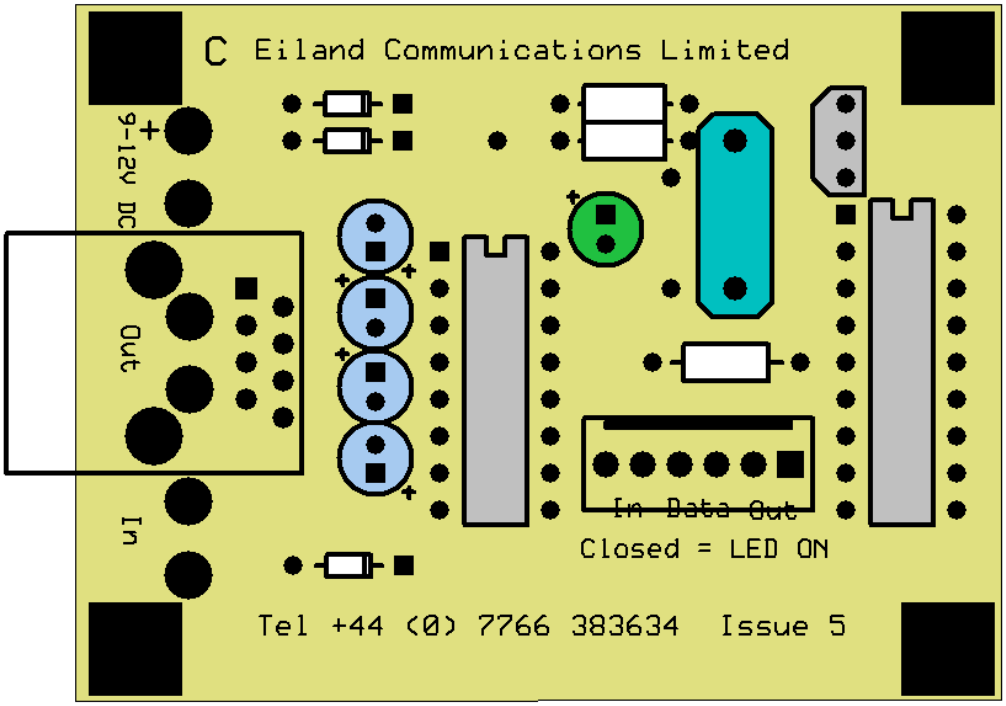
Installation and Operating Instructions for the NMEA Filter (RS232)

The Filter accepts a 4800-baud NMEA input and has one NMEA output mode: -

- a ‘desired sentence’ output

Both input and output are RS232. The power supply is 9-12V, 0V at the same reference level as the RS232 return.

Programming can be either customer specified or easily changed during installation using Windows HyperTerminal or a similar communications program. The programming information is retained in EEPROM (memory) so is not lost if the power is removed from the unit.



