

# Wondermega RG-M1 RGB Mod v1.0

## Installation Manual

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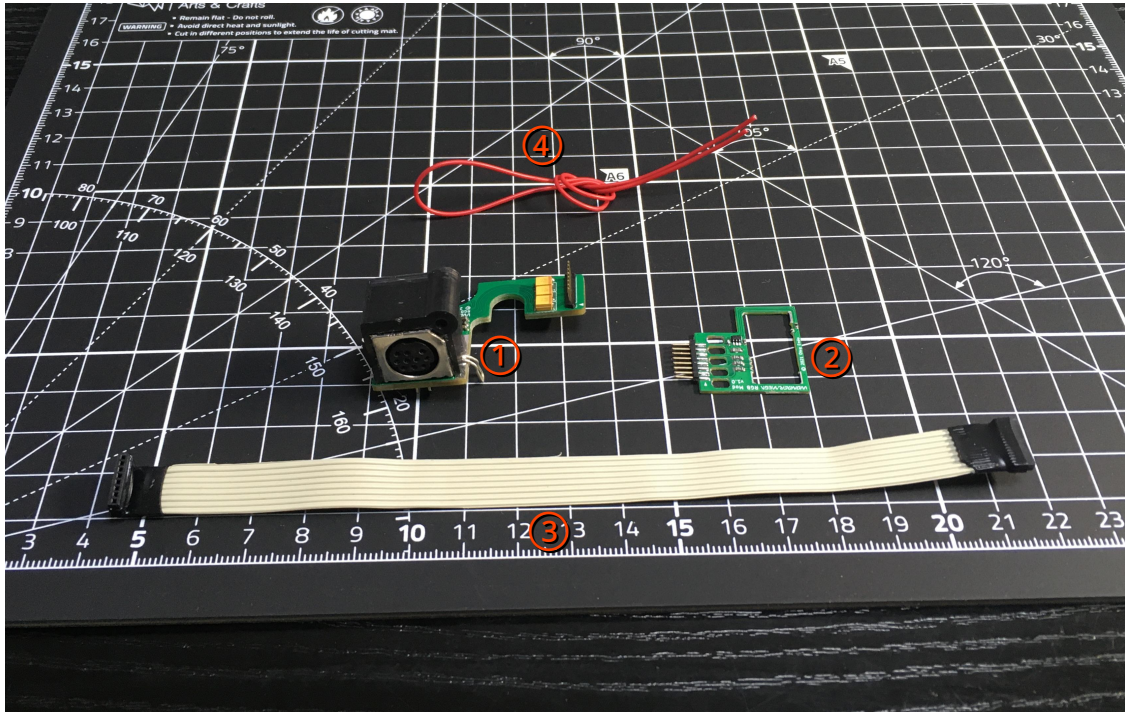
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This is an aftermarket product for the Sega / JVC Wondermega RG-M1 video game console. It adds certain functions that were not part of the original design of the device. Although it has been tested excessively, it might not meet all the modern standard and compliance requirements.

# Kit Contents

Thank you very much for purchasing the Wondermega RG-M1 RGB Mod product.

Please familiarize yourself with the kit contents and the installation instructions before attempting an installation.



- ① Replacement AV Output Connector (Sega Saturn style 10-pin Mini-DIN)
- ② CXA1145M Adapter Board
- ③ Ribbon cable
- ④ Wire

