Sega Saturn Built-in Memory Card Module

Installation guide

by eWaste Boutique

Overview

Sega Saturn Built-in Memory Card Module (module) is a replacement for the regular Sega Saturn Backup Memory cards and it's primary function is to increase the storage capacity for saved games on the console.

It's main difference from a regular memory card is that it is designed to be permanently installed into the console.

Limitations

Even though this card doesn't take any space in the cartridge slot, it operates like a regular Backup Memory cartridge and cannot be used simultaneously with any other cartridges.
The cartridge slot should be empty for this module to function!

It is impossible to use this module together with such popular mods as Saroo or Pseudo Saturn Kai / Action Replay cartridges.

Operation modes

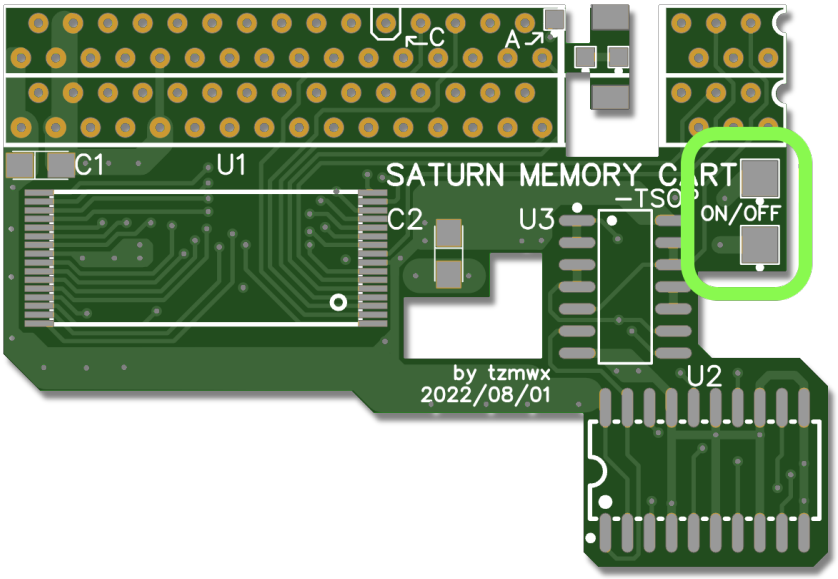
The cart can operate in two different modes:

1. Manual Mode
2. Automatic Mode

By default the module operates in the Manual Mode and is enabled.

Manual Mode

In this mode the module should be enabled or disabled manually. It has two pads marked "ON/OFF" for that.



When the pads are disconnected the module is enabled.
When the pads are connected the module is disabled.
The module is enabled by default.

The module needs to be disabled before any other cartridges can be used in the cartridge slot of the console!
Inserting other cartridges while the module is enabled may cause conflicts between the cartridge and the module, resulting in failure of both!

Automatic Mode

In this mode the module is automatically disabled once another cartridge is inserted into the slot of the console. The module is immediately re-enabled once another cartridge is ejected.

To make this mode work, a slight modification to the cartridge slot is required. More on that in the “Installation” step.

