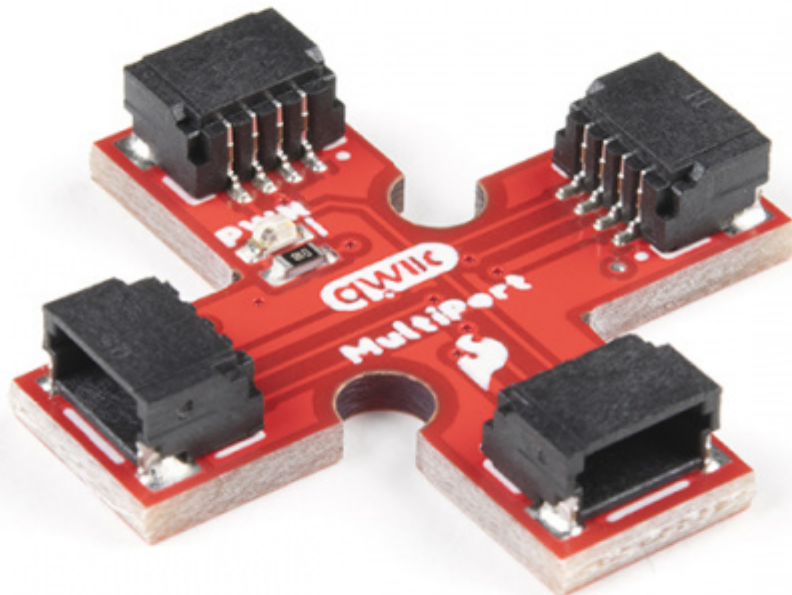


Qwiic MultiPort Hookup Guide

Introduction

The SparkFun Qwiic Multiport adds additional ports to boards that have only one Qwiic port on their I²C bus. Once added, you can use it as a hub to add as many I²C devices to the bus as you need ^[1] ! You can also use the board as an alternative to a daisy chained configuration.



SparkFun Qwiic MultiPort

In stock BOB-18012

Watch Video At: <https://youtu.be/rZdpmfQWeIg/>

Note: Technically, there are limitations to how many boards that you can add to the bus. You may need to adjust pull-up resistors depending on what is connected. This is usually about 7x boards. You may also need to disconnect 3.3V to certain devices and inject power depending on the total power required. Keep in mind the Qwiic cable wires are small and have a max current of about 226mA.

Required Materials

To follow along with this tutorial, you will need a microcontroller or single board computer with a Qwiic connector. You will also need a Qwiic cable and a way to power the board. You may not need everything though depending on what you have. Add it to your cart, read through the guide, and adjust the cart as necessary.

Besides having the Qwiic MultiPort in your cart, here are the parts if you decide to go with a microcontroller. You can easily swap out the microcontroller depending on your project's needs with MicroMod. Make sure to include the Qwiic-enabled device in your cart as well!



SparkFun MicroMod ATP Carrier Board

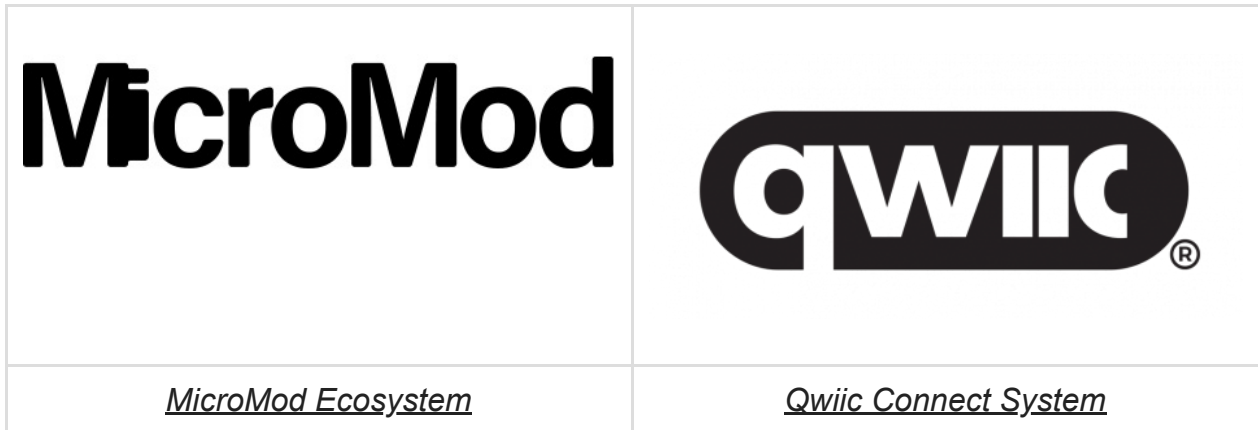
In stock DEV-16885

Here are the parts if you decide to go with a single board computer. The Qwiic SHIM kit is a great starting point if you do not have a Qwiic-enabled device in mind.



