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# Quick Start Guide

## MPC830x-TLCD

3.2" QVGA LCD Touch Screen with  
12-Key Capacitive Touch Keypad



## Get to Know the MPC830x-TLCD



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### MPC830x-TLCD

The MPC830x-TLCD is a 3.2" QVGA LCD touch screen with a 12-key capacitive touch keypad. The LCD panel can be driven with a parallel bus, SPI or RGB display interface signaling.

1

### Configuring Display

Configure the display interface as a parallel bus interface (DIF\_SEL=OFF), SPI interface (DIF\_SEL=ON, DISABLE\_SPI=ON and DISABLE\_RGB=OFF) or an RGB interface (DIF\_SEL=ON) with optional SPI depending on the DISABLE\_SPI setting. Set the TFT\_PS0-3 settings in accordance with the selected display interface. See configuration switch settings.

2

### Mount Display

**Note:** Configure the module before mounting since the configuration switch is inaccessible once mounted. Ensure that the display connector is properly aligned to the mating connector and press down. Insert at least one screw through an aligned mounting hole on the mating board into a mounting standoff to secure the module.

## 3 Software Driver Development

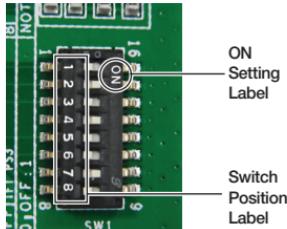
Visit [freescale.com/MPC830x-TLCD](http://freescale.com/MPC830x-TLCD) for more information on how to configure and control the LCD panel, touch screen and keypad functionality.

## 4 Configuration Switch Settings

See configuration switch setting tables.

### Configuration Switch Settings

| SW <sup>1</sup> | Signals <sup>2</sup>     | Settings <sup>2</sup> | Switch <sup>3</sup> | Description                          |
|-----------------|--------------------------|-----------------------|---------------------|--------------------------------------|
| 1               | DIF_SEL                  | 0                     | ON                  | RGB + SPI interface                  |
|                 |                          | 1                     | OFF                 | Parallel bus interface               |
| 2               | DISABLE_SPI <sup>4</sup> | 0                     | ON                  | Enable SPI and parallel interfaces   |
|                 |                          | 1                     | OFF                 | Disable SPI and parallel interfaces  |
| 3               | DISABLE_RGB <sup>4</sup> | 0                     | ON                  | Enable RGB interface                 |
|                 |                          | 1                     | OFF                 | Disable RGB interface                |
| 4               | NC                       | -                     | -                   | Not used, unconnected                |
| 5-8             | TFT_PS0-3                | 1101                  | OFF, OFF, ON, OFF   | 16-bit big-endian parallel interface |
|                 |                          | Any                   | Any                 | PS0-3* display mode signals          |



### \*PS Mode Settings

| PS3 | PS2 | PS1 | PS0 | Display Interface Mode                  |
|-----|-----|-----|-----|---|
| 1   | 1   | 1   | 1   | 3-wire SPI                              |
| 1   | 1   | 1   | 0   | 4-wire SPI                              |
| 1   | 0   | 1   | 1   | 16-bit big-endian parallel interface    |
| 1   | 0   | 1   | 0   | 8-bit big-endian parallel interface     |
| 1   | 0   | 0   | 1   | 16-bit little-endian parallel interface |
| 1   | 0   | 0   | 0   | 8-bit little-endian parallel interface  |
| 0   | 1   | 1   | 1   | 18-bit big-endian parallel interface    |
| 0   | 1   | 1   | 0   | 9-bit big-endian parallel interface     |
| 0   | 1   | 0   | 1   | 18-bit little-endian parallel interface |
| 0   | 1   | 0   | 0   | 9-bit little-endian parallel interface  |
| 0   | 0   | 1   | 1   | Reserved                                |
| 0   | 0   | 1   | 0   | Reserved                                |
| 0   | 0   | 0   | 1   | 18-bit RGB interface + 4-wire SPI       |

- 1) Switch positions as printed on the switch
- 2) Schematic signal names and logical state
- 3) Switch settings as printed on the switch, factory settings highlighted red
- 4) These signals condition DIF\_SEL interface selection. DIF\_SEL will select between an enabled RGB or parallel interface

## Support

Visit [freescale.com/support](http://freescale.com/support) for a list of phone numbers within your region.

## Warranty

Visit [freescale.com/warranty](http://freescale.com/warranty) for complete warranty information.

To learn more about the MPC830x-TLCD,  
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