# Pi PoE Switch HAT Quick Start And FAQ

## Getting started

The Pi PoE Switch HAT is an add on board for the Raspberry Pi that brings the Pi Supply Switch technology together with PoE all in one fantastic package! You can now power your Raspberry Pi and provide an Ethernet connection in any location with just a single cable. Perfect for removing the clutter of wires and for reliable use in remote locations.

This guide will show you how to assemble the Pi PoE Switch HAT, set it up in its case and discuss some of the most common issues and questions.

### Kit contents

Pi Supply The det the BODY with should have received the following items: https://learn.pi-supply.com

- 1 Pi PoE Switch HAT board
- 8 Plastic bolts
- 4 Plastic spacers
- 1 Ethernet cable
- 2 SMD resistors
- 3 Stickers
- 1 Info card

### **Board Assembly**

Step 1 - Unpack your Raspberry Pi.



**Step 2** - Install the spacers on the Raspberry Pi as shown here holding them with 4 plastic bolts from underneath the Pi.

The bolts should be screwed in with a PH0 screwdriver. In some cases the bolts could be slightly hard to screw in the spacers. Use a metal bolt to help loosing the rim in the spacer so that the

plastic bolt will oppose less resistance during assembly.



Step 3 - Get the Pi PoE from its anti-static bag.



**Step 4** - Place the Pi PoE on top of the Raspberry Pi by gently pushing the female header onto the Raspberry Pi male header.



**Step 5** - Screw the last 4 plastic bolts to hold the Pi PoE HAT in place.



If you have acquired the Pi PoE case for this product please skip to the next <u>Section – Pi PoE</u> <u>Switch HAT Case</u> assembly otherwise connect the Ethernet cables as shown in the picture.



Remember that the power to the PiPoE from the managed switch or from the external injector should **only** be applied after the Ethernet cables have been connected. Although the current version of PiPoE has been designed to protect it from electrical spikes caused by plugging PoE cables with power already present, it is best practice to **connect cables with no power**.

# Case Assembly

The <u>Pi PoE Switch HAT Case</u> is the prefect enclosure for the Pi PoE Switch HAT and the Raspberry Pi. It has been designed so that it can still allow access to the power button.



**Step 1** - After removing the protective plastic pull gently out the two sides of the bottom part of the case to unhook the top.



This should allow you to detach the top cover and easily take a part the case.

Within the case you will find 4 rubber feet and a plastic bit used to provide access to the Pi PoE power button. Here is how it will look like once opened.



Step 2 - Insert the plastic button extender through the hole of the top part of the case.



**Step 3** – To install the rubber feet on the bottom part of the case you will either have to push and twist them through one of the 4 the holes or help yourself with a small screwdriver to tuck in the top part of the feet within the hole as shown on the left. Be careful not to cut through the feet and rather than using the tip of the screwdriver use the flat surface to push the head of rubber foot in.



**Step 4** - Insert the Raspberry Pi and the Pi PoE in the bottom part of the case by first placing the USB connectors in.



The PCBs of the two boards should be aligned within the grooves of the panel as shown in the picture.



**Step 5** - Take the small Ethernet cable and connect it between the Raspberry Pi and the Pi PoE.



**Step 6** - Connect the Ethernet cable coming from the PoE switch or from the injector.



**Step 7** - Slide the top part of the case back in place. As you do that gently pull out each side of the top part of the case so to allow the connectors of the Raspberry Pi to slot into place.



At this point the Pi PoE Switch HAT is ready to be used.

Note that the case has been designed with wall fixing features.



# <u>FAQ</u>

### Button, Jumper and Solder PAD

#### Button - SW1

To start the Raspberry Pi press SW1 for 2 seconds. To completely remove power to the Raspberry Pi press SW1 for at least 15 seconds and until the red LED of the Pi will switch off.

#### Jumper - CN2

With the jumper in place to power up the Raspberry Pi you will need to operate SW1, without the jumper as soon as the PoE line receives power the board will power up the Raspberry Pi without the need to use SW1. This is particularly ideal if the Raspberry Pi is in a remote location.

#### Solder Pad

On the reverse of the board you can find a solder pad to allow you to add flexibility to the Pi PoE by for example use a custom made button to power on and off the Pi PoE.



Press 2 seconds to power on Press 15-20 seconds to remove power

Remove jumper to auto-poweron when PoE is applied

### **Optional Resistors**

The Pi PoE main Ethernet connector comes with two LEDs which can be connected to GPIO 22,23,24. In order to do so you will have to solder the optional resistors provided. They need to be placed on the reverse of the board where it reads R12 and R13.



To drive the LEDs you will have to set the GPIOs as outputs. The LED on the left is a single green LED whereas the one on the right is a dual green/amber LED. To drive the green LED on the left it is sufficient to pull the corresponding GPIO 23 high, to turn it bring the GPIO low. For the dual LED instead you will have to bring GPIO 22 high whilst having GPIO 24 low to turn on the green LED, with GPIO 22 low and GPIO 24 high you will turn on the amber LED. The animation below summarises the logic.

### The Pi PoE Switch HAT doesn't power on

The Pi PoE Switch HAT requires a PoE switch or a <u>PoE injector</u> which will provide power ever the Ethernet cable. The Raspberry Pi will then not require the usual PSU to be connected on its micro USB connector.

I cannot install an additional board on the pass-trough header

The Pi PoE Switch HAT comes with a pass through header so that additional board can be stacked on top of it. In some cases thought you will need to use an <u>additional stacking header</u> to provide more room between the additional board and the Pi PoE.

How can I use GPIO 17 ?

Please have a look at <u>our GitHub repository</u> where you will find sample code and further information.

## I'd like to add another board on top, will they conflict?

A detailed pinout for the Pi PoE can be seen in the picture below. Please refer to the <u>Raspberry Pi</u> <u>Pinout website</u> where you will be able to verify the pin compatibility with the various cards available from the main vendors.

Click to enlarge