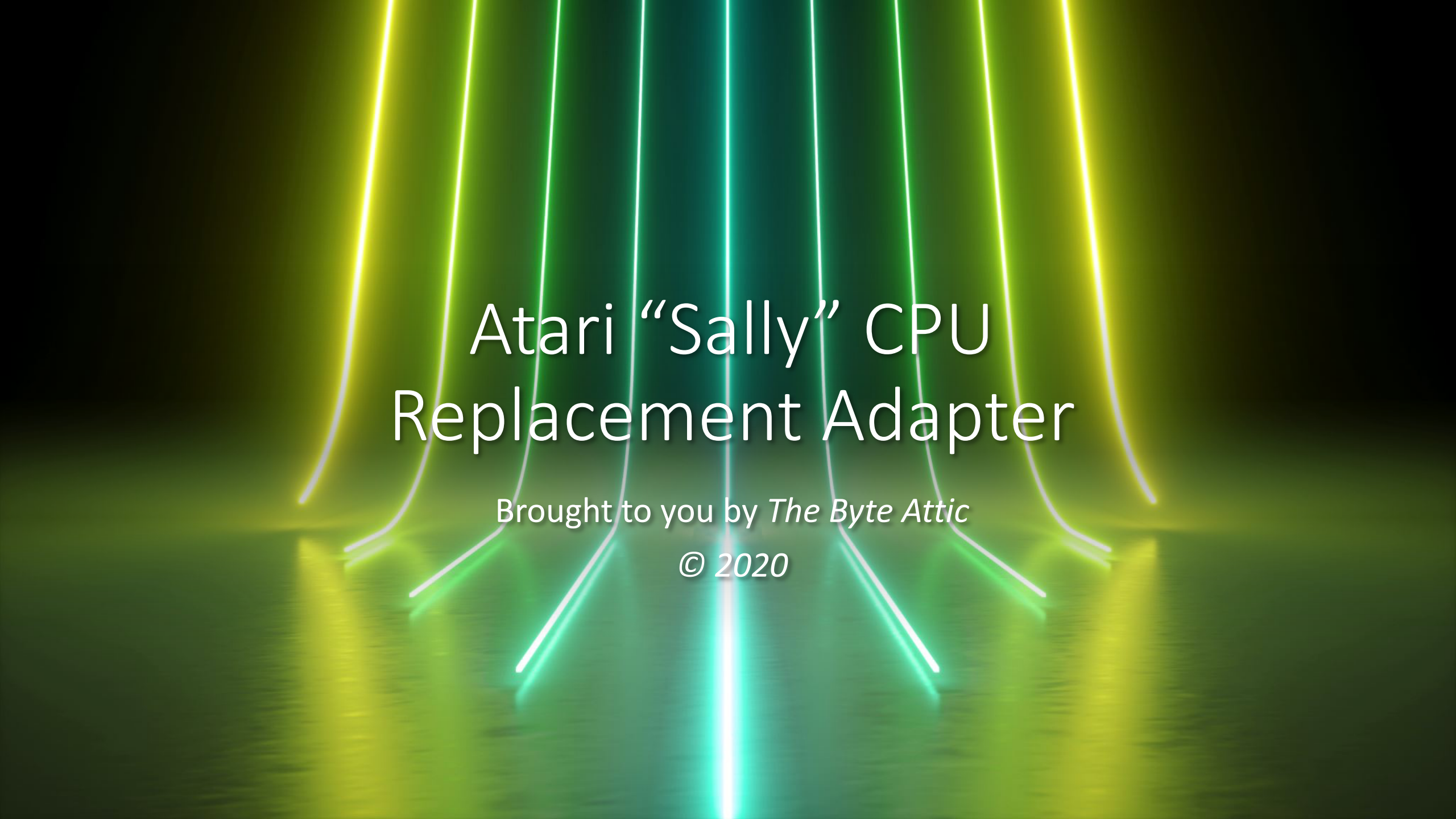
Atari “Sally” CPU
Replacement Adapter
