Hardware requirements for Embedded and Real Time Systems: Winter 2021

COMPONENTS

Note: it is worth exploring the various options to find the best solution (fastest, cheapest, lowest cost etc), take some time watching the videos online and reading the various sources to help here. Take your time choosing the right SD card, if buying the individual components.

1. Raspberry Pi 4 Model B with 2Gb, 4Gb or 8Gb
2. Power Supply for Raspberry Pi 4 (make sure it is specifically for the Raspberry Pi 4)
3. SD Card: recommend picking a known SD card that works with Raspberry Pi 4
4. HDMI cable (may need a cable specific for your needs)
5. Optional case, but **must buy** the Raspberry Pi 4 heatsinks or fan.

Other standard hardware required for setup

- Ethernet cable
- HDMI Monitor
- USB Keyboard + Mouse
- Small ethernet router and/or Wi-Fi

DETAILS

Raspberry Pi 4 Model B with 2Gb, 4Gb, or 8Gb Starter Kits from Amazon $89 (may find a cheaper combination). Make sure that you choose a Raspberry Pi version “4” with 2Gb or more.


**OR** buy the components separately:

Raspberry Pi 4 Model B 2019 with 2Gb, 4Gb or 8Gb from Amazon $43


Power Supply (**important to get one for the Raspberry Pi 4**) from Amazon ~$10

[https://www.amazon.com/CanaKit-Raspberry-Power-Supply-USB-C/dp/B07TYQRXTK/ref=pd_bxgy_img_2/138-7765416-4891356?_encoding=UTF8&pd_rd_i=B07TYQRXTK&pd_rd_r=bf32cb7b-8bf7-4551-920b-ff86f0cec90d&pd_rd_w=Xt17R&pd_rd_wg=uZnAx&pf_rd_p=ce6c479b-ef53-49a6-845b-bbbf35c28dd3&pf_rd_r=VS383R0N287A4HVBNJ4Z&psc=1&refRID=VS383R0N287A4HVBNJ4Z](https://www.amazon.com/CanaKit-Raspberry-Power-Supply-USB-C/dp/B07TYQRXTK/ref=pd_bxgy_img_2/138-7765416-4891356?_encoding=UTF8&pd_rd_i=B07TYQRXTK&pd_rd_r=bf32cb7b-8bf7-4551-920b-ff86f0cec90d&pd_rd_w=Xt17R&pd_rd_wg=uZnAx&pf_rd_p=ce6c479b-ef53-49a6-845b-bbbf35c28dd3&pf_rd_r=VS383R0N287A4HVBNJ4Z&psc=1&refRID=VS383R0N287A4HVBNJ4Z)
SD Card (note you have to have some way to write the SD Card) – $7


Depending upon monitor type an HDMI converter (Raspberry Pi 4 has mini HDMI connectors may be required, below is a converter) from Amazon $8.

https://www.amazon.com/UGREEN-Compatible-Raspberry-Camcorder-Projector/dp/B00B2HOS08/ref=sr_1_2_sspa?crid=1SB6L2Q1WK64U&keywords=mini+hDMI+to+hDMI+ca ble&qid=1571757415&s=electronics&sponsor=mini+electronics%2C223&sr=1-2&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEyNDM5OTUyTkUwS1Q3T0dTUExXImVuY3J5cHRlZFkSWQ9QTA4MjQzMjcyWEM4OUhGTEUwNFAVJndpZGdldE5hbWU9c3ByXRM(jmdjbGJjajJlZGYvZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==

Again, recommend shopping around for a case (access to the connector pins is useful):

https://www.amazon.com/dp/B08BFLGCFS/ref=ssp_a_dk_detail_5?spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEwMDg3NzQwMjJlbmRwWE1CN1RanNCZibmNyeXB0ZW邹ZElkPUEwMTg2MzY4OTgzMzY5MTdaS1VMSE9STlhLRyZ3aWRRnZXROYW1IPXNwX2RlbGFpbCZhY3Rpb249Y2xpY2tsZWRpcmVjdCZkb05vdExvZWNsaWNrPXRaydWU=

Recommended Book

Exploring Raspberry Pi: Interfacing to the Real World with Embedded Linux 1st Edition

From Amazon ~$21.0

URL:
https://www.amazon.com/Exploring-Raspberry-Pi-Interfacing-Embedded/dp/1119188687/ref=sr_1_5?ie=UTF8&qid=1477852877&sr=8-5&keywords=raspberry+pi+for+beginners