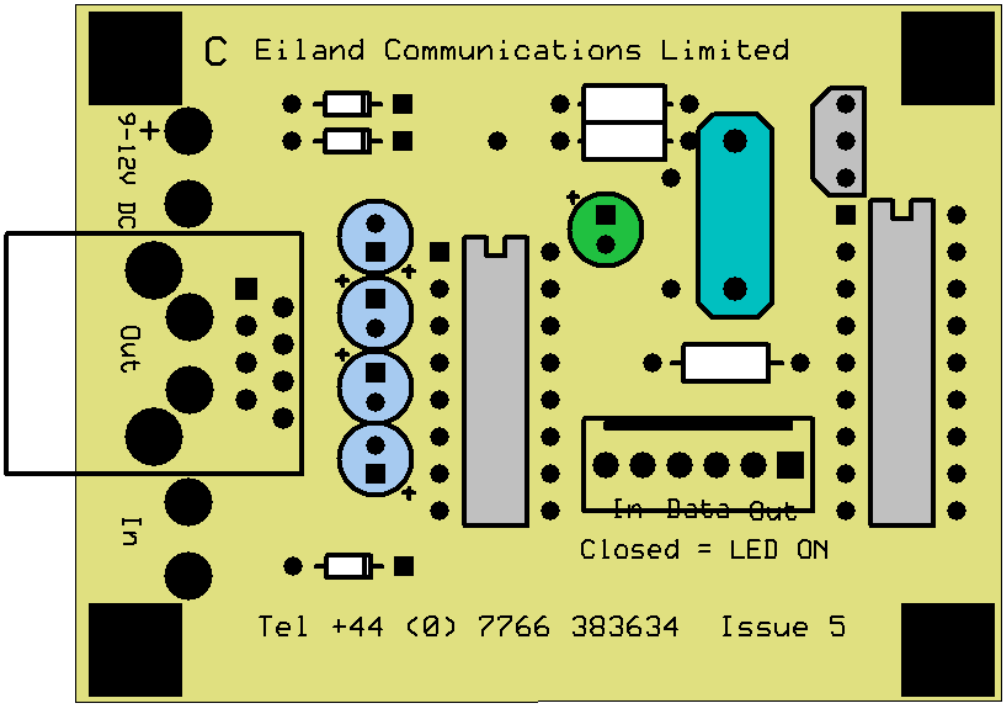
Filtering

The output consists exclusively of the user programmed desired sentence (e.g. GPGLL) filtered from the input data. The output sentence is stored briefly, verified against the checksum and then immediately re-transmitted. With the link in the Output position the green led will flash when this happens.

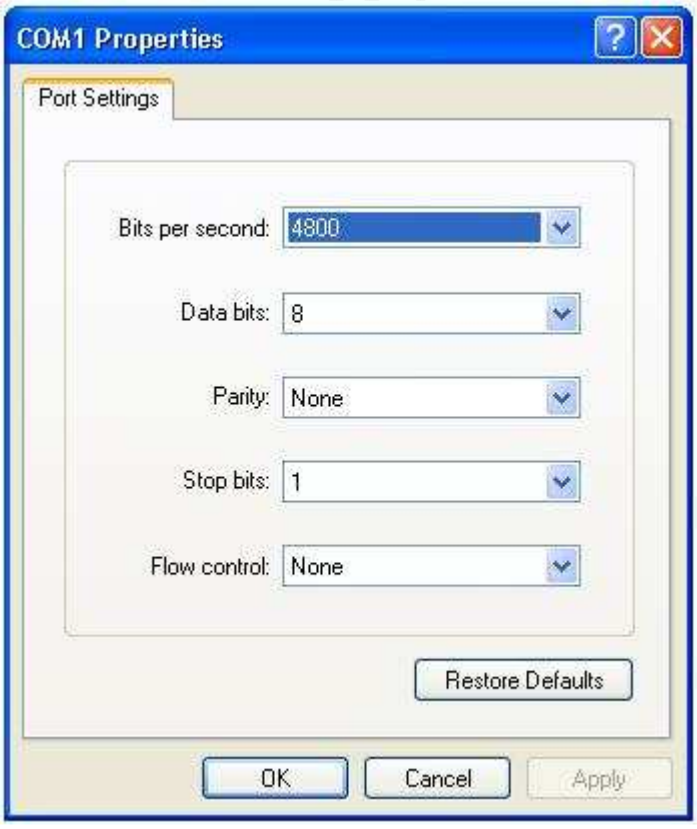
Programming the NMEA Filter.

Unless specified otherwise the unit is supplied without the ability to pass any sentence.

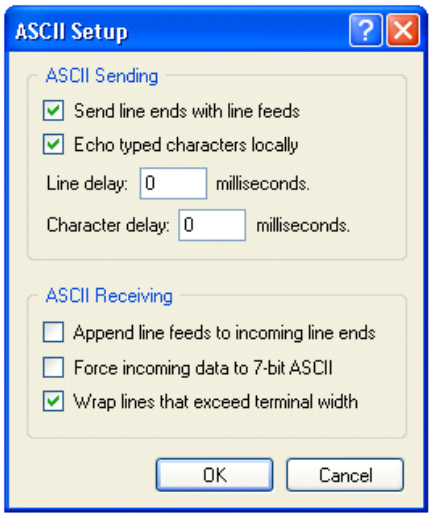
The unit is programmed using Windows HyperTerminal or similar. Using the lead supplied plug the 9-way D connector into a PC serial port e.g. COM 1 and the grey connectors into the input and output 2 connections. **The green-black is the Input to the PCB and the white-black connects to Output.**



Use Windows HyperTerminal with the following settings.



In the ASCII set-up select ‘echo typed characters locally’ so that you can see exactly what is happening.