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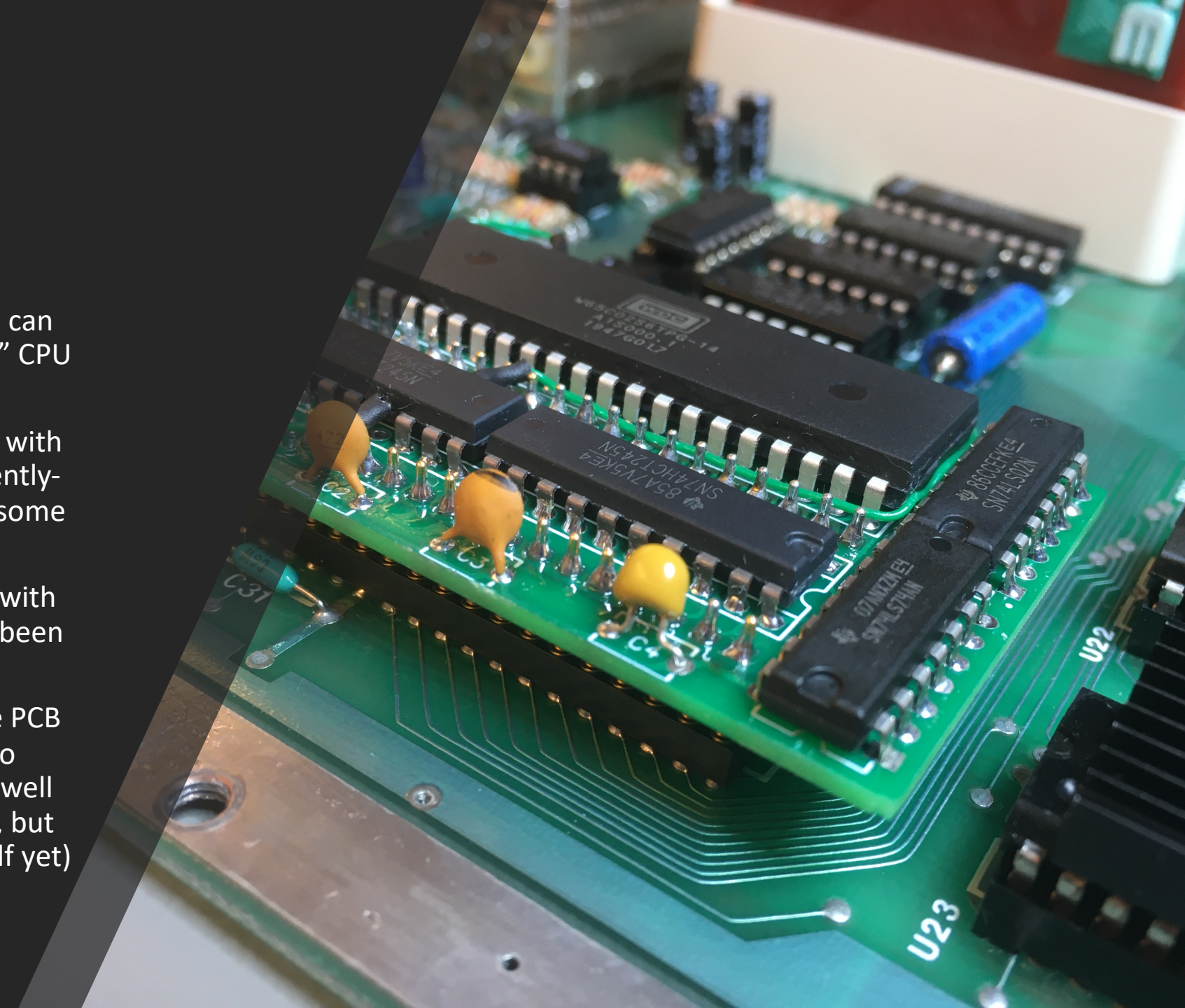
Introduction

