

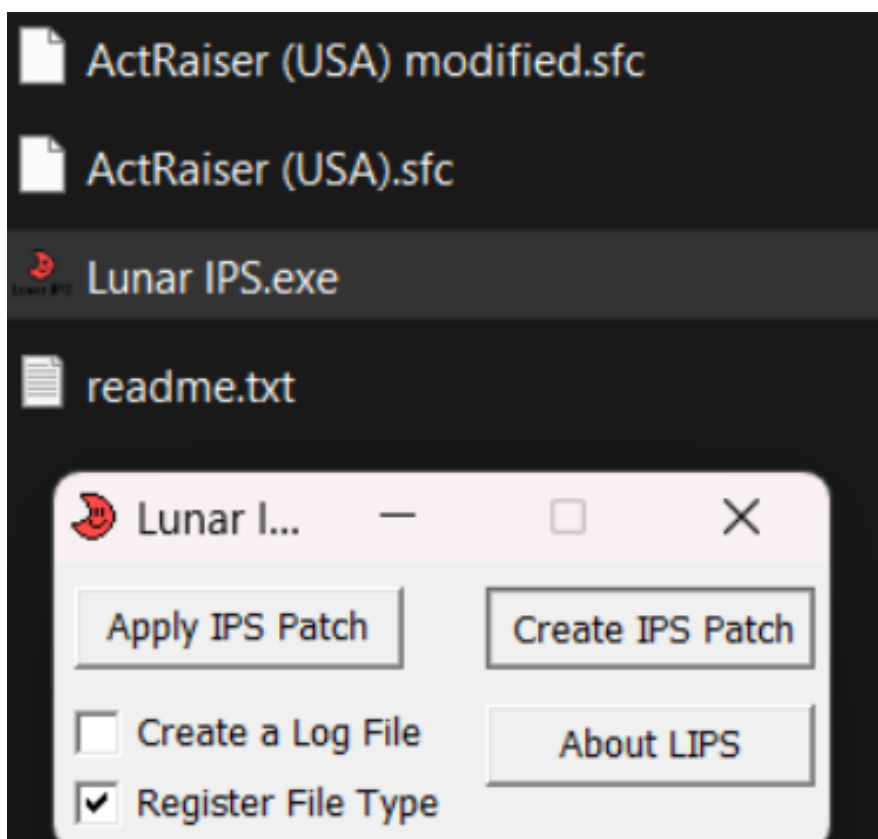
SNES Hacking for Absolute Beginners

Patching and More

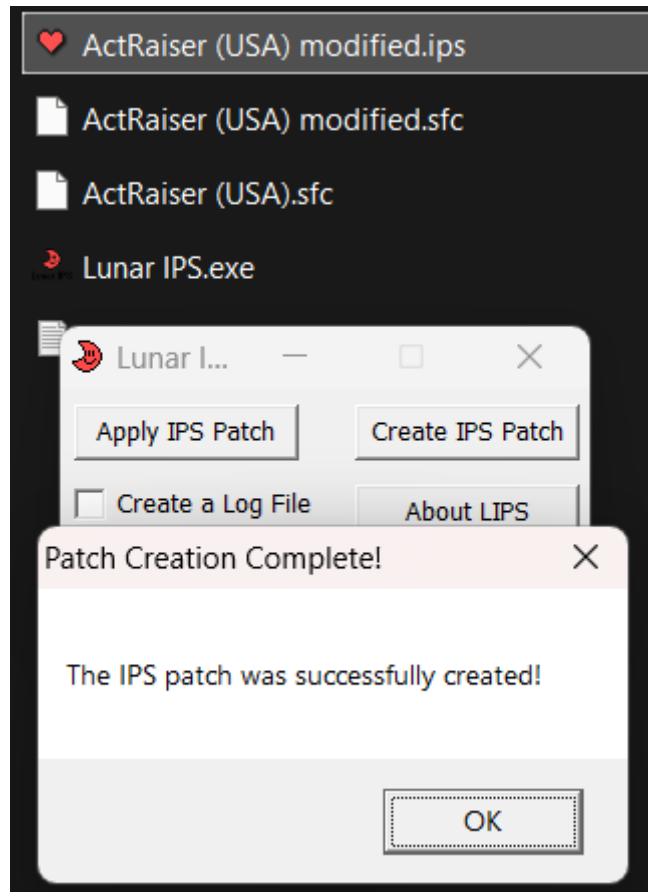
Releasing Patches:

The last step of your journey is very simple. You'll want a patching software such as [Lunar IPS](#) but make sure you have a modified ROM and a vanilla ROM of the same game before you proceed. You will have to document if your hack is for a headered or unheadered ROM. As stated before, your ROMs will likely be unheadered these days but it doesn't hurt to confirm this with a program like TUSH.

I made a folder and placed Lunar IPS in it with a vanilla ROM of Actraiser. I then copied the Actraiser ROM, edited random parts of it with 00s in HxD, and saved the copy just for this demonstration. The process is extremely straightforward. Just start by clicking Create IPS Patch.



After following the instructions in the file explorer, your folder will look like this.



Congratulations, you are now ready to release your patch file!

Here are a few more bonus sections to help you get a leg up. These won't be highly detailed sections like the previous ones, but they should point you in the right direction.

Bonus 1: Music Swapping (No MSU-1)

Adding new music to a ROM is a bit complex, but swapping existing tracks isn't necessarily tough. For example, Mega Man X has music data documented by xstuff.

```
=====
No Header:
=====

MUSIC SETTINGS
----
308B0: Highway stage music.
308B1: Launch Octopus stage music.
308B2: Sting Chameleon stage music.
308B3: Armored Armadillo stage music.
308B4: Flame Mammoth stage music.
308B5: Storm Eagle stage music.
308B6: Spark Mandrill stage music.
308B7: Boomer Kuwanger stage music.
308B8: Chill Penguin stage music.
308B9: Sigma stage 1 music.
308BA: Sigma stage 2 music.
308BB: Sigma stage 3 music.
308BC: Sigma stage 4 music.
```

What if we want to replace Central Highway's music with Sigma's 4th palace theme then?

Hex values:

11 Highway stage music
13 Launch Octopus stage music
12 Sting Chameleon stage music
14 Armored Armadillo stage music
15 Flame Mammoth stage music
19 Storm Eagle stage music
18 Spark Mandrill stage music
16 Boomer Kuwanger stage music
17 Chill Penguin stage music
1A Sigma stage 1 music
1B Sigma stage 2 music
1C Sigma stage 3 music
1D Sigma stage 4 music
1E Maverick boss music
1F Title screen music
20 Maverick stage select music
21 Boss defeated music
22 Maverick stage selected music
23 Vile intro/Sigma stage boss intro music
24 Vile battle/Sigma stage boss music
25 Zero's theme music
26 Zero's speech music
27 Got weapon music
28 Password screen music
29 Sigma stage select music
2A Sigma battle music
2B Sigma final battle music
2C Ending music
2D Staff credits music
2E Maverick boss intro music
2F Sigma final battle intro music
30 Credits screen music

There you go. Open Mega Man X in HxD, press CTRL+G to visit offset 308B0, and replace the value with 1D.

Bonus 2: Music and FMVs (MSU-1)

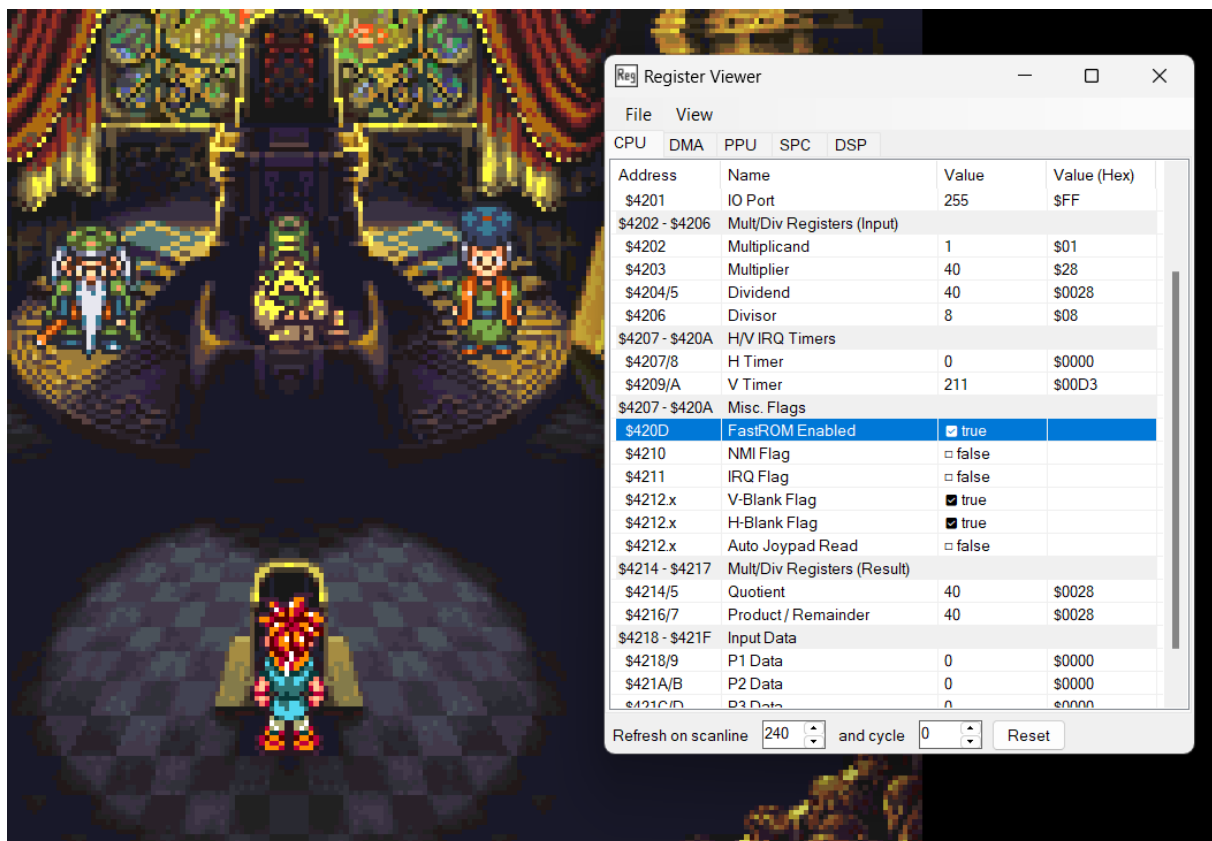
A huge portion of the SNES library has MSU-1 hacks available, meaning you can easily add new tracks (or possibly even FMVs) to your favourite games. Visit [Zeldix](#) for more information.

[Tutorial 1](#)

[Tutorial 2](#)

Bonus 3: FastROM + Registers

I won't teach you how to create a FastROM hack here, but I will point out it's pretty easy to check if a game is using FastROM. Simply open it up in MESEN-S, press CTRL+K, and check the section in this screenshot.



Now that you've taken your first step out the door, you can check [here](#) for more information if you wish. It's not exactly beginner-friendly, however.

Bonus 4: Decompression and Recompression

A full lesson on decompression and recompression algorithms is outside this tutorial's scope. However, to get an elementary understanding of the process, one can find some game-specific compression files. Click [here](#) for Mega Man X's tool. Simply alter the bat files to target your specific folder and ROM, run the decompression tool, and notice a large number of bin files have now filled your MMX folder. These can be individually edited and saved with YY-CHR before being recompressed back into a complete ROM.

It's always worth checking if a game you're interested in hacking has utilities made specifically for it. For example, Mega Man X also has a [level editor](#) utility.

Outro:

I hope you appreciated these SNES hacking lessons for absolute beginners. Everybody has to start somewhere, and my main goal is to convince potential hackers that it's not nearly as scary to start hacking SNES games as they believe. You can always feel free to leave me a comment about this tutorial if you're in need of further answers. Thanks for reading!