# imall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## SparkFun 20x4 SerLCD - Black on RGB 3.3V

### LCD-14074

The SparkFun SerLCD is an AVR-based, serial enabled LCD that provides a simple and cost effective solution for adding a 20x4 Black on RGB Liquid Crystal Display into your project. We've seriously overhauled the PCB design on the back of the screen by including an ATMega328P that handles all of the screen control, meaning a backpack is no longer needed! This display can now accept three different types of commands: serial, I<sup>2</sup>C, and SPI. This simplifies the number of wires needed and allows your project to display all kinds of text and numbers.

The on-board ATMega328P AVR microcontroller utilizes 11.0592 MHz crystal for greater communication accuracy with adjustable baud rates of 1200 through 1000000 but is default set at 9600. The firmware for this SerLCD is fully opensource and allows for any customizations you may need.

**Note:** Since the SerLCD is a 3.3V device, please make sure you convert to 3.3V logic depending on your chosen microcontroller or single board computer. Otherwise, you may risk damaging your board.

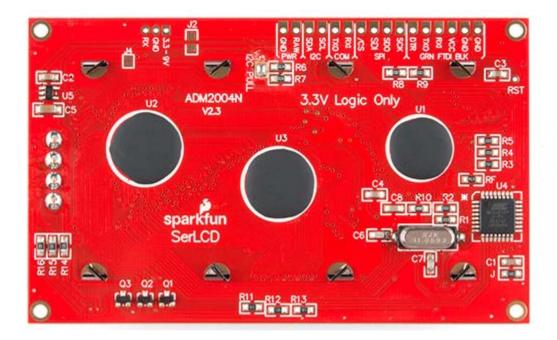
#### FEATURES

- 20x4, Black on RGB Display
- The AVR ATMega328p (with Arduino-compatible bootloader) is populated on the back of each LCD screen and handles all of the LCD control
- Three communication options: Serial, I<sup>2</sup>C and SPI
- Adjustable I<sup>2</sup>C address controlled via software special commands (0x72 default)
- Emergency reset to factory settings (Jumper RX to GND on bootup)
- Operational backspace character
- Incoming buffer stores up to 80 characters
- Pulse width modulation of backlight allows direct control of backlight brightness and current consumption
- Pulse width modulation of contrast allows for software defined contrast amount.
- User definable splash screen
- Open-sourced firmware and Arduino-compatible bootloader enables updates via the Arduino IDE



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https://www.sparkfun.com/products/14074 8-6-18