Suggested Reading

If you aren't familiar with the MicroMod ecosystem, we recommend reading [here for an overview](#). We recommend reading [here for an overview](#) if you decide to take advantage of the Qwiic connector.



We also recommend taking a look through the following tutorials if you are not familiar with the concepts covered in them:

Logic Levels

Learn the difference between 3.3V and 5V devices and logic levels.

I2C

An introduction to I2C, one of the main embedded communications protocols in use today.

Raspberry Pi 4 Kit Hookup Guide

Guide for hooking up your Raspberry Pi 4 Model B basic, desktop, or hardware starter kit together.

Getting Started with MicroMod

Dive into the world of MicroMod - a compact interface to connect a microcontroller to various peripherals via the M.2 Connector!

Hardware Overview

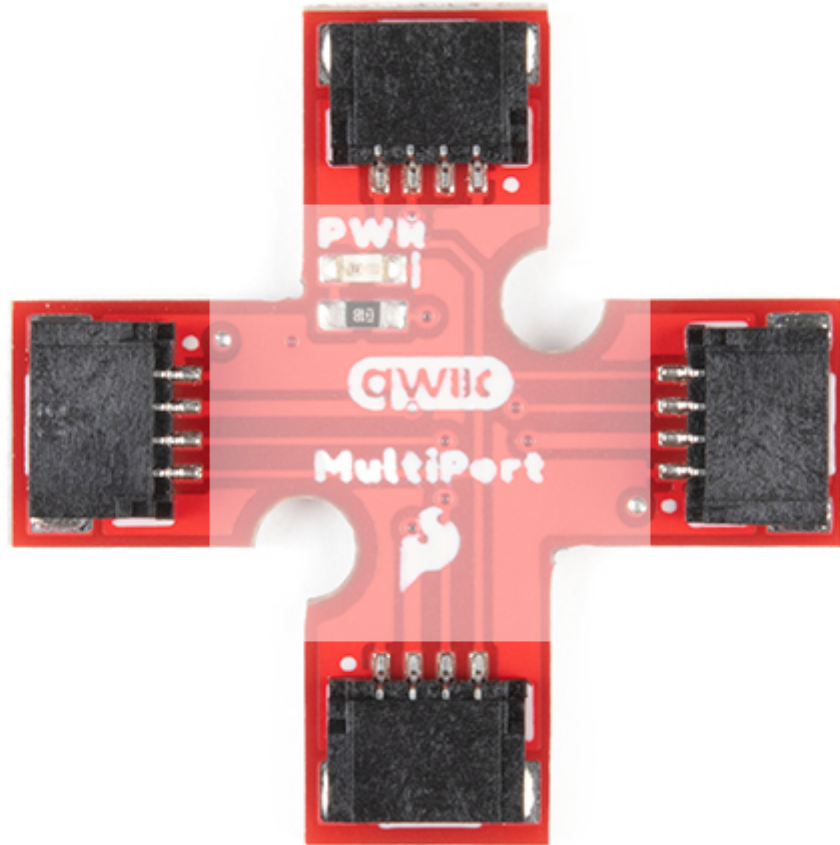
The board is a simple design that allows you to connect devices to the I²C bus easily with the [Qwiic Connect System](#). Power and [logic levels](#) are set to 3.3V. Make sure to use a [logic level converter](#) if your board uses a voltage higher than 3.3V.

