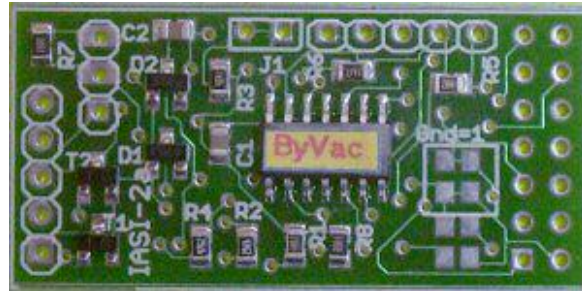


Quick Start Guide for using the IASI serial Display Controller



1. Connections

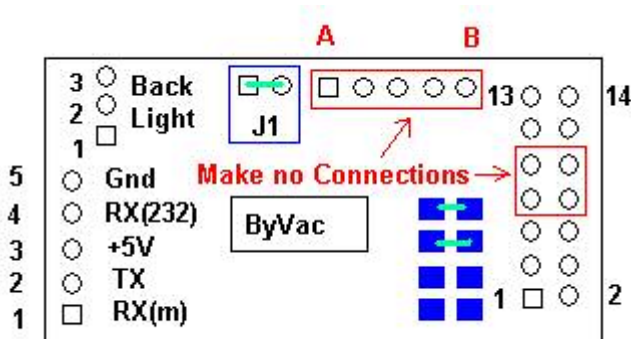


Figure 1 The Display Module connections

Referring to Figure 1 there are three connections and two jumpers, the illustration shows the board looking from above with the components facing towards you.

1.1. Connecting to the LCD

The 14 pads (holes) the right of the module are designed for interfacing to an LCD display. The pins are designated as follows:

Pin	LCD Connection
1	Ground (by default)
2	LCD power (by default)
3	VL (contrast)
4	RS
5	RW
6	E
7	MAKE NO CONNECTION
8	MAKE NO CONNECTION
9	MAKE NO CONNECTION
10	MAKE NO CONNECTION
11	D4

12	D5
13	D6
14	D7

Table 1 LCD Connector

Observe that only the four upper data lines of the display are required (D4-D7). By default pin 1 is ground and pin 2 is +ve, this will be 99% of displays (**check your display**). There is an option to reverse this by cutting the tracks on the SMD pads and making the other pads:

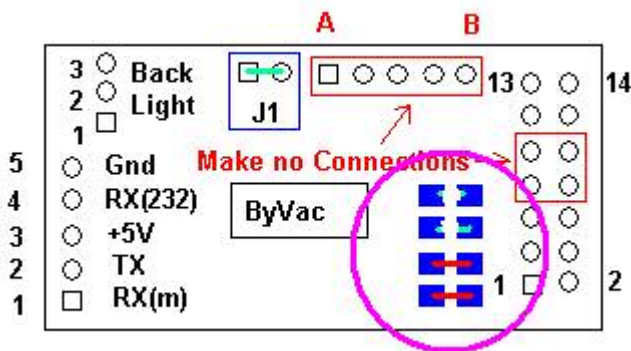


Figure 2 Reversing the Polarity

1.2. Connecting to a PC

The device can easily be connected to a standard PC 9 Pin COM port, or a USB to serial converter according to the wiring diagram.

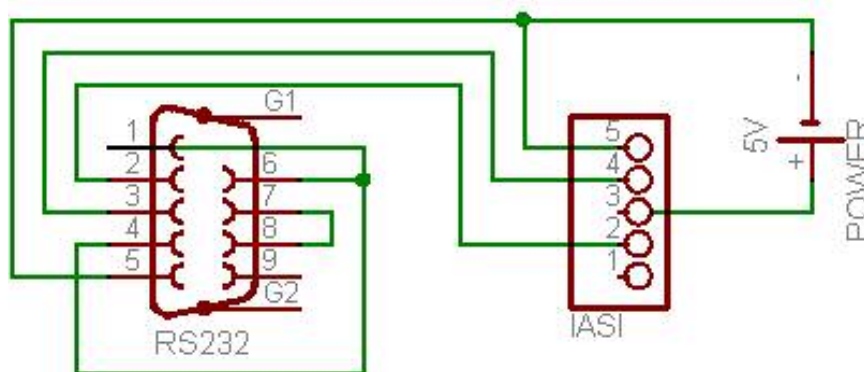


Figure 3 Connecting to PC COM Port

There are only three connections required from the COM port, GND, TX and RX. Handshaking is not required on this device and so this is why pins 1-4-6 and 7-8 are connected together on the RS232 connector.

