



Setting up COMIML - the Serial Driver Software

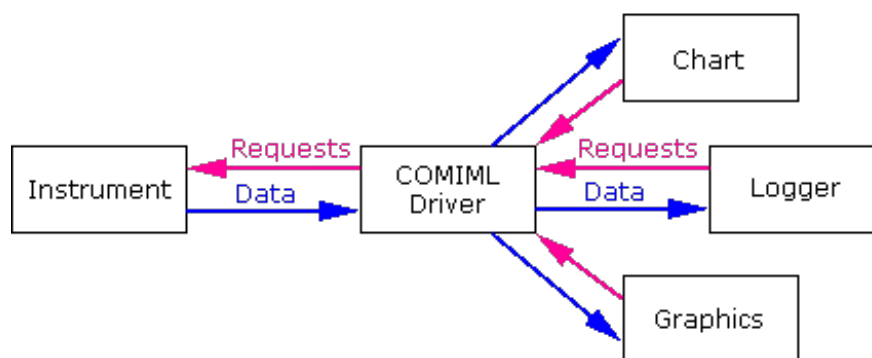
1. Run the Windmill installer - setup.exe.
2. At the end of installation a program called ConfIML starts. Click add and select the COMIML serial instrument handler. Save.
3. Run the ComDebug software. This lets you set up communications with your RS232, RS422, RS485, Modbus and TCP/IP devices.

As COMIML can communicate with a multitude of different devices, there are a lot of options. The steps below guide you as to which to take with your device. We also have specific instructions for many makes and models on our web site at http://www.windmill.co.uk/serial_driver.html.

Please contact us if you are unsure of any of the steps and we will be happy to guide you through. Telephone +44 (0)161 833 2782, e-mail techsupport@windmill.co.uk or see http://www.windmill.co.uk/comiml_ts.html.

Getting Started with ComDebug and the COMIML Serial Driver

COMIML deals with the communications with your devices, then passes the data readings to the other Windmill programs like Logger, Chart and Graphics.

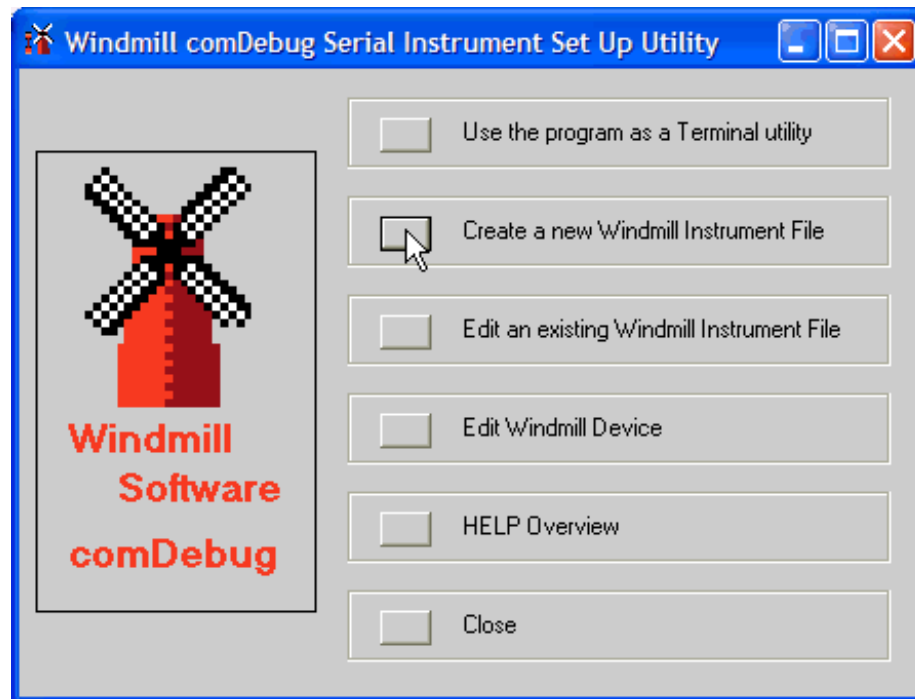


The first thing to do with COMIML is configure it for use with your instrument. You do this with the ComDebug utility. You only need to do this once. In future you can just run your Windmill logging, charting or display programs.

If you have more than one instrument, connect one at a time. Make sure you can get data from the first instrument before setting up the second.

