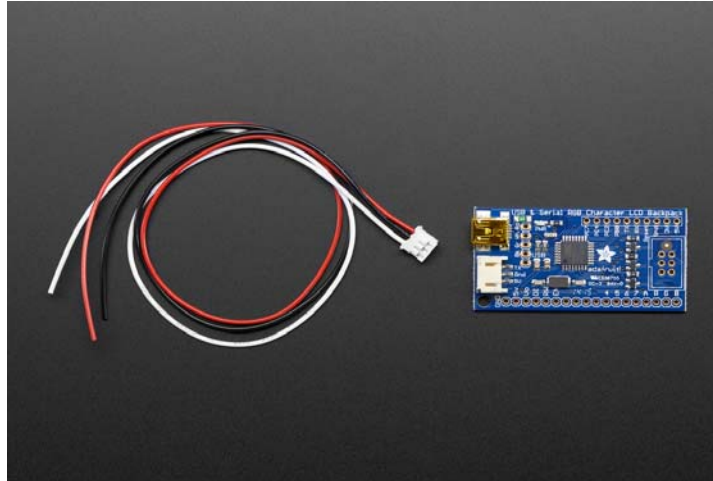# USB + Serial LCD Backpack Add-On with Cable

PRODUCT ID: 781

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 can connect to the back of any 16x2 or 20x4 character LCD 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. On non-RGB backlights you'll be able to dim the backlight (it's on the same pin as the 'Red' LED)

Inside this 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.

Does not include an LCD module! You'll need to pick out an LCD from the shop and solder it on the back.

Technical Details

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)

Product Dimensions: 54.0mm x 29.0mm x 7.3mm / 2.1" x 1.1" x 0.3"
Product Weight: 6.8g / 0.2oz

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