



Microstack™ Baseboard For Raspberry Pi® - Getting started

Microstack™ Baseboard brings the exciting range of Microstack™ modules to Raspberry Pi®. The onboard 3V3 regulator gives you plenty of power. <http://www.microstack.org.uk>

Applications:

- Rapid Development
- Easy Prototyping
- Ideal Internet of Things platform
- Easy sensing

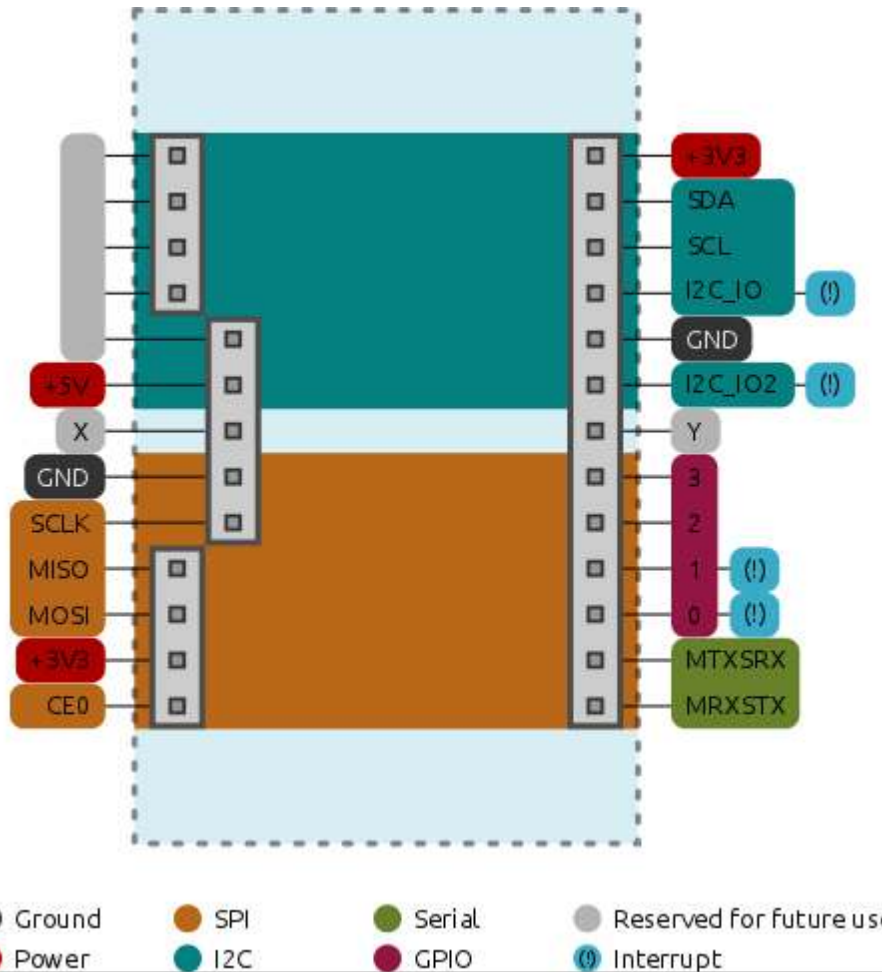
Product Highlights

- Brings the world of Microstack™ modules to the Raspberry Pi®
- Fully supported with Microstack™ Node Python Library
- Quick to get started on Raspberry Pi® with simple to install drivers
- Online example code
- Unique colour coded PCB for simplicity
- Online 3.3V power regulator takes the load of the Raspberry Pi®'s 3.3 volt power rail

Tour of Hardware

The Microstack™ Baseboard for Raspberry Pi® brings the world of Microstack™ modules to the amazing world of Raspberry Pi®. It routes the appropriate GPIO pins of the Raspberry Pi® to sockets to connect Microstack™ modules. The onboard 3.3V regulator makes enough current available to power a stack of Microstack™ modules, separate from the limited 3.3V supply on the Raspberry Pi®. The 5V supply to the regulator and some Microstack™ modules can either be supplied from the Raspberry Pi®, or via an additional, onboard 5V microusb socket. The unique multi-colour PCB, and polarised sockets help ensure the correct modules are fitted in the correct orientation in the correct socket.





