



RASPBERRY PI

NICO MAAS

PI AND MORE 11



WER BIN ICH?

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- [@nmaas87](https://www.instagram.com/nmaas87)

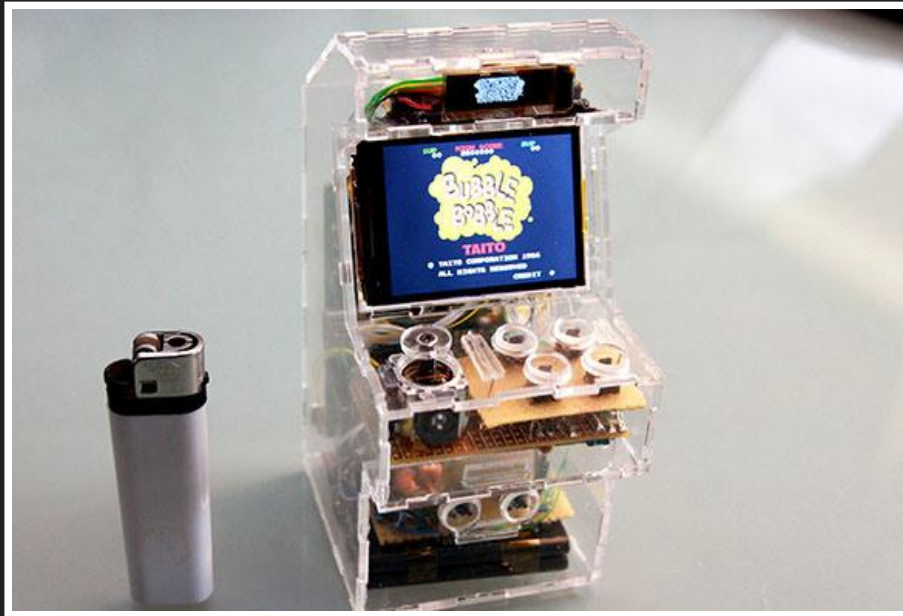


AGENDA

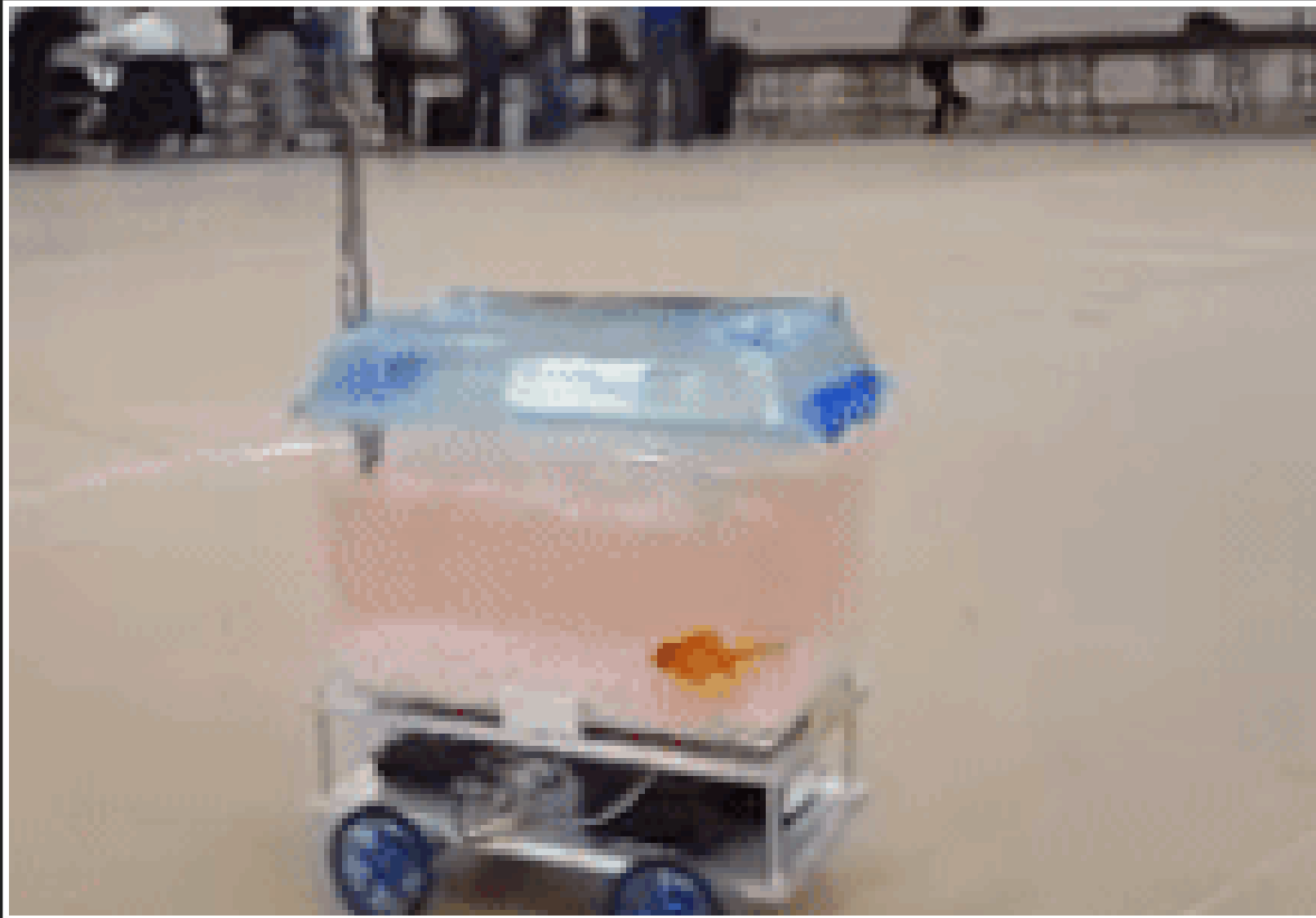
- Einführung
 - Geschichte
 - Woher der Erfolg?
 - Beispielprojekte
 - Nur der RPi?
- Erste Schritte
- Mehr Raspberry Pi
- Ende

