

Vector Gaming

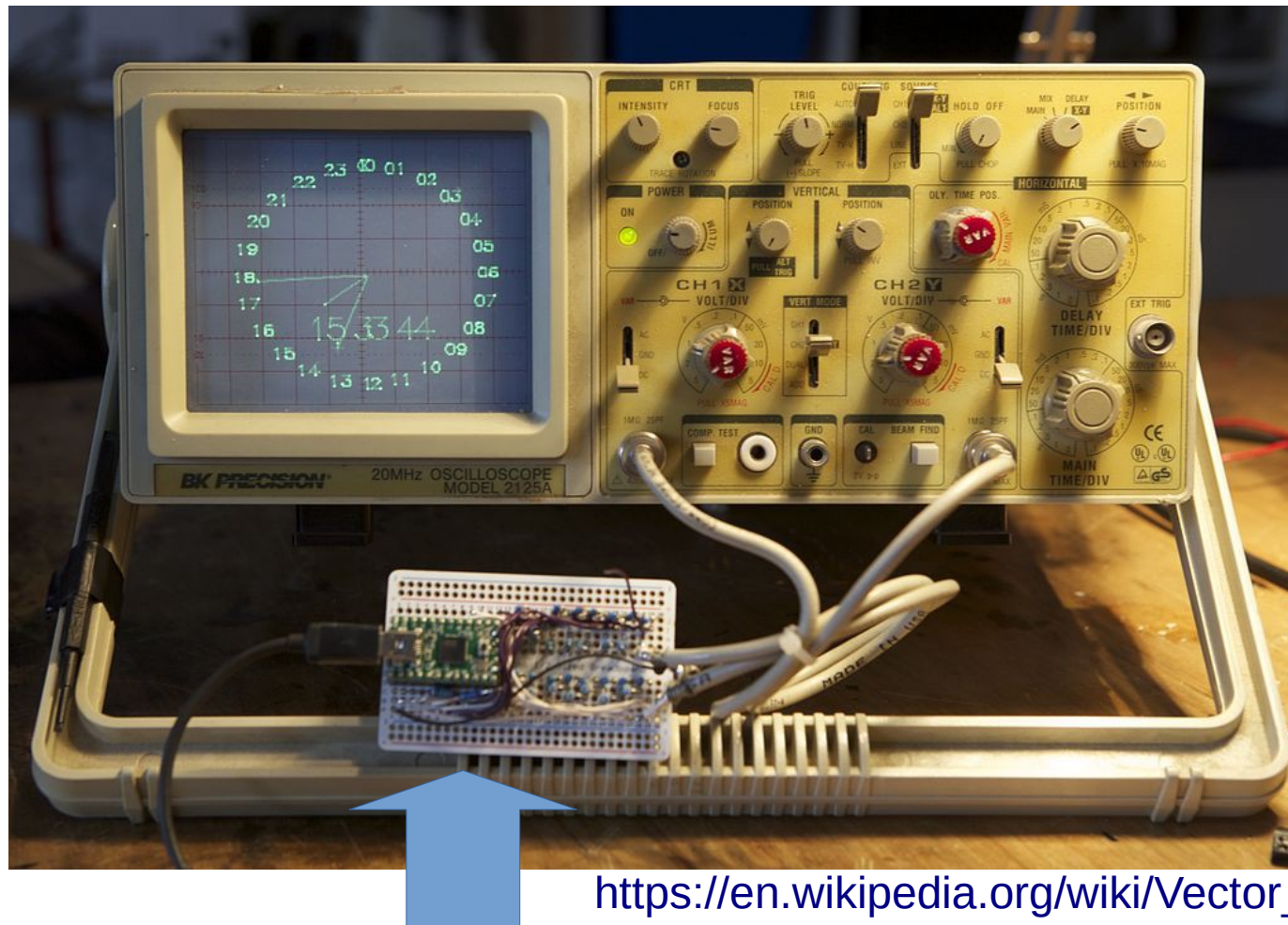
Inspiration

Chaos Computer Congress:
Trammell Hudson
Adelle Lin

**Vector gaming system that connects MAME to
XY monitors and oscilloscopes**

https://media.ccc.de/v/32c3-7238-vector_retrogaming#download

Vector Gaming



https://en.wikipedia.org/wiki/Vector_monitor

Teensy 3.1 microcontroller and a 12-bit DAC to convert XY

Vector Gaming

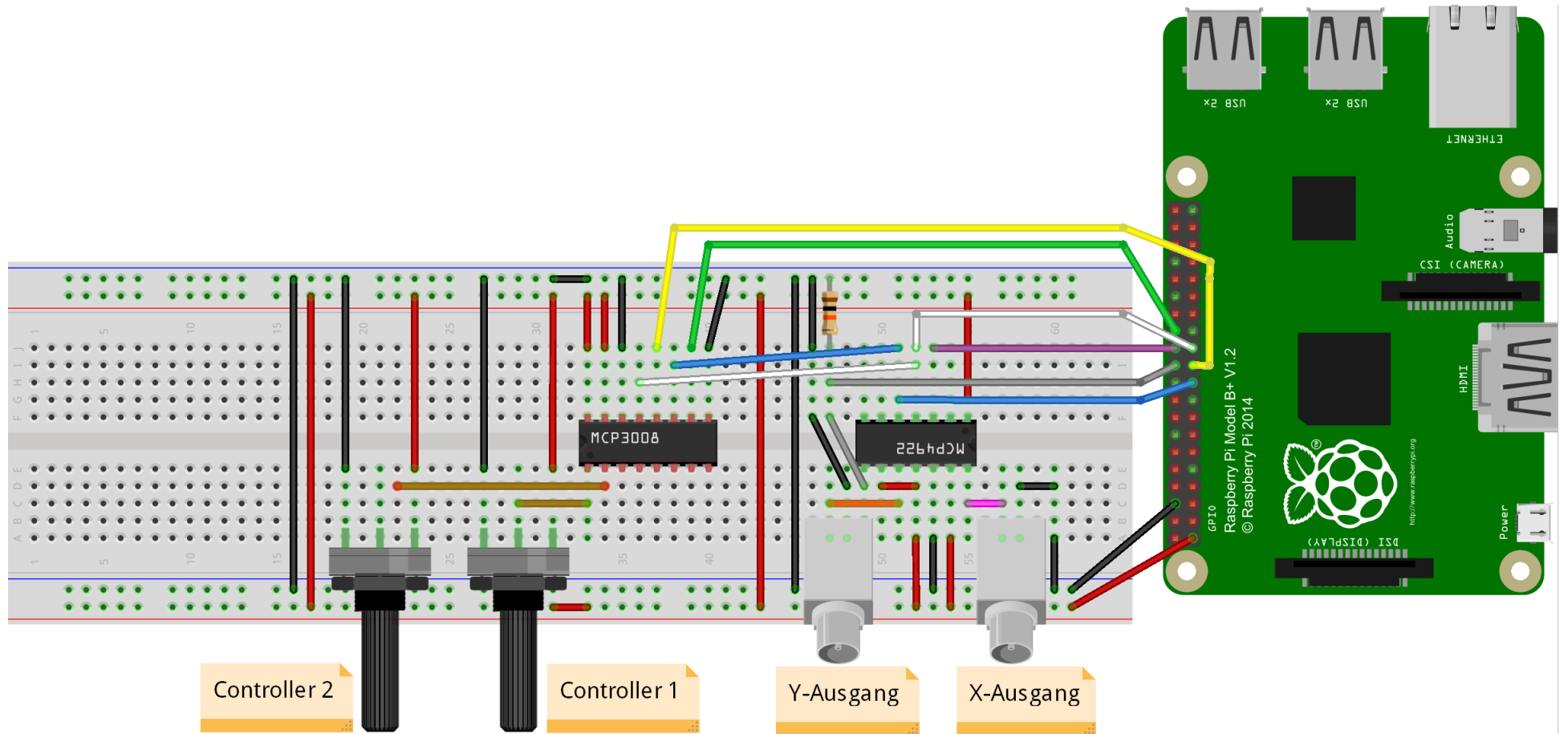