The port can be on the PC or it can be a USB to serial adapter, both work equally well.

1.3. Connecting to a Microcontroller

A microcontroller UART only has 0 and +5V signals, so instead of using pin 4 of the IASI connector pin 1 is used.

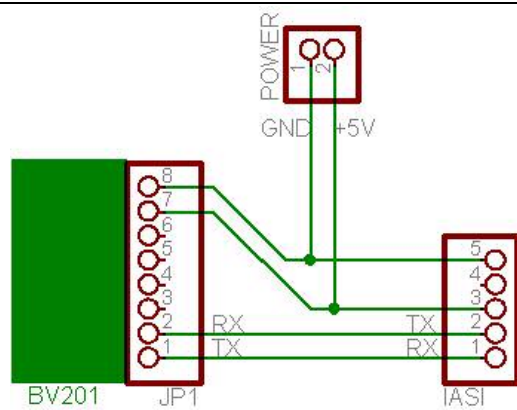
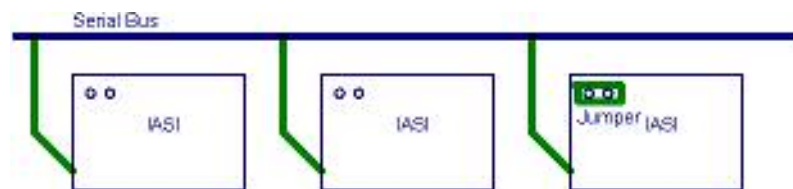


Figure 4 Microprocessor Example

2. Jumper 1

This is provided if more than one device is to be used on the serial bus at any one time. It provides a collector load for the TX line when shorted. By default this has a shorting track across it, assuming only one device will be used. If more than one device is to be used than cut this track and add a jumper.



3. Back Light

The back light has an option of going through a serial resistor or not. Pin 1 has the square hole. Connect the back light to pins 1 and 2 for a direct connection, normally used if the LCD display has a built in back light resistor. Or connect pins 1 and 3 to utilise the on board 100R series resistor.

4. Power

As set at the factory as soon as power is connected a message should be displayed. The device is designed to work with 5V, however the display will work with between 4.5V and 6.8V. There is built in power regulation to pin 2 that will stabilise the voltage to 4.75V.



This shows the module fitted to a 20x2 line display, this particular display does not have a backlight and so no connections are made for this.

5. Terminal Software

Any terminal software (software that is used with the COM ports) can be used for this display, if you have Microsoft Windows then ideally use BV Terminal. This can be obtained free form www.byvac.co.uk. This is only one file, simply drop the exe file into a suitable directory and launch, there is no installation or set up. The file

will write a configuration file to the directory to keep track of the settings, but that's all.

The next section instructions are for BV Terminal, see later for setting up HyperTerminal.

6. Using BV Terminal (see 10 for HyperTerminal)

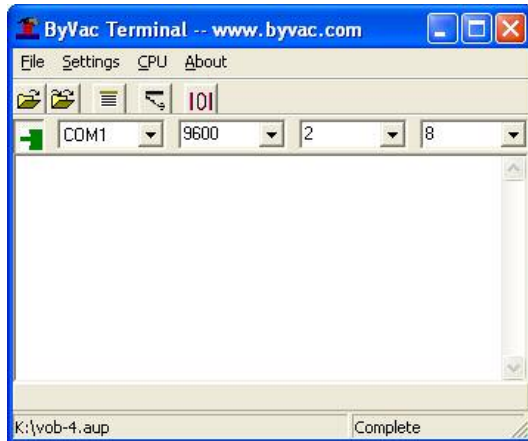


Figure 5 BV Terminal Software

Launch BV Terminal and pick settings>Text Transfer from the menus and copy the following settings:

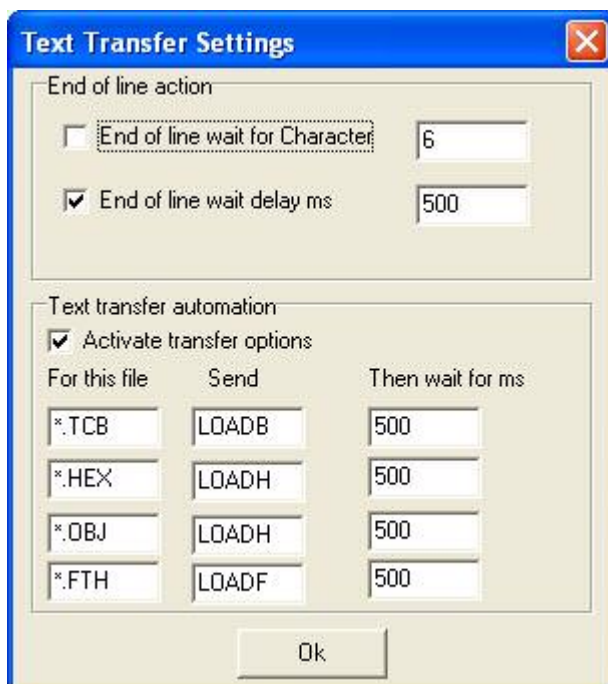


Figure 6 BV Terminal Settings

Dismiss the dialogue and set the drop down boxes to match those in Figure 5. Of course it may not be COM 1 on your system.

7. Establishing Communication

Press the small red icon to the left of the BV Terminal window and this should turn green to show that a connection to the selected COM port has been made. If you get an error at this stage then you have selected the wrong COM port or you do not have a COM port on your system.

When the icon is green press <enter> a couple of times until a **L>** prompt is seen, this process establishes the baud rate.

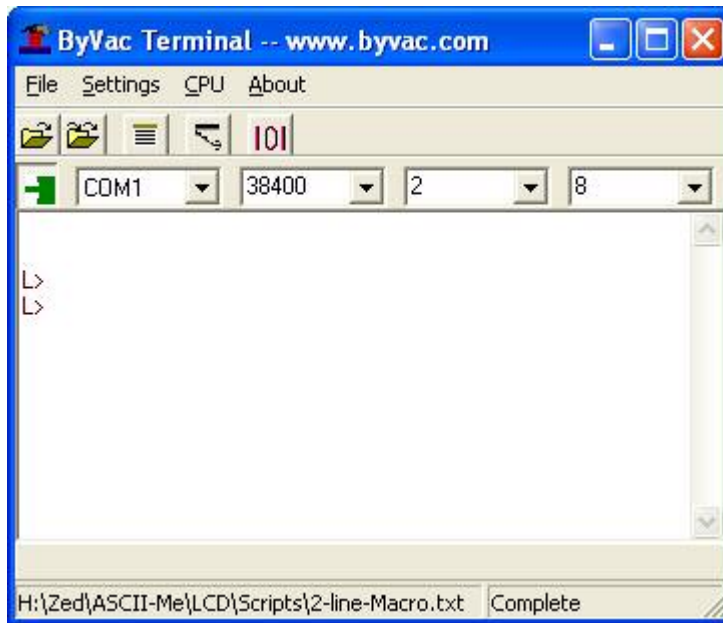


Figure 7 Establishing the Baud Rate

As can be seen from Figure 7 the Baud Rate will be established so setting the actual baud rate on the terminal is not that important.

8. A few Simple Commands

Try some simple commands to become familiar with the interface, for example:

za

The above will return the current address, this will be 00 by default, try changing it to say D1 by:

zaD1

Try **zv**, this will print the version details. Once communication has been established try some simple commands:

dh will clear the display

bt "fred" will write to the display

bp40 will move the cursor to line 2

9. Extended mode

Just as a quick taster of the power of the interface do the following:

ex

wd1 L 0 39

wt1 "This text will scroll from the right"

wa1 -c

The above will scroll the text from the right to the left and off of the screen on line 1. You can speed the scroll up by entering the following:

ws6

To reset the display type **zr** and <enter> a couple of times.