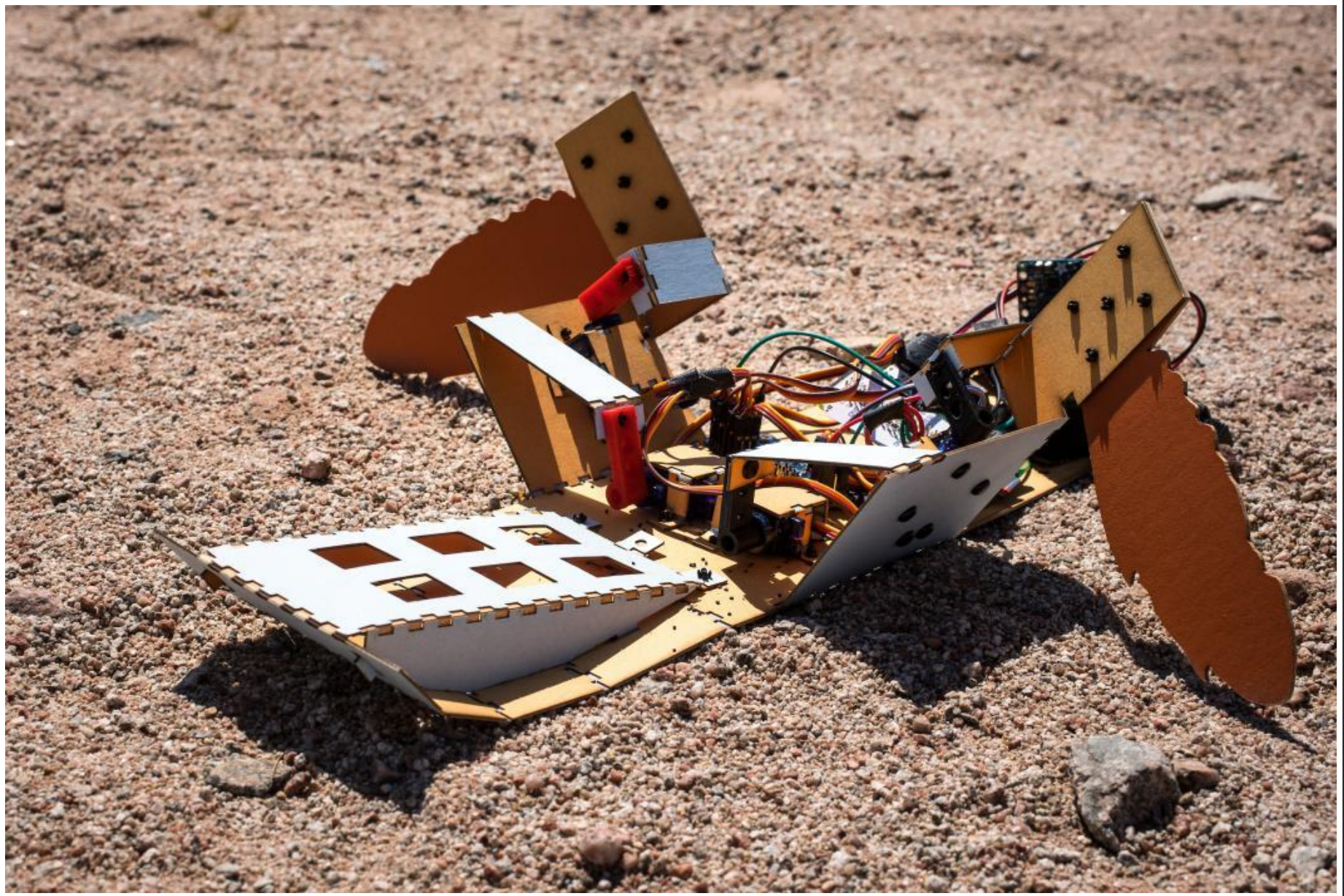


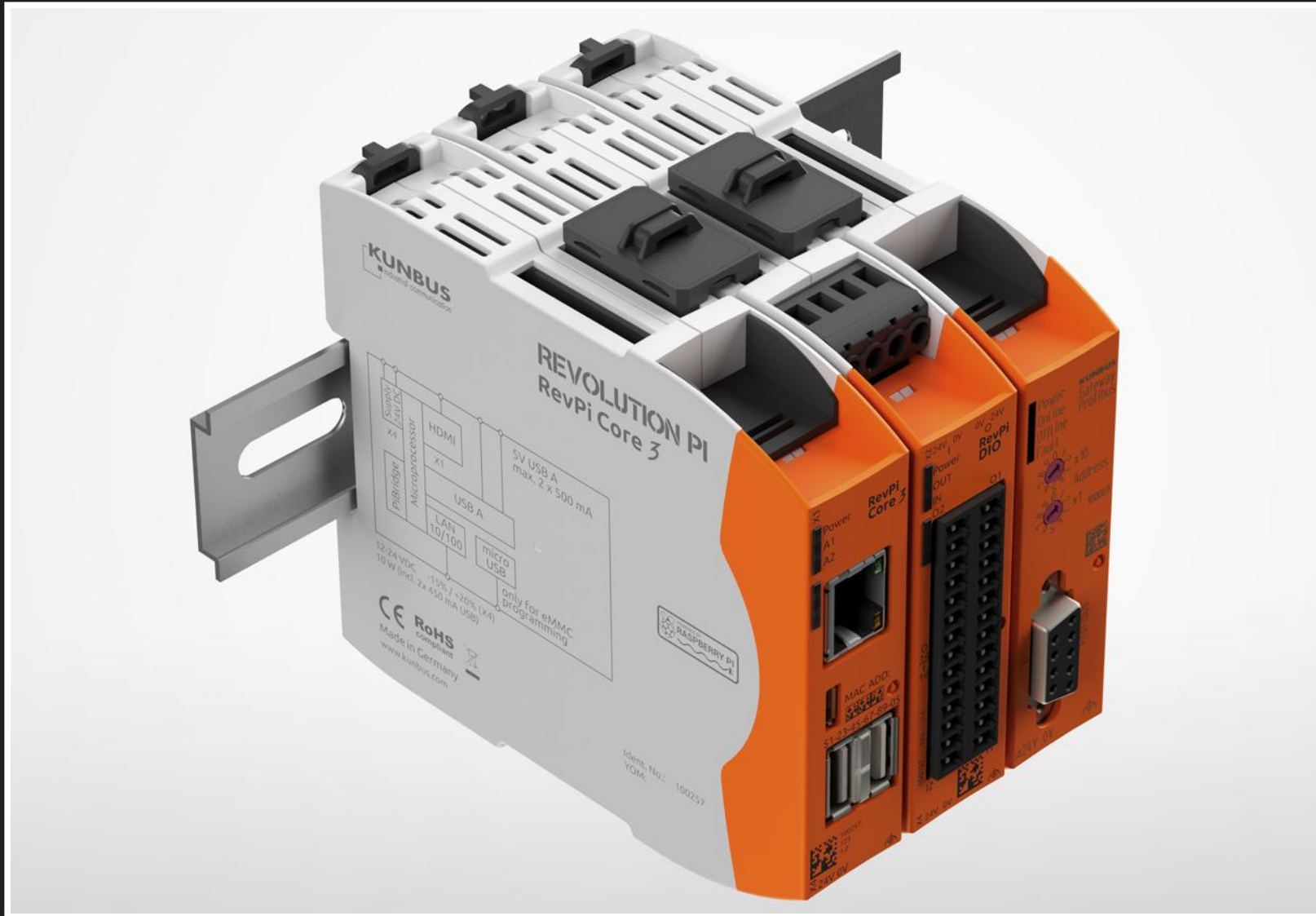
EINFÜHRUNG





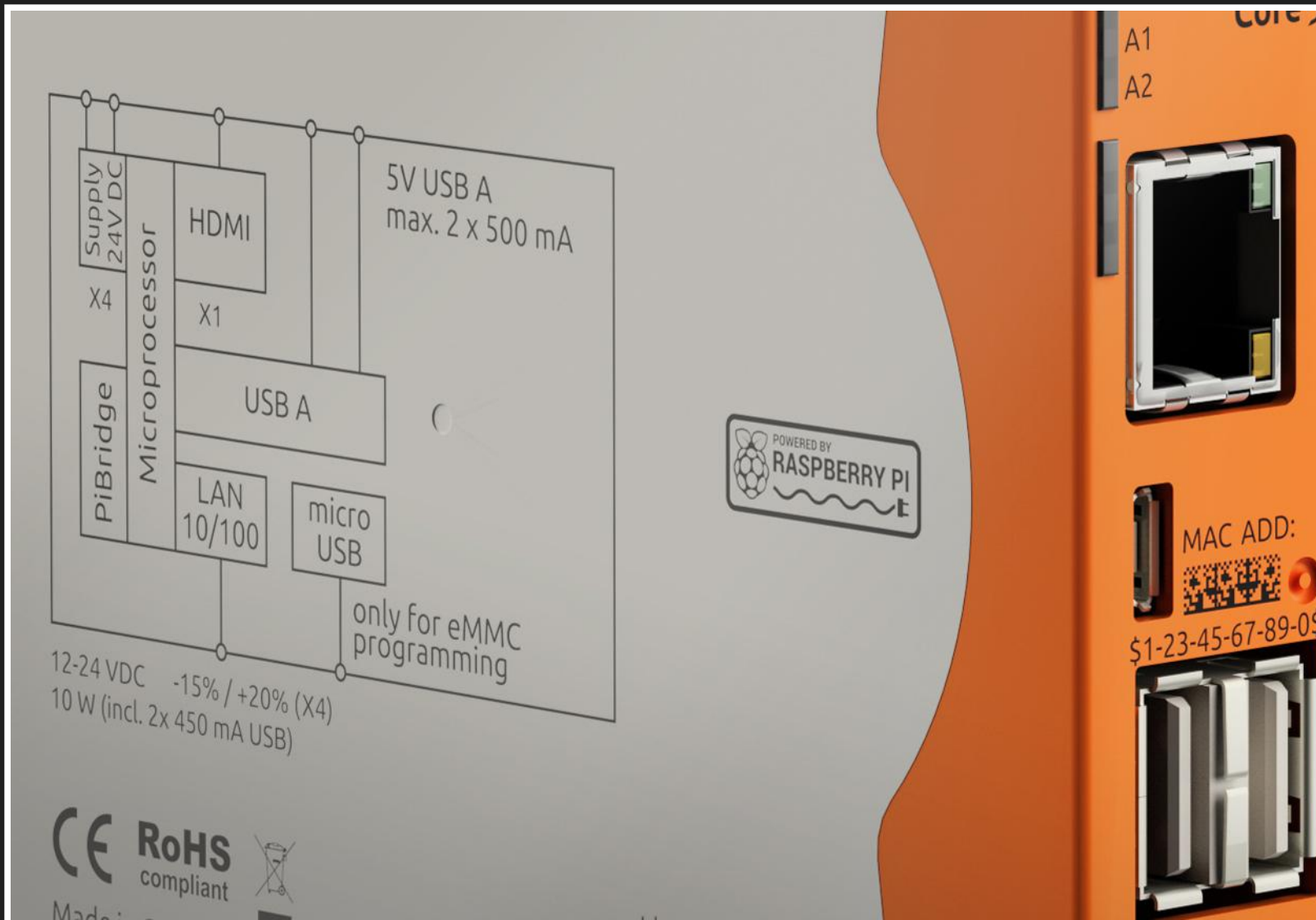








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29.02.2012 - LAUNCH



10.000 Einheiten.



> 100.000 Vorbestellungen.



08.09.2016 - ESTABLISHMENT

~~> 100.000 Vorbestellungen.~~

10 Millionen verkauft.



19.07.2017 - CURRENT STATE

~~10 Millionen verkauft.~~

BBC Micro: 1.5 Millionen

Sinclair ZX Spectrum: 5 Millionen

Raspberry Pi Family: > 14 Millionen

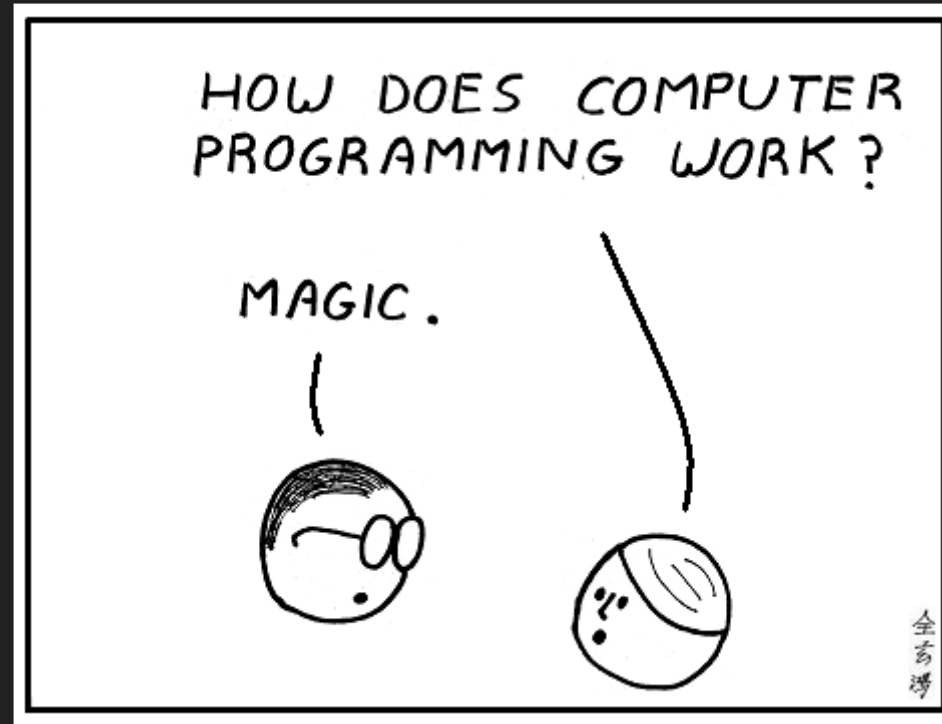


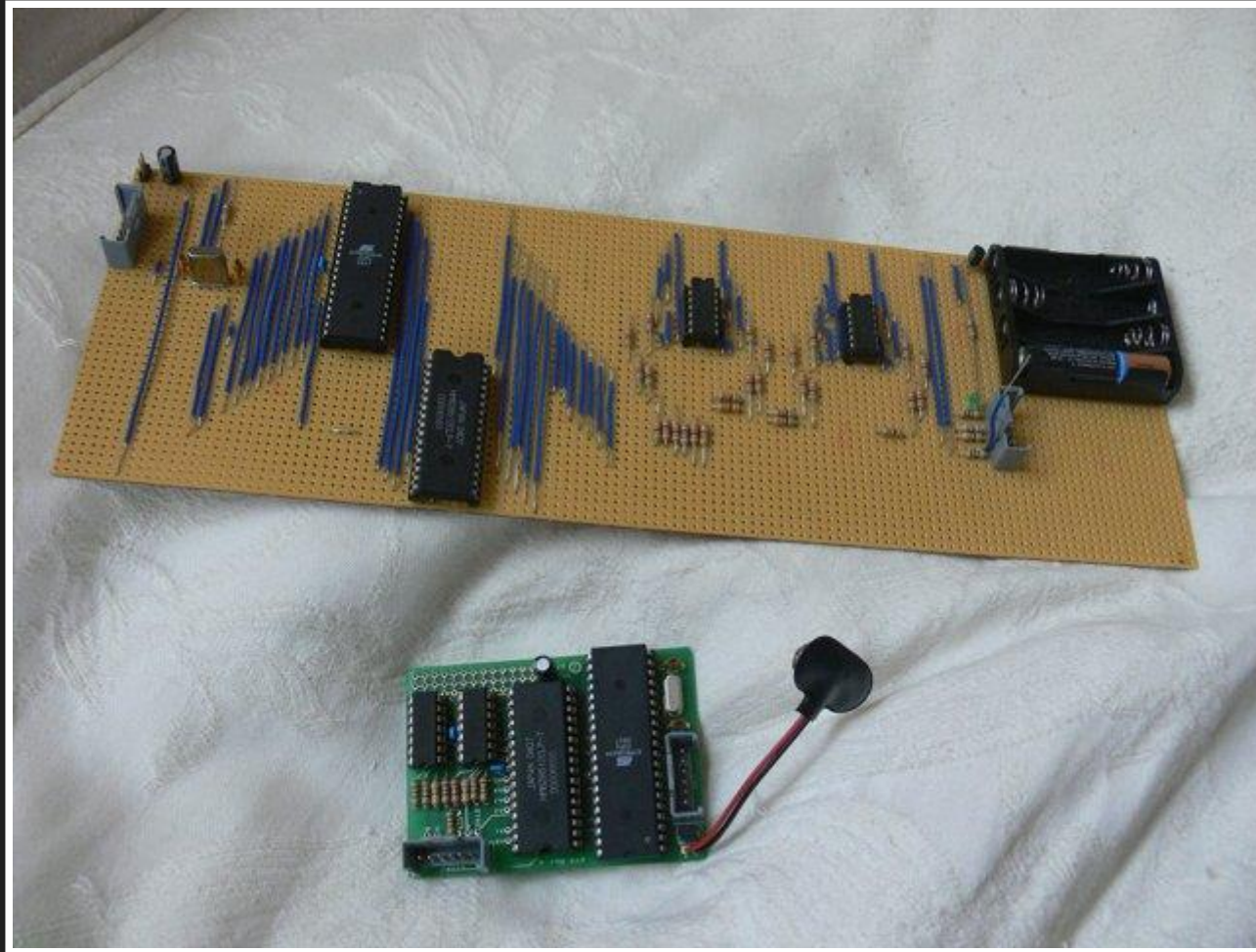
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EINFÜHRUNG GESCHICHTE



