Color LCD Breakout
Breakout Board for Nokia 6100
5/18/2006

1 Overview

This breakout board allows quick and easy development for the Nokia 6100 color LCD. Only six connections are needed for complete operation of the LCD. The built in voltage booster converter powers the LED backlight, allowing single supply operation at 3.3 volts.

2 Hardware description

Using this breakout board is fairly simple. It contains a connector for the LCD, two headers and three solder jumpers. Initially the device is configured for single supply 3.3 volt operation. Connections should be made to Header 1. Snap on an LCD, apply +3.3 volts across +Vin and GND, and you should see the display light up. RST, SDATA, SCLK, and CS attach to your microcontroller. (check out our example code).

Alternatively, Header 2 allows for direct access to the LCD connector. Be sure to remove the solder jumpers JC1, JC2, and JC3 for direct access to the LCD connector. The three jumpers make the following connections:

JC1: Vdig (pin 1 on LCD connector) -> Vdsp (pin 6 on LCD connector).

JC2: LED+ (pin 10 on LCD connector) -> Voltage from booster circuit.

JC3: Vdig -> Vin
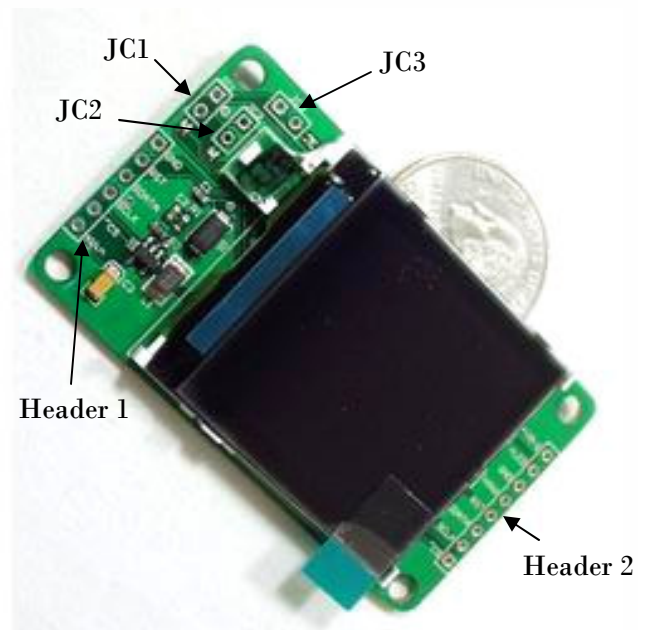
3 Nokia 6100 LCD and Noise

The LCD screens are sensitive to electrical noise on the Vdsp supply line. This line provides power for the LCD itself while Vdig supplies power to the screens controller and interface logic. When all three jumpers are jumped, Vdig and Vdsp are connected together to Vin on the breakout board. Vin also supplies power to the booster circuit. The booster causes large amounts of noise on Vdsp that can cause the screen to flicker randomly. For best results disconnect JC1 and use a separate 3.3 volt supply for Vdsp. If a separate regulated 3.3 volt supply is not available for Vdsp, try a 100uF capacitor between Vdsp and GND which might provide acceptable performance.