



Features

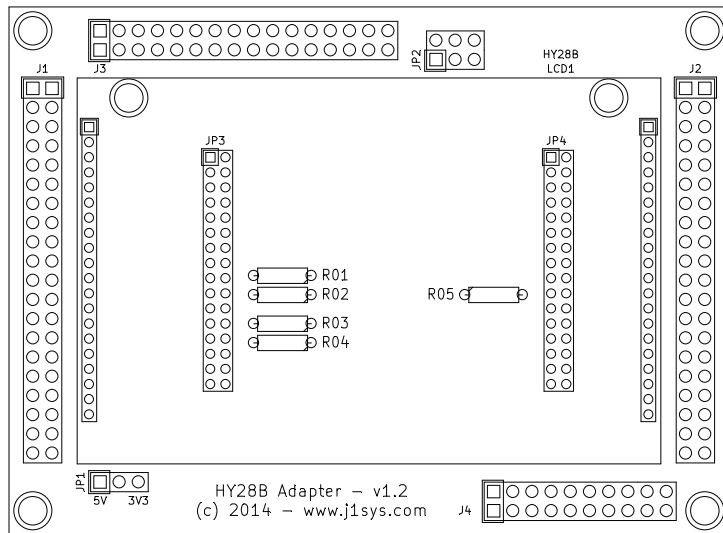
- Adapts 2mm HY28B to 2.54mm connections
- Includes 3.3V HY28B 2.8" 320x240 RGB LCD w/Touch
- Jumper options for voltage, SPI sharing, pull-ups
- Through board connector for easy PSoC5LP development board connection
- Versatile SPI connections or complete Parallel and SPI

General Description

Our HY28B Adapter board includes one of our HY28B 2.8" 320x240 RGB LCD w/Touch and adapts all of the connections to several easier to use connection configurations.

One popular connection schema is the direct plug-in replacement to the 3V3 Character LCD on the PSoC5LP Development board.

Board Layout



Jumpers

Jumper	Description
JP1	The HY28B works at 3.3VDC. It includes a 5VDC to 3.3VDC regulator. If you are supplying the adapter with 5V on either Pin 2 of J3 or Pin 6 of J4 then JP1 must be jumpered from Pin 1 to Pin 2. (Pin 1 is labeled 5V). If either J3 or J4 is externally connected to 3.3V then JP1 must be jumpered from Pin 2 to Pin 3 (Pin 3 is labeled 3v3). *** WARNING - FAILURE TO MATCH POWER COULD DAMAGE UNIT ***
JP2	JP2 will bridge together the SCLK (SPI Clock), MISO (Master In Slave Out), and MOSI (Master Out Slave In) signals of the LCD and Touch Panel. If you want to have a SPI shared between the two slaves then you must install 3 jumpers across the 6 pin jumper header. Must be used to have both LCD and Touch Panel work with J3 for PSoC5LP Development board compatible connections. Optional for J4 connections.
JP3 & JP4	Some of the signals may need to be pulled up to 3.3V and others may need to be pulled down to ground for unique configurations. To allow for this every signal from the HY28B has a matching set of pins on JP3 or JP4 to connect it to a pull-up/pull-down. Please refer to the schematic for more information on pins and pull-up/pull-down options.

Connectors

Connector	Description
LCD1	LCD1 is the name for the two rows of 2mm machined sockets that accept the HY28B LCD module.
J1 & J2	J1 & J2 bring all of the HY28B signals out to 2.54mm 2x connections. The board does not have these populated. They are left to the user to decide what connectors should be installed (if any). Only needed for FULL complement of parallel and SPI connections.
J3	A through board 2.54mm 1x16 connector. A 1x16 long pin male/male connector is supplied that can be inserted from beneath the board and then inserted into the 1x16 connector normally use for 3v3 characer LCD on the PSoC5LP Development board.
J4	

