Colecovision Homebrew kit

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Introduction

The Homebrew kit CV allows homebrew developers to create their own cartridges. One kit contains the materials needed to create two cartridges. The homebrew kits are available with red and black cartridge cases.

Parts

The parts contained in a Homebrew kit can be seen in Figure 1. Each of the following items is included twice in the kit:

1. Cartridge case
2. 1 Screws
3. Printed circuit board
4. 32 KB CMOS EPROM
5. 0.1μF capacitor
6. Logic chip

Depending on the kit the cartridge cases are either black or red. The pcb has a gold surface finish. The ERPOM is a 32KB (256Kb) CMOS EPROM, type 27C256. It is erased, an EPROM burner can be used to write it. Exposure to UV-C radiation will erase it again. Use an EPROM eraser in case you want to erase it. When data has benn written to it keep it out of sunlight and other UV-C sources to avoid undesired erasure.

Tools needed

To assemble the Homembrew Kit you'll need:

1. EPROM burner

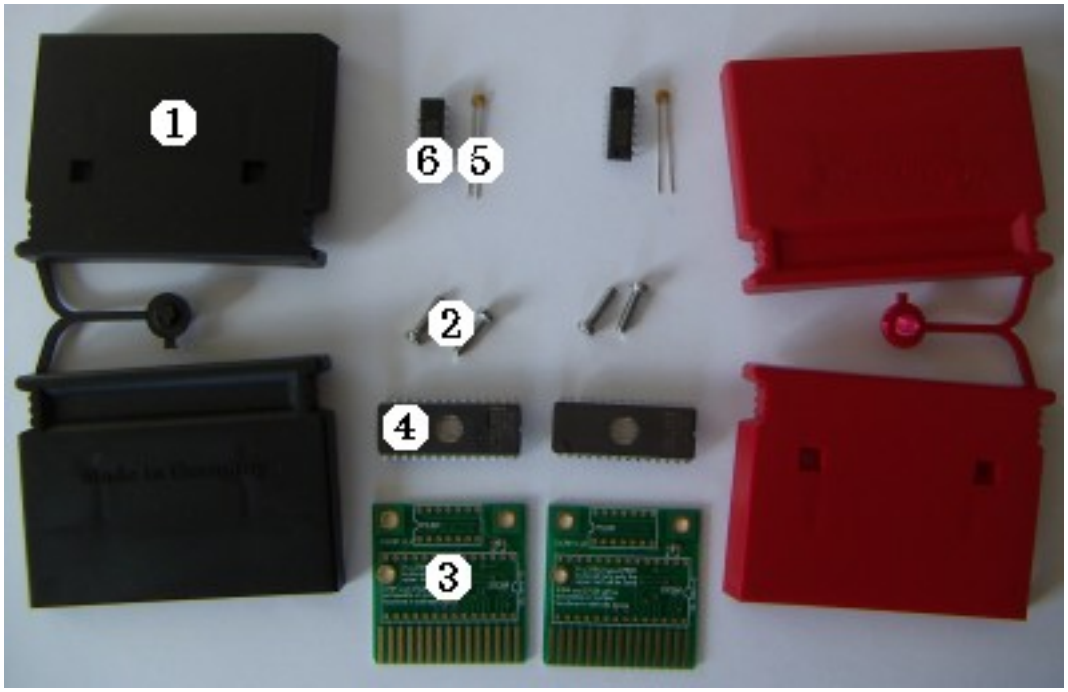

Figure 1: Contents of a ColecoVision Homebrew kit

2. soldering iron and solder
3. screwdriver

Assembling

Configure your EPROM burner for 27C256 type EPROMS. Use the EPROM burner to burn a ROM image of your ColecoVision application into the EPROM.

Then solder all the components to the pcb. Starting with the capacitor will make this a bit easier since it's the smallest component. Make sure that the EPROM and logic chip are inserted correctly into the pcb: The correct orientation is printed on the pcb. Make sure that Markings on the end of the EPROM and logic chip align with the corresponding marking on the pcb (Figure 2). If the EPROM is not aligned correctly it will be destroyed when the ColecoVision is switched on (Figure 3).

Separate the two case parts using a razorblade or sharp knive. Place the pcb in the back half of the case (Figure 4). Put the other half on top and use the screws to hold them together. Tighten the srews enough to keep the pcb in place when the cartridge is inserted into a ColecoVision. If you tighten the screws too much it will cause reversible deformation to the cartridge case; if that happens just untighten the screws a bit.

Figure 2: Correctly aligned EPROM and logic chip

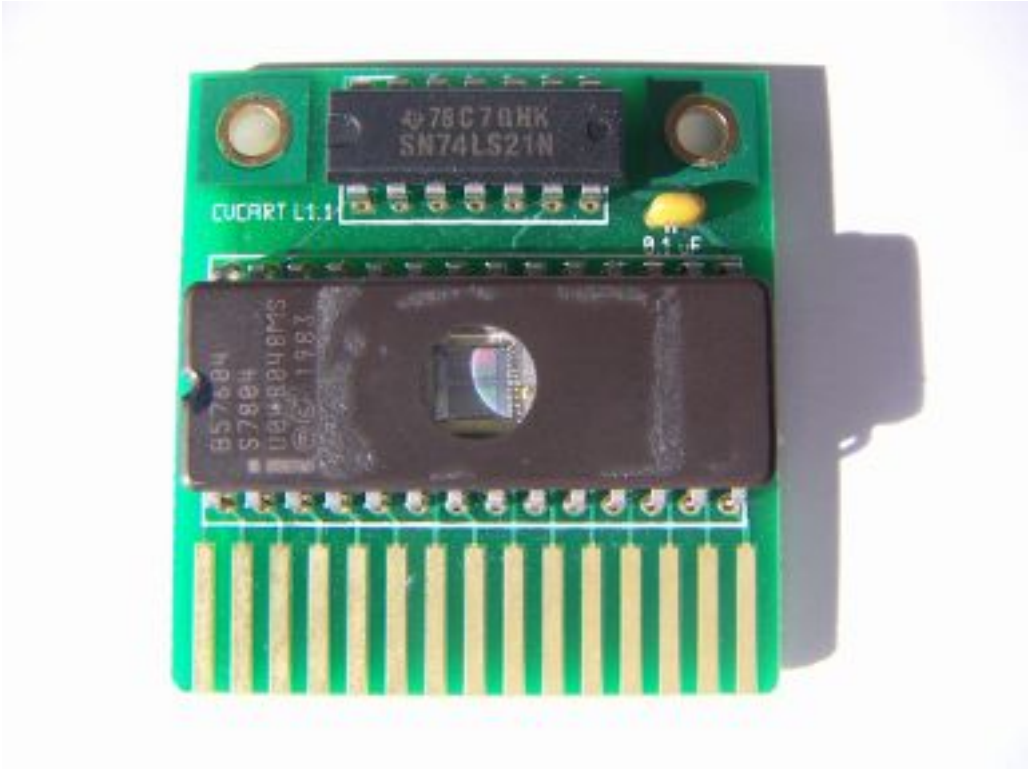

Figure 3: Incorrectly aligned EPROM

Figure 4: Case part with pcb