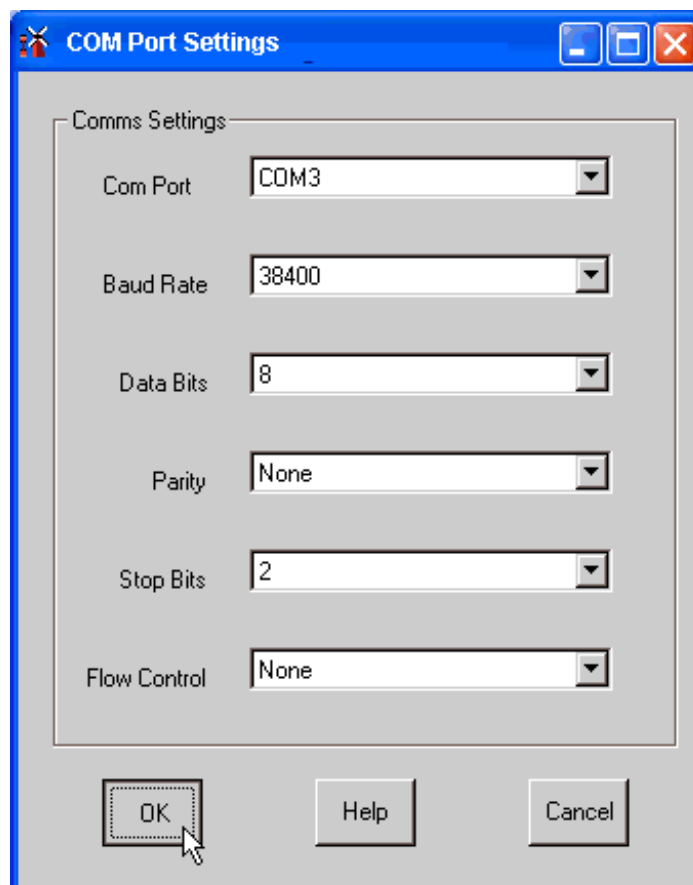
1. From the Windmill start menu select ComDebug. From the opening screen select **Create a**

new Windmill Instrument File.



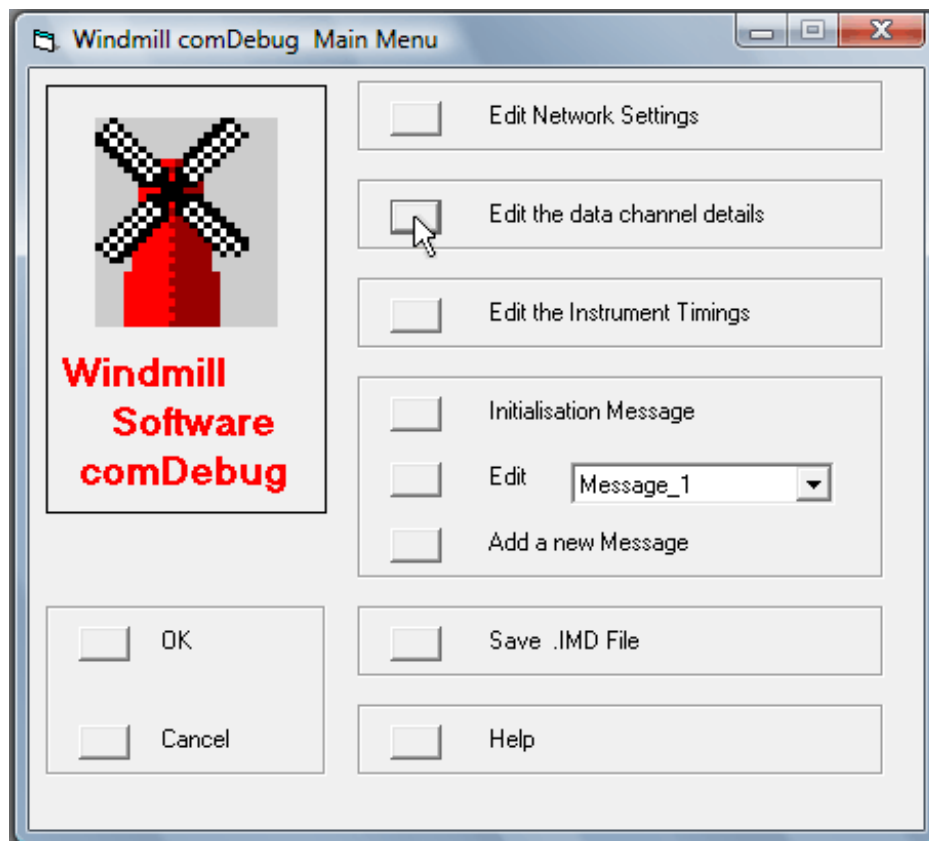
*The opening screen. The first time you use ComDebug select **Create a New Windmill Instrument File**. Subsequently, when you have saved settings, select **Edit an Existing Windmill Instrument File**.*