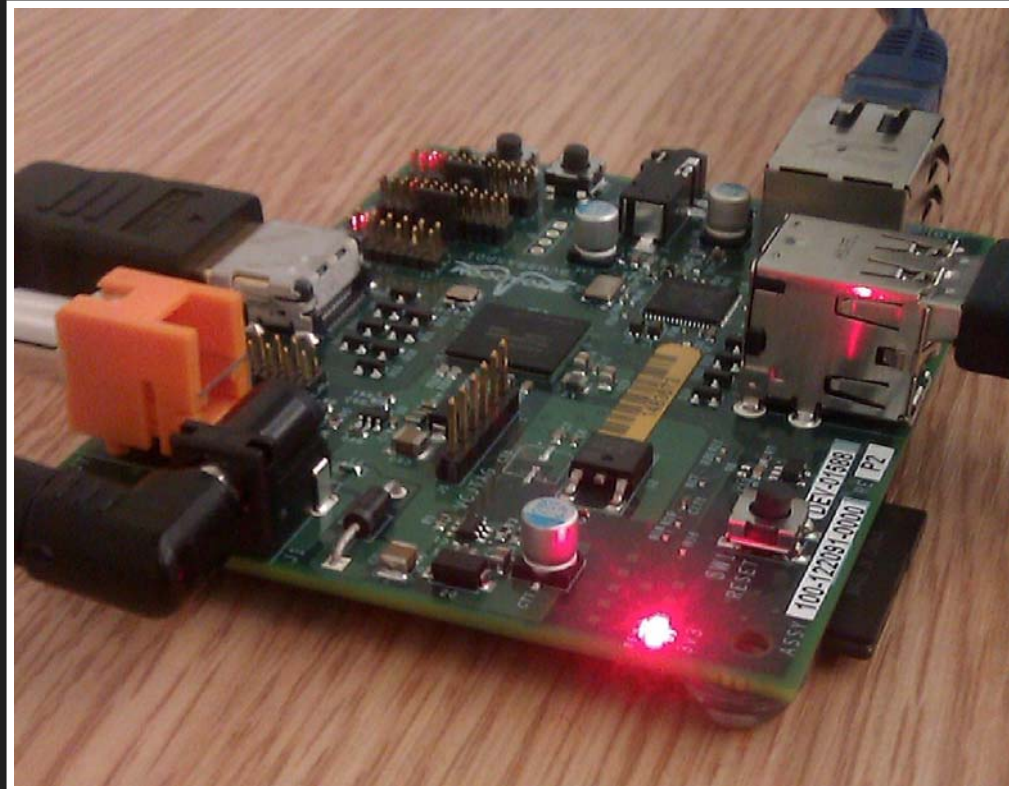


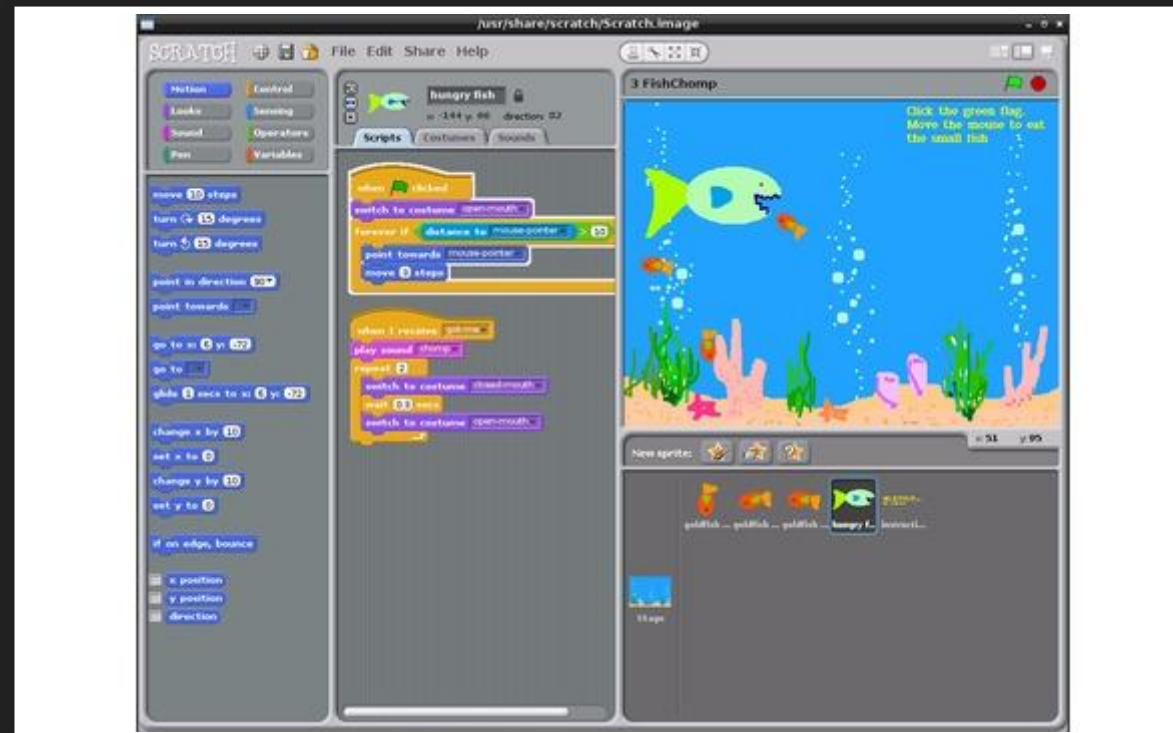




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RELEASE: RASPBERRY PI MODEL B, 2012





EINFÜHRUNG

WOHER DER ERFOLG?



RELEASE: RASPBERRY PI MODEL B, 2012



35 USD



1.) PREIS

Für 35 USD - ein "vollwertiger Rechner"*?

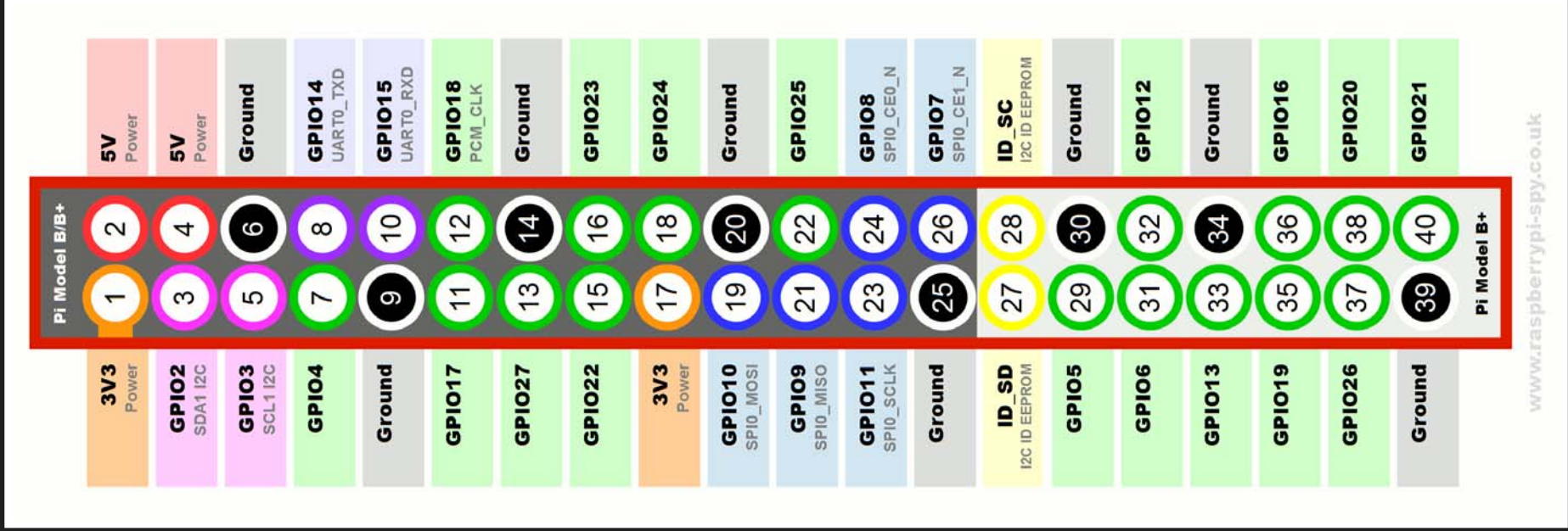
* Zubehör erforderlich...



