Beta Testing: **jonwil**, **Yarx** and **GameMakr24**.
Big thanks to: **Euclid**, **NeonX**, and **DxEdge**.

Hyrule Magic is an editor for the snes game **Zelda 3: A Link To The Past** and is only compatible with the **USA Version** of the rom. It's a full scale editor.

VERSION HISTORY:

VERSION 1.3 FINAL- (XX-XX-05) [202 Pages]

FAQ General Optimizations: Added page numbers, each section now starts on top of their pages and fixed grammatical errors.

Added the following sections:
03-15) Overlays Data,
03-17) Overworld GFX Sets,
03-18) Block List,
03-19) Block Types,
03-20) Custom GFX Inserting (Using HM),
04-10) Entrances/Exits And HEX Values List,
04-11) Dungeon Sprites Blocksets & Palettes,
04-12) Dungeon Tips,
04-13) The Chris Houlihan Room,
05-03) Special Notes,
13-02) WLA DX Assembler,
13-03) Lunar compress,
13-04) Miscellaneous Notes,
14-01) Hex Basics,
14-03) Hex Offsets,
14-04) CPU Addresses,
14-06) GameGenie Codes to HEX Converting Guide,
20-02) Hyrule Add-ons,
20-06) RAM Data.

Updated the following sections:
00-00) Table of Contents,
01-00) Introduction,
03-00) Overworld Editing,
04-09) Dungeon GFX# List,
06-00) Monologue Editing,
07-00) Palettes Editing,
10-00) Dungeon Propertis Editing,
04-07) Entrance Properties,
14-04) CPU addresses
14-05) Various Effects you can change using Hex,
18-01) Questions & Answers,
21-02) WIP (Work In Progress) Hacks,
21-03) Discontinued/Not updated in a long time Hacks,
22-02) Credits.

VERSION 1.2 - (07-22-04) [137 Pages]

FAQ General Optimizations: Changed the font of the sprite sheets and supplied them with the correct names used by HM. Brand new table of contents and bookmarks.

Added two new sections: **14)** Hex Editing,
21) Released/WIP Hacks Database.

Updated the following sections: **06-00)** Monologue Editing,
13-00) Patch Module Installer (ASM),
18-01) Questions & Answers.

VERSION 1.1 - (06-16-04) [98 Pages]

Major corrections to the text itself (Fixed grammatical errors, and mistakes...), added some more content, more pictures, more people credited.

VERSION 1.0 - (06-09-04) [96 Pages]

Initial Release.

TABLE OF CONTENTS:

PART 01: INTRODUCTION

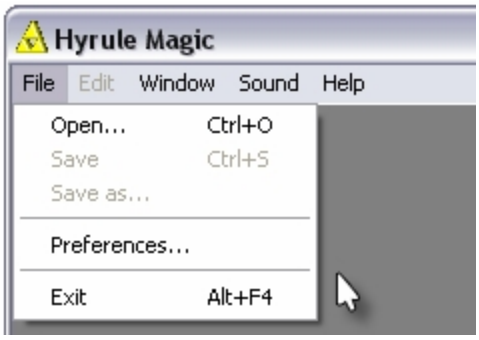
After all these months working with Hyrule Magic, Hex Editors and various other programs, here's version 1.3 of my FAQ already. This time it's the Final Version, since I don't plan on working on it again. I think it has all the info to make an excellent hack nonetheless. It's up to you guys to do the rest.

Big thanks to everyone for there data gathering through the months, Zelda 3 editing has suddently gone a tad easier.

And I would like to thanks a special someone who have really been helpful though all these months, someone who always supported most of our questions, found ways to get around bugs and really pushed the Zelda 3 community to levels which I never though be possible: Euclid. Thanks to you man!

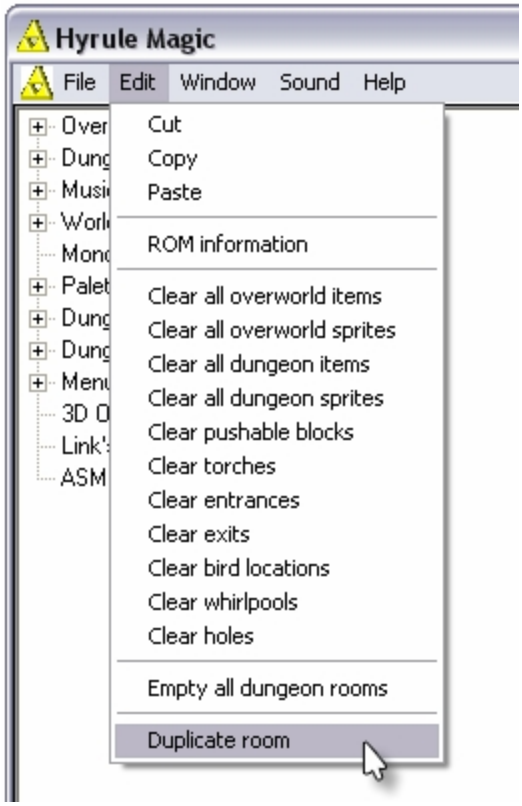
Now without further talking, you might want to look into the FAQ by itself. Feel free to browse the 200+ pages of it. Happy reading and learning!

PART 02: THE MENU



02-01) FILE

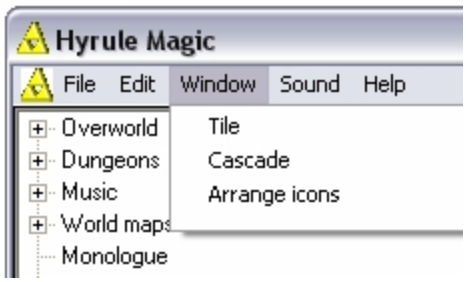
Open: Opens a ROM (Must be a valid **Zelda 3: A Link To The Past USA Version ROM**).
Save: Saves a ROM with the current name.
Save as: Saves a rom with the name of your choice.
Preferences: Allows you to edit the displayed sprite names, the sound volume, the instruments mapping and the FSNASM path.
Exit: Exits the program.



02-02) EDIT (Option only available when the ROM is open.)

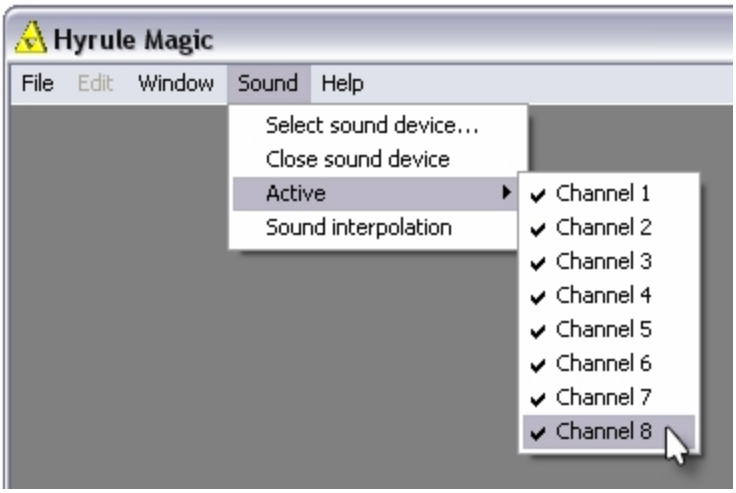
Cut: Self-Explanatory
Copy: Self-Explanatory
Paste: Self-Explanatory
ROM information: Allows you to change the internal ROM name and view the current free

space for sprites, items, entrances, exits etc…
Clear all overworld items: Removes all overworld items.
Clear all overworld sprites: Removes all overworld sprites.
Clear all dungeon items: Removes all dungeon sprites.
Clear all dungeon sprites: Removes all dungeon sprites.
Clear pushable blocks: Removes all dungeon pushable blocks.
Clear torches: Removes all dungeon torches.
Clear entrances: Removes all overworld entrances.
Clear exits: Removes all overworld exits.
Clear bird locations: Removes all overworld bird locations.
Clear whirpools: Removes all overworld whirpool locations.
Clear holes: Removes all overworld holes.
Empty all dungeon rooms: Self-Explanatory (But not quite a good idea).
Duplicate room: Copy/Paste a room.



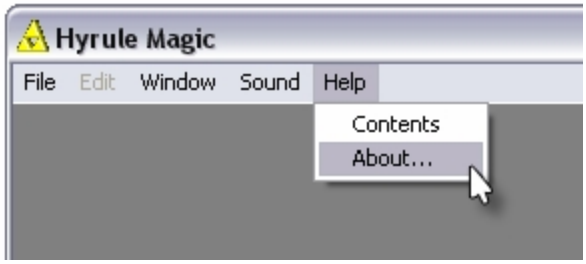
02-03) WINDOW

Tile: Arranges the windows in a tiled fashion.
Cascade: Arranges the windows in a cascaded fashion.
Arrange icons: Arranges minimized windows.
You can select a window in the list to activate it.



02-04) SOUND

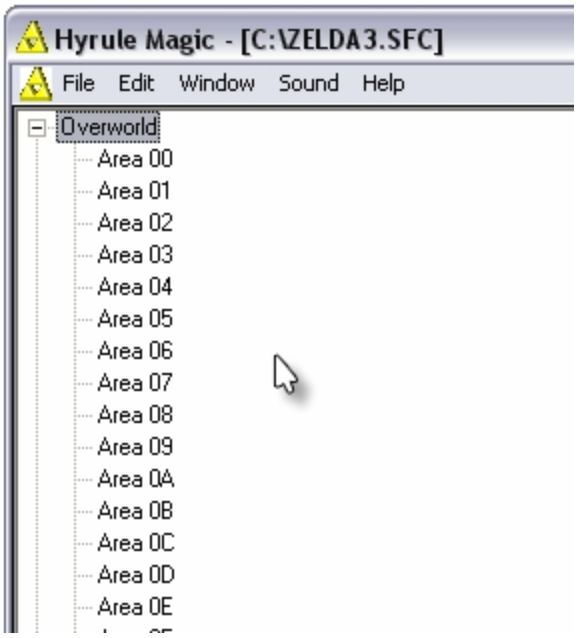
Select sound device: Choose between a wave or a midi device for the music editor.
Close sound device: Closes the sound device.
Active: Turn sound channels ON/OFF.
Sound interpolation: Turns sound interpolation ON/OFF.



02-05) HELP

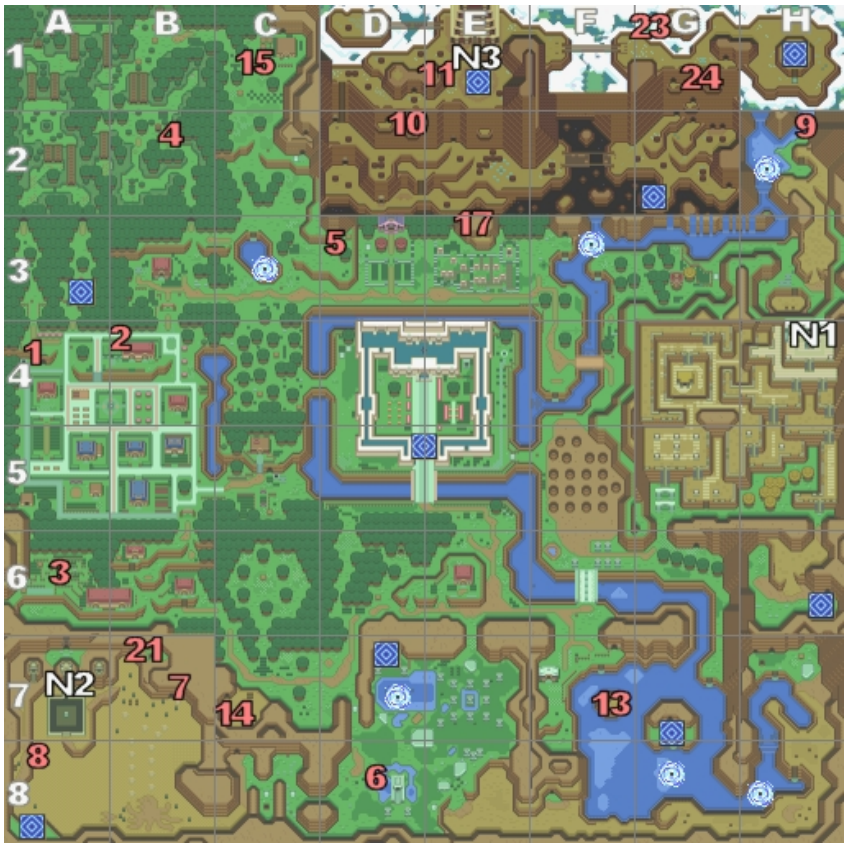
Contents: Displays help contents. (Very basic compared to this FAQ...)
About: Displays copyright information.

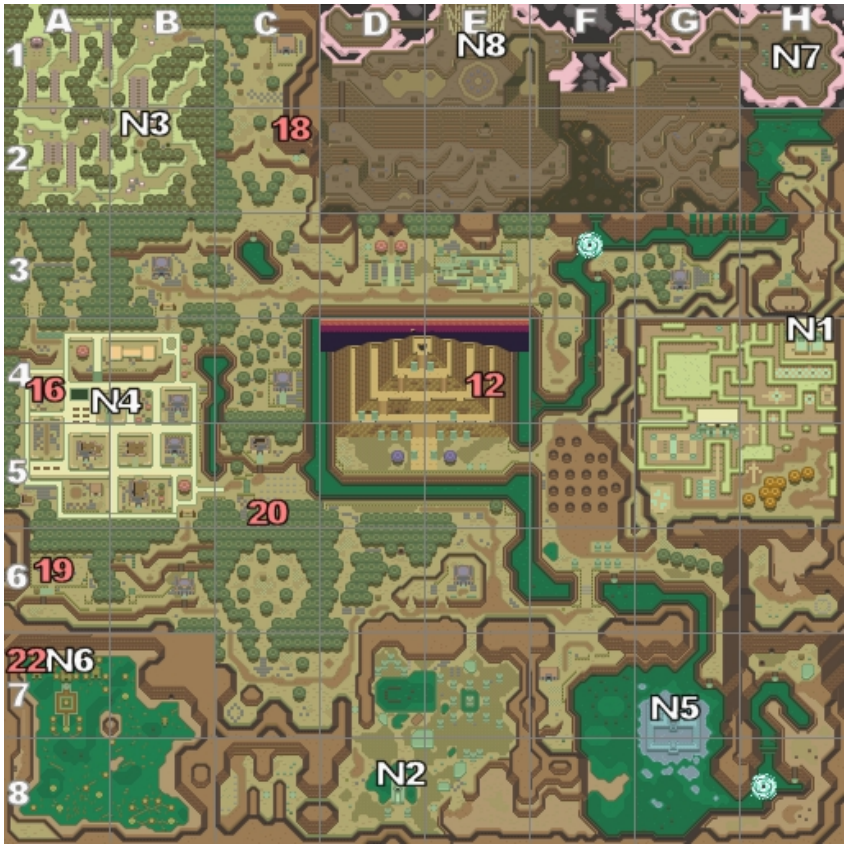
PART 03: OVERWORLD EDITING



To edit an area, select one from the list:

00-3F: Light world screens.
40-7F: Dark world screens.
80: Area where the Master Sword lies and Area under the bridge.
81: Zora's waterfall (Where you buy the flippers for 500 rupees).
88: Screen with the Triforce (Ending Sequence).
95: Mountain background.
96: Pyramid background.
9C: Lava background.
9D: Fog background.
9E: Forest background.
9F: Rain background.


A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
8
15
N3
11
23
24
10
9
4
17
5
N1
1
2
3
21
N2
7
14
13
8
6


A
B
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7
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N8
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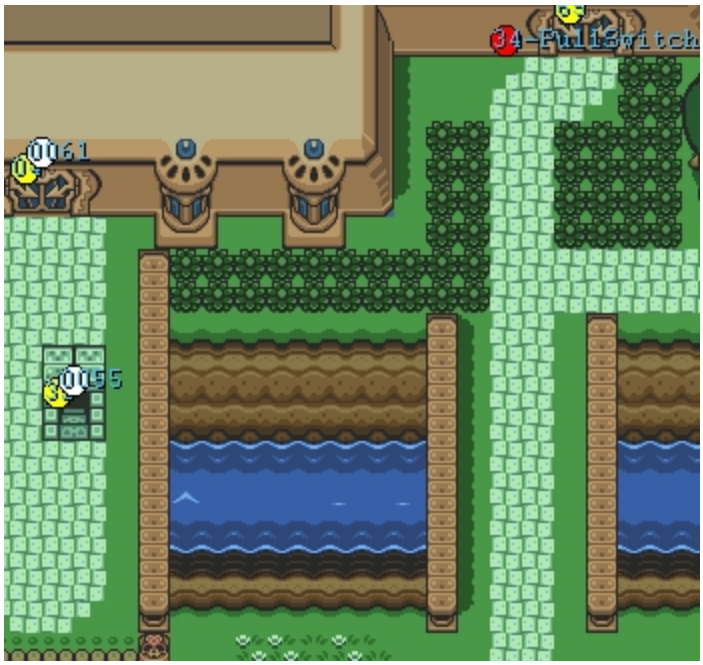
N3
18
N1
16
N4
12
20
19
22
N6
N5
N2



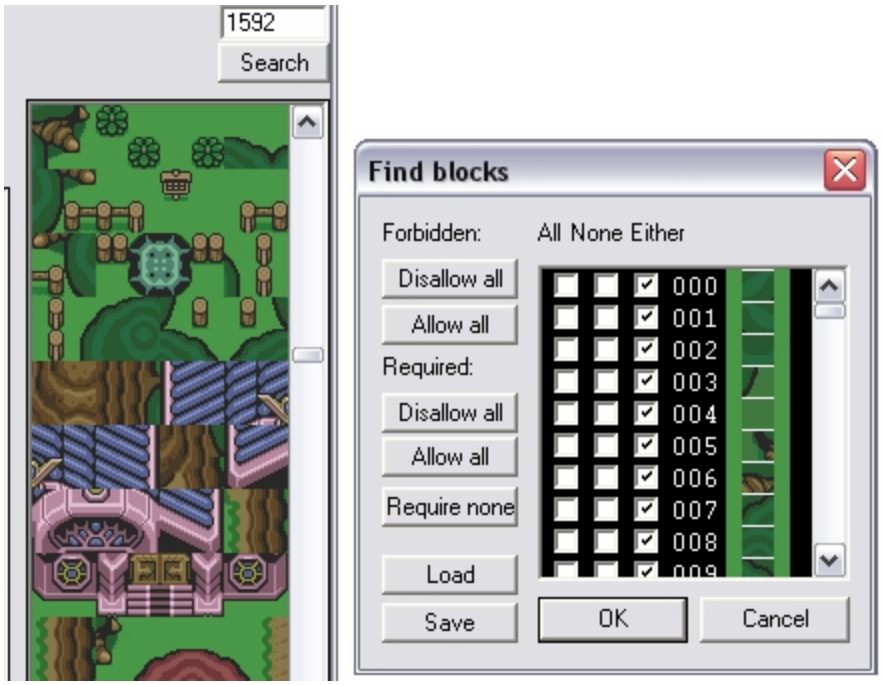
03-01) THE MAP WINDOW

This window shows the selected Area, along with locations of interest.

Entrances: The yellow circles.
Exits: The white circles.
Transport: The blue circles.
Sprites: The purple circles.
Holes: The black circles.
Items: The red circles.

To modify these, you must type a new value with the keyboard. You can add and remove locations by right clicking in the map window with the appropriate tool selected. However, you can't add more than there are already in the game.

When you are drawing the map, you can only undo the last operation. You can do this by pressing the Undo button.*



03-02) THE BLOCK SELECTOR

This window displays all the overworld blocks in the game. You can select a block by clicking on it or typing its number in the above field. You can also edit blocks by double-clicking on them. You can search for specific 16x16 tiles by pressing Search.

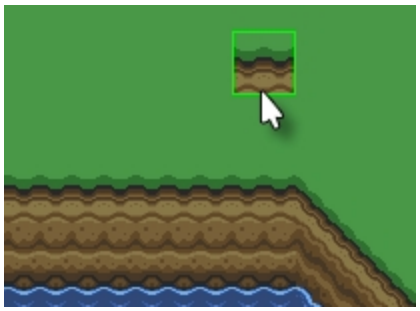
03-03) PROPERTIES TOOL

Allows you to change multiple options. First off, you can change the Sign Text you want to see in that Area.. You can see the various texts in the Monologue Editing part of this FAQ. This is also here that you choose which music and ambient sounds will play in that place. You can choose any music that you want depending on the events in the game (eg. You want to use Dark World theme as the Beginning default, but after you rescue Zelda you choose the Town music). Finally, the ambiant sounds, can only be changed if you want to remove the ambiance.. (eg. Changing heavy rain to Nothing; when you will play you won't hear any rain but Thunder SFX Wave).

***** Even if you remove the ambient sound: Heavy rain, you will still see the rain background, if you want to complety get rid of the rain background read 03-15) Overlays Data. Also note that we don't know yet how to get rid of the Thunder SFX Wave.*****

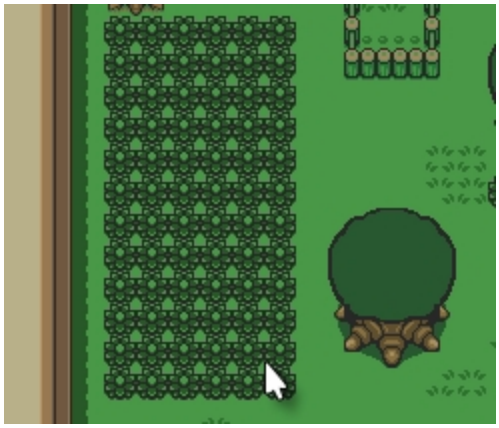
03-04) DRAW TOOL

When the draw tool is selected, you can place blocks with the left click and select the block underneath with the right click.



03-05) SELECT TOOL

When the select tool is selected, you can select an area with the left click and move it or copy it by pressing the Copy button.



03-06) RECTANGLE TOOL

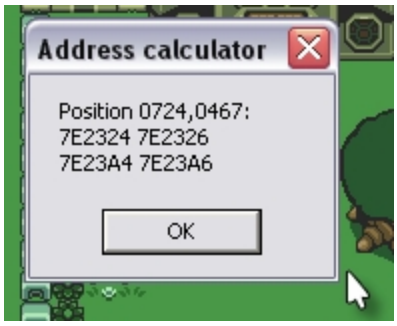
This allows you to draw a filled rectangle using the selected block.

03-07) PASTE TOOL

This will paste the copied blocks.

03-08) FRAME TOOL

This shows the three animated frames of your tiles.



03-09) ADDRESS CALCULATOR TOOL

This will tell you the RAM locations of the tile position you click.

03-10) EXIT TOOL

This allows you to move exits.
Note: To edit the Exit circles you have to double click on them.

03-11) TRANSPORT TOOL

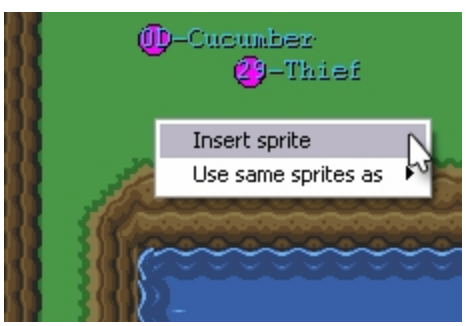
This is similar to the exit tool, but operates on whirlpools and bird locations.
Note: To edit the Transport circles you have to double click on them.

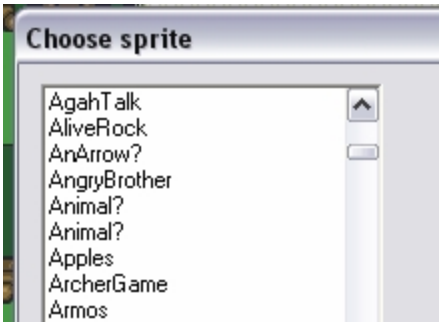
03-12) ITEM TOOL

This allows you to add or move existing items.
Note: To insert an item, you must right click where you want to add it and select **Insert item**.

03-13) HOLE TOOL

This allows you to add or move holes.
Note: To insert a hole, you must right click where you want to add it and select **Insert hole**.





03-14) SPRITE TOOL

This allows you to add or move existing sprites.
Note: To insert an item, you must right click where you want to add it and select **Insert sprite**.

03-15) OVERLAYS DATA

For those who want to get rid of the rain in the beginning, you need an HEX editor. Then go to **0x13206** HEX address and change the value to **80**. You'll get no rain overlay in the beginning.

Here's a rough dump of the code:

$02/AF58 routine starts to **$02/B00B**

```
if (Area < 0x80)
{
if (Area 0x3F != $00)
{
//Non Area 0x40/0x00
02/afc3 - ldx #0095 (Light World Mountain Overlay)
if (Area == 0x3, Mountain)
jump to end
if (Area == 0x5, Mountain)
jump to end
if (Area == 0x7, Mountain)
jump to end
02afd7 - ldx #009C (Lava Background, Dark World Mountain Overlay)
if (Area == 0x43, Dark World Mountain)
jump to end
if (Area == 0x45, Dark World Mountain)
```

```
jump to end
if (Area == 0x47, Dark World Mountain)
jump to end
if (Area != 0x70, Dark World Swamp)
{
02/aff9 - ldx #0096 - (Behind Pyramid Background)
check $7ef3c5
if ($7ef3c5 & 0xFF >= 2) (I believe this is checking "beginning")
jump to end
else
02/b008 - ldx #$009f (Rain Background)
}
else
{
if ($7EF2F0 & 0x20 == 0)
{
02/b008 - ldx #$009f (Rain Background)
}
else
go to end
}


}
else if (area & 0x40 != 0)
{
//Area 0x40
load
02/afbe - ldx #009D (Before Master Sword Clouds)
}
else
{
//Area 0x00
check event
if (Event pull out Master Sword Done)
02/afb6 - ldx #009E (After Master Sword)
else
02/afbe - ldx #009D (Before Master Sword Clouds)
}
}
end:
```

This could mean that reprogramming this will take a bit of work to get overlays working on particular screens and particular events (especially the events).

SPECIAL NOTES :

If you put **ON** an overlay in some screen say **1A** which originally doesn't have overlays, it won't animate, the same applies to trying to put rain on the overworld after the "beginning". This leads me to believe there's another set of variables/asm out there which tells the game to animate it.

Area 1B and **5B** are *special*, if you have been playing around with the overlays, you'll find that the default value for overlays is **96**, which is **Area 5B's overlay**. The game hardcodes the background for area **5B** so it makes sure there is an overlay in that area**. 02/BC50** has a **CPX #$001B** which asks the game are you in area **1B**, to fix this problem you'll replace that with the area number which that particular overlay go.

BLANK OUT WHEN ENTERING/EXITING AREAS

Remember how when you enter/exit **Area 00** or **40** you'll get a "blank out" before going into the next screen? This actually does good when going say, from a brown grass area to a green grass area, or go from a non-raining background to a raining background (The swamp in Dark World is a good example, if you have joined that screen with the other screens and don't feel like getting rid of the raining overlay).

Well here's how to make it always blank-out.

02AAE3EA
02AAE4EA

Enter these 2 codes, or if you want them permanently, just hack these codes into your rom.

Rom with header offset: **12CE3** and **12CE4** - change to **EA**
Default Values: **D0** and **0F**.

If you want them in particular spots, i'm afraid that requires some asm programming work and some free space in the rom, checking for 0 is actually takes less space to program than say, check **1B** and **0**.

Here's a rough dump of the code :

Pop the "Current area code" off the stack.
$02/AADA 68 PLA
Check if the area is 0 or #40, (Only #40& 3F and 0 & 3F gives 0) and that jumps to 02/AAE5.
$02/AADB 29 3F AND #$3F
$02/AADD F0 06 BEQ $06
If it is 0/#40, load the current area code (Stored in $8A, anything other than 0 or 40 will make it jump to another section of the code.)
$02/AADF A5 8A LDA $8A
$02/AAE1 29 BF AND #$BF
$02/AAE3 D0 0F BNE $0F
Here's the initialisation routine for the "blank out" sequence by setting the "sub module" bits to appropriate value.
$02/AAE5 64 B0 STZ $B0
$02/AAE7 A9 0D LDA #$0D
$02/AAE9 85 11 STA $11
$02/AAEB A9 00 LDA #$00
$02/AAED 85 95 STA $95
$02/AAEF 8F 11 C0 7E STA $7EC011
$02/AAF3 60 RTS

Free space can be found around the rom, or by expanding it.

03-16) OVERWORLD SPRITES GFX# AND PALETTES:

FORMAT = SPRITE GFX#:SPRITE PALETTE ▸ SPRITES

LIGHT WORLD:

00/00 ▸
41 - BlueSoldier
42 - GreenSoldier
43 - RedSpearSoldier
45 - HogSpearMan
BA - Whirlpool
E3 - Fairy

00/03 ▸
41 - BlueSoldier
45 - HogSpearMan

01/01 ▸
41 - BlueSoldier
42 - GreenSoldier
D8 - Heart (Must be placed in a tree)
DA - BlueRupee (Must be placed in a tree)
E3 - Fairy

01/03 ▸
33 - PullForRupees
40 - ElectricBarrier
41 - BlueSoldier
42 - GreenSoldier
48 - RedSpearKnight
49 - RedGrassSpearSo
4A - RedBombKnight
AC - Apples (Must be placed in a tree)

02/03 ▸
45 - HogSpearMan
46 - BlueArcher

03/02 ▸
19 - Poe/Ghini
41 - BlueSoldier
42 - GreenSoldier
48 - RedSpearKnight
79 - Bee
AC - Apples
C5 - Shooter
DE - 8 bombs

04/03 ▸
00 - Raven
08 - Octorok
17 - BushCrab
37 - Waterfall (Must be used on a waterfall along with an **entrance** on top of it; allows you to walk inside the waterfalls)

41 - BlueSoldier
46 - BlueArcher
47 - GreenGrassArche
55 - FireBallZona (Must be placed in water)
58 - Crab
0A - 4WayOctorok
0D - Cucumber
0F - OctoBlimp
4D - Bunny
AC - Apples
BA - Whirlpool
D2 - Fish
EB - HeartPie

05/07 ▸
08 - Octorok
33 - PullForRupees
41 - BlueSoldier
43 - RedSpearSoldier
45 - HogSpaerMan
51 - Armos
0A - 4WayOctorok
E3 - Fairy

06/01 ▸
0B - Chicken
1D - Useless Sprite (**Area 18** only; used with the the bird statue in the village...)
2A - ?DustGirl?
2F - Person? (The Labyrinth game; works together with **EB** - HeartPie and **30** - Person? waiting at the end to claim the price.)
3C - FarmBoy
3D - ScaredGirl 1
34 - ScaredGirl 2
41 - BlueSoldier
42 - GreenSoldier
43 - RedSpearSoldier
74 - Runner
75 - BottleMan
79 - Bee
AC - Apples
D1 - Transform/Smoke (For use in with the blacksmith cheminee, and the camp fire of the guy under the bridge)
DB - InTree?Rock? (Must be placed in a tree)
DC - Bomb (Must be placed under a rock or grass tile)
E0 - BigMagic (Must be placed in a tree)
E3 - Fairy
F3 - Person's Door

07/05 ▸
00 - Raven
0D - Cucumber
17 - BushCrab
33 - PullForRupees
41 - BlueSoldier
79 - Bee
C4 - Bully
E7 - Mushroom
E8 - FakeSword

07/06
00 - Raven
0D - Cucumber
2C - Lumberjacks
17 - BushCrab
33 - PullForRupees
79 - Bee
AC - Apples

08/04
01 - Vulture
4C - Geldman
57 - HyliaObstacle x3 (For use with **B3** - Inscription; blocks the desert palace entrance in the original game)
D4 - GroundBomb
EB - Heart Pie
F2 - MedallianTablet

10/00
00 - Raven
39 - GuyByTheSign (This is the guy next to the sign at the desert entrance that opens the locked **B4** - BlueChest you find in **Area 62** of the Dark World)
3E - Rockcrab
41 - Blue Soldier
42 - GreenSoldier
45 - HogSpearMan
D4 - GroundBomb
D8 - Heart (Must be placed in a tree)
DD - 4 bombs
E3 - Fairy

11/03
08 - Octorok
0D - Cucumber
41 - BlueSoldier
42 - GreenSoldier
45 - HogSpearMan
46 - BlueArcher
55 - FireBallZora (Must be placed in water)

13/06
0D - Cucumber
36 - Witch

15/01
1D - UselessSprite (**Area 2A** only; the place where you dig to find the ocarina)
2E - FluteBoy
9E - Ostrich
9F - Rabbit
A0 - Uglybird
DB - InTree?Rocks? (Must be placed in a tree)

16/09
27 - Squirrel
C9 - Tektite
F2 - MedallianTablet (Only **Area 03** gives the Ether medaillon, all the other areas gives the Bombos medaillon)
E3 - Fairy
EB - HeartPie

F3 - Person'sDoor (You must place this to the entrance you enter after helping the old man of the mountain. This must be placed in the same spot as the entrance number for him to stop following you and giving you the mirror)
F4 - FallingRocks (Must be placed on the top left corner of the screen for it to work correctly)

26/06
00 - Raven
17 - BushCrab
3B - DashItem (**Area 02/Second Part** only)
41 - BlueSoldier
79 - Bee
AC - Apples

28/01
41 - BlueSoldier
42 - GreenSoldier
45 - HogSpearMan
AC - Apples
D8 - Heart (Must be placed in a tree)
E3 - Fairy

32/03
00 - Raven
08 - Octorok
0A - 4WayOctorok
0B - Cucumber
0F - OctoBlimp
33 - PullForRupees
41 - BlueSoldier
45 - HogSpearMan
55 - FireBallZora (Must be placed in water)
58 - Crab
BA - Whirlpool
D2 - Fish
EB - HeartPie

35/03
08 - Octorok
0A - 4WayOctorok
41 - BlueSoldier
45 - HogSpearMan
55 - FireBallZora (Must be placed in water)
79 - Bee
E3 - Fairy

47/10
B3 - Inscription
2B - TentMan
D1 - Tansform/Smoke
62 - MasterSwd
59 - Animal?
5A - Animal?

SPECIAL AREA:

Area 81: This is Zora's fountain (The place where you buy the flippers for 500 rupees). It also doesn't show the right information about the Sprite's GFX# and sprite palettes. (eg. moving ZoraKing to an alternate location will still make him

appear in the game, but without the good Sprite's GFX# and sprite palette the graphics will get corrupted.