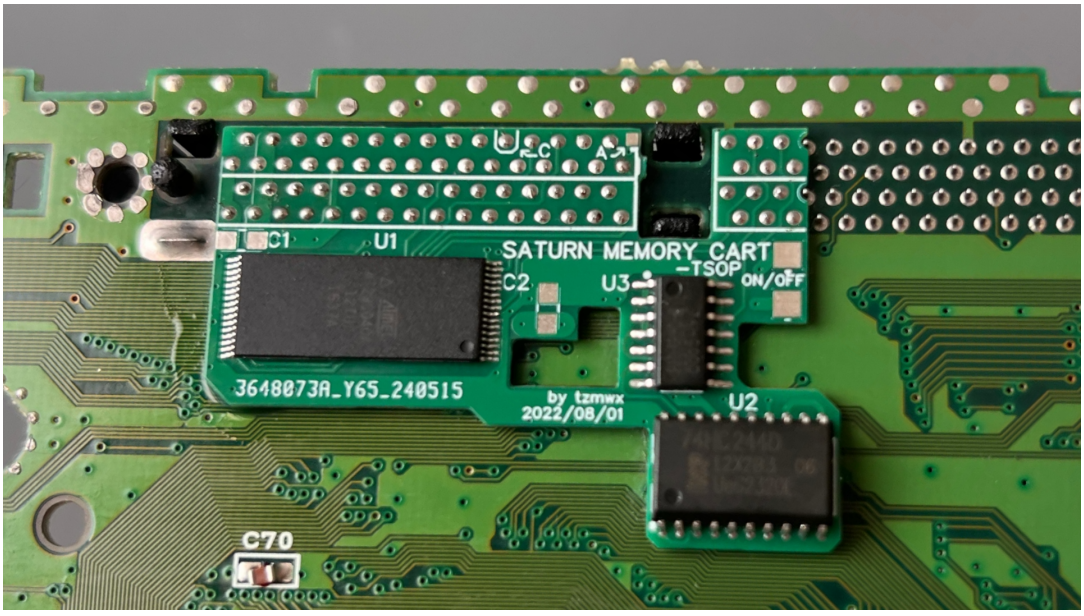
Required equipment

- Soldering iron with a fine tip
- Solder, leaded is recommended
- Flux
- Soldering braid
- Side cutters
- For manual mode of operation: any on/off switch or a locking button* and some thin wire* to run it from the module to any place where you can access it.
- For automatic mode of operation: 3cm (a bit over 1in) of a thin wire*. 0.4-0.2mm thick enamelled wire is recommended.

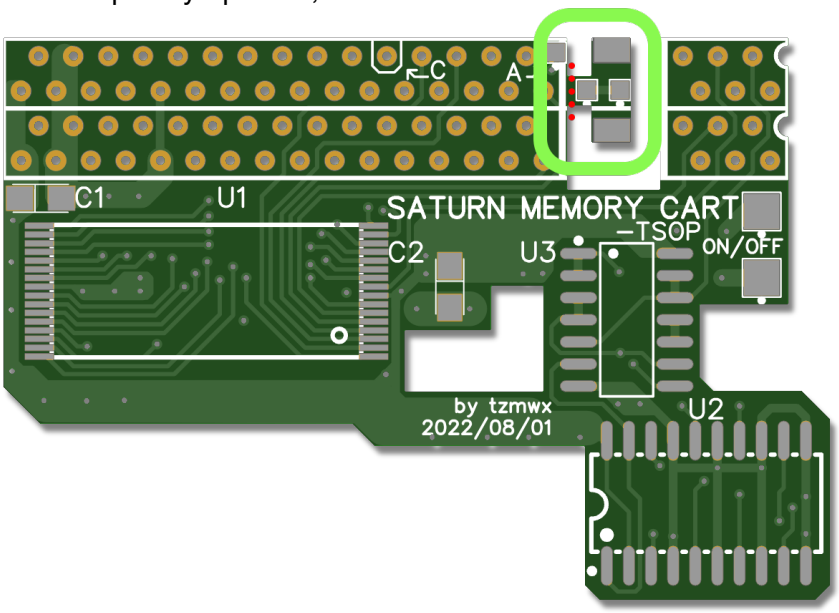
* not included.

Installation

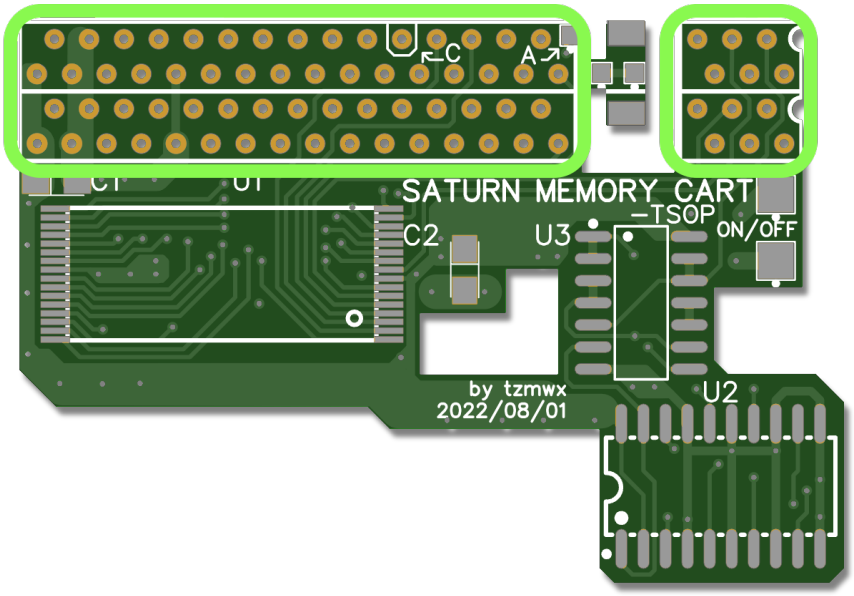
1. Disassemble your console and remove the motherboard from the console chassis.
2. Locate the cartridge slot and place the module under it, over the pins sticking from the bottom of the motherboard. Make sure to properly align the module board. You may need to remove excess solder from cartridge slot pins if it interferes with the proper installation. Use soldering iron and some soldering wick for that.



