

## 565 LCD Adapter Graphics Card Information Sheet

### Overview

The 565 LCD Adapter Graphics Card (AC320212) enables controllerless-based graphics for a large variety of Microchip starter kits. This information sheet provides an overview and a detailed schematic of the 565 LCD Adapter Graphics Card.

The 565 LCD Adapter Graphics Card is designed to allow the color space mapping to increase from the 16-bit output to the 24-bit input which is found on most of the displays.

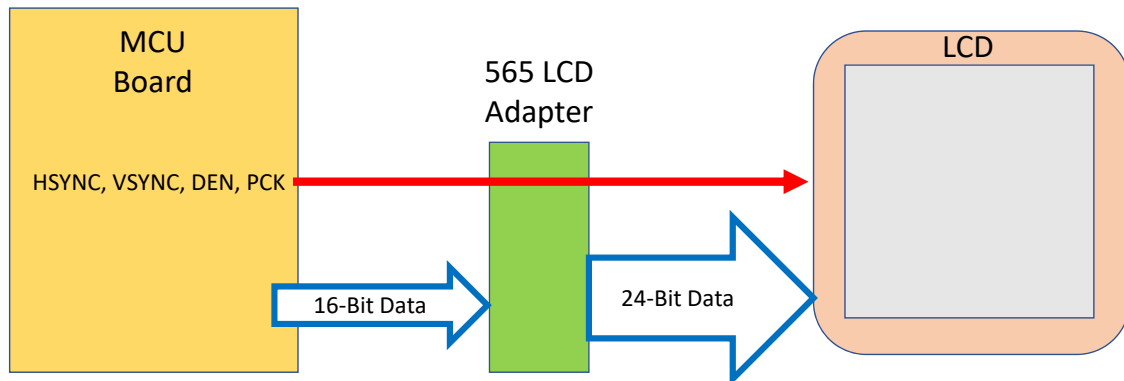
The 565 LCD Adapter Graphic Card is designed to be used with the following starter kits:

- SAM E70 Xplained Ultra (Part number [DM320113](#))
- Curiosity PIC32 MZ EF 2.0 (Part number [DM320209](#))
- High-Performance 4.3" WQVGA Display Module with maXTouch (Part number [AC320005-4](#))
- High-Performance WVGA LCD Display Module with maXTouch (Part number [AC320005-5](#))

Additional information about the 565 LCD Adapter Graphics Card is available at <http://www.microchip.com>.

The graphic card can also be used with other Microchip development hardware. A typical block diagram of the 565 LCD Adapter Graphics Card is shown below.

**Figure 1. 565 LCD Adapter Graphics Card Block Diagram**



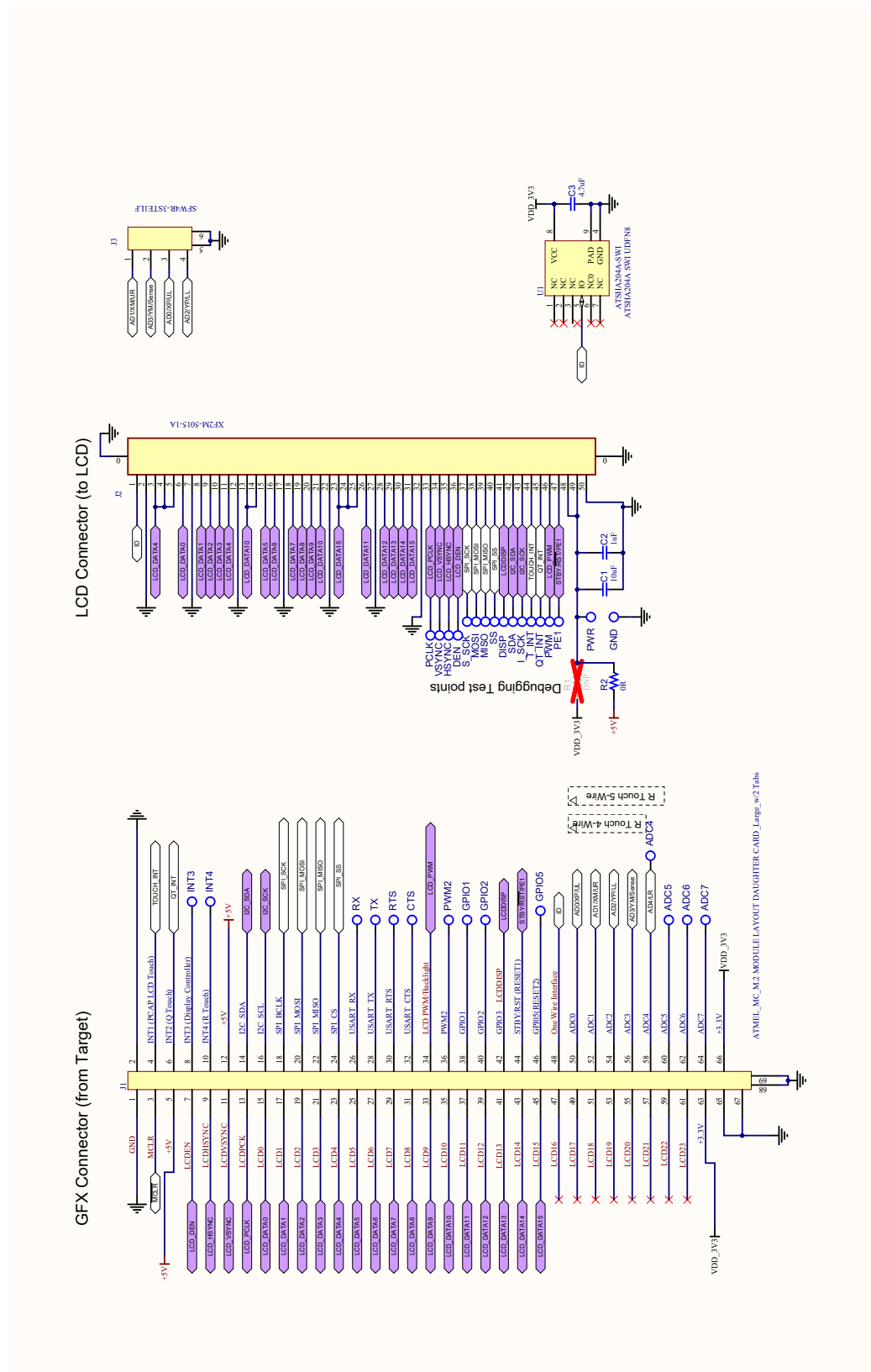
The following figure shows the color mapping from a 16-bit source output from the microcontroller, where 24-bit is the input to an LCD panel. The lower LSBs of the 24-bit connections are tied to the MSB from the 16-bit output. This allows the maximum color output on the LCD panel when the 16-bit value is written to the maximum of its output space.

**Figure 2. Color Space Mapping**

24-bit (out)	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	
	D4	D4	D4						D10	D10						D15	D15	D15							
16-bit (in)				D0	D1	D2	D3	D4		D5	D6	D7	D8	D9	D10						D11	D12	D13	D14	D15

For additional information on drivers and examples, refer to <http://www.microchip.com/mplab/mplab-harmony>.

1. Schematics



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