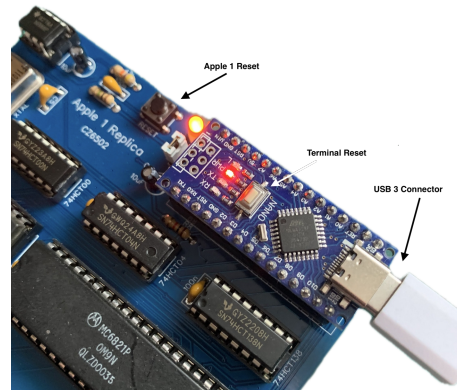# CZ6502 Apple 1 Replica (notes)

Power and USB cable.

The board is supplied with the USB cable. You need to connect it, as per the picture, It's USB3 so will work either way up in the Arduino Nano as shown

The board is jumpered ready to use USB power.

Note also the two reset buttons.

If your using windows please make sure you have installed the drivers for the ch340 chipset used by the Arduino (on most versions of windows this will happen automatically when you plug it in). Check in device manager to make a note on the COMx port it's on.

Software

Your terminal software needs to be configured for 115000 baud, 8bit, 2 stops, software flow control.
Although the board supports software flow control, due to the method used by Arduino and some driver software It's quite likely you will need to set an end of line delay and a character transmission delay. Experiment a little.

Rom Image selection

You can choose the image to use on the board using the jumpers A13/A14 on the block select header. See table below. Only two blocks are currently in use. ONLY CHANGE THE JUMPERS WHEN THE POWER IS OFF

When the jumpers are "up" as shown then the address is 0 (down for 1).

Selection Table

A13	A14	Image
UP	UP	1, Wozmon,BASIC,Krusader 1.2 (original replica image)
DOWN	UP	2, Wozmon, BASIC, Krusader 1,3 (new)
UP	DOWN	Empty (will not boot)
DOWN	DOWN	Empty (will not boot)

Powering-up

Power on the board by connecting to a USB socket, try to avoid extender boxes/hubs etc, and press the RESET button on the Arduino, the main board should power on reset, but it does have it's own reset button just under the Arduino as well. Depending on your terminal software it may auto-reset the Nano when connecting to it, this will NOT reset the CZ6502 which has it's own reset circuit. So exiting the terminal software and re-entering it will not change the CZ6502, only if you power it off or press the on-board reset.

PTO

You will see

CZ6502, Apple 1 Replica [X.X]
READY...
****
This puts you in the Apple 1 Monitor (AKA Wozmon) you may not see the \ on a power up reset because the Arduino starts slower than the main board and misses the prompt, you can press the reset on the main board to reset just the CZ6502, you will then get the Apple 1 Monitor \ prompt.

From the apple 1 Monitor you can do some simple things like (the "(CR)" means press enter):

Display memory
0000.00ff (CR)   Display from 0000 to 00ff

Enter bytes
0300: 55 66 77 (CR)   Enter bytes into location 0300

Run code:
F000R (CR)   Will run the Krusader ASM from Rom.
E000R (CR)   Will run Apple 1 BASIC
(basic only prompts with a >)

I have collected together some documents that show you how to use the software (Krusader, BASIC and Wozmon) they can be found here: **https://github.com/coopzone-dc/Apple-1-Replica**

Have fun.

Derek