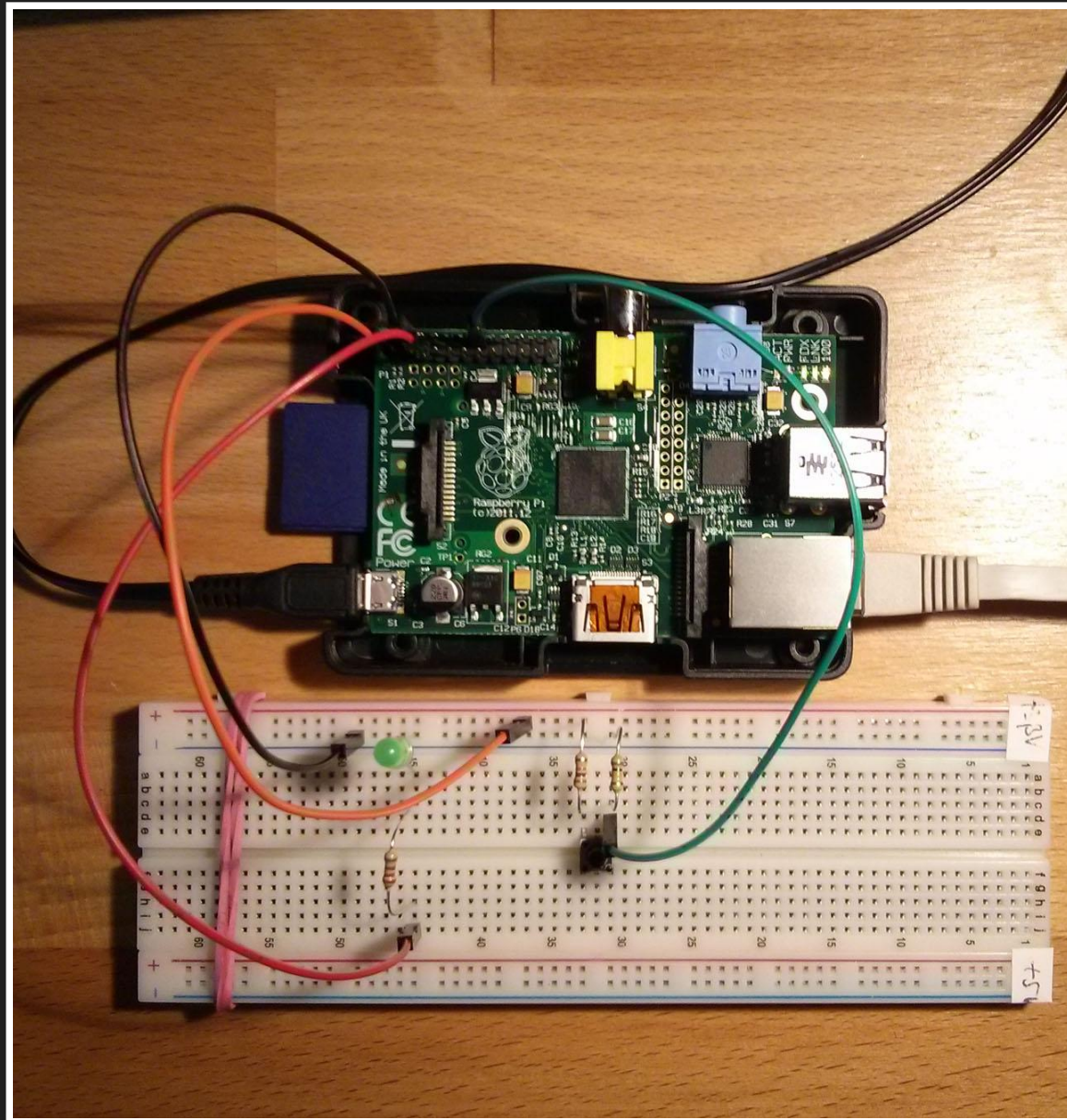
2.) GPIO







www.raspberrypi-spy.co.uk



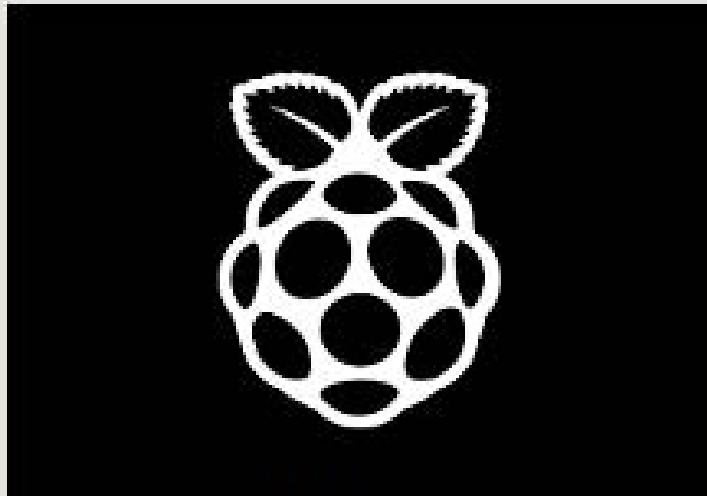


3.) COMMUNITY

The screenshot shows the Raspberry Pi website's navigation bar with links for BLOG, DOWNLOADS, COMMUNITY, HELP, FORUMS, and RESOURCES. The main content area features a large illustration titled "WHAT IS A RASPBERRY PI?" depicting a house, a flying saucer, and a dog. To the right, a "LATEST FROM THE BLOG" section highlights a post titled "VNC TUTORIAL FROM 10-YEAR-OLD PHILIP" with a red badge indicating 6 comments. Below this, a "MORE FROM THE BLOG..." section displays four article thumbnails: "RASPBERRY PI BIG BIRTHDAY WEEKEND 28 FEB - 1 MARCH 2015" (48 comments), "HACKING THE HAULAGE INDUSTRY" (13 comments), "MACHINE LEARNING, COMBUSTION ENGINES AND REAL-TIME CONTROL" (14 comments), and "MEET THE EDUCATION TEAM AT THE BETT SHOW 2015" (15 comments). A "RASPBERRY PI PRODUCTS" section is visible below the thumbnails. At the bottom right, a "LATEST NEWS" section shows a thumbnail for "CHANCES TO THE" with a red badge indicating 222 comments. A Raspberry Pi Shop icon is located in the top right corner of the page.



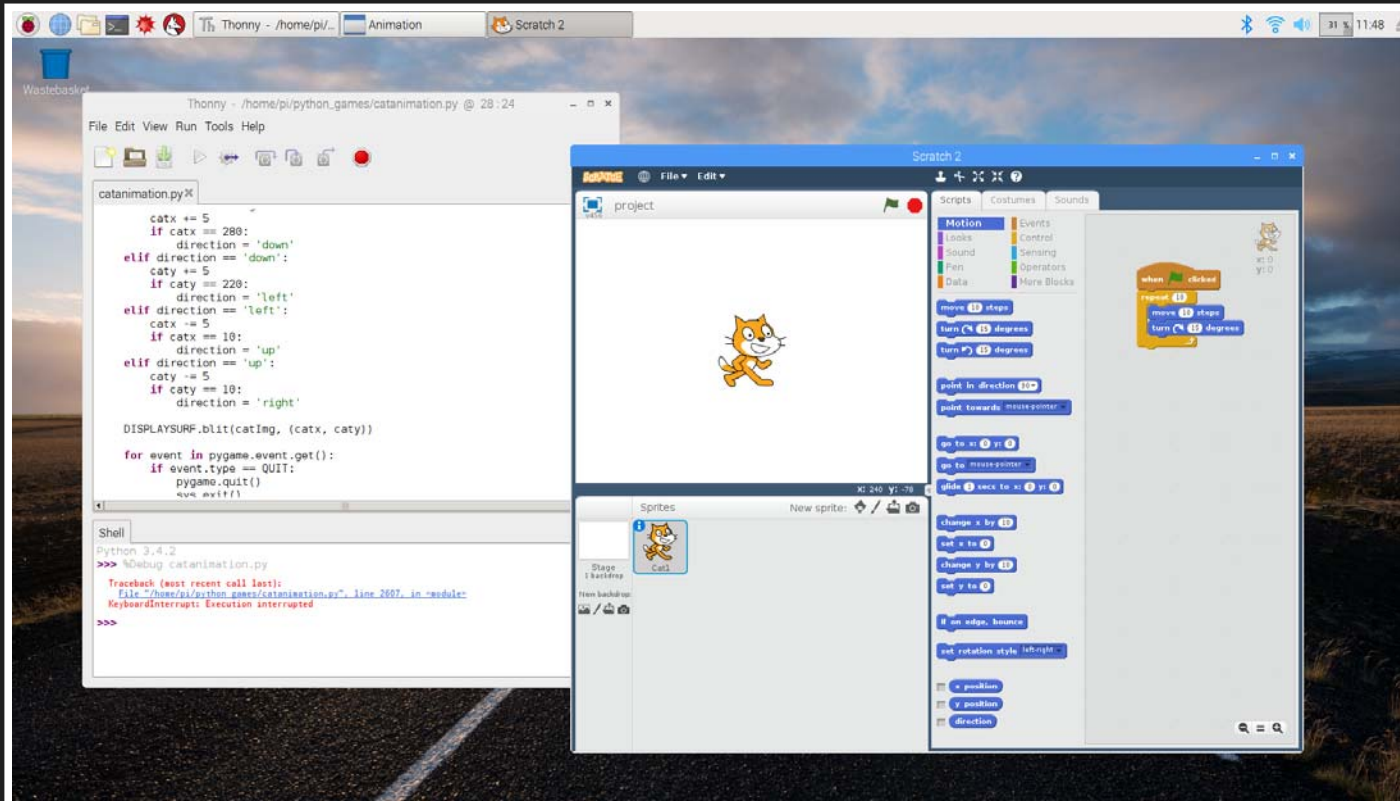
4.) BETRIEBSSYSTEM



NOOBS



RASPBIAN





Third Party Operating System Images

Third party operating system images for Raspberry Pi are also available:



UBUNTU MATE



SNAPPY UBUNTU CORE



WINDOWS 10 IOT CORE



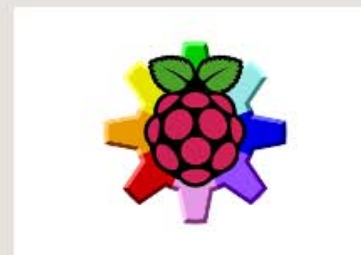
OSMC



LIBREELEC



PINET



RISC OS

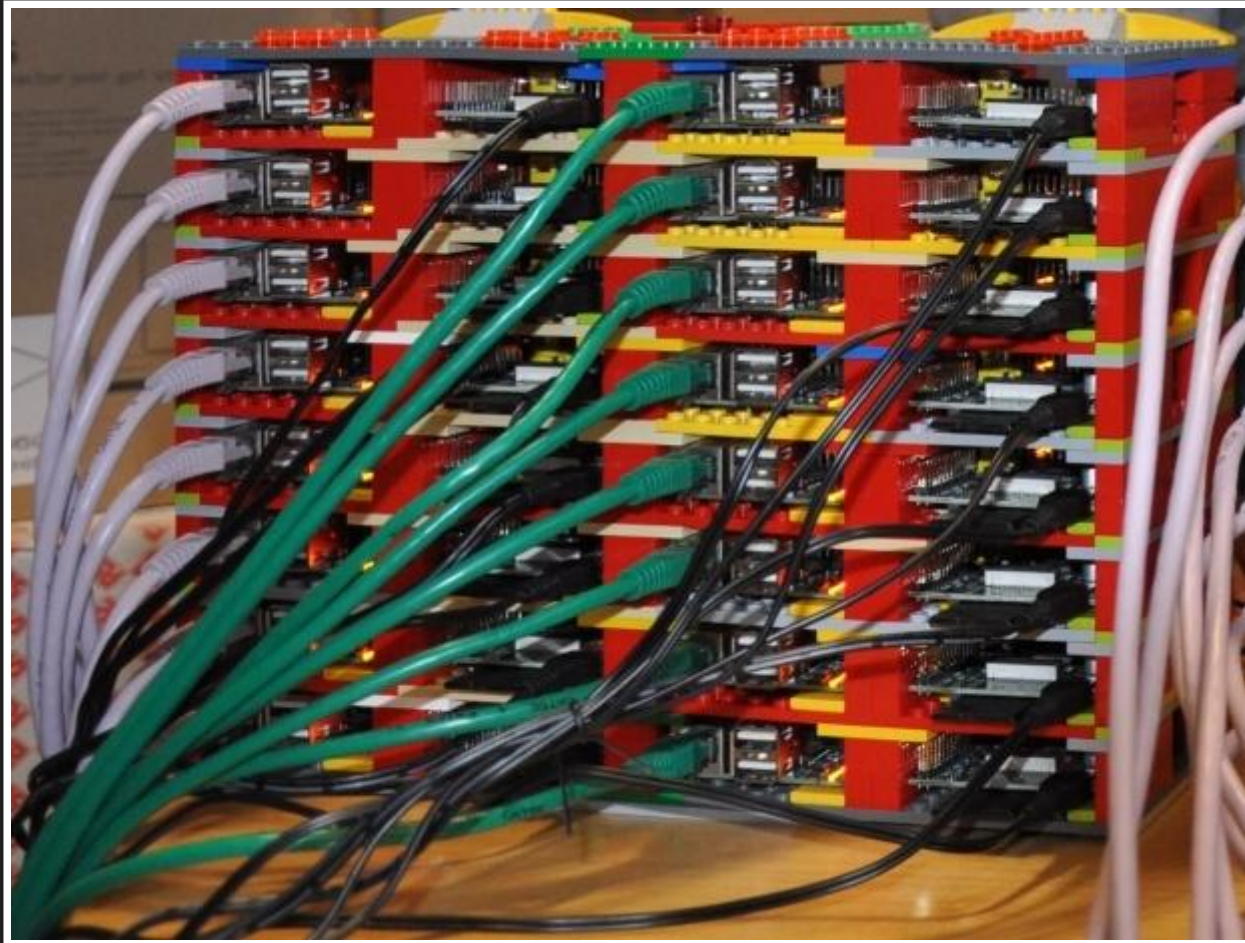


WEATHER STATION

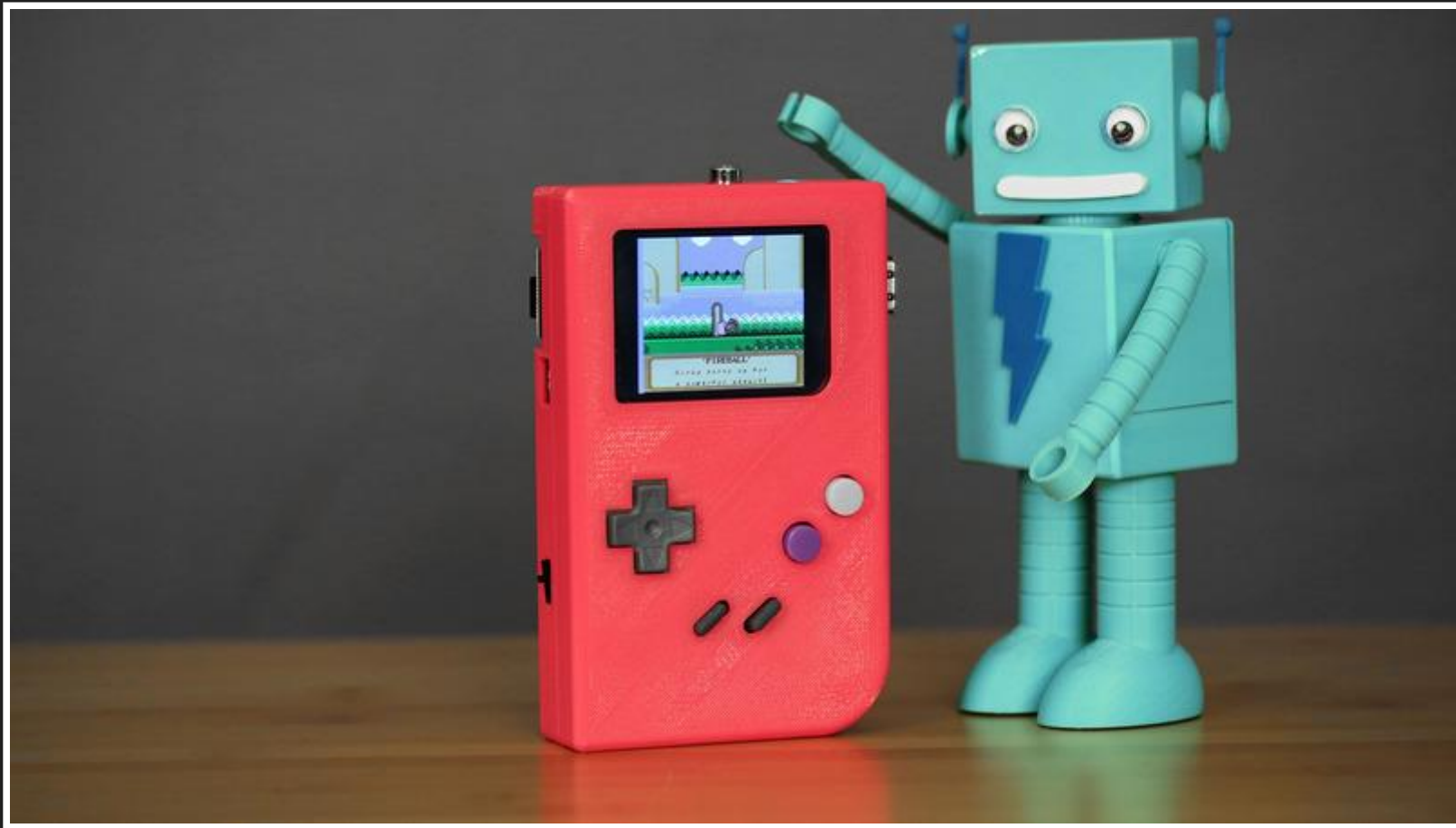


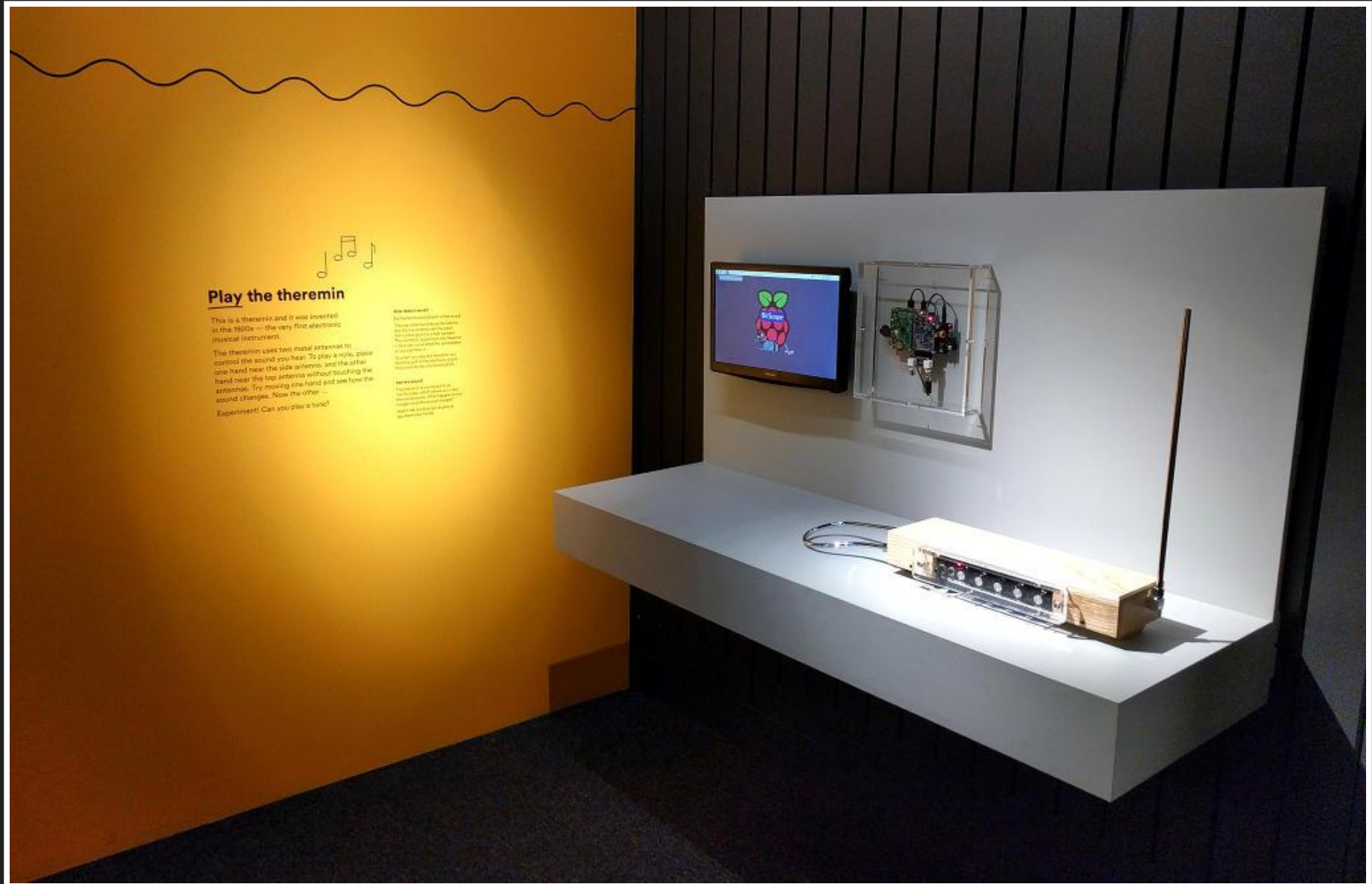
EINFÜHRUNG

BEISPIELPROJEKTE







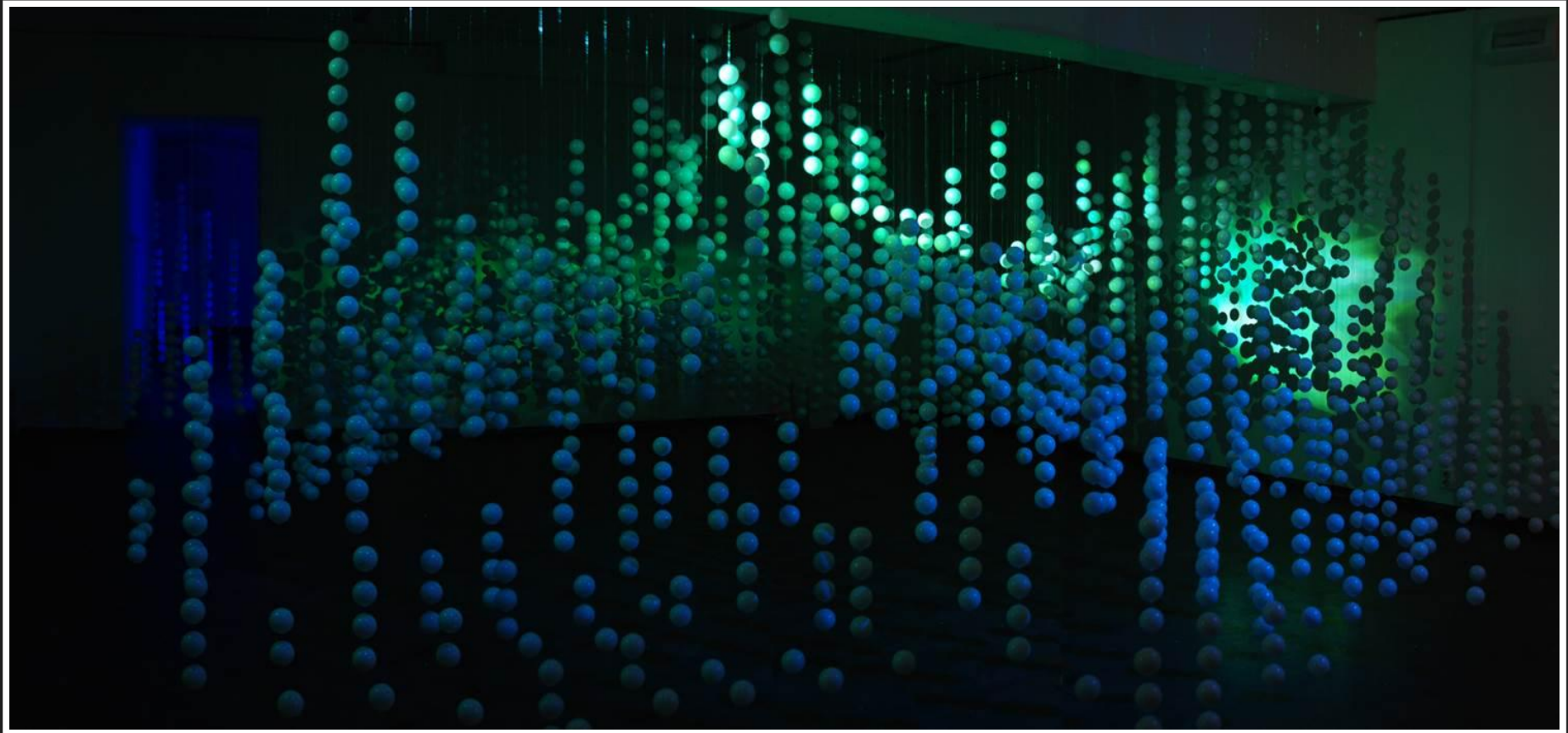


Play the theremin

This is a theremin and it was invented in the 1930s — the very first electronic musical instrument.

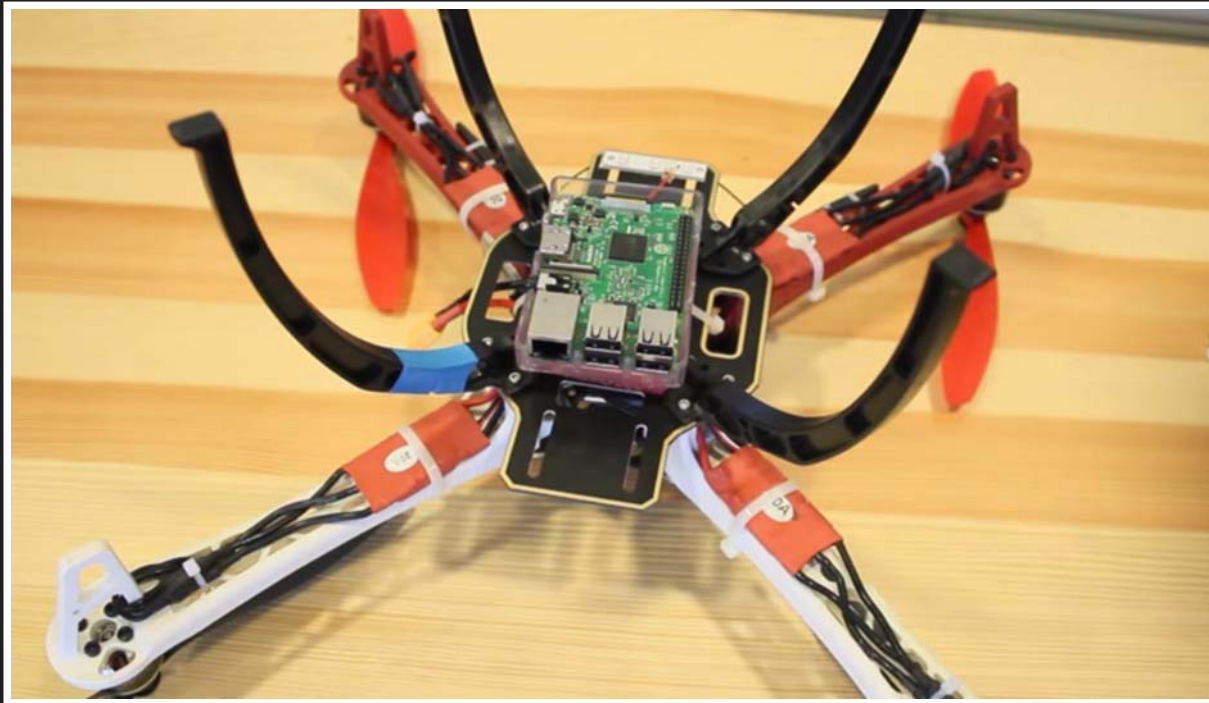
The theremin uses two metal antennas to control the sound you hear. To play a note, place one hand near the side antenna, and the other hand near the top antenna without touching the antennas. Try moving one hand and see how the sound changes. Now the other — Experiment! Can you play a tune!