DARK WORLD:

16/16
11 - Hinox
12 - PigSpearMan
25 - LiveTree
D3 - AliveRock

17/11
2E - FluteBoy

18/00
12 - PigSpearMan
41 - BlueSoldier
D3 - Alive Rock

19/00
22 - HoppingBulbPlant
25 - Live Tree (Must be placed in a tree)
41 - BlueSoldier

19/14
0E - SnapDragon
11 - Hinox
12 - PigSpearMan
22 - HoppingBulbPlant
25 - LiveTree
33 - PullForRupees
A8 - GreenAirBomber
A9 - BlueAirBomber
AA - LikeLike
D3 - AliveRock
DB - InTree?Rock? (Must be placed under a rock)
DC - Bomb
E3 - Fairy

20/12
33 - PullForRupees
37 - Waterfall (Must be in front of Ganon's castle at left tile of the midle pillar)
D0 - Lynel

21/16
0B - Chicken
12 - PigSpearMan
14 - GargoyleGrate (The entrance to the Thieve's village dungeon; Moving this sprite will result in not seeing the grate while in game, the only way around this would be ASM hacking)
19 - Poe/Ghini
25 - LiveTree (Must be placed in a tree)
41 - BlueSoldier
45 - HogSpearMan
B4 - BlueChest (Locked chest you find at the blacksmith's hideout in the dark world; it contains an empty bottle that must be opened up by the GuyByTheSign at the light world desert entrance)
C4 - Bully
D3 - Alive Rock
E3 - Fairy

22/10
08 - Octorok

22 - HoppingBulbPlant
55 - FireBallZora (Must be placed in water)
C0 - Item (You have to throw a rock or bush on it for the creature of the water to give you the quake medaillon)
Note: There must have water in that area for that trigger to work or else you will have to put the medaillon in a chest instead.
D3 - AliveRock

22/13
22 - HoppingBulbPlant
55 - FireBallZora (Must be placed in water)
79 - Bee

22/15
00 - Raven
55 - FireBallZora (Must be placed in water)
CF - SwampSnake

23/13
00 - Raven
0E - SnapDragon
11 - Hinox
12 - PigSpearMan
22 - HoppingBulbPlant
B6 - Kiki (The monkey that open a palace in the dark world; You must have a long walk with him and pay him a lot of rupees before approching the entrance for him to open the dungeon or else he won't open it)
D3 - AliveRock
E3 - Fairy

23/16
12 - PigSpearMan
22 - HoppingBulbPlant
33 - PullForRupees
D3 - Alive Rock
E3 - Fairy
EB - Heart Pie

24/00
11 - Hinox
22 - HoppingBulbPlant
79 - Bee
BA - Whirlpool
D3 - AliveRock
DA - BlueRupee

24/14
11 - Hinox
22 - HoppingBulbPlant
33 - PullForRupees
41 - BlueSoldier
79 - Bee
AC - Apples
DA - BlueRupee (Must be placed in a tree)
D3 - AliveRock

25/14 ▸ **08** - Octorok
22 - HoppingBulbPlant
41 - BlueSoldier
55 - FireBallZora (Must be placed in water)
A8 - GreenAirBomber
A9 - BlueAirBomber
AA - LikeLike
BA - Whirlpool
D3 - AliveRock

27/18 ▸ **D5** - DiggingGameGuy

29/00 ▸ **1A** - BlackSmith(Frog) (The blacksmith's helper; you have to bring him to the blacksmith in the light world for them to make you a better sword)

38/14 ▸ **0E** - SnapDragon
11 - Hinox
22 - HoppingBulbPlant
33 - PullForRupees
E3 - Fairy
EB - HeartPie

03-17) OVERWORLD GFX SETS

00 ▸ Floors, Eye
01 ▸ Floors, Statue, Water Statue, Table
02 ▸ Floors, Throne Room GFX
03 ▸ Floors (Brick, wood etc..), Bookcase, Table
04 ▸ Floors, Chair, Fairy Statue
05 ▸ Floors, Dungeon objects, Canonball, One eyed Statue
06 ▸ Floors, 1/2 Magic Pedestral, Chair, Fairy Statue
07 ▸ Same as 5
08 ▸ Same as 1
09 ▸ Same as 1, Different Statue
10 ▸ Same as 1, Different Statue (Again)
11 ▸ Floors, Statue, Transparent objects
12 ▸ Floors, Wood Bridge, Statue, Title objects (Castle, forest etc..)
13 ▸ Floors, Statue, Title objects (LOZ Letters)
14 ▸ Floors, Ganon Triforce Statue, Wall Triforce, Stairs
15 ▸ Same as 3
16 ▸ Floors, Blacksmith inner objects
17 ▸ Same as 16
18 ▸ Same as 5
19 ▸ Same as 14, with wall hands
20 ▸ Same as 4
21 ▸ Same as 5
22 ▸ Same as 6
23 ▸ Same as 5

24 ▸ Floors, Tongue Statue, Water objects
25 ▸ Same as 9
26 ▸ Same as 1, Different Statue (Again2)
27 ▸ Floors, Wood Bridge, Tongue Statue, Transparent objects
28 ▸ Same as 12
29 ▸ Same as 13
30 ▸ Same as 19, ® Logo
31 ▸ Numbers, Hearts, Menu Items, Water Animations (!)
32 ▸ Kakariko Village
33 ▸ Lost Woods
34 ▸ Death Mountain
35 ▸ Same as 32
36 ▸ Hyrule Castle
37 ▸ Eastern Palace
38 ▸ Desert 1
39 ▸ Water Palace
40 ▸ Same as 32
41 ▸ Catedral
42 ▸ Same as 32
43 ▸ Desert 2
44 ▸ Same as 32
45 ▸ Same as 32
46 ▸ Same as 32
47 ▸ Master Sword Area
48 ▸ Same as 32
49 ▸ Same as 33
50 ▸ Same as 34
51 ▸ Same as 32
52 ▸ Same as 36
53 ▸ Same as 37
54 ▸ Same as 38
55 ▸ Same as 39
56 ▸ Same as 32
57 ▸ Same as 41
58 ▸ Same as 32
59 ▸ Pyramid (Dark World)
60 ▸ Turtle Palace (Dark World)
61 ▸ Monkey Palace (Dark World)
62 ▸ Lost Woods (Dark World)
63 ▸ Thiefs Village (Dark World)
64 ▸ Water Palace, Graveyard (Dark World)
65 ▸ Death Mountain (Dark World)
66 ▸ Swamp Palace (Dark World)
67 ▸ Same as 32
68 ▸ Same as 32
69 ▸ Same as 32
70 ▸ Same as 32
71 ▸ Same as 32

72 ▸ Same as 32
73 ▸ Same as 32
74 ▸ Same as 32
75 ▸ Same as 32
76 ▸ Same as 32
77 ▸ Same as 32
78 ▸ Same as 32
79 ▸ Same as 32

03-18) BLOCK LIST

000 ▸ Tree
001 ▸ Tree
002 ▸ Tree
003 ▸ Tree
004 ▸ Tree
005 ▸ Tree
006 ▸ Tree
007 ▸ Tree
008 ▸ Tree
009 ▸ Tree
010 ▸ Tree
011 ▸ Tree
012 ▸ Tree
013 ▸ Tree
014 ▸ Tree
015 ▸ Tree
016 ▸ Tree
017 ▸ Tree
018 ▸ Tree
019 ▸ Tree
020 ▸ Tree
021 ▸ Tree
022 ▸ Tree
023 ▸ Tree
024 ▸ Tree
025 ▸ Tree
026 ▸ Tree
027 ▸ Tree
028 ▸ Tree
029 ▸ Tree
030 ▸ Tree
031 ▸ Tree
032 ▸ Tree
033 ▸ Tree
034 ▸ Tree
035 ▸ Tree
036 ▸ Tree

037 ▸ Tree
038 ▸ Tree
039 ▸ Tree
040 ▸ Tree
041 ▸ Tree
042 ▸ Tree
043 ▸ Tree
044 ▸ Tree
045 ▸ Tree
046 ▸ Tree
047 ▸ Tree
048 ▸ Tree
049 ▸ Tree
050 ▸ Tree
051 ▸ Tree
052 ▸ Tree
053 ▸ Tree
054 ▸ Tree
055 ▸ Tree
056 ▸ Tree
057 ▸ Tree
058 ▸ Tree
059 ▸ Tree
060 ▸ Tree
061 ▸ Tree
062 ▸ Tree
063 ▸ Tree
064 ▸ Mountains
065 ▸ Mountains
066 ▸ Mountains
067 ▸ Mountains
068 ▸ Mountains
069 ▸ Mountains
070 ▸ Mountains
071 ▸ Mountains
072 ▸ Mountains
073 ▸ Mountains
074 ▸ Mountains
075 ▸ Mountains
076 ▸ Mountains
077 ▸ Mountains
078 ▸ Water side; Cliff side
079 ▸ Water side; Cliff side
080 ▸ Mountains
081 ▸ Mountains
082 ▸ Mountains
083 ▸ Mountains
084 ▸ Mountains

085 ▸ Mountains
086 ▸ Mountains
087 ▸ Mountains
088 ▸ Mountains
090 ▸ Mountains
091 ▸ Mountains
093 ▸ Mountains
094 ▸ Mountains
095 ▸ Mountains
096 ▸ Mountains
097 ▸ Mountains
098 ▸ Mountains
099 ▸ Mountains
100 ▸ Mountains
101 ▸ Mountains
102 ▸ Mountains
103 ▸ Mountains
104 ▸ Mountains
106 ▸ Road
107 ▸ Road
108 ▸ Road
109 ▸ Road
110 ▸ Mountains
111 ▸ Mountains
112 ▸ Mountains
113 ▸ Mountains
114 ▸ Mountains
115 ▸ Mountains
116 ▸ Mountains
117 ▸ Mountains
118 ▸ Mountains
119 ▸ Mountains
120 ▸ Mountains
122 ▸ Road
123 ▸ Road
124 ▸ Road
125 ▸ Road
126 ▸ Ladder
127 ▸ Ladder
139 ▸ Grass
140 ▸ Road
141 ▸ Road
142 ▸ Road
143 ▸ Road
156 ▸ Road
157 ▸ Road
158 ▸ Road
159 ▸ Road

171 ▸ Rocky
175 ▸ Mountain Shadow
186 ▸ Rocky
187 ▸ Rocky
192 ▸ House
193 ▸ House
194 ▸ House
195 ▸ House
196 ▸ House
197 ▸ House
199 ▸ House
200 ▸ House
201 ▸ House
202 ▸ House
203 ▸ Tree Stump
204 ▸ Tree Stump
205 ▸ House
206 ▸ House
207 ▸ House
208 ▸ House
209 ▸ House
210 ▸ House
211 ▸ House
212 ▸ House
213 ▸ House
214 ▸ Skull Statue
215 ▸ House
216 ▸ House
217 ▸ House
218 ▸ House
219 ▸ Tree Stump
220 ▸ Tree Stump
222 ▸ House Wood Roof
223 ▸ House Wood Roof
224 ▸ House
225 ▸ House
230 ▸ Skull Statue
233 ▸ House Door
234 ▸ House Door
235 ▸ Tree Stump
236 ▸ Tree Stump
237 ▸ Stone Ground
253 ▸ Stone Ground
238 ▸ House
246 ▸ Skull Statue
249 ▸ House Door
250 ▸ House Door
251 ▸ Tree Stump

252 ▸ Tree Stump
254 ▸ House Door
255 ▸ House Door
256 ▸ House
268 ▸ Forest Background
269 ▸ Forest Background
270 ▸ Forest Background
271 ▸ Forest Background
284 ▸ Forest Background
285 ▸ Forest Background
286 ▸ Forest Background
287 ▸ Forest Background
384 ▸ Grass Bush
400 ▸ Grass Bush

03-19) BLOCK TYPES

Please use caution while editing these, as sometimes changing some block types will result in changing other block types aswell, an hex editor is your friend in this case.*

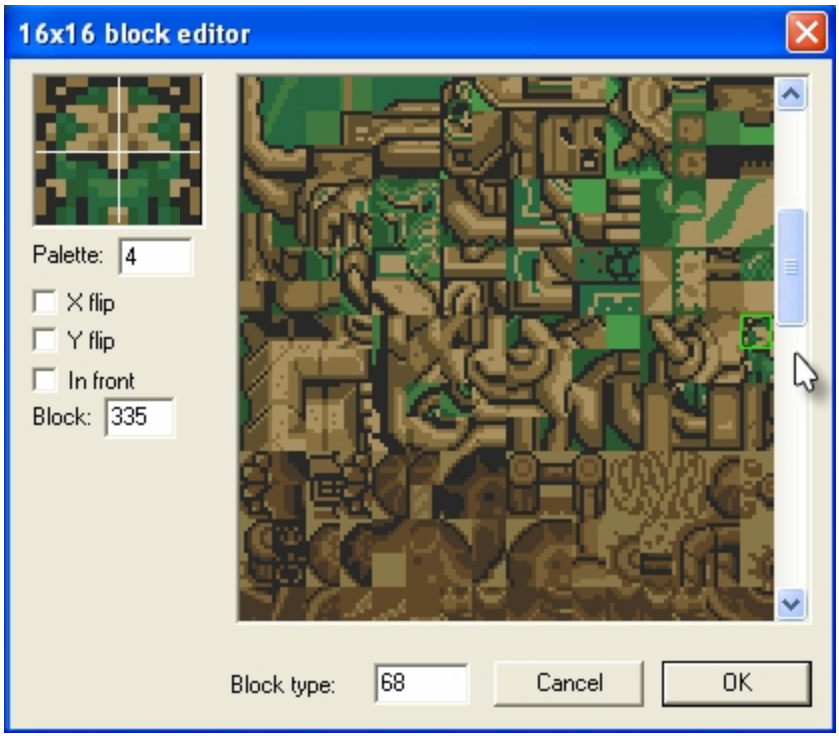
00 ▸ Can walk over or under it (Depending on the setting "In front" which is on or off).
01 ▸ Solid.
02 ▸ Solid.
03 ▸ Solid.
04 ▸ Walking in grass.
08 ▸ Fall into water (In water before fall; don't know which side).
09 ▸ Walking in shallow water (Used for the waterfall, Shallows).
32 ▸ Hole (Need hole to work or you'll fall in Chris Houlihan Room).
34 ▸ Stairs (Link walk slower on these).
39 ▸ Solid (Used for trees).
41 ▸ Fall from a cliff (Down or Above).
42 ▸ Fall from a cliff (Left side).
43 ▸ Fall from a cliff (Right Side).
64 ▸ Tall Grass.
68 ▸ Cactus (Hurts the player).
72 ▸ Animated Flowers.
75 ▸ Warps Tiles.
80 ▸ Grass Bush.
81 ▸ Grass Bush.
82 ▸ Small Rock Lvl 1(White).
83 ▸ Small Rock Lvl 2 (Black).
84 ▸ Signs (Can read these).
85 ▸ Big Rocks Lvl 1 (White).
86 ▸ Big Rocks Lvl 2 (Black).
87 ▸ The rocks you can break by running with your boots on them.

03-20) CUSTOM GFX INSERTING (USING HM)

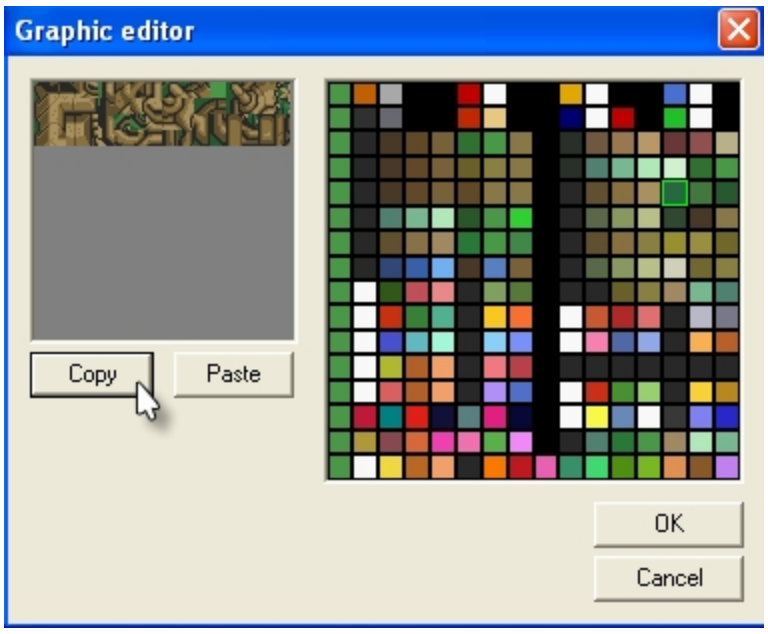
To change the GFX tiles across your overworld you need to do the following
(After having found the GFX tiles you want to use):

01 ▸ Open your rom.
02 ▸ Go to Overworld Editing.
03 ▸ Select the area containing the tiles you want to change.
04 ▸ When in that area, right click on the tile which contains the tiles you wanna modify. (In that exemple I'm going to change the desert trees for some bush).
05 ▸ Double-click on the tile you wanna change on the right rectangle.

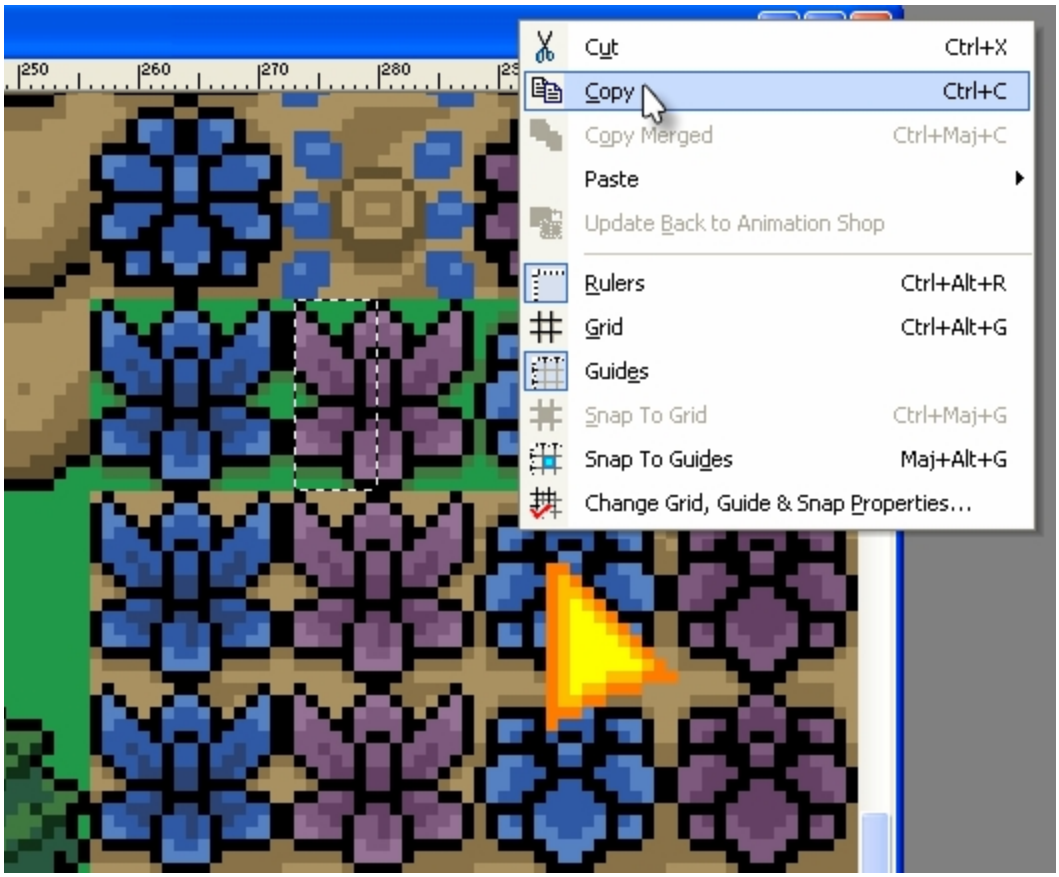
06 ▸ In the 16x16 block editor window, right click on the first tile of the 4x4 square and then double click on the same tile on the right rectangle.



07 ▸ In the graphics editor window, move through the palettes until you find the appropriate palette for your custom tile.



08 ▸ Press the copy button, and go in Paint Shop Pro.
09 ▸ Goto Edit and choose Paste As a new image.
10 ▸ Open the custom GFX tile you want to put in the game.
11 ▸ Copy the tile (Right click on the title bar, choose copy).



12 ▸ Paste the tile in your Zelda 3 sprite sheet (Right click on the title bar, choose Paste As a new selection)

13 ▸ Move the tile where you want it to be.

14 ▸ Unselect the file by right clicking anywhere in the picture.

15 ▸ Chose Copy in the right click context menu of the title bar.

16 ▸ Go back in HM and select Paste this time. Close everything/Save all progress and re-open the rom as sometimes it doesn't save. (HM is beeing evil)

17 ▸ If you followed this tutorial, you should come up with something like this:

03-21) LIGHT WORLD - OVERWORLD SPRITES


ARMOS BROWN

BEE


BULLY


BUSH CRAB


CRAB


CUCUMBER


CUKEMAN


FALLING ROCKS


FIREBALL ZORA


GELDMAN


HOPPING BULB PLANT


OCTOBLIMP


OCTOROK OR 4 WAY OCTOROK


POE/GHINI


RAVEN


SQUIRREL


TEKTITE


VULTURE


WALKING ZORA


ZORA KING

03-22) LIGHT WORLD - SOLDIER SPRITES


PALACE GUARD


BLUE SOLDIER


GREEN SOLDIER


RED SPEAR SOLDIER


GREEN SPEAR SOLDIER


BLUE ARCHER


GREEN GRASS ARCHER


BLUE KNIGHT


RED SPEAR KNIGHT


RED BOMB KNIGHT


MORNING STAR

03-23) DARK WORLD - OVERWORLD SPRITES


ALIVE ROCK


BLUE AIR BOMBER


BLUE SOLDIER


BULLY


FIREBALL ZORA


GREEN AIR BOMBER


HINOX


HOPPING BULB PALNT


LIKE LIKE


LYNEL


OCTOROK OR 4 WAY OCTOROK


PIG SPEAR MAN


POE/GHINI


RAVEN

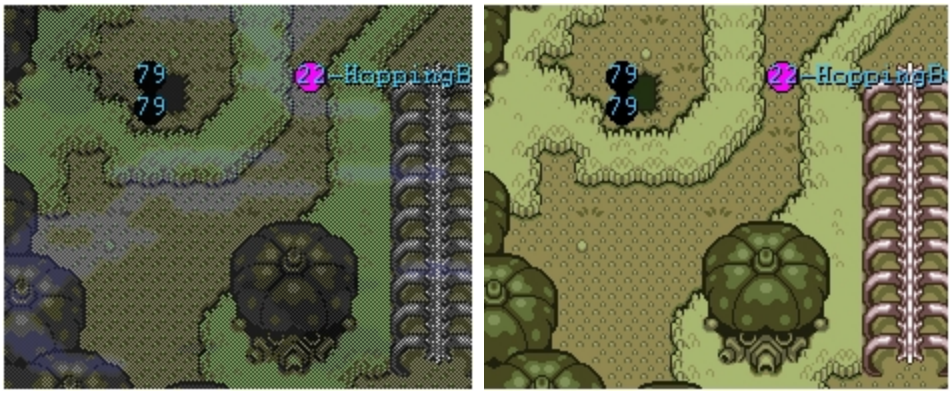

RED SOLDIER


SNAP DRAGON


SWAMP SNAKE

03-24) WARP SWITCH TOOL

Allows you to warp to the same overworld area between light/dark worlds.



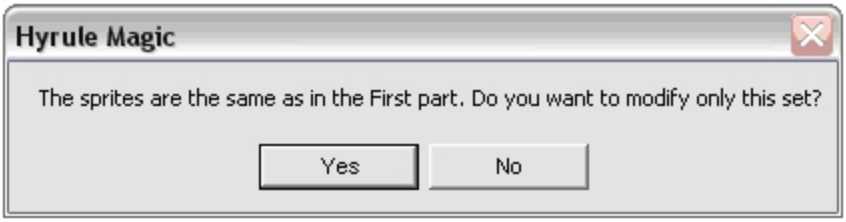
03-25) BACKGROUND TOOL

Gives you the choice the view the map with/without the background.

03-26) BEGINNING/FIRSTPART/SECONDPART TOOL

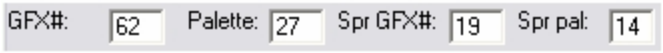
Each sprite set depends on events. For **Light world**, Beginning set shows the sprites as they are in the game before rescueing Zelda. First Part are before getting the Master Sword, and Second Part After getting the Master Sword (eg. You want put fake swords in your forest before getting the Master Sword; After getting it you can simply delete them by selecting the Second part set).

You will get the option:



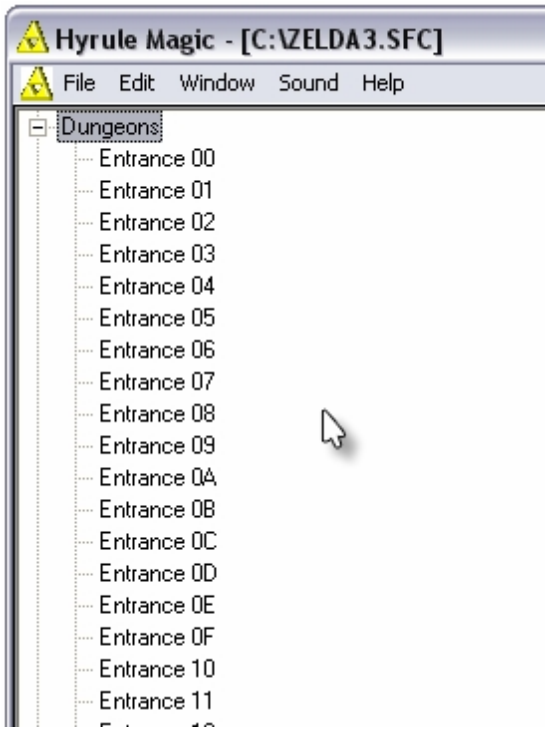
Choose yes to only modify this set. Otherwise, if you select No, this will result in modifying the First set again... we don't want that to happen, so just select Yes. For **Dark world**, there is only the First set available, thus choosing the second set, will not be available while playing the game.

Beginning: Shows the Beginning sprites set **(Before rescueing Zelda)**.
First part: Shows the First Part sprites set **(Before getting the Master sword)**.
Second part: Shows the Second Part sprites set**(After getting the Master sword)**.

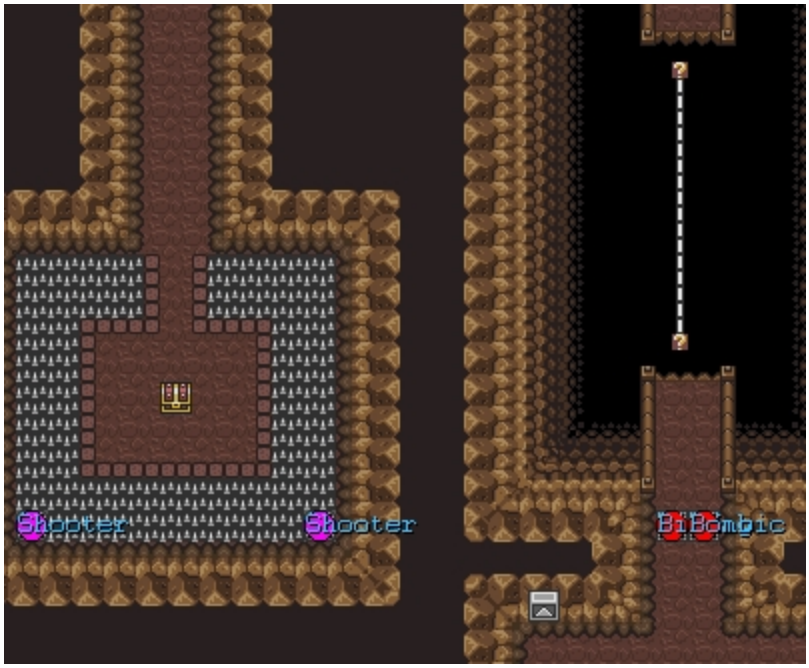


GFX#: Choose the GFX from 0 to 79 depending on whatever tile you want to use in certain areas.
Palette: Choose the Palette from 0 to 999 depending on what color you want your area to look.
Spr GFX#: Choose the Sprites GFX according to the monsters/objects surrounding the area.
Spr Pal: Choose the Sprites Pallete according to the monsters/objects surrounding the area.

PART 04: DUNGEON EDITING



Select an entrance number or starting location in the list to edit it. You can also edit overlays with this editor.



04-01) THE ROOM EDITOR WINDOW

This shows the currently edited room. A room can only be open in one window at a time. You can navigate through the rooms using the arrow buttons and the jump button. Click an object to select it and move it. Some objects can be resized by dragging its border. You can insert and remove objects with the right click button. You can't add more sprites than there already are in the game.The operation of the keyboard depends on the currently selected object.
Note: To add items, sprites, doors, blocks, torchs etc… you have to do right click, then add.

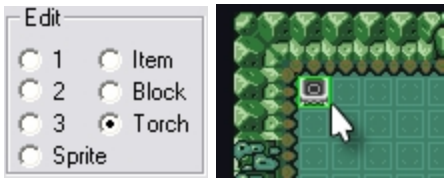
Edit 1 and Edit 2 (Backdrop):
Arrows: Move the object.
B: Moves the object towards the back.
V: Moves the object towards the front.
Ctrl+B: Moves the object to the very back.
Ctrl+V: Moves the object to the very front.
N, M, J, K: Change the object.
Comma, period: Change the size.
Hyphen: Toggles between objects 00-FF and 100-13F.
Plus, backslash: Change the contents of a chest.

Edit 3 (Doors):
Arrows: Move the door.
B: Moves the door towards the back.
V: Moves the door towards the front.
Ctrl+B: Moves the door to the very back.
Ctrl+V: Moves the door to the very front.
N, M, J, K: Change the door type.

Edit Sprite (Sprites):
Arrows: Move the sprite.
B: Moves the sprite towards the back.
V: Moves the sprite towards the front.
N, M, J, K: Change the sprite.
Comma, period: Change the parameter.
Hyphen: Change plane.

Edit Item (Items):
Arrows: Move the item.
N, M, J, K: Change the item.
Hyphen: Change plane.

Edit Blocks (Pushable Blocks):
Self-Explanatory.



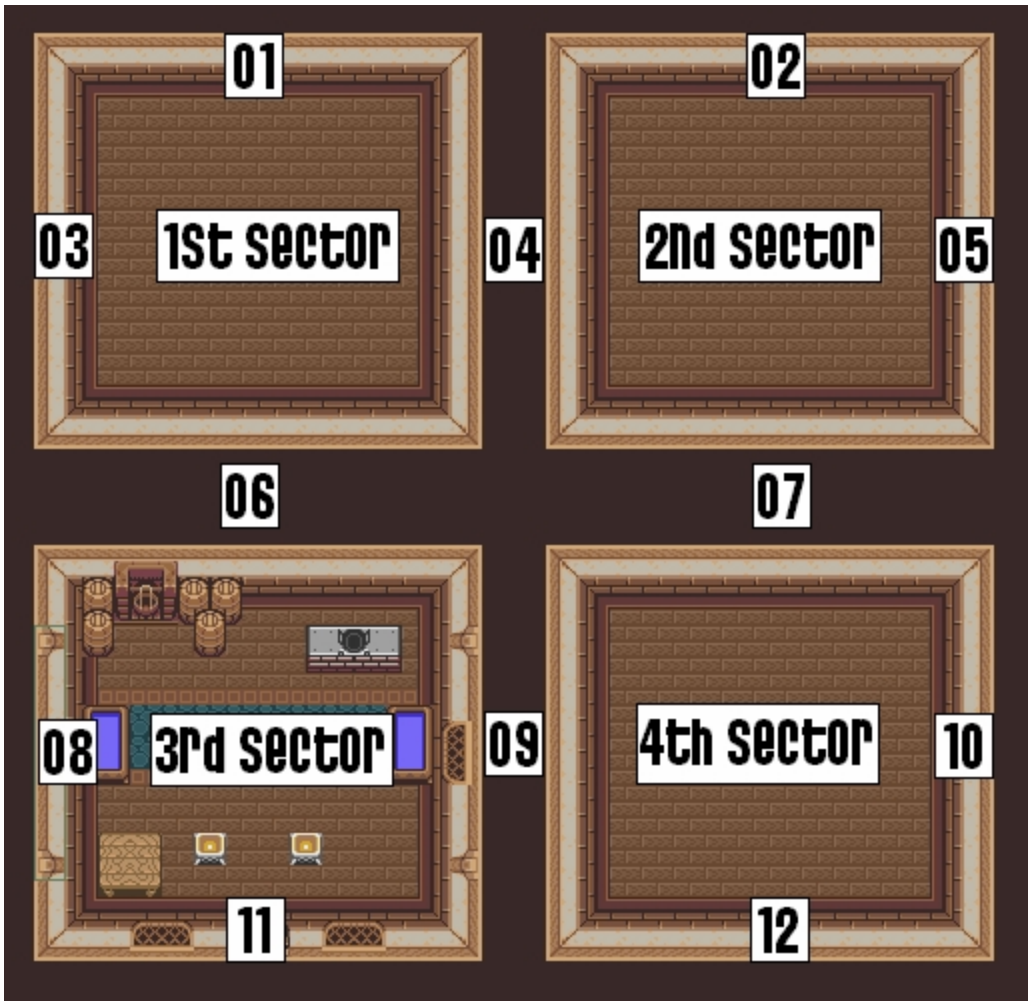
Edit Torch (Torchs are for dark areas or triggers):
Self-Explanatory

04-02) OBJECT INFORMATION

This shows the properties of the currently selected object. This depends on the type of object selected.

Edit 1 and Edit 2 (Backdrop):
Obj: Object number
X: X position
Y: Y position
Size: Object size

Edit 3 (Doors):
Dir: Direction
Type: Door type
Pos: Position



Doors can be placed at **12 different positions**:

01 ▸ Top - 1st sector.
02 ▸ Top - 2nd sector.
03 ▸ Left - 1st sector.
04 ▸ Middle - Between 1st/2nd sectors.
05 ▸ Right - 2nd sector.
06 ▸ Middle - Between 1st/3rd sectors.
07 ▸ Middle - Between 2nd/4th sectors.
08 ▸ Left - 3rd sector.
09 ▸ Middle - Between 3rd/4th sectors.
10 ▸ Right - 4th sector.
11 ▸ Bottom - 3rd sector.
12 ▸ Bottom - 4th sector.

Edit Sprite (Sprites):
Spr: Sprite number.
X: X position.
Y: Y position.
BG: Background 1 or 2.
P: Additional parameter for some enemies.
Note: When it's set to 7, it designates a control sprite.

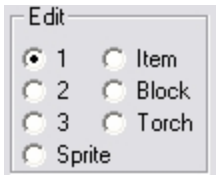
Edit Item (Items):
Item: Item number.
X: X position.
Y: Y position.
BG: Background 1 or 2.

Edit Block (Pushable Blocks):
X: X position.
Y: Y position.
BG: Background 1 or 2.

Edit Torch (Torchs for Dark Areas):
X: X position.
Y: Y position.
BG: Background 1 or 2.
P: The usage of this field is unknown.

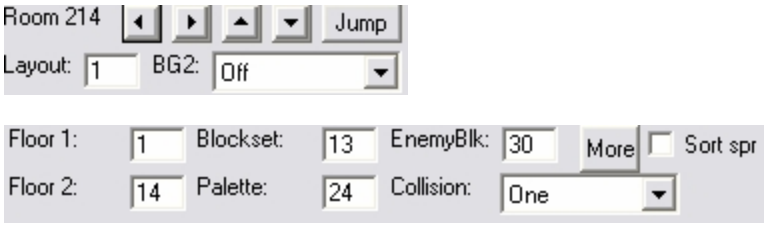
04-03) DISPLAY OPTIONS

Press the Frm button to show the next animation frame of the animated tiles. You can enable/disable display of BG1, BG2 and Spr (Background 1, Background 2 and Sprites).



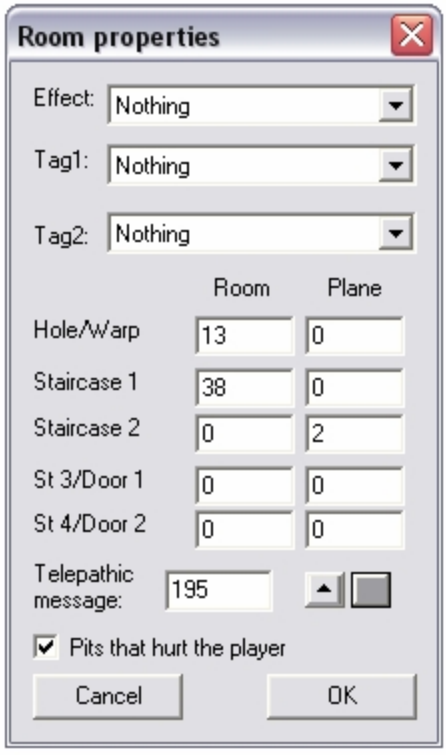
04-04) EDIT OPTIONS

This selects an object type to be edited. 1, 2 and 3 refer to the three backdrop chunks in the room. Chunk 1 is painted on background 1, chunk 2 is painted on background 2 and chunk 3 is painted over background 1.



04-05) ROOM INFORMATION AND PROPERTIES

The current room number is shown in the upper left corner. You can change the floor used on both layers. You can also change the room template. There are **8 room templates** to choose from. In the **BG2** menu you can change how background 2 is drawn. In the collision menu, select One to use only the plane that the player is on for collision. Select Both to include both planes in the collision. If the room uses parallaxing, select **Both w/scroll** to make the player collide with background 2 in the moved position. You can also change the color effect, set up to 2 special properties for the room and change the message on the triangle tile by pressing the More button. If **Sort spr** is checked, sprites that are in the foreground will be displayed on top of sprites that are in the background.

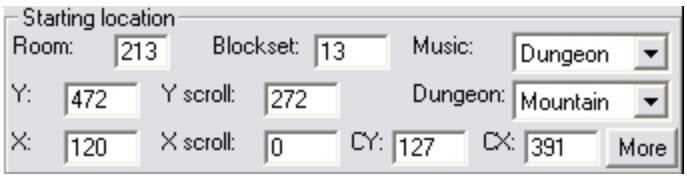


Hole/Warp: Directs the holes or warp tiles. When you fall through a floor or warp to another room it will always be in the exact place in the new room as you left in the old.

