs the e-mailer as a Windows service. The command will create the directory path **C:\Program Files\AMVERSEAS\Iridium\bin** and copy the executable to that location. Please be sure that you see **C:\Program Files\AMVERSEAS\Iridium\bin\Mailer.exe**. If not run **Mailer.exe -u** to uninstall and then reinstall by retyping the command **Mailer.exe -i** or the **Mailer.exe -i -lan** as specified above.

Setup SMTP mailer service to run automatically

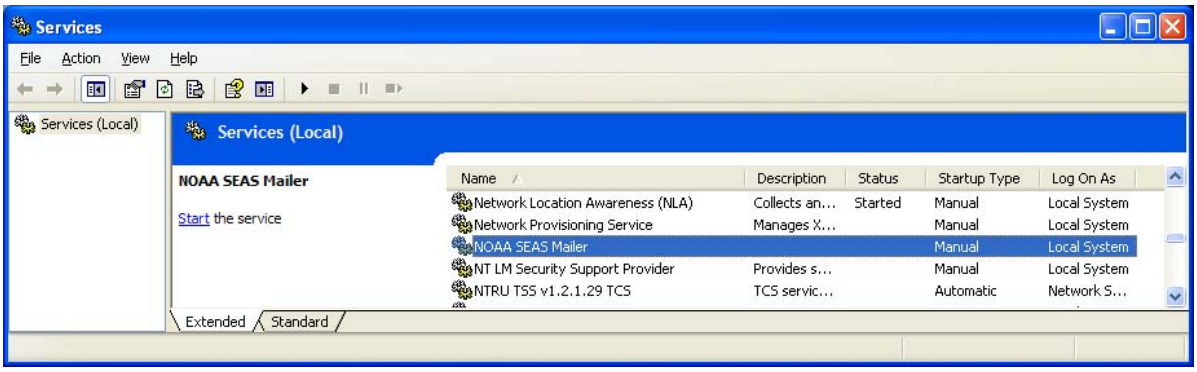
Launch the Control panel. Go to Windows ***start*** menu (located at the very lower-left corner of your computer's desktop) then move your mouse to the right column of commands and select **Control Panel** as shown above. At the Control Panel window select **Administrative Tools**.



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



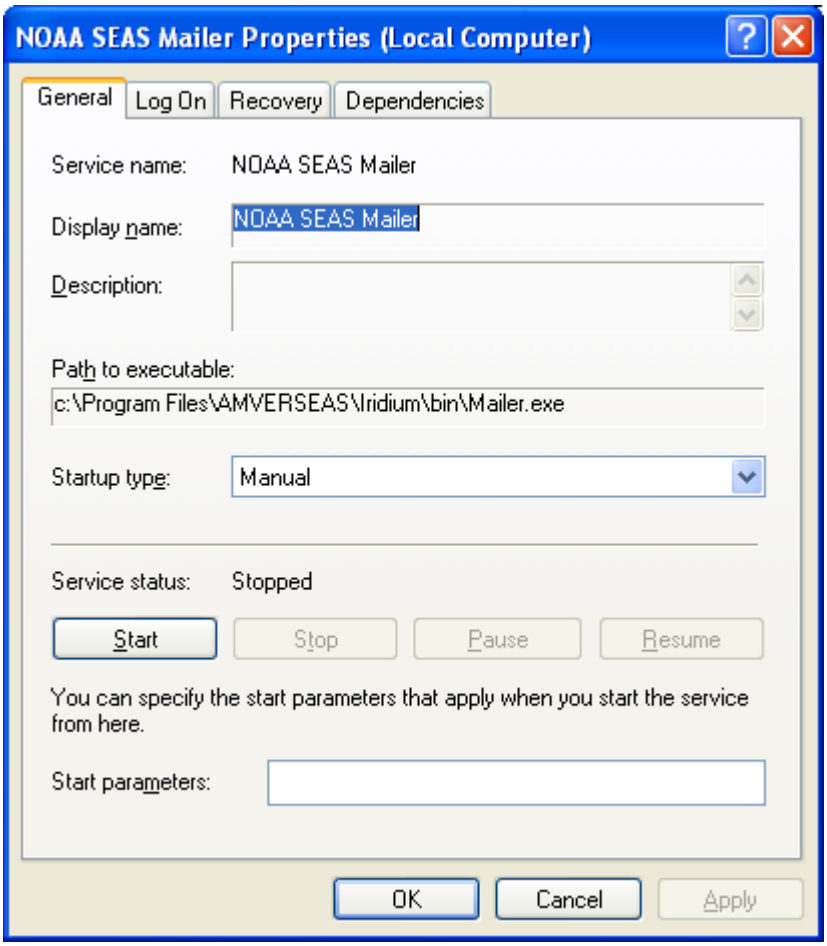
The Services window appears.



Be sure that only one NOAA SEAS Mailer Service is up.

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

Double click the service **NOAA SEAS Mailer**. The **NOAA SEAS Mailer Properties** dialog box appears.



Change the **Startup type** to **Automatic**.