# Installation

## 1) Overview

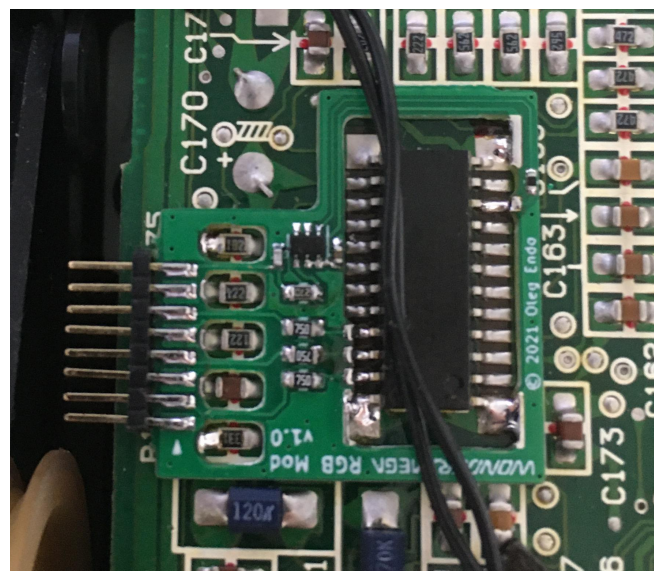
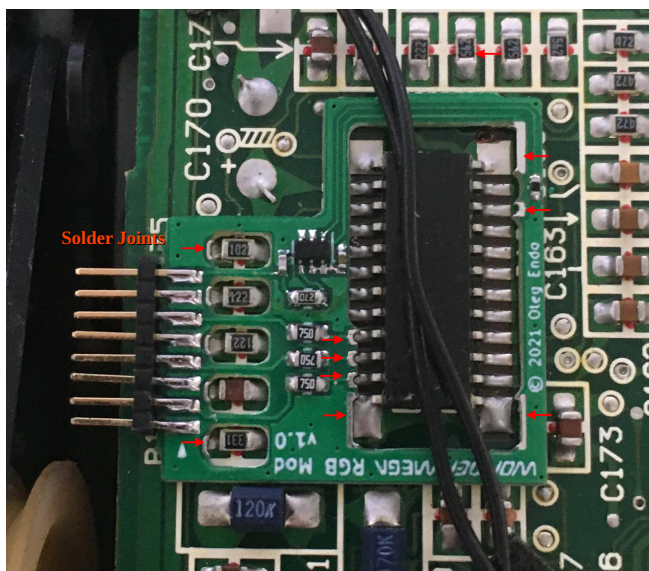
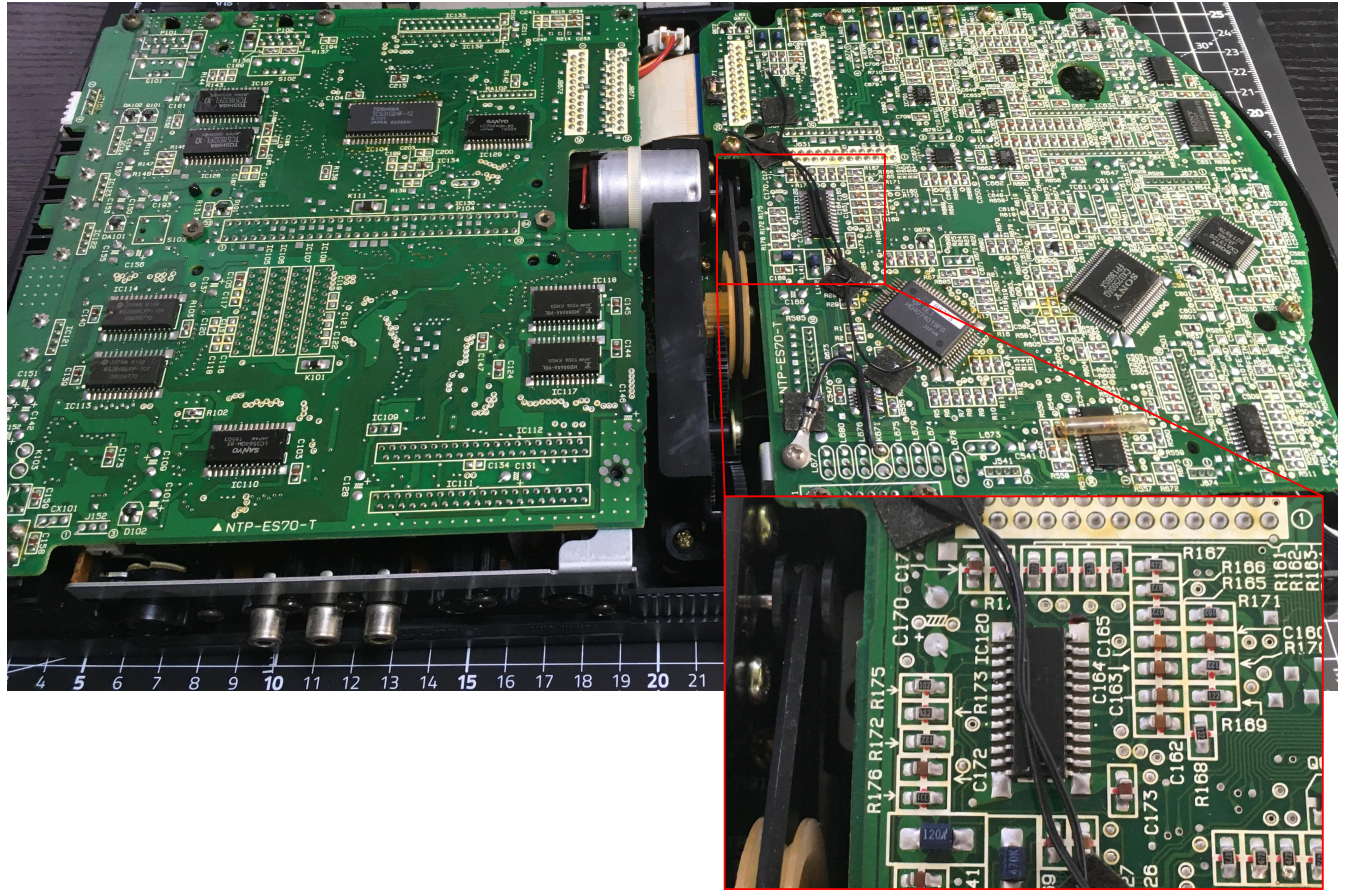
The installation procedure consists of the replacement of the original S-Video connector on the ENB-159-6 AV output board and the addition of an adapter board to the CXA1145M chip. The two newly added boards are interconnected using the included ribbon cable.