Staircase 1, Staircase 2: Self-Explanatory (**1** = right staircase, **2** = left staircase)

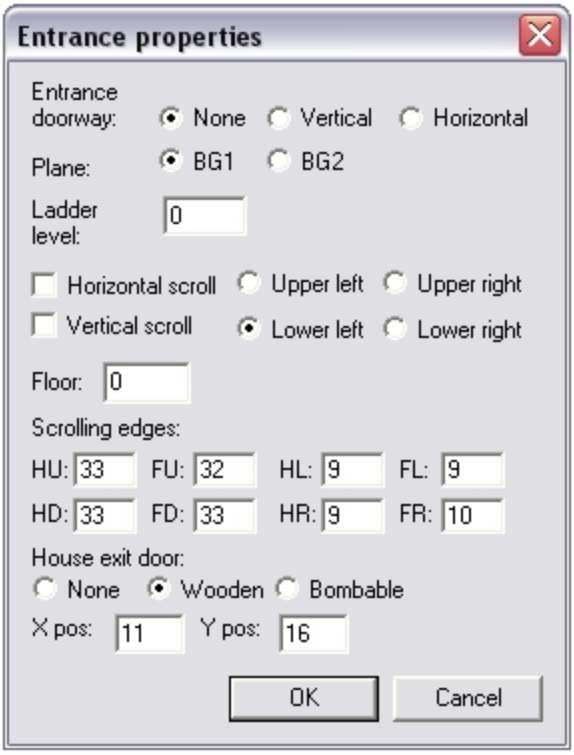
Plane 0 is used for layer 1, plane 1 is for layer 2 and plane 2 is for layer 3..I think this might relate to what layer you placed your doors/stairs.

Door 1, Door 2: Are used for special doors that warp you to a new room (door 0A1 - shown under this text - or door 077). These doors still work normally as your normal dungeon doors but they direct your movement to a new room elsewhere in the ROM. Means you can extend dungeons past their initial area boundaries.



04-06) STARTING ROOM AND POSITION

X and Y refers to the player's starting position. X scroll and Y scroll are the coordinates of the upper left corner of the screen as the player enters. CX and CY specify the centre used for scrolling and should be set to X scroll+128 and Y scroll+112 respectively. In the music list you can choose the music in the dungeon, which must be in music bank 2. You can also select the dungeon that is entered. Each dungeon has its unique map and dungeon items.



04-07) ENTRANCE PROPERTIES

In that window, you first have the Entrance doorway (Usually horizontal, because you always enter from the bottom; none for some cases like holes).

Plane: Self-Explanatory. In other words which plane will Link enter the room in.
Exemple: That Tower dungeon in the Light World you enter in is **BG2**).

Horizontal scroll and **vertical scroll:** Very important settings. These enables some rooms to scroll or else you will be running off the screen. Those are most of the reasons why people's entrance rooms don't scroll properly. The only entrance which refuses to work without some HEX work is entrance **1B**.

Floor: No idea about this setting.

Scrolling Edges : Contains which things to move, and doesn't need to be modified when you're hacking normally.

House Exit door : For rooms 0 - 256 this setting is useless (Because the use of Exits), but for rooms 257+ this determines where to place the exit door ***(Thus you see some places when you come out of a room, the door exit appears somewhere weird, this is the place to change them)***. It may sounds easy, well there's a catch, HM won't save the values. Whenever you change them and save, when you come back they are as ***Default***.

To fix them, you have to know a bit of HEX and how it relates to the rom.
The offset is **0x15924** for door location and the data goes like this:

At **0x15924**
Exemple: **08 16** (lil endian) **- Entrance 00** (2 bytes)

----yyyy y-xxxxx-

y and **x** represents the positions in bits, and you'll use the same positions as you would if you put an exit there. **-** means <Unknown/Unused>.

So for the Magic Shop you'll have to add that (**Entrance number * 2**) to **0x15924** and you should have that position.

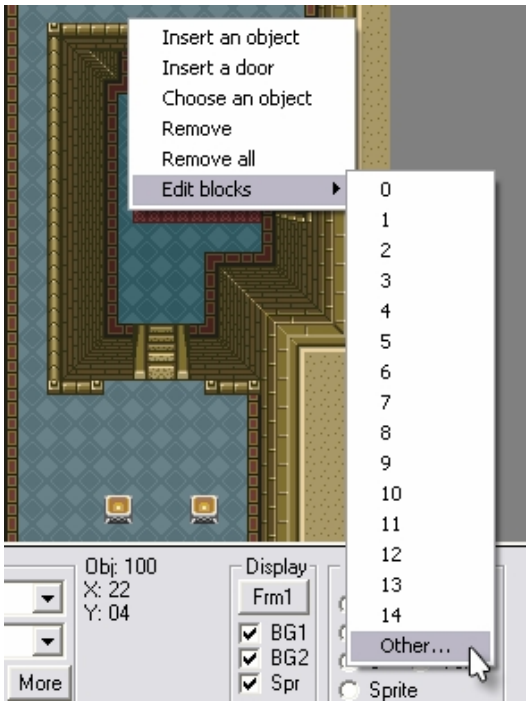
Different dungeons use different blocksets (Not the top one, the bottom one determines which GFX set to load into the rom when you enter through this entrance), if you had all your dungeons in the same blockset, you can join them up without much problems (just make sure the palettes are right).

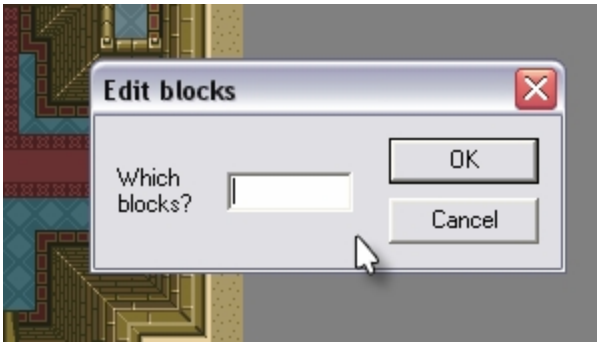
0x15581 is the offset of the data in the rom (**02: D381**), I guess you'll want to locate the routine which loads this number? Well it's about here in the rom.

02/DA74: BD 81 D3 LDA $D381,X (this loads **02: D381**, **X** which is probably what you'd expect, unless there's another place).

Here's how to change them in HEX: At offset **0x15581** is **Entrance 01**, **0x15582** is **Entrance 2** and so on. You'll get it eventually as it's really easy.

Exemple: If you want to say find the offset for say **Entrance 7B**, all you need to do is take the windows calculator, change it to HEX mode and do **7B + 15581** and you'll have your offset.





04-08) GRAPHICS EDITOR:

Within dungeon editor you can right click and select "Edit Blocks" and then you can select from the drop down menu "Other". This will give you a box that you can put in any number between 000 and 219. Those numbers are the block numbers for the GFX of the dungeon maps. Then you can edit them.

04-09) DUNGEON GFX# LIST:

000 ▸ Doors, Staircases etc..
001 ▸ Inner 1
002 ▸ Inner 2
003 ▸ Floors
004 ▸ Dungeon 1
005 ▸ Ganon Tower 1
006 ▸ Triforce Temple
007 ▸ Dungeon 2

008 ▸ Keys, Items etc..
009 ▸ Soldier 1, Beamer
010 ▸ Soldier 2
011 ▸ Witch, Flute Boy (Dark World Form), Oldman etc..
012 ▸ Enemies 1
013 ▸ Special Effects, Fire, Explosions 1
014 ▸ Piece of Heart, Fairy, Whirlpool
015 ▸ Dungeon 3
016 ▸ Inner 3
017 ▸ Inner/Dungeon
018 ▸ Cavern Wall Pieces
019 ▸ Inner 4
020 ▸ Ganon Tower 2
021 ▸ Ganon Tower 3
022 ▸ Title Screen 1
023 ▸ Title Screen 2, Ganon Tower 4
024 ▸ Aghanim's Bed
025 ▸ Dungeon 4
026 ▸ Dungeon 5
027 ▸ Dungeon 6, Table
028 ▸ Inner 5
030 ▸ Ice 1
031 ▸ Hyrule Castle Throne Room
032 ▸ Dungeon 7
033 ▸ Fairy Pond
034 ▸ Dungeon 8
035 ▸ Inner 6
036 ▸ Dungeon 9
037 ▸ Skeleton Dungeon
038 ▸ Dungeon 10
039 ▸ Dungeon 11
040 ▸ Dungeon 12
041 ▸ Ice Boss, Dungeon Tiles
042 ▸ Ganon Tower 5
043 ▸ Tiles
044 ▸ Temple 1 Tiles
045 ▸ Forest Temple 1 (Dark World)
046 ▸ Forest Temple 2 (Dark World)
047 ▸ Thieves Village (Dark World), Chest
048 ▸ Outside
049 ▸ Swamps 1
050 ▸ Swamps 2
051 ▸ Ganon Tower 6
052 ▸ Ganon Tower 7
053 ▸ ??? - Unknown
054 ▸ Pyramid Background (Dark World)
055 ▸ Mountain 1
056 ▸ Water Temple (Dark World)

057 ▸ Floors
058 ▸ Mountain 2
059 ▸ Mountain 3
060 ▸ Mountain 4
061 ▸ House
062 ▸ Outside 1
063 ▸ Outside 2
064 ▸ Title Screen 3
065 ▸ Title Screen 4
066 ▸ Tree (Dark World)
067 ▸ Mountain (Dark World)
068 ▸ Outside 3
069 ▸ Outside 4
070 ▸ Triforce Ending Screen
071 ▸ MasterSword Place
072 ▸ Lost Woods 1
073 ▸ Hyrule Castle 1
074 ▸ Outside East Palace
075 ▸ Sanctuary 1
076 ▸ Lost Woods 2
077 ▸ Outside Kakariko Village
078 ▸ Water Temple (Light World)
079 ▸ Mountain 5
080 ▸ Sanctuary 2, Potion Hut
081 ▸ Hyrule Castle 2
082 ▸ Hyrule Castle 3
083 ▸ Bird Shrine In Kakariko Village
084 ▸ Desert Temple 1
085 ▸ Desert Temple 2
086 ▸ Mountain 6
087 ▸ Lost Woods 3
088 ▸ Mountain Clouds 1
089 ▸ Mountain Clouds 2
090 ▸ Swamps 3, Jump Steps
091 ▸ Swamps 4, Jump Steps
092 ▸ Floors
093 ▸ Dungeon Water
094 ▸ Ice Floors
095 ▸ Mountain Clouds 3
096 ▸ Turtle Rock (Dark World)
097 ▸ ---
098 ▸ ---
099 ▸ ---
100 ▸ ---
101 ▸ ---
102 ▸ ---
103 ▸ ---
104 ▸ ---

105 ---
106 ---
107 ---
108 ---
109 ---
110 ---
111 ---
112 ---
113 ---
114 ---
115 Weapons
116 Items, Objects
117 Agahnim Thunder
118 Special Effects, Fire, Explosions 2
119 Thunder
120 Game Over, Fairy, Crystal
121 Special Effects, Fire, Explosions 3
122 Piece of Heart, Fairy, Apple
123 Nintendo Presents
124 Special Effects, Thunder
125 Items (Light World)
126 Items (Dark World)
127 Zora, Whirlpools
128 Blue Soldier (Dark World)
129 Thief, Gravestone
130 Fake Tree
131 Big Stone, Enemies
132 Forest Enemies
133 Sand Enemies
134 Knight
135 Sphinx, Bully And Whimp (Dark World Mountain)
136 Enemies 1 (Dark World)
137 Enemies 2 (Dark World)
138 Enemies 3 (Dark World)
139 Zoras (Dark World)
140 Enemies 4 (Dark World)
141 Dead Aghanim
142 Enemies 5 (Dark World)
143 Enemies 6 (Dark World)
144 Electric Barrier, Boss #1
145 Enemies 7 (Dark World)
146 Enemies 8 (Dark World)
147 Enemies 9 (Dark World)
148 Ganon 1
149 Enemies 10 (Dark World)
150 Enemies 11 (Dark World)
151 Enemies 12 (Dark World)
152 Enemies 13 (Dark World)

153 ▸ Enemies 14 (Dark World)
154 ▸ Enemies 15 (Dark World)
155 ▸ Enemies 16 (Dark World)
156 ▸ Enemies 17 (Dark World)
157 ▸ Enemies 18 (Dark World)
158 ▸ ---
159 ▸ Enemies 1 (Dark & Light Worlds)
160 ▸ The End Message, Guy
161 ▸ Enemies 1 (Light World)
162 ▸ Enemies 2 (Light World)
163 ▸ Boss #3, Mouldrum
164 ▸ Boss #2, Lanmolas
165 ▸ Title Screen Master Sword
166 ▸ Ganon 2
167 ▸ People
168 ▸ Ending Sequence People (King, Guards, Zelda...)
169 ▸ Girl, Curtains, Sword
170 ▸ Guy Under The Bridge
171 ▸ Dark Boss #3, Mothula
172 ▸ Dark Boss #2, Big Fairy
173 ▸ Dark Boss #1
174 ▸ Dark Boss #4
175 ▸ Dark Boss #5
176 ▸ Dark Boss #6
177 ▸ Dark Boss #7 1
178 ▸ Dark Boss #7 2
179 ▸ Dark Boss #7 3
180 ▸ Ganon 3
181 ▸ Agahnim 1
182 ▸ Agahnim 2
183 ▸ King Zora
184 ▸ Ganon 4
185 ▸ Red Soldier, Cannon
186 ▸ Priest
187 ▸ Soldier 1, Beamer (Same as **009**)
188 ▸ Red/Blue Soldier
189 ▸ People
190 ▸ Shop Owners
191 ▸ Witch, Flute Boy (Dark World Form), Oldman etc.. (Same as **011**)
192 ▸ People
193 ▸ Animals
194 ▸ Town Folks
195 ▸ Town Folks 2, Chicken etc..
196 ▸ Link's Uncle, Sword, Sick-Bugcatcher Boy
197 ▸ Objects 1
198 ▸ Objects 2
199 ▸ Moveable Block Falldown
200 ▸ Agahnim, Girl

201 ▸ Dungeon Map 1
202 ▸ Dungeon Map 2
203 ▸ Warp Bird, Moveable Chest etc..
204 ▸ Town Folks
205 ▸ Item Screen 1
206 ▸ Item Screen 2
207 ▸ Item Screen 3, Contest Rupees
208 ▸ Moveable Wall, Dead King, Chest, Head?
209 ▸ Sword Slash Effect, Fairy
210 ▸ ZZzz..., Shields, Books
211 ▸ Rupee, Bug-catching Net Effect, Staff
212 ▸ Dungeon Map 3
213 ▸ Dungeon Map 4
214 ▸ Dungeon Map 5
215 ▸ Zelda
216 ▸ Girl, OldMan
217 ▸ Sword Smith, Blacksmith Partner (Frog Form)
218 ▸ Intro Sequence Graphics (Compressed in 2bpp)
219 ▸ Intro Sequence Graphics (Compressed in 2bpp)

▸ To edit the last two (**218**-**219**), you need to open them up in a TileEditor, but first you need to decompress the graphics using **Lunar Compress**:

In the command line, type: **decomp zelda3.smc spr103.bin c29ba 0 0**

«**zelda3.smc**» has to be your rom and it has to have a **$200 byte header**.
It's already added in the adress for you, the calculator that ships with windows is fine for that.

«**spr103.bin**» will contain the decompressed graphics in **3bpp** SNES tile format.
You'll have to use a tile editor **other then YY-CHR** from here, since it doesn't support **3bpp**.

Finally, when you're done with the editing process, here's the command line to reinsert them into the rom, type: **recomp spr103.bin zelda3.smc c29ba 0 0**.

Here's what the untouched GFX tiles 218-219 look like :

Remember, to copy them in an image editor like Jasc Paint Shop Pro or the GIMP, because MSPaint will corrupt the colors, thus you will be losing quality in your graphics and won't be able to paste them back in the editor.*

04-10) ENTRANCES/EXITS AND HEX VALUES LIST:

FORMAT = ENTRANCE#:HEX OFFSET:EXIT# DESCRIPTION

The HEX Offsets will work on a headered rom only. If you don't have a header to it, add 0x200 to the numbers.*

00:15581:0003 Link's House (Beginning)
01:15582:0104 Link's House (After Beginning)
02:15583:0012 Sanctuary
03:15584:0060 Beginning Dungeon (Hyrule Palace ~ Left Entrance)
04:15585:0061 Beginning Dungeon (Hyrule Palace ~ Main Entrance)
05:15586:0062 Beginning Dungeon (Hyrule Palace ~ Right Entrance)
06:15587:00F0 Cavern (Heading towards Death Mountain)
07:15588:00F1 Death Mountain Arrival (From Hyrule Field)
08:15589:00C9 1st LightWorld Dungeon (East Palace)
09:1558A:0084 2nd LightWorld Dungeon (Desert Palace ~ Main Entrance)
0A:1558B:0085 2nd LightWorld Dungeon (Desert Palace ~ Right Entrance)
0B:1558C:0083 2nd LightWorld Dungeon (Desert Palace ~ Left Entrance)
0C:1558D:0063 2nd LightWorld Dungeon (Desert Palace ~ Boss Entrance)
0D:1558E:00F2 Elder's House (Kakariko Village ~ Left Entrance)
0E:1558F:00F3 Elder's House (Kakariko Village ~ Right Entrance)
0F:15590:00F4 Angry Brothers House (Kakariko Village ~ Left Entrance)
10:15591:00F5 Angry Brothers House (Kakariko Village ~ Right Entrance)
11:15592:00E3 Cavern
12:15593:00E2 Cavern (Right of the Lost Woods)
13:15594:00F8 Cavern (Dark World Death Mountain)
14:15595:00E8 Cavern (Dark World Death Mountain)
15:15596:0023 Cavern (Dark World Death Mountain)
16:15597:00FB Cavern (Dark World)
17:15598:00EB Cavern (Dark World)
18:15599:00D5 Cavern (Dark World Death Mountain)
19:1559A:0024 Dungeon Cavern (Dark World Death Mountain)
1A:1559B:00FD Cavern (Light World Death Mountain)
1B:1559C:00ED Cavern (Light World Death Mountain)
1C:1559D:00FE Cavern (Light World Death Mountain)
1D:1559E:00EE Cavern (Light World Death Mountain)
1E:1559F:00FF Cavern (Light World Death Mountain)
1F:155A0:00EF Cavern (Light World Death Mountain)
20:155A1:00DF Cavern (Light World Death Mountain)
21:155A2:00F9 Cavern (Light World Death Mountain)
22:155A3:00FA Cavern (Light World Death Mountain)
23:155A4:00EA Cavern (Light World Death Mountain)
24:155A5:00E0 Hyrule Palace (Aghanim's Tower)
25:155A6:0028 Water Palace (Dark World Dungeon)

26:155A7:004A ‣ Monkey Palace (Dark World Dungeon)
27:155A8:0098 ‣ Swamps Palace (Dark World Dungeon)
28:155A9:0056 ‣ Lost Woods (Dark World Dungeon ~ Entrance 1)
29:155AA:0057 ‣ Lost Woods (Dark World Dungeon ~ Entrance 2)
2A:155AB:0058 ‣ Lost Woods (Dark World Dungeon ~ Entrance 3)
2B:155AC:0059 ‣ Lost Woods (Dark World Dungeon ~ Boss Entrance)
2C:155AD:00E1 ‣ Thiefs Hideout (Light World Lost Woods)
2D:155AE:000E ‣ Ice Palace (Dark World Dungeon)
2E:155AF:00E6 ‣ Cavern (Light World Death Mountain)
2F:155B0:00E7 ‣ Cavern (Light World Death Mountain)
30:155B1:00E4 ‣ Cavern (Light World Death Mountain)
31:155B2:00E5 ‣ Cavern (Light World Death Mountain)
32:155B3:0055 ‣ Hyrule Palace Secret Underway Passage
33:155B4:0077 ‣ Agahnim's Tower (3rd Light World Dungeon)
34:155B5:00DB ‣ Thiefs Village (Dark World Dungeon)
35:155B6:00D6 ‣ Turtle Palace (Dark World Dungeon)
36:155B7:0010 ‣ Pyramid Entrance (Dark World)
37:155B8:000C ‣ Ganon's Tower (Dark World Dungeon)
38:155B9:0008 ‣ Fairy Cavern
39:155BA:002F ‣ Cavern (Kakariko Village)
3A:155BB:003C ‣ Cavern Stairs (Dark World Death Mountain)
3B:155BC:002C ‣ Cavern Stairs (Dark World Death Mountain)
3C:155BD:------- ‣ Shopman (Light World Lost Woods)
3D:155BE:------- ‣ Shopman (Death Mountain)
3E:155BF:------- ‣ Kakariko Village House
3F:155C0:------- ‣ Kakariko Village House
40:155C1:------- ‣ Kakariko Village House (Sick Boy)
41:155C2:------- ‣ Blue Cane Cavern (Dark World Death Mountain)
42:155C3:------- ‣ Kakariko Village House (Tavern Main Entrance)
43:155C4:------- ‣ Kakariko Village House (Tavern Backdoor)
44:155C5:------- ‣ Kakariko Village House (Hedge Man)
45:155C6:------- ‣ Sahasrasla House (East Palace Area)
46:155C7:------- ‣ Kakariko Village House (Farm Boy)
47:155C8:------- ‣ Shopman (Dark World Chest Game)
48:155C9:------- ‣ Thiefs Village House (Dark World Secret House with 300 Rupees)
49:155CA:------- ‣ Library (South of Kakariko Village)
4A:155CB:------- ‣ Kakariko Village House (Secret Storage)
4B:155CC:------- ‣ Kakariko Village House (Chickens House)
4C:155CD:------- ‣ Shopman (Potions Hut)
4D:155CE:------- ‣ Desert Elder Cavern
4E:155CF:------- ‣ Water Palace Switch (Light World)
4F:155D0:------- ‣ Chest Cavern (Light world Death Mountain)
50:155D1:------- ‣ Fairies Cavern
51:155D2:------- ‣ Cavern (Piece of Heart 1)
52:155D3:------- ‣ Cavern (Piece of Heart 2)
53:155D4:------- ‣ Bomb Shop where you get the Red Bomb (Dark World)
54:155D5:------- ‣ Thiefs Village House
55:155D6:------- ‣ Shopman (Death Mountain)

56:155D7:------- ‣ Icerod Cavern 1
57:155D8:------- ‣ Shopman (Three Items)
58:155D9:------- ‣ Shopman (Dark world Death Mountain)
59:155DA:------- ‣ Shopman (Dark World Archer Game)
5A:155DB:------- ‣ Cavern where The Sanctuary was before (Dark world)
5B:155DC:------- ‣ Cape Cavern (Under A Grave)
5C:155DD:------- ‣ Waterfall Pond (Before entering Zoras Domain)
5D:155DE:------- ‣ Fairy Pond (Lake Hylia Isle)
5E:155DF:------- ‣ Fairy Place (Full Health Recovery)
5F:155E0:------- ‣ Dungeon/Cavern (Piece of Heart)
60:155E1:------- ‣ Shopman (Three Items)
61:155E2:------- ‣ Kakariko Village House (Thiefs Hideout)
62:155E3:------- ‣ Cavern
63:155E4:------- ‣ Fat Fairy Pond (Dark World Pyramid)
64:155E5:------- ‣ Blacksmith (Right of Kakariko Village)
65:155E6:------- ‣ Fortune Teller 1
66:155E7:------- ‣ Fortune Teller 2
67:155E8:------- ‣ Shopman (Three Items)
68:155E9:------- ‣ Monkey Palace Area Small Temple
69:155EA:------- ‣ Cavern
6A:155EB:------- ‣ Cavern
6B:155EC:------- ‣ Lumberjacks House
6C:155ED:------- ‣ Cavern
6D:155EE:------- ‣ Rupiees Cavern (Before Entering The Desert)
6E:155EF:------- ‣ Cavern (Piece of Heart)
6F:155F0:------- ‣ Cavern
70:155F1:------- ‣ Shopman (Cavern)
71:155F2:------- ‣ Fairies Cavern
72:155F3:------- ‣ Cavern (Piece of Heart)

//EVENT ENTRANCES *MUST KEEP THESE AREAS THE SAME*
73:155F4:------- ‣ Hyrule Palace - Zelda's Cell Area
74:155F5:------- ‣ Hyrule Palace - Throne Room
75:155F6:------- ‣ Hyrule Palace - Aghanim's Bed (Where he sends the descendants)
//END

76:155F7:------- ‣ Lost Woods Palace (Dark World ~ Main Entrance)
77:155F8:------- ‣ Lost Woods Palace (Dark World ~ Hole 1)
78:155F9:------- ‣ Lost Woods Palace (Dark World ~ Hole 2)
79:155FA:------- ‣ Lost Woods Palace (Dark World ~ Other Entrance)
7A:155FB:------- ‣ Cavern

//EVENT ENTRANCE *MUST KEEP THAT AREA THE SAME*
7B:155FC:------- ‣ Ganon's Final Battle in The Pyramid (Hole)
//END

7C:155FD:------- ‣ Cavern (Hole)
7D:155FE:------- ‣ Hyrule Palace Secret Underway Passage (Hole)
7E:155FF:------- ‣ Cavern (Hole)

7F:15600:------- ▸ Fairies Cavern (Hole)
80:15601:------- ▸ Cavern (Hole)
81:15602:------- ▸ Hyrule Palace Underground Sewers
82:15603:------- ▸ Chris Houlihan's Room
83:15604:------- ▸ Cavern Stairs (Dark World Death Mountain)
84:15605:------- ▸ Ice Rod Cavern 2

Starting Location 00:15E08 ▸ Link's House
Starting Location 01:15E09 ▸ Sanctuary
Starting Location 02:15E0A ▸ Hyrule Palace - Zelda's Cell Area
Starting Location 03:15E0B ▸ Hyrule Palace - Secret Underway
Starting Location 04:15E0C ▸ Hyrule Palace - Throne Room
Starting Location 05:15E0D ▸ Old Man Cavern (Light World Death Mountain)
Starting Location 06:15E0E ▸ Old Man Cavern (Light World Death Mountain)

Overlay 00 ▸ Holes 01
Overlay 01 ▸ Holes 02
Overlay 02 ▸ Holes 03
Overlay 03 ▸ Holes 04
Overlay 04 ▸ Holes 05
Overlay 05 ▸ Holes 06
Overlay 06 ▸ Holes 07
Overlay 07 ▸ Holes 08
Overlay 08 ▸ Holes 09
Overlay 09 ▸ Holes 10
Overlay 0A ▸ Holes 11
Overlay 0B ▸ Holes 12
Overlay 0C ▸ Holes 13
Overlay 0D ▸ Holes 14
Overlay 0E ▸ Holes 15
Overlay 0F ▸ Holes 16
Overlay 10 ▸ Holes 17
Overlay 11 ▸ Holes 18
Overlay 12 ▸ Holes 19

Layout 00 ▸ 4 Squares
Layout 01 ▸ 2 Vertical Rectangles
Layout 02 ▸ 2 Squares + 1 Vertical Rectangle
Layout 03 ▸ 2 Squares + 1 Vertical Rectangle (Inversed)
Layout 04 ▸ 2 Rectangles
Layout 05 ▸ 2 Squares + 1 Horizontal Rectangle
Layout 06 ▸ 2 Squares + 1 Horizontal Rectangle (Inversed)
Layout 07 ▸ 1 Big Square

Watergate Overlay ▸ Water Palace Switch (Water Overlay)

04-11) DUNGEONS SPRITES BLOCKSETS + PALETTES

FORMAT = BLOCKSET#:PALETTE# ▸ SPRITES

01/01 ▸
Keese
Rat
Rope

01/02 ▸
Rat
DashItem (Book of Mudora)

01/07 ▸
Keese
OldMan

02/00 ▸
Rat

03/00 ▸
BlueSoldier
Mantle

04/00 ▸
BlueSoldier
GreenSoldier
Knight

04/01 ▸
BlueSoldier
GreenSoldier
Key
MorningStar
Zelda

05/02 ▸
OldWoman

05/05 ▸
ShopMan,
Shopman2 (Potion Hut)

05/07 ▸
Person?Rm270
ShopMan

05/28 ▸
Person?Rm270

05/30 ▸
ArcherGame
BlackSmith(Frog)
FortuneTeller

05/31 ▸
ShopMan
BombShop

06/29 ▸
BombDrop
Priest/Uncle (Uncle)
PullSwitch
Rat

TrapSwitch
Zelda

07/07
BigFairy
Fairy
Person?Rm270
Pond

08/07
HeartPie

08/10
BombDrop
Bubble
PullSwitch
TrapSwitch

08/11
Bubble
CannonBalls
CannonRoom
Fairy
GreenRocklops
Key
RedRocklops
Stalfos
StalfosAppear
StalfosDrop
Tentacle
Tentacle2

08/15
ArrowTarget
BlueMiri
Bubble
GreenRocklops
PegSwitch
RedMiri
RedRocklops
SpikeBlock

08/39
GreenRocklops
Fairy

09/11
?ArmosKnight? (Boss)
ArmosKnight (x6=Boss)

09/26
?ArmosKnight? (Boss)
ArmosKnight (x6=Boss)
Fairy

09/32
Person?11,227

10/04
Beamos
Tentacle
Tentacle2

10/09
Beamos

Cannon(Left)
Cannon(Right)
DashItem(Key)
Fairy
FloorTiles
GreenRocklops
Leever, SandCrab1
SandCrab2
Tentacle
Tentacle2

10/27
Beamos
Bubble
Cannon(Down)
Cannon(Up)
Fairy
GreenRocklops
PegSwitch
RedRocklops
SpikeBlock
Statue

11/04
FloorTiles
Lanmolas (x3=Boss)
RedRocklops

12/06
Mouldrum (Boss)

12/26
BigSpikeBlock
Bubble
FloorDrop(Sqr)
Key
MiniHelmasaur
Mouldrum (Boss)
PegSwitch
RedOrb
Shooter
SpikeBlock
Transform/Smoke
WallBubble(L-R)
WallBubble(R-L)

13/01
Knight
Priest/Uncle (Link's Uncle Wounded)

13/21
Priest/Uncle (Link's Uncle)
SickBoy

14/02
Chicken

15/02
AngryBrother
PullForRupees

15/05
HedgeMan

ShopMan
Thief
OldMan2

15/31 ▸ ShopMan

15/35 ▸ Thief

16/28 ▸ Mutant (Sahasrahla)

16/07 ▸ Mutant (Aghina)

17/08 ▸ BlueMiri
Blob
Waterbug

17/10 ▸ 4WayShooter
Blob
BlueMiri
DownEvil
FireBlade
FireBlade2
Lanmola
LeftEvil
PegSwitch
PushSwitch
RedMiri
RightEvil
Shooter
SpikeBlock
Splash
Stalfos
Statue
UpEvil
WallBubble(L-R)
WallBubble(R-L)
WaterBug

18/12 ▸ Agahnim (Boss)
AgahTalk

19/07 ▸ BlueMiri
BlueOrb

19/13 ▸ BlueMiri
BlueOrb
FireBlade
FireBlade2
FloorDrop(Sqr)
Gibdo
Key
Lanmola
MiniHelmasaur
Moldorm

PullSwitch
RedOrb
SpikeBlock
Stalfos
Statue
Transform/Smoke
WallBubble(L-R)
WallBubble(R-L)
WallMaster

19/19
Fairy
Good-Bee

19/32
BlueMiri
Fairy
HeartPie
Moldorm

19/40
4WayShooter
BlueMiri
BlueOrb
BombDrop
Bubble
FireBlade
FireBlade2
FloorDrop(Vert)
FloorTiles
Gibdo
Lanmola
MiniHelmasaur
Moldorm
PegSwitch
RedMiri
RedOrb
SpikeBlock
Stalfos
TrapSwitch
Transform/Smoke
WallBubble(L-R)
WallBubble(R-L)
Stalfos
Statue

20/08
ArrghusFuzz (Boss)

21/16
Helmasaur (Boss)

22/18
Viterous (Boss)

22/20
KholdStare (Boss)

23/25
TriNexx1 (Boss)
TriNexx2 (Boss)
TriNexx3 (Boss)

24/27 ▸ Agahnim (Boss)

25/06 ▸
BlueOrb
Fairy
FireBlade
FireBlade2
FloorTiles
Key
Moldorm
PegSwitch
RedOrb
Stalfos
Triceritops
WallBubble(L-R)
WallBubble(R-L)

25/07 ▸
BlueOrb
RedOrb

25/15 ▸
BlueMiri
BlueOrb
Bubble
FloorDrop(Vert)
Mini-Helmasaur
PegSwitch
PotTrap
RedOrb
Shell
Shooter
SpikeBlock
StalfosDrop
Statue
Triceritops

26/14 ▸ Mothula (Boss)
MovingFloor

27/23 ▸ BlindMan (Boss In His Human Form)
Blob
BlueMiri
BlueOrb
Bubble
FloorDrop(Sqr)
GreenLizard
Half-Bubble
Lanmola
PegSwitch
RedLizard
RedMiri
RedOrb
SpikeBlock
SpikeBlock
Stalfos
Transform/Smoke
WallBubble(L-R)

WallBubble(R-L)

28/17
4WayShooter
Blob
Bubble
PegSwitch
MiniBats
Shooter
SpikeBlock
Stalfos
Transform/Smoke
Transformer

28/19
BigSpikeBlock
Blob
BlueMiri
Bubble
Fairy
FireBlade
FireBlade2
FloorDrop(Sqr)
IceMan
Key
PegSwitch
Penguin
RedMiri
RedOrb
Shooter
StalfosKnight
Transform/Smoke
VRat

29/17
4WayShooter
Beamos
BigSpikeBlock
BlueMiri
BombSlug
Bubble
EyeLaser(Left)
EyeLaser(Right)
FloorDrop(Vert)
FloorTiles
Key
Lanmola
PegSwitch
Shooter
Stalfos
StalfosHead
SpikeBlock
Tentacle
Tentacle2
Transform/Smoke
WallBubble(L-R)
WallBubble(R-L)
Wizzrobe

WizzrobeSpawn

29/18
Bubble
Lanmola
Shooter

30/24
Blob
BlueMiri
Chomp
EyeLaser(Down)
Fairy
FloorTiles
FuzzyStack
Key
PegSwitch
Roller 1
Roller 2
Roller 3
Roller 4
Shooter
Stalfos
StalfosHead

32/23
Blind (Boss)

33/00
BlueSoldier
Keese
Warrior

33/35
BombDrop
Keese
Rat
TrapSwitch
Transform/Smoke

33/38
Keese
Key
MorningStar
RedSpearKnight
RedSpearSoldier
Warrior

34/33
Ganon

35/36
Beamos
GreenLizard
Lanmolas (x3=Boss)
RedLizard
Shooter
Stalfos
Transform/Smoke
WallBubble(L-R)
WallBubble(R-L)

36/37
BlueSoldier
Bubble
FloorDrop(Vert)
EyeLaser(Down)
EyeLaser(Left)
FireBlade
FireBlade2
RedSpearSoldier
SpikeBlock
Wizzrobe
WizzrobeSpawn

37/24
BlueOrb
Bubble
EyeLaser(Left)
EyeLaser(Right)
FireBlade
FireBlade2
FuzzyStack
MiniHelmasaur
PegSwitch

38/24
Blob
BombDrop
Bubble
DownPipe
EyeLaser(Down)
EyeLaser(Left)
EyeLaser(Right)
EyeLaser(Up)
FuzzyStack
LeftPipe
MiniBats
PegSwitch
PullSwitch
RightPipe
Roller 1
Roller 2
Roller 3
Roller 4
Shooter
StalfosHead
Transform/Smoke
TrapSwitch
UpPipe

39/00
BlueArcher
BlueSoldier
Key
RedSpearSoldier
Statue

40/05
ShopMan

40/07
Fairy

HeartPie
Moldorm
ShopMan
Thief

41/19 ▸
Blob
BlueMiri
Bubble
FireBlade
FireBlade2
IceMan
PegSwitch
Penguin
PullSwitch
RedMiri
MovingFloor
Stalfos
StalfosKnight
Transform/Smoke
VRat

42/32 ▸
Fairy
ShopMan

43/15 ▸
Fairy
PegSwitch
Statue
RedMiri

Some sprites exceptions which work in every blocksets/palettes:

XX/XX ▸
4WayShooter
ArrowTarget
Bubble
DownPipe
Fairy
FloorDrop(Sqr)
FloorDrop(Vert)
FloorTiles
HeartPie
Key
LeftPipe
MovingFloor
PegSwitch
RightPipe
Shooter
UpPipe
WallBubble(L-R)
WallBubble(R-L)

04-12) DUNGEON TIPS:

Dungeons are a rigerous part of the hacking process. In order to make yours appealing and usually working well, here's some tips that you should consider:

- Make a theme or something special about most of you dungeons. An example of a good theme would be an old castle, a torture chamber, etc.

- Choose a basic blockset for enemies, objects, and walls. These three sets will help express the theme of your dungeon. Make sure though that every room has the same blocksets or you will run into glitches. The safest way to use different blocksets in different rooms is if they are separated by staircases (Meaning you have to go up or down stairs to reach the next room).

- If you plan on using warps then you should keep the same blockset throught the whole dungeon because when you use a warp point the blockset is not reloaded.

- Try to make your palletes look match the blocksets, especially with enemies.