Wire Color	Signal
Black	GND
Red	3.3V

Blue	SDA
Yellow	SCL

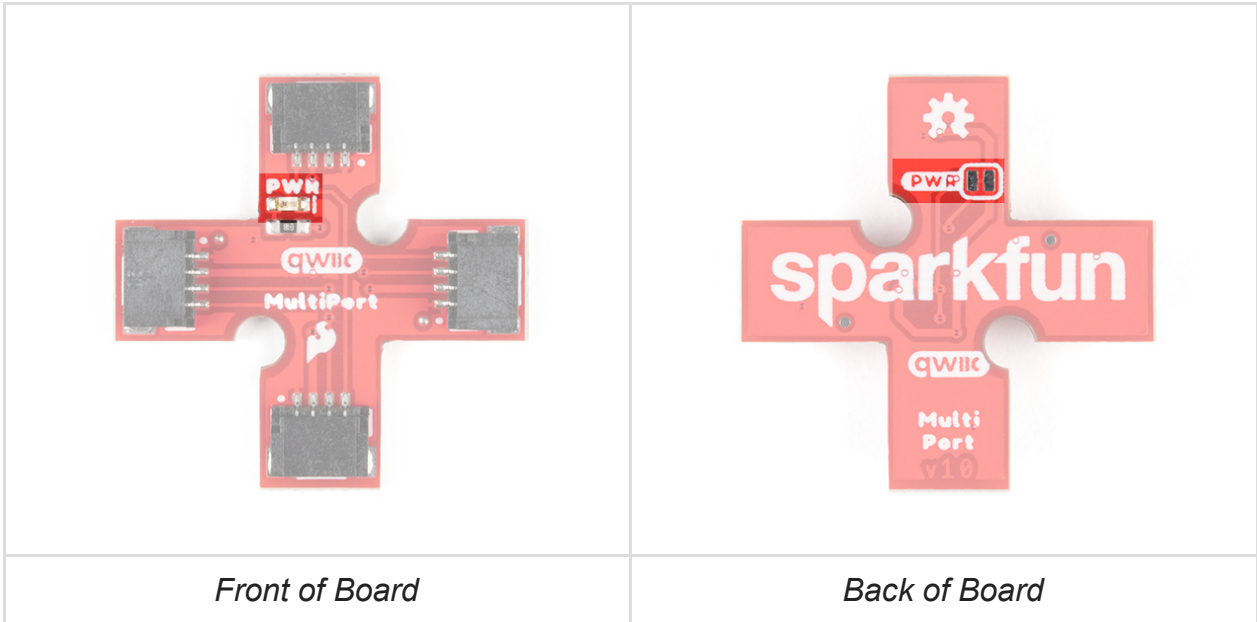
Qwiic Connectors

There are 4x Qwiic connectors populated on the board.



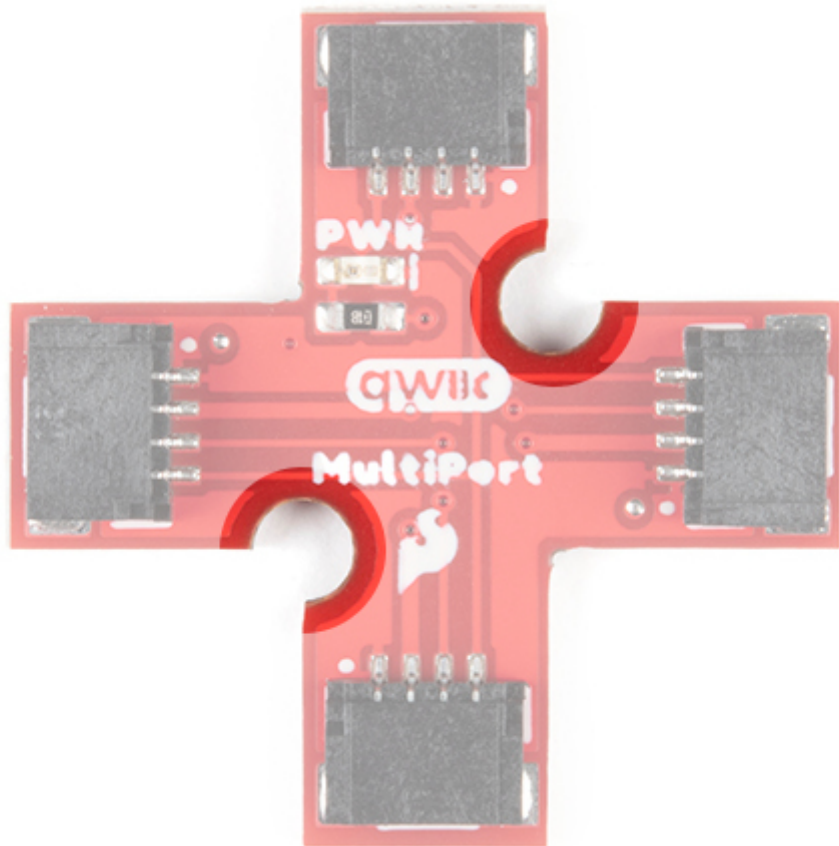
LED and Jumper

In addition to the connectors, there is an LED to indicate when power is available on the I²C bus. On the back, there is a jumper in case you would like to disable the LED.



