VBWV1

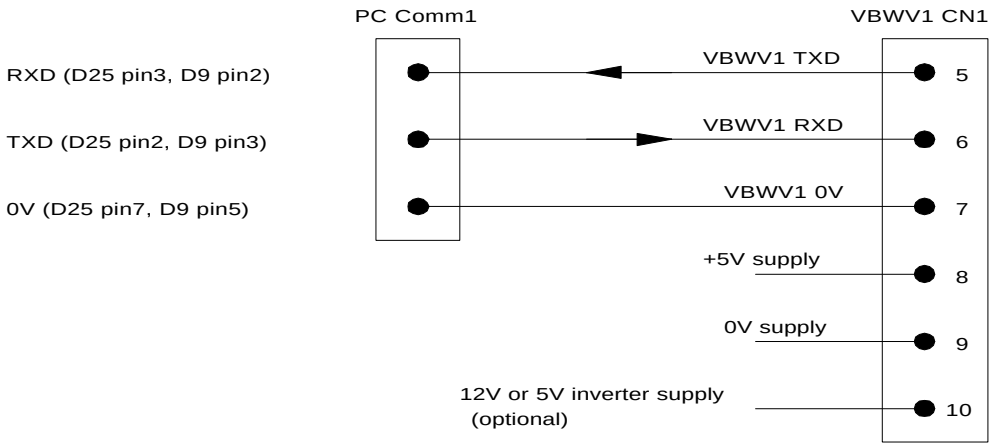
Visual Basic Windows Application software

DATE	DESCRIPTION OF CHANGE

Datacraft, South Denes Road, Great Yarmouth, Norfolk, NR30 3QD, England.
Tel: ++44(0)1493 332325 FAX: ++44(0)1493 733079 Email: sales@datacraft.uk.com Site: www.datacraft.uk.com

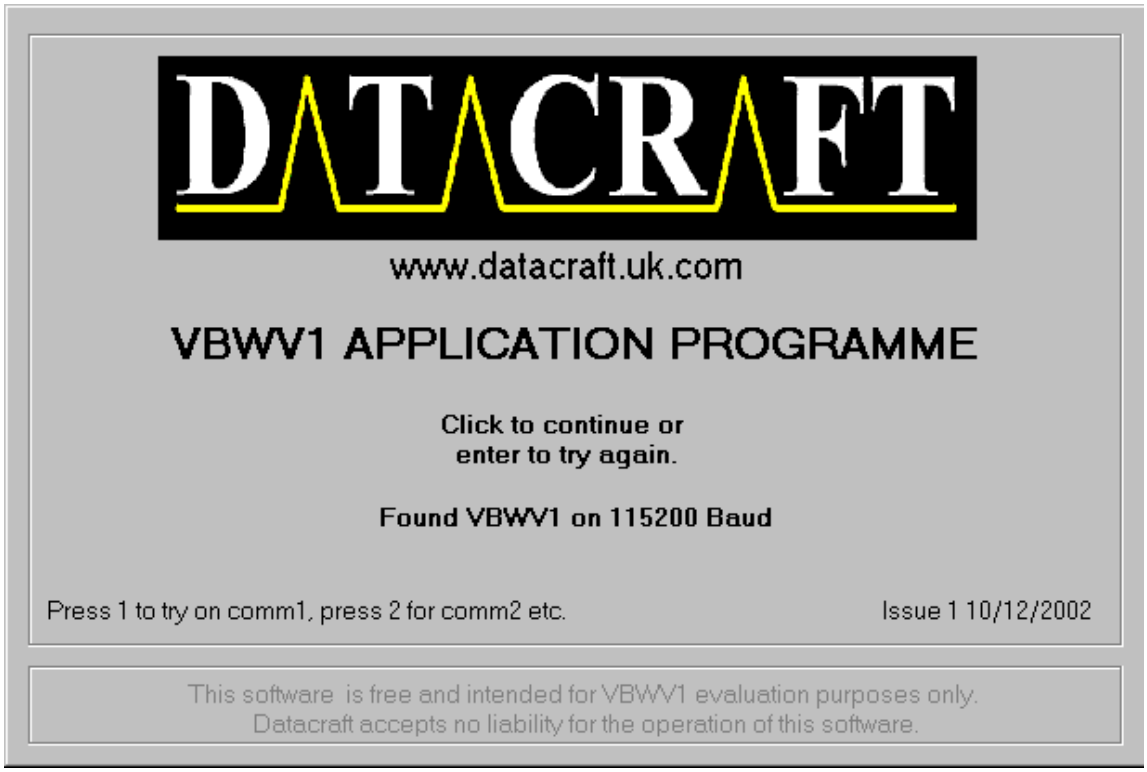
VBWV1 Application software.

