

```

-----
(c) 2006 Gerhard Günzel
-----
Datei: I2C-LCD.BAS
Beschreibung: Test eines I2C-Displays (LPH3827-3, EA T123A)3x12 Zeichen direkt an I2C-Bus
'
Datenblatt http://www.lcd-module.de
Anzeigedaten sind in HEX, nach Characterset A (Datenblatt PCF2116)
oder in Bascom-HELP ASC (ASCII Tabelle)
Display ist direkt an I2C-Bus angeschlossen
PullUp am I2C-BUS 2x 10K
Poti für Kontrast 100K, single supply wie Datenblatt
Poti an VSS und VDD, Schleifer Pin 4
ChipAdresse HEX 74 (write)
Zeilenadresse HEX (1.-3. Zeile) 80,A0,C0
Achtung - Je Zeile nur 12 Zeichen, Rest geht ins Nirvana
80 bis 8B, A0 bis AB, C0 bis CB oder 128-139,176-188,192-203
-----
$regfile = "M8def.dat" 'Mega8 Profile
$baud = 9600 'Serielle Baudrate
$crystal = 16000000 'Quarzfrequenz extern
'----- LCD Konfiguration Testboard Mega8
'Config Lcdpin = Pin , Db4 = Portc.0 , Db5 = Portc.1 , Db6 = Portc.2 , Db7 = Portc.3 , E =
Portd.7 , Rs = Portd.6
'Config Lcd = 16 * 2
'$lcd = &HC000 'address of enable and RS signal
'$lcdrs = &H800 'address of enable signal
'Config Lcdbus = 4 '4 bit mode
'----- I2C-Bus Mega8 Standard-Init: PortC,Pin5=SCL, PortC,Pin4=SDA
Config Scl = Portc.5
Config Sda = Portc.4

'----- Beschreibung - INIT vom I2C-Display (LPH3827-3)
'
'Controlbytes
'
' Ablauf: Start - Adresse_I2Ckomponente+Write - 00000000 - Controlbyte - Start
'
'NOP
' &B0000 0000
' CLEAR DISPLAY
' &B0000 0001
' Return Home
' &B0000 0010
' ENTRY MODE SET Cursor, Display shift
' &B0000 01xx 04 bis 07
' DISPLAY CONTROL Displ. on/off, Cursor on/off, Cursor blink
' &B0000 1xxx 08 bis 0F
' CUROR/DISPLAY SHIFT Moves Cursor , Shift Display
' &B0001 xx00 10 bis 1C
' FUNCTION SET Set Interface Dataline, # of Displ. Lines, Volt Gen.
' &B001x xxx0 20 bis 3E

'----- init begin -----

I2cstart
Waitms 10
I2cwbyte &H74 'adresse und R/W=0
Waitms 10
I2cwbyte &H00 'controlbyte function set
Waitms 10
I2cwbyte &B000000001 'cls
Waitms 10
I2cwbyte &B00000110 'entry mode
Waitms 10
I2cwbyte &B00001111 'display control, curser display blink on
Waitms 10
I2cwbyte &B00011100 'curser display shift on
Waitms 10
I2cwbyte &B00101110 'Function Set 3 line display 2E
Waitms 10
'----- init end -----
'
'----- Zeile 3, Spalte 3
I2cwbyte &B11000010 'DDRAM Adresse (1.-3-Zeile) 80,A0,C0
Waitms 10 'Verzögerung Schreiben 10 msec.

```

```

I2cstart
Waitms 10
I2cwbyte &H74
Waitms 10
I2cwbyte &H40
'I2cwbyte &H60
I2cwbyte &H47
I2cwbyte &H81
I2cwbyte &H6E
I2cwbyte &H7A
I2cwbyte &H65
I2cwbyte &H6C
'----- Zeile 1, Spalte 1
I2cstart
Wait 1
Waitms 10
I2cwbyte &H74
Waitms 10
I2cwbyte &H00
Waitms 10
I2cwbyte &B10000000
Waitms 10
I2cstart
Waitms 10
I2cwbyte &H74
Waitms 10
I2cwbyte &H40
'I2cwbyte &H60
I2cwbyte &H47
I2cwbyte &H65
I2cwbyte &H72
I2cwbyte &H68
I2cwbyte &H61
I2cwbyte &H72
I2cwbyte &H64

'----- Zeile 2, Spalte 1
I2cstart
Wait 1
Waitms 10
I2cwbyte &H74
Waitms 10
I2cwbyte &H00
Waitms 10
I2cwbyte &B10100000
Waitms 10
I2cstart
Waitms 10
I2cwbyte &H74
Waitms 10
I2cwbyte &H40
'I2cwbyte &H60
I2cwbyte &H57
I2cwbyte &H57
I2cwbyte &H57
I2cwbyte &H2E
I2cwbyte &H45
I2cwbyte &H4D
I2cwbyte &H41
I2cwbyte &H47
I2cwbyte &H55
I2cwbyte &H2E
I2cwbyte &H44
I2cwbyte &H45
'----- Curser Zeile 3, Spalte 1
I2cstart
I2cwbyte &H74
I2cwbyte &H00
I2cwbyte &HC0
'I2cwbyte &H6C

I2cstop
End

```

```

'Startsequenz I2C-Bus
'adresse + write
'Control Byte write data
'Controlbyte read data
'G
'ü
'n
'z
'e
'l

'adresse und R/W=0
'controlbyte function set
'DDRAM Adresse (1.-3-Zeile) 80,A0,C0

'adresse + write
'Control Byte write data
'Controlbyte read data
'G
'e
'r
'h
'a
'r
'd

'adresse und R/W=0
'controlbyte function set
'DDRAM Adresse (1.-3-Zeile) 80,A0,C0

'adresse + write
'Control Byte write data
'Controlbyte read data
'W
'W
'W
'.'
'E
'M
'A
'G
'U
'.'
'D
'E

'adresse + write
'Control Byte write data
'Curser Zeile 3, Spalte 1

'end program

```