- Try to mix up the bosses in the game. Don't be afraid to put **Mothula** as the first boss. Although it would be smart to leave bosses like **TriNexx** for later since they need the rods to be defeated.

- Bosses health and attack power can be changed with **Euclid's Hyrule Addons Editor**, take advantage of that. There are many other ways to make a boss harder or easier. The best way to find out is to play the original, fight the boss and record what made them easy or hard. So to make them harder we can cover the corners and maybe put blocks in the middle to keep people from hiding.

- Try to avoid putting warps on **BG2**, sometimes after going through them, the enemies will dissapear.

- When inserting doors, make the special doors (Bombable, Locked, Unopenable…) first. Otherwise they are bound to not work.

- ****DO NOT TOUCH THE ROOM ZELDA IS IN!**** There is no point is messing with this room, it's hardcoded and could glitch up the rest of the game if changed too much.

- The intro is hardcoded, it'll be easy to change the room which it loads, but do keep in mind that the dead king is a sprite and will always stay in that same spot. Same goes with the room Zelda's is. You don't have to put Zelda in that room, you can always "obsolete" that room.

- The rom has bunchs of rooms where they *have* to use the same room header (Can be changed, will take long but not possible to have one header for each room.), try to find them out, group them into one dungeon (So you don't have to worry about them later on).

- There's certain rooms where going right/left, doesn't mean you're going to the room to the right/left. I have no idea what happens but it always tend to happen when you have a move left or right in a room which you have to first jump down after entering the dungeon (A good exemple of this is the **Hyrule Palace**).

- There are blocksets where Ice is actually Water, so beware.

- The special doors (Bombable, Locked, Unopenable…), have a limit, I believe it's **8 in total**, the rest have to be opened.

- One more note on putting "down" doors, sometimes they turn out to be dungeon exits which crashs the game, **00 - Open** is always safe though.

- Some people are usually annoyed when their **BG2** refuses to save. Click the room headers (More button up the top) then press ok and save again. It should save now.

- The **Kill boss again** tag only works on the last level, but there's a way around it through asm.

- Only **Room 0** can be the last level, don't try to mimic it, you'll just move up one room instead.

- More related to the overworld but, don't try to mimic the **Water Palace** in the Dark World, you can even get rid of those water thingy, they tend to be annoying at hacking.

04-13) THE CHRIS HOULIHAN ROOM:

The room itself is a debug room for holes, surely everyone knows.

When you fall down a hole, the game checks for the **X** and **Y** positions and using some very specific calculations:

Formula = ((((X & 0xFFF8) / 8) - 0xC0) & 0x7E) + ((((Y & 0xFFF8) - 0x600) & 0x3F0) * 8)

It finds out some number and it compares that number with a bunch of numbers which contains where the holes suppose to be. When it doesn't find the exact match, it'll go and load the Chris Houlihan room instead of a fatal crash.

The code for loading hole routine is at: **$1B/B865**

The game made an assumption to the places where you fall down a hole, that's why sometimes you can do that glitch (Start in sanctuary, run to Hyrule Castle hole or even to the village hole).

The assumption they put on the player is they assume the **X** and **Y** positions are always correct when you exit a room.

Surely that's a valid assumption but you need to know when you exit a room, you tend to be placed a bit below where the exit suppose to be (as link kinda "walks out"), that little bit of difference is what caused some people to be able to access the room (since the **X** and **Y** is still pointed at the "white dots" in **HM**, if you look at it in the editor, and Link surely isn't at that position when he comes out of the room).

When is that little difference fixed?

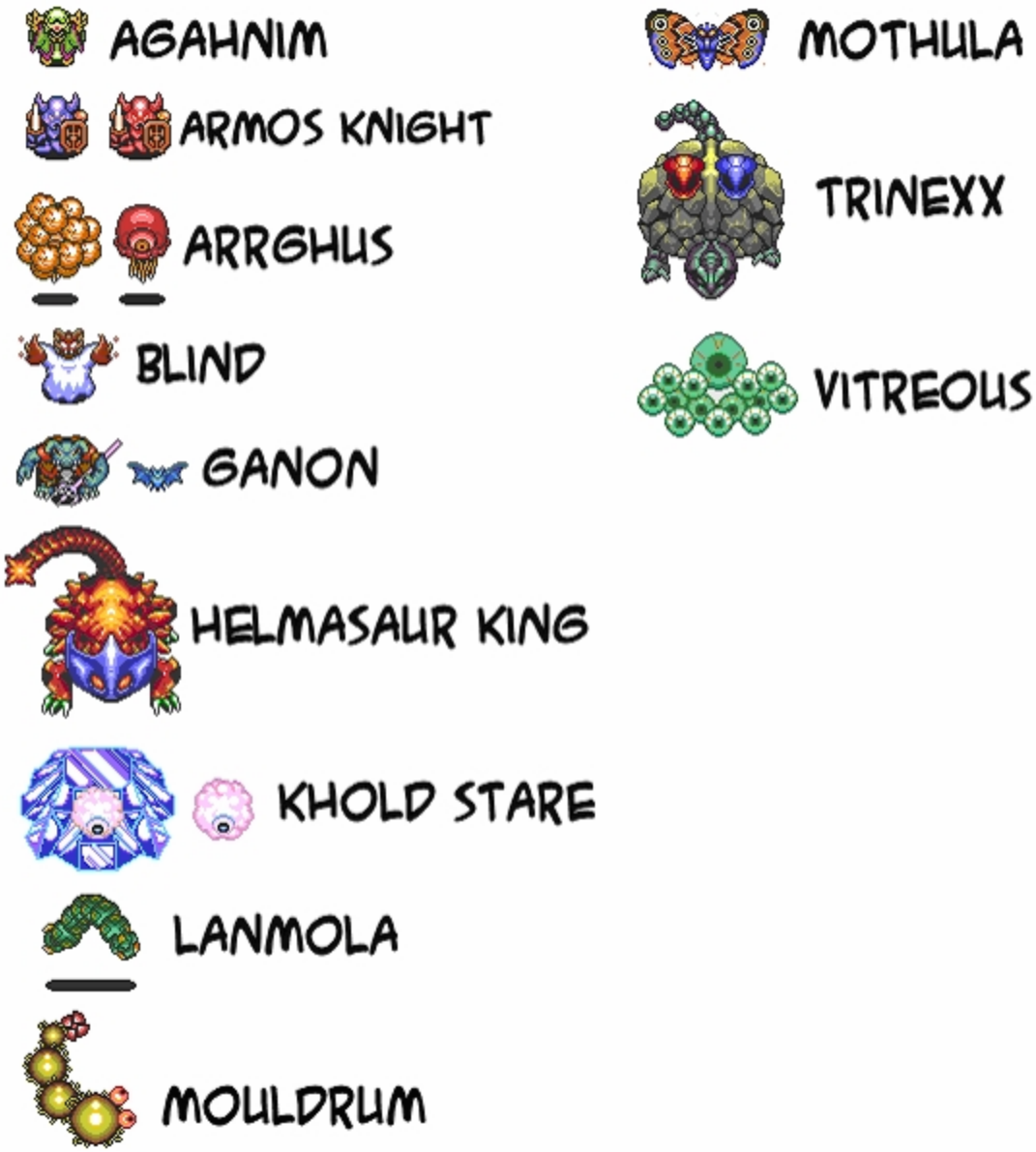
- When you get hit.
- When you move, not run, I mean move up (So link stays in the middle of the screen, instead of just a little bit below it).
- When you bounce off something when running.

For the technical bunch, all those above event causes a change in a scroll value **$E8**, that's usually the culprit when it comes to getting to that room, if you really want to get in, you can try setting **$E8** to some weird value like **55** before you jump down a hole (yes the screen will look weird after you set it), you'll definately be at the room since link is no longer in the middle of the screen. Hope this helps for the hackers which wants to do something about the room.

04-14) LIGHT WORLD - DUNGEON SPRITES

04-15) DARK WORLD - DUNGEON SPRITES

04-16) BOTH WORLDS - BOSSES SPRITES



04-17) ENDING SEQUENCES - SPRITES


HYRULE KING

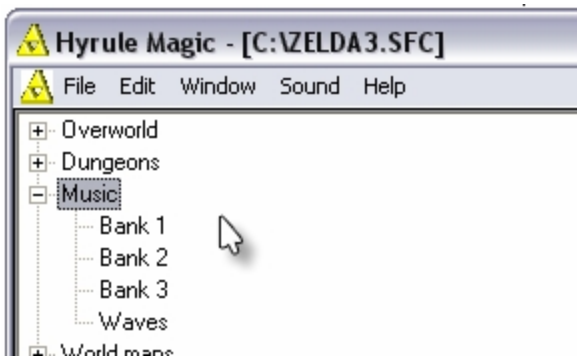

ZELDA

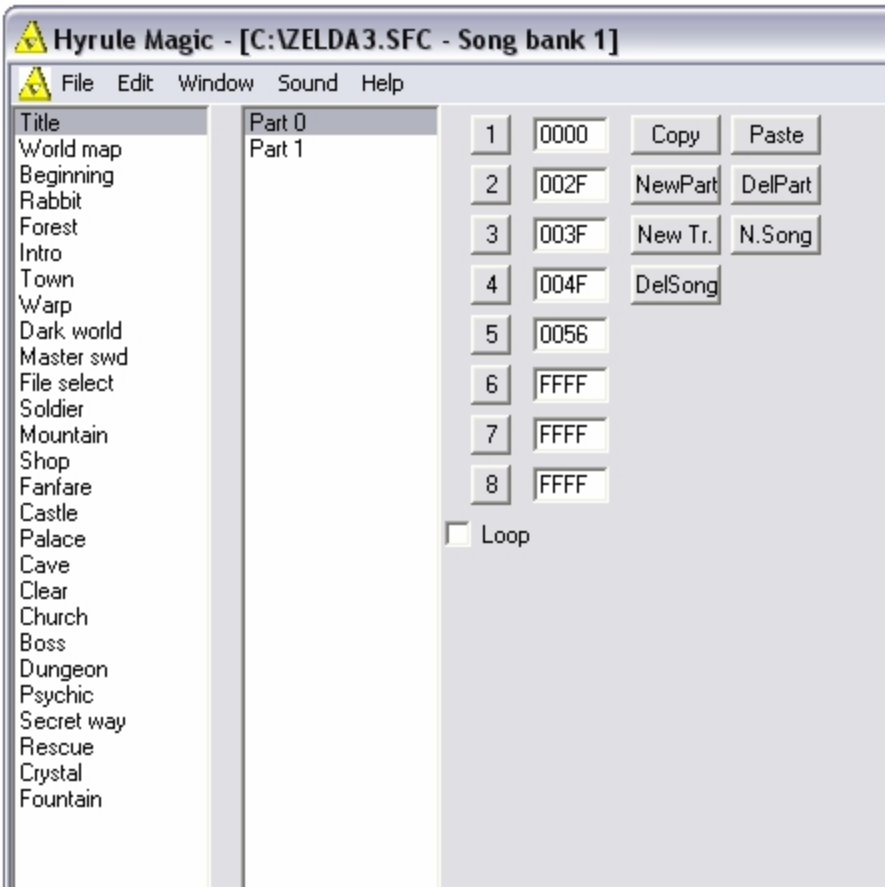

BLUE SOLDIER


RED SOLDIER


6 PRINCESSES

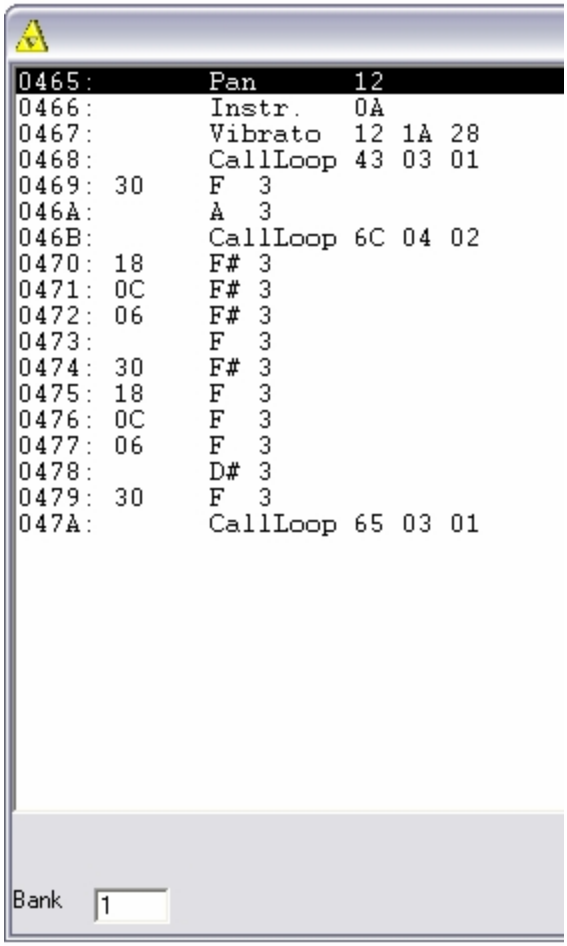
PART 05: MUSIC EDITING





This editor edits music, like its name suggests. The game music is stored in **3 banks**. The list of songs is on the left. If the song exists in the edited bank, a selector for the song parts will be shown. The **loop checkbox** indicates whether the song loops. If checked, the field next to it contains the number of the part that is looped to. When a part is selected, the **button 1-8** can be pressed to edit a channel. The part ends when all channels have ended. The starting address is shown on the right. This is an unique identifier assigned to each command by the editor. **FFFF** means that the channel is unused. To create a new sequence of commands, press **New track**. The **Copy** and **Paste** buttons mark and reuse song parts. **New part** inserts a part before the

currently selected part or at the end, if no part is selected. **Delete part** deletes a part. New song and Delete song are used to add and remove songs.

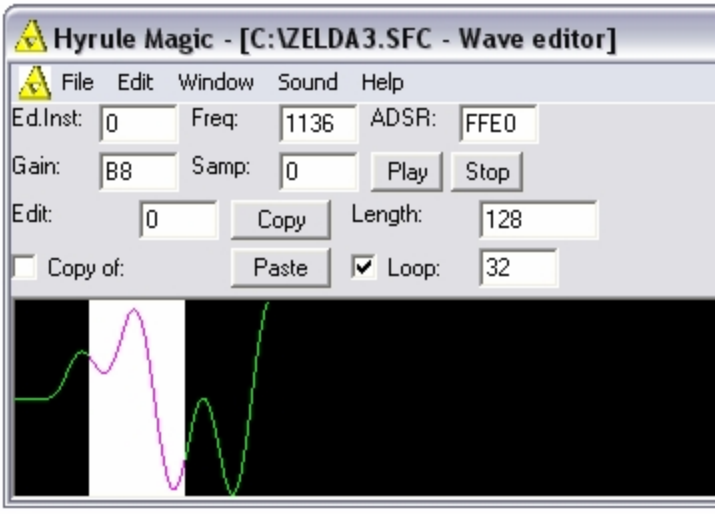


05-01) THE TRACK EDITOR:

The addresses are shown on the left. These are not consecutive and may change when you save and open the rom again. The next field, if used, sets the new note length. The third field, if used, sets the new key on-time in the high nibble and the volume in the low nibble. If this is used, the second field must also be used. The fourth field specifies the command or note. Two hyphens indicate that there is no command. Use **Z,S,X,D,C,F,V,G,B,H** or **N** and the **digits 1-6** to enter a note or press **M** to enter a command. You can press **Enter** when a CallLoop command is selected to open the destination track. The remaining fields specify command parameters. These are dependant on the command. Fields can be changed by clicking on them. Press the **left mouse button** to decrease the value and the **right mouse button** to increase it. **Holding shift** changes the field by **16**. You can also type the new value with **0-9** and **A-F**.

The other keys are:

Alt+L ▸ Marks commands
Alt+U ▸ Unmarks commands
Alt+M ▸ Moves commands
Alt+C ▸ Copies commands



05-02) THE WAVE EDITOR:

At the display at the bottom, press and hold to select a portion of the edited wave. Press **Delete** to delete the current selection. If nothing is selected, all of the wave will be deleted or copied. Make sure that the loop point and the end point are multiples of **16**. Otherwise, Hyrule Magic will stretch the sample and add zeros at the beginning. At the very top part of the editor, the instruments used for music can be edited.

- The music editor can only play the specific **24** instruments which are mapped in the wave editor.

- The notes for the **24** instruments range from **G2** - **B5** (or **B2** - **A5** - Unsure about this...), some of them will play in HM but won't play in the emulator (eg. playing Instrument **0E** with note **A5**).

- You can only play around with those notes, pauses etc... but you certainly can't achieve midi quality due to the limited amount of instruments for the whole game.

- If you're for simple changes to the song, you can use the music editor in HM, but if you're talking about something big like rewriting the songs then an hex editor is your friend.

05-03) SPECIAL NOTES:

- About the numbers preceeding a note. The first number I found to be the speed at which all following notes play at, and the note after that controls the volume of all the notes after that. So if you were to find something like **06 D2 A# 4**, you would read it as such:

____06_____D2_____A#_____4
_____|_____|_____|_____|
Speed = 06_____Volume=D2_____Note = A#_____Octave= 4

- **Speed:** The lower the number, the faster the song is played.
- **Volume:** The higher the number, the higher the song is played; **Max:** $C8 (200 decimal)

- When comparing the instrument/sample from the waves menu to the instruments in the composition editor (the banks), you need to convert the instrument number from **decimal** (in the waves menu) to **HEX** (for use in the composition editor).

- I have yet to find out what the numbers after commands such as vibrato and echo mean, they're probably just the effect level, and maybe how long it lasts, or something.

- Transposing is nothing special really. It's just like transposing in regular music, or in simpler terms, changing the key. It basically changes the overall sound of the notes in relation to each other. There are two transposition functions, Transpose and G.Transpose. Transpose + a number changes the key of the song to whatever the number is. G.Transpose simply changes the song back into the key of G, which is the standard key in music. I don't really know how to explain transposition to anyone else who doesn't really know much about music.

- The music data is compressed, yes compressed. That means that the data mapped into the SPC is decompressed in order for you to work on samples. I've seen the data load from the ROM, it is not decompressed before being mapped in to the SPC during gameplay. It is either decompressed by the SPC itself, or the program that the SPC runs.

- Something that I have yet to try (although in theory should work) is to expand the rom, and put music data at the end of the rom. Now you might be thinking, "But the pointer for music is only 2 bytes..." Well, yes this is true. However, you can use the CallLoop command in the music editor. An example use of this command would be something like "**CallLoop EF 1E 04**". Well, obviously with the CallLoop function, you can access any part of the rom.

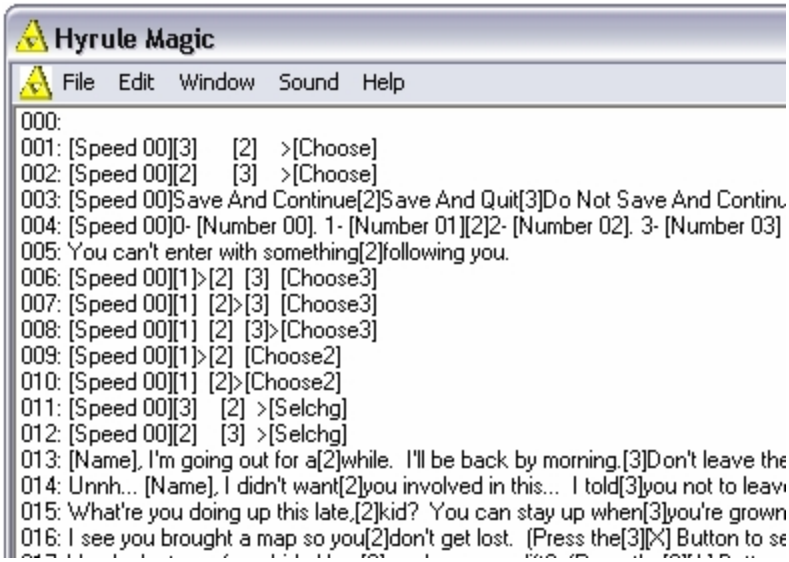
- If you write music at the end of the rom, you dont have to worry about the data running into other songs, because it's all freespace. No worries there.

- For the **CallLoop Command** it would be displayed like this:

CallLoop 3D 21 04

Well the first two numbers would go to address **213D** in whatever bank it is. The number after it (the **04**) is **how many times** that will play. So in this instance, it will play whatever is at **213D** four times.

PART 06: MONOLOGUE EDITING



This editor edits the monologue in the game. Double click a sentence to edit it in the field at the bottom. Press Set after the text have been modified. Edit text modifies the dialogue, while Edit dictionary modifies the verbs, nouns, adjectives, yes, no, and many more...

06-01) SPECIAL COMMANDS:

[NextPic] Displays the next picture in the intro.
[Choose] Choose between lines 2 and 3.
[Choose2] Choose between lines 1 and 2.
[Choose3] Choose among all the lines.
[Item] Choose between items.
[Name] Displays the player's name.
[Window ##] 0=Show frame 2=Hide frame.
[Number ##] Displays a number.
[Position ##] 0=Top 1=Bottom.
[ScrollSpd ##] Sets the scrolling speed.
[Selchg] Changes the selection.
[Crash] Crashes the game.
[Scroll] Scroll one line up.
[1] Output at line 1.
[2] Output at line 2.
[3] Output at line 3.
[Color ##] Sets the color.
- **00** Orange, Grey.
- **01** Red, White.
- **02** Gold, White (Same as border colors).
- **03** Light Blue, White.
- **04** Dark Grey, Grey.
- **05** Red, ?Tan?.
- **06** Dark Blue, White (Default).
- **07** Lime, White.
- **08** Orange, Grey (Same as **00**, and the rest repeats too).

[Wait ##] Waits for some time.
[Sound ##] Plays a sound.

[Speed ##] Sets the text speed (0=Instantaneous).
[Mark1] Nothing of interest.
[Mark2] Nothing of interest.
[Clear] Clears the box.
[Wait] Waits for a keypress.

Misc:
[A] Letters for gamepad buttons.
[B] Same as above.
[Y] Same as above.
[X] Same as above.

The space for the dictionary is limited. If you try to enter too many characters, you will not succeed.

Note: The ending message **(371)** is not complete as well as the rest. You will have to work with an hex editor for completing all that. It's not too hard if you know how to do a relative search.

It only contains **80%** of the text in the game. The rest of the text are the credits, there is no dictionary in the ending text. So refer the the "**Monologue Editor Missing Fields List"** for what you want to change (through an HEX editor).

06-02) MONOLOGUE LOCATIONS:

LIGHT WORLD:

000 ▸ NA - None.
001 ▸ NA - None.
002 ▸ NA - None.
003 ▸ NA - None.
004 ▸ NA - None.
005 ▸ Enter with something behind you.
006 ▸ NA - None.
007 ▸ NA - None.
008 ▸ NA - None.
009 ▸ NA - None.
010 ▸ NA - None.
011 ▸ NA - None.
012 ▸ NA - None.
013 ▸ First message of your uncle.
014 ▸ When you get your uncle's sword.
015 ▸ Guard Message 1.
016 ▸ Guard Message 2.
017 ▸ Guard Message 3.
018 ▸ Guard Message 4.
019 ▸ Guard Message 5.
020 ▸ Guard Message 6.
021 ▸ Guard Message 7 (Rotates back to Message 1).
022 ▸ Priest's Message before visiting Sahasrahla.
023 ▸ Priest's Message 1 when you meet him with Zelda.

024 ▸ Priest's Message 2 when you meet him with Zelda.
025 ▸ Priest's Message after visiting the Sahasrahla, but before getting the 3 pendants.
026 ▸ Priest's Message after getting the 3 pendants, but before getting Master Sword.
027 ▸ Priest's Message after getting the Master Sword.
028 ▸ Zelda's Message 1 when you meet her in the dungeon.
029 ▸ Zelda's Message when you meet with the Priest.
030 ▸ Zelda's Message before visiting Sahasrahla.
031 ▸ First in-game introduction message.
032 ▸ Message which occasionally appear before finding uncle.
033 ▸ Zelda's Message when you enter the 1st floor in the hyrule castle.
034 ▸ Zelda's Message when you approach the ornamental shelf.
035 ▸ Zelda's Message when you approach the right switch.
036 ▸ Zelda's Message 3 when you meet her in the dungeon.
037 ▸ Zelda's Message 2 when you meet her in the dungeon.
038 ▸ Zelda's Message after meeting Sahasrahla, but before getting the 3 pendants.
039 ▸ Zelda's Message after getting the 3 pendants, but before getting Master Sword.
040 ▸ Zelda's Message after you got the Master Sword.
041 ▸ Zelda's Message when you enter the water ways under the castle dungeons.
042 ▸ Zelda's Message when you enter the room with 2 levers.
043 ▸ The Old Women in 'Sahasrahla House' in Kakariko Village when you first talk.
044 ▸ Sahasrahla Message 1 when you first meet him. Version 1.
045 ▸ The Old Women in 'Sahasrahla House' in Kakariko Village.
046 ▸ ??? - Unknown.
047 ▸ Scared Girl1 Message.
048 ▸ ??? - Unknown.
049 ▸ ??? - Unknown.
050 ▸ Sahasrahla Message 1 when you first meet him. Version 2.
051 ▸ Sahasrahla message 2 when you first meet him.
052 ▸ ??? - Unknown.
053 ▸ Message 1 when you first enter the Dark World.
054 ▸ Message 2 when you first enter the Dark World (without the Moon Pearl).
055 ▸ ??? - Unknown.
056 ▸ Sahasrahla Message when you return with the Pendant of Courage. Version 1
057 ▸ Sahasrahla Message when you return with the Pendant of Courage. Version 2
058 ▸ Overworld Sign text - on specific areas before meeting with uncle.
059 ▸ Overworld Sign text #1.
060 ▸ Overworld Sign text #2.
061 ▸ Overworld Sign text #3.
062 ▸ Overworld Sign text #4.
063 ▸ Overworld Sign text #5.
064 ▸ Overworld Sign text #6.
065 ▸ Overworld Sign text #7.
066 ▸ Overworld Sign text #8.
067 ▸ Overworld Sign text #9.
068 ▸ Overworld Sign text #10.
069 ▸ Overworld Sign text #11.
070 ▸ Overworld Sign text #12.
071 ▸ Overworld Sign text #13 (GuyByTheSign).

072 ▸ Overworld Sign text #14.
074 ▸ The Witch Message when you don't have the mushroom.
075 ▸ The Witch Message after given the mushroom.
076 ▸ The Witch Message when you have the mushroom.
077 ▸ The Potion Shop guy Message when you don't have any bottles.
078 ▸ The Potion Shop guy Message.
079 ▸ When you try to buy a potion without any bottles.
080 ▸ When you try to buy a potion but got no free bottles.
081 ▸ Receive Lamp Message.
082 ▸ Receive Boomerang Message.
083 ▸ Receive Bow Message.
084 ▸ Receive Shovel Message.
085 ▸ Receive Magic Cape Message.
086 ▸ Receive Magic Powder Message.
087 ▸ Receive Zora's Flippers Message.
088 ▸ Receive Power Glove Message.
089 ▸ Receive Pendant of Courage Message.
090 ▸ Receive Pendant of Power Message.
091 ▸ Receive Pendant of Wisdom Message.
092 ▸ Receive Mushroom Message.
093 ▸ Receive Book of Mudora Message.
094 ▸ Receive Moon Pearl Message.
095 ▸ Receive Compass Message.
096 ▸ Receive Map Message.
097 ▸ Receive Ice Rod message.
098 ▸ Receive Fire Rod Message.
099 ▸ Receive Ether Medallion Message.
100 ▸ Receive Bombos Medallion Message.
101 ▸ Receive Quake Medaillon Message.
102 ▸ Receive Magic Hammer Message.
103 ▸ Receive Flute Message.
104 ▸ Receive Cane of Somaria Message.
105 ▸ Receive Hook Shot Message.
106 ▸ Receive Bombs Message.
107 ▸ Receive Magic Bottle Message.
108 ▸ Receive Big Key Message.
109 ▸ Receive Titan's Mitt message.
110 ▸ Receive Magic Mirror Message.
111 ▸ When you pick up a fake Master Sword (Lost Woods).
112 ▸ When you pick up the Master Sword.
113 ▸ Receive Red Potion Message.
114 ▸ Receive Green Potion Message.
115 ▸ Receive Blue potion message.
116 ▸ Receive Bug-Catching Net Message.
117 ▸ Receive Blue Mail (Armor2) Message.
118 ▸ Receive Red Mail (Armor3) Message.
119 ▸ Receive Sword3 Message.
120 ▸ Receive Shield3 Message.

121 ▸ Receive Cane of Byrna Message.
122 ▸ When trying to open the big chest without the Big Key.
123 ▸ When you run out of magic.
124 ▸ Receive Pegasus Shoes Message.
125 ▸ Talking Trees Message 1 (Dark World).
126 ▸ Talking Trees Message 2 (Dark World).
127 ▸ Talking Trees Message 3 (Dark World).
128 ▸ Flute Boy Message (Dark World).
129 ▸ Talking Trees Message 4 (Dark World).
130 ▸ Talking Trees Message 5 (Dark World).
131 ▸ Receive Pendant of Power Message. Version 2.
132 ▸ Receive Pendant of Wisdom Message. Version 2.
133 ▸ Shooting gallery Message.
134 ▸ Shooting gallery Message when you decided to play.
135 ▸ Thieves Cavern Message.
136 ▸ Shooting gallery Message asking if you want to play again.
137 ▸ Pond of Hapiness Introduction Message.
138 ▸ Pond of Hapiness select item to throw in Message.
139 ▸ Pond of Hapiness did you drop this? Message.
140 ▸ Pond of Hapiness saying you're honest Message.
141 ▸ Pond of Hapiness when you answer **NO** to question **(139)** Message.
142 ▸ Pond of Hapiness telling that you you are lying Message.
143 ▸ Receive Magical Boomerang Message.
144 ▸ Receive Shield2 Message.
145 ▸ Receive Silver Arrows Message.
146 ▸ Receive Green potion message from Pond of Hapiness.
147 ▸ Receive Sword4 Message.
148 ▸ Pond of Hapiness saying you donated that much cash Message.
149 ▸ Pond of Hapiness asking you arrows or bombs? Message.
150 ▸ Pond of Hapiness receive more bombs Message.
151 ▸ Pond of Hapiness receive more arrows Message.
152 ▸ Pond of Hapiness when you reach max bombs/arrows Message.
153 ▸ Old Man Message when travelling with him Message 1.
154 ▸ Old Man Message when travelling with him Message 2.
155 ▸ Old Man Message when travelling with him Message 3.
156 ▸ Old Man Message - Intro Message.
157 ▸ Old Man Message - End Message.
158 ▸ Old Man cave Message 1.
159 ▸ Old Man cave Message 2.
160 ▸ Old Man cave Message 3.
161 ▸ Sleeping guy in the bar... sleeping Message.
162 ▸ Sleeping guy in the bar... woke up Message 1.
163 ▸ Sleeping guy in the bar... woke up Message 2.
164 ▸ Sleeping guy under the bridge Message.
165 ▸ Old Woman in Kakariko Village Message.
166 ▸ That guy which runs away from you in Kakariko Village Message.
167 ▸ Debug Message (For Signs).
168 ▸ You need the cape to get this Piece of Heart (Mountain).

DARK WORLD:

169 Overworld Sign text #15.
170 Overworld Sign text #16.
171 Overworld Sign text #17.
172 Overworld Sign text #18.
173 Overworld Sign text #19.
174 Overworld Sign text #20.
175 Overworld Sign text #21.
176 Overworld Sign text #22.
177 Overworld Sign text #23.
178 Soldier Outside Hyrule Castle (Light World).
179 Guard in front of Hyrule Castle.
180 Telepathic Message #1.
181 Telepathic Message #2.
182 Encoded Message text.
183 Inscription in front of Master Sword text.
184 Telepathic Message #3.
185 Telepathic Message #4.
186 Telepathic Message #5.
187 Telepathic Message #6
188 Encoded Message text (you know, those weird symbols).
189 Inscription in the desert.
190 Telepathic Message #7.
191 Telepathic Message #8.
192 Telepathic Message #9.
193 Telepathic Message #10.
194 Telepathic Message #11.
195 Telepathic Message #12
196 Telepathic Message #13
197 Telepathic Message #14
198 Telepathic Message #15
199 Chris Houlihan Room Message.
200 Catch and caught Bee Message.
201 Catch and caught Fairy Message.
202 Catch and caught Message when you don't have any bottles.
203 Time Report.
204 Time Report starter.
205 Time Report - Success.
206 Time Report - Fail.
207 Time Report - Success after taking heart.
208 Time Report - Can't start timer message.
209 Bottle Shop - Buy or not message?
210 Bottle Shop - Buy message.
211 Bottle Shop - Not enough rupees.
212 Bottle Shop - Outta bottles.
213 Sell Bug for 100 Rupees Message.

214 Fish Exchange Message.
215 ??? - Unknown.
216 Blacksmith - Temper or not?.
217 Blacksmith - Temper sword... 10 bucks?.
218 Blacksmith - Temper sword, are you sure?.
219 Blacksmith - Can't temper anymore.
220 Blacksmith - Ask again when your sword is tempering).
221 Blacksmith - Agree to temper.
222 Blacksmith - Finish temper.
223 Blacksmith - Welcome note.
224 Blacksmith - Found partner.
225 Blacksmith - That guy out there in dark world.
226 Blacksmith - Not yet finish temper.
227 Thank You Message.
228 ??? - Unknown.
229 Flute Boy - Welcome note.
230 Flute Boy - Agree to look for flute.
231 Flute Boy - Didn't agree to look for flute.
232 Flute Boy - Message when looking for flute, but haven't find it.
233 Flute Boy - Ending Message.
234 Fortune - You will find elder.
235 Fortune - You will need book to get into desert.
236 Fortune - Find mushroom lover.
237 Fortune - Find a person in desert.
238 Fortune - Meet zora king.
239 Fortune - Find moon pearl in tower.
240 Fortune - Sword can't harm wizard.
241 Fortune - Shall find the 1/2 magic thing.
242 Fortune - Not well right now.
243 Fortune - Intro message.
244 Fortune - Finish message.
245 Fortune - Didn't agree to take one fortune.
246 Fortune - Meet strange man in desert.
247 Fortune - Info booth in Dark World has treasure.
248 Fortune - Place to find that smith's partner.
249 Fortune - Find treasure in graveyard.
250 Fortune - Buy new bombs in bomb shop.
251 Fortune - Things in the pyramid.
252 Fortune - Barrier in front of ganon's castle.
253 Fortune - Need silver arrows to kill ganon.
254 Info Booth (Dark World) - Welcome Message.
255 Info Booth (Dark World) - Info Message 1.
256 Info Booth (Dark World) - Don't agree Message.
257 Info Booth (Dark World) - Info Message 2.
258 Info Booth (Dark World) - Info Message 3.
259 Info Booth (Dark World) - Info Message 4.
260 Bug guy in town - When you don't have bottle.
261 Bug guy in town - When you do have bottle.

262 Bug guy in town - Give you net message.
263 Locksmith - ...
264 Locksmith - When you take the sign.
265 Locksmith - When you have the chest.
266 Locksmith - When you say no to his offer.
267 Locksmith - When you talk to him again after accepting his offer.
268 Locksmith - When you say yes.
269 Encoded message.
270 Decoded message - Ether Medaillon.
271 Decoded message - Bombos Medaillon.
272 When you throw something into the Dark World pond.
273 Getting the 1/2 magic.
274 Game Intro message 1.
275 Game Intro message 2.
276 Game Intro message 3.
277 Game Intro message 4.
278 The Unopenable chest Message.
279 Bomb Shop - First welcome Mmessage.
280 Bomb Shop - new bomb welcome Mmessage.
281 Bomb Shop - buy bombs.
282 bomb Shop - buy big bomb.
283 Monkey - 100 rupees to open stage 1 door.
284 Monkey - When you disagree with his offer.
285 Monkey - Agree with offer.
286 Monkey - First meet Message.
287 Monkey - Agree to give him 10.
288 Monkey - Disagree to give him 10.
289 Monkey - When you go somewhere instead of stage 1.
290 Stage 4 boss - Intro Message.
291 Stage 4 boss - Blind Message.
292 Stage 4 boss - When you run around to specific places Message.
293 Guy in the cave in the desert Message.
294 When you collected the 3 pendants, you get this Message.
295 ??? - Unknown.
296 ??? - Unknown.
297 ??? - Unknown.
298 ??? - Unknown.
299 ??? - Unknown.
300 Treecutter guys Message 1.
301 Treecutter guys Message 2.
302 Treecutter guys Message 3.
303 That guy in the house before the 15 second thing (right).
304 That guy in the house before the 15 second thing (right) after bombing the door.
305 That guy in the house before the 15 second thing (left).
306 Beaten Dark World Dungeon Message 1.
307 Beaten Dark World Dungeon Message 2.
308 Beaten Dark World Dungeon Message 3.
309 Beaten Dark World Dungeon Message 4.

