

Other Information

To obtain the most recent and complete documentation for this demonstration board, please refer to the Microchip web site:

<http://www.microchip.com/graphics>

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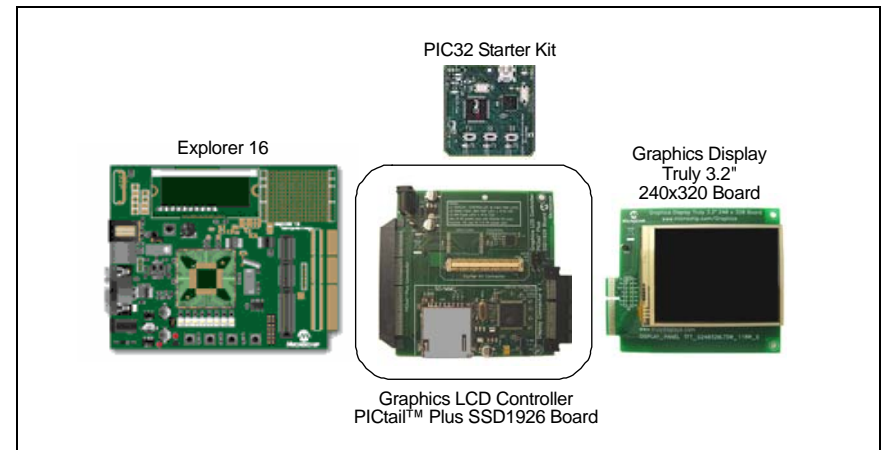


Graphics LCD Controller PICtail™ Plus SSD1926 Board

Features

- Graphics display controller, Solomon Systech SSD1926, supporting 4/8-bit STN, 4/8-bit CSTN, 18-bit HR-TFT and 9/12/18/24-bit TFT interfaces. A detailed data sheet can be downloaded from www.solomon-systech.com. Additional samples can be procured from www.microchipdirect.com.
- SD/MMC Card socket, connected to SSD1926 via a 4-wire SD interface
- 16 Megabit (2Mx8) serial Flash memory for additional data storage
- Display connector for interfacing with different display boards
- PICtail™ Plus Interface for connecting to Explorer 16 Development Board
- PIC32 Starter Kit Connector

