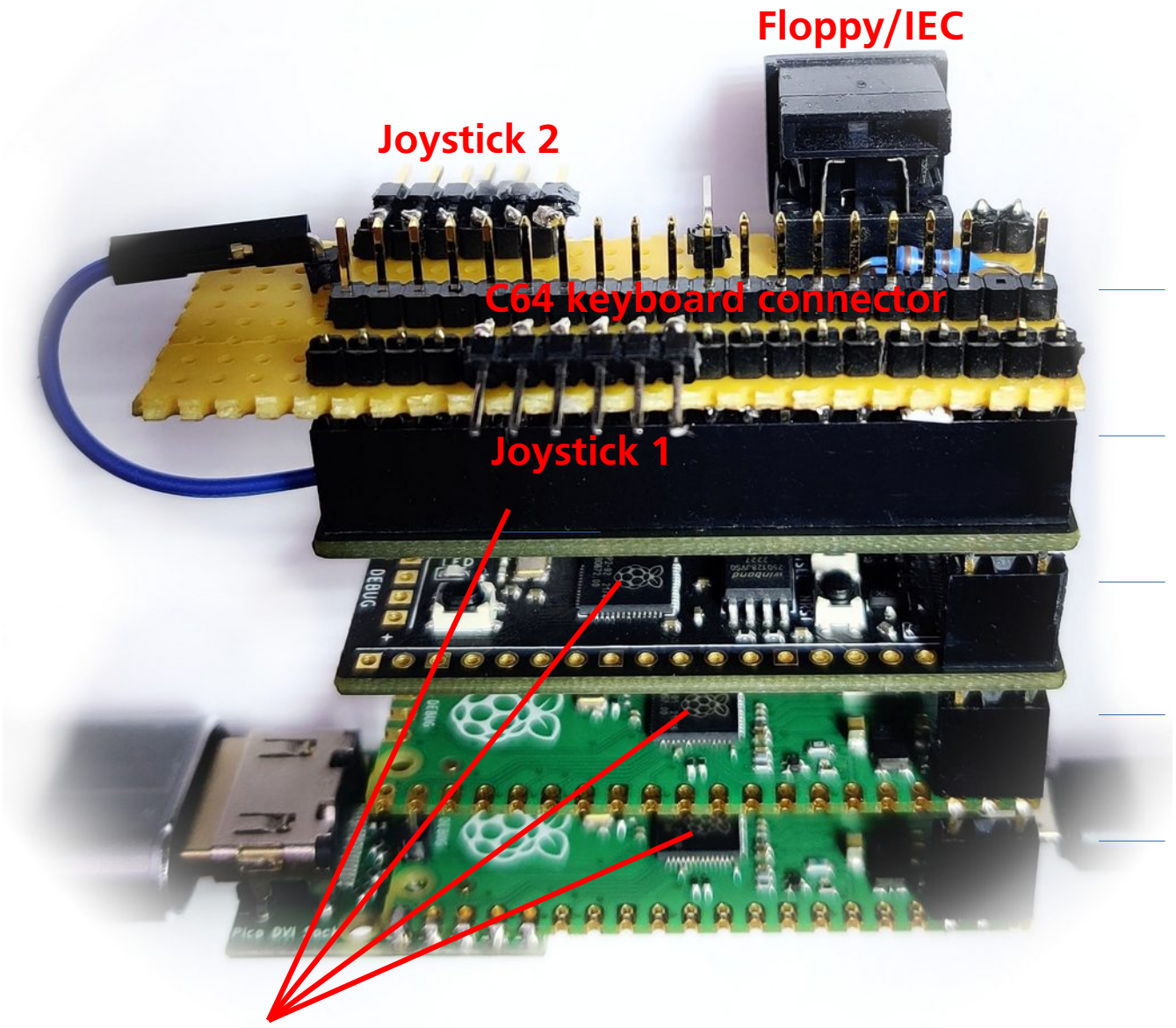
PROTOTYPE

Connomore 64

https://github.com/c1570/Connomore64

modern realtime cycle exact multiple chip rebuild of the Commodore 64 using microcontrollers
FPGA-like emulation accuracy and better hackability at a fraction of its cost



4x RP2040 microcontroller by Raspberry Pi Ltd. (<1€ per chip)
264kb RAM, dual core ARM Cortex M0+ @400MHz

- **Firmware is a port of the *chips* emulation library tuned for realtime**
  can be compiled to run on PC as well
- **Developed in a modified version of the *rp2040js* emulator**
- **Timing is tight! 400MHz mean only 50 ARM cycles per VIC-II pixel.** **VIC-II code had to get rewritten extensively**
- **The M0+ instruction set is no great performer**
  Incrementing a word in memory: 7 cycles
- **Firmware utilizes PIO (I/O coprocessors) and DMA for graphics rendering**
- **Thanks to the PIOs, neither interrupts nor waits are used in emulation at all**
- **Determinism in M0+ (no caches, etc.) means that one can do cycle counting, just like with good old fastloaders on the C64/1541!**