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USB + Serial Backpack Kit with 16x2 RGB backlight positive LCD - Black on RGB

PRODUCT ID: 782

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DESCRIPTION

TECHNICAL DETAILS

DESCRIPTION

Adding a character display to your project or computer has never been easier with the new Adafruit USB or TTL serial backpack! This custom-designed PCB sits on the back of our 'standard' character LCD (16x2 or 20x4 sized) and does everything you could want: printing text, automatic scrolling, setting the backlight, adjusting contrast, making custom characters, turning on and off the cursor, etc. It can even handle our RGB backlight LCDs with full 8-bit PWM control of the backlight. That means you can change the background color to anything you want - red, green, blue, pink, white, purple yellow, teal, salmon, chartreuse, or just leave it off for a neutral

background.

Inside the backpack is an USB-capable AT90USB162 chip that listens for commands both a mini-B USB port and a TTL serial input wire. The USB interface shows up as a COM/serial port on Windows/Mac/Linux. The backpack will automatically select data from whichever input is being used. For the USB connection, it will work at any baud rate. For the TTL connection, the default baud rate is 9600 but you can send it a command to set the baud rate to 2400, 4800, 9600, 19200, 28800, or 57600 baud. (The baud rate is flashed on the LCD during powerup). Any customizations such as baud rate, backlight color, brightness, splash screen, etc. are stored permanently EEPROM.

The command interface is compatible with the popular "Matrix Orbital" specifications so this backpack will work perfectly with computer applications or libraries that are expecting a "Matrix" LCD such as "LCD Smartie". We added a few extra commands for the RGB backlight and setting the LCD size. If you don't want to use the commands, you can just start sending ASCII to the LCD and it will magically appear as typed.

This mini-kit comes with three parts: the Adafruit USB+Serial LCD backpack and a single 16x2 RGB positive backlight LCD, and a strip of header. The LCD must be soldered onto the backpack using the header. This isn't a difficult task but a soldering iron and solder is required. It's easy, even for a beginner, to attach the LCD.

We have a full tutorial, including diagrams, testing instructions, and more!

TECHNICAL DETAILS

Drivers, EagleCAD PCB files, and Fritzing object available in the product tutorial

Backpack details:

- Compatible with any 'standard' 16x2 or 20x4 character LCD as well as any Adafruit RGB LCD.
- Full PWM backlight control
- Supports the following Matrix Orbital commands:

  - Autoscrolling
  - Baud rate adjust
  - Clear screen
  - Change splash
  - Auto-wrap
  - Set cursor
  - Home
  - Move cursor
  - Underline/Block cursor
  - Create custom characters
  - Save custom character bank
  - Load custom character bank
  - Display On/Off
  - Set brightness
  - Set contrast
  - General Purpose Outputs (4)

- Supports extended Adafruit commands:

  - Set RGB backlight
  - Set LCD size (up to 20x4)

LCD details:

- 16 characters wide, 2 rows
- Black text on multi-color background
- Built in character set supports English/Japanese text, see the HD44780 datasheet for the full character set
- Up to 8 extra characters can be created for custom glyphs or 'foreign' language support

RoHS

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