Getting Started

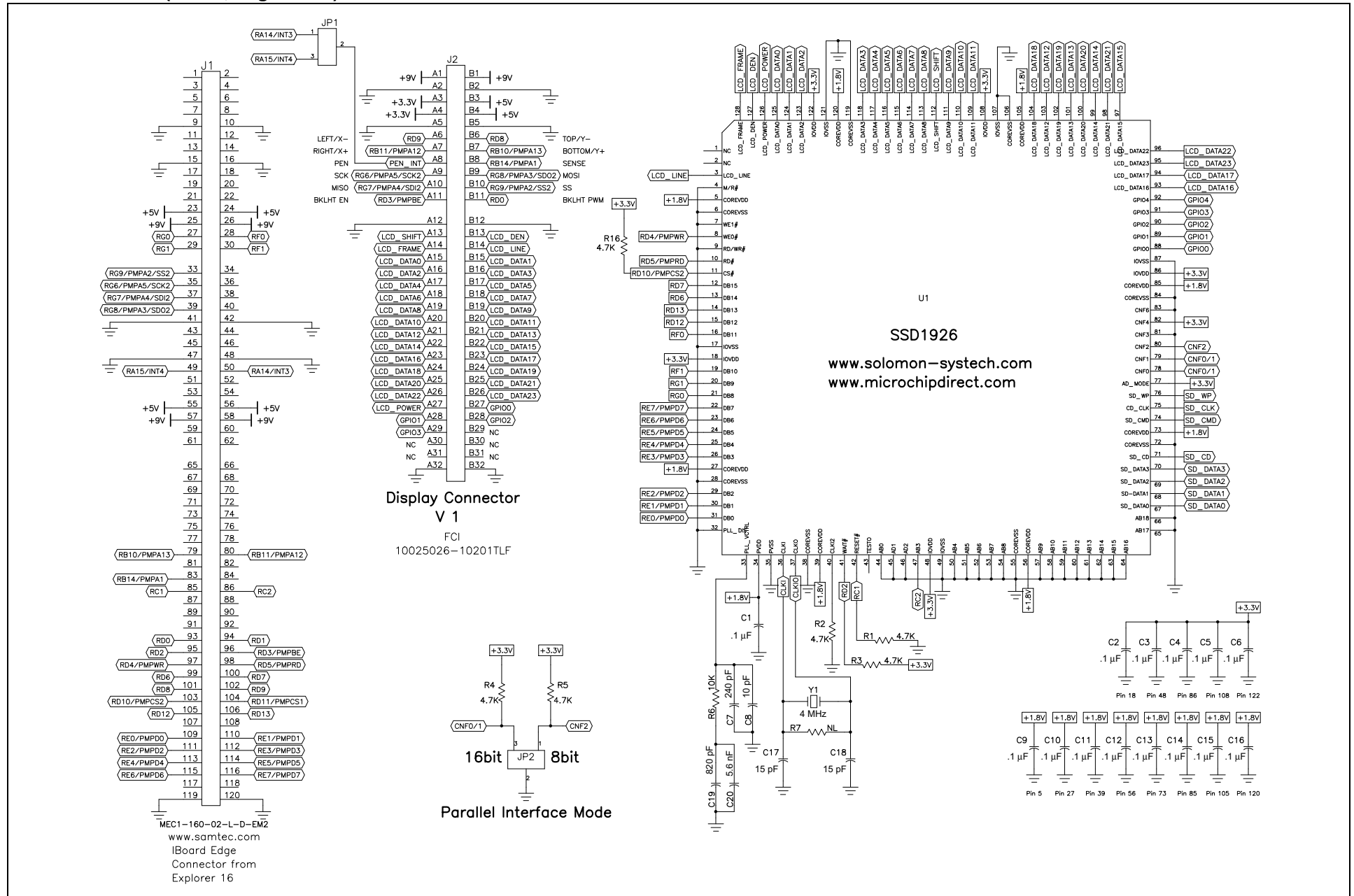


An Explorer 16 development board (DM240001) or one of the PIC32 Starter Kits (DM320001, DM320003) is required, but only one should be used. An external 9V (AC162039) power supply can be connected through the Explorer 16 or directly to connector, J5. When a PIC32 Starter Kit is used, the setup can be powered via the USB debugger. If your USB is unable to supply enough power, the external power supply should be used. Lastly, a display board, such as the Graphics Display Truly 3.2" 240x320 Board (AC164127-5), should be connected to the display connector. Several board settings can be selected.

- Jumper, JP1, connects an interrupt signal, PEN_INT, from the Display Connector to either signal, RA14 or RA15 (open by default).
- Jumper, JP2, selects the data bus width for the SSD1926 graphics display controller. In the lower position, the data bus is 8-bit and in the upper position, it is 16-bit (8-bit by default).
- Jumper, JP3, selects the chip select line between RD1 and RD11 for the Flash memory (RD1 by default).

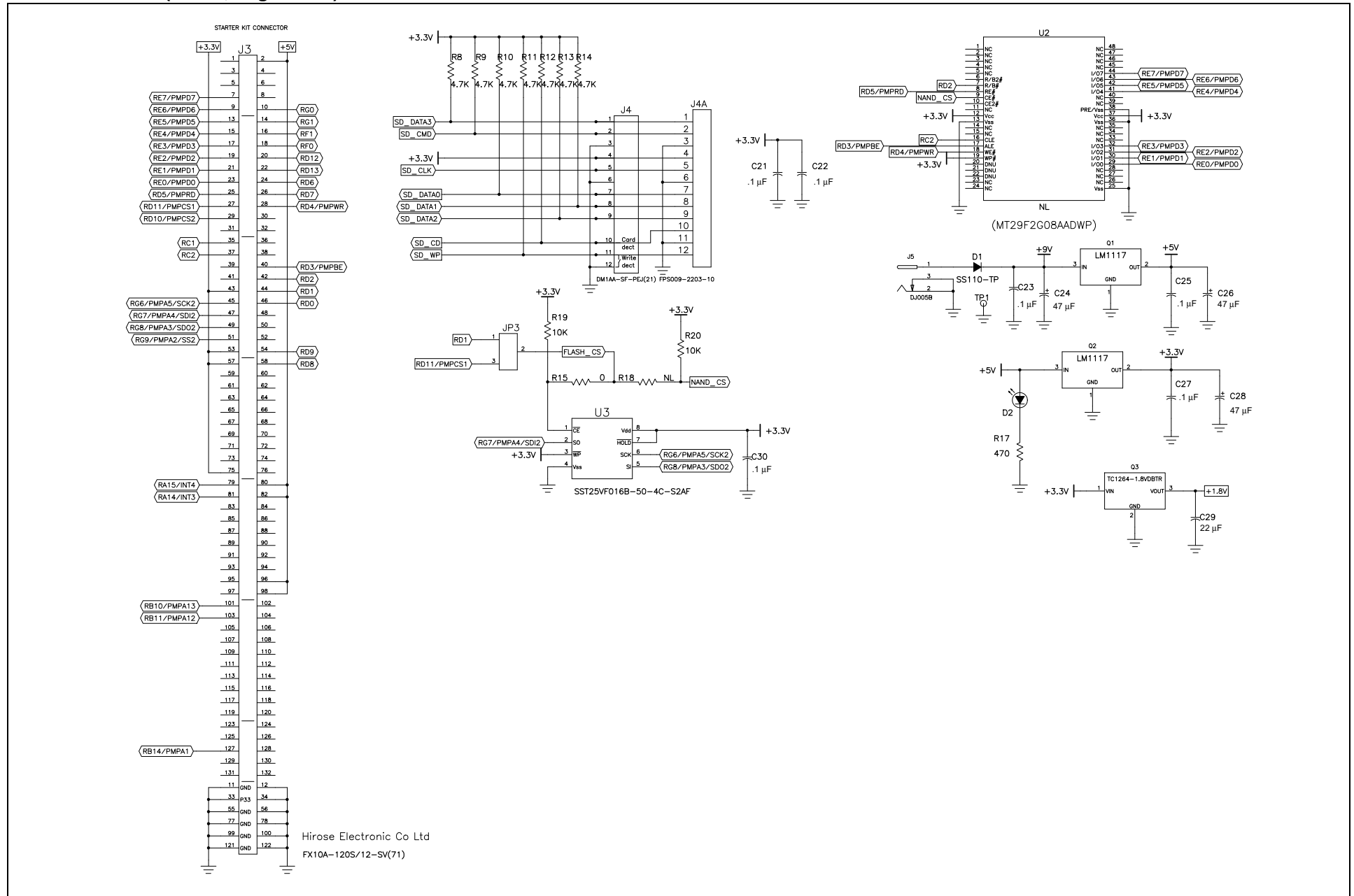
Graphics LCD Controller PICtail™ Plus SSD1926 Board