The VBWV1 application software is supplied free for the evaluation purposes only, Datacraft accepts no responsibility for its operation and use.
To install copy all the files to a separate directory on your hard drive and click on setup.exe (unzip first if zipped up).
The software is intended to operate in windows at 1024x768 resolution.
Interconnection is as follows:



Opening screen

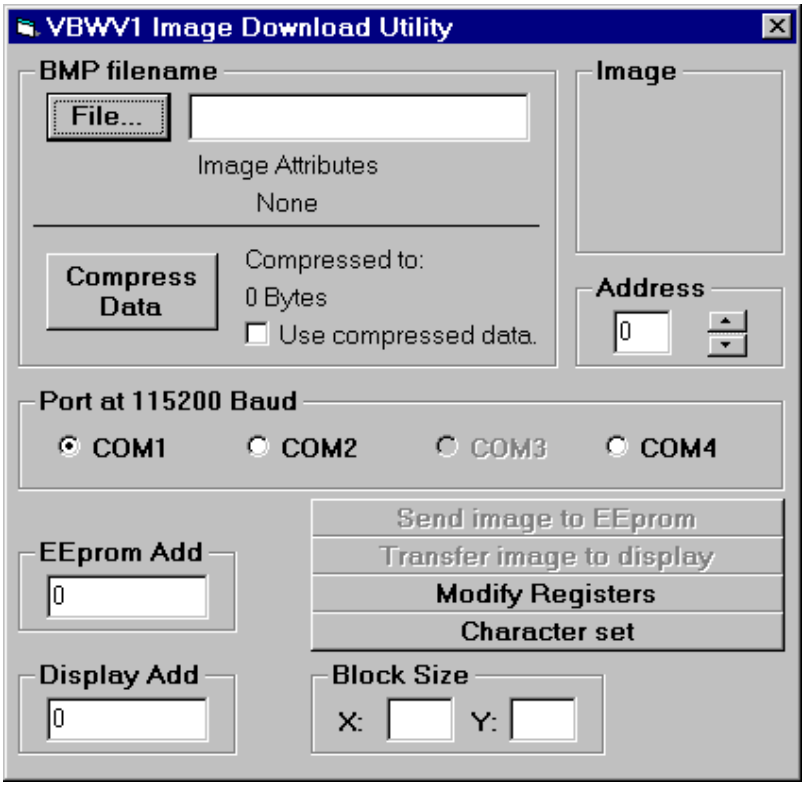
Upon execution the following screen appears:



The software looks for a VBWV1 board connected to Comm1, if one is found left click to go to the next screen. To try again press enter or 1,2,3 or 4 to try on different comm ports.

Bitmap Download Utility screen

This screen provides the ability to download bitmap images to the VBWV1 and display them using the transfer block command.



File

Use the file button to select the bitmap file required. Once loaded the image will appear in the image window and the image attributes will appear under the file name. The Block Size will appear in the X,Y windows in decimal.

Compress Data

Once the image is loaded the compress data button will show the file size of the image when compressed. Tick the "Use compressed data " box to use this data when sending image to VBWV1 EEprom and to use the transfer compressed block command when Transferring image to display.

Send image to EEprom

Use this button to down load the image data into the VBWV1 EEprom memory at the address in the EEprom Add window (in decimal). A window will appear to show the progress of the download.

