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# STS Developer's Kit

## Quick Start Instructions

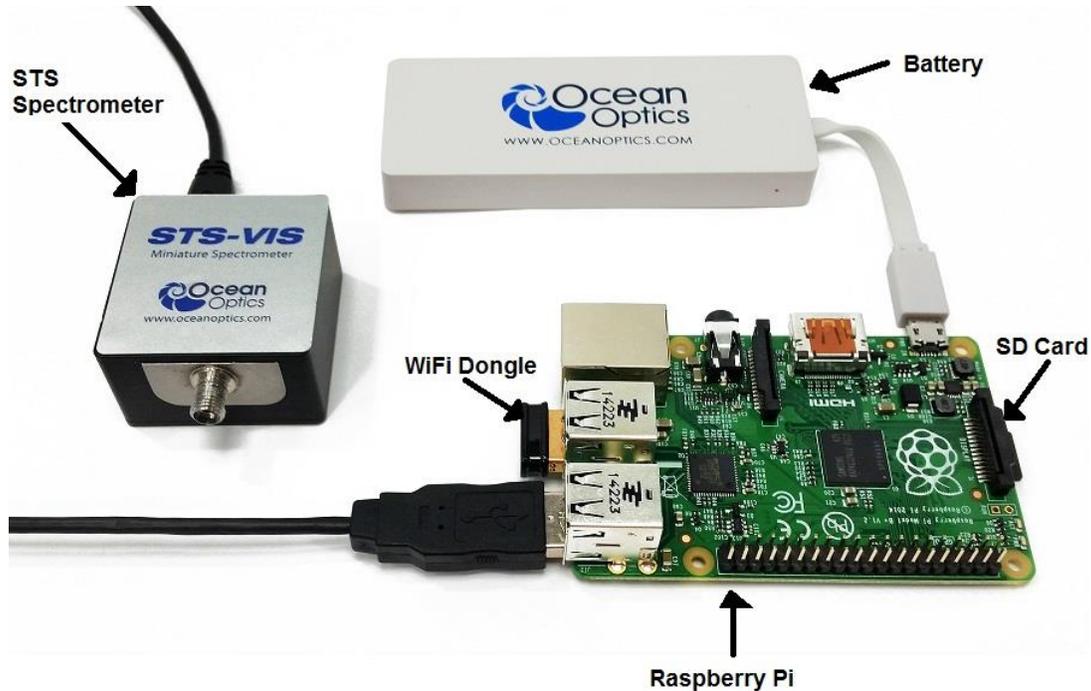
### Introduction

Congratulations on receiving your new STS Developer's Kit. These quick start instructions will get you through all the basics so you can be up and running in no time. For more detailed information about using your STS Developer's Kit, see the Installation & Operations Manual and the Programming Guide available from [www.oceanoptics.com](http://www.oceanoptics.com) (see [Product-Related Documentation](#)).

### Package Contents

The STS Developer's Kit contains the following components:

- STS Spectrometer
- Raspberry Pi B+ microcomputer
- Wi-Fi™ dongle
- SD card containing all the software
- Lithium-Ion battery
- USB cable



## Connecting the Components

Before beginning, ensure that the battery supplied with the kit is fully charged, or provide an alternative power supply for the kit that is capable of providing 5 Volts and at least 1000mA through a micro-USB connection.

You'll know the battery is fully charged from the LED indicator on the side of the battery:

- Green = fully charged
- Red = battery is empty

### ► Procedure

1. Insert the dongle into one of the USB ports on the Raspberry Pi computer.
2. Plug the spectrometer into one of the remaining USB ports on the Raspberry Pi computer.
3. Insert the SD card before plugging in the power supply.
4. Power up the system by plugging in the battery. Be sure to do this step last or the device will not boot up properly.

## Power Up

When the battery (or alternative power supply) is plugged into the micro-USB port, the Raspberry Pi automatically boots and starts the software to control the spectrometer. Allow at least 30 seconds for operating system and services to start before attempting to use any of the software to control the device. You'll know the Wi-Fi network is working when you see the blue LED flashing on the Wi-Fi dongle. See [Shutting Down the System](#) for information on powering off.

## Connecting to the Device

When the Raspberry Pi has completed starting up it will appear as a secure wireless access point that you can connect to in order to control the spectrometer:

- The default name (SSID) of the access point is **ocean-spectrometer**.
- You can connect to this with the default password **oceanwifi**.

These settings can be changed. See the [STS Developer's Kit Installation and Operation Manual](#) for more details (see [Product-Related Documentation](#)).

### ► Procedure

1. Ensure that the Raspberry Pi has power and has booted up. This takes approximately 30 seconds. The Wi-Fi dongle flashes blue when it is transmitting.
2. From your wireless device, look for the network named **ocean-spectrometer**.
3. Enter the password **oceanwifi**.
4. Open your browser and load the interface at address <http://192.168.42.1/cgi-bin/settings.php>.

The Raspberry Pi can be reconfigured to connect as a DHCP client to another wireless network. These changes may be necessary for more complex networks or if you have more than one development kit operating within wireless range of each other. Setting up the device for more complex networks is described in the [STS Developer's Kit Installation and Operation Manual](#) (see [Product-Related Documentation](#)).

The Raspberry Pi assigns your computer or smartphone an IP address on the network in the range 192.168.42.x where x is a number between 10 and 50. This address can also be reconfigured for more complex cases. The Raspberry Pi is configured to have a fixed IP address on the wireless network of 192.168.42.1.

## Shut Down the System

Shut down the software safely with the **Shutdown** button on the **Spectrometer Settings** web page. Or, expert users can log in to the operating system and shut down the Raspberry Pi directly as described in the [STS Developer's Kit Programming Guide](#) (see [Product-Related Documentation](#)).

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### Caution

**It is important to shut down the device correctly before removing the power supply. If you fail to do this you risk corrupting the SD card, potentially losing software and any measurements stored on the card.**

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#### ► Procedure

To shut down the system safely,

1. Enter the administrator password for the *ocean* account (the default is **ocean**).
2. Click **Shutdown**.
3. Allow sufficient time for the shutdown to complete (around 60 seconds) before removing the power supply.

## Setting the Default Passwords

There are two user accounts set up on the Raspberry Pi, the superuser “root” and an administrative account, “ocean.” The default password for both of these accounts is **ocean**. This is not secure so it is recommended that you change the password for these accounts at the earliest opportunity. This information is in the [STS Developer's Kit Installation and Operation Manual](#) (see [Product-Related Documentation](#)).

## Product-Related Documentation

You can access documentation for Ocean Optics products by visiting our website at <http://www.oceanoptics.com>. Select *Support*→*Technical Documents*, then choose the appropriate document from the available drop-down lists. Or, use the **Search by Model Number** field at the bottom of the web page.

## Support Contact

Please contact Ocean Optics Technical Support at [www.oceanoptics.com](http://www.oceanoptics.com) or 1-727-733-2447 for any questions.