NAME:

Setup: Scratch GPIO

Explains how to setup Scratch GPIO.

*You must perform this step in order to use the **Pi-Stop** with Scratch.*
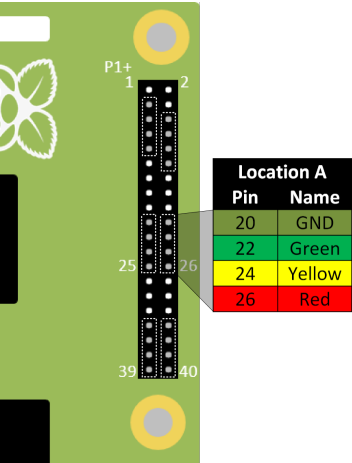
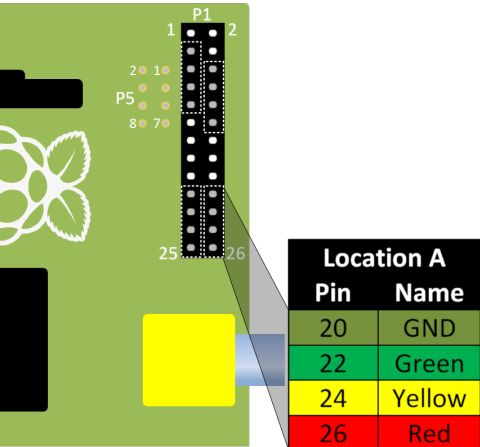☑ **I have installed Scratch GPIO!**

☑ **I have powered down the Raspberry Pi and fitted the Pi-Stop in Location A**

Location A for Model A+, B+ or Raspberry Pi 2 (purchased after July 2014)

Location A	
Pin	Name
20	GND
22	Green
24	Yellow
26	Red

Location A for Model A or B (purchased before July 2014)

Location A	
Pin	Name
20	GND
22	Green
24	Yellow
26	Red

☑ **I have tested Scratch GPIO with the Pi-Stop and it works!**

Explore and Challenge Scratch GPIO: Pi-Stop First Steps

Introduces how to use Scratch and using Scratch GPIO.

If you are already familiar with Scratch you can skip this.

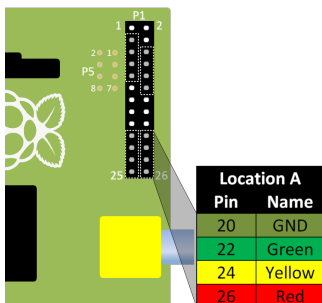☑ **I now know the different parts of Scatch**

☑ **Scratch GPIO with a Flashing RED Light Completed!**

Explore and Challenge Scratch GPIO: Pi-Stop Traffic Sequence

Create your own traffic light sequence and learn how to use Scratch GPIO with the **Pi-Stop**.

WORKSHEET: Colour in the correct traffic light order below, then fill in the required **broadcast** commands **on** or **off**. Use the following diagram to determine which pins are connected with each colour on the traffic light.

Location A	
Pin	**Name**
20	GND
22	Green
24	Yellow
26	Red

First the traffic light sequence for changing from **STOP** to **GO**.

STOP

PREPARE TO GO

broadcast `pin26`
broadcast `pin24`
broadcast `pin22`

Wait

To stop the lights changing instantly, we need to wait before we change them again!

wait `1` secs

GO

broadcast ` `
broadcast ` `
broadcast ` `

☑ **Traffic Light Sequence STOP to GO**

Next the traffic light sequence for changing from **GO** back to **STOP**.

GO

when I receive `GO ▾`

PREPARE TO STOP

broadcast ` `
broadcast ` `
broadcast ` `

Wait

Again, to stop the lights changing instantly, we need to wait.

STOP

☑ **Traffic Light Sequence GO to STOP**

☑ **I've created the Pi-Stop STOP and GO sequences**

☑ **I've created the Pi-Stop the full Traffic Light Sequence**

☑ **Extended Task: Created a racing start light control**

☑ **Extended Task: Controlled two Pi-Stops at the same time!**

Explore and Challenge Scratch GPIO: Pi-Stop Reaction Game

How fast are your reflexes? Test your reaction time with the Pi-Stop Reaction game.

☑ **WORKSHEET:** Tick the checkbox marked **"I've created the Pi-Stop Reaction Game"**.

Don't forget to write down your best score!

Explore and Challenge Scratch GPIO: Pi-Stop Simon Memory Game

Challenge your memory and get the highest score!

☑ **WORKSHEET:** Tick the checkbox marked **"The first part of the Pi-Stop Simon Memory Game works!"**.

☑ **WORKSHEET:** Tick the checkbox marked **"I've created the Pi-Stop Simon Memory Game"**.

Don't forget to write down your best score!

Congratulations: You have reached the end of the workshop!
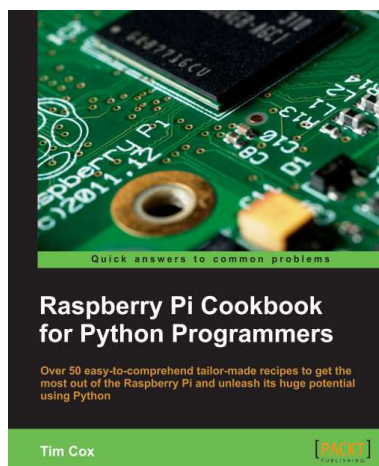

I hope you enjoyed it.

You can buy your own Pi-Stop today, £3 each or two for £5.

The **Pi-Stop** are also available to buy from www.4tronix.co.uk, and additional material and guides are available from my website www.PiHardware.com

> For further Raspberry Pi help/advice or to enquire about **classroom/workshop packs**:
>
> Contact me (Tim Cox) at pihw-orders@hotmail.co.uk

My *Raspberry Pi Python Cookbook for Python Programmers* is available to buy:

http://goo.gl/dmVtsc