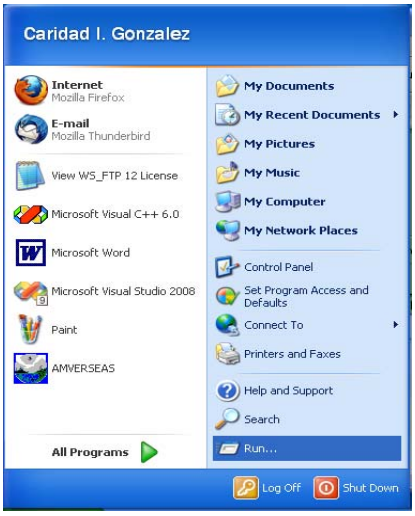
Starting SMTP mailer service

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 minutes 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 to 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.

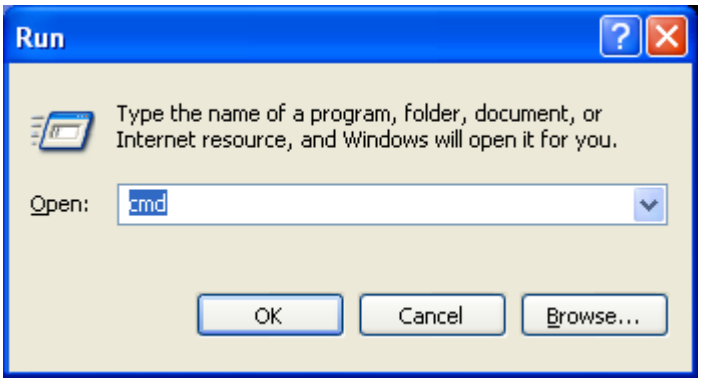
Uninstalling previous Iridium Mailer Service



If a previous version of the Mailer Service is on the computer, it must be uninstalled.

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

The **Run** dialog box appears.

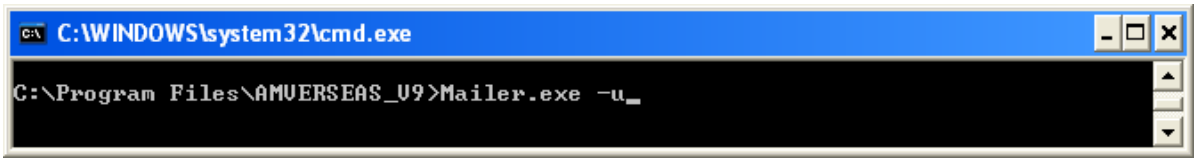


Type **cmd** and click **OK**. This will get you to a command prompt.

The command to be typed into the DOS window is:

Mailer.exe –u

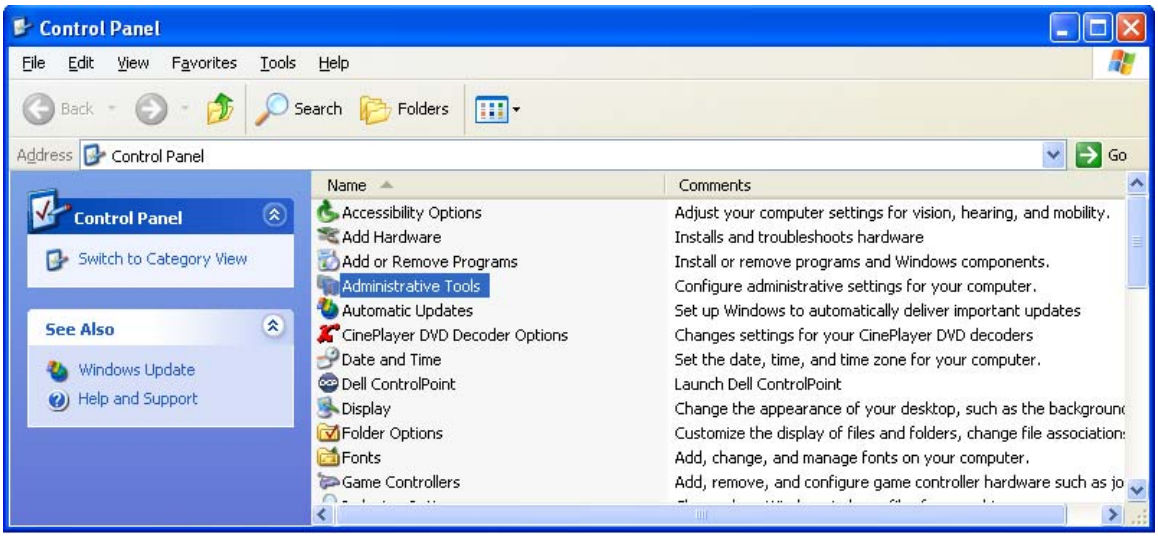
in the installation file (e.g. **C:\Program Files\AMVERSEAS_V9)**