10. Using HyperTerminal

If you have a Microsoft system then HyperTerminal is built in, this can be used to communicate with the IASI Display. Launch and follow the steps below.



Figure 8 Enter any name



Figure 9 Chose a suitable COM Port

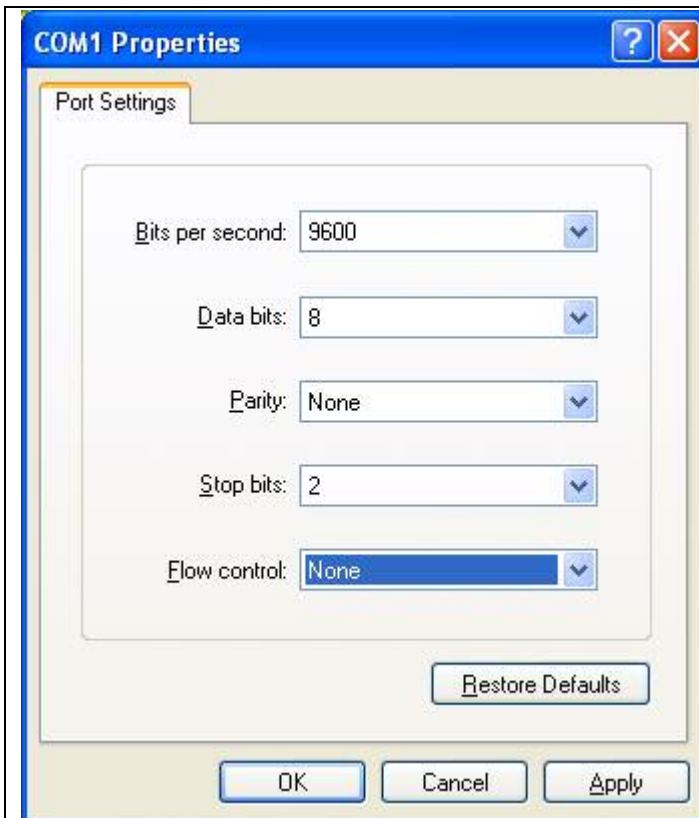


Figure 10 Port Settings

NOTE that flow control should be set to **None**.

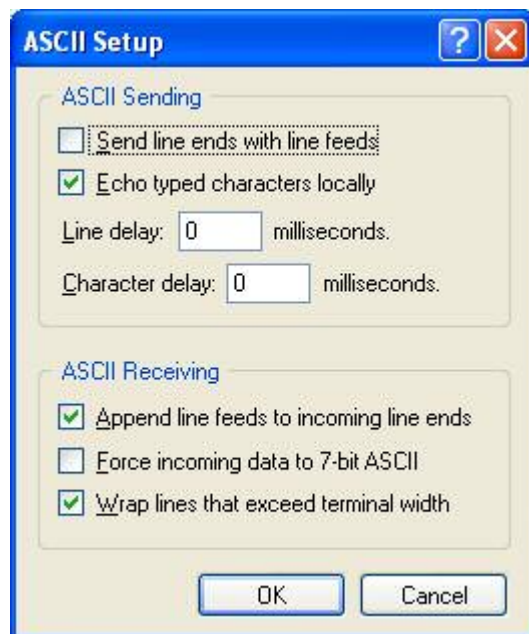


Figure 11 ASCII setup

The dialogue in Figure 11 is under the File menu, Properties, Settings tab and the ASCII setup button.

Switch on the display and establish a Baud rate, you will just get the L>, but there will be no line feed. This does not effect the operation of the display.