https://en.wikipedia.org/wiki/Vector_monitor

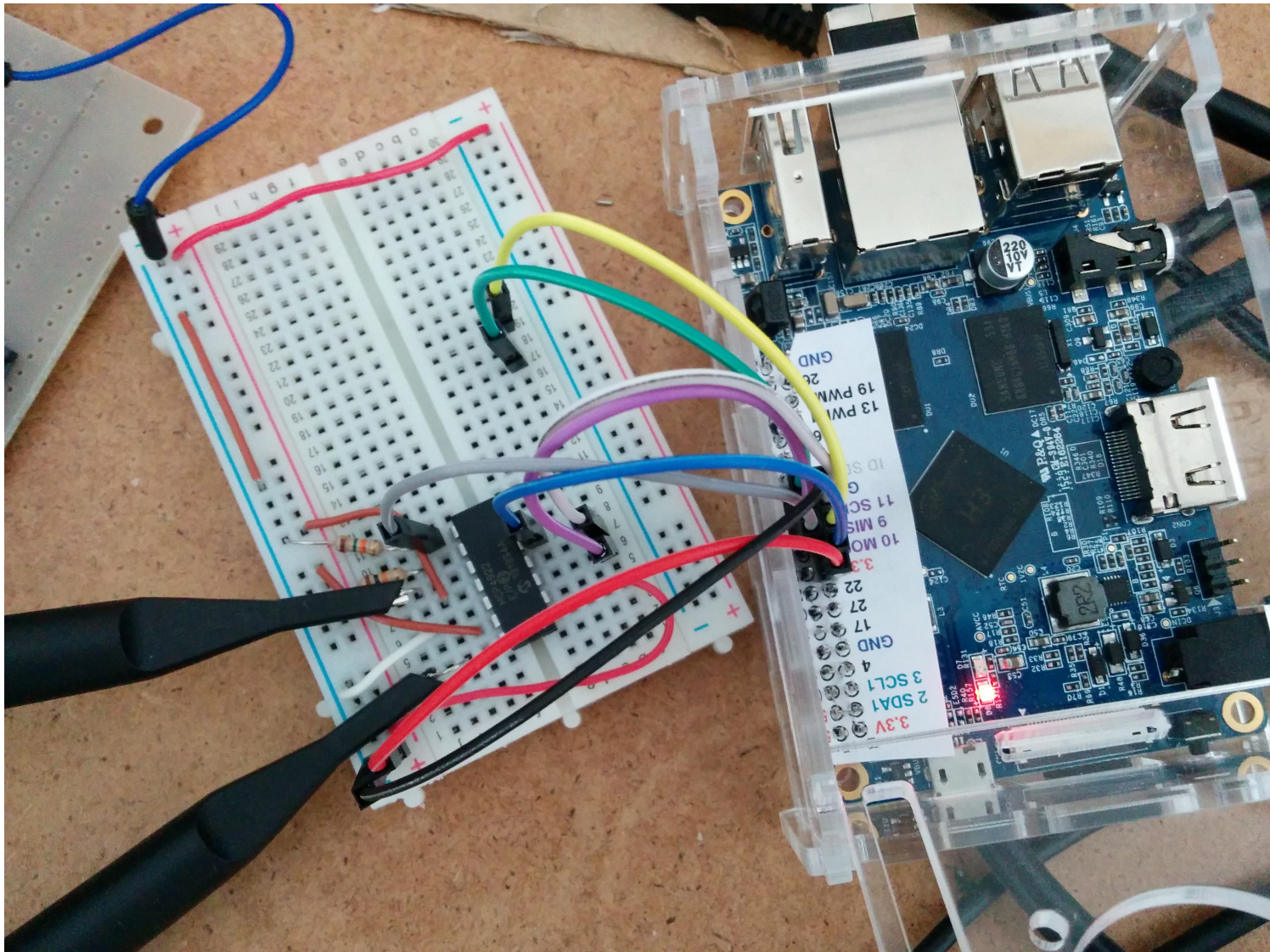
Vector Gaming

- 4K display (4096 x 4096)
- 16,7 Million Dots! (16 MB Memory needed if hold in Memory, only some Byte if storing vectors)
- ~50 fps needed

Vector Gaming Raspberry/Orange Pi



Vector Gaming Raspberry/Orange Pi



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SPI-Demo



Raspberry Pi (~22 fps)

Orange Pi (~13 fps)

Vector Gaming Raspberry/Orange Pi

Problems

- Speed !!!
 - ~ 70 μ s per Dot for Raspberry Pi 1 :-|
 - ~ 114 μ s per Dot for Orange Pi :-(
- 50 fps max ~ 250-300 Dots out of 16,7 M!
(0,001 % of screen)

Vector Gaming Raspberry/Orange Pi

<https://www.youtube.com/watch?v=hxSL9cxeJXo>



Raspberry Pi Pong Game (really working game) (~60 fps)

Vector Gaming Raspberry/Orange Pi

Closeups on the objects

Ball = 100 Dots

Racket = 75 Dots

All = 250 Dots