Mounting Holes

There are 2x mounting holes included on the board.



Board Dimensions

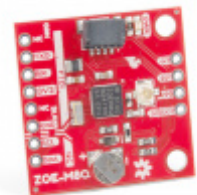
Below are the board dimensions. The overall size of the board is 1.00" x 1.00". Each connector extending from the center has a width of about 0.30". As stated earlier, this board has 2x mounting holes located around the center.



Hardware Assembly

Expanding on Boards with One Qwiic Connector

Depending on the design, there may only be enough room for one Qwiic connector. Below are a few of these boards from the SparkFun catalog



SparkFun GPS Breakout - ZOE-M8Q (Qwiic)

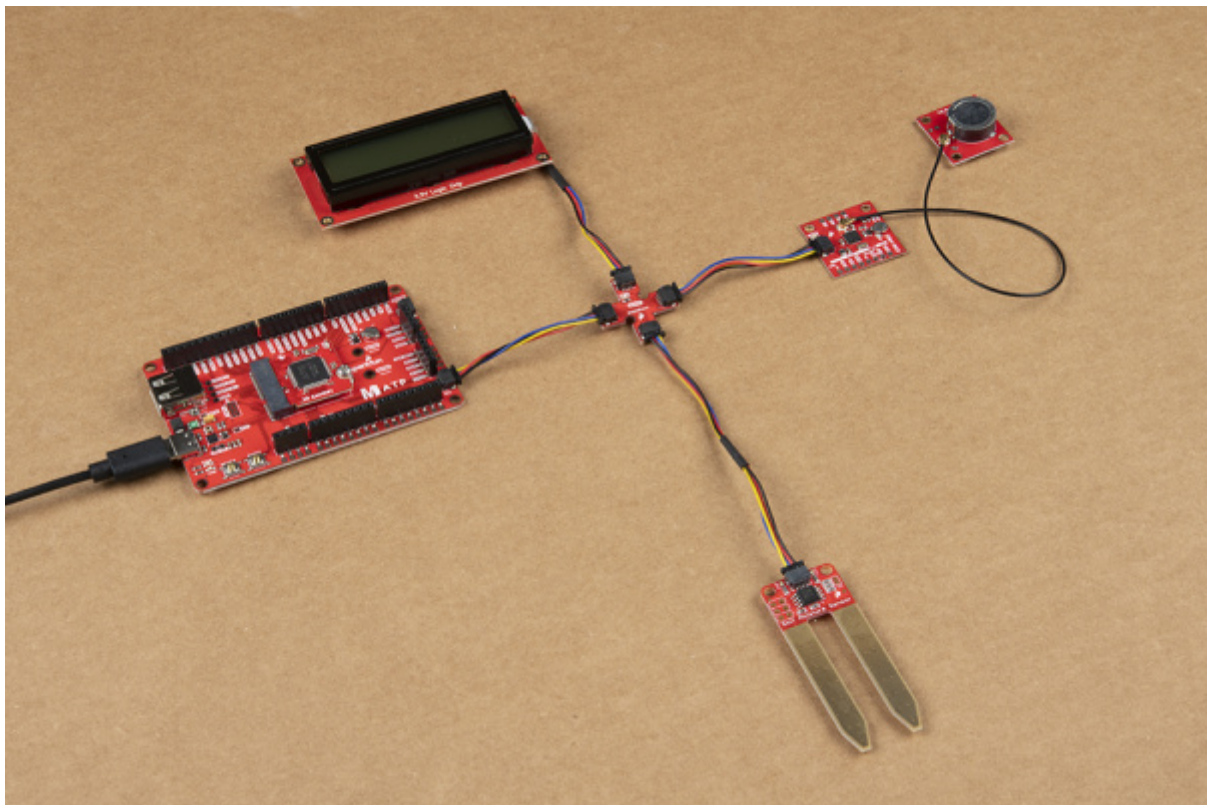
In stock GPS-15193



SparkFun 16x2 SerLCD - RGB Backlight (Qwiic)