Transfer image to display

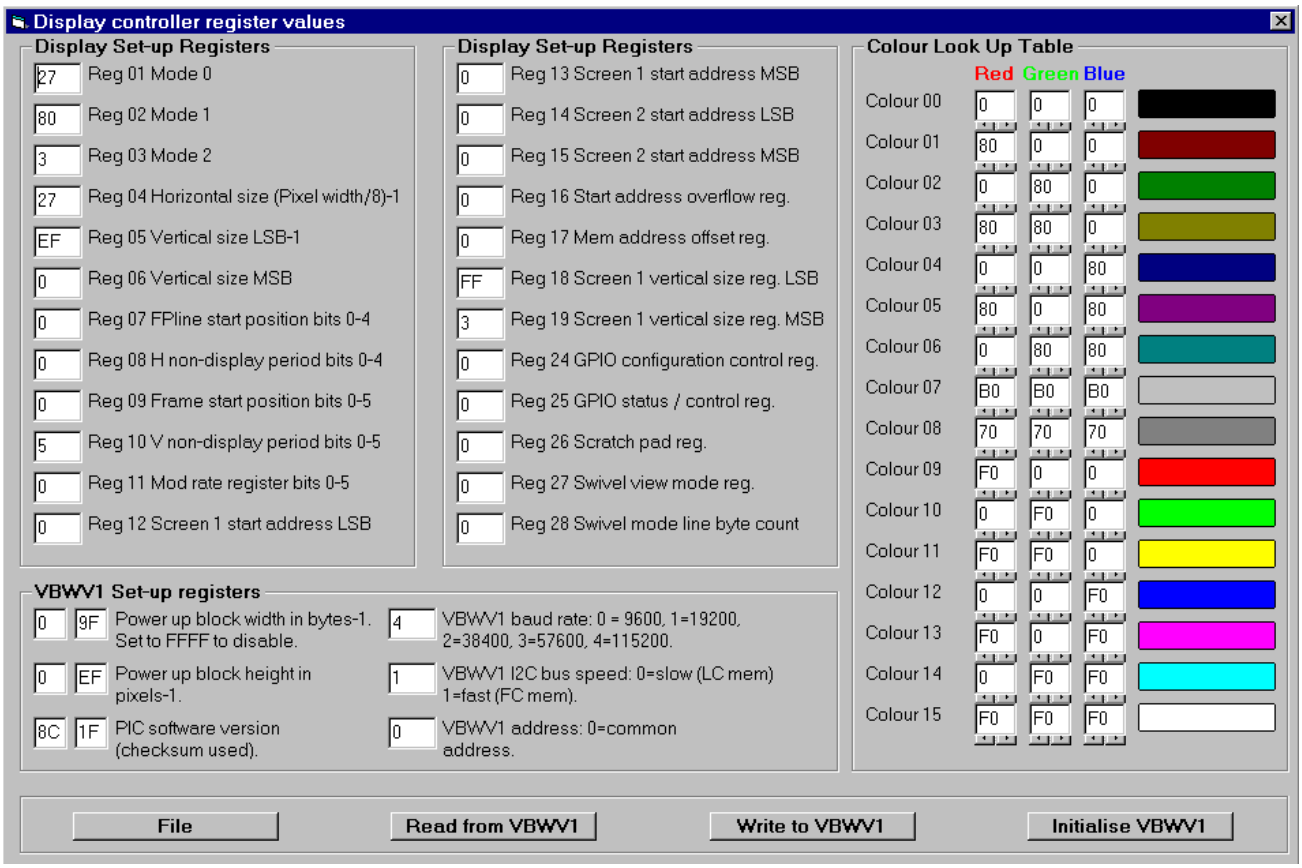
This button sets the VBWV1 EEprom address (as displayed in EEprom Add window in decimal) and the Display memory address (as displayed in Display Add window in decimal) then sends a transfer block (or compressed block) command using the block size information in the X and Y windows. The image stored in the VBWV1 EEprom memory will then appear on the display.

