**Lab 3 Mega Prelab**

A hard copy of this Mega Prelab is required to be turned in. Answers should not be handwritten. The timing diagram may be NEATLY drawn by hand with the assistance of a straightedge on engineering paper.

| **Name** | **Pin #** | **Type** | **PxDIR** | **PxREN** | **PxOUT** |
| --- | --- | --- | --- | --- | --- |
| GND | 20 | POWER | X | X | X |
| RST | 8 | OUTPUT | 1 | 0 | 1 |
| P1.4 | 6 | OUTPUT | 1 | 0 | 1 |
| MOSI | 15 | OUTPUT | 1 | 0 | 1 |
| SCLK | 7 | OUTPUT | 1 | 0 | 1 |
| VCC | 1 | POWER | X | X | X |
| S1 | 9 | INPUT | 0 | 0 | 1 |
| S2 | 10 | INPUT | 0 | 0 | 1 |
| S3 | 11 | INPUT | 0 | 0 | 1 |
| S4 | 12 | INPUT | 0 | 0 | 1 |

Referenced from: Nokia LCD 1202 BoosterPack v4-5 & MSP430 Family User Guide p328-329

| **Mystery Label** | **Register** |
| --- | --- |
| A | P1DIR |
| B | P1OUT |
| C | P2DIR |
| D | P2OUT |

Referenced from: MSP430 Family User Guide p328-329

| **ID** | **Bit** | **Function as set in the code** |
| --- | --- | --- |
| UCCKPH | 7 | Clock phase select |
| UCMSB | 5 | Controls the directions of the TX and RX shift registers |
| UCMST | 3 | Master mode select |
| UCSYNCH | 0 | Synchronous mode enabled |
| UCSSEL\_2 | 7-6 | Select SMCLK as the source clock in master mode |
| UCSWRST | 0 | Software RESET enabled |

Referenced from: MSP430 Family User Guide p445

| **Symbolic Constant** | **Hex** | **Function** |
| --- | --- | --- |
| #STE2007\_RESET | 0XE2 | Internal reset |
| #STE2007\_DISPLAYALLPOINTSOFF | 0XA4 | LCD display, normal display |
| #STE2007\_POWERCONTROL |  | Sets the power supply function on the chip |
| #STE2007\_POWERCTRL\_ALL\_ON | 0X2F | Voltage regulator, booster |
| #STE2007\_DISPLAYNORMAL | 0XA6 | LCD display, normal |
| #STE2007\_DISPLAYON | 0XAF | Display turned on |

Referenced from: STE2007.pdf p41 or 47 depending on how you look at it

DOCUMENTATION:

The following cadets worked together and discussed Lab 3 Mega Prelab on Sunday, 28 September 2014 in the 321 classroom.

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* C2C Chris Kiernan
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REFERENCES:

* Table 1: Nokia LCD 1202 BoosterPack v4-5 & MSP430 Family User Guide p328-329
* Table 2: MSP430 Family User Guide p328-329
* Table 3: MSP430 Family User Guide p445
* Table 4: STE2007.pdf p41 or 47 depending on how you look at it

<http://ece382.com/datasheets/Nokia_1202_LCD_BoosterPack_v4-5.pdf>

<http://www.ti.com/lit/ug/slau144j/slau144j.pdf>

<http://ece382.com/datasheets/ste2007.pdf>