2. Choose **Serial (for RS232, RS485, RS422 and Modbus) or TCP/IP (for Ethernet) communications** . Fill in your device's communication settings. For more on entering TCP/IP and Serial COM port settings press the Help button or see our [TCP/IP Settings page](#) or [COM Port Settings page](#).



Click the Help button if you are not sure of the settings to use.

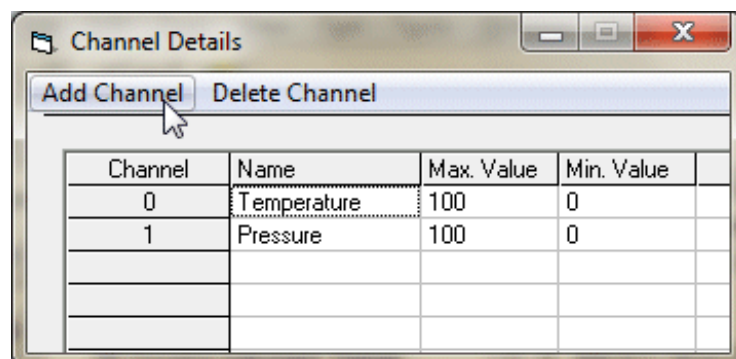
3. The main menu appears.



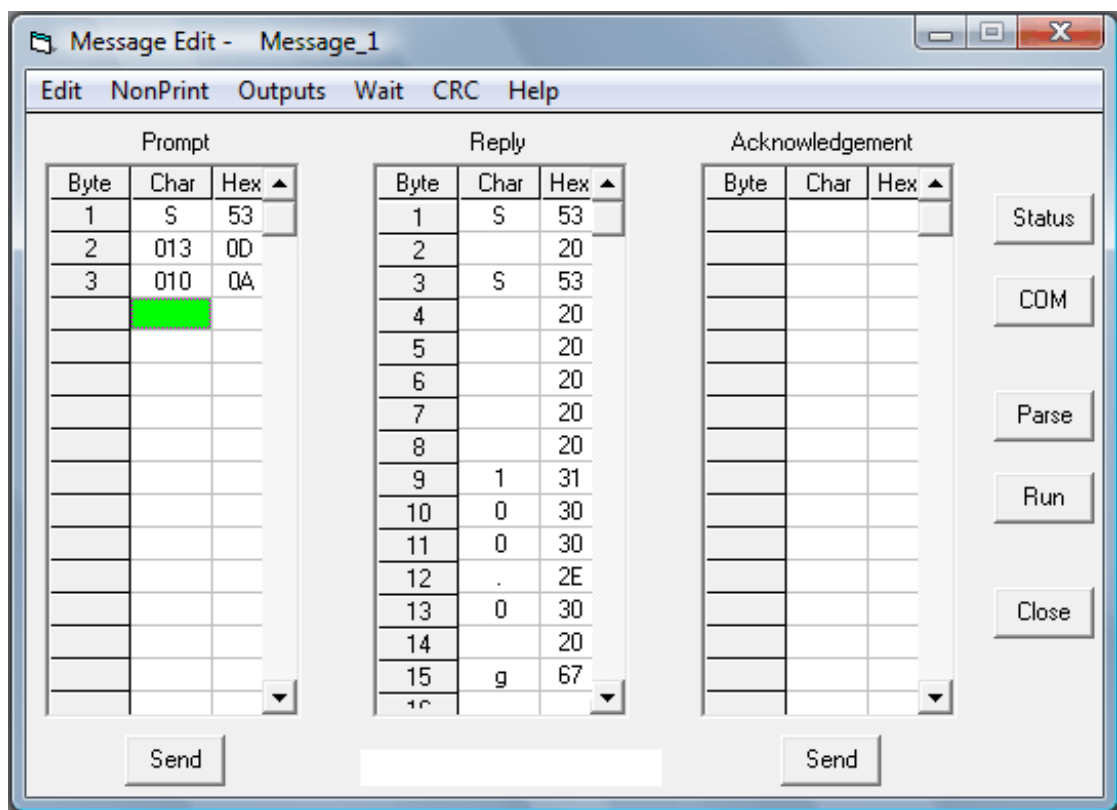
The Main Menu.