The following is a step by step guide for the installation of the kit. If you have any questions regarding this kit, manual or the installation please contact [service@endosc.net](mailto:service@endosc.net)

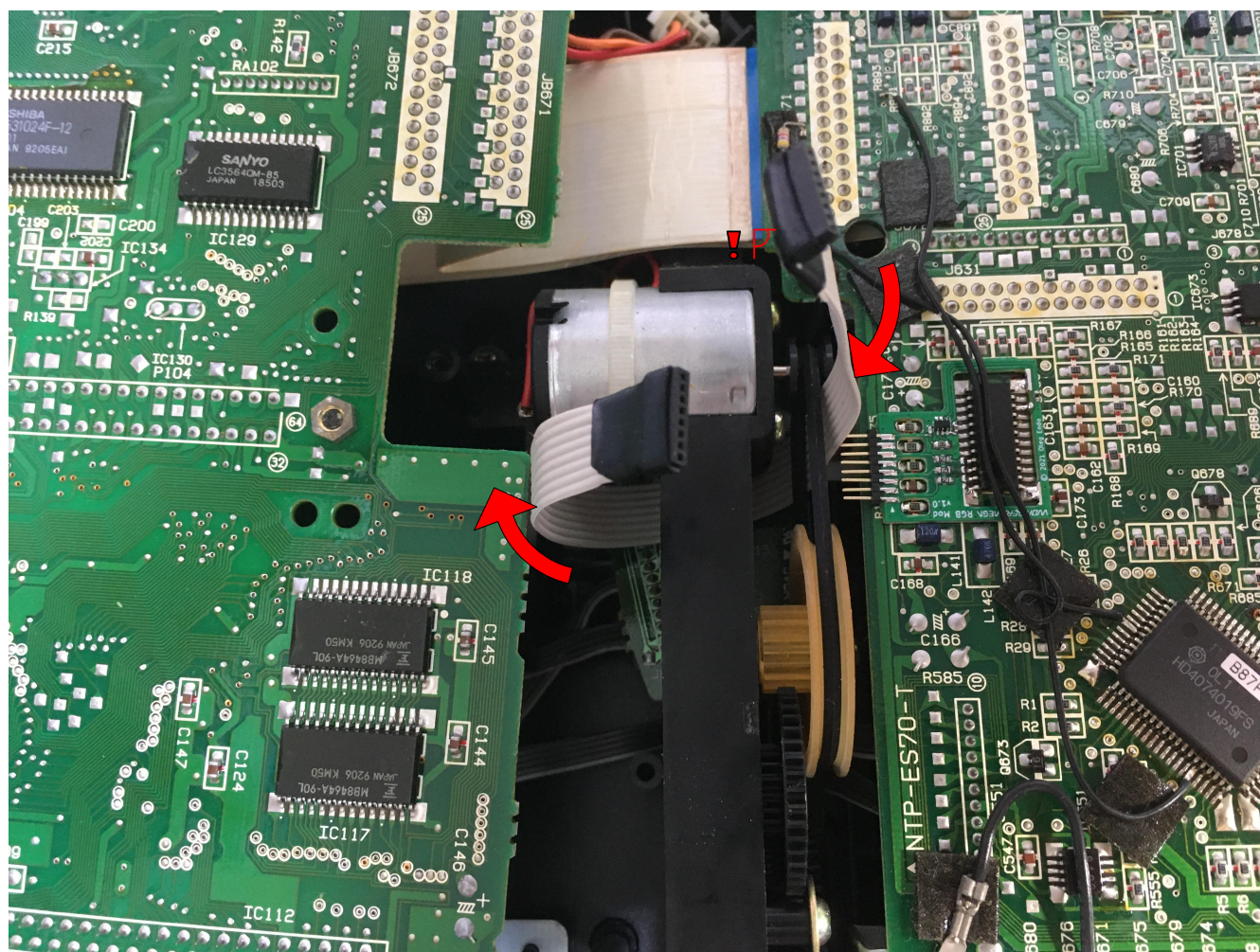


## 2) Install CXA1145M Adapter Board

Open up the console which should already reveal the CXA1145M chip IC120 on the right board above the CD drive (when viewed upside down). Solder the CXA1145M board and place the ribbon cable as shown below.



