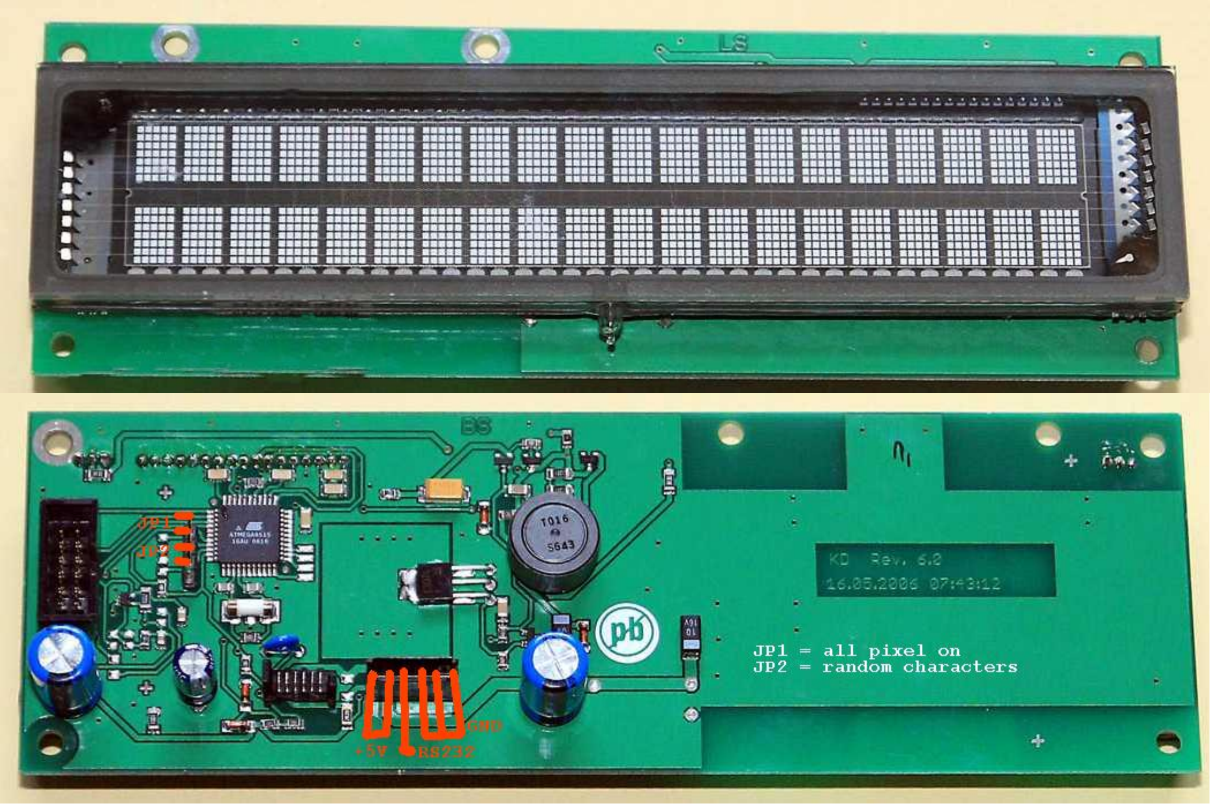
VFD Datasheet. Serial input



JP1 o 1 2 3 4 5 6
JP1 o +5V | Ground
JP2 o |
JP2 o RS232

Jumper 1 = all pixel on ; Jumper 2 = displays random characters

Commands:

The following DC1 and DC2 select the display mode. This mode is kept till the other mode is selected.

hex

$11 DC1 Mode: Ordinary mode
The cursor shifts one character to the right automatically when a character data is written. If the cursor is at the right end of the upper row, it shifts to the left end of the lower row. If the cursor is at the right end of the lower row, it shifts to the left end of the upper row.

$12 DC2 Mode: Horizontal Scroll Mode
All characters are shifted one character to the left and the character written newly is displayed at the right end of the lower row when the writing position reaches the right end of the lower row.

$08 BS: BACK SPACE
DC1 Mode: The cursor shifts one character to the left .When cursor reaches the left end of the lower row, cursor shifts to the rightmost of the upper row. If the cursor is at the left end of the upper row, it can’t shift anymore.

$09 HT: Horizontal TAB

DC1 Mode: The cursor shifts one character to the right. If the cursor is at the right end of the upper row, it shifts to the left end of the lower row. If the cursor is at the right end of the lower row, it can’t shift anymore.

DC2 Mode: Same as above.

$0A LF: Line feed

DC1 Mode: All characters are cleared while the cursor remains at the same position.

DC2 Mode: Same as above.

$0C CLR: Clear

DC1 Mode: The command clears display and memory. The cursor shifts to the left end of the upper row.

DC2 Mode: Same as above.

$0D CR: Carriage return

DC1 Mode: The cursor shifts to the left end of the upper row.

DC2 Mode: Same as above.

$1B ESC: Escape

The cursor position is defined by one byte data after the ESC data.

Upper Row	Lower Row
0000 0000 (1st Column)	0001 0100 (1st Column)
0001 0011 (20th Column)	0010 0111 (20th Column)

Columns are counted from 0 (hex00) to 39 (hex27)

$04 Dimming

DIM1, DIM2, DIM3, DIM4 select the luminance level.

DATA	Relative Luminance (%)
DIM1 (hex01)	100
DIM2 (hex02)	75
DIM3 (hex03)	50
DIM4 (hex04)	25

$1A SB: Sub Sequence (not successfully tested)

One user character can be registered by 8 byte after the SB data as follows:

1st byte : Enter the character code (hex20 to hexFF) where can be registered.

2nd byte to 8th byte Enter the data (active high) as shown in below.
At this time, D5 to D7 are invalid.

The following example shows the character “S”

	D0	D1	D2	D3	D4	
2nd byte	0	1	1	1	1	hex1E
3rd byte	1	0	0	0	0	hex01
4th byte	1	0	0	0	0	hex01
5th byte	0	1	1	1	0	hex0E
6th byte	0	0	0	0	1	hex10
7th byte	0	0	0	0	1	hex10
8th byte	1	1	1	1	0	hex0F

Bascom examples for AVR controller.

Connect the RS232 input to port TXD of the controller.
Baudrate is 9600

```
Config ComX = Dummy , Synchrone = 0 , Parity = None , Stopbits = 2 , Databits = 8 ,
Clockpol = 1

Const Vfd_ordinary_mode = &H11
Printbin Vfd_ordinary_mode ;

Const Vfd_scroll_mode = &H12
Printbin Vfd_scroll_mode ;

Const Vfd_backspace = &H08
Printbin Vfd_backspace ;

Const Vfd_h_tab = &H09
Printbin Vfd_h_tab ;

Const Vfd_line_feed = &H0A
Printbin Vfd_line_feed ;

Const Vfd_clear = &H0C
Printbin Vfd_clear ;

Const Vfd_carriage_return = &H0D
Printbin Vfd_carriage_return ;

Const Vfd_escape = &H1B
Const Vfd_second_line_pos10 = &H1D
Printbin Vfd_escape ; Vfd_second_line_pos10 ;

Const Vfd_dim = &H04
Const Vfd_dim_100% = &H01
Const Vfd_dim_75% = &H02
Const Vfd_dim_50% = &H03
Const Vfd_dim_25% = &H04
Printbin Vfd_dim ; Vfd_dim_25% ;
```

Ditt