- This is a small daughter board that can be inserted into the existing “Sally” CPU socket in an Atari 800XL
- It replaces the custom “Sally” CPU with a modern CMOS, low-power, currently-manufactured W65C02S CPU and some auxiliary logic
- A prototype version of this board, with three small bodge wire mods, has been successfully tested
- HOWEVER, this final version of the PCB has not yet been tested (there is no reason to believe it won’t work as well as the modified prototype version, but it hasn’t been tested in and of itself yet)

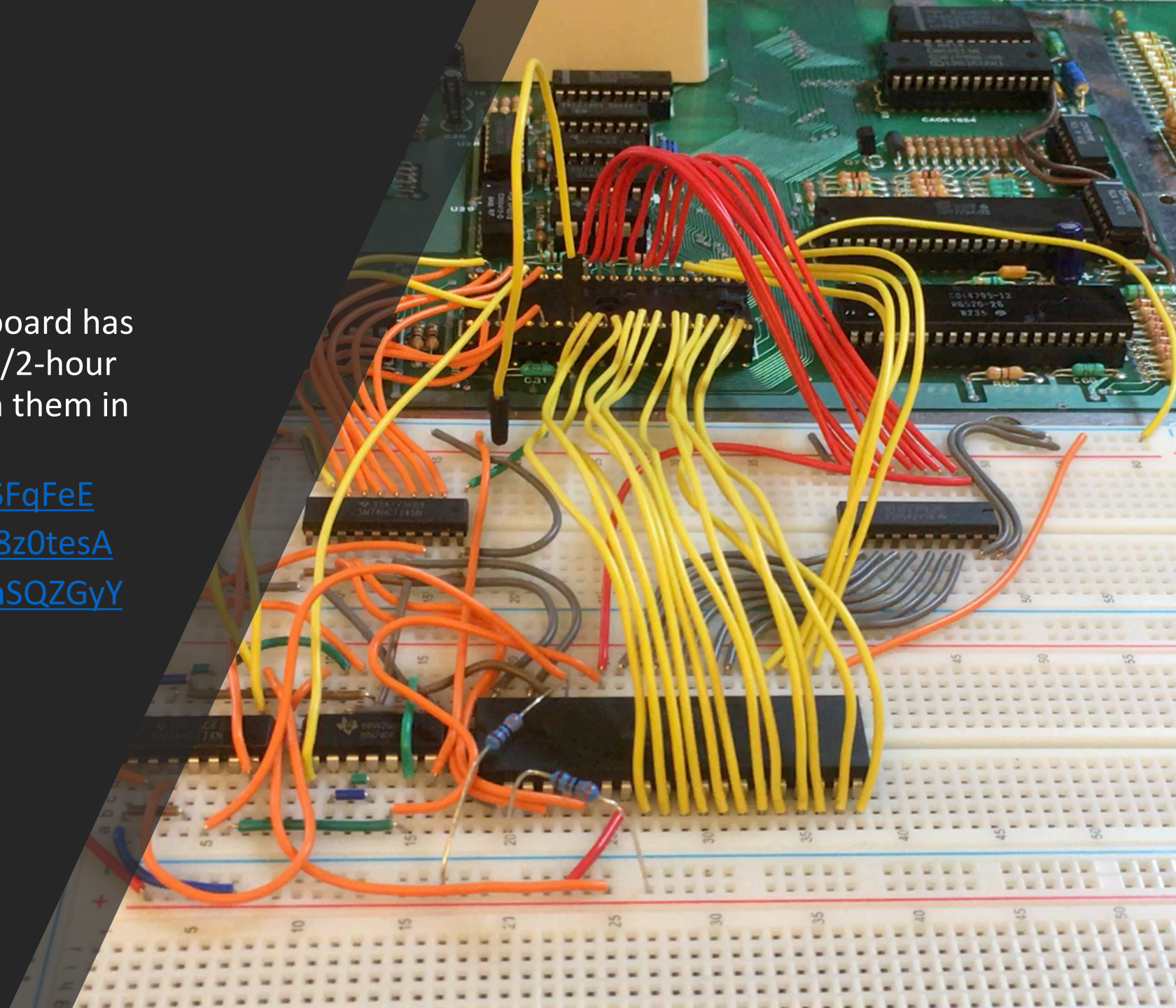


Components

- 2x 3K3 ohm resistors, preferably metal-film
- 4x bypass capacitors. You can use the values you prefer. I recommend 1x 100pF, 1x 10nF, 1x 100nF and 1x 220nF, ceramic or tantalum
- 1x W65C02S6TPG-14 CPU, 40-pin DIP/DIN through-hole package
- 2x SN74HCT245N bus transceivers, 20-pin DIP/DIN through-hole package (these *must* be HCT versions of the 74245)
- 1x SN74LS74AN flip-flops, 14-pin DIP/DIN through-hole package (this *must* be an LS version of the 7474)
- 1x SN74LS02N NOR gates, 14-pin DIP/DIN through-hole package (this *must* be an LS version of the 7402)
- 2x 20-pin, single-row precision pin-headers (see photo for a reference)
- Do *not* use sockets to install the ICs above, as the Atari 800XL case does not have enough vertical space for those