3. You may also need to cut off a piece of the module PCB for a better fit. This piece is called “Board B” and is completely optional, use some fine side cutters and cut it off along the line:

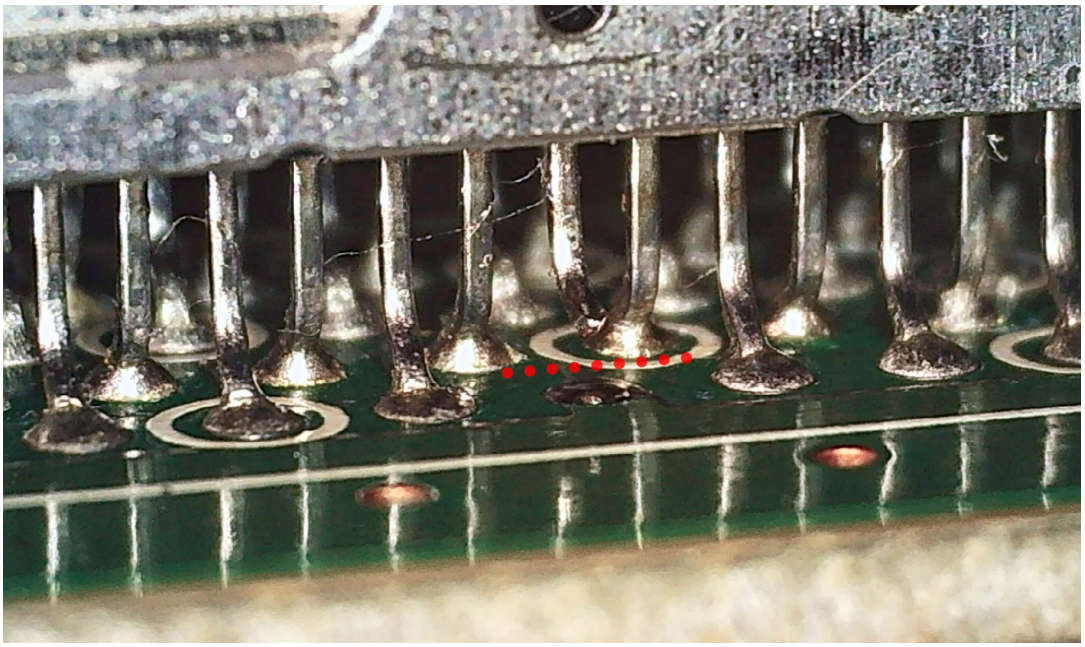


4. Once the module is in place, make sure that you can feel the pins sticking from it, then apply solder on every pin with a soldering iron.