How does it work?
The theremin is a type of electronic musical instrument that uses two metal antennas to control the sound you hear. To play a note, place one hand near the side antenna, and the other hand near the top antenna without touching the antennas. Try moving one hand and see how the sound changes. Now the other — Experiment! Can you play a tune!

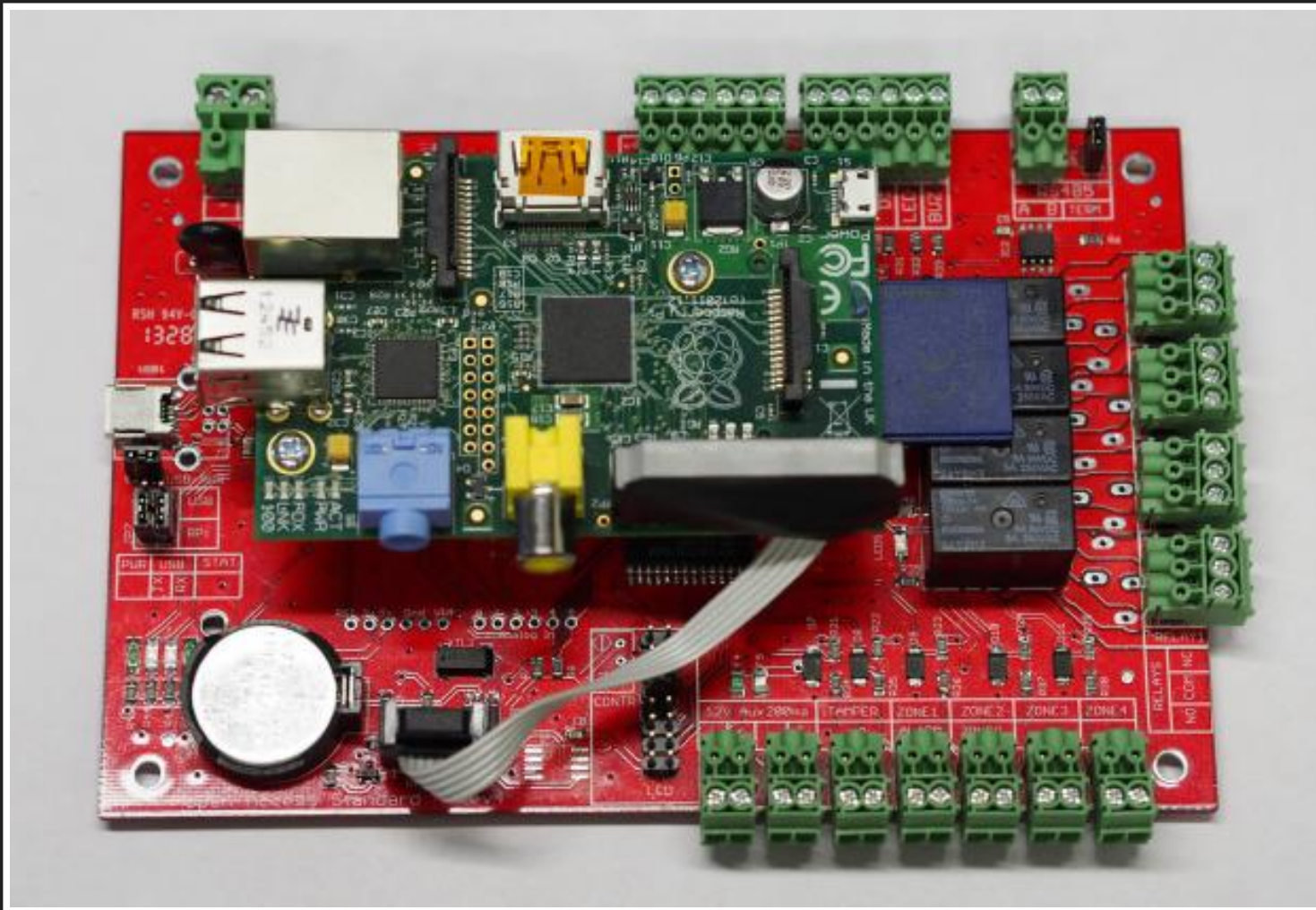






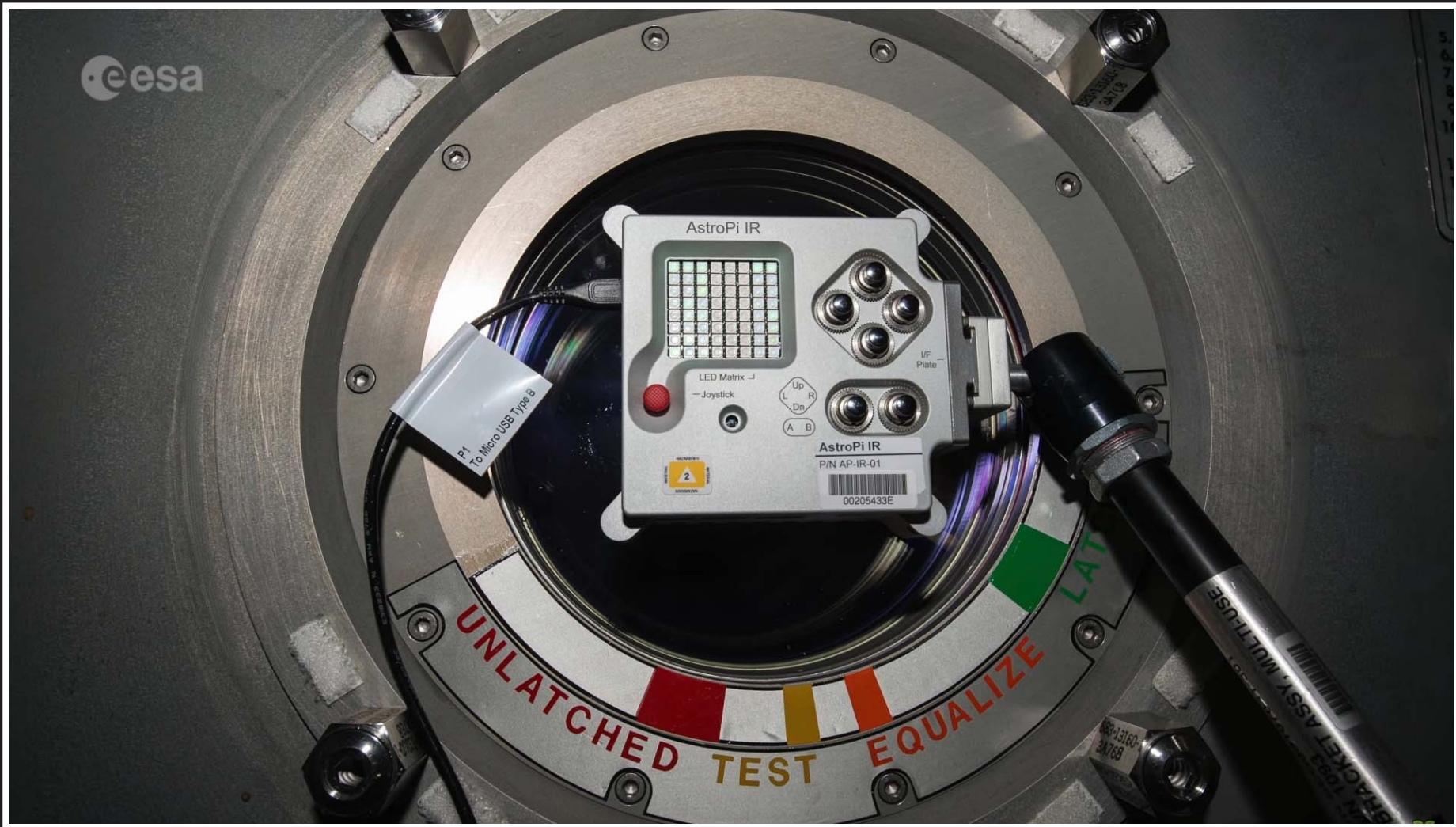














EINFÜHRUNG NUR DER RPI?



RASPBERRY PI 1 MODELL B V2

- 700 MHz ARM
- 512 MB RAM
- Full HDMI
- Cinch Video
- Stereo Audio
- USB 2.0
- 100 Mbit Ethernet

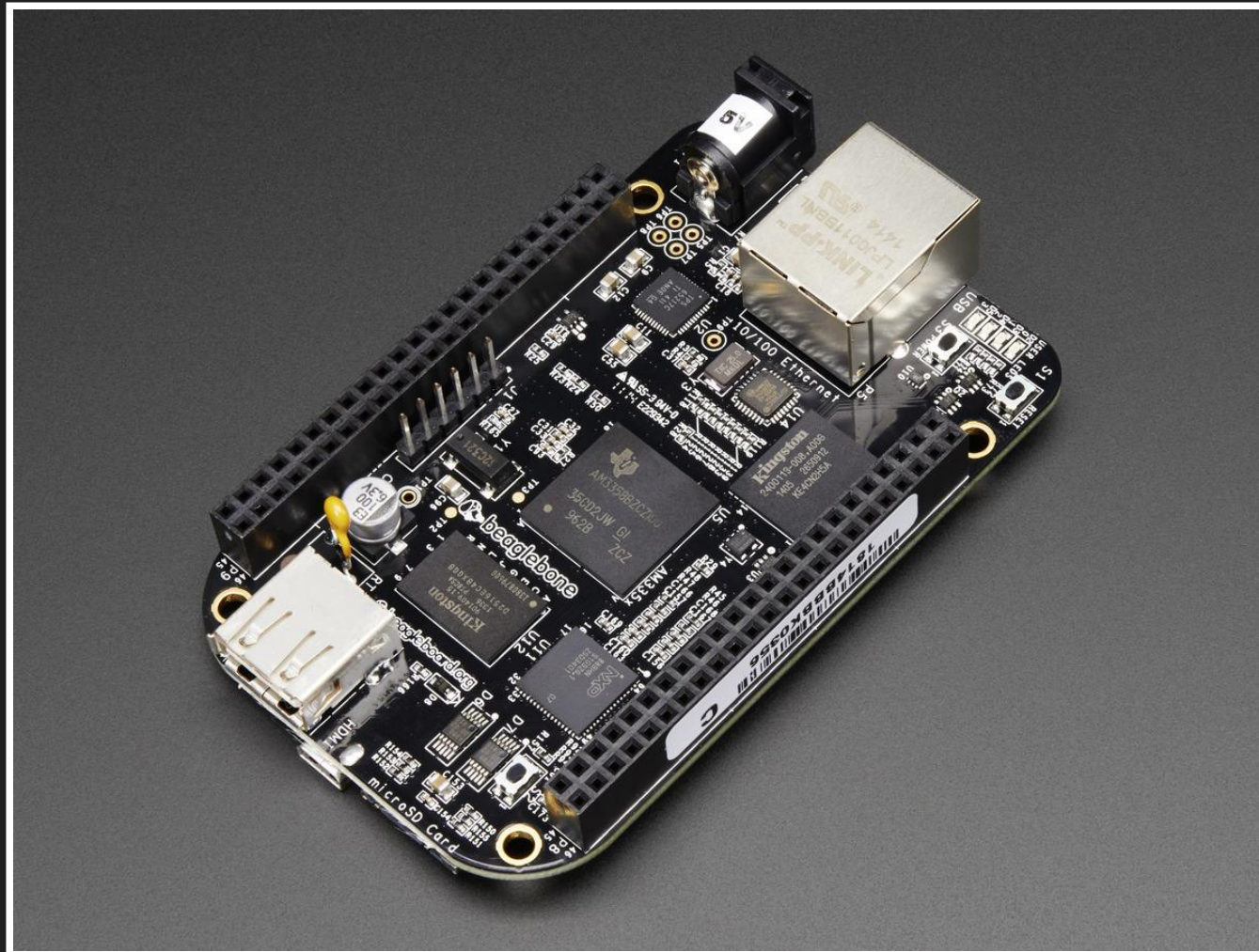


WARS DAS SCHON ;)?