310 Beaten Dark World Dungeon Message 5.
311 Beaten Dark World Dungeon Message 6.
312 Beaten Dark World Dungeon Message 7 (Rescues Zelda Message).
313 Beaten Dark World Dungeon - Finish Message.
314 Beaten Dark World Dungeon - Do you understand? Message.
315 Break Barrier on 8th Dungeon Message.
316 Beaten Dark World Dungeon Message 7 (without completing one or more dungeons).
317 Agahnim's Message when you enter the room (which he makes Zelda disappear).
318 Agahnim's Message when he gets rid of Zelda.
319 Agahnim's Message when you enter the room to fight him.
320 Agahnim's Dying Message.
321 Agahnim's Message when you fight him again in last stage.
322 Zora King - Welcome message.
323 Zora King - When you say you want flippers.
324 Zora King - After buying flippers.
325 Zora King - Not enough rupees to buy flippers.
326 Zora King - When you say nothing after the welcome message.
327 The Village guy Message (Required Point, to mark the map with a new place to go to).
328 The Village guy Message after the required point.
329 ??? - Unknown.
330 Mysterious Pond - Welcome Message.
331 Mysterious Pond - Don't do it Message.
332 Mysterious Pond - Don't do it Message.
333 Mysterious Pond - Give back item Message.
334 Mysterious Pond - How much will you toss? Message.
335 Mysterious Pond - Message for the silver arrows.
336 Mysterious Pond - Great Luck Message.
337 Mysterious Pond - Good Luck Message.
338 Mysterious Pond - A Little Luck Message.
339 Mysterious Pond - Big Trouble Message.
340 Mysterious Pond - Luck Message.
341 NA - None.
342 NA - None.
343 NA - None.
344 NA - None.
345 Receive Heart container message.
346 Fairy pond Message.
347 Whimp (Dark World Mountain) when you are a bunny Message.
348 Whimp (Dark World Mountain) when you are yourself Message.
349 Bully (Dark World Mountain) when you are a bunny Message.
350 Bully (Dark World Mountain) when you are yourself Message.
351 Dark World shop welcome Message.
352 Dark World massive chest game welcome Message.
353 Dark World massive chest game don't want to play Message.
354 Haven't paid to play Message.
355 Can't open anymore chest Message.
356 Pay to open chest, good luck Message.
357 Shop Message.

358 Shop Message, Wwhen you don't need the item.
359 Shop Message - Buy shield.
360 Shop Message - Buy red potion.
361 Shop Message - Buy arrows.
362 Shop Message - Buy bombs.
363 Shop Message - Buy bee.
364 Shop Message - Buy recovery heart.
365 Shop Message - Run out of bottles.
366 Shop Message - Can't carry more.
367 Final Boss - Intro Message.
368 Final Boss - Mid-Way Message.
369 Thieves Hideout in Lost Woods 1.
370 Thieves Hideout in Lost Woods 2.
371 Ending Message.
372 Message when you run into those trapped jumpy things in the grassland.
373 The other guy in the pub.
374 Secret Cavern Thief who gives you 300 rupees.
375 Another Thief's Message.
376 ??? - Unknown.
377 Telepathic message #16.
378 ??? - Unknown.
379 ??? - Unknown.
380 ??? - Unknown.
381 ??? - Chicken Message.
382 Light World chest game Message - 20 rupees to play.
383 Light World chest game Message - Agree to open chest.
384 Light World chest game Message - Don't feel like opening one.
385 Light World chest game Message - 100 rupees to play.
386 Kakariko Village guy Message - That guy which is in the room with lots of beds.
387 ??? - Unknown.
388 Starting screen choice Message with 2 options.
389 Starting screen choice Message with 3 options.
390 Continue/save and quit Message when you press select.
391 Treasure Field - Intro Message.
392 Treasure Field - Agree to dig.
393 Treasure Field - Disagree to dig.
394 Treasure Field - Time is up Message.
395 Treasure Field - Come back again Message.
396 Treasure Field - Message when the field is still dug up.

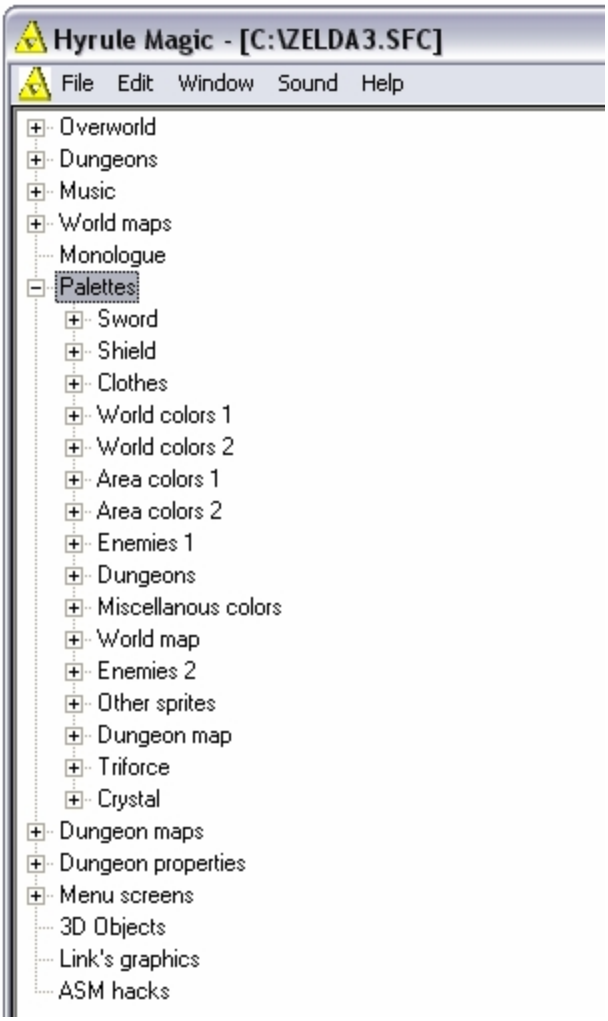
06-03) MONOLOGUE EDITOR MISSING FIELDS LIST:

Hiroshi Yamauchi
Producer
Shigeru Miyamoto
Director
Takashi Tezuka
Kensuke Tanabe
Assistant Directors
Yasuhisa Yamamura
Yoichi Yamada
Object Designers
Soichiro Tomita
Takaya Imamura
Background Designers
Masanao Arimoto
Tsuyoshi Watanabe
Program Director
Toshihiko Nakago
Yasunari Soejima
Kazuaki Morita
Programmers
Tatsuo Nishiyama
Yuichi Yamamoto
Yoshihiro Nomoto
Eiji Noto
Satoru Takahata
Sound Composer
Koji Kondo
Keizo Kato
Takao Shimizu
Printed Artwork
Yoichi Kotabe
Hideki Fujii
Yoshiaki Koizumi
Yasuhiro Sakai
Tomoaki Kuroume
Special Thanks To
Nobuo Okajima
Yasunori Taketani
Kiyoshi Koda
Takamitsu Kuzuhara
Hironobu Kakui
Shigeki Yamashiro
Toshio Iwawaki
Shigehiro Kasamatsu
Quest History
Locations Games
Hyrule Castle
East Palace
Mountain Tower
LEVEL1 Dark Palace
LEVEL2 Swamp Palace
LEVEL3 Skull Woods
LEVEL4 Thieve's Town

LEVEL5 Ice Palace
LEVEL6 Misery Mire
LEVEL7 Turtle Rock
LEVEL8 Ganon's Tower
Total Games Played
Yasunari Nishida
English Script Writers
Daniel Owsen
Hiroyuki Yamada
Through some quick editing (and pointer rearrangement) here's what Euclid come up to with this a long time ago...

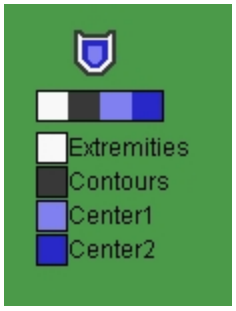
You can edit them in an HEX editor, just do a relative search.
Download/Use Hexecute for instance:
URL: ***http://www.zophar.net/trans/transutils/Hexecute-3.0-RC7-install.exe***
MIRROR: ***http://www.emuxhaven.net/download/utils/Hexecute-3.0-RC7-install.exe***

PART 07: PALETTES EDITING



Left click on a color in the palette editor to edit it.
Right click on it to toggle priority (for the sprites only)

SWORD:
Sword pal 0: Uncle's Sword (Level 1)
Sword pal 1: Master Sword (Level 2)
Sword pal 2: Tempered Sword (Level 3)
Sword pal 3: Golden Sword (Level 4)



SHIELD:
Shield pal 0: Uncle's Shield (Level 1)
Shield pal 1: Red Shield (Level 2)
Shield pal 2: Mirror Shield (Level 3)

CLOTHES:
Clothes pal 0: Green Tunic (Level 1)
Clothes pal 1: Blue Mail (Level 2)
Clothes pal 2: Red Mail (Level 3)

WORLD COLORS 1:
//General world colours.
World Colors 1 pal 0: Light World Rocky/Grass Tiles
World Colors 1 pal 1: Dark World Rocky/Grass Tiles
World Colors 1 pal 2: Light World Mountain Area Tiles
World Colors 1 pal 3: Dark World Mountain Area Tiles
World Colors 1 pal 4: ? (Unknown)
World Colors 1 pal 5: ? (Unknown)

WORLD COLORS 2:
World colors 2 pal 0: ? (Unknown)
World colors 2 pal 1: ? (Unknown)

AREA COLORS 1:
//Colors for the Palette# which you can edit in the Overworld screens.
Area Colors 1 pal 0: Overworld General Palettes (Used Almost Everywhere)
Area Colors 1 pal 1: Overworld Palette #1
Area Colors 1 pal 2: Overworld Palette #2
Area Colors 1 pal 3: Overworld Palette #3
Area Colors 1 pal 4: Overworld Palette #4
Area Colors 1 pal 5: Overworld Palette #5
Area Colors 1 pal 6: Overworld Palette #6
Area Colors 1 pal 7: Overworld Palette #7 (Death Mountain)
Area Colors 1 pal 8: Overworld Palette #8
Area Colors 1 pal 9: Overworld Palette #9
Area Colors 1 pal 10: Overworld Palette #10 (Zora's Domain)
Area Colors 1 pal 11: Overworld Palette #11
Area Colors 1 pal 12: Overworld Palette #12
Area Colors 1 pal 13: Overworld Palette #13 (Dark World 16x16 Block Editor Palette #7)
Area Colors 1 pal 14: ? (Unknown)
Area Colors 1 pal 15: Overworld Palette #15
Area Colors 1 pal 16: Overworld Palette #16 (Dark World 16x16 Block Editor Palette #4)
Area Colors 1 pal 17: Overworld Palette #18
Area Colors 1 pal 18: ? (Unknown)
Area Colors 1 pal 19: ? (Unknown)

AREA COLORS 2:
//Same as Area colors 1.
Area Colors 2 pal 0: ? (Unknown)
Area Colors 2 pal 1: Nothing
Area Colors 2 pal 2: Nothing
Area Colors 2 pal 3: Nothing
Area Colors 2 pal 4: Overworld Palette #23
Area Colors 2 pal 5: ? (Unknown)
Area Colors 2 pal 6: 16x16 Block Editor Palette #7 (Dark World)
Area Colors 2 pal 7: 16x16 Block Editor Palette #7 (Light World)
Area Colors 2 pal 8: Nothing
Area Colors 2 pal 9: Nothing
Area Colors 2 pal 10: Nothing
Area Colors 2 pal 11: Nothing
Area Colors 2 pal 12: Nothing
Area Colors 2 pal 13: Nothing
Area Colors 2 pal 14: 16x16 Block Editor Palette #2 (Light World)
Area Colors 2 pal 15: 16x16 Block Editor Palette #2 (Dark World)

ENEMIES 1:
//Overworld enemies sprites Palette.
Enemies 1 pal 0: ? (Unknown)
Enemies 1 pal 1: ? (Unknown)
Enemies 1 pal 2: ? (Unknown)
Enemies 1 pal 3: Green Soldier/Link's Uncle
Enemies 1 pal 4: ? (Unknown)
Enemies 1 pal 5: ? (Unknown)
Enemies 1 pal 6: ? (Unknown)
Enemies 1 pal 7: ? (Unknown)
Enemies 1 pal 8: ? (Unknown)
Enemies 1 pal 9: ? (Unknown)
Enemies 1 pal 10: ? (Unknown)
Enemies 1 pal 11: ? (Unknown)
Enemies 1 pal 12: ? (Unknown)
Enemies 1 pal 13: ? (Unknown)
Enemies 1 pal 14: ? (Unknown)
Enemies 1 pal 15: ? (Unknown)
Enemies 1 pal 16: ? (Unknown)
Enemies 1 pal 17: ? (Unknown)
Enemies 1 pal 18: ? (Unknown)
Enemies 1 pal 19: ? (Unknown)
Enemies 1 pal 20: ? (Unknown)
Enemies 1 pal 21: ? (Unknown)
Enemies 1 pal 22: ? (Unknown)
Enemies 1 pal 23: ? (Unknown)

DUNGEONS:
//Dungeon GFX# Palettes.
Dungeons pal 0: ? (Unknown)
Dungeons pal 1: ? (Unknown)
Dungeons pal 2: ? (Unknown)
Dungeons pal 3: ? (Unknown)
Dungeons pal 4: Ice Dungeon
Dungeons pal 5: ? (Unknown)
Dungeons pal 6: ? (Unknown)
Dungeons pal 7: ? (Unknown)
Dungeons pal 8: ? (Unknown)
Dungeons pal 9: ? (Unknown)
Dungeons pal 10: ? (Unknown)
Dungeons pal 11: ? (Unknown)
Dungeons pal 12: ? (Unknown)
Dungeons pal 13: ? (Unknown)
Dungeons pal 14: ? (Unknown)
Dungeons pal 15: ? (Unknown)
Dungeons pal 16: ? (Unknown)
Dungeons pal 17: ? (Unknown)
Dungeons pal 18: ? (Unknown)
Dungeons pal 19: ? (Unknown)

MISCELLANOUS COLORS:
Miscellanous colors pal 0: Menu Screens, Font Colors, Overlays (Item Menu etc...)
Miscellanous colors pal 1: Menu Screens, Font Colors, Overlays (Item Menu etc...)

WORLD MAP:
World map pal 0: World Map (Light World)
World map pal 1: World Map (Dark World)

ENEMIES 2:
//Dungeon enemies sprites and Title screens palettes.
Enemies 2 pal 0: ? (Unknown)
Enemies 2 pal 1: ? (Unknown)
Enemies 2 pal 2: ? (Unknown)
Enemies 2 pal 3: ? (Unknown)
Enemies 2 pal 4: ? (Unknown)
Enemies 2 pal 5: ? (Unknown)
Enemies 2 pal 6: ? (Unknown)
Enemies 2 pal 7: ? (Unknown)
Enemies 2 pal 8: ? (Unknown)
Enemies 2 pal 9: ? (Unknown)
Enemies 2 pal 10: ? (Unknown)
Enemies 2 pal 11: Title Screen Palette 8 (Master Sword)
Enemies 2 pal 12: ? (Unknown)
Enemies 2 pal 13: ? (Unknown)
Enemies 2 pal 14: ? (Unknown)
Enemies 2 pal 15: ? (Unknown)

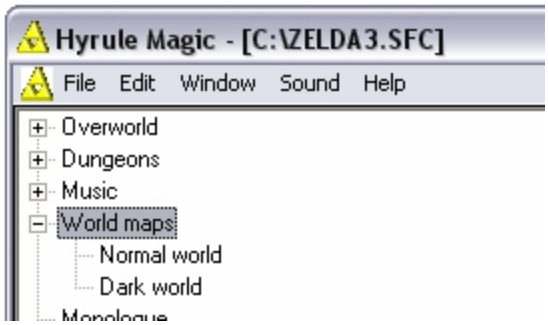
OTHER SPRITES:
//Special sprites around like the bird statue, which doesn't get affected by the sprites palettes in the overworld.
Other sprites pal 0: ? (Unknown)
Other sprites pal 1: ? (Unknown)
Other sprites pal 2: ? (Unknown)
Other sprites pal 3: ? (Unknown)
Other sprites pal 4: ? (Unknown)
Other sprites pal 5: ? (Unknown)
Other sprites pal 6: ? (Unknown)
Other sprites pal 7: ? (Unknown)
Other sprites pal 8: ? (Unknown)
Other sprites pal 9: ? (Unknown)
Other sprites pal 10: ? (Unknown)
Other sprites pal 11: ? (Unknown)
Other sprites pal 12: ? (Unknown)
Other sprites pal 13: ? (Unknown)
Other sprites pal 14: Sprites #167, 189, 192.
Other sprites pal 15: ? (Unknown)
Other sprites pal 16: ? (Unknown)
Other sprites pal 17: ? (Unknown)

DUNGEON MAP:
Dungeon map pal 0: Self-Explanatory.

TRIFORCE:
Triforce pal 0: Self-Explanatory.

CRYSTAL:
Crystal pal 0: Self-Explanatory.

PART 08: WORLD MAP EDITING



The world maps contains the maps which you can access in game while in the overworld by pressing the x button (On a real SNES). Editing the tiles sure is easy, just make sure that the **draw button** is on. Use right click to select to copy the parts you like and left click to paste that tile where you want. Of course you can also choose them from the right rectangle.

You can also draw by using the select option (Default), use it to select an area, and drag it to wherever you want that area to go. Also note that Dark World map uses the same surrounding clouds as the Light World ones.

Drawing is easy, but what happens if you have some really nice gfx you want to put on the map?

Double clicking on the tiles on the right will lead you to the graphics editor window. This section contains a bunch of colours on the right and the tiles on the left (As shown above). The copy and paste buttons there can be used to import/export the World Map GFX to an external image editor. *****Remember, to copy them in an image editor like Jasc Paint Shop Pro or Adobe Photoshop, because MSPaint will corrupt the colors, thus you will be losing quality in your graphics and won't be able to paste them back in the editor...***** You will need to be careful while choosing the colors; not to use colours which the SNES doesn't use (In other words, stick to the colors you already have there). The bunch of colors on the right are the Overworld Palettes (Not sure about this...).

The pink circles are the event signals which you will see on the map. (eg. Remember at the start of the game you have to head to Hyrule Castle and there's this X thing on the castle? That's it.) To move it, just select the **move button** at the top of the screen and move it to wherever you want it to be. You can also remove it by right clicking. (You can add it back by right clicking and selecting **insert icon #)**. You can select which event you want to edit by that combo box up there which should say "Hyrule Castle" (As shown in the above screen). These events should be pretty Self-Explanatory.

Note: You should try to insert icons which the game doesn't use, for example, trying to put 2 circles at the start; However, trying to put 5 circles on the map which shows the Master Sword and the 3 pendants will result in glitchy GFX and will look bad. You should avoid that.

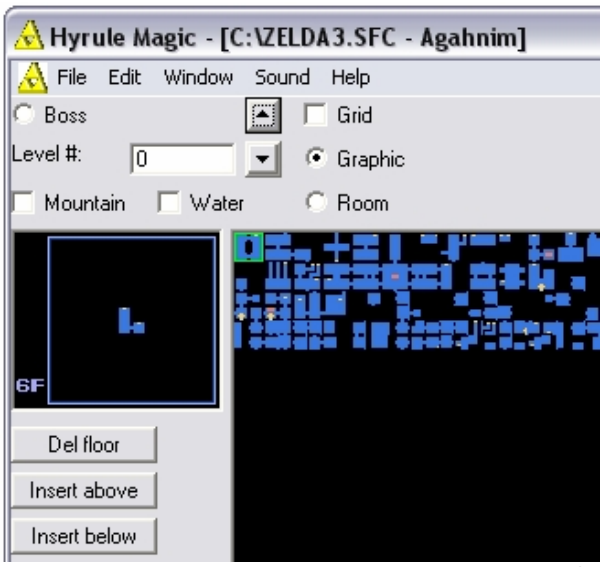
Above: This is what you can do to the flute locations, but remember changing these only affect where they are shown on the world map, not the actual dropping spots.

There's one more function in world map editing which is very dangerous to use, it has the potential to forever stuff up your game and you can't do anything about it unless you restore from your backups. It's the **layout button**. You'll see lots of rectangle squares in the map with hex

numbers in them. They represent the Overworld and how they're joined up together. (eg. Clicking on the big Area 00 square in the forest will split the screen in four. Clicking on one of the small screens will make four of them merge into one big screen. It's dangerous because if something like Items, Sprite etc.. is right in the middle of that big Area 00 square, it will cause Hyrule Magic to crash and something really bad will be written to the rom instead.

Note: Sometimes Hyrule Magic doesn't crash in that situation, but it has a high chance that something in your rom is stuffed up. A good tip would be to clean up the ROM (Removing all the Overworld Sprites & Items) before attempting this operation.

PART 09: DUNGEON MAP EDITING



In this editor you can change the dungeon map. Click on a block in the selector and then on the room to change it. Select the room you want to change and type the room number (In hex) or press **N** to remove it from the map. You can move the entire dungeon up or down by clicking with the left or the right mouse button on the floor number.

Grid:
This check box shows the grid.

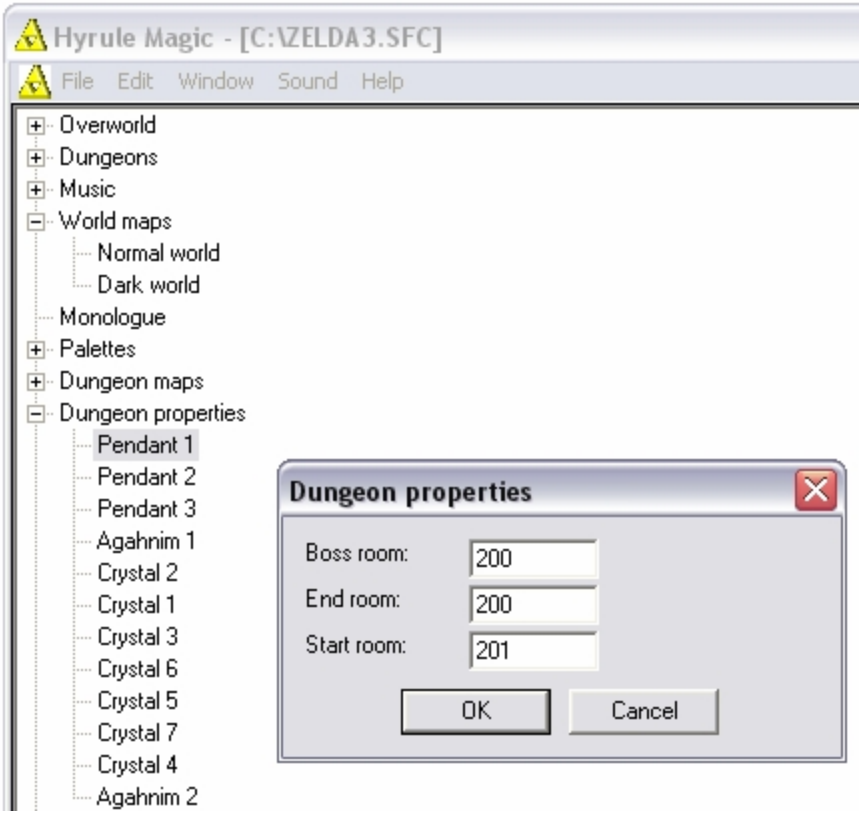
Boss:
This allows you to select anywhere in the map on the left and shows ingame the location of the dungeon boss (If one exists). The boss cannot be placed outside of a room.

Room:
This will show location of the rooms. A part of the map can be designated to a Room reference. These however are done in Hexidecimal co-ordinates so you will need to convert the Room numbers from the dungeon editor. (eg. The first room in the game. Link's house. Which is Room number **260**. In the editor if you wanted to make that one room on the dungeon map then you would select the map area and input the number **104** (Which is the Hex equivilent). If you can't calculate the numbers in your head then you could use the Windows basic scientific calculator).

Graphic:
This allows you to select any of the map GFX on the right and place it down in the map box on the left. The problem with the graphics is that they rarely fit the layout you want. Which means you have to edit all the gfx to fit.

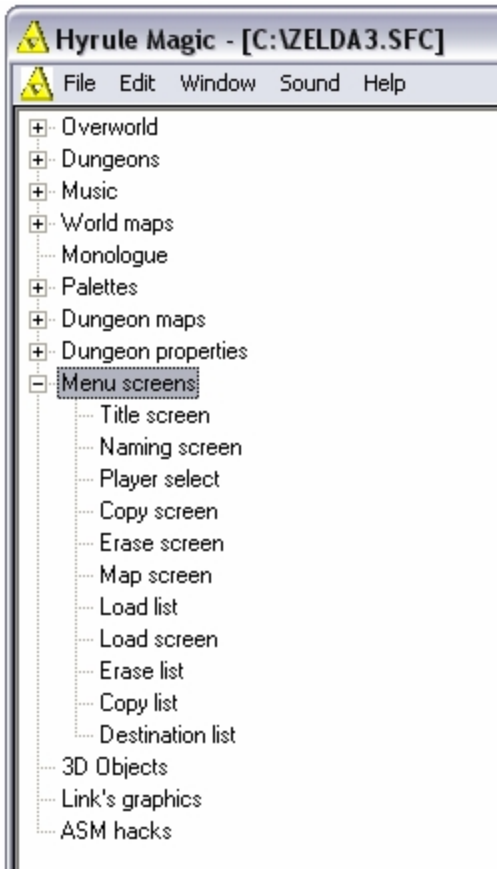
201 ▸ Dungeon Map 1 GFX
202 ▸ Dungeon Map 2 GFX
212 ▸ Dungeon Map GFX
213 ▸ Dungeon Map GFX
214 ▸ Dungeon Map GFX

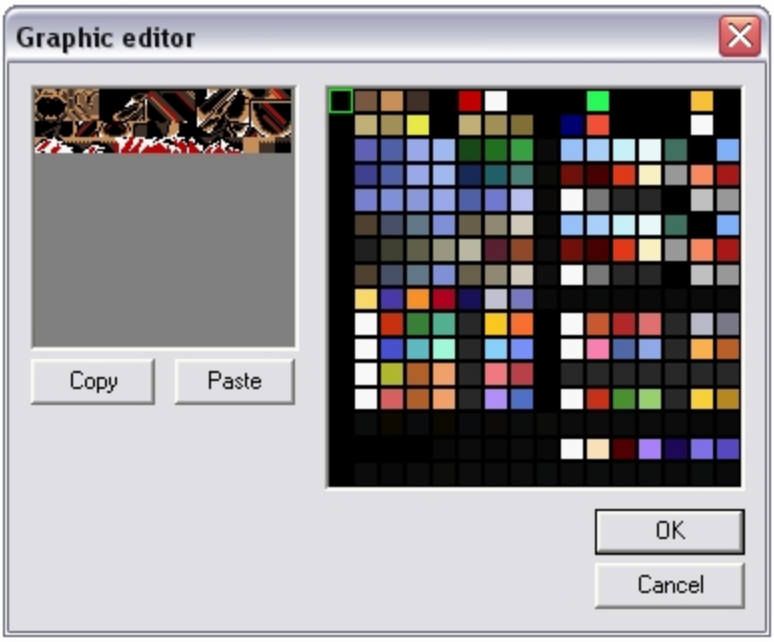
PART 10: DUNGEON PROPERTIES EDITING



Boss Room ▸ The room where you fight the big boss.
End Room ▸ The room that ends the dungeon.
Start Room ▸ The first room you see when you enter the dungeon.

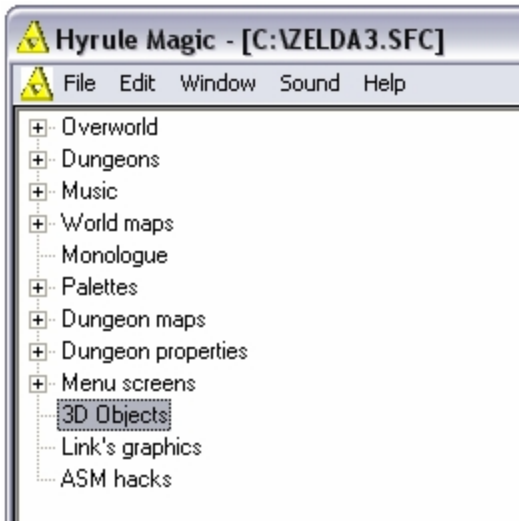
PART II: MENU SCREEN EDITING

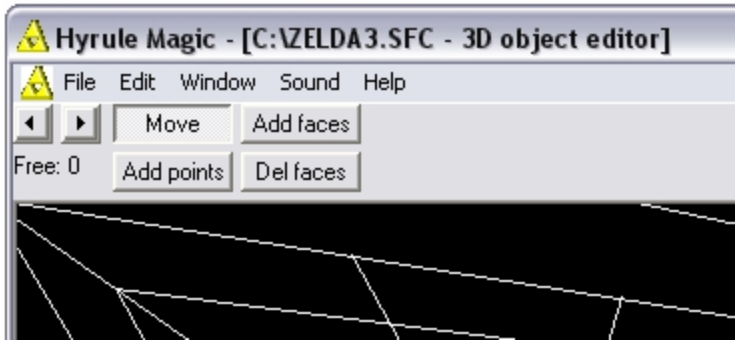


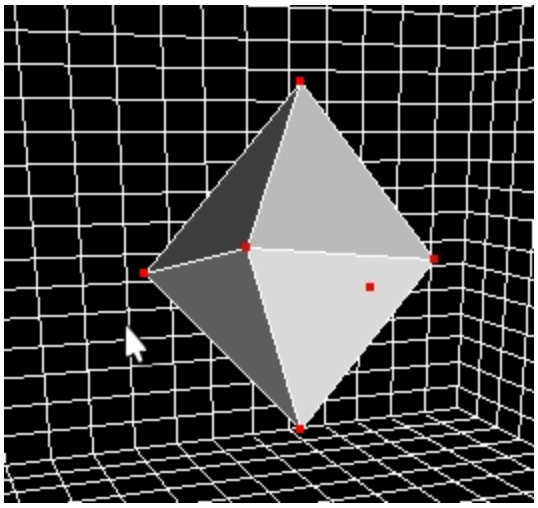


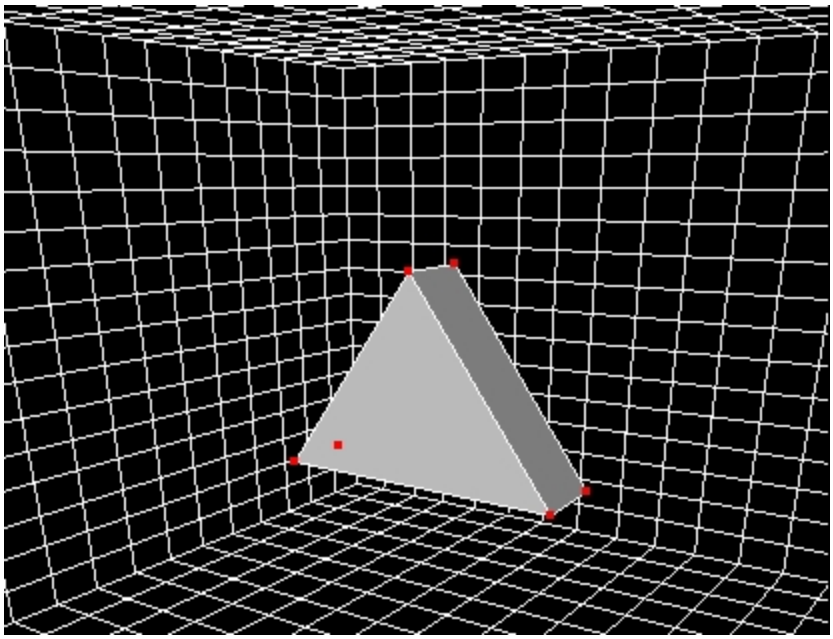
This editor allows you to change the menus screens of the game. With the **move button** you can click and drag to move stretches of tiles. Pressing **M** changes between horizontal and vertical. Pressing "**,**"decreases while "**.**" increases the length. Pressing "**-**" changes between normal and fill. It is recommended that you don't change the size of anything these characters in the last 5 screens as this might cause the game to crash. With the **draw button**, the selected tile can be painted on a stretch. By pressing the right mouse button, a new stretch can be placed.

PART 12: 3D OBJECT EDITING



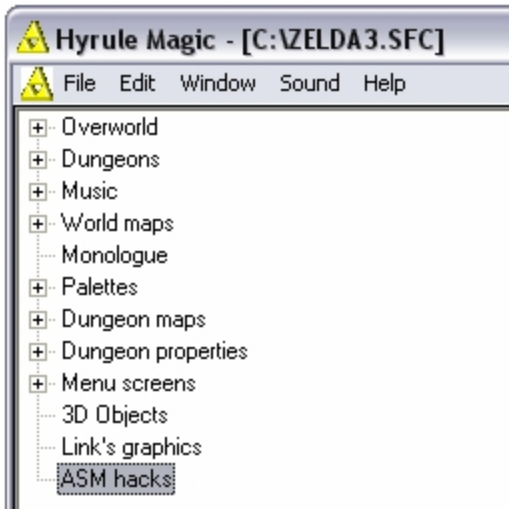






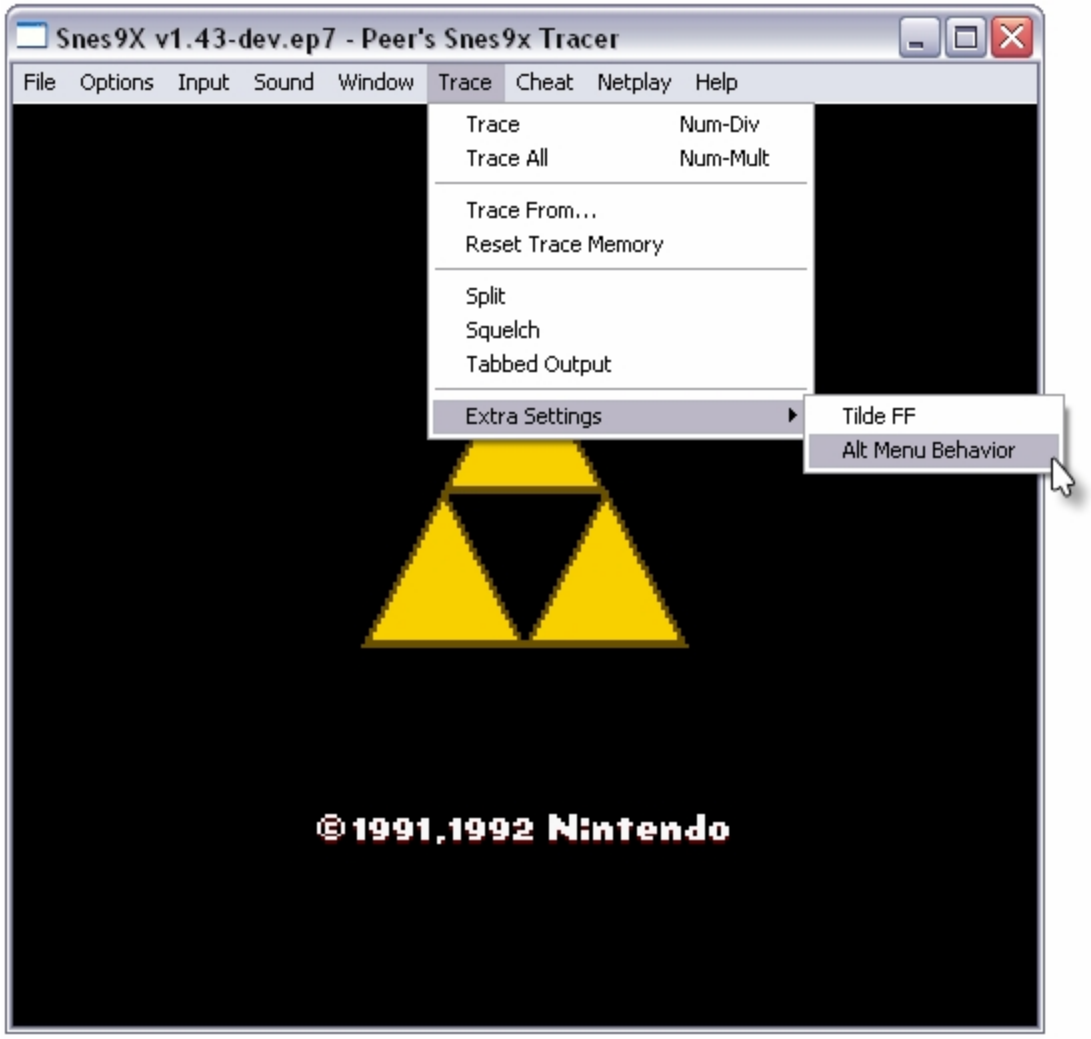
This editor edits the 3D crystal and triforce. Pressing **Q**, **W** and the **arrow keys** rotates your view of the edited object. Pressing "**+**" and "**-**" on the keypad makes the view bigger/smaller. With the **move button**, points can be selected and moved by pressing **A**, **Z** and the **numeric keypad**. You can delete a point and all the faces that uses it by pressing **backspace**. With the **add points button**, you can insert points by clicking on the desired position in either plane and then choosing the third coordinate from one of the other planes. With the **add faces button**, click on the points that shall make up the new polygon to make a polygon. If you click on the points in clockwise order it will face away from you, otherwise it will face towards you. The **del faces button**, allows you to delete a polygon by clicking on it.

