```
 1: /************************************************************************
 2: * LayeredLcd.c - A MicroC/OS driver for for the Seiko LCD Display       *
 3: *                                                                       *
 4: *                This LCD driver implements the concept of layers.      *
 5: *                This allows asynchronous application tasks to write to *
 6: *                a single LCD display without interfering with each     *
 7: *                other.                                                 *
 8: *                                                                       *
 9: *                This driver requires hardware for read access because  *
10: *                it uses the LCD busy flag, BF.                         *
11: *                                                                       *
12: *                It is derived from the work of Matthew Cohn, 2/26/2008 *
13: *                                                                       *
14: * Todd Morton, 02/26/2013, First Release                                *
15: ************************************************************************/
16:
17: /************************************************************************
18: * LCD Layers - Define all layer values here                             *
19: *              Range from 0 to (LCD_NUM_LAYERS - 1)                     *
20: *              Arranged from largest number on top, down to 0 on bottom. *
21: ************************************************************************/
22: #define LCD_NUM_LAYERS 5
23:
24: #define CLOCK_LAYER 4
25: #define DBUTTON_LAYER 3
26: #define CHANGE_CLOCK 2
27: #define MESSAGE_LAYER 1
28: #define DISPLAY_LAYER 0
29:
30:
31: /************************************************************************
32:   Public Functions
33: ************************************************************************/
34:
35: extern void LcdInit(INT8U dl, INT8U n, INT8U f);
36:
37: extern void LcdDispChar(INT8U row,INT8U col,INT8U layer,INT8U c);
38:
39: extern void LcdDispString(INT8U row,INT8U col,INT8U layer,
40:                           const INT8U *string);
41:
42: extern void LcdDispTime(INT8U row,INT8U col,INT8U layer,
43:                         INT8U hrs,INT8U mins,INT8U secs);
44:
45: extern void LcdDispByte(INT8U row,INT8U col,INT8U layer,INT8U byte);
46:
47: extern void LcdDispDecByte(INT8U row,INT8U col,INT8U layer,
48:                             INT8U byte,INT8U lzeros);
49:
50: extern void LcdDispClear(INT8U layer);
51:
52: extern void LcdDispClrLine(INT8U row, INT8U layer);
53:
54: extern void LcdMoveCursor(INT8U row, INT8U col);
55: extern void LcdCursor(INT8U on, INT8U blink);
56: extern void LcdBSpace(void);
57:
58: extern void LcdShowLayer(INT8U layer);
59: extern void LcdHideLayer(INT8U layer);
```