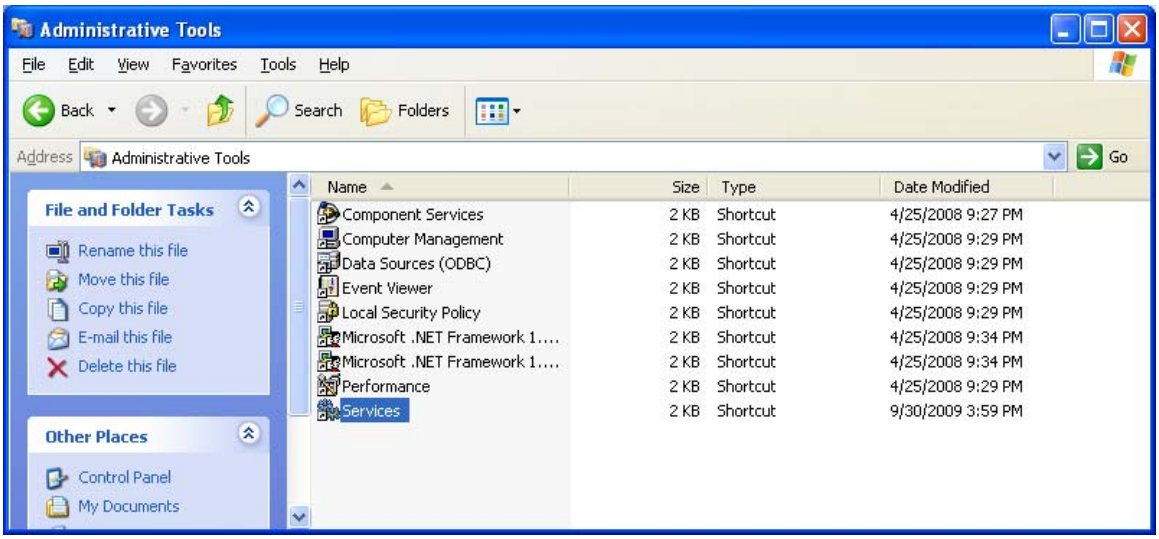
Insure that there is no NOAA SEAS Mailer service on the computer.

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

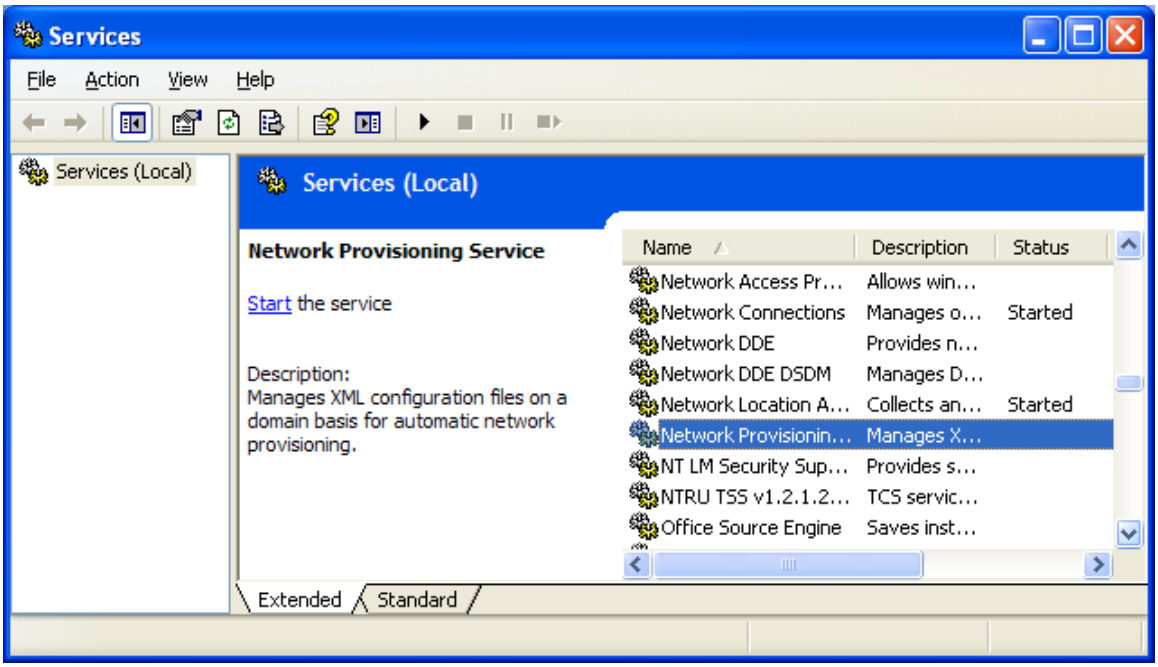
At the **Control Panel** window select **Administrative Tools**.



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



The **Service** window appears.



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

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.

Customizing Installations

After you have installed the AMVERSEAS applications, 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 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. SEAS Console
    2. SEAS Transceiver Interface
    3. SEAS XBT Data Recorder
    4. SEAS TSG Data Recorder
    5. SEAS PC-Watchdog – if applicable.

6. SEAS Met Observations Logger
7. SEAS AutoIMET Data Logger
8. AMVER

- Test Iridium transmission -if applicable.
- Load any software relevant to cruise.
- Load this and other manuals relevant to cruise.