4. Create Channels to hold your data. In the Main Menu select **Edit the data channel details**.

Select **Add Channel** and type in a name. This should be unique and not be duplicated across instruments. Create a channel for each type of data: temperature, pressure, latitude, longitude, weight, etc. You will later enter instructions for extracting this data and allocating it to a channel.



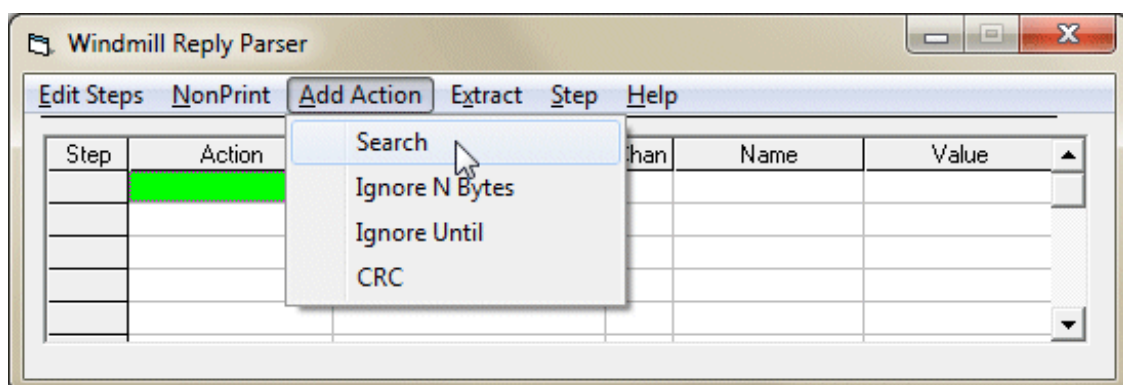
5. Choose **Edit Message_1** from the Main Menu. This lets you send a message to your instrument and view its reply. (For subsequent instruments choose add a new message.) Make sure you **DON'T select Initialisation Message** instead. The Initialisation message is sent only once when the instrument is first switched on: it will not let you repeatedly collect data.



The Message screen lets you send commands and data to the instrument, and view the reply. For those instruments that require it, you can send an acknowledgement when the reply is received. Refer to your Instrument Manual for details of the command needed.

- If your instrument needs to be sent a command to return data, then type this command into the Prompt grid. If you need to enter characters not available from the keyboard, such as Returns or Linefeeds, use the NonPrint menu.
- If your instrument does not need to be sent any commands then leave the Prompt grid blank.
- Select Send. The instrument's reply is shown in the Reply grid. (If you do not see any reply - see our [Trouble-Shooting Serial Port Communication tips](#).)

6. Extract the relevant data from the instrument's reply. **Click the Parse button.**



Extracting Data from the reply: parsing the message.

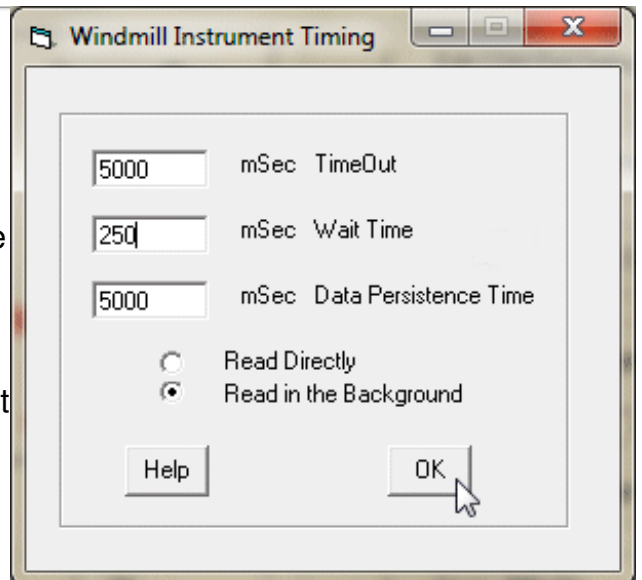
- Click Add Action to search for or ignore characters.
- Type the characters to search for into the Parameters box.
- Click over the next row then select Extract and choose an option. The Channel Details box appears.
- Choose one of the channels you created earlier, or, if you haven't yet done so, add a

channel now and select it.