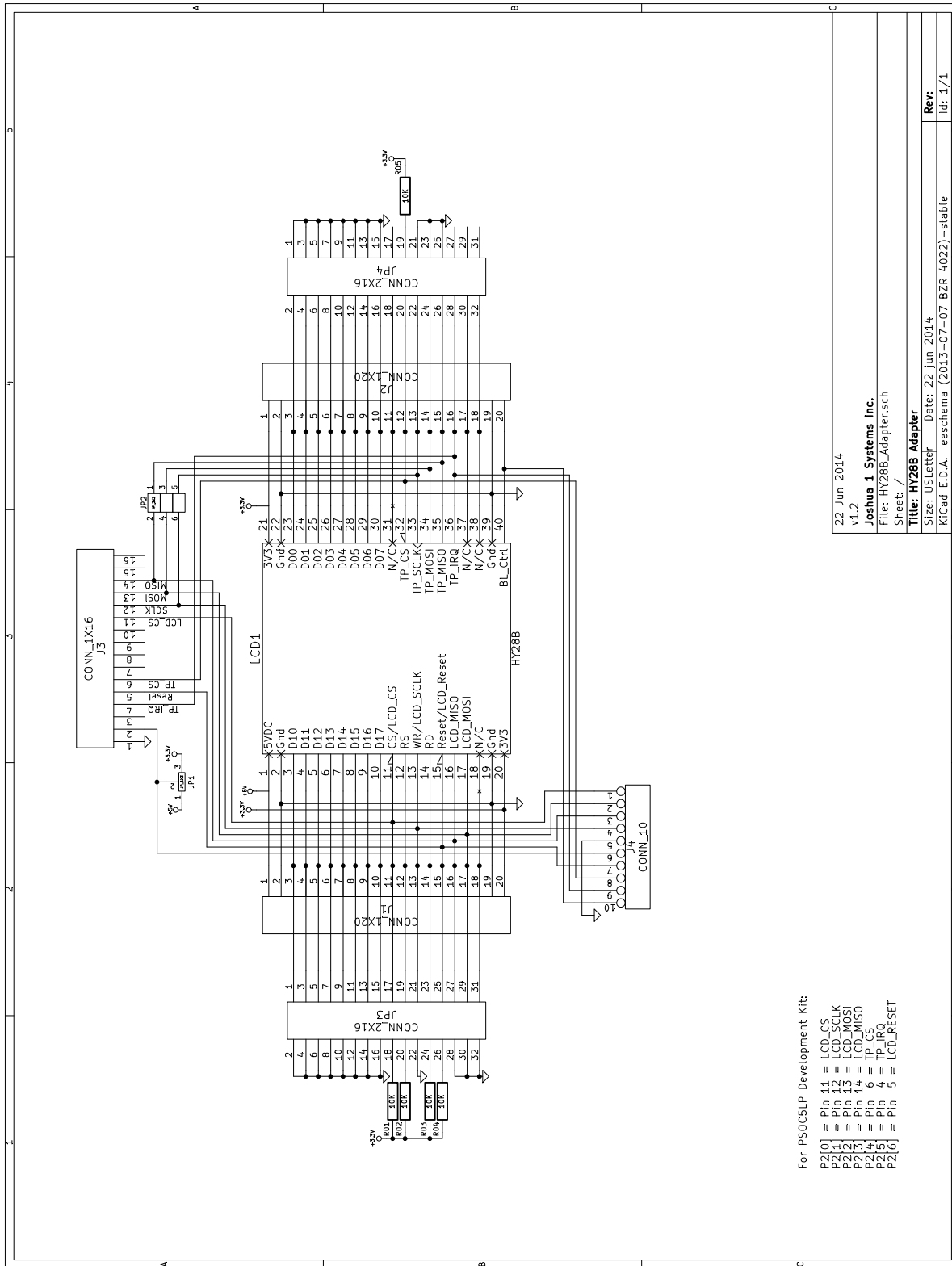
LCD1 HY28B Left Socket	
Pin	Description
1	5VDC
2	Ground
3	D10
4	D11
5	D12
6	D13
7	D14
8	D15
9	D16
10	D17
11	CS/LCD_CS
12	RS
13	WR/LCD_SCLK
14	RD
15	Reset/LCD_Reset
16	LCD_MISO
17	LCD_MOSI
18	N/C
19	Ground
20	3V3DC

LCD1 HY28B Right Socket	
Pin	Description
21	3V3DC
22	Ground
23	D00
24	D01
25	D02
26	D03
27	D04
28	D05
29	D06
30	D07
31	N/C
32	TP_CS
33	TP_SCLK
34	TP_MOSI
35	TP_MISO
36	TP_IRQ
37	N/C
38	N/C
39	Ground
40	BL_Ctrl

J3 PSoC5LP Development Input/Output Connector	
Pin	Description
1	Ground
2	5VDC or 3.3VDC - Usually 3.3VDC for PSoC5LP
3	N/C
4	TP_IRQ P2[5] on PSoC5LP
5	Reset P2[6] on PSoC5LP
6	TP_CS P2[4] on PSoC5LP
7	N/C
8	N/C
9	N/C
10	N/C
11	LCD_CS P2[0] on PSoC5LP
12	SCLK P2[1] on PSoC5LP
13	MOSI P2[2] on PSoC5LP
14	MISO P2[3] on PSoC5LP
15	N/C
16	N/C

J4 External SPI Input/Output Connector	
Pin	Description
1	LCD_CS
2	MOSI
3	MISO
4	SCLK
5	Ground
6	+VDC
7	Reset
8	TP_CS
9	TP_IRQ
10	BL_Ctrl

Schematic



22 Jun 2014
v1.2
Joshua 1 Systems Inc.
File: HY28B_Adapter.sch
Sheet: /
Title: HY28B Adapter
Date: 22 Jun 2014
Size: USLetter
KitCad E.D.A. eeschema (2013-07-BZR 4022)-stable
Rev: /
Id: 1/1

For PSOC5LP Development Kit:
 P2[0] = Pin 11 = LCD_CS
 P2[1] = Pin 12 = LCD_SCLK
 P2[2] = Pin 13 = LCD_MISO
 P2[3] = Pin 14 = LCD_MOSI
 P2[4] = Pin 6 = TP_CS
 P2[5] = Pin 4 = TP_IRQ
 P2[6] = Pin 5 = LCD_RESET