PART 13: PATCH MODULES (ASM)



This allows you to add custom hacks to the game. To do this, you need the assembler FSNASM. The path to the assembler must be entered in the configuration dialog. To add a source file to the list, press the **Add button**. Similarly, to remove a source file, press the **Remove button**. The **Build button** is Self-Explanatory.

13-01) Evil Peer's Snes9x Tracer:



This version of Snes9x was compiled by Evil Peer. The official Snes9x team will not support it. PST does not support either Glide or Fmod.

PST was built with Visual Studio 2003 and the latest Microsoft development kits. As such, you may also need:

- mfc71.dll
- msvcp71.dll
- msvcr71.dll
- DirectX 9.0b (Probably not necessary though...)

DLL Libraries: http://www.zophar.net/Files/msvcp71.zip
http://www.zophar.net/Files/msvcr71.zip
http://www.zophar.net/Files/mfc71.zip

Features:

- Trace . trace each instruction once only
- Trace All . trace every instruction, every time
- Trace From, To . trace from a SNES address after its been executed a certain number of times until it reaches another SNES address a certain number of times. Place a zero in any unwanted fields.
- Capture Every Pass . available on the Trace From dialog, this setting will trace a section of code to file every time its executed.
- Reset Trace Memory . resets all internal trace variables back to their bootup values.
- Split . splits trace files after 65535 lines (around 5 megs in squelch mode)
- Squelch . squelches some of the less useful information in trace files (reduces file size by 25%)
- Tabbed Output . produces tabbed fields for spreadsheets or databases
- Tilde FF . use the tilde key (~) for fast forward, like ZSNES
- Alt Menu Behavior . causes the escape key to call the menu and pause emulation

Known Issues:

- Sound: Not sure if it's my build or just 1.42 in general, but long sound buffers (640ms) will cause considerable delay between onscreen action and sound.40ms was tested and seemed to work well.

URL: http://www.zophar.net/Files/snes9x1.43-dev.ep7.zip

13-02) WLA DX ASSEMBLER:

If you want a fast routines patcher, flexible and -most important- easy to maintain tool, you have to get **WLA DX**, its a multiple platform assembler sporting **65816** and **spc700** support and it also has the ability to patch roms directly.

Heres an example, should be fairly easy to understand.

Just for the record, this routine replaces the "Get next pointer for decompressed graphics block" loader in Zelda 3.

This was coded because I wanted to move the graphics in the rom around, especially to get around the problem with recompressed GFX blocks that are bigger than the original ones. this way, **WLA DX** relocates all graphics blocks dynamically every time I compile my code.

I could even move it from one bank to another in a matter of seconds.

Here is the example:

```
;==========================================================================
; Hack
;==========================================================================
; Hooktrap for compressed GFX pointer loading routine

.BANK 0 SLOT 0 <----Apply patch on bank 0, offset $E7783
.ORG $E783



JSL (CompGfxPointerLoader+10354688) <------Jump to my code, hirom (So I have more space per bank, since lorom is so annoying)
JMP $E79C

;==========================================================================
; Patch
;==========================================================================
;Custom loader for Zelda 3 compressed 3BPP GFX

.BANK 33 SLOT 0 <----Selects which bank to use
.ORG 0
.Section "Main Intro Code" overwrite <-------Let WLA DX dynamically handle the ORGing and overwrite rom (Although Zelda 3 has nothing in bank 33 cause its just 8mbits.)

CompGfxPointerLoader:

PHP ;Save cpu status
PHB ;Save last bank
LDA.B #(:CompGFXBankTable+192) ;Get bank where the pointertable is stored
PHA ;Push that shit on the stack
PLB ;Get current data bank from stack
SEP #$30 ;Index/mem 8bit
STZ $00 ;
LDA.B #$40 ;Set up destination
STA $01 ;Decompression buffer
LDA.B #$7F ;In wram, 7f400
STA $02 ;
STA $05 ;
LDA CompGFXBankTable,y ;Get next pointer
STA $CA ;Store bank
REP #$30 ;Index 16bit
TYA
ASL A ;Wish asl y was possible.
TAY ;Multiply pointerselector by two cause thats
LDA CompGFXTable,y ;A two byte table.
STA $C8 ;Store offset in $c8 and $c9
TYA
LSR A ;My mommy told me to
TAY ;Leave things like
LDA $C8 ;I found them, so there!
PLB ;Restore data bank
PLP ;Restore cpu status
RTL ;
```

Now, we also have a nice 2 byte pointertable + seperate banktable, instead of the ugly splitted shit that was there in the first place.(A seperate pointertable for each bank, lo adress and hi adress, wich is hard to follow).

13-03) LUNAR COMPRESS:

Lunar Compress is a decompression and recompression DLL written in C for a few compression formats that have been known to show up in certain SNES/GB games. It's intended primarily as a programmer's resource, so it even includes a few common functions that may be useful for SNES ROM editing (such as ROM/PC address conversion, ROM expansion, bpp/indexed GFX conversion, etc).

The zip file contains the source code required for accessing the DLL, and two simple command line utilities that may prove useful if you just want to test or use the DLL's compression capabilities without having to code anything. The source code for these two programs have been provided, as well as the source to a simple win32 GUI sample program for Super Mario World so you can examine how to use the DLL correctly.

A small brute force tool called "sniff" that can occasionally be useful for locating compressed data offsets is also included (check the sniff.txt file).

For documentation on the DLL function calls and the values used to represent each format, please read the files "LunarDLL.h" and "LunarDLL.def". While the DLL and utilities have all been written in C, other languages should be able to access the DLL just fine, including VB.

Lunar Compress DLL + Development Files v1.5.1:

http://fusoya.cg-games.net/lc/download/lc151.zip

13-04) MISCELLANEOUS NOTES:

Every 60th of a second an "interrupt" is called called the NMI. In Zelda 3 the interrupt is located at **$000069** in rom and **$00:8069** in SNES memory (for the american rom). Now I'm no expert on this, but I believe that is called VBlank or NMI. It's where your graphical data gets updated to the screen.

There is also Hblank (horizontal blank) where you can alter graphics as they are being drawn every scanline. If you don't know what a scanline is feel free to ask. That is essentially how things like oval shaped black spot lights are created when Link goes into and out of a building. The width of a black object is changed every scanline. I believe that Hblank effects are handled using HDMA or possibly just DMA. I need to research this a bit more as well, but I've come to terms with it enough to recognize it when I see it.

You dont have to use the nmi. As most regs (Like the video regs, the audio ports etc) have buffers in wram. That means you dont have to write to the regs during vblank, you can just write to these buffers when you want to and the values will automatically be written to the regs during vblank.

Theres also similar stuff for dma transfers, but thats a bit more complex.

Most vram stuff is also buffered in vram, like the pause menu, the status display (i mean on BG3) and the complete oam table(for sprites). You can just write there and everything will get transferred during the next vblank. Dont know bout hdma, but there should be a buffer for that, too. I'm going to have a look at it later as I need it.

PART 14: HEX EDITING

14-01) HEX BASICS

Hex is really easy to learn:

0 - 9 = 0 - 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

14-02) HEX LESSONS

WRITTEN BY: SOLID-TBONE FROM TEKHACKS

THE BEGINNING

Now this is I think the part that scares people. Counting hex numbers. It's so simple after you get it. You will smack yourself for not learning it before. Hex goes a little something like this:

00,01,02,03,04,05,06,07,08,09,0A,0B,0C,0D,0E,0F…..

You really don't need the 0 when counting, but for romhacking reasons, we will put them in there. When you get so high it gets a tad confusing. It goes like this:

D0,D1,D2,D3,D4,D5,D6,D7,D8,D9,DA,DB,DC,DD,DE,DF…

After DF comes E0. People have the hardest part with that. Always ends in F and always begins with 0 when counting. It's from 00 to FF. In decimal the total is 255. It NEVER goes any higher, ever!! Just do not forget that after EF would come F0. Another is 49 comes 4A and CD comes CE. I would recommend writing down all the hex numbers so you get the idea. Takes time, but do not give up. Hex address are read in the same way except the numbers raise in value. This number depends on the size of the rom. At hex address 1001A, the byte there is 39. Addresses and bytes are 2 different things and never get them mixed up. Addresses hold bytes. That should make it simple enough. You can't change addresses, but you can change bytes. Bytes is what holds the rom data we go looking for. It becomes easier, just read on.

THE NEXT STEP

Open up a hex editor and open a rom (In this exemple I will use Castlevania). You will see a bunch of hex numbers. All these numbers hold important data for the rom. The first 10 bytes in ALL roms are for the header so emulators can read them. Never touch them. This will be important when I go over adding Game Genie Codes to a rom. There is nothing in a rom you can't find and change. Searching through a rom can be a major pain in the ass. If you do it correctly you can find good usable data for the rom. Just take every 8 bytes or so, except for the first 10, and change them all to 00. Make sure you copy the 8 bytes you changed so that after you see what it does you can put them back in. I use Hex Workshop and Translhextion for my hex editing needs. I ALWAYS make copies of the rom I am using and I write all my information

down. Always save after you get some great info. It happens to the best of us, believe me I know.

FINDING LEVEL DATA

There really isn't much to finding data in a rom. Here is an example of what I did to find the level data. I searched every 8 bytes until I found the data I was looking for. At address &H1001A you will find the byte 39. Change that byte and save it. Open up the rom in your favorite emulator and play the first stage. You will see the very first tile changed to an all black tile. Isn't that totally awesome. I was very excited when I found this data. It just takes time, don't give up. Let's move on.

FINDING MORE LEVEL DATA

This is a little easier since you found the level data for Castlevania. This takes a little time, but just change so many bytes and keep checking the rom. You should notice that level 2 begins right at the end of level 1. The only difference is that the rooms are not in order. The last byte in that room is where the fish men jump out of the water. After that go to level 2. You will see that the first byte in level 2 is changed. I am pretty sure it's around &H10865. I haven't been playing with hex in a while and I lost my CV document that I had with all my info. I will find it though. Using the same steps I am telling you here. Level 2 level data is also not in order so mess with all the bytes from there and you will find the level data. That is really it. Search.

FINDING A TITLE SCREEN

This is easier than looking for level data. I did this easily and was surprised how quick I found it. Every title screen has some kind of text info in it. I took Castlevania's title sceen and looked up words like push start now in a hex editor. Most hex editors support text search, like hexposure. After that, you have part of the title screen. Just keep going back until you find the very first byte in the screen. Unlike level data, title screen data is usually 1 sprite big. So changing it to your specifications can be a little time consuming, but definitely worth the trouble in the end. I used Nesticle95 and TLP to view the pattern table and find out what byte is where. You can click on a byte in Nesticle and find out what byte is assigned to a sprite. There are 2 different sides. They change due to changes in RAM I think. The title screen data in a pattern table is usually on the right hand side. Just click and find out what byte is assigned to what sprite. It becomes easy after you do it. Everything does technically. Just keep plugging.

FINDING GRAPHIC DATA

This is the easiest part and the hardest part. Open up TLP and Castlevania. Scroll down until you begin to see sprites. You will see a sprite that looks like a line. That is the beginning graphical data for Castlevania. It should begin at &H3508 and end around &H10000. I been up for 15 straight hours and I am too lazy to open it. You just saved yourself a ton of time looking through a rom for all this information. Now when looking for data you can skip over a ton of bytes that were once unknown data. Some nes roms have what they call compression. They compress graphics to save space. There are a good amount of different formats that you have to learn. I don't have time to teach them here, because I don't know them all and this is a hex document. They do have programs that help you look for it and FuSoYa has made a program called Lunar Compress that decompresses certain roms. Nifty program and I suggest you pick it up. I sure hope that someone else can pick up on this subject. Sorry if I don't know that much here. Getting help from people can be such a task sometimes. Let's move on to our final subject(s).

FINDING OTHER TYPES OF DATA

You be amazed by how one byte can hold important data. I am going to use Megaman 5 as my example. When I was learning how to convert Game Genie codes I learned that Megaman's jump height data was held by one byte. You could find this the hard way by changing all bytes one by one until you come to hex address 360BE. The byte there is 05. If you change it to 06 he will jump higher. The higher you change it, the higher Megaman jumps. It's pretty fun to do. I had help from fellow tekhacks member DahrkDaiz and another member named Gil_Galad I met in acmlm's mIRC #romhacking channel. I used a Game Genie code converter. Open it up and select NES. Enter the code and you should get the address and the bytes. It will give you the address it's at in memory and the byte it is and the byte you need to change it too. Now the address you have is not the address that needs changing. You must add 10 bytes to the address for the header. This next part is a little tricky. You must use the mathematical operation "AND" to the new address. So if you got the hex address 9123 in your Game Genie Code Converter, you would open your calculator that comes with windows. For the AND operation, you always use the hex address 1FFF. I don't know why it is, but it just is. I believe that it also has to deal with RAM moving in and out of the rom. If you do 9123 AND 1FFF you get 1123. Now never forget to add 10 bytes for the header. After that you get hex address 1133. Now, because of something called banking you must search for the address by adding 2000 or 8000 bytes. Sometimes you can just add 8000 bytes and you got your address, but sometimes different roms use different amounts of banking. So just add 2000 bytes to the address until you find the desired result. For some Game genie codes, you don't get a starting byte value. You get a byte to change it to and not a byte that you have to look for. So just do what I said before and just change the byte held at every 2000 or 8000 bytes to the one that Game Genie Code Converter gave you. You will eventually come up with the result you want.

14-03) HEX OFFSETS

ITEM POND DATA:

Most of it is handled by the ASM involved but here are the interesting locations to change:
Note: The item numbers match with the numbers you see when you put items into chests, just remember to convert to hex before you put it in in the hex editor.

- ***These values are for the Light World pool behind the waterfall:***

34AD3 = Boomerang
34AD7 = Magic Boomerang
34AE3 = Regular Shield
34AE7 = Red Shield
34AF2 = Bottle
34AF7 = Cure Magic Potion

- ***These values are for the Dark World pool in the pyramid:***

34B08 = Bow & Arrows
34B0C = Bow & Silver Arrows
34B1F = 3rd Sword
34B23 = 4th Sword
34B2F = Bottle
34B33 = Cure Magic Potion

SHOP DATA:

Basicly, this covers all dungeon rooms where the ShopMan sprite (**sprite BB**) is to be found.

At address **030DE4** there is a table of **1 byte entries**. Each byte holds the lower part of a room number in hex (So room 256 and room 1 both would have an 01 in this table, if there was a ShopMan sprite in both 256 and 1 then it would be the same thing for both rooms).

At table **30E1D** there is another table, this one has **2 byte entries**. Each 2 byte entry matches with a 1 byte entry in the first table. These contain function pointers (The numbers as you would see them in a hex editor are reversed from how I talk about them here because of a detail in how the snes works that only ASM hackers care about).

What you do is to set the first map table to the rooms you want shops etc in (there is a limit on how many you can have) and you set the second function to one of the different functions then you modify the code as appropriate.

- ***Here's what the functions do:***

8C37 is for the shop that sells potion, small shield and bombs.

- The potion is at **30E3A** (Play around with numbers to figure it out.)
- The small shield is at **30E40**.
- The code for the bombs is shared with another shop.

8C43 is for the shop that sells large shield, bee and arrows.

- The large shield is at **30E46**
- The bee is at **30E4E**
- The arrows are at **30E56**

8C5C is one of 2 gambling places.
(Dont know anything about how they work yet.)

8C60 is the "pay me to open a chest" game.
(We don't know how this one works either.)

8C67 is the second gambling game.
(Don't know anything about this one either.)

8C72 is for the potion, heart, bombs shop.

- The potion is at **30E75**
- The heart is at **30E7B**
- The bombs are at **30E85** (This location, as mentioned above, covers both the potion, heart, bombs shop and the potion, shield, bombs shop.)

8C8B is for the person in rooms **11E** and **123**.

8C91 is for the person in room **124**.

8C95 is for the person in room **125**.

We are still working on things like price of items and stuff, thats going to be harder to find.
Other sprites that give you items and/or take your money (Like the bomb shop, the magic shop, the shooting gallery, the fortune tellers etc...) will also be figured out eventually.

TREASURE CHEST ADDITIONAL DATA:

- ***Here are some other interesting locations:***

The items for the chest game where you can pick 2 chests are at **$EFA3** (8 items).

The items for the other chest game are at **$F0D7** (16 items).

When you pick up an item that you already have and there's an entry for it in the table at **$3B728** (different from **$FF**), you'll get that item instead.

---> All adresses are ROM adresses. <---

Note: When you change the location of the bird statue, remember to change the overlay code in that room, too.

The table of texts is at **444DD**.

The table that determines what item you get when you pick it up is at **486E8**.
48780 further specifies the item (For example, shovel or flute).
Also, you can put the flippers and boots in a chest.

DUNGEON DATA:

Starts at 50200
Ends at 6006F

Second block - F8200
To end of rom.

14-04) CPU ADDRESSES:

How Much You Have To Pay Zora King for The Flippers:
59A9A or
29C9A - Little Endian Format (Default **F401** = **500**).

What Zora King Sells To You:
1DE1C3

What The Zora King's Item Looks Like:
1DE1E5

Magic Shop Item 1:
5F595

Magic Shop Item 2:
5F5C6

Magic Shop Item 3:
5F5F7

Minimum Sword Level To Shoot Sword Beams:
0x3958A or 39E8B **(?)**

Sword 1 Damage:
6BAFA

Sword 1 Spin Damage/Sword 2 Damage:
6BB02

Sword 2 Spin Damage/Sword 3 Damage:
6BB0A

Sword 3 Spin Damage/Sword 4 Damage:
6BB12

Sword 4 Spin Damage:
6BB1A

Text Layout:
73B3D onwards.

Start of Credits Data:
73378

Start of Overworld Scrolling Text Data:
74150

Layout of the outdoors:
1717E – 30000

Magic Usage rom offsets:

(Includes header)
1/2 magic - +1
1/4 magic - +2

Note: Maximum amount of mana is 0x80

3B287 - Fire/Ice Rods
3B28A - 3 spells
3B28D - Magic Powder
3B290 -
3B293 - Red Staff (block making one)
3B296 -
3B299 - Torch
3B29C -
3B29F - Blue Staff (start using)

The blank ones are data aswell but we don't know yet what they do.

7EF37B - 01 = 1/2 Magic, 02 = 1/4 Magic!!! (I did a rough search on **STA 7EF47B** and find nothing which stores a 2 since they all have **LDA #01** in front of it)

As with the cape, CPU address **07/AE32** - change to **EA** to have Infinite Cloak (or change it to **INC opcode** to make you gain magic!)

There's a table in **Bank 7** that has all speed values for the different conditions (Normal, stairs, running with boots etc) in it.

The table is located at **$07:E228**, and the pegasus boots speed is the 16th value, aka **0x07E237**.

You cannot only make link faster with that (try a value of **#$70**), you can also make him moonwalk using whack values.

Note that these offsets are from the sne's POV, not direct file offsets.

That hack you have in mind would be a matter of minutes. Relocate said table (Theres no room for more entrys), add 2 entrys, write **#$11** to wram adress **$5E** to enable value **1** (Walk for example), **#$12** for value **2**.

I just noticed the bouncing distance changes aswell if you edit the table. So there only the distance left.

The routine that controls how he moves is not too far away from that table. It's **$07E245**. It's very simple, all I did was delete an LSR out of a sequence of 4 LSR A's. Naturally that has the effect of doubling his speed. Remove another and you get craziness. Anyways it's on my list of routines to study, but not overall that important. It's more of a frustrating curiosity.

It's part of a far more complicated problem, which I'm keeping a secret for now.

Jump distances ought not to be changed. The game's is not designed to allow that. That was my problem. You will inevitably end up in a wall or on top of something illegal.

Another problem is that if you make Link too fast, he tends to run through walls, b/c the collision detection does not prevent him from doing so, I believe. It only looks so far ahead.

14-05) VARIOUS EFFECTS YOU CAN CHANGE USING HEX:

Magic Mirror working in both worlds:
0x3AB51 : 29 40 D0 07
Change to EA 4C 5C A9

Magic Mirror working in Dark World only:
0x3AB53 : D0
Change to F0

No Music when warping:
0x2F1 : F0 10 8D 40 21
Change to 4C 03 81 EA EA

Can call bird in both worlds
(Glitch if you call it from the Dark World, since the game think you're in the Light World):
0x3A604 : D0 D4
Change to EA EA
Change to F0 D4 for Dark World only.

Link can walk through all backdrops:
0x3DE37 : F0
Change to D0

Always shoot sword beams regardless of heart level:
39E7B - change to EA
39E7C - change to EA

Magic usage required for items:
0x80 = Maximum Mana
3B29A - Lamp/Torch

Bug Catching-Net Boy gives Quake Medaillon:
0x4872A - change 4D to 49 if you're interested.
(Note: The GFX shown will still be the net.)

REMOVE THE INTRO SEQUENCE MESSAGE REMINDER:

> 0x3F698 hex address, change from 38 to 18.

Forest Background Easy Hex Edit :

To turn the forest background from Blue to Green and allow for red trees to be used replace values at **7E331** to **7E4B0** with:

0D750D750D750D750D750D658D488D750D750D48CD65CD750D750D594D584D750D750D5
84D580D750D750D580D590D650D480D750D750D484D654D750D750D594D584D59CD4ACD
4A4D740D740D740D4A8D58CD4A0D580D588D4ACD584D4A4D58CD598D580D580D594D58
0D59CD58CD580D584D58CD588D580D590D58CD598D750D750D750D594D594D4A4D4A4D
4A8D4A8D588D598D750D4ACD740D59CD588D740D740D58CD58CD4A8D58CD598D750D58
8D58CD750D750D58CD598D750D750D594D4A4D4A4D740D740D4A0D740D4A8D580D4A4D
4ACD740D740D740D4A8D4ACD740D740D740D4A8D740D4A8D58CD598D658D488D498D6D
0D48CD488D6D0D6D0D48CD65CD6D0D49CD59CD4ACD750D59CD4A0D4A4D4ACD4A8D4A
8D598D598D750D490D6D0D650D490D6D0D6D0D6D0D6D0D494D484D49CD65CD4A4D4A0
D4ACD740D590D750D4A0D590D750D650D658D48CD490D6D0D498D6D0D6D0D49CD6D0D
6D0D740D4A0D58CD588D490D6D0D650D480D6D0D494D484D654D480D484D750D750D

Original values should have been:

157515751575157515751565954895751575154 8D565D57515751559555855751575155855581
575157515581559156515481575157515485565557515751559555855 59D54AD54A557415741
574154A9558D54A15581558954AD558554A5558D559955815581559555815 59D558D5581558
5558D558955815591558D559957515751575155955595 54A554A554A954A955895599575154A
D5741559D558957415741558D558D54A9558D559957515589558D57515751558D5599575157
51559554A554A55741574154A1574154A9558154A554AD57415741574154A954AD574157415
74154A9574154A9558D559956595489549956D1548D548956D156D1548D565D56D1549D559
D54AD5751559D54A154A554AD54A954A955995599575154 9156D15651549156D156D156D15
6D154955485549D565D54A554A154AD57415591575154A155915751565156596548D549156D1
549956D156D1549D56D156D1574154A1558D5589549156D15651548156D1549554855655548
15485575157515

ENEMY DAMAGE DATA:

#Just before here, you've seen it load the enemy health.
#Load enemy damage data.
$0D/B841 B9 66 B2 LDA $B266,y[$0D: B288]
$0D/B844 9D D2 0C STA $0CD2,x[$0D: 0CDF]

So this means, there's a table of damages, and there's a table of enemy damage pointers which points to positions in that table.

$06/F400 B9 27 F4 LDA $F427,y[$06: F436]
$06/F403 8D 73 03 STA $0373 [$06: 0373]

^ Table of enemy damage pointers, + armor level (0 1 2).

ENEMY HEALTH DATA:

$0D/B81C: <--- Sprite data loading routine.
... Some loading code
$0D/B829 B9 73 B1 LDA $B173,y[$0D: B195] //Load enemy health
$0D/B82C 9D 50 0E STA $0E50,x[$0D: 0E5D] //Store in "temp array"
... Some loading code

The array size is **0x100**, so you probably can't have 512 sprites in one screen.

Sprite health data: - 0x6B373 - 0x6B64C rom address.

For this test I used that flower enemy again, and it's 0x6B395.

14-06) GAMEGENIE CODES TO HEX CONVERTING GUIDE:

Programs required:
1) Windows Calculator (Set to scientific mode)
2) GGConvC (This utility converts a game genie code to a raw hex code)
3) Gg (This one will make GG codes turn into Pro Action Replay codes)
4) gg-hex (This utility can convert GG to PAR and PAR to GG)

GAME GENIE TO PRO ACTION REPLAY!

Okay, let's say you want to use a game genie code. For a game called Final Fight 2, there's a code that makes you start a new game with 10 lives. But you can't get very far with 10 lives. That's sad, my friend. But besides the point. Altering GG codes can be a pretty bad thing to mess with as some GG codes can erase save files, mess with the batteries, and just screw things up. You don't want THAT to happen, right? Of course not. That's why **Gg** and **gg-hex** were invented.

Gg must be used from the DOS command line. If you don't know what that is, you need to be slapped with a large trout. So, at the command line, run **Gg** like so:

gg dbcf-c7d6

The program will prints:

82a21c09

The printed part of the program is a PAR code. Now, if you know anything about PAR codes, their formats are **xxxxxx:yy**. The **x**'s are the RAM offsets. This means next to nothing. The **y**'s are the modified bytes. THAT is what you want to mess with, peoples! Instead of screwing with the GG code and possibly f-ing your game up, you can mess with the y bytes. This doesn't screw up the game because it has nothing to do with the game's actual code. It changed memory, no big deal. Cool, huh? So in the PAR code above, change the **09** (which is **10** in decimal) to, let's say **10**. Remember, this is in hexadecimal, so **10** is actually **16**. Now, in the game, use the code **82121c10**. You will start the game with 16 lives. It's that simple.

Note: Since PAR codes effect memory, they are outside the range of the actual locations of the game. You can't convert PAR to GG for this reason. Don't try, it'll just waste your time.

GAME GENIE TO HEX ADDRESS!

If you're a rom hacker, THIS is what you were probably looking for. There's a code for a game called Seiken Densetsu 3 that can give Duran a bit for Vitality points. **25** to be exact. FB78-80A5 is that code you want. Now, open up **GGConvC** and select SNES. For this example, I am using a HiRom. HiRom and LoRom examples are different as their range for offsets can vary greatly.

Back to the example, enter the code above into the proper area in the program. It will convert it to **D13EB0:19**. This looks a lot like a PAR code, doesn't it? It has the format **xxxxxx:yy**. It works the same way, the **y**'s being the modified byte. **But this ISN'T the actual hex address.** If you test this, you know it's out of range. So what to do? Here's the method.

Open the calculator, in scientific mode. Select **hex** on the left side. Type in **D13EB0**. Subtract **C00000**. Add **200**. Guess what, you maniac! That's the actual offset! Now, open the rom in a hex editor, go to the new address (it's **1140B0**) and type **19** for the byte you find there, it should be a **05**. Now, save it. The code is permanently patched to the rom. You beast, you did it! Yay!

LoRom conversions are a bit different but not by much. Simple type in the code into the program like above. But this time, press the Show 64k button. Subtract and add like above. Viola! you have the offset for the code.

This process is wonderful for finding data in roms. If there is a code that screws up a room's graphics, chances are that the code moves stuff around and changes level data.

ADDITIONAL NOTES:

0780C7CF - Monster touch you one time and your dead.
0780F7CF - Give you infinite energy.
098133CF - Give you infinite bombs.
1EF3AECF - Shops don't take your money when you buy.

Those ones are probably CPU addresses which you can do in the rom straight away.

You first probably have to know how these codes work:

xxyyyyzz - Codes are structured like this

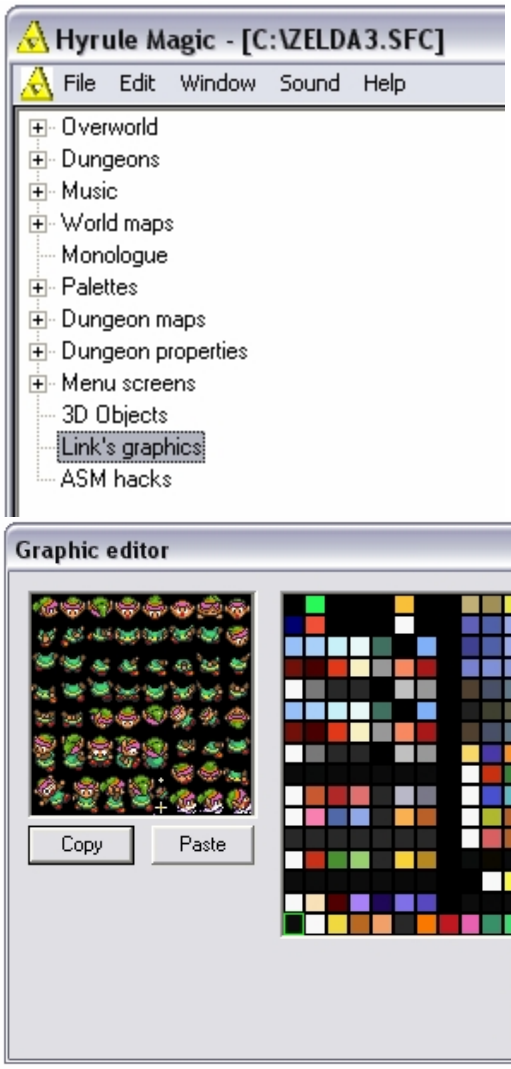
xx - Bank number (7E means it's in the work ram, which gets saved in the .sav file i think, 0 - 3F or 80 - BF usually refers to rom banks ie actual data in the.smc file)
yyyy - Refers to the actual address in the rom, 8000 - FFFF refers to values in the .smc file.

Usually anything below that refers to the ram.)
ZZ - The value to write in this offset.

You first have to know that these codes just changes your rom in memory slightly, overwriting some asm instruction so instead of doing say a subtraction, do a useless thing (eg/ CMP) which means whatever the original code there will not work.

Most codes starting with 7E you probably can't.

PART 15: LINK'S GRAPHICS



You can copy Link's sprites by pressing the **copy button** in the Link's graphics menu and paste it in an external image editor.

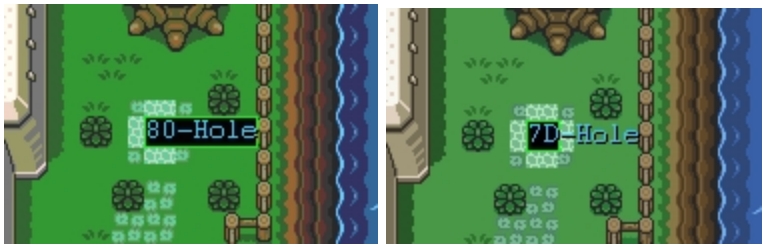
Remember, to copy them in an image editor like Jasc Paint Shop Pro or the GIMP, because MSPaint will corrupt the colors, thus you will be losing quality in your graphics and won't be able to paste them back in the editor...

PART 16: SPECIAL NOTES – OVERWORLD EDITING

Items must be placed under objects like rocks, bushes or pots. Items you most likely put under objects are hearts, magic bottles, switches or secret staircases.

Sprites can contain the same thing as items but they don't need to be hidden underneath an object. (eg. Heart Pieces can just be laced on the ground in clear open view).

Areas 03 & **05** are designed to make the grass brown. If you joined 4 small areas together to make one big one then the gfx sets and background settings all come from the top left area. Thats why if you join **02**, **03**, **0A** & **0B** together the grass goes green. It takes the info from area **02** which originally has its grass green. It also means that **03** and **0B** have the rain background and not the mountain background they would have clumped together with areas **04** & **0C**.
Note:
Moving from a brown grass area (eg. **Area 03**) to a non-brown grass area (eg, **Area 02**) is **NOT** a good idea, GFX will stuff up until you enter some entrance and exit. However exiting from caves is okay. Unless you have your square on **Area 02** to cancel out the brown grass of **Area 03**, be careful, very careful.



You need **Item: 80-Hole** (The red circles) and **Hole: 7D** (The black circles) under either a bush or a rock next to the castle secret entrance for it to work (Beginning). Doesn't matter which order.

The tree stump/hollow tree entrance to the Master Sword screen clearing needs to be directed to a particular exit.

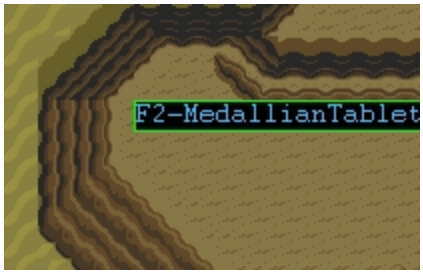
Shown above is the default Master Sword exit properties. If you get stuck with something like entrances and exits always look back at the original Z3 ROM to compare them to your own work.

The Bird statue in Kakariko Village will only work if there is a **1D - UselessSprite** in that particular spot in **Area 18**. That place has to be a 1024x1024 Area (eg. Bigger sized ones) and it has to be in that spot. If you change the GFX around it, the bird will still appear there. Unless you know some ASM you cannot change the position of where the bird will appear.

The Ocarina will only appear in **Area 2A**, using the **1D - UselessSprite** again. Moving the object in a different position but only in the same screen can't be done unless you know some ASM.

The old man on the mountain will not enter any caves with you, but after you meet him in a cave you can exit them, but not enter again. A sprite called **F3 - Person'sDoor** is needed to end that event with that particular message and giving you the mirror.

The watergate entrance **4E**, has to stay in **Area 3B** for it to work. In other screens the water inside will not go down after you use the gate

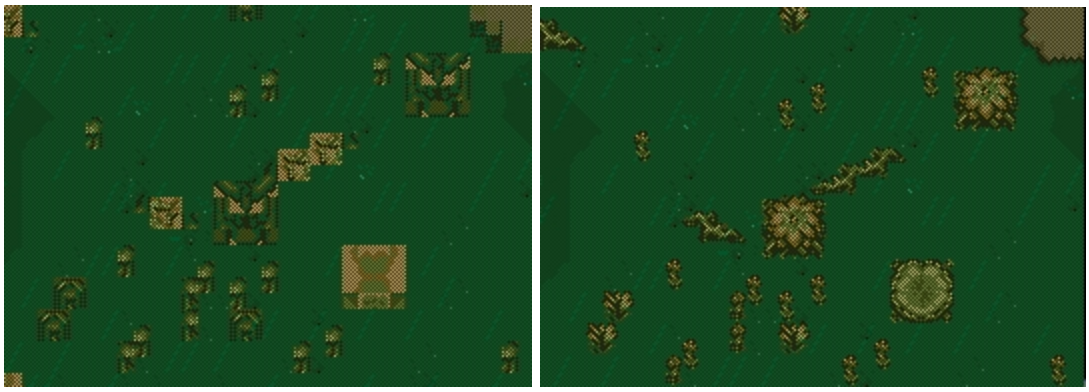


The sprite **F2 - MedallianTablet** gives Bombos in every Area, except for **Area 03**, in which it gives Ether.

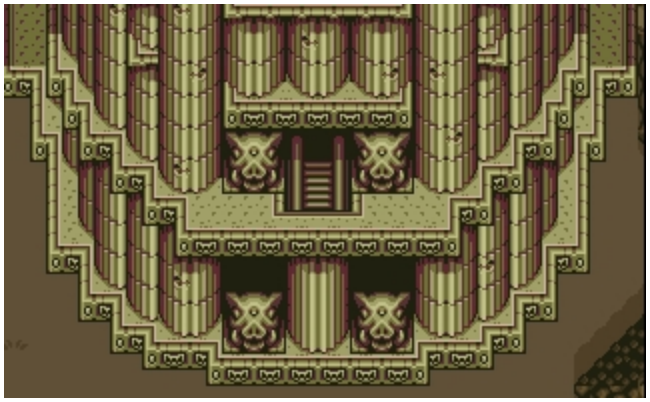
Area 02 - you should notice there's a **3B - DashItem** sprite there (Second part), the tree hollow is in the same spot, moving the **3B - DashItem** sprite seems to just move the gfx covering the treehole (Which is the top of the tree), you can still run into the **3B - DashItem** bit to remove the cover. Even if you remove the GFX, the unhollow tree will still appear in game.