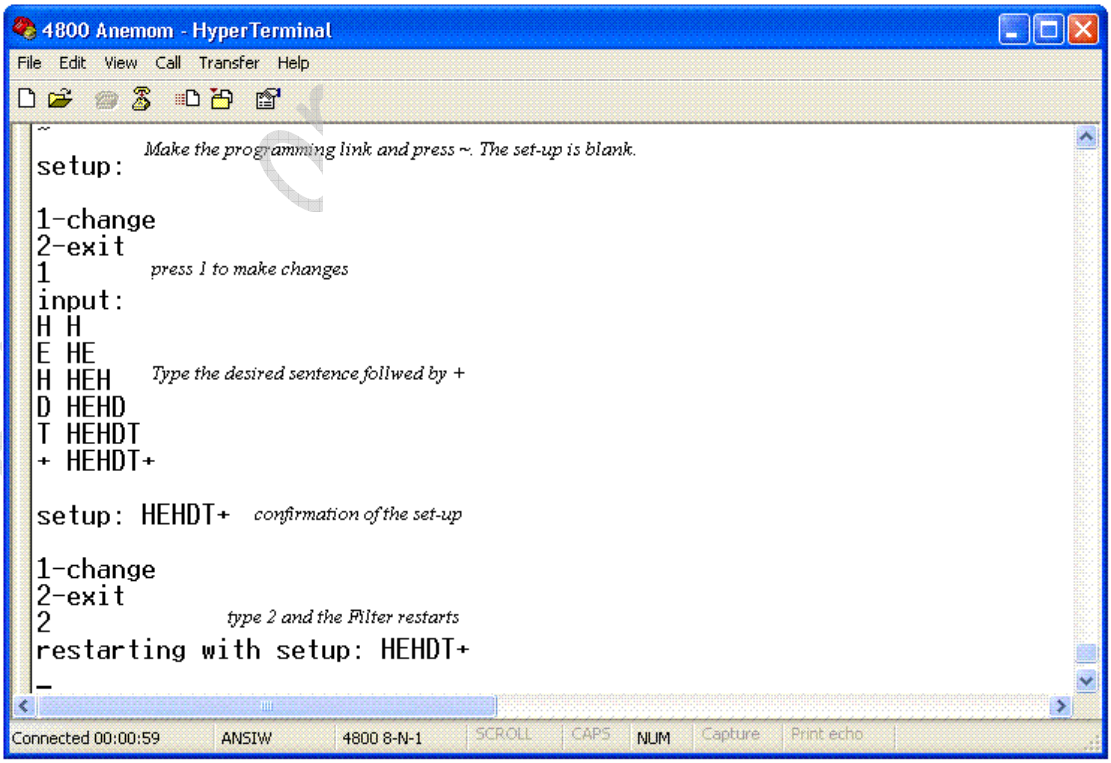


Set-up Mode

With the programming link in Output position type a ~ (tilde) character into HyperTerminal on the computer. The led will light continuously indicating set-up mode.

Type a 1 to change the set-up.

Enter the 5 characters of the desired sentence followed by a + (plus) sign, e.g. HEHDT +. Note you have to type the characters in the correct case; hehdt+ would not filter out HEHDT.



You then receive confirmation of the changes. Press 1 to change the set-up again or press 2 on the keyboard to save the changes and the Filter automatically restarts.

The desired sentence will appear at Output and with the link in the Output Position the led will flash for each transmission.

Testing the NMEA Filter

You can now test the unit still using the HyperTerminal program in Windows.

Without going in to programming mode type (continuing our example) $HEHDT,100.5,T*2B, the led will flash once and you should get echoed back from Output $HEHDT,100.5,T*2B.

All other sentences and combinations of characters should be rejected.

You are now ready to connect up the NMEA Filter or put it back into service after changing the set-up. Disconnect the NMEA Filter from your PC.

Remove the programming link to prevent the Filter inadvertently entering programming mode during use. If you are experimenting with the set-up you can leave the link in place to monitor the data out until you finally put the Filter into service.

Installation

Connect the NMEA input to pins - and + RS232, connect the signal to - and the return to +. Connect the power and the led will flash on for one second.

Move the link to the Input Position and if data is present the led should flash. Move the link to the Output Position and if you are filtering and the desired sentence is in the data stream the led should also flash.

If, with the link in the Output Position the green led does not flash and you are certain the desired sentence is included in the input data stream try reversing the connections at the input.

Switch off. Connect the NMEA outputs to pins - and + RS232, connect the signal to - and the return to +.

Reconnect the power and the desired sentence should be delivered to the NMEA load, the led flashing as each sentence is transmitted.

Notes on Usage

Caution should be exercised in determining the purpose to which the NMEA Filter is put. For example it should not be used to modify sentences in ‘critical’ systems, or where the approval certification of any equipment is violated by use of the filter. You may also have to consider the power source for the filter in event of mains failure.

Terminations

Power	9-12V (max 13.8V) DC reverse polarity protected.
Input	RS232 NMEA 0183 4800 - baud.
Outputs	RS232 NMEA 0183 4800 - baud.

Indicators

Green led	Flashes when data is at the Input or Output depending on link position.
Link	When in the Output Position together with the input of the character ~ enters the set-up mode and indicates data in. In the Input Position indicates data in

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enquiries@eiland-communications.co.uk
www.eiland-communications.co.uk