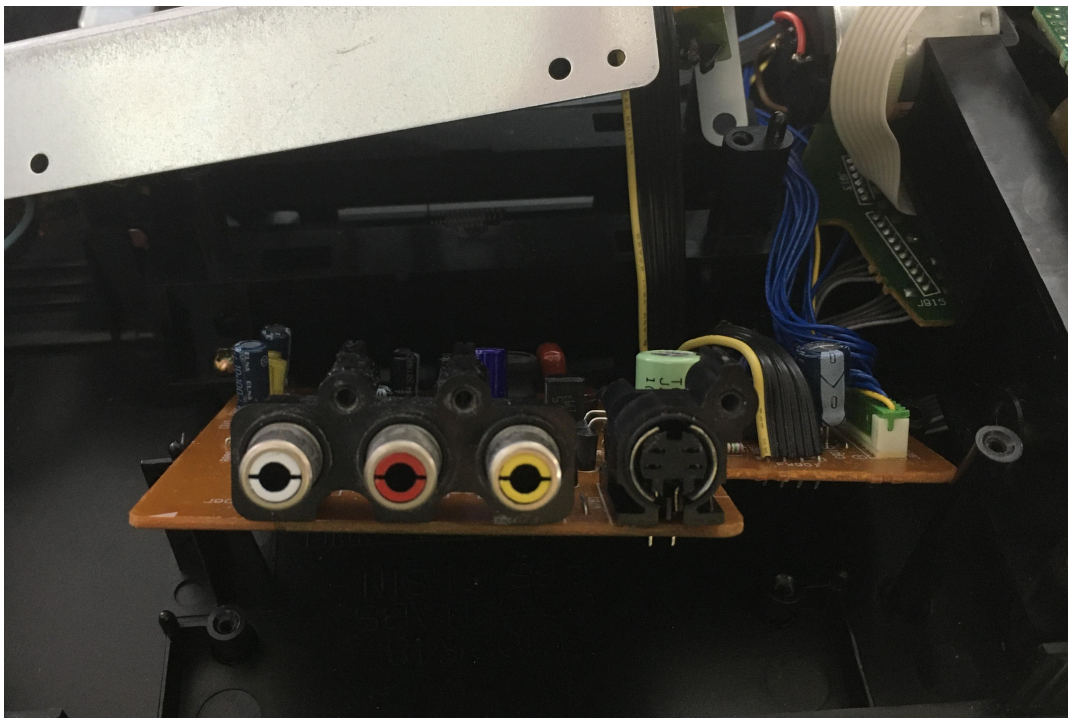
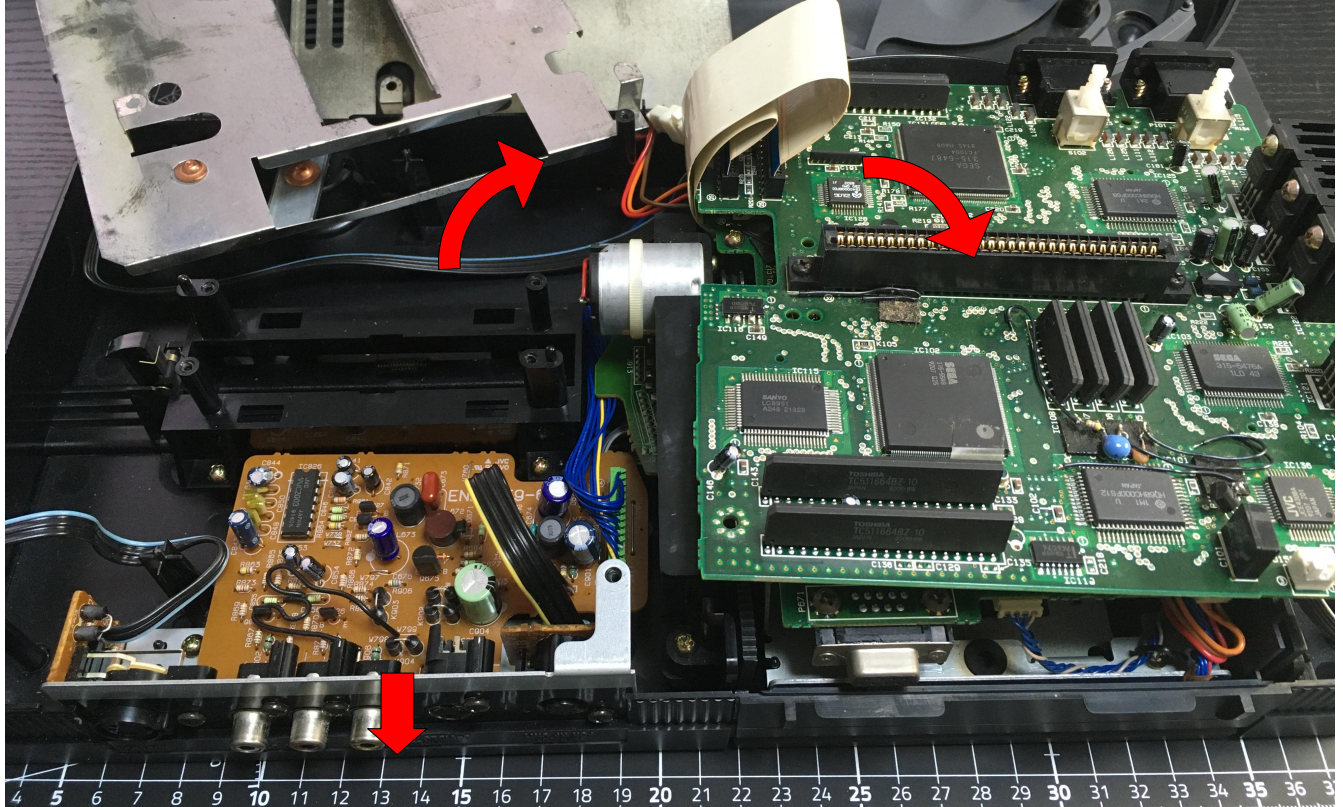