If you're going to use Whirlpools, think again, unless they're in the same areas with links to the same places (eg. **Area 0F** <-> **Area 35**). As a test, out of the 4 whirlpools (2 links from 2 places to the other), only 1 worked. (The other ones gave bad GFX and crashed the game.)

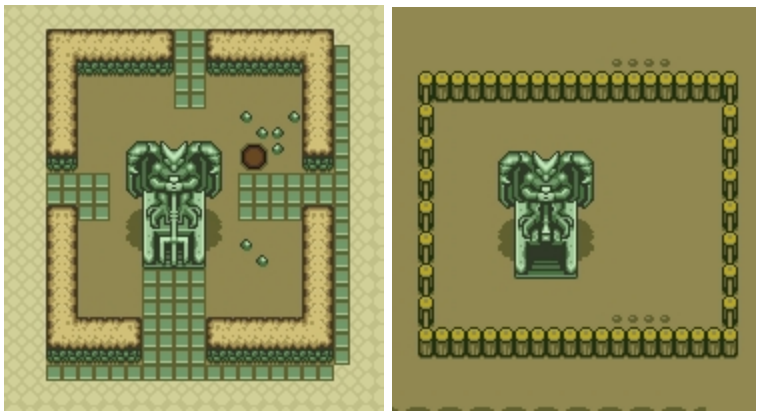

Although you don't have the GFX for the turtle rock or the swamps where you use the **Ether** and **Quake** Medallions, if you do it at the right place the entrance will still appear. One way around is to make sure the user does not get to that tile where you can do the magic to open up the entrance.



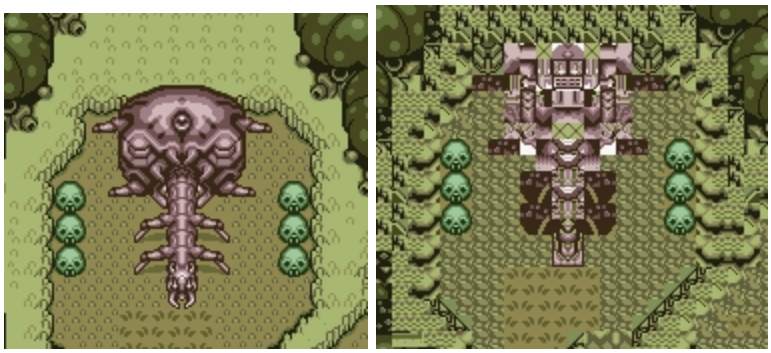
Entering **Area 70**, **71**, **78**, **79** from any adjacent overworld pieces will make the background GFX look dizzy. There is a way around that though, head to the Overworld map and come back with the **x button** (Because it's raining until you do the magic, after the magic it will works fine).



Ganon's fortress won't flash anymore if you move it off screen. In fact if you just move it one tile across, it won't have the "seal" over it anymore.



The Gargoyle Grate is used to open up a place in the same screen as the grate (The grate disappears when moved out of that screen) in that particular **X** and **Y** position. And it will also open up the former place in that ruined town in the dark world using those particular tiles.



In **Area 40** (Dark World Forest). Using the fire rod on the boss entrance (Shown Above) will only work on that tile (at least the 2 front piece of that tile) at that particular place. Moving it will result in not being able to make it work again. After blowing up that place the gfx will be stuffed if you're GFX number is not the same as original.

The monkey quest will only work when you pass those particular spot. Apparently the **100 rupees** one to open the door won't appear if you didn't pay the first **10 rupees**.

There must have water in the area where you throw the bush/rock in exchange of the Quake medaillon for that trigger to work or else you will have to put the medaillon in a chest instead.

The wreakage of the Pyramid where Ganon waits for the final battle, is always in front of Fly-9.

PART 17: SPECIAL NOTES – DUNGEON EDITING

Items must be placed under objects like rocks, bushes or pots. Items you most likely put under objects are hearts, magic bottles, switches or secret staircases.

Sprites can contain the same thing as items but they don't need to be hidden underneath an object. (eg. Heart Pieces can just be laced on the ground in clear open view).

To place a key that will be dropped by an enemy, simply place it in position **00,3C** or **00,3E** on **BG2**. After that an enemy shall drop the key.

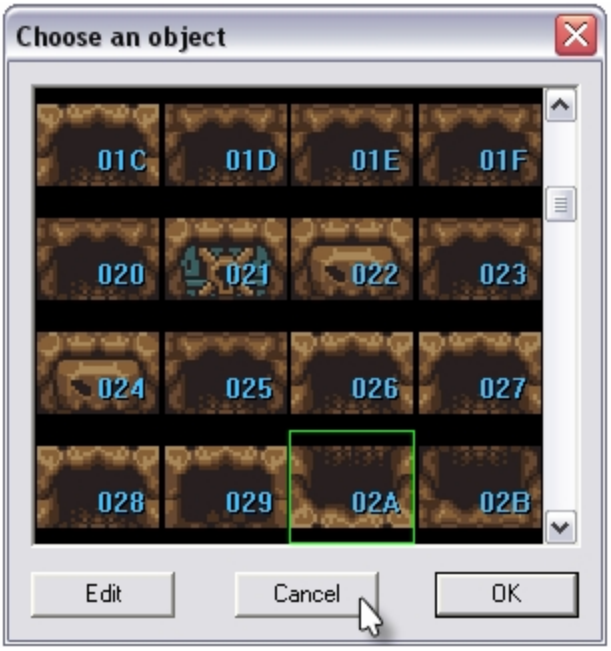
00,3C = Small Key
00,3E = Big Boss Key

To change the layer that an item/sprite is on you have to select it and press the Hyphen "**-**" key.

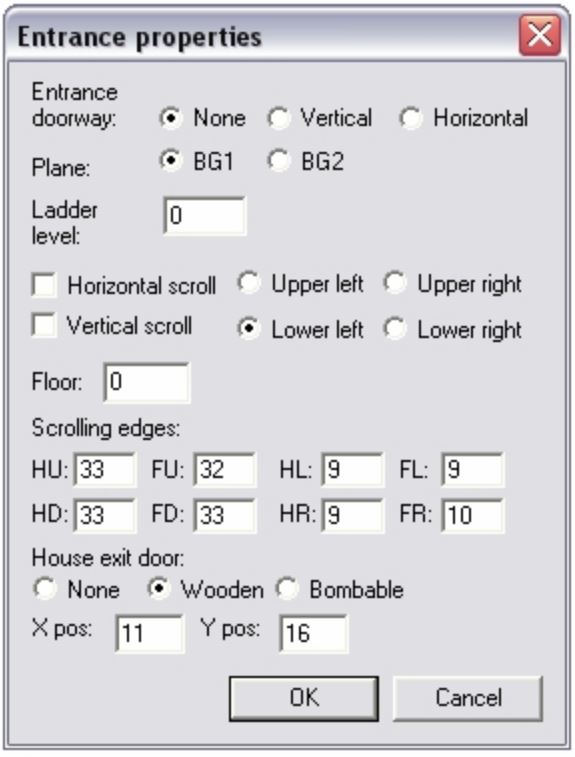
To make sure that the order of sprites are correct use the **left and right arrow keys** to move through the sprites. To alter which sprites come first you must press the "**B**" key to move the selected sprite backwards or the "**V**" key to move it forwards.

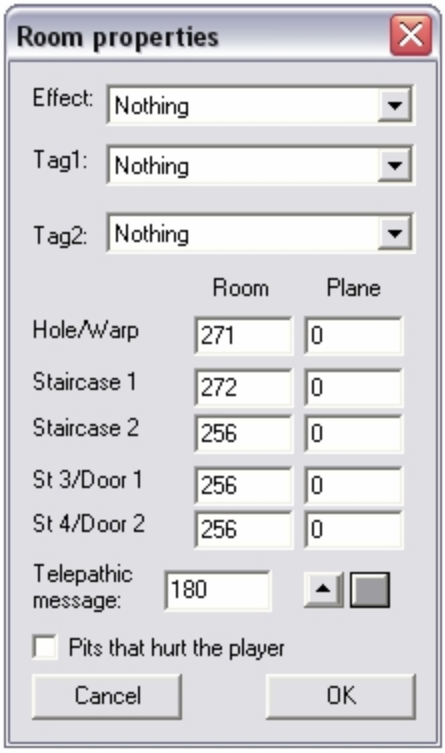
Torches can be very dodgy at times. As long as you have a certain selection of parameters set for that room the torches should work/move fine. (Not sure about this...) Make sure youve got the **BG2** menu set to "**Dark Room**" and the **object** "**FAA**" placed in the room.

If you're still having problems with the torches, it's most likely just HM being buggy as usual.



If you make the insert door box appear (With different doors to use) and instead of selecting **OK** you click **Cancel**, you can sometimes screw up the graphics if you save the ROM. This can be rectified if you clear the room and also clear (and put back together) the layout room that the screwed up room uses.





The door at the bottom of Link's room is based on **layer 3** and made up of two different doors (from the insert door menu). These doors are **02A** and **033**.

02A is the visible door (placed on layer 3) - if you have this on its own in a room it will allow link to move from one room to another.
033 is an invisible door (also placed on layer 3) - this door allows link to move out of the room into the overworld and i do believe vice versa.

If you accidentally moved door **033** then that could explain you showing up in the center of the room. Althrough its more likely to be the coordinates. The two pictures above are from the original ROM and shows everything as its supposed to be.

The event where you get the sword of your uncle, has to be done before rescuing Zelda, any time after this, when this event happens, the game will think you just finish the first quest of getting the sword and thus changing all the sprites/etc back to "**Beginning**", and put rain on the overlay which is very difficult to control since Zelda won't be in the cell anymore.

Planes, which i'm sure you know, are just the **2 kinds of levels** you see in the game. The lower floor is usually **BG2** (Sometimes it is **BG1** too). We don't do it all it in **BG1** because sometimes we want Link to be able to **walk under** some objects/tiles or floors (eg. See Hyrule Castle **Entrance 05**, it's the perfect exemple).

Those 2 doors you have there are essential for Link to sometimes (In some cases you don"t need the 2 doors) be able to stand on **BG2** when entering another room (must be on the sides).
There's a up/down version of it as well but it's not really used much for some reason. (Not sure...)

The sprite of Sahasrahla **(Mutant)** can be relocated in other rooms without encountering problems.

If you place it an important quest item (eg. Hammer) in a small chest, while in game it will not show a small chest when opened but a big one. A small chest item in a big chest caused the chest to turn into a small one.

Here are the data for the X Scroll, Y Scroll and the exit door for entrances:

Normal entrance addresses are:
1504F - X Scroll
14F45 - Y Scroll
15924 - Door location

Starting location addresses are:
15DB4 - X Scroll
15DC2 - Y Scroll
15E32 - Door location

PART 18: QUESTIONS + ANSWERS

QUESTION 01:

The picture above shows the room and the right staircase which is giving me grief. Its on **Layer 3** because the other staircase is on that layer and that one works fine. If i place it on any other layers it still refuses to let me walk down the stairs.

ANSWER 01:

1) Link needs to be able to jump down to the "lower level" in that screen.

2) There should also be a **BG3 0C0** layer over the stairs (Since it's lower).

3) If that still doesn't work, try putting it on **BG2**.

4) If those points still don't work, look in your room headers. The right most stairs should have a plane of 2 (**BG2** walk-onto)

5) Then try putting stairs where the jump is suppose to be (**138** or something, don't have HM with me, just look in the old rooms for the appropriate stair), if Link walks down the stair into thin air... you know you mistaken the **BG3** with **0C0**.

6) Maybe you've used the wrong stairs. There are stairs designed for **BG1**, **BG2** and **BG3** (There are about 4, just choose the one which disappears when you put it outside **0C0** on **BG3**).

QUESTION 02:

The thing that's wrong with this is the fact that the room shown on the left over the wall is actually located right of the room link is standing in. All I've changed is the GFX and some minor GFX set numbers. I havent altered the scrolling numbers and they are set to what they originally were. The second screen shows what the room is set to.

ANSWER 02:

With that room, you'll have to adjust the scrolling manually:

1) CX and CY specify the centre used for scrolling and should be set to X scroll+**128** and Y scroll+**112** respectively.

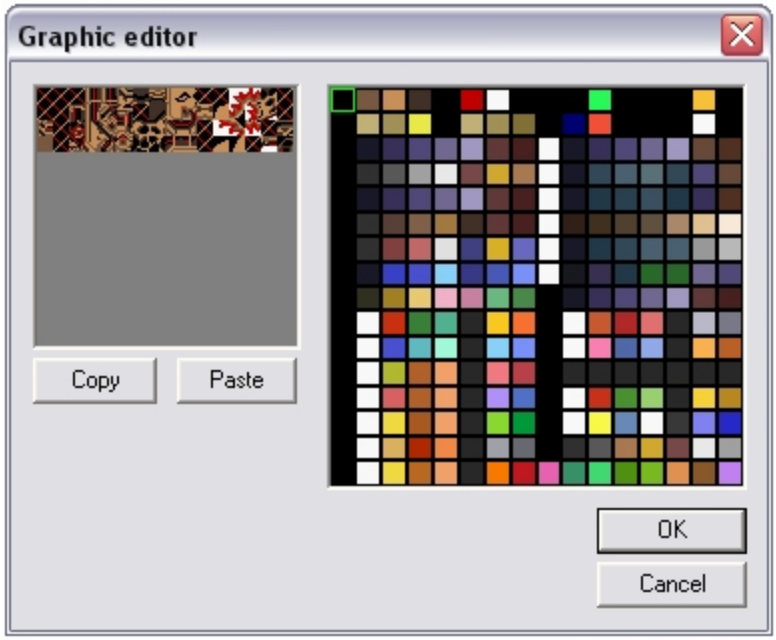
X Scroll(**128**) + **128** = **256** yours = **391**.
Y Scroll(**272**) + **112** = **384** yours = **255**.

Put **256** and **384** in the CX and CY and see if it's okay or not, if it doesn't then try the other way (Changing the scrolls yourself).

2) If the above still causes problems, then try changing your collision (It says both with scroll as far as i can see on the screenshot).

3) Are you sure you can put "None" in the dungeon place?
If the above don't work, then try checking what's in the "More" button next to CX and the room header. Something might've stuffed up there considering that this room is the entrance room.

QUESTION 03:



After I go into Dungeon editor, right click, edit block, and than go to other. It seems that no mater what number I type in it shows the same strange red and green lines. The puzzling thing is if I click on the numbers above other it loads what it should. I have tried multiple untouched ROMs and have been having the same problem. What am I doing wrong?

ANSWER 03:

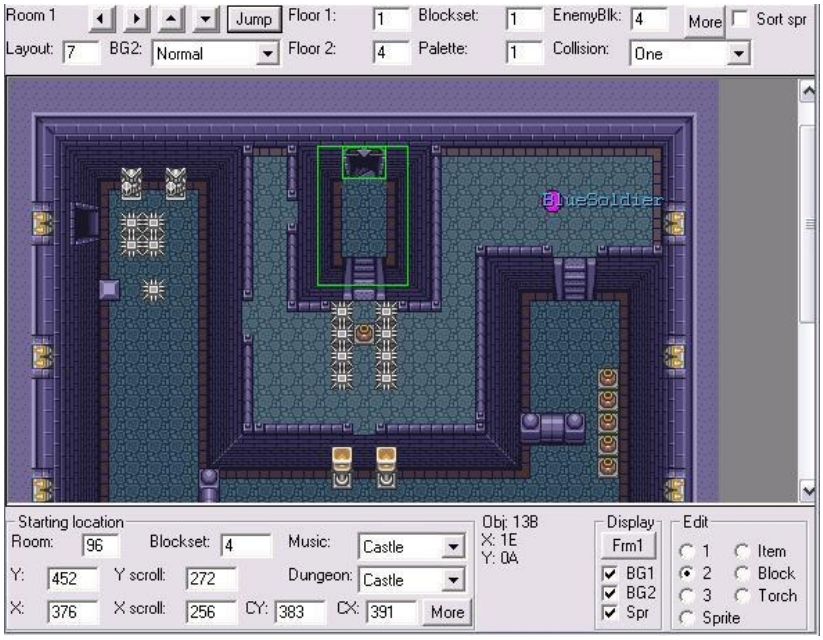
The random "scribbles" you see there are in fact GFX for the game, it looks like scribbles because the colours ain't right. You have to click the correct palette row to view them properly.

QUESTION 04:

For some reason, the mantle in Hyrule Castle won't move, so I removed it and the next room (Which is not edited yet) is pure back, why?

ANSWER 04:

Just don't move the mantle. Try putting it back to where it was suppose to go (Look in the screenshot above) and see if that works. Remember that you need both yourself and Zelda to move the mantle. And in the next room. In the upper left corner it says dark room, uncheck that and remove that big thing in the middle in **BG2**. Then get rid of all the torches (No point of them being there) and just try to put the mantle in the same place where it was. A dark room is totally black but that object in the center of the room on **BG2** allows you to have a light (that circle of light that moves with Link). Sometimes the rooms **BG2** menu refuses to change. Its just HM being buggy as usual. Perhaps if you move around some sprites, change the menu and then save it will work...



Above: Here's what is suppose to be **BG2**.

The brighter rectangle (The bigger one) is one i drawn on for the approximate place for the **BG3 0C6** tile (not **0C0**, that's the wall…)

QUESTION 05:

How the pushable graves works? I'm able to place graves GFX around, but i can't seem to push them unless they're in the exact spot as the original ones (Same goes with the stairs and hole in the graveyard). Is there anyway of changing that... or does it require the work of ASM?

ANSWER 05:

After several extensive testings of the grave area I've come to believe that it will require ASM to alter their locations. The GFX and the actual holes/stairs work together so if you delete them both then they won't appear in the game.

QUESTION 06:

The overlay for **Area 40** (the forest in the dark world) changed somehow and i have absolutely no idea how to fix it. (Now I see corrupted GFX all over the place).

Instead of trying to fix that BG, any idea of how to *disable* it? (I think it fixes itself after using the fire rod).

ANSWER 06:

Changing or moving it requires ASM hacking, unfortunately. The BG graphics got corrupted because you changed the GFX # in the top left corner. You probably changed this value because you completely changed the graphics from that place (eg. Removed the forest to put Hyrule

Castle there instead). So you changed the GFX according to that. While doing so, you got a garbage BG. Indeed there is a way to *disable* the BG.. Some sort of way. As described sooner, BG are acessible via Overworld Editing:

96: Pyramid background
9C: Lava background
9D: Fog background
9E: Forest background
9F: Rain background

Let's say, you want to remove all the Forest BG, do the following: Go to Area **9E** and choose the **rectangle tool**. Using the right click button on the grass tile, change everything to grass. Now you won't have any BG. However doing so, you will also get rid of the Light World Forest BG.

QUESTION OT:

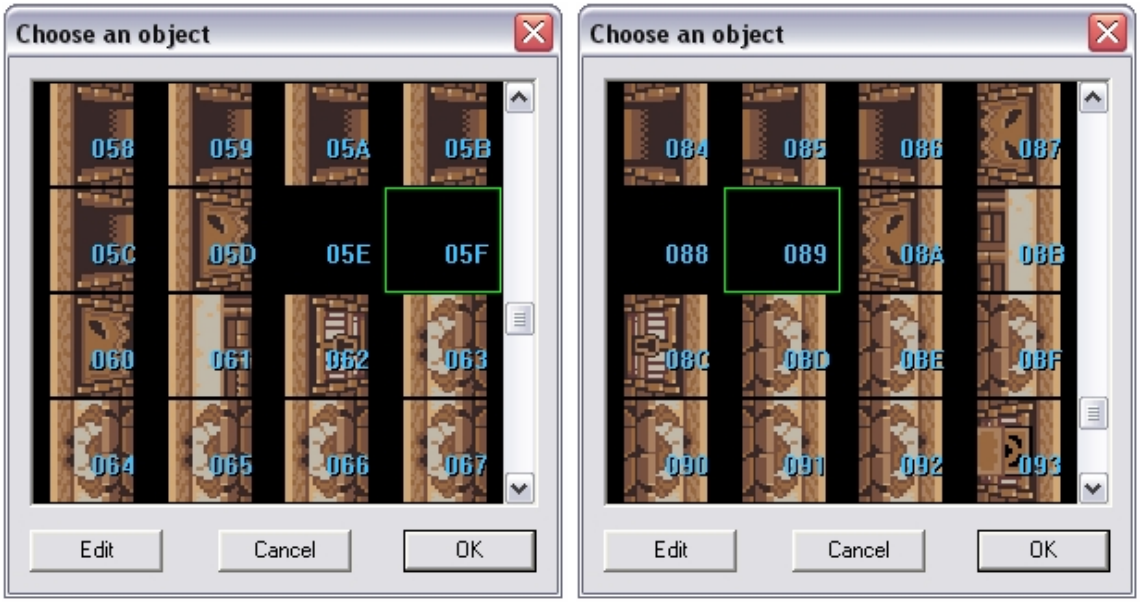
1) What is the procedure to add simple stuff to the Menu screens. (eg. The text "Name Character" screen as I'd like to have it (with the correct palette) spell out "**Hack by BlitzKrieg Version 1.0**" or something to that effect).
2) Is it possible to change -Nintendo- logo at the Title screen?
3) Can you change/add new weapons/shields graphics (Change the weapons/shields properties?).
4) Is it possible to create "new" shops?
5) When will the programmers expand the ROM to have more than the current sprite/object limits? That would really make editing this game easier.
6) Can you create or recreate new events like when Ganon makes the princess float and does that magic on her to make her disappear. Can you do things like that ?

ANSWER OT :

1) Can't answer that one.
2) Yes, scroll down on the right on the Title Screen. You should see it, you have that much tiles, work with them (They always appear white though).
3) You can change colours for them (Like... green sword for sword 4) but you can't add anymore than four for sword and three for armor. Also, you won't be able to change their properties.
4) No, you can't.
5) I agree, but by the way they appear in the rom, you can't bacause there's a limited range of offsets where they can go so, ASM work is required if you want more sprites.
6) No, some events are fixed, the annoying thing is that they appear in those certain rooms (eg. You modify the throne room, then in the intro it will look weird as the dead king is sitting at that particular spot.

As for other events, I've been experimenting that some can be changed (eg. The medallion tablet location, the electric barrier in front of the castle.) The things that you can't change are hardcoded into the game. Shop products, the cinema scenes and amount of sprites can only be expanded by ASM hacking.

QUESTION 08:



What are doors **05F** and **089** used for? They are invisible but placed over visible doorways to other rooms.

ANSWER 08:

Planes, which i'm sure you know, are just the **2 kinds of levels** you see in the game. The lower floor is usually **BG2** (Sometimes it is **BG1** too). We don't do it all it in **BG1** because sometimes we want Link to be able to **walk under** some objects/tiles or floors (eg. See Hyrule Castle **Entrance 05**, it's the perfect exemple).

Those 2 doors you have there are essential for Link to sometimes (In some cases you don"t need the 2 doors) be able to stand on **BG2** when entering another room (must be on the sides). There's a up/down version of it as well but it's not really used much for some reason. (Not sure...)

QUESTION 09:

1) I'm trying to input two new door to **Room 128**, but they get placed where I don't want them to go. What can I do to make a layout like described in the picture above?

2) A treasure chest isn't showing up in the room I've edited, but is still in the editor. What is happening?

3) When I go to save my room, I get an error message: **"Not enough room for room header"**. What do I need to do?

ANSWER 09:

1) Use **Numpad 4** and **Numpad 6** and it should work, remember that the doors must be in the middle (So it links the to the two united bottom rooms), you have to use the doors which looks to the left.

2) There's lots of causes for these problems. Probably because there is a limited amount of treasure chests for rooms.

3) "Not enough room for room header" just means you need some space for it, if you go and click on the "more" button up the top, it'll show you where the stairs/holes/wraps link to, what you have to do is just press that /\ arrow a bit in some other rooms which you don't plan to use stairs to free up some space.

QUESTION 10:

1) I've got a problem with changing certain objects. I'm trying to change the castle to a cave, and the walls keep changing from stone to brick, even though it usually stays with the right palette. Is there any way to fix this?

2) I moved stuff around on my house screen, and now I need to move Link (Is it possible without ASM?), and I need a big key.

ANSWER 10:

1) Was somebody talking about HM not changing the blockset for a particular entrance (Which insteads changes the **Entrance 00** one?) Here's the solution: In an Hex editor, the address **15581 (hex)** contains the **Entrance 00** blockset, **15582 (hex)** contains the **Entrance 01** blockset and so on. You will eventually get it.

2) Moving link doesn't require ASM. You just need to find the X and Y pos of Link data and change it in an hex editor. As for the big key just turn that entrance (**Entrance 00**) into a dungeon and play down a big key sprite or create a chest for one.

QUESTION 11:

Are there some sort of limit as to how much objects Hyrule Magic will allow you to put in the dungeons? If so, will HM expand the rom for the space?

ANSWER 11:

As far as I'm aware the ROM isn't limited to how many ojects you use. What you are limited to, is the amount of sprites.

QUESTION 12:

Is it possible to edit dungeon items, such as the Hammer, as in the way they move?

ANSWER 12:

You mean items in general? No, that's ASM work, if you want to change them.

QUESTION 13:

When I'm done editing, (e.g. The Desert Palace), can I load up a save state and still see my edited work while in game?

ANSWER 13:

Sure, just have a save state when you're right in front of the level. However, be assured that any text you modified won't be changed there.

QUESTION 14:

1) In the dungeon editor, what units are the coordinates for **X**, **Y**, **X Scroll**, **Y Scroll**, **CY**, and **CX** in? Is there a way to get the coordinates of those somewhere in HM (e.g. Like put the mouse where I want the **X Scroll** and **Y Scroll** to be at, and it gives me the coordinates).

2) When I change the blockset property at the bottom of the dungeon editor and close the dungeon editor, if i re-open the entrance up, the blockset property will be how it was before I changed it.

3) If i clear all the items, sprites, holes, entrances, exits, etc... on the overworld maps, when I start placing things, eventually a bunch of random items will just appear on some maps (e.g. The default Link's house map (2C) will have a bee, some hearts, and a few other items randomly placed through out the map.

4) Sometimes when modifying the **X Scroll** value, it will ignore my changes and replace it with the number 4294966912.

ANSWER 14:

1) Those are pixels (Think each tiles as 16x16 pixels). HM won't modify those correctly even if you change them.

2) The blockset has to be edited from an hex editor (It's one of those things HM won't edit for you). Check the Dungeon Editing section of this FAQ in details.

3) That's a known bug, there's a few triggers for it, once it happens, either clear all the items again or restore (if you keep backups). One of the known triggers is when you add items to a room which is re-used.

4) That's also a known issue about HM, it can be fixed through an hex editor.

QUESTION 15:

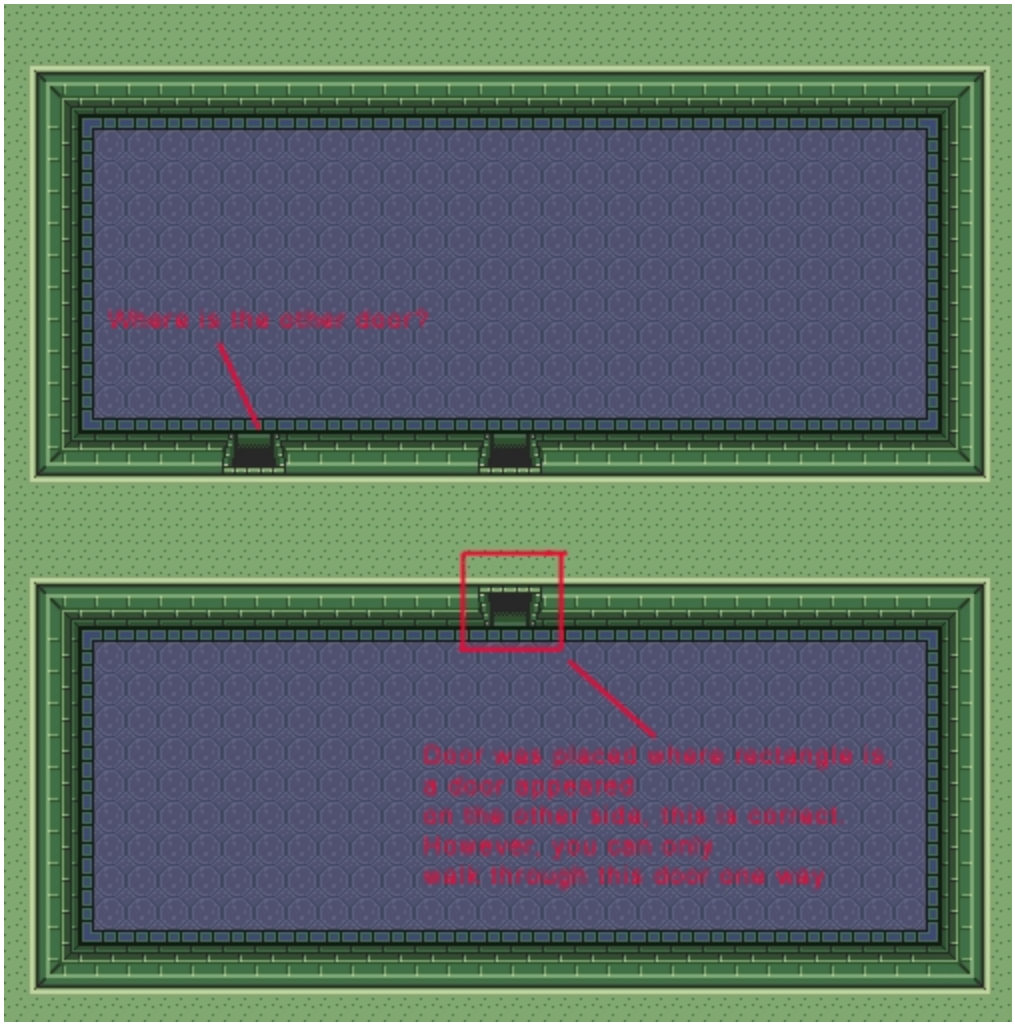
1) Rooms associated with each entrance can't be changed or **X Scroll** value freaks out and becomes some huge number that can't be changed (Attempting to modify **X**, **Y**, **X Scroll**, **Y Scroll**, **CY**, and **CX =** 90% of the time will cause massive errors).

2) If a dungeon decides to crap out, your overworld maps will be filled with random Items/GFX.

3) X Scroll, blocksets and door positions values are not changable in HM. For the **X Scroll** and blocksets, I know how to change those in hex, but I'd like to know how in HM. As for the door positions, I'm referring to the thing in the "more" screen, I've seen how to change them in hex, but I'm still confused.

4) When I check and uncheck the horizontal and vertical scrolls on the "more" screen, they have no effect. Anyone else have experimented this?

5) Sometimes doors can only be walked through one way. I make a type 00 door, i press arrows until its facing down, I move it the bottom wall, but it doesn't make a door on the other side... like this:



But it doesn't, it doesn't make a door B, so then I move the door back up to facing up, and put it where door B should have been, it then does make 2 doors, however, you can only walk one way through the door.

ANSWER 15:

1) That's a bug in HM which is explained in the Dungeon Editing section of this FAQ.

2) Dungeon won't crap out unless you're playing with the dungeon items (Or maybe insert a door in BG2...).

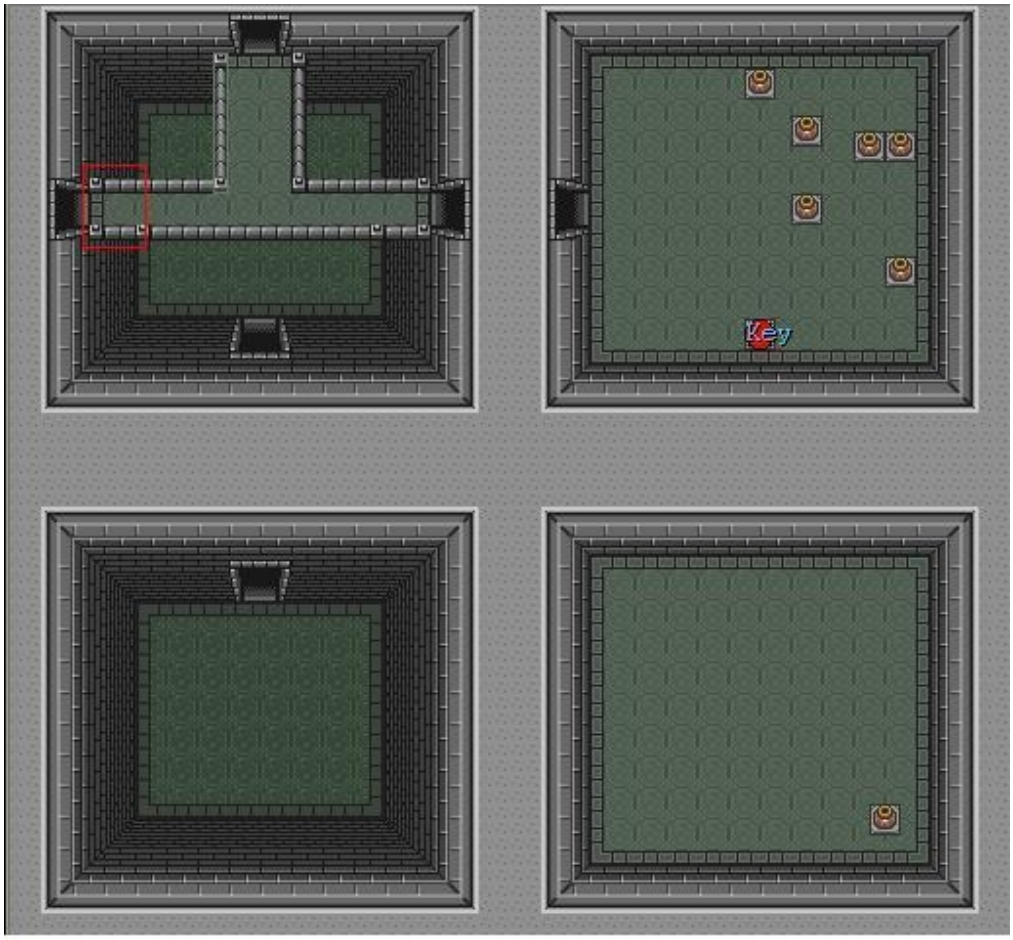
3) You don't have to deal with **X Scroll** and **Y Scroll** unless you're stuck when Link moves off screen just after entering the room.

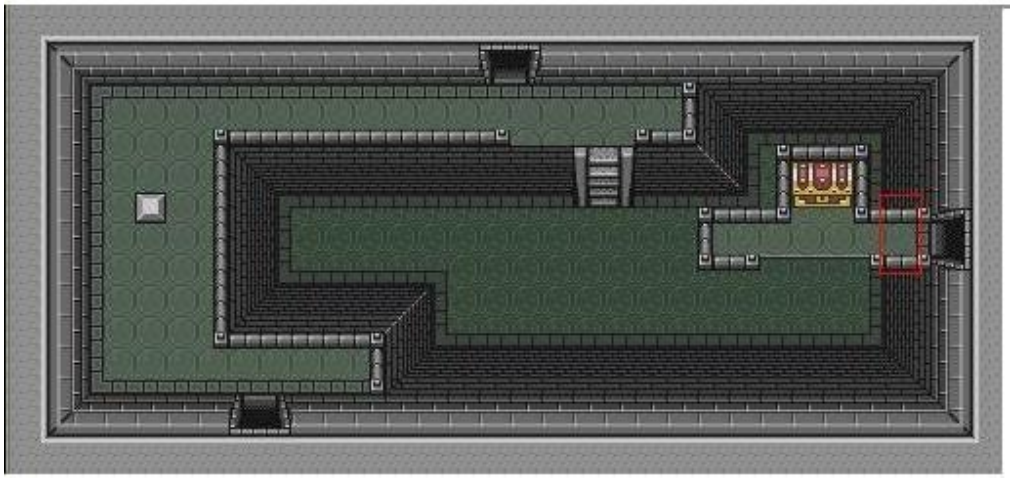
4) Those options in the "more" button, you know, **Horizontal Scroll** and **Vertical Scroll,** they're in fact checkboxes...

5) Didn't I tell you to use LEFT or UP keys to make doors link together. And If you want a door in the middle of the room, it's the same process, use LEFT and UP keys again.

QUESTION 16:

The bottom part of the pic is the top half of room 185.
The top room is room 186, which is to the right of room 185.





There is a doorway in between them hidden under the path.

After messing around with it, I've discovered that even with the top door removed, even if I start the room over, whenever I make a door on the bottom floor in that room, it doesnt work correctly. A door on the right sends me to room 202, the room to the right and below 185. A door to the left sends me to room 200, the room below and to the left of 185. I don't know why, and I've tried several things but nothing works.

