

New Raspberry Pi 2 carries more power at same price

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Raspberry Pi 2

Wait a minute, what's with all the headlines this week on Raspberry Pi? We already know there is a Foundation behind it which pioneered this cheaply priced computing item to foster education and support builders, that it runs Linux and costs less than \$40. There is, however, genuine news this week—namely, the announcement of the latest Raspberry Pi 2 which *The Register* called "a turbocharged" version (about six times more powerful than the prior version), featuring a 900MHz quad-core ARM Cortex-A7 CPU, and, last but not least, a Raspberry Pi 2-compatible version of Windows 10 will be available free of charge to makers. The Pi 2 has 1GB of RAM. Joel Hruska of *ExtremeTech* said this was "a massive upgrade to its initial chip" and "will dramatically improve performance and capabilities." Eben Upton, founder of Raspberry Pi, told the BBC, "We think it's about six times more powerful for most [applications](#)."

Where does the "6x performance" [figure](#) come from? Hruska offered this analysis. "Between the clock increase and the core improvements, the new Raspberry Pi could be 40 to 60 percent faster than the old RBP in single-threaded code. Add the

multi-core capabilities, and this second generation chip should be three to four times [faster](#) in total. The Raspberry Pi Foundation is claiming a sixfold speedup, with performance ranging from 1.5 times faster in single-threaded code to four times in Sunspider." According to the Foundation, "The speedup varies between applications. We've seen single-threaded CPU benchmarks that speed up by as little as 1.5x, while Sunspider is around 4x faster, and NEON-enabled multicore video codecs can be over 20x faster. 6x is a typical figure for a multi-threaded CPU benchmark like SysBench."

Raspberry Pi 2 is available to buy from its partners, element14 and RS Components. The new model does not mean that the Pi team is doing away with its Model B and B+ which will still continue to sell for \$35. Reason: "We have a lot of industrial customers who want to stick with Raspberry Pi 1 for the time being." Also, Model A+ continues to be the \$20 entry-level Raspberry Pi.

The Raspberry Pi 2-compatible version of Windows 10 will be available free of charge to makers. Kevin Dallas, General Manager, Windows IoT Group, said that the Windows 10 to support Raspberry Pi 2 "will be free for the Maker community through the Windows Developer Program for IoT later this year." Raspberry Pi 2 opens up computing and programming to a range of people and skill levels. Dallas said, "We see the [Maker](#) community as an amazing source of innovation for smart, connected devices that represent the very foundation of the next wave of computing, and we're excited to be a part of this community."

People accustomed to pulling a machine out of the packing box and pressing a start button may find Pi territory unfamiliar. Nathan Olivarez-Giles in *The Wall Street Journal* said, "while \$35 gets you the PC board, everything else is sold separately, including a monitor, mouse, keyboard, a microSD card slot for storage, an Ethernet cable (or any

other networking options). You also need to power it with your own USB cable—and probably a USB wall plug, too. None of this is hard to find, but it makes Raspberry Pi a tinkerer's [delight](#), and a bit of a frustration for those seeking a device that to just turn on and use." The plus side is, as Dallas said: "Raspberry Pi has quickly become one of the Maker community's favorite platforms because their highly-capable, low-cost boards and compute modules enable developers to bring their vision to life."

More information:

www.raspberrypi.org/raspberry-pi-2-on-sale/

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