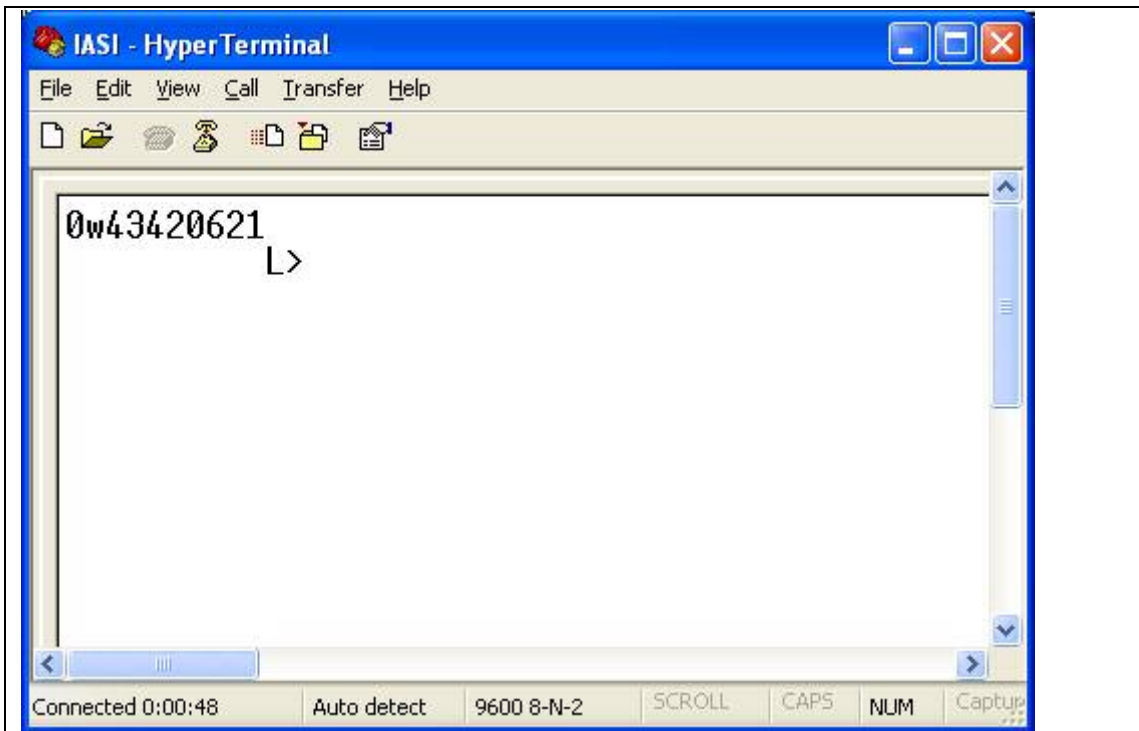
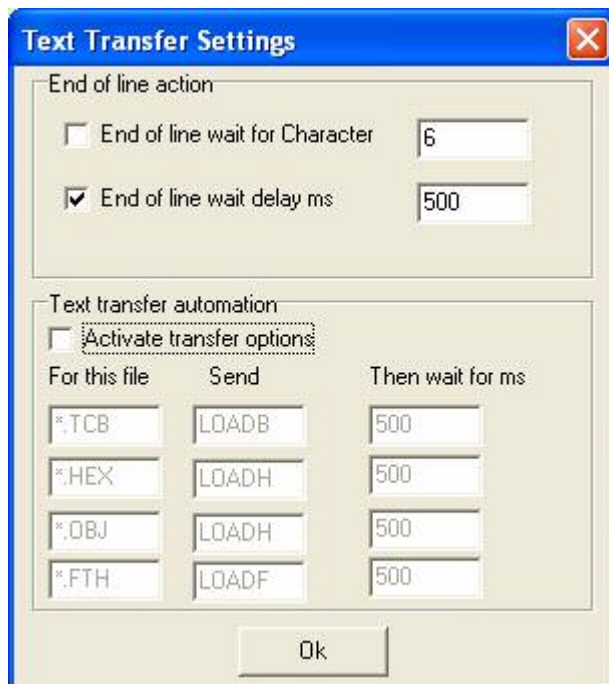


Figure 12 Connection with HyperTerminal

HyperTerminal gives a slightly odd display but works just as well.

11. Scripts

Contained on the CD-ROM are two scripts. These can be used with BV Terminal with the following settings:



The ½ second delay at the end of each line gives enough time for the display to accept the command. To use, simply connect the display and use 'File>Send text file' (or the icon). The display will then run through the commands.

To use the macro script, type **ZM** first on the display and then when the script has finished running press escape. You can then test the macro with **ZT**.