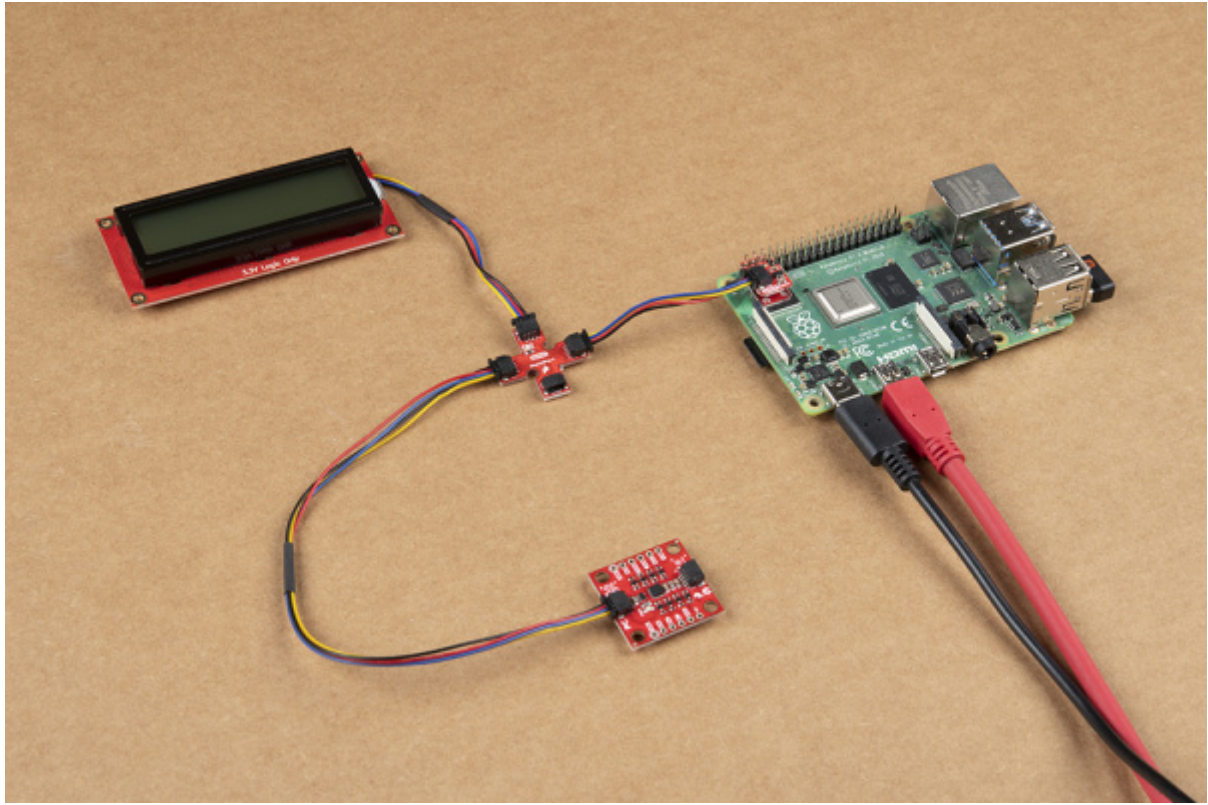
In stock LCD-16396

If you are looking to connect more than one device with one Qwiic connector to your development board, you will just need a Qwiic MultiPort board and an additional Qwiic cable for each device.