Address

The address window allows the address of the module being communicated with to be set. The value should correspond to the value stored in the VBWV1 internal EE memory address 50h. 00 will address the VBWV1 regardless of it's programmed address. If 00 is used when there are several VBWV1 boards on the serial bus then provision will need to be made to cater for the VBWV1's all replying simultaneously. Avoid using address 03 as this may interfere with the ETX functionality.

Modify Registers

This function uses the Read internal EE memory command to show all the initialisation information storred in the PIC internal EE memory. When the VBWV1 is powered up this information is used to confugure the S1D13705 display controller and various PIC functions.



Display set-up Registers

These show the values used to configure the S1D13705 configuration registers (in hex). To learn more about setting these please refer to the Epson S1D13705 Technical Manual section 8 “Registers” found at www.erd.epson.com . These values (in hex) can be modified by clicking in the relevant text box.

Colour Look Up Table

These show the values used to configure the S1D13705 look up table data registers. Each colour is made up of a combination of Red Green and Blue dots each of which can be varied in brightness from 0h to Fh (ie 16 levels). Note that only the most significant nibbles are used. The values can be modified using the arrow buttons below each text box and the colour boxes show a representation of the colour obtained. For 2 colours 1Bpp (1 bit per pixel) only the first 2 colours are used (i.e. colour 00 and colour 01), for 4 colours 2Bpp the first 4 colours are used and for 16 colours 4Bpp all 16 colours are used. When in monochrome mode all the Green values are used to represent the 2, 4 and 16 gray levels. The S1D13705 is capable of 256 colours 8Bpp, however there is not enough PIC internal EE memory to represent this, therefore if 256 colours are needed then the S1D13705 look up table will need to be programmed directly from the serial port by setting the display address to 1FFF5h and 1FFF7h and using the graphics mode to write data.

VBWV1 Set-up registers

Setting the power up block width and height registers to the graphics block size stored in the EEprom memory at address 00 will cause that graphics block to be displayed at power up just as if a transfer compressed block command was sent. To disable this function set the values to FFh.
The PIC software version allows a software checksum value to be stored for identification purposes. The user could use there own identification value if they wish.
The VBWV1 baud rate enables one of five baud rates to be selected as shown. Any value outside 0-4 will cause a default of 19200 baud.

VBWV1 I^2C bus speed enables one of two speeds to be selected, fast for FC memory chips and slow for LC memory chips. Default is slow.
VBWV1 Address sets the VBWV1 board address. If this is changed the corresponding value will need to be changed in the Address window on the Download utility screen (if 00 is not being used).
All the VBWV1 set-up register values will only become valid when they are written to the VBWV1 board and the board is powered down then up.

Read from VBWV1

This button refreshes all the values on the screen with the values in the internal PIC EE memory, using the Read internal EE memory command.

Write to VBWV1

This button updates the VBWV1 internal PIC EE memory with all the values on the screen, using the write internal EE memory command. Any changes made to the screen values will only be written to the PIC internal EE memory when this button is clicked.