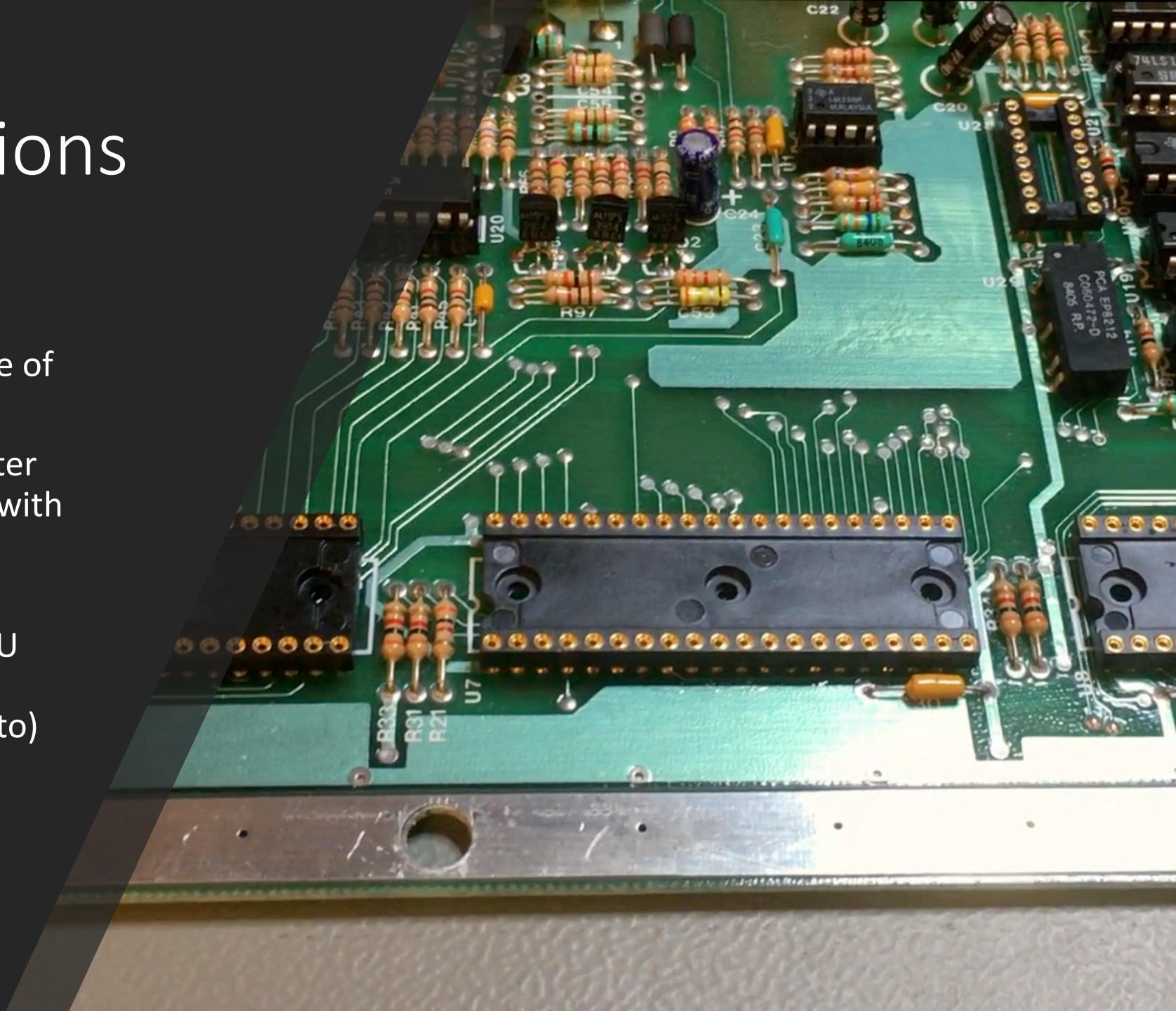
Project history

- The full development of this board has been documented in three ~1/2-hour videos available online (watch them in the order indicated):
    1. https://youtu.be/iTJLFSFqFeE
    2. https://youtu.be/_dQt8z0tesA
    3. https://youtu.be/t45KnSQZGyY



Recommendations

- The Atari 8-bit computers are timing-sensitive due to the use of two-phase clocks
- It is important that the daughter board makes optimal contact with the underlying circuitry
- To ensure this, I recommend replacing the original Atari CPU socket with a gold-plated precision alternative (see photo)



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