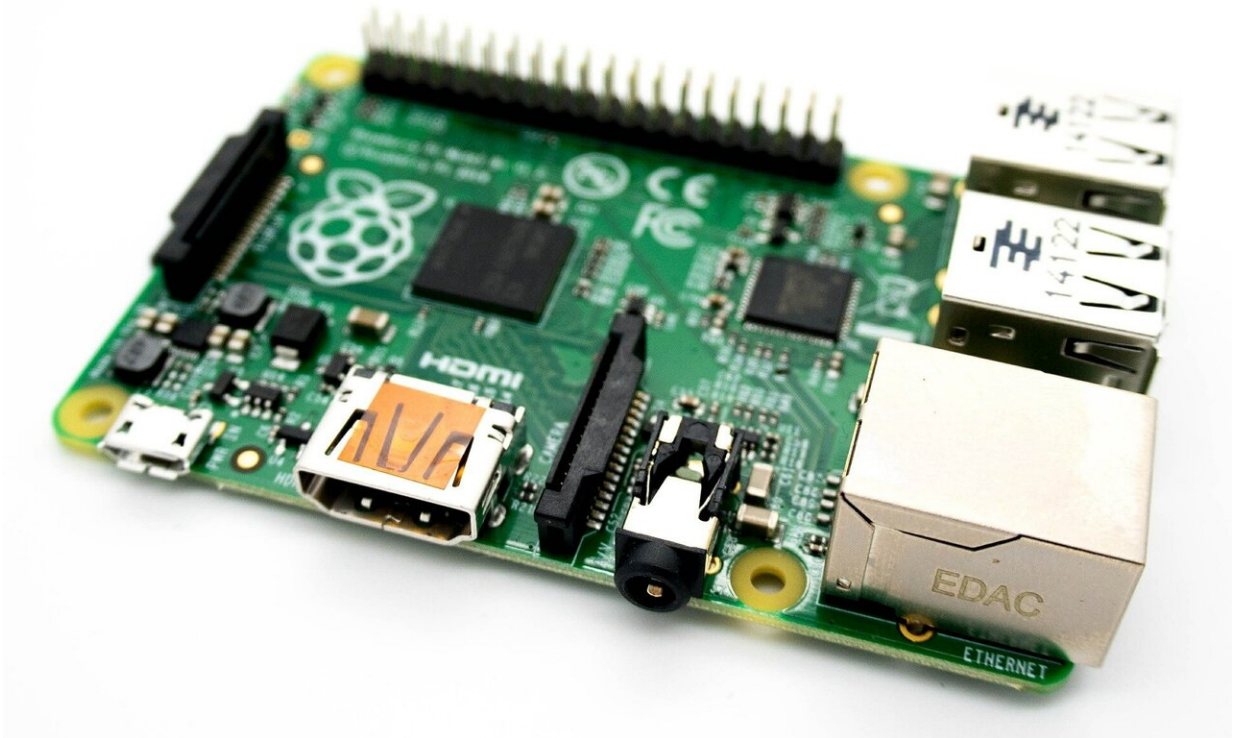# $5 Raspberry Pi boards power ventilators in COVID-19 fight

April 14 2020, by Peter Grad

Credit: CC0 Public Domain

The Raspberry Pi Foundation is stepping up production of its Zero single-core boards to help combat the coronavirus.

The Pi Zero will be used to power ventilators that have seen a huge surge

in demand since the onset of the pandemic. Raspberry CEO and founder Eben Upton says it is the first time a Raspberry device will be used in medical equipment.

Hospitals are turning to Raspberry boards for the same reasons as 30 million tech hobbyists have since the company's inception in 2012: They are inexpensive and portable.

In fact, the Pi Zero at $5 is the cheapest, lowest-powered board in the Raspberry lineup. The relatively modest demands of ventilator systems make the Pi Zero a perfectly suitable choice.

Another reason hospitals are choosing the Pi Zero is the company's ability to produce them quickly.
"Raspberry Pi 'builds to stock' rather than 'building to order,'" Upton told Tom's Hardware, which broke the story. "So we generally have products either on-hand or in the pipeline with short lead times."

Pi-powered ventilators have not yet been tested in the United States. But a medical team in Colombia is designing a Pi-based model using easily obtainable mechanical parts such as car valves. After completion of testing on animals, they will perform their first tests on humans.

Sales of Raspberry Pis are soaring. Some 1.75 million boards were sold the first quarter of the year. The Raspberry Foundation plans to manufacture a quarter million Pi units in the second quarter.

The promise of inexpensive, portable ventilators is not the only driver behind the sales spike. The Pi line has always been popular among hobbyists who these days have more time than ever to stay home and experiment.

In addition, educational institutions are rapidly incorporating Pi boards

in devices for home schooling. Businesses, too, are using them for employees who must now work from home. The United Kingdom's National Health Service is distributing Pi units for its remote workers.

The Pi Zero is the simplest of Raspberry boards. It features a single-core, 1GHz Broadcom BCM2835 processor and 512MB RAM. The Raspberry Pi 4 B has a quad-core Cortex-A72 64-bit SoC Broadcom BCM2711 processor and 1GB RAM. The Zero is $5, the 4B with 2GB RAM is $35 and the 4GB model is $55.

Raspberry Pi joins other companies in chipping in to manufacture parts for life-saving devices during the pandemic, including Dyson, Tesla, Razer and Maingear. Many small firms are joining the battle, too, including one tech firm in hard-hit Italy that last month rushed to produce sorely needed ventilator components using their own 3-D printers.

  More information: www.tomshardware.com/news/raspberry-pi-ventilators

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