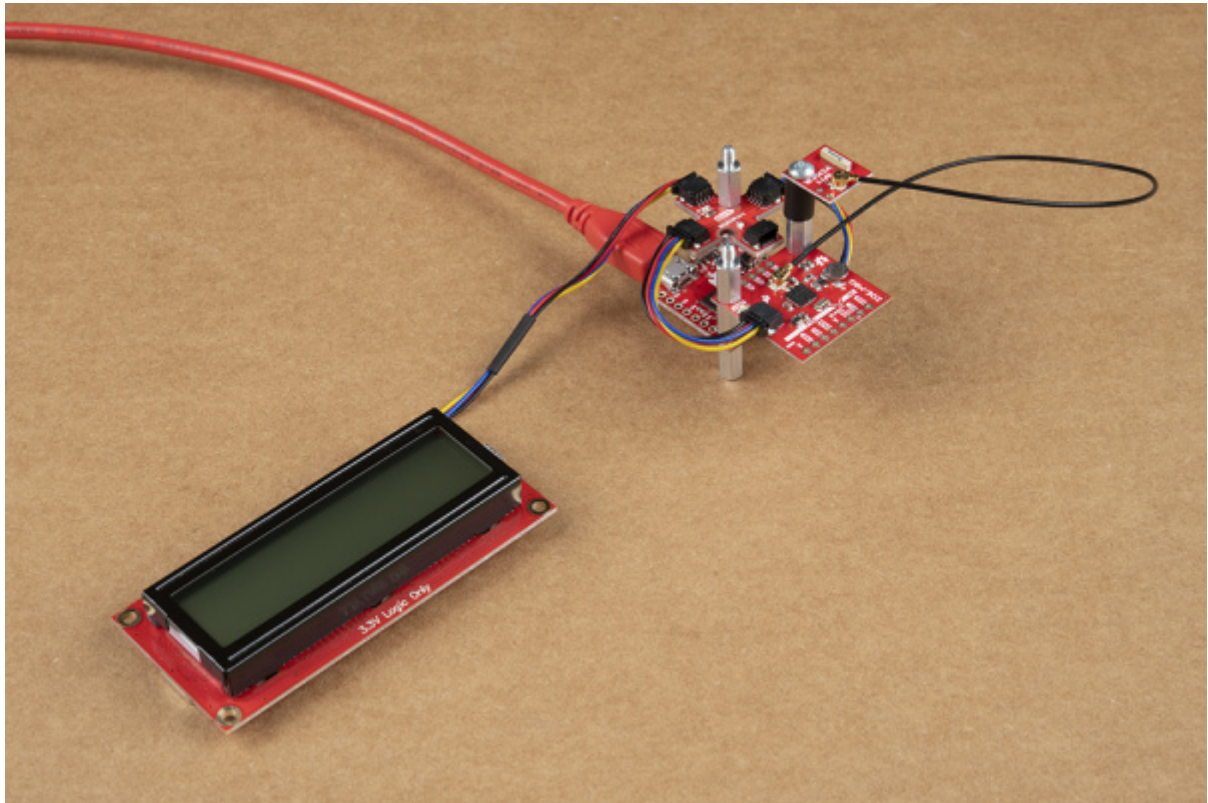
Alternative to a Daisy Chained Configuration

The Qwiic MultiPort can also be used as a hub so that you do not have to place the board with one Qwiic connector at the end of the daisy chain. Below is an example with the Qwiic SHIM Kit for Raspberry Pi. Instead of having the Qwiic 9DoF between the Pi and Qwiic SerLCD,



Mounting with Standoffs

The two boards can be mounted with standoffs for a secure connection. Below is the Qwiic Micro (SAMD21), Qwiic MultiPort, Qwiic GPS (ZOE-M8Q), and a GPS antenna (W3062A) connected stacked on top of each other. They are all connected to the Qwiic SerLCD connect using Qwiic cables (with the exception of the antenna).



Resources and Going Further

Now that you've connected your Qwiic MultiPort, it's time to incorporate it into your own project! For more information, check out the resources below:

Looking for inspiration? Check out any of the tutorials tagged with Qwiic for ideas on what to connect to your Qwiic system!

GPS-RTK Hookup Guide

Find out where you are! Use this easy hook-up guide to get up and running with the SparkFun high precision GPS-RTK NEO-M8P-2 breakout board.

GPS-RTK2 Hookup Guide

Get precision down to the diameter of a dime with the new ZED-F9P from u-blox.

Assembly Guide for SparkFun JetBot AI Kit

Assembly Guide for the SparkFun JetBot AI Kit. This tutorial includes photos & comments to assemble the two-layer chassis & additional components unique to the JetBot kit.

SparkFun Qwiic Quad Solid State Relay Kit Hookup Guide

A Hookup Guide to get you started with the SparkFun Qwiic Quad Solid State Relay Kit (say that five times fast!).