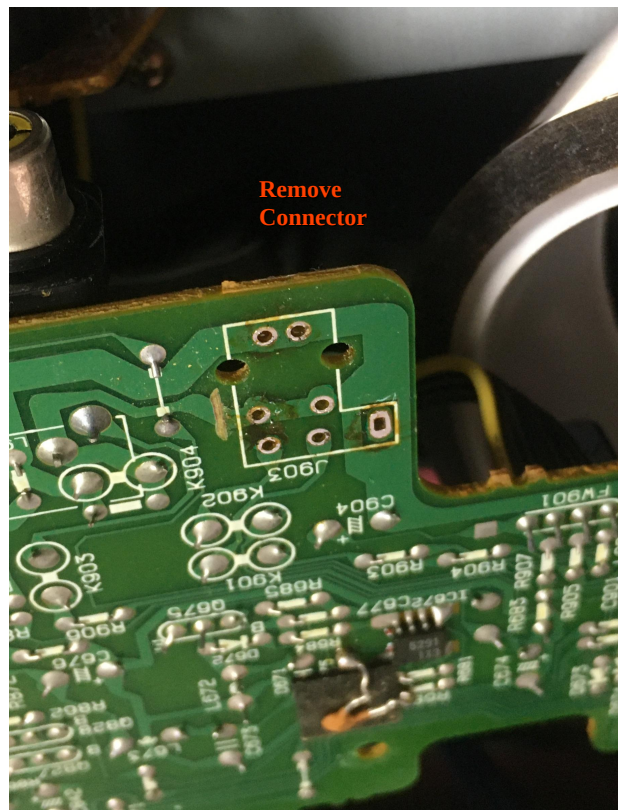
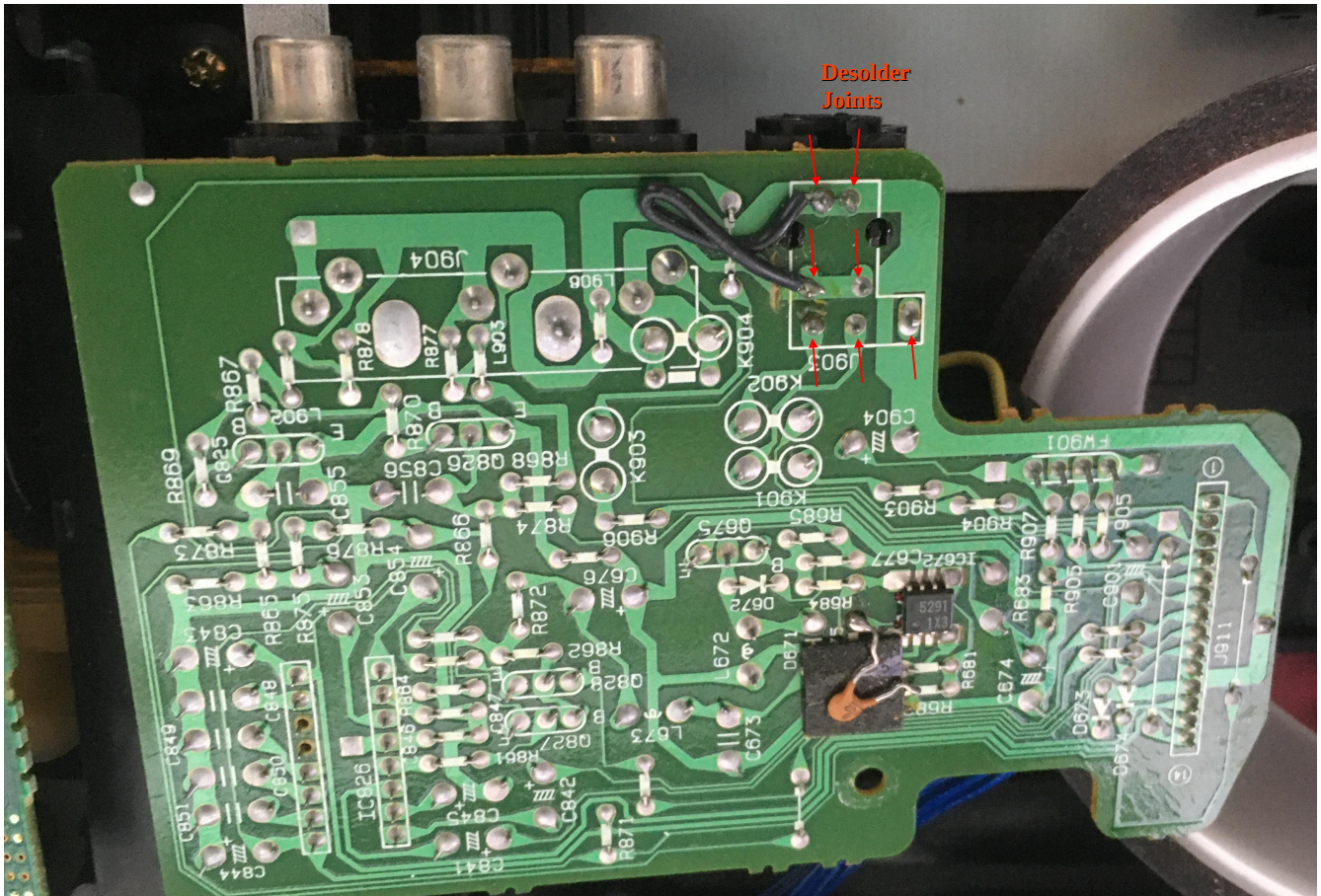