NEIN :)!

BEAGLEBONE BLACK





BEAGLEBONE BLACK

- 1 GHz ARM
- 512 MB RAM
- 2 x PRUs
- Full HDMI
- USB 2.0
- 100 Mbit Ethernet

OLIMEX (Z.B. A20 OLINUXINO-LIME)

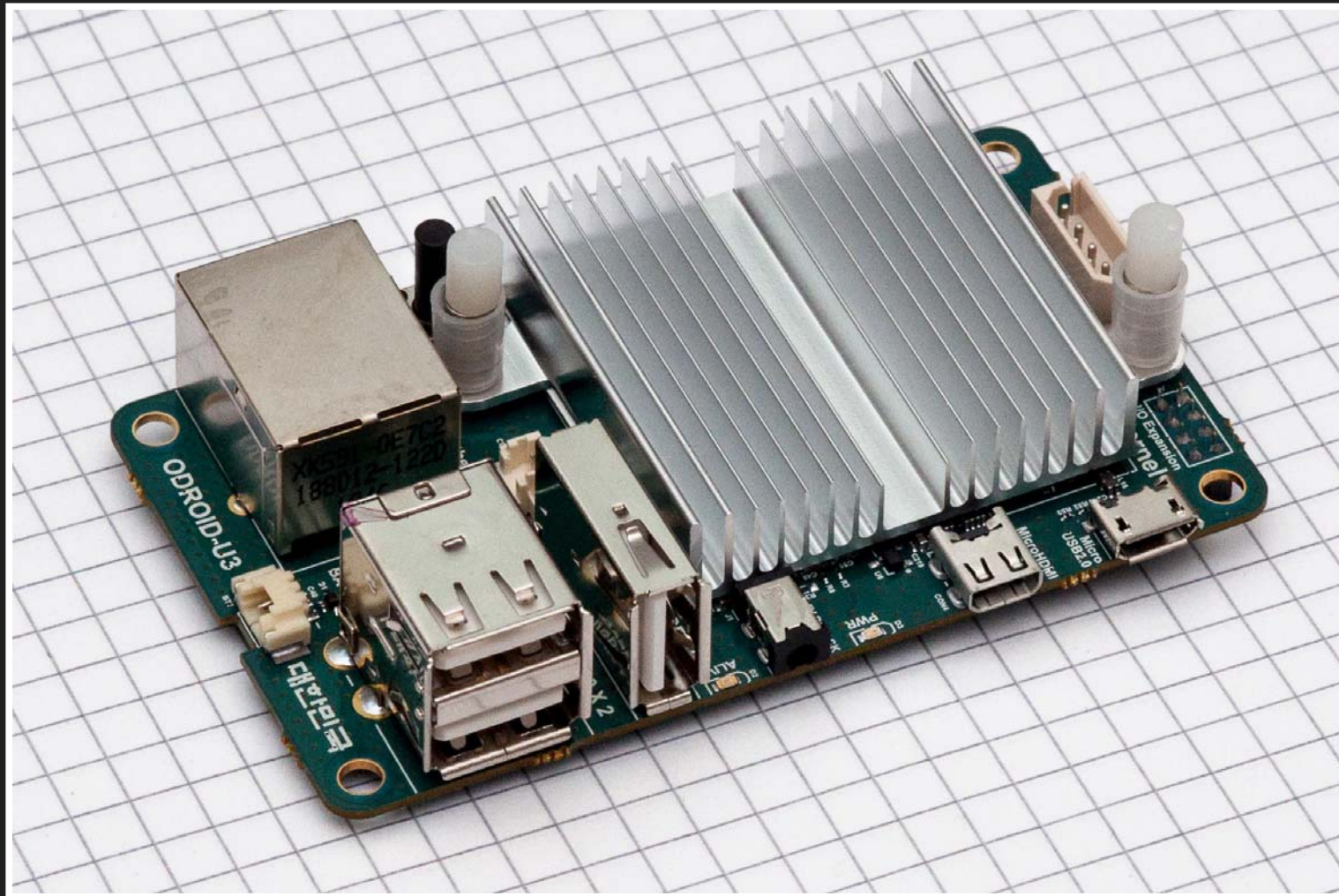




OLIMEX (Z.B. A20 OLINUXINO-LIME)

- 1 GHz ARM Dualcore(!)
- 512 MB RAM
- Full HDMI
- USB 2.0
- 100 Mbit Ethernet
- LiPo Charger
- SATA Connector
- 160 GPIOs(!)

HARDKERNEL ODROID (Z.B. U3)



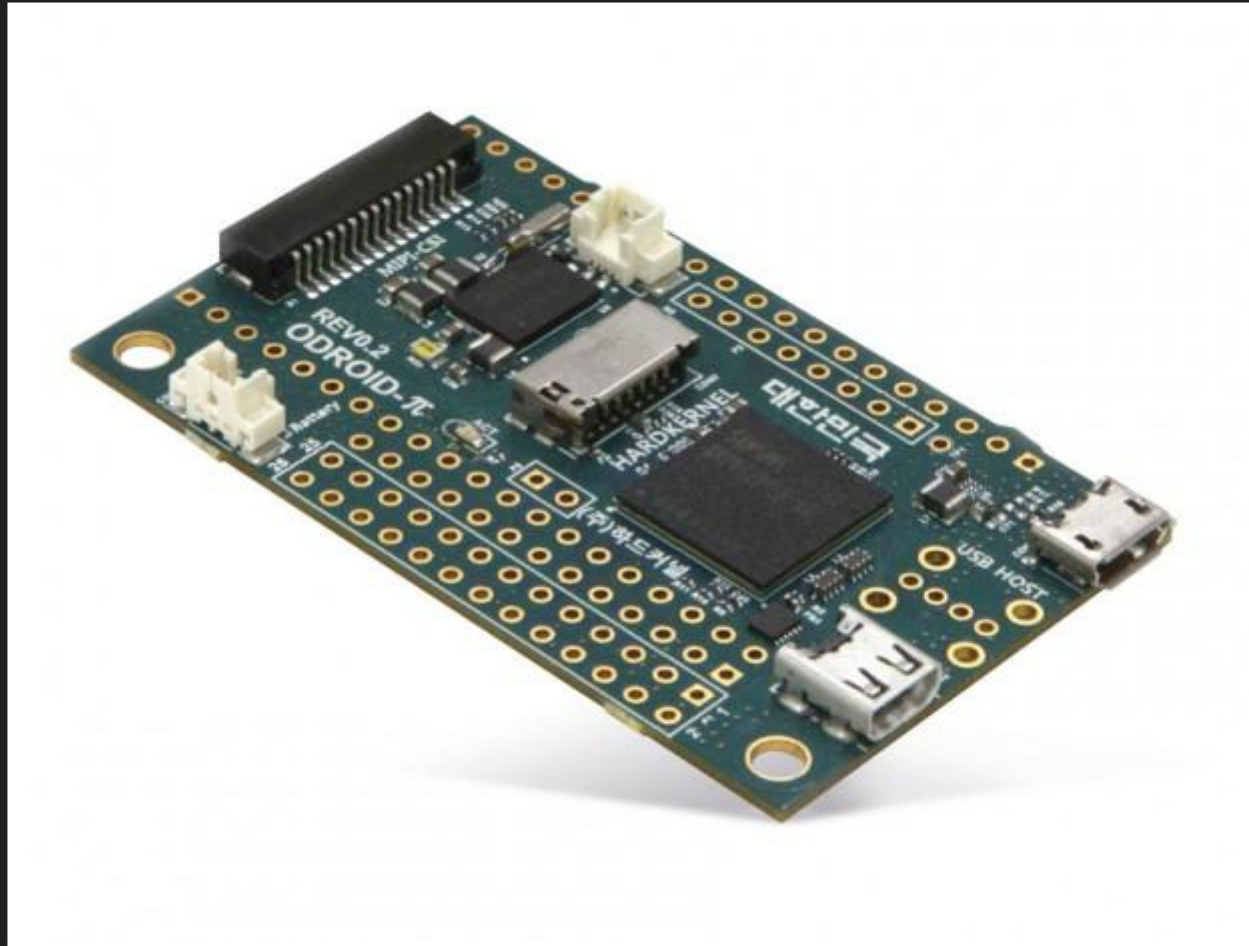


HARDKERNEL ODROID (Z.B. U3)

- 1.7 GHz ARM Quadcore(!)
- 2 GB RAM(!)
- Full HDMI
- Stereo Audio
- USB 2.0
- 100 Mbit Ethernet
- eMMC



HARDKERNEL ODROID W





HARDKERNEL ODROID W

... das hatte Konsequenzen für Broadcom



KONKURENZ BELEBT DAS GESCHÄFT!