- e. You are returned to the Reply Parser window to enter an Extract parameter. For instance, if you chose "Extract N Bytes" then type the number of bytes (characters) which you want to save as data.
- f. Click Step to test the parsing. The data extracted is shown in the Value column.
- g. Repeat steps a to f for each channel of data which you want to collect.
- h. If all looks correct after pressing Step, close the Reply Parser. Otherwise edit your settings. More details on parsing messages are at <http://www.windmill.co.uk/parse.html>.

7. In the Main Menu select **Edit the Instrument Timings**.

- a. If your instrument continually sends data without needing a command prompt, choose **Read in the Background**. Set both the Timeout and the Data Persistence Time to longer than the rate at which the instrument sends messages. The Wait (Idle) Time is not used.
- b. If your instrument responds slowly to a request for data, choose **Read in the Background**. Set the Timeout to longer than the time taken to obtain a reply from the instrument. Set the Persistence Time to longer than your logging or charting interval. If your instrument dislikes being read too quickly, use the Wait (Idle) Time to tell the ComIML serial driver to insert a delay between the end of one reading and the start of the next.
- c. If your instrument needs a command prompt to send data, and then responds quickly, choose **Read Directly**. Set the Data Persistence Time to less than the rate at which you want to read data. The Wait Time is used only if you insert a Wait command in the Prompt sting. Set the Timeout to longer than the time taken to obtain a reply from the instrument.



If in doubt choose Read in the Background. With Read in Background the Windmill ComIML driver continually listens for data from your instrument and stores the latest data value. When Windmill Logger - for example - then requests a reading the ComIML driver immediately sends its latest value. With Read Directly, the ComIML serial driver only takes reading from your instrument when Windmill Logger requests data. There is a short delay whilst ComIML waits for the instrument's reply and then passes it to Logger.

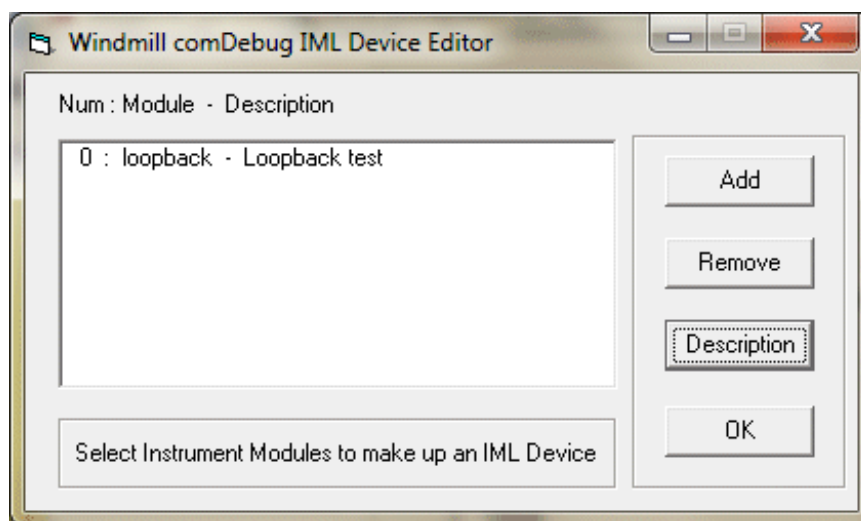
8. In the Message Screen **click Run** to check that everything is working.

9. Save your settings. From the Main Menu select **Save .IMD file**.

10. Repeat steps 2 to 9 for any other instruments then **click OK in ComDebug's Main window**.

11. Windmill lists each instruments as a module within a COMIML Device. In ComDebug's

opening screen click **Edit Windmill Device**. Press the Add button and select your instrument files. You should only have one instrument (*.IMD) file per instrument. So if you are using just a balance, only one balance instrument file should be listed. If you had, say, a balance and pH meter then 2 instrument files should be listed.



12. Close ComDebug.

13. You are now ready to use the Windmill Logging, Display and Control programs. In the Windmill DDE Panel program for example, select Load Hardware Setup from the File menu then connect all channels. The next time you use Windmill you can go straight to this step: there is no need to run ComDebug again unless you need to add new devices.

Any questions e-mail techsupport@windmill.co.uk or ring +44 (0)161 833 2782. More technical support help is at <http://www.windmill.co.uk/techsupp.html>