### 3) Replace S-Video Connector

Flip over the main board to get access to the AV board and remove the AV board. Desolder the original S-Video connector J903 and install the board with the replacement 10-pin Mini-DIN connector as shown below.



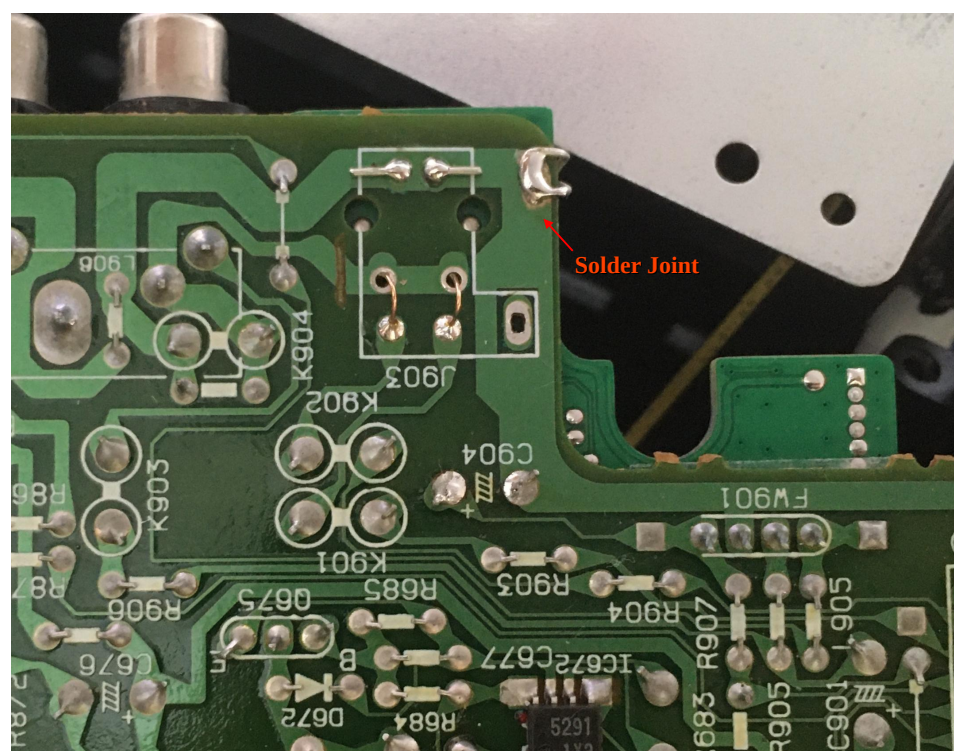
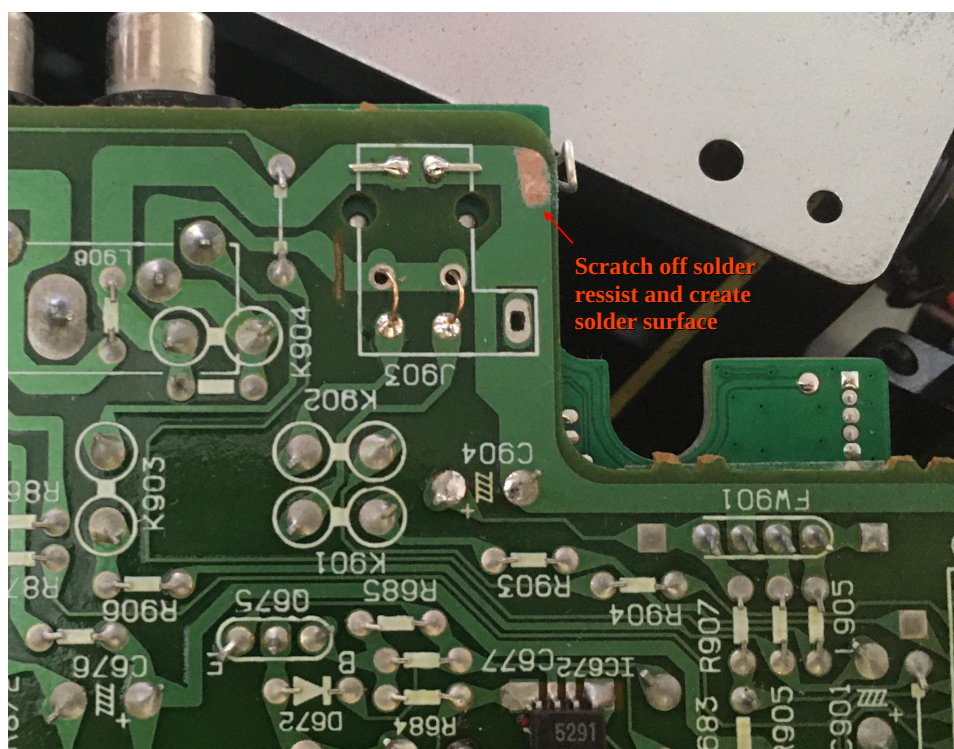


