

The sys admin's daily grind: Raspberry Pi

Easy as Pi

It's probably not a coincidence that a number of people want to write about the much-lauded Raspberry Pi single-board computer, and our regular columnist Charly isn't going to blow raspberries. By Charly Kühnast

The Raspberry Pi [1] grew on a vine sponsored by a British foundation. The intent was to create a low-budget, single-board computer to reduce the cost of computer science lessons at schools. The inventor estimated that a low four-figure number of Raspberries would be needed to break even, but this was way off the mark – the demand is huge. For around US\$ 35 (UK£ 22, EUR 25) plus taxes, shipping, and handling, consumers receive an ARM minicomputer with 256MB of RAM – if you can get one that is. I waited more than three months for my Raspberry (Figure 1), and I was lucky – I'm told that pre-orders are well into the millions.

And little surprise because the tiny device has everything a PC needs in the model B version: two USB ports, one 10/100 Ethernet port, sound, HDMI, a composite port for emergencies, and a number of freely programmable I/O ports for hardware tinkering, like the Arduino. An SDHC card provides mass memory.

For cost reasons, the board doesn't have a real-time clock, and the Raspberry doesn't include a power supply. Before you buy one, just check through your collection of phone chargers. If you find one with a 5V micro-USB connector capable of outputting around 1A, it will be fine for the Raspberry Pi. The newest version, the Raspberry model A with one USB and no Ethernet, will be available for US\$ 25 (UK£ 16, EUR 19).

My Raspberry runs any distribution you can build for the ARMv6 architecture; prebuilt images for Debian 6, Arch

Linux, and QtonPi are available [2], and Fedora has been announced. You can easily dump the image onto a 2GB SDHC card with dd, thus giving your legacy photo cards a new lease on life.

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Operations with the Raspberry are exactly what you would expect from a 700MHz PC. Compiling isn't much fun, but working at the command line is hugely satisfying. Simple services run fast enough, assuming they fit in 256MB of RAM. The kernel 3.1.9 in the Debian image unfortunately doesn't support IPv6 – this is probably an oversight the developers will fix soon. I even managed to launch a graphical user interface; the Debian image includes LXDE.

However, I will probably be steering in the direction of putting my tinkering projects on the Raspberry – the ones I currently misuse other servers for. For example, I've talked my firewall into reading the electric meter [3], and the VDR in the living room pools the data from my weather station [4] – these are all tasks the Raspberry Pi can handle without breaking a sweat. They need little in the way of performance, and the Raspberry's power consumption of less than 5W is negligible. Pure utility value

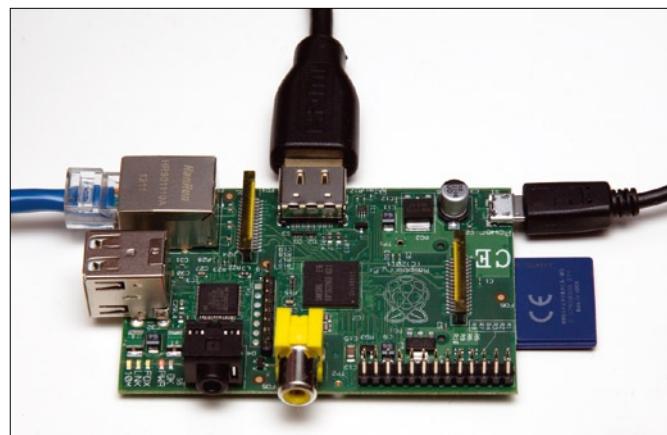


Figure 1: Small, inexpensive, and very much sought after: the Raspberry Pi with ARM controller and peripherals.

has to wait because it's far too much fun to play around with my new Raspberry Pi. ■■■

INFO

- [1] Raspberry Pi: http://en.wikipedia.org/wiki/Raspberry_Pi
- [2] Raspberry Pi Linux: <http://www.raspberrypi.org/downloads>
- [3] E-Log: <http://www.linuxpromagazine.com/Issues/2012/134/Charly-s-Column-n-Smart-Meter-Monitoring>
- [4] Weather Page: <http://www.linux-magazine.com/Issues/2012/138/Charly-s-Column-Weather-Page>



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