

Modify an SCC cartridge to a sound cartridge

*Original article in French and photos by Jipe (Jean-Pierre Dubois (2007)
PFD by HansO, 2008*

Remember, at the end of the eighties Konami started to deliver games on floppy disc. And then it became impossible to benefit from the famous sound chip SCC included in the latest cartridges. To remedy that, Konami provided an SCC only cartridge.!

Imagine now on a day one of your friends, insane of MSX, phones you at home “I succeeded in translating Metal GEAR 2: Solid Snake in English, at my place”. Very happy, you await impatiently the floppy disk with this great game. When you feverishly put the diskette of this splendid play into your preferred microcomputer, no music emerges from the machine, just some “beep” and such. What a great disappointment! You have just discovered it is impossible to have a decent game play without a SCC!

How to get that sound then?

There are several more or less risky solutions. One can start a game and when it starts, insert a cartridge another SCC game cartridge in the slot of the MSX into the second port of the microcomputer. This is a barbarian method and very risky solution.

One can use a SCC cartridge, alas hard to find.

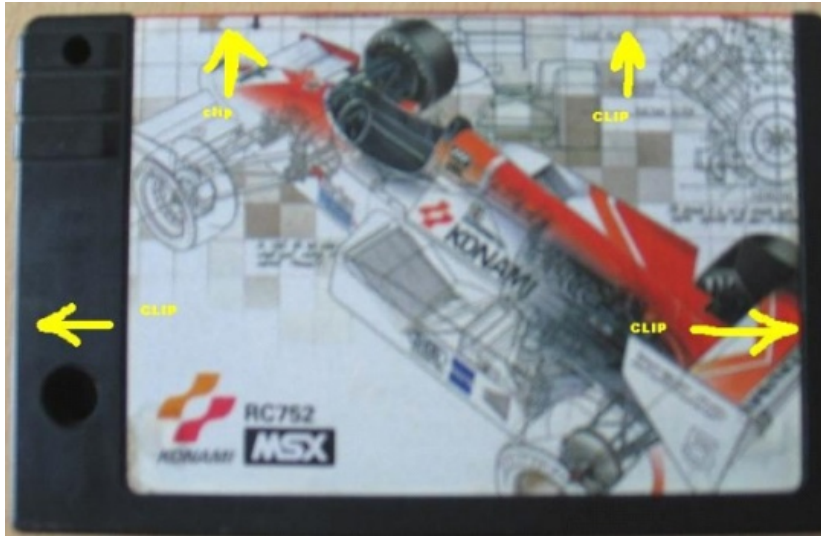
Lastly, one can modify a game in cartridge with a SCC IC so that it only produces sound. It is this safe and convenient solution we describe here.

List of required material

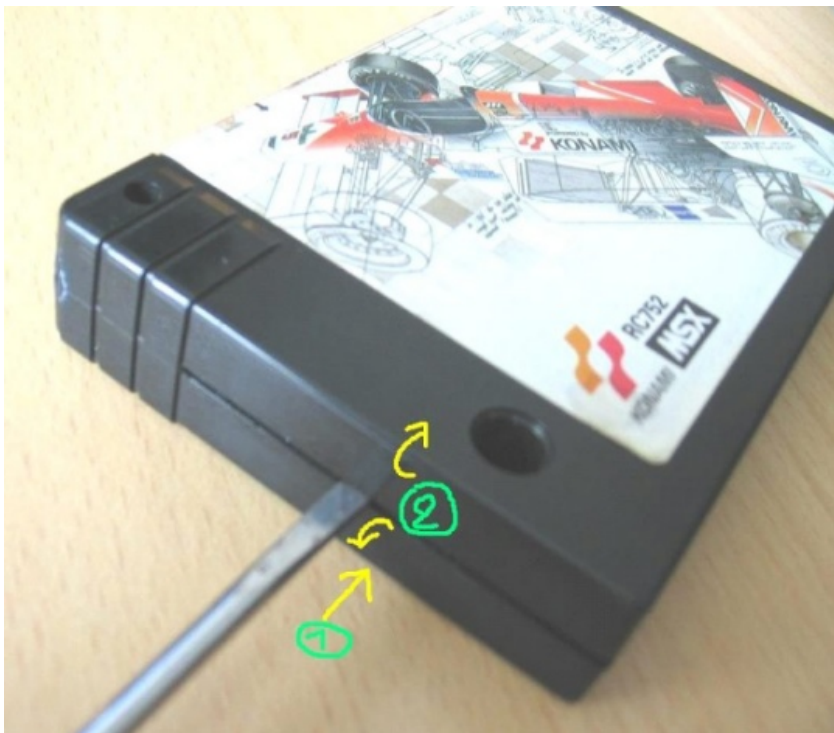
- A SCC based game (F-1 Spirit in this article))
- Solder equipment
- A flat screwdriver and a cutter
- Drilling machine for a 5/6 mm hole.
- An on/off switch with two positions
- A 4.7 K ohm resistor (yellow violet red)
- Two thin wires

Step 1 Open the cartridge

The cartridges of Konami games are secured at four different places by clips and not by screws. Opening therefore requires attention to avoid damage. The photograph below, shows us the localization of each of the 4 clips.



Open the cartridge as the photograph shows. Careful insert a flat screwdriver in the plastic case.

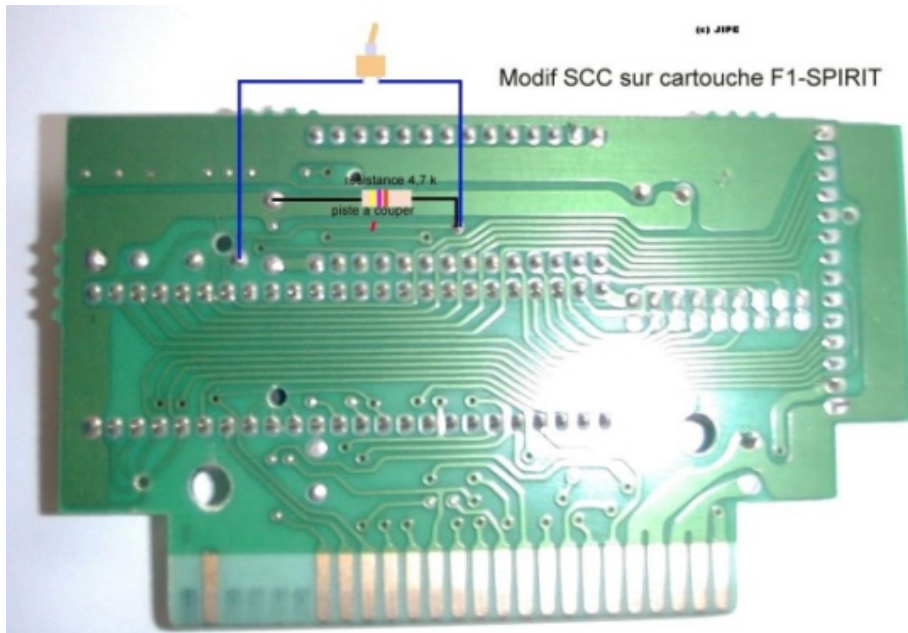


Step 2 Adapt the cartridge

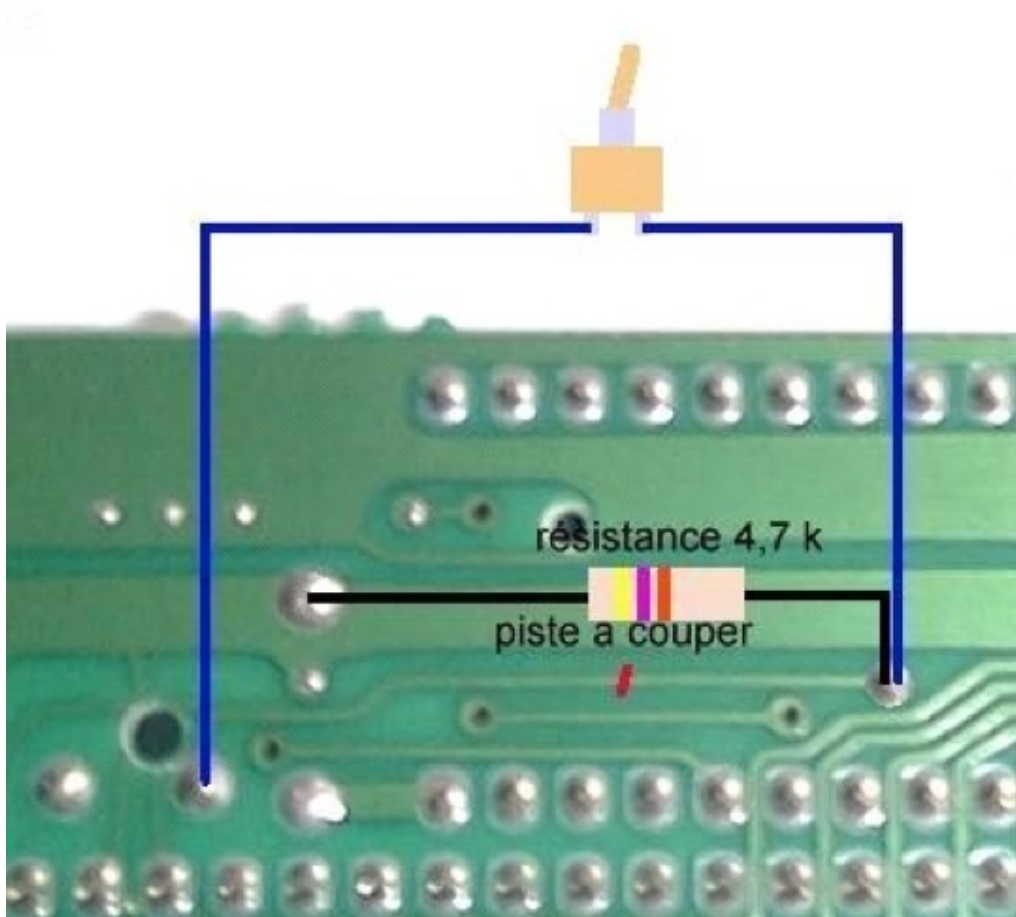
First we start with making room for the switch. It has two positions, one will allow to play the game as usual, in the other position it is a SCC sound cartridge. There is only one location for the switch, top right. The photograph below shows how to cut out part of the print, careful not to damage attention not to damage the tracks located at the back.



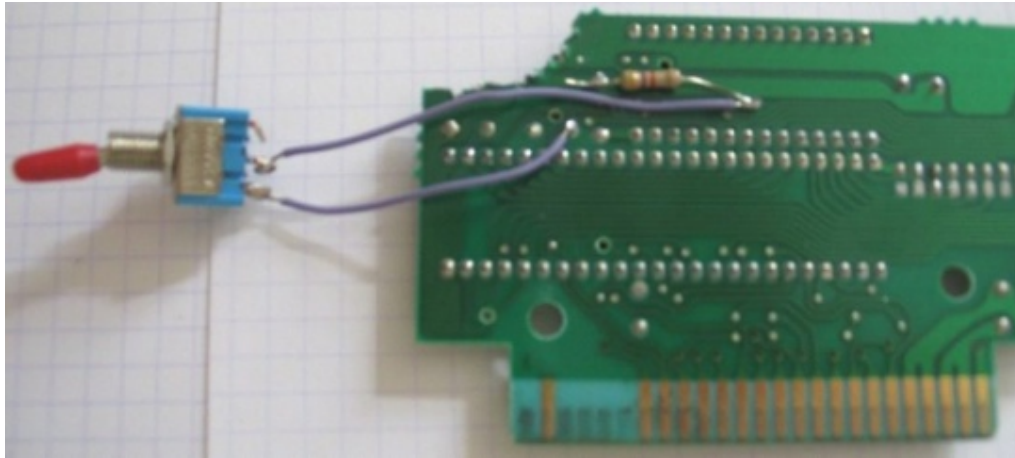
As the diagram below shows, you now have to solder the switch and resistor and the wires. If you do not know the word “soldering iron”, we highly advise you to close your cartridge or you run the risk of never playing F-1 Spirit. again.



Below, you find a enlarged picture of the locations to solder to. Note that it is also necessary to cut a track with the cutter, it is marked with a small red arrow. This track carries connection between the ROM with the game and the SCC IC.



To be sure you, below you see the result of the adaptations. Check the preceding steps if necessary.



Step 3 Add the switch

We are near the end of this modification. The last step is to add the switch, that allows to switch between the game and the SCC only function



Take your drilling machine and produce a hole of approximately 5 to 6 millimeters in diameter on the left side of the cartridge. Lastly, it will be necessary to place a small label which indicates the current function of the cartridge, bottom being the function SCC..