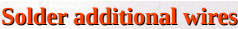








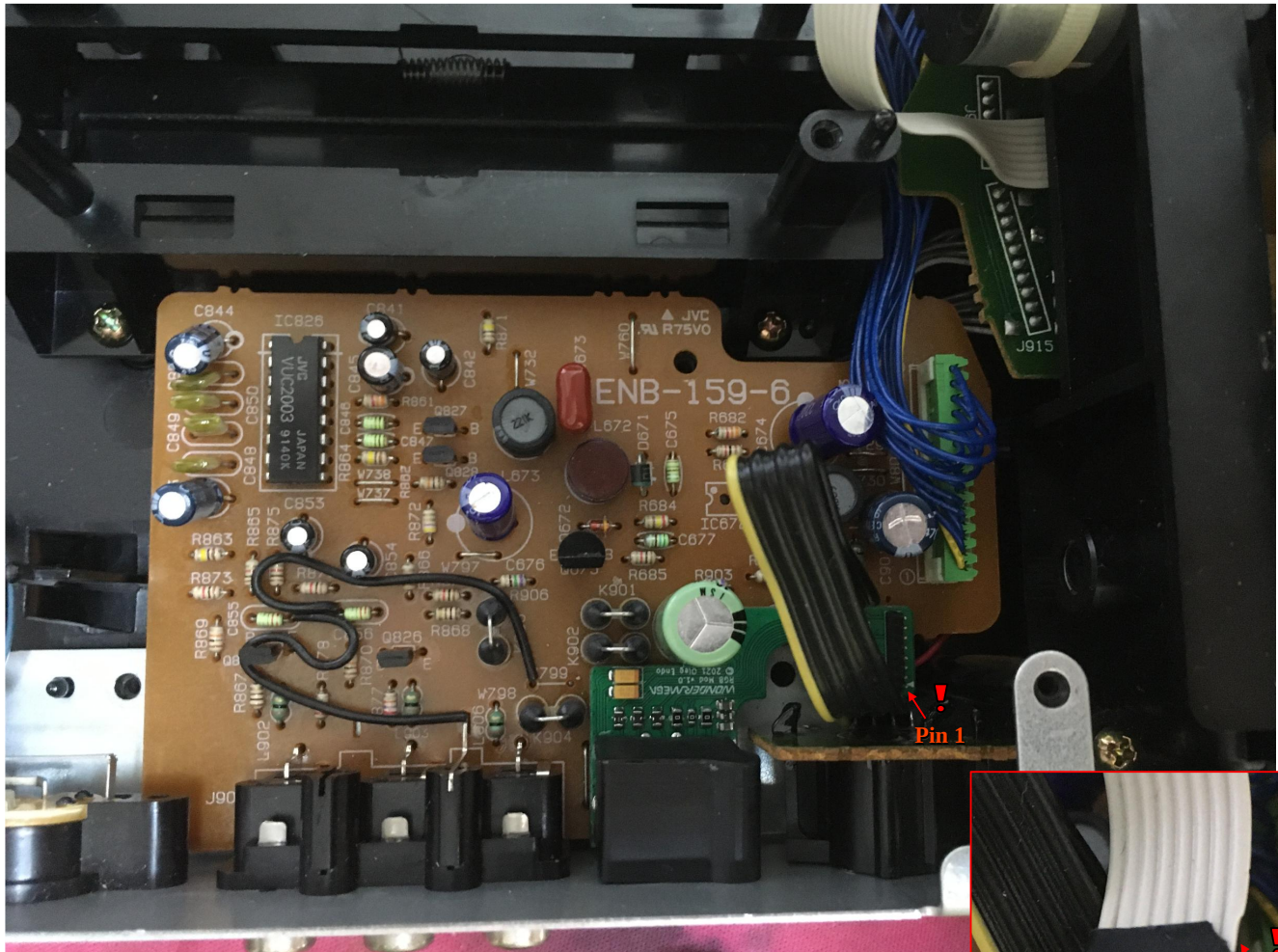




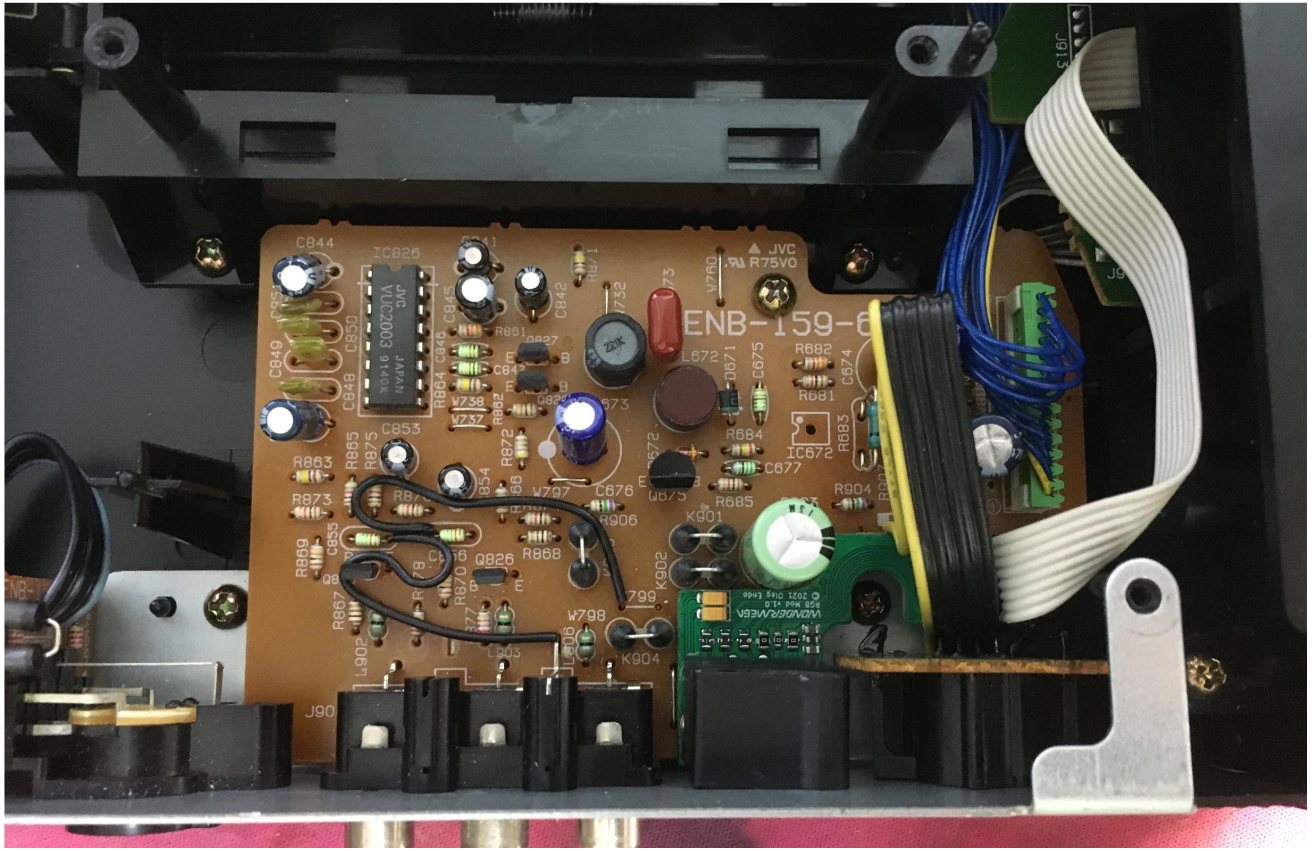


#### 4) Put it back together

Put everything back together in reverse order. Attach the metal bracket to the AV board and screw it to the console main shell and plug the ribbon cable into the two boards. Pay attention to the pin-1 marker at the straight end of the ribbon cable.







## 5) Operation Notes

- The installed modification enables RGB video output and also preserves the S-Video output. Both are available at the 10-pin Mini-DIN connector.
- There are two wiring types of the Sega Saturn 10-pin Mini-DIN connector. The NTSC wiring outputs TTL CSYNC on pin 1 while the PAL wiring outputs a constant 9V DC on pin 1. The wiring type used here follows the NTSC type with TTL CSYNC output on pin 1.
- Any NTSC Sega Saturn compatible SCART, S-Video, Composite or YPbPr component cable can be used. Most aftermarket SCART RGB or YPbPr component cables use the S-Video LUMA signal as synchronization and are thus compatible with both PAL and NTSC wiring types.
- The composite video output (CVBS) on the 10-pin Mini-DIN jack is wired in parallel to the original yellow RCA jack. It is not recommended to use both outputs at the same time. Notice that some RGB cables might use the CVBS signal on the 10-pin Mini-DIN connector as a sync signal.
- The stereo audio output on the 10-pin Mini-DIN jack is wired in parallel to the original white/red RCA jacks. If both audio outputs are used simultaneously the audio level might be reduced.