ANSWER 16:

The're can be many possibilities as for these errors, check/test the following:

1) Room headers: Make sure stairs 3/door 1 (And the other one...) is not there, and also having the BG2 as normal will help, also change collision to 1.

2) Check stairs, your trip down to BG2 might've used the wrong stairs.

3) Do check the same with say another room, if the same behavior occurs, if it does, I hope you got backups of your rom...

4) Trace ASM (Not recommended, but if you know what you're doing, go for it).

5) Check doors: Using the right door? Typically, if you don't count locked/shutters/bombables and all those 'special' doors, you should probably be only using door 00 (BG1) and door 01 (BG2) for normal purposes, they don't stuff up, also make sure they're done on BG3.

If all else fails, just clear all the stuff in that room and just try it with some simple stuff like putting doors to move to the left and right from that room, I know that means you'll have to do the room again (Do keep an old copy so you can kinda replicate what you did.), that seem to work for me most of the time.

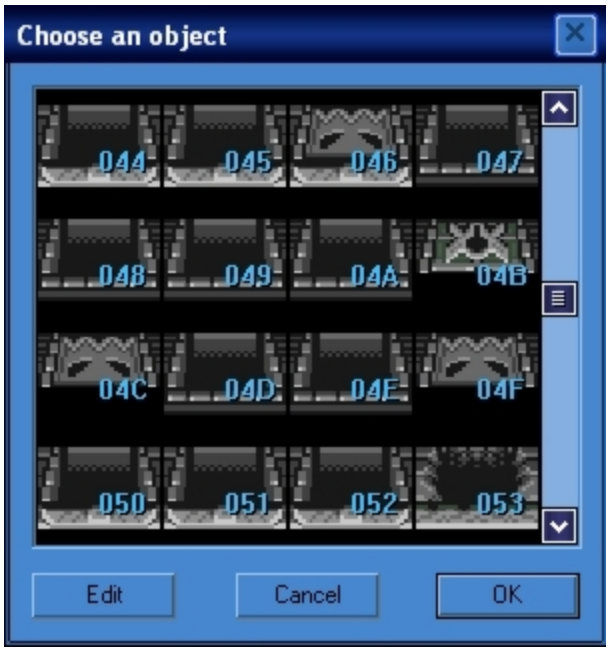
QUESTION 17:

Is there any way to get around the door bugs of HM ? I'm almost finish with my light world, and I'd like to fix those before going for the dark world.. The only doors that bug for my overworld are Link's house and the magic potion shop.. everything else is just fine:

Hope that's clear enough.

QUESTION 18:

I've started working on dungeons a bit, and noticed that when you insert a door there is a bunch of choice available:



Is there a way to know which doors do what ? This is really bugging me as I have no real dungeon editing skills...

ANSWER 18:

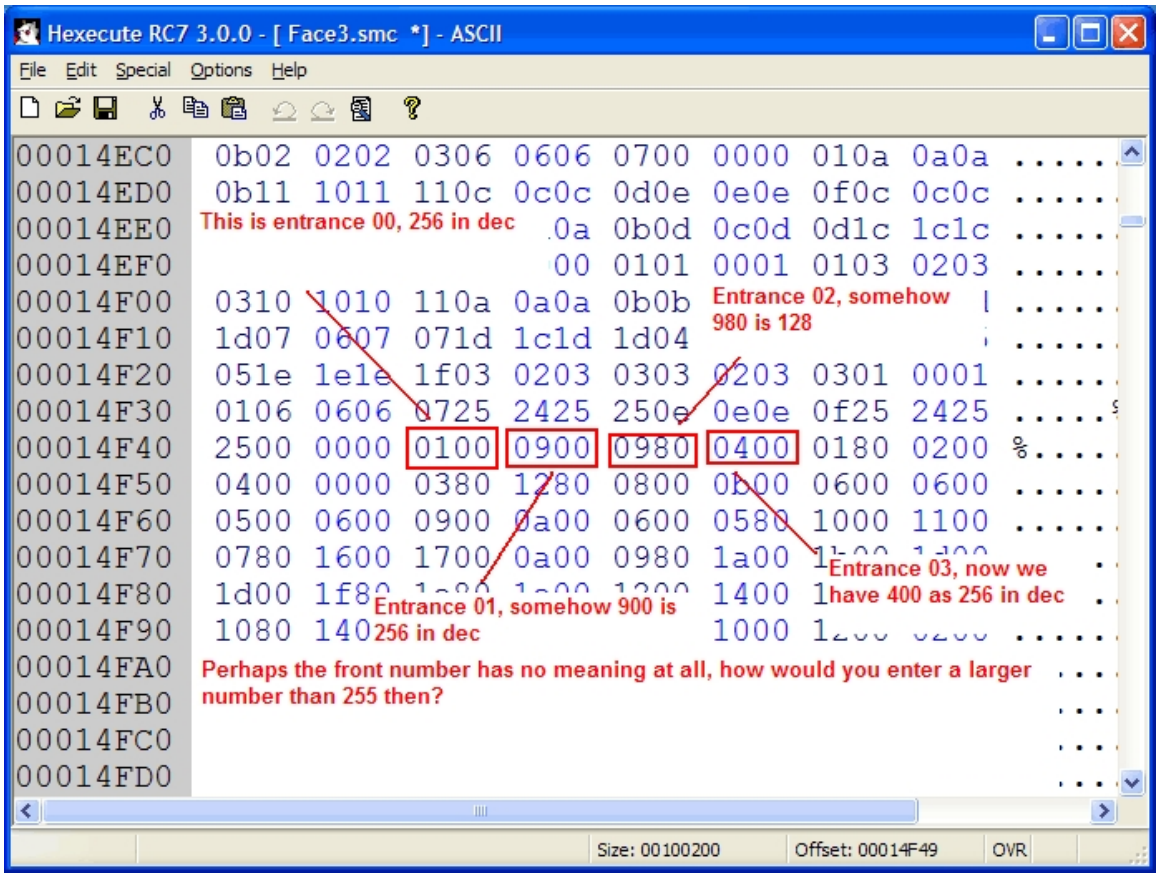
You see a bunch of choices there, it doesn't really matter which one you choose (Because you can change it by using **n** and **m** keys) just get the direction right.

Door 00 and **Door 01** are the normal ones, **00** is with the thing on top (**BG1**) and **01** is underneath (**BG2**). What I recommend, is only using the other doors if they are used in a room with similar structure in the original game.

QUESTION 19:

Normal entrance addresses are:
1504F - **X Scroll**
14F45 - **Y Scroll**

I tried messing with those, 14F45 is not Y scroll, it's X scroll, and I have no idea what 1504F does, it didn't seem to do anything. Anyways, 14F45 modified entrance 00 fine, but then I couldn't find the adresses for the other entrances. I assume **X Scrolls** are stored in 2 bytes because they can exceed the number 255 in decimal form. This means the number 256 would be stored as 0100. 14F44 is 01, 14F45 was 00, I change 14F45 to 01, and the **X Scroll** for entrance 00 changes to 257, so that worked. However, if I jump over to 14F46 and 14F47, we have 0900, in decimal thats 2304. I am pretty sure entrance 01 **X Scroll** is not 2304, its 256, however there is no 0100 again for quite sometime.



Here's something interesting. If you modify the room number for an entrance, it messes up the **X Scroll**, like it puts some huge number there, and it can't be changed. The interesting part is, in the hex editor, the value is unchanged. If it was 0980 before, it will stay 0980. Changing the value in the hex editor will have no effect either. Perhaps the following needs to be asked, Where do you change the room number associated with each entrance in the hex editor?

I managed to find the room number adress myself. entrance 00 is 14A13, entrance 01 is 14A15, 02 is 14A17, etc. That didn't solve too much though, the **X Scroll** still screws up... so i guess it's not possible to change the room associated with each entrance.

ANSWER 19:

The thing about **X Scroll** is that it's done a bit weirdly sometimes. (Yeah, I remember that it was somehow the other way around. Say your thanks to Sephiroth3 for giving me the wrong values).

OK, At first, you group them a bit wrong.

The address starts at 14F45. And the First bytes you grouped starts at 14F44. So the proper first group of letters is 00 09.

From what I can see you do know some basics to hex, so I won't go into explaining bits.

You first need to know that these values are stored in **Little Endian** format, that means that when you load that value, it loads in as 09 00.

How is that 256? Well apparently the 4th bit (or the 5th) is suppose to have some specical things done to it, so it's on. And if you omit that bit, it becomes 01 00 which is 256. Yes this does not apply to all cases (e.g. Entrance 03, which is 00 01 and it's 256, and if you happen to change entrance 00 to 00 01 it'll give you some weird values when loaded in HM).

As for detailed ASM of why it's like that, I probably won't explain (Too much explaining...), but you can check if you need to toggle that bit by loading it in HM.

As for why HM sometimes stuffs up the **Scrolls** is basically because of that "special bit", it thinks "Oh 256, i'll just write 00 01" where it doesn't apply in all cases, one thing to make sure they're right... Do a file compare with the original rom on those addresses and look for suspicious values get changed to 01.

QUESTION 20:

How do you guys go about finding adresses for different properties (Without asking Sephiroth3)? I mess with a rom corrupter to find adresses for various properties.

ANSWER 20:

Rom corrupters works, but I trace ASM to find some data, it's easier for me. With corrupters you're just doing the guessing work where ASM you can pinpoint the place where the data is easily (If you know how to do it that is...).

Well the thing is that you need to know how **Little Endian** works, it's a way of storing data.

Say you got 4 bytes, 01 02 03 04, you can store them as it is in the rom (**Big Endian)** or you can store it like this: 04 03 02 01, that's **Little Endian** and computers use **Little Endian** because sometimes it's easier to load it into the accumulator (Instead of the XBA and all those funky stuff it has to do to load those 32 bits in the right positions...).

QUESTION 21:

What is a good ASM thingy, and where woud you get it? I did a search for the one HM mentions, but found nothing...

ANSWER 21:

Try Evil Peer's Snes9x Tracer. And for where's to get it, see the ASM section of this FAQ.

QUESTION 22:

I do have a question about Exits. How do they work? I dont understand why some buildings have Exit points on them, but others dont.

ANSWER 22:

For those which doesn't have an exit are those rooms where you'll have to exit through the same door and it's mostly room 256+ (with the exception of room 260)

QUESTION 23:

I'm having a problem with my Zelda3 rom after having edited in with Hyrule Magic, they are graphical problems :

However, the tiles work as if the displays was correct (i.e. I can walk on the cliffs in the light water). Did anyone ever have this sort of problem ? And have a solution about it ?

ANSWER 23:

That happened to me once... I edited a few dungeons, then came back to the overworld and that's what I saw, pretty much the same thing... And as I did not keep backups at that time, what I did is redo all the GFX from scratch using another rom which tells me the positions of the GFX... Overworlds getting corrupted are really annoying.. A good thing to do however, would be to make backups often.. because you never know when HM will do such things...

Or if you see everything normal in HM and it bugs when you play, that's because of the layout you used... You have to be careful while editing the layout, because some will easily crash your emu for good.. exemple:

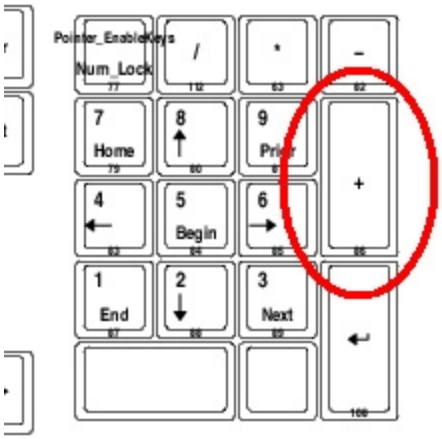
I do remember seeing the same problem when I entered an edited whirlpool, actually even worst...

QUESTION 24:

How can you change what items are in the treasure chests?

ANSWER 24:

Easy. Press Numpad +



QUESTION 25:

Ok, so I changed the title screen music, right? But the thing is, when I re-open hyrule magic and try to play it, it won't play unless I've already played one of the other tunes from the game, and then it seems to play it with the wrong instruments. The same thing happens when I play the rom in zsnes, when I first start the game up the music doesn't play at all, but if I start a game and hit select and go to "save and quit" to get back to the title screen, it will play, presumably because I've already had some other music playing.

...I hope that makes sense.

Anyway, I have no idea what's causing this problem, any help would be appreciated.

ANSWER 25:

You have to change all the instruments. I was playing around with it for a looong time. I think there are at least 4 different places in the title track in which you have to change for all the instruments to work correctly.

QUESTION 26:

Okay, I've got a new question.

Its about the X-Scroll bug.

I read in Orochimaru's Faq the question you answered about it, but it doesnt make sense.

It says that the X Scroll values are stored starting at 14F45.

But i took a fresh rom that hasnt been edited and made a copy. I opened Rom 1 in HM, and changed Entrance 7 from room 241 to 242. Instantly, the X Scroll changed to 4294967040.

I opened both roms in Hackman, and did a compare. The closest change to 14F45 was at 14F23 and 14F24. I restored those values in the edited rom via hex, and htere was no change in HM, so i doubt that has anything to do with it.

Any ideas why im getting this?

ANSWER 26:

Xscroll.

assuming you're changing entrance 7.

the offset will be 14F45 + 7*2(bytes) = 14F53

At 14F53, play around with the values there to find out it's bit format (it's not the same for every entrance room number)

and i found out it's this:
xxxxxxxx xxxxxe-- (there's also the other format xxxxxxxx xxxxxxxx in little endian format, which WAS used for entrance room 241, thus you see 00 01 or something like that)

e is some sort of enable bit. (else you get that funny number)

the last 2 bits ain't used (will give some huge number), thus you get that funny number.

and after playing around with it a few minutes, the proper value to go in there for room 242 entrance is 80 04

i know it's hard to understand, but the game reads in those values in a really funny manner. This is more like the "advanced" stuff which HM is really buggy on.

QUESTION 27:

Everytime I try to save the new BG2 properties, and quit Hyrule Magic, the program doesn't save at all.

ANSWER 27:

The BG2 can be changed, but in order to make it save, you have to click on the room headers button on the top, then press okay. (ie the "more" button up the top then press okay) Then save, then it'll work.

PART 19: TIPS + HINTS

- If you edit the Dungeons, you should **always** go back to the Overworld to see if anything's messed up (eg. Try inserting a heart on the Overworld, save, then got back to see if everything is okay; sometimes you will get tons of hearts, 8Es, and lots of other "unwanted" things around).

- Save often

- Always make a new save file when you're about to play it.

- When changing the GFX set in the Starting Location box, sometimes it keeps it changed when you save and other times it doesn't. Can be a real annoyance.

- When you change the scrolls for an entrance (it just puts on the specific values for some reason). Dungeons sadly can't be saved but the Overworld tiles can be copied from one ROM to another. You should always make backups of your ROMs.

- Emptying all the items can actualy help. If you have items in when you try to split up the Overworld Areas it can cause problems.

- Exits which are not really exits (Overworld):

Those Exits apart from the one in front of zora's domain, (No idea about that one...), are the ending sequence scrolling Areas. ***Euclid managed to relocate Hyrule Castle and properly put the first ending screen onto that screen, instead of the middle one.***

1) The exit in front of Hyrule castle gates.

2) Two exits in the village, the first one in front of the elder's house in the village, the second one in the grass garden on the right.

3) In the screen where you enter the first palace (not Hyrule Castle).

4) In the middle of the forest.

5) There's also one in **Area 05**.

6) There's one right in front of that zora's domain.

7) One above the shop which sells magic.

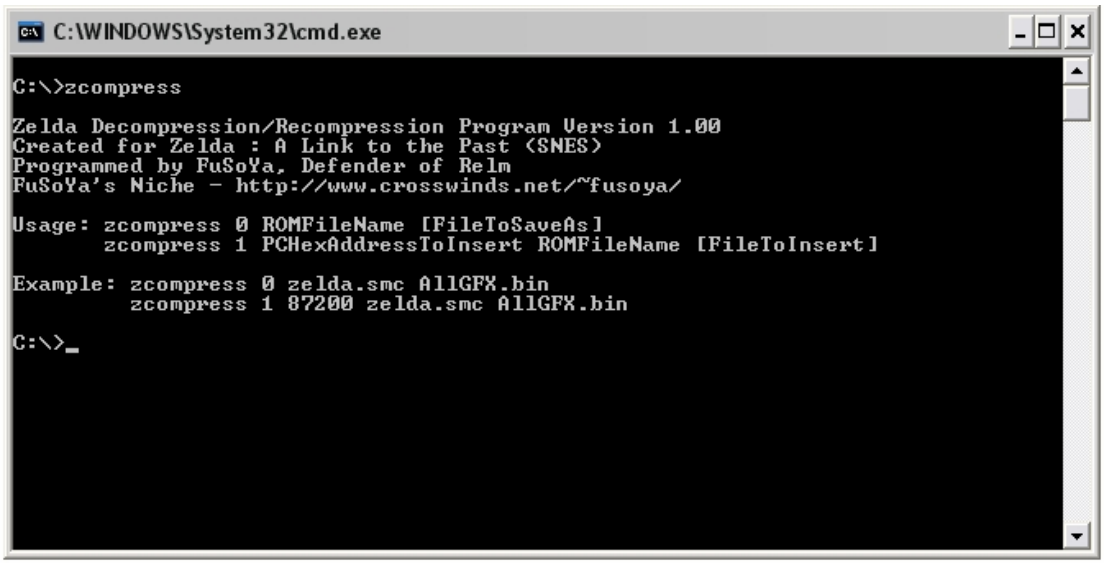
PART 20: ADDITIONAL KNOWLEDGE

Using others utility to change the rom's data may cause errors and corruptions when subsequently editing it in Hyrule Magic. Use them at your own risk. Remember to backup your ROMs before using theses. However, it is okay to edit the following items in an external program:

- Compressed graphics, as long as the data stays within 8B800-C4000 and in ascending order
- Fixed tables
- Uncompressed graphics

20-01) HOW TO EXTRACT THE GFX USING ZCOMPRESS? WHAT ARE THE CORRECT PALLETTE COLORS TO USE IN YY-CHR?

1) FIRST, HERE'S HOW TO USE ZCOMPRESS TO DECOMPRESS THE ROM GRAPHICS:



For decompression, the command line options are:
zcompress 0 ROMFileName [FileToSaveAs]

For recompression, the command line options are:
zcompress 1 PCHexAddressToInsert ROMFileName [FileToInsert]

To expand the ROM to 2 megs, use:
zcompress 2 ROMFileName

To expand the ROM to 3 megs, use:
zcompress 3 ROMFileName

Examples of valid command line arguments:
zcompress 0 zelda.smc AllGFX.bin
zcompress 0 zelda.smc

```
zcompress 1 87200 zelda.smc AllGFX.bin
zcompress 1 87200 zelda.smc
zcompress 2 zelda.smc
zcompress 3 zelda.smc
```

The last file name is optional in the first 2 cases...if you don't include it, the program will assume you want to deal with split files of all the graphics instead of a single file. Considering that means you'd have about 223 separate files, you probably won't want to do this.

When decompressing the ROM data, the program will also extract the non-compressed graphics for convenience. All 3bpp graphics are converted to 4bpp graphics...3bpp converted graphics make up the majority of Zelda's gfx, so it's important to remember not to use the last 4 colors of the palette, since the upper bitplane will be lost on reinsertion to the ROM. The only true 4bpp tiles are the last non-compressed gfx of Link at the end of the extracted file. There are a few other segments in the file that use 2bpp tiles, but they're rare.

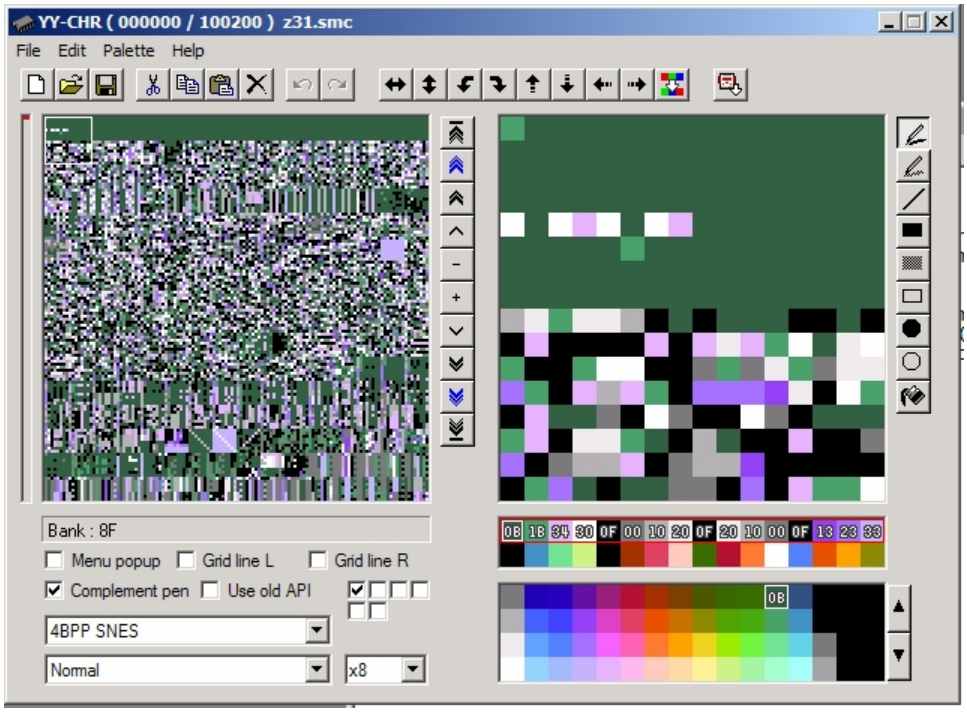
When reinserting, I highly recommend using address 0x87200 since that's the address of the original gfx. The program recompresses the data slightly better than Nintendo did, so you should be fairly safe as far as room goes. However, if the program detects that inserting any further will go past 0xC4200, it will abort in mid-operation and notify you that the ROM needs to be expanded and that the graphics must be reinserted into the expanded portion (which would be any address at or above 0x100200).

When the non-compressed non-3bpp graphics are reinserted, they are placed at their original positions regardless of the address you choose to insert at, since the pointers for them aren't included in the main graphics pointer table (although admittedly there wouldn't be much point in moving those two segments anyway).

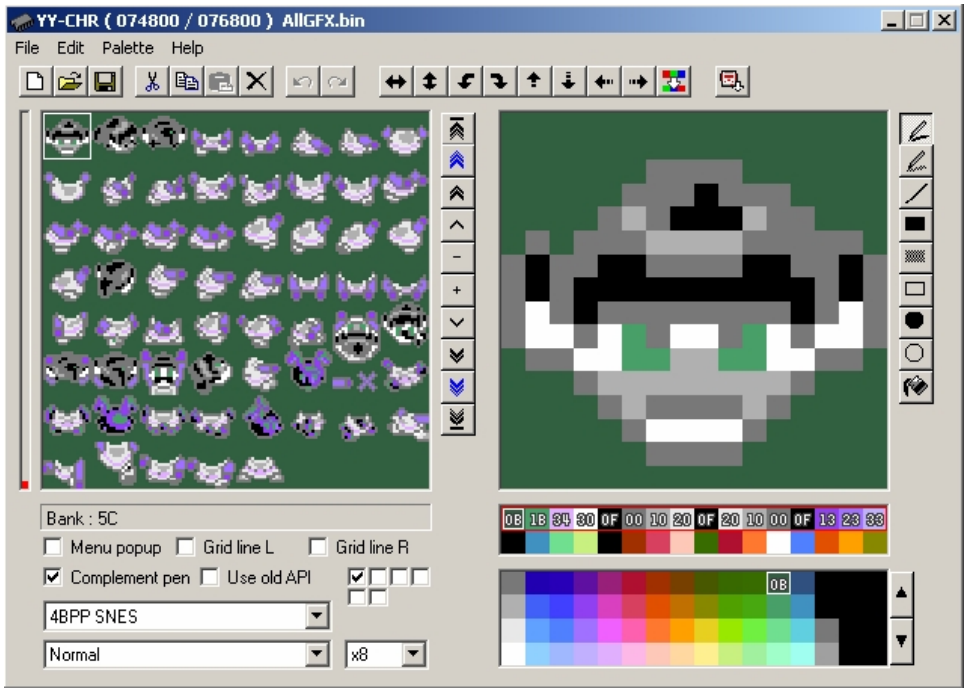
2) Secondly, here is how to get the correct palette colors in YY-CHR:

Play the ROM in ZSNES and when what you are wanting to edit is on screen, make a save state right there. In this example, I am going to use Link (If you want a certain monster, get to that monster in game and make a save state when it's on screen).

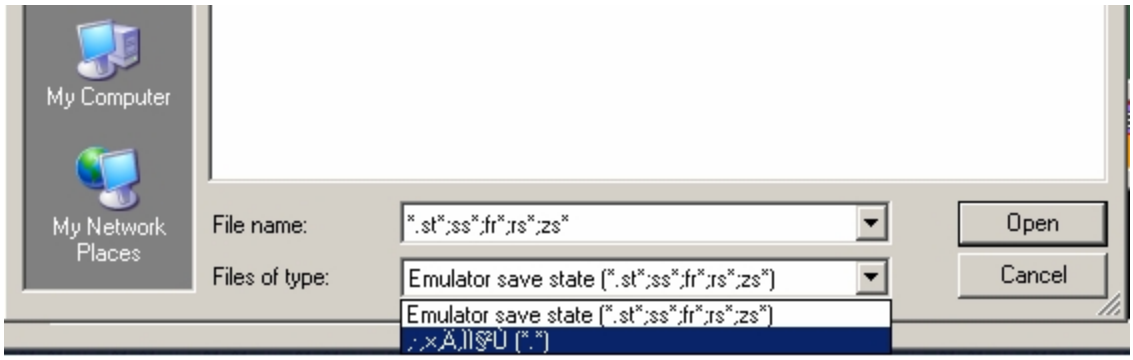
After opening YY-CHR, go ahead and load up the file made by zcompress that has all the decompressed graphics in it.



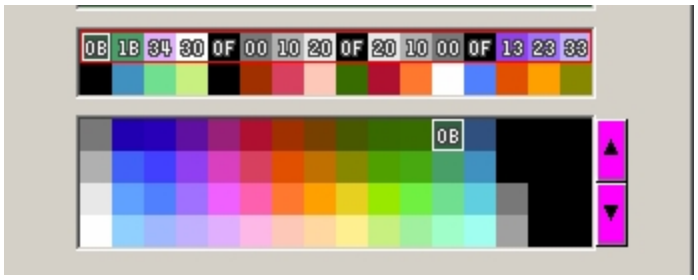
Next make sure the mode is SNES 4BPP. Now that the Rom is loaded, scroll down to where Link's sprites are located.



Above: Once you got Link's sprites, it should look like this.



Now, in YY-CHR go to the Palette menu, and select Emulator state load... The default savestate for Zsnes is *.zst so you will want to select Files of Type - and the second option (Which appears to be gibberish, it's actually Load Any File Type).

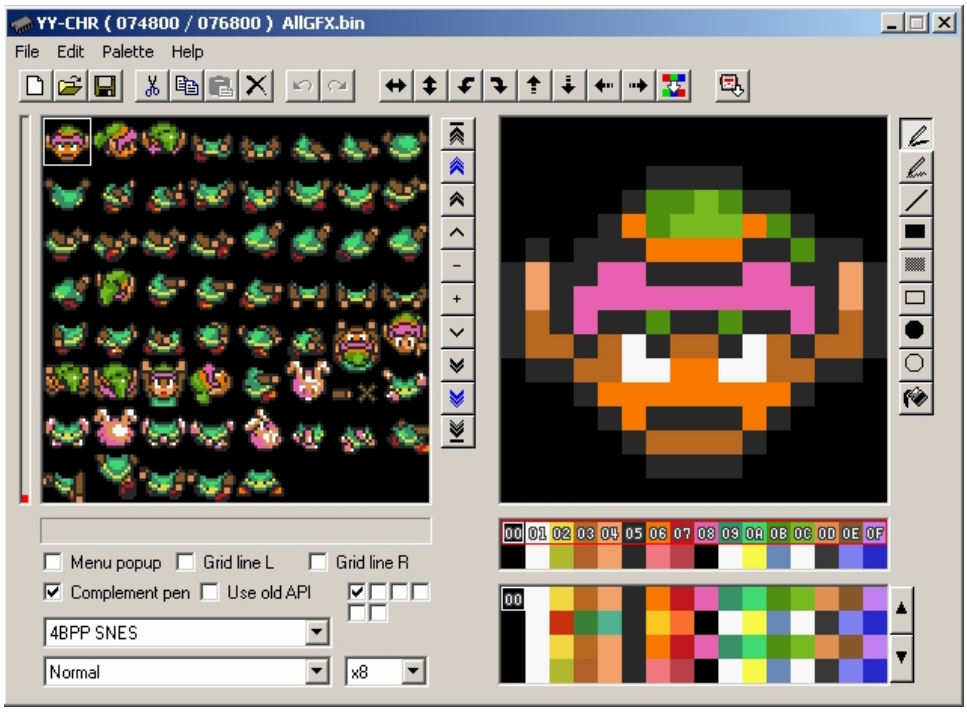


Now you can open any type of file. Choose the Zsnes savestate with what you want on screen.

Now that you have loaded the savestate file, you'll notice that the colors are still wrong. That's because the savestate has many palettes in it, and to get to the one you want, you must cycle through all of them (as you cycle through, each palette is applied to the sprites, you'll know when you have hit the right one!)

To cycle through the loaded palettes, you must click the Up or Down Arrow buttons at the bottom of the program.

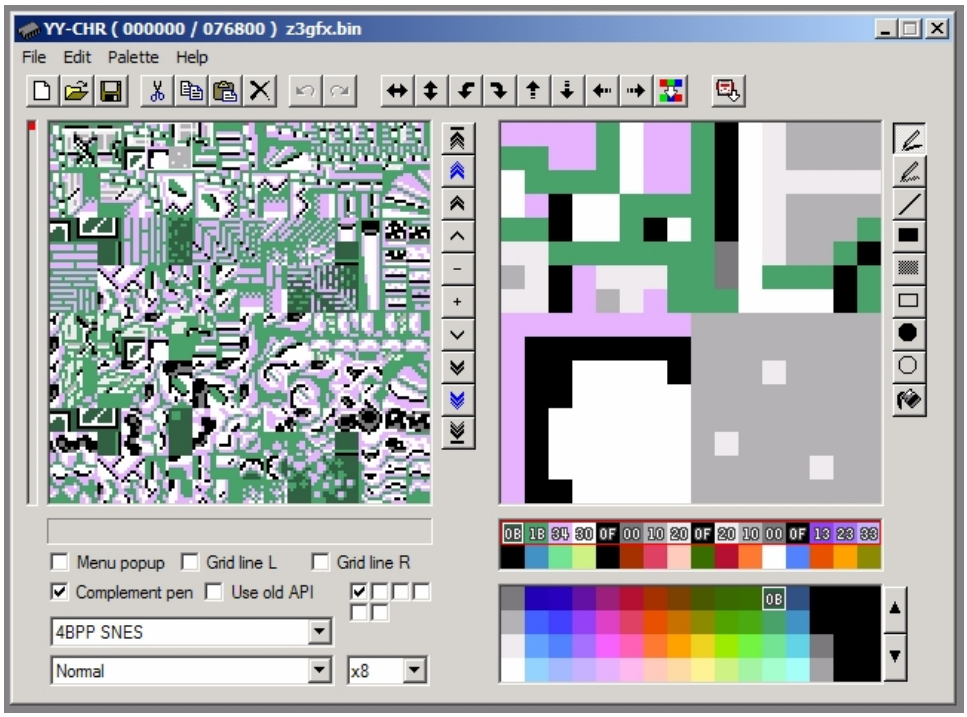
I've highlighted the arrows in pink in this picture.



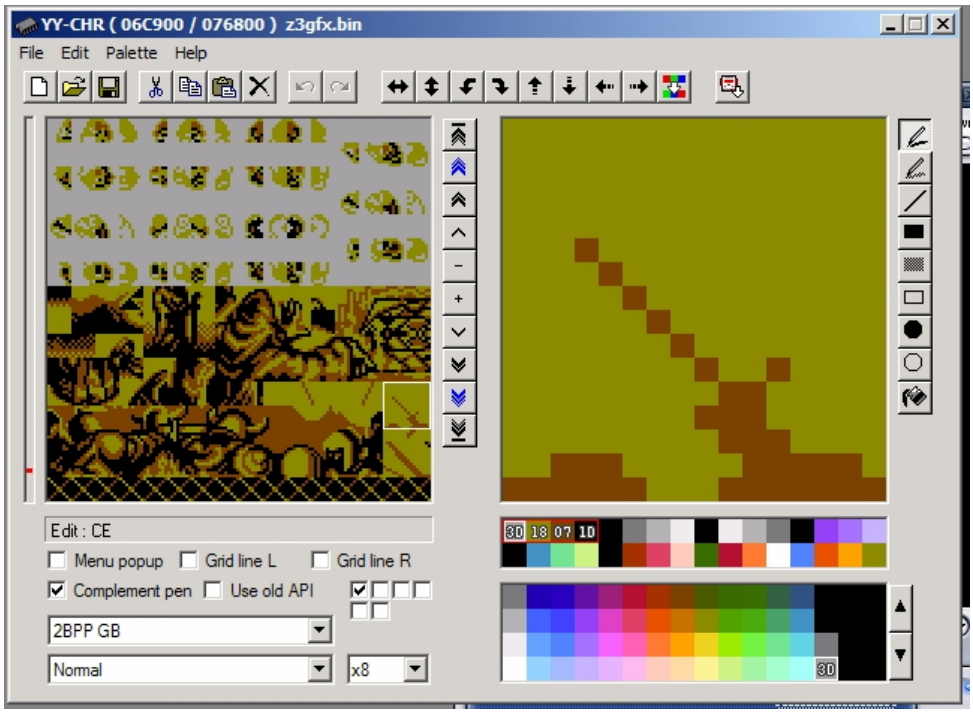
Just click the down arrow button untill the colors are perfect.

That's all there is to getting the correct colors in YY-CHR. This method works for all games, so if you are hacking a game that doesn't have compressed graphics, you just load up the ROM itself, and a savestate, and just do it the old way.

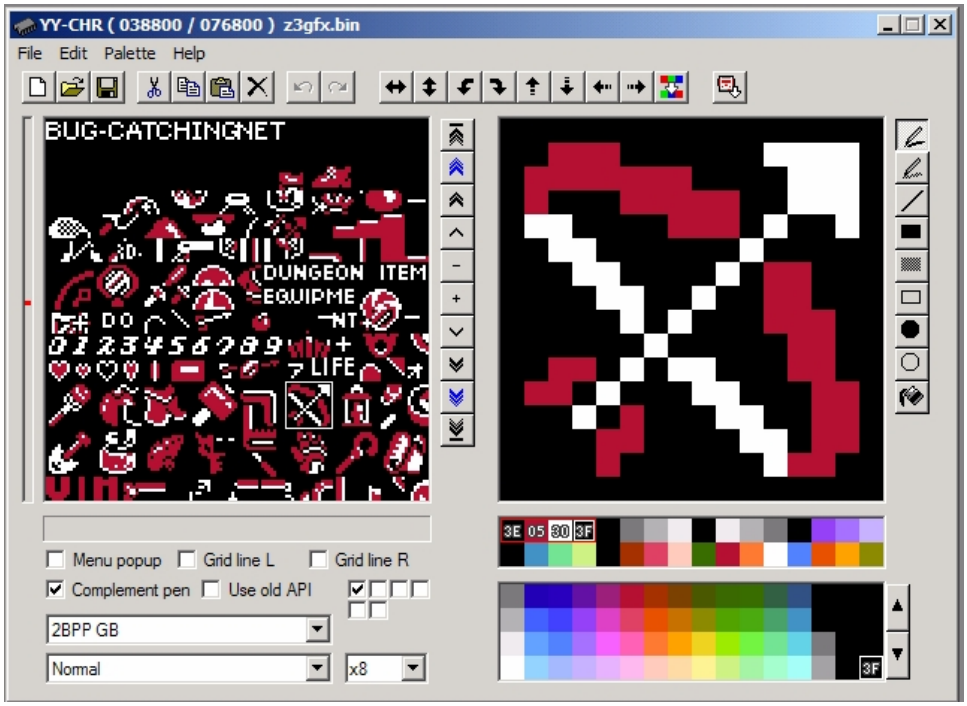
Now you have decompressed all of the data in the rom. BUT, you don't want to open the rom. No, do a search on your computer for z3gfx.bin, and, once you find it, open it up in YY-CHR. What, there's still gibberish? Well, then, change the scrollbar on the bottom from 4BPP MSX(/Genesis) to the correct format, which is 4BPP SNES. Still a bit scrambled, but if you understand tiles, it makes sense.