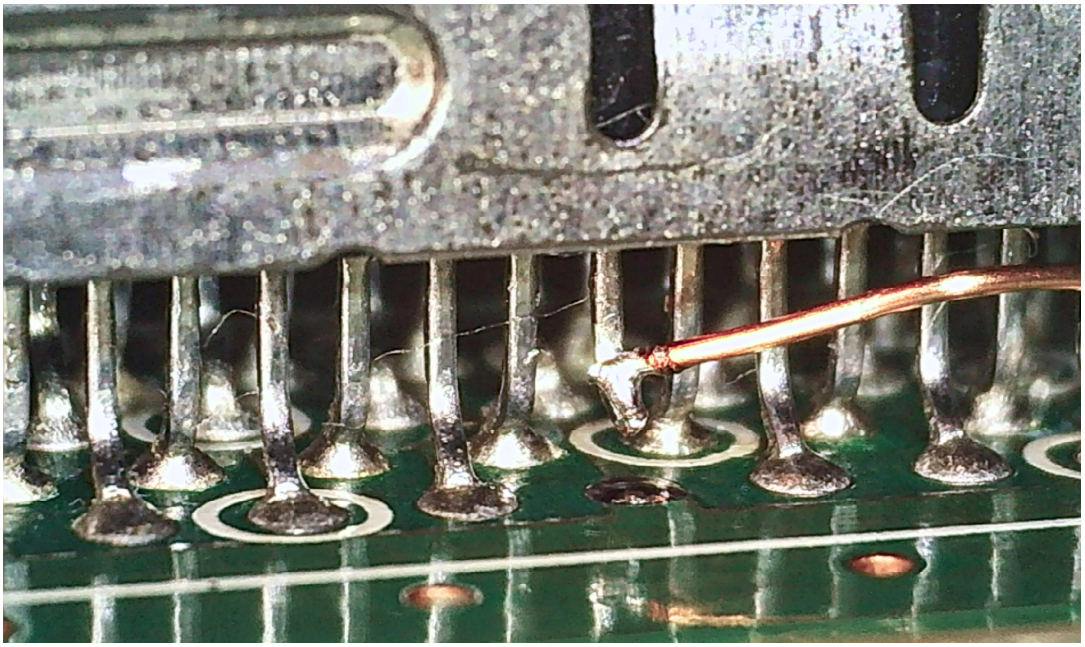


5. Depending on the operation mode you chose, follow the instructions:
   A. Manual Mode
      1. Solder two wires to the “ON/OFF” pads.
      2. Connect the other end of the wires to a switch or a locking button.
      3. Route it to a place where you can access it.
   B. Automatic Mode
      1. Locate the pin on the cartridge slot that is connected to a point marked C.

2. Cut it with a set of side cutters close to the motherboard. Make sure that the pin is completely disconnected from the board and not touching the board or the pins nearby.

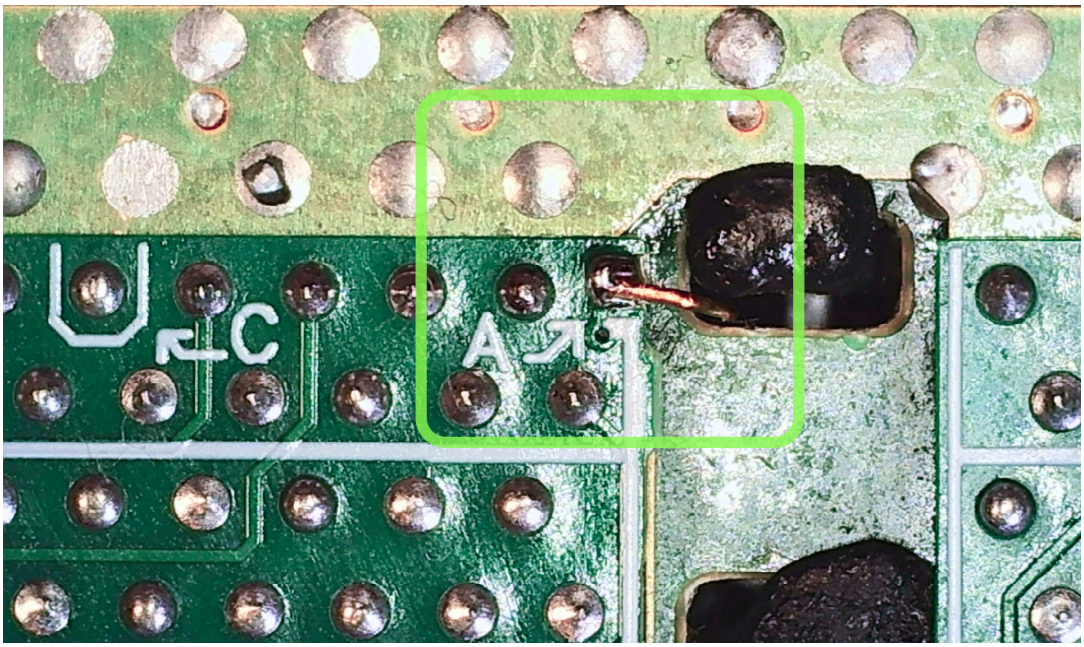


3. Connect a short piece of thin wire to the cut pin using a soldering iron with a fine tip.



4. Make sure that the wire is connected only to the pin and that no pins nearby are shorted. If there is any excess solder, remove it with soldering braid and flux.

5. Connect the other end of the wire to the point marked A on the module. You can run the wire under the cartridge slot and though the hole on the board where the plastic locking tabs of the cartridge slot are located.



6. That's it, you're done! Good work!

Now reassemble the console and boot it into the BIOS menu. Check if you can see the memory card in the System Settings → Memory Manager menu.

Make sure that you don't have anything plugged into the cartridge slot, otherwise it will not be detected.