Initialise VBWV1

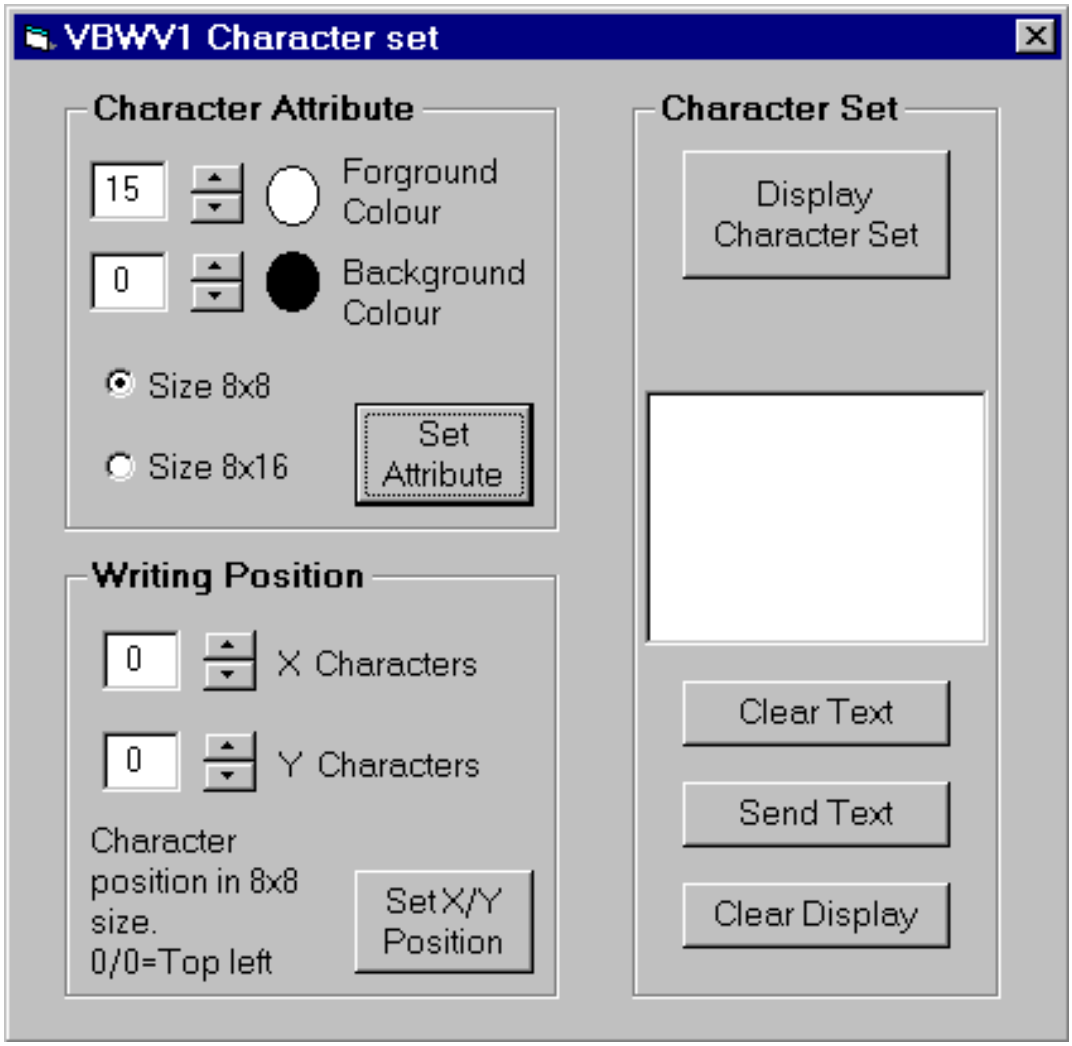
When this button is clicked any changes made to the PIC internal EE memory are transferred to the S1D13705 set-up registers, using the initialise 13705 command.

File

This button allows the saving and loading of the above modify registers screen values. This is done in hex Ascii format and creates a *.hex file. Use this feature to save set-ups such as 320x240_colour_stn_4bpp etc. which can later be used to quickly configure the VBWV1 for this display.

Character set screen

Use this screen to explore the Character mode of the VBWV1 board.



Character attribute

This window enables the foreground and background character colours to be set and the character size to be selected. This uses the Set character attribute command which is issued when the set Attributes button is clicked.

Writing Position

These Values allow the setting of the horizontal and vertical (X & Y) character writing position. For example a 320 X 240 display is divided into 0 to 39 horizontal characters and 0 to 29 vertical characters with 0,0 being top left. The Set X/Y Position button is used to write these values to the VBWV1 board using the Set writing position command.

Character set

The Display character set button dumps the whole character set onto the display at the position and attributes previously set.
Individual text strings can be sent to the display by typing in the text window and clicking the Send text button. This window can be cleared using the Clear text button.
The whole display can be cleared by clicking the Clear Display button.