Board Schematic (Rev. 2, Page 1 of 2)



Graphics LCD Controller PICtail™ Plus SSD1926 Board

Board Schematic (Rev. 2, Page 2 of 2)



Getting Started (Continued)

The Graphics LCD Controller PICtail™ Plus SSD1926 Board can be used in conjunction with the Microchip Graphics Library. The Microchip Graphics Library and other firmware examples can be downloaded from <http://www.microchip.com/graphics>. The Microchip Graphics Library installer will create a **Start Menu** folder under Programs\Microchip\Graphics Library vX.XX. Please refer to the “**Getting Started**” section in the Microchip Graphics Library Help at this location to program and run demonstration projects.

The Graphics LCD Controller PICtail™ Plus SSD1926 Board has a footprint for NAND Flash memory (U2). End designers may choose to install a NAND Flash (i.e., MT29F2G08AADWP). In which case, some modifications must be done. Resistor, R15, should be removed and a zero ohm resistor, R18, should be installed to switch the chip select signal from the serial Flash to the NAND Flash. Software support for the NAND Flash and SD/MMC card is not available at initial release of hardware. Please check the current release of the Microchip Graphics Library for availability.

A different display board may also be available, please check www.microchip.com/graphics for available options. If an end designer chooses to develop a custom display board, the included schematic shows the details of signal connections. Do note that a different display may require modifications to the software provided with the Microchip Graphics Library to function properly. Also refer to the SSD1926 Data Sheet, Table 6-10, as different interface modes may require different signals mapping.

Important: It is the user’s responsibility to obtain a copy of, familiarize themselves fully with, and comply with the requirements and licensing obligations applicable to third party tools, systems and/or specifications. This includes, but is not limited to, Flash-based media and FAT file systems available from SD Card Association, MultiMediaCard Association and Microsoft® Corporation.

Signal Interface for Display Connector

| Pin No. | Symbol | Level | Description |
|------------------|----------------|-------|---|
| A1, B1 | +9V | +9.0V | Power Supply |
| A2, B2 | GND | GND | Ground |
| A3, A4 | +3.3V | +3.3V | Power Supply |
| B3, B4 | +5V | +5.0V | Power Supply |
| A5, B5 | GND | GND | Ground |
| A6 | LEFT/X- | I/O | Touch Panel Left |
| B6 | TOP/Y- | I/O | Touch Panel Top |
| A7 | RIGHT/X+ | I/O | Touch Panel Right |
| B7 | BOTTOM/Y+ | I/O | Touch Panel Bottom |
| A8 | PEN_INT | I | Pen Interrupt (Touch Panel Driver) |
| B8 | SENSE | I | 5-Wire Touch Panel Sense |
| A9 | SCK | O | PIC® Microcontroller SCK |
| B9 | SDO | O | PIC Microcontroller SDO |
| A10 | SDI | I | PIC Microcontroller SDI |
| B10 | SS | O | PIC Microcontroller SS |
| A11 | BKLHT_EN | O | Enable for Backlight Driver |
| B11 | BKLHT_PWM | O | PWM Output for Backlight Driver |
| A12, B12 | GND | GND | Ground |
| A13 | SHIFT | O | Pixel Shift Signal |
| B13 | DEN | O | Data Enable for 24-Bit Digital RGB Interface |
| A14 | FRAME | O | Frame Pulse |
| B14 | LINE | O | Line Pulse |
| A15-A26, B15-B26 | LDATA0-LDATA23 | O | 24-Bit Data |
| A27 | GPO (DISP_ON) | O | GPO can be Configured for Display On or as General Purpose Output |
| B27 | GPIO0 (CS) | I/O | GPIO0 can be Used for SPI CS or as General Purpose I/O |
| A28 | GPIO1 (SCK) | I/O | GPIO1 can be Used for SPI SCK or as General Purpose I/O |
| B28 | GPIO2 (MOSI) | I/O | GPIO2 can be Used for SPI MOSI or as General Purpose I/O |
| A29 | GPIO3 (MISO) | I/O | GPIO3 can be Used for SPI MISO or as General Purpose I/O |
| A30-A31, B29-B31 | NC | — | Not Connected |
| A32, B32 | GND | GND | Ground |