Before using any Microstack™ module always read the instructions and precautions carefully.

Fitting Instructions

The Microstack™ baseboard can be used with Raspberry Pi® model A and B and the newer A+ and B+ versions. A rubber foot is used to stop the baseboard from shorting to the Raspberry Pi® when fitted. You need to stick the rubber foot in the appropriate space depending on whether you are using '+' model.

Models	Location of stick on 'bumper' foot.
Raspberry Pi® A or B	Fit foot over square mark
Raspberry Pi® A+ or B+	Fit foot over circle mark

The Microstack™ baseboard has a 26 way connector to allow it to fit on original and '+' models. When fitting on an A+ or B+ model ensure that the 26 way connector aligns with the end furthest from the USB ports, nearest the power and activity lights.

Once the Microstack™ baseboard is correctly aligned with the Raspberry Pi® expansion header, gently push down.



Jumpers

JP1 then determines if the 5V supply for Microstack™ and the 3.3V regulator and connected to the 5V pins of the Raspberry Pi®. With the jumper fitted, Microstack™ is powered from the Raspberry Pi®'s power supply.

If Microstack™ is powered via its microusb connector, then the jumper must be removed to prevent power flowing into the Raspberry Pi®.

The Microstack™ Family

The first products in the Microstack™ family that fit on the Raspberry Pi® baseboard include a GPS, Accelerometer, and prototyping board. Many more exciting products are coming soon. A full list can be found <http://www.microstack.org.uk>.

Pinout Matrix

MicroStack pin	Raspberry Pi® pin number	Raspberry Pi® pin function
CE0	24	CE0
MOSI	19	MOSI
MISO	21	MISO
SCLK	23	SCLK
SDA	3	SDA
SCL	5	SCL
I2C_IO	13	GPIO27
I2C_IO2	16	GPIO23
3	26	CE1
2	11	GPIO17
1	12	PCMCLK
0	7	GPIO4
MTXSRX	8	TXD
MRXSTX	10	RXD

Warnings

- Ensure that Microstack™ is powered by a suitably rated power supply that complies with the relevant regulations and standards applicable to the country of intended use.
- Do not expose to water, moisture or extremes of temperature.



- Take care whilst handling to avoid mechanical and electrical damage to the module and connectors.
- Take suitable precautions to minimise risk of causing damage by electrostatic discharge.
- Connection to unapproved devices may affect compliance or result in damage to unit and invalidate any warranty.
- Connections to Microstack™ modules should only be made with the power supply disconnected.
- When using external antenna, ensure connector is positioned such that it does not cause a short circuit with any other metal surface on the module.
- It is the user's responsibility to ensure the module is fitted in a suitable enclosure that it offers appropriate protection to ensure safe and proper operation.
- Ensure that all pins align when connecting with Raspberry Pi®. Take particular care when fitting with Raspberry Pi® A+ and B+ that the connector fits on the first 26 pins only.

Compliance Information

- This Microstack™ module complies with the relevant provision of the RoHS Directive for the European Union. In common with all Electronic and Electrical Equipment this Microstack™ module should not be disposed of in household waste. Alternative arrangements may apply in other jurisdictions.
- Microstack™ Baseboard for Raspberry Pi® module is CE marked. It is a class B product. The EMC emission test was performed with sample Microstack™ modules fitted to a Raspberry Pi® Model B+. Due to the nature of the module, as a prototyping and development board, fast transient immunity tests and conducted radio-frequency immunity tests have not been executed. ESD handling precautions should be observed. The module may be considered a component if integrated into another product. Any person designing or developing a product that uses one or more Microstack™ modules is responsible for ensuring that it is compliant and that any modification to a Microstack™ module or inter-connection of other elements and devices with a module does not change compliance.
- This Class B digital apparatus complies with CAN ICES-3 (B). Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

<http://www.microstack.org.uk>

Microstack™ is designed in the UK by OpenLX SP Ltd. Registered Office 145-157 St John Street, London, EC1V 4PW.

Microstack™ is distributed by Premier Farnell UK, 150 Armley Road, Leeds LS12 2QQ, UK

Manufactured in the UK.

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