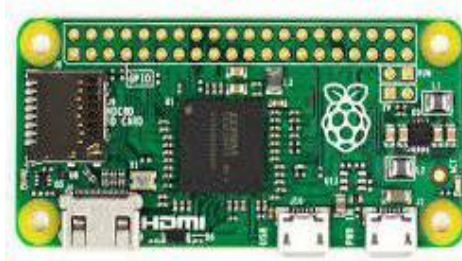# The Raspberry Pi (In Introduction)

First presented to the Vange Amateur Radio Society by Steve G0KVZ on 21st Jan 2016

Introduction:

The Raspberry Pi Computer was launched in 2011 by the Raspberry Pi Foundation with the intention of promoting the teaching of basic computer science in schools and developing countries.
Since its introduction, there has been a number of alternatives produced by other manufacturers, but the Raspberry Pi remains the most popular device.
Since the first model was produced, the Raspberry Pi Foundation have developed further versions of the Pi, with improved Specifications or prices:
The latest version being the "Raspberry Pi ZERO" that was launched in late 2015 attached to the cover of the Christmas issue of the magazine "MagPi".
It would appear that the entire first production run of 20,000 was sold out within twelve hours on the day of release. Currently (Jan 2016) the only way to obtain one is at an inflated price on eBay. (Although further production runs are promised soon)
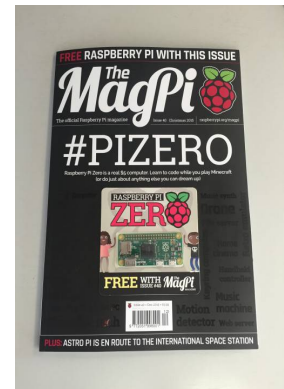
Available Models.

Currently the Raspberry Pi range comprises seven variants as summarised in Table 1 below:

Model	Size	Weight	Approx Price	Release	Processor	Memory	USB ports	Network	Audio out
Pi 1 Model A	85.6mm × 56.5mm	45g	£18	Early 2012	700MHz single-core	256MB	1	N	Y
Pi 1 Model A+	65mm × 56.5mm	23g	£14	Late 2014	700MHz single-core	256MB	1	N	Y
Pi 1 Model B	85.6mm × 56.5mm	45g	£25	Mid 2012	700MHz single-core	512MB	2	Y	Y
Pi 1 Model B+	85.6mm × 56.5mm	45g	£18	Mid 2014	700MHz single-core	512MB	4	Y	Y
Pi 2 Model B	85.6mm × 56.5mm	45g	£25	Early 2015	900MHz quad-core	1GB	4	Y	Y
Compute Module	67.6mm × 30mm	7g	£21	Early 2014	700MHz single-core	512MB	1	N	Y
Pi ZERO	65mm × 30mm	9g	£4	Late 2015	1GHz single-core	512MB	1	N	PWM

Operating Systems:

There are a number of operating systems that are available for the Raspberry Pi, and each one has certain strengths enabling it to be suitable for specific purposes.

Most operating systems appear to be variants of Linux (Although there is even a version of Windows 10 available for the Pi2). The easiest way to get started is by using an installer called NOOBS. Using this utility, the following Operating Systems may be easily installed:

- Arch Linux ARM
- OpenELEC
- OSMC
- Pidora (Fedora Remix)
- Puppy Linux (PupPi)
- RISC OS
- Raspbian
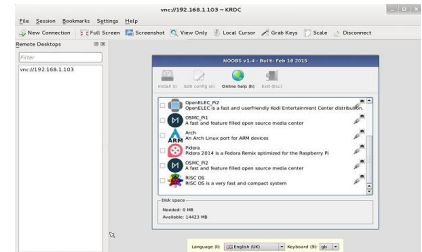
A minor irritation when using NOOBS, is that an internet connection is necessary to download the chosen system. But as NOOBS is capable of supporting a WiFi Dongle, this is **not** particularly bothersome.

In my limited experience I have found that the most useful Operating Systems are:

Raspbian: This allows the Pi to become a very simple desktop machine, with applications pre-installed for internet access, e-mail, and a very capable Office Suite that allows for creation and editing of Word documents, Spreadsheets, and PowerPoint presentations.
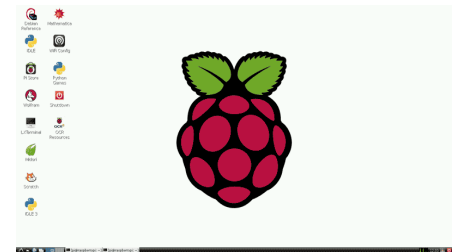
OpenELEC: This turns the Pi into a very nice Media centre, that can easily be sited behind a TV, and controlled via a mouse or remotely, and allows the playback of various media, like Films, Music, and Photographs.

In addition to the Operating Systems that are available using NOOBS, there are many others that can be installed for other uses, and these allow this remarkable little device to be used for Home Automation, Equipment control, experimentation and education.

Amateur Radio (& Radio)

The Raspberry Pi can also be put to use for Amateur Radio (or just Radio) projects such as:

SDR, Packet Radio, Pirate Radio, Numbers station, Rig Control, SSTV, DStar.

There are numerous websites devoted to unusual uses of the Raspberry Pi, and also many YouTube videos (of mixed quality) demonstrating these projects.

With the Pi costing so little, there is every reason to have a go!