B Rev 1



B Rev 1 links



A



B Rev 2 (256 MB)



B Rev 2 (China)



B Rev 2.1 (UK)



B Rev 2 (Chinese)



B Rev 2 (Blue Pi)



Compute Module



B+



B+ (Chinese)



A+



2B



Zero 1.2



3B



A+ 512



2B 1.2



Zero 1.3



3B (Japanese)



3B (Brazilian)



Compute Module 3



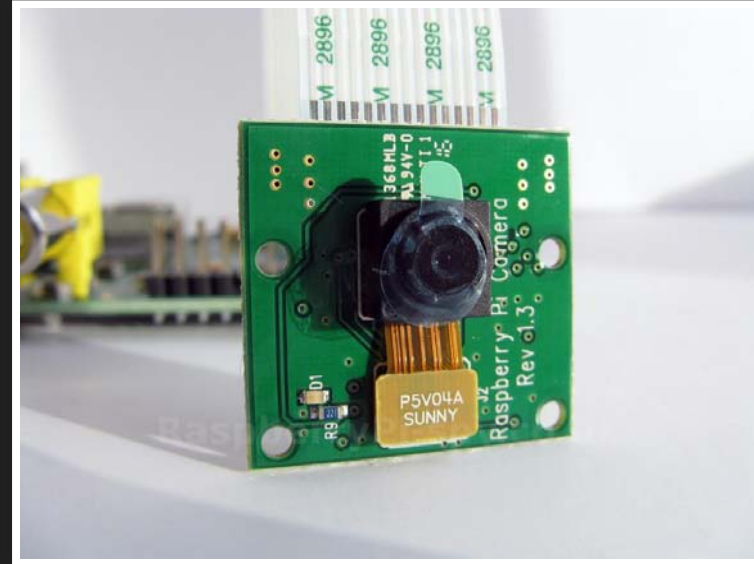
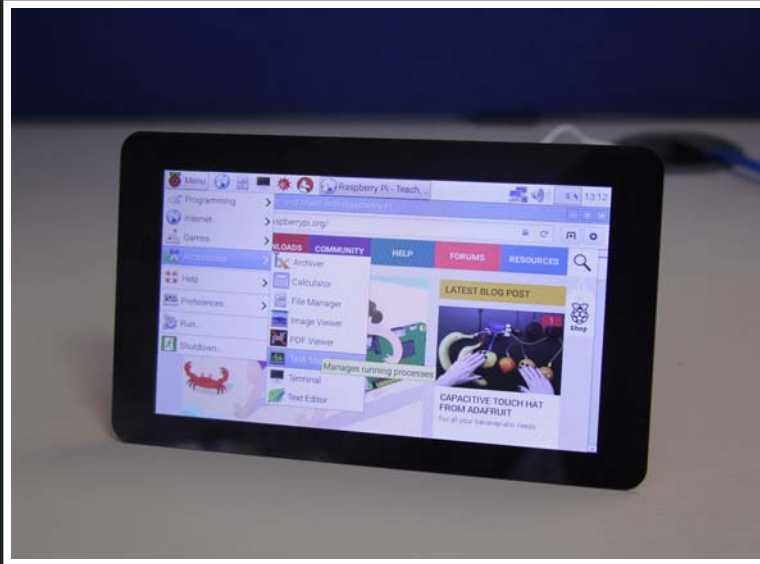
3B+

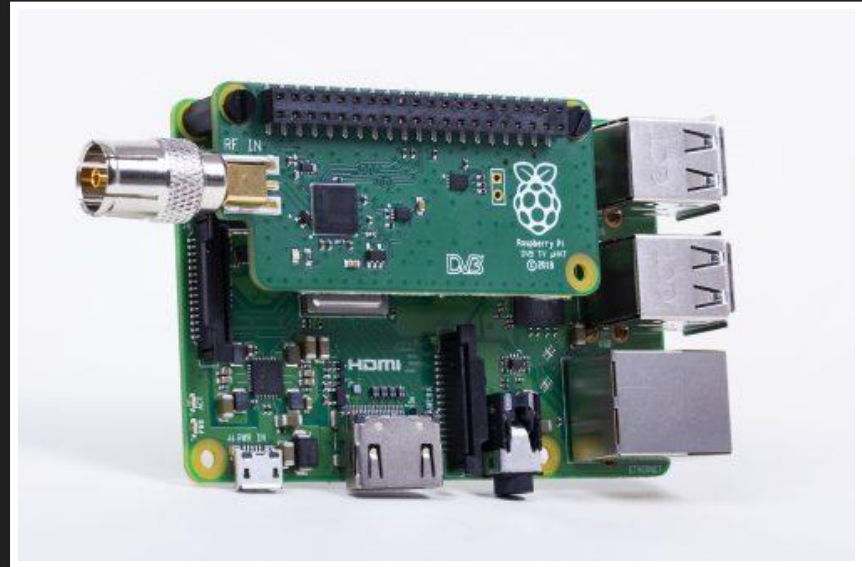


Raspberry Pi[®] family

March 14 2018

RasPi.TV







ERSTE SCHRITTE

RASPBERRY PI 3 MODELL B+





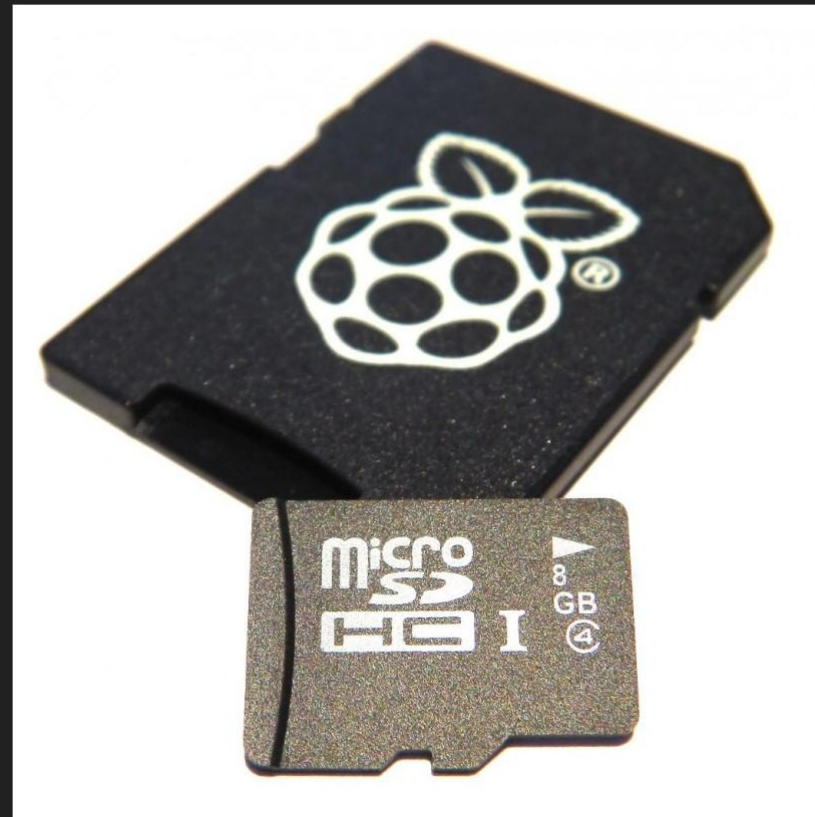
RASPBERRY PI 3 MODELL B+

- 1.4 GHz ARM Quadcore (64 bit)
- 1 GB RAM
- Full HDMI
- 3,5mm Klinke Video / Audio
- USB 2.0
- Gigabit Ethernet (max. 300 Mbit/s)
- PoE Support (mit optionalen Hat)
- Bluetooth 4.2
- WLAN (802.11.b/g/n/ac)
- ~ 38,90€



ZUBEHÖR: MICRO SD CARD

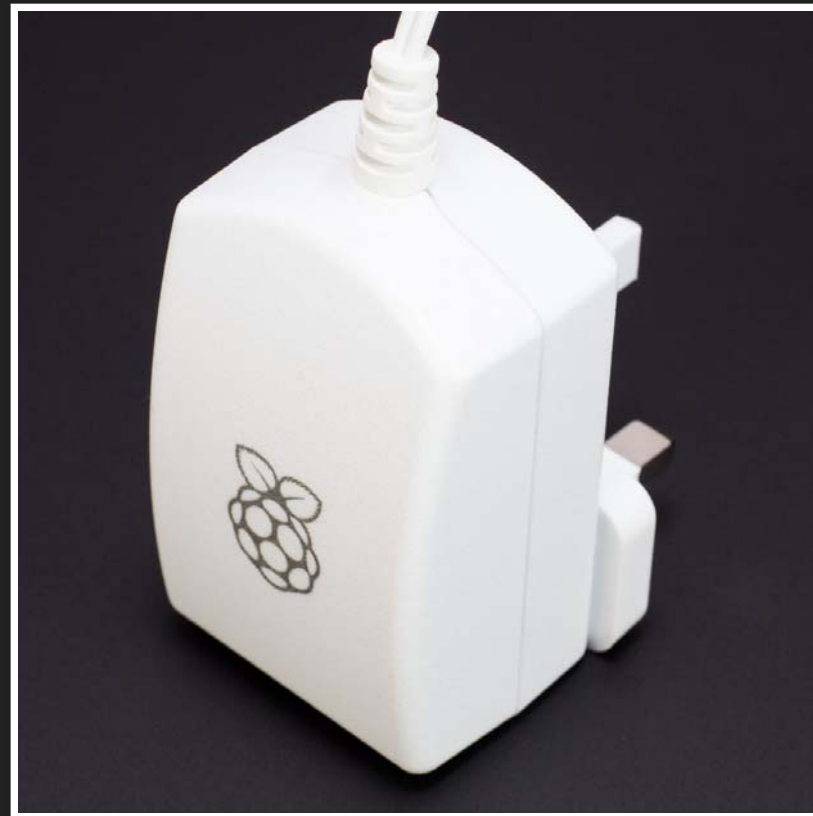
>= 8 GB, Markenhersteller, Class 10





ZUBEHÖR: MICRO USB NETZTEIL

$\geq 2.5 \text{ A}, 5\text{V}$





ZUBEHÖR: GEHÄUSE



ZUBEHÖR: ÜBERSICHT





INSTALLATION:

- RASPBIAN STRETCH WITH DESKTOP herunterladen:
<https://www.raspberrypi.org/downloads/raspbian/>
- balenaEtcher herunterladen und installieren:
<https://www.balena.io/etcher/>
- Micro SD Karte in den PC stecken & Etcher starten
- "Select image" klicken und Raspbian auswählen
- "Select drive" klicken, Micro SD auswählen
- "Flash!" klicken
- Sobald fertig, Micro SD entnehmen, in RPi einlegen
- Alle Stecker verbinden
- RPi mit Strom versorgen



MEHR RPI? GUTEN QUELLEN



INTERNET

- Allgemein: <https://www.raspberrypi.org>
- Installation: <https://www.raspberrypi.org/help/>
- Forum: <https://www.raspberrypi.org/forums/>

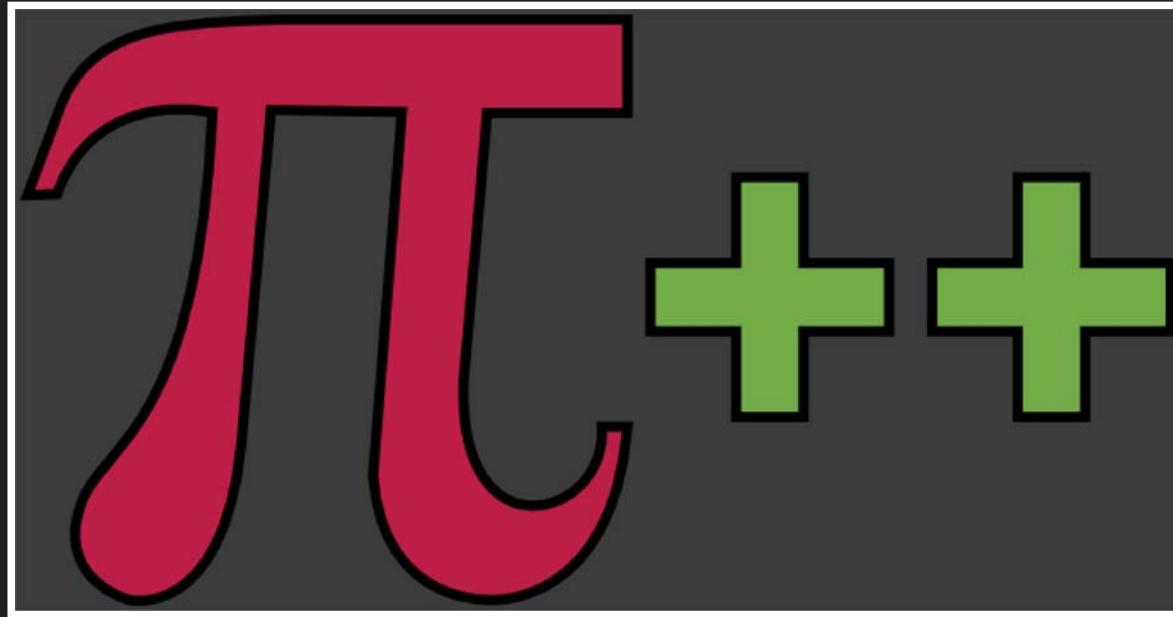


BÜCHER & KITS

- elektor
- Rheinwerk
- Franzis
- Conrad



RASPBERRY PI JAMS



<https://piandmore.de/>



FRAGEN?

Danke für Ihre Aufmerksamkeit -
und viel Spaß auf der PAM 11 :)!

www.nico-maas.de