

FW05-NAP: Routine For Extended Sleep Delays

Description

LCD_16.INC is a collection of LCD routines to interface with 1x16, 2x16, and 4x16 character based LCD displays. It utilizes a 4 bit data bus, write-only interface to the LCD module.

What's Included

LCD_16.INC	The LCD routines
LCD1_DEM.ASM	1X16 Demo program
LCD2_DEM.ASM	2X16 Demo program
LCD4_DEM.ASM	4X16 Demo program
WAIT.INC	1mS delay routine
P16F84.INC	PIC16F84 definitions
LCDn_DEM.HEX	Assembled demo programs

Operation/Usage

These routines require a 4 MHz clock and the following connections (LCD-PIC): RS-RB2, E-RB3, D4-RB4, D5-RB5, D6-RB6, D7-RB7. These definitions match the pin assignments of the **BB18** LCD socket but can be redefined by modifying the bit definitions found at the beginning of LCD_16.INC.

User callable routines of LCD_16.INC are described below:

LCDINIT sets up the LCD display module for usage and should be called at the beginning of the program.

It sets up a 4-bit data bus to the display, and clears & initializes it. Initial cursor pos. is in the upper left.

Usage:

CALL LCDINIT

LCDOUT sends an ASCII char. in the W register to the LCD for display. Cursor pos. shifts one to the right after each displayed character.

Usage:

MOVLW '?' ; ? = any ASCII
CALL LCDOUT ; character

LCDLn are routines which moves the cursor to a column in the W register on the line specified by **n** (i.e. LCDL1 for line 1, LCDL2 for line 2, etc...).

Usage:

MOVLW 0x0? ; ? = 0 - F
CALL LCDLn ; n = 0 - 4

LCDCLR clears all characters from the display and sets the cursor to the upper left.

Usage:

CALL LCDCLR

Testing

We wrote LCD1_DEM.ASM, LCD2_DEM.ASM, and LCD4_DEM.ASM to demonstrate our LCD routines. They display **HELLO WORLD** on a variety of display sizes: LCD1_DEM.ASM for a 1x16, LCD2_DEM.ASM for a 2x16, and LCD4_DEM.ASM for a 4x16.

All tested successfully on our **BB18** Development Board with 1x16, 2x16, and 4x16 LCD displays by AZ Displays.

Contact Us

We maintain a website where you can get information on our products, obtain literature, and download support files. Visit us online at:

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Email your technical support questions to **support@dhmicro.com**. We try to respond to your questions within an hour if it is received Monday through Friday between the hours of 8am to 5pm (Mountain Time).

For sales questions or to place an order, direct your emails to **sales@dhmicro.com**. Refer to the order form and price list available on our website for product pricing, shipping rates, payment instructions, and for other info we need to complete your order.

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