**Zelda ALTTP MSU-1 patch (bsnes, Higan and sd2snes support)**

Patch created by Conn, special thanks to mwreichelt for the template (enabled sd2snes compatibility), Ikari\_01 for coding support, byuu, TheRetromancer, EmuandCo, qwertmode, SePH, etc. for tipps, playtesting and debugging!

The alttp\_msu1.ips includes the possibility to hear cd-quality audio. The patch is concepted that you can use it also on other emulators like zsnes and snes9x (prior to v1.55) which do not support msu. In this case, the rom will play the ingame spc music

**Imprtant note: this patch works only on an**

* **headerless US ALTTP rom (usually sfc, not smc), use snespurify if you have a header:** [**http://helmet.kafuka.org/SNESPurify.exe**](http://helmet.kafuka.org/SNESPurify.exe)
* **expanded rom (1.5 MB min), use LunarExpand to expand your headerless rom:**

[**http://fusoya.eludevisibility.org/le/download/le114.zip**](http://fusoya.eludevisibility.org/le/download/le114.zip)

* **apply the alttp\_msu1.ips patch then on your (headerless, expanded) rom with LunarIPS:**

[**http://fusoya.eludevisibility.org/lips/**](http://fusoya.eludevisibility.org/lips/)

* **apply the optional\_video.ips patch as well in case you like to have a video**

Here are the pcm files:

<https://www.zeldix.net/t791-the-legend-of-zelda-a-link-to-the-past>

**snes9x v1.55 (ff) and Bsnes tutorial:**

Bsnes until 0.68 play wav files which do not loop. Bsnes 0.69 and later versions support pcm files that can loop, so this is the music format and emulator of your choice since it is super easy:

- open the alttp\_msu.zip

-apply alttp\_msu1.ips to your **headerless expanded (1.5 MB) US ALTTP rom**

- optional: apply optional\_video.ips as well

- rename this rom to "alttp\_msu.sfc"

-make a new folder (msu or whatever)

- copy the bsnes v.70 (all files) into this folder

- copy the  patched alttp\_msu.sfc into this folder

- copy alttp\_msu.xml into this folder (part of the zip file)

- copy the downloaded pcm-files provided from TheRetromancer from the link above into this folder

Note: there’s actually a spc-fallback code to play the spc in case no pcm is found. But this is first featured by bsnes 0.89 ff- unfortunately, this emulator is somewhat complicated to run roms with msu, so I stick to the user-friendly bsnes 0.70. Spc playback is thus only featured by sd2snes and higan. Edit: the new snes9x1.55 also features spc playback

**Sd2snes tutorial:**

Actually this works the same way as bsnes: make a custom folder in the main directory called 'MSU Zelda'. In this folder, you'll need to have your expanded, patched Zelda ROM, and you should rename it to 'alttp\_msu.sfc'. In this same directory, you'll need the 'alttp\_msu.msu' file. 'alltp\_msu.xml' is not needed. Copy also all your pcm files into this folder (and the optional video msu) and enjoy! Also keep in mind that the audio volume changed in firmware 0.1.7, and it this patch is thus incompatible with prior version.

**Firmware v0.1.7 ff:** choose Configuration-> Chip Options and set the msu1 boost to +12dBFS

**Important note:**

Problems with saving is a known issue with MSU-1 enhanced games on the SD2SNES.The game **saves only** with this technique your progress: In order to save permanently, you'll need to "Save and Quit", and then either press **L+R+Select+X** or press and hold the reset button on your console long enough so that it resets to the SD2SNES main menu.

Step-by-step with video by Mattroid

1. Download all three archives links:

zelda3\_msu.zip: <http://bszelda.zeldalegends.net/stuff/Con/zelda3_msu.zip>

A Link to the Past MSU Audio Complete.rar: <http://www.mediafire.com/download/ot5lzt4zl141wsh/MSU_Zelda_Opening_Intro_and_Audio.rar>

MSU Zelda Opening Intro and Audio.rar: <http://www.mediafire.com/download/ot5lzt4zl141wsh/MSU_Zelda_Opening_Intro_and_Audio.rar>

1. Rename your **headerless expanded (1.5 MB) US ALTTP rom** to alttp\_msu.sfc
2. Extract zelda3\_msu.zip somewhere (desktop, etc)
3. Open zelda3\_msu.zip and navigate to the msu\_alttp folder to find the patch (alttp\_msu1.ips)
4. Apply this patch to your ROM file using a tool such as [Lunar IPS](http://www.romhacking.net/utilities/240/) (for Win) or [MultiPatch](http://projects.sappharad.com/tools/multipatch.html) (for Mac)
5. be sure you updated to firmware 0.1.7 or later. Adjust: Configuration-> Chip Options and set the msu1 boost to +12dBFS
6. Put your patched ROM on your SD card in a folder someplace (I named mine 'MSU Zelda' like the readme said to, though this probably doesn't matter)
7. Extract all of the 'A Link to the Past MSU Audio Complete.rar' contents to this folder
8. Extract all of the 'MSU Zelda Opening Intro and Audio.rar' contents to this folder
9. Put the SD card in your SD2SNES and play!

**Higan:**

- apply alttp\_msu1.ips to your **headerless expanded (1.5 MB) US ALTTP rom**

- optional: apply optional\_video.ips as well

- rename this rom to "alttp\_msu.sfc"

- import this game in higan

- go into the folder %USERPROFILE%\Emulation\Super Famicom\alttp\_msu.sfc in Windows Explorer

- overwrite the existing manifest.bml with (until higan v0.95) or just copy (higan v0.96 and later) the manifest.bml from the patch package into this folder

- copy the downloaded pcm-files provided from TheRetromancer from the link above into this folder

**Theme list** (both hex and dec in clamps for your pcm)

Overworld:  
-01 (01)Triforce + title screen  
-02 (02)Overworld  
-03 (03)Rain  
-04 (04)Rabbit  
-05 (05)Lost Woods  
-06 (06)Introduction  
-07 (07)Kakariko Village  
-08 (08)Portal SFX  
-09 (09)Dark World  
-0A (10)Master Sword  
-0B (11)Name select screen  
-0C (12)Guard summoned  
-0D (13)Skull Woods  
-0E (14)Minigame  
-0F (15)Title screen only  
  
Indoors:  
-10 (16)Hyrule Castle  
-11 (17)Light World dungeon  
-12 (18)Cave  
-13 (19)Medallion/crystal acquired  
-14 (20)Sanctuary  
-15 (21)Boss  
-16 (22)Dark World dungeon  
-17 (23)Fortune Teller  
-18 (24)Cave (appears to be identical to -12)  
-19 (25)Zelda rescued in prison  
-1A (26)Sage rescued in crystal  
-1B (27)Fairy spring  
-1C (28)Ganon's theme only  
-1D (29)Ganon appears in Agahnim's shadow  
-1E (30)Face-to-face + Ganon's theme  
-1F (31)Ganon battle  
  
+ 3 ending themes  
20(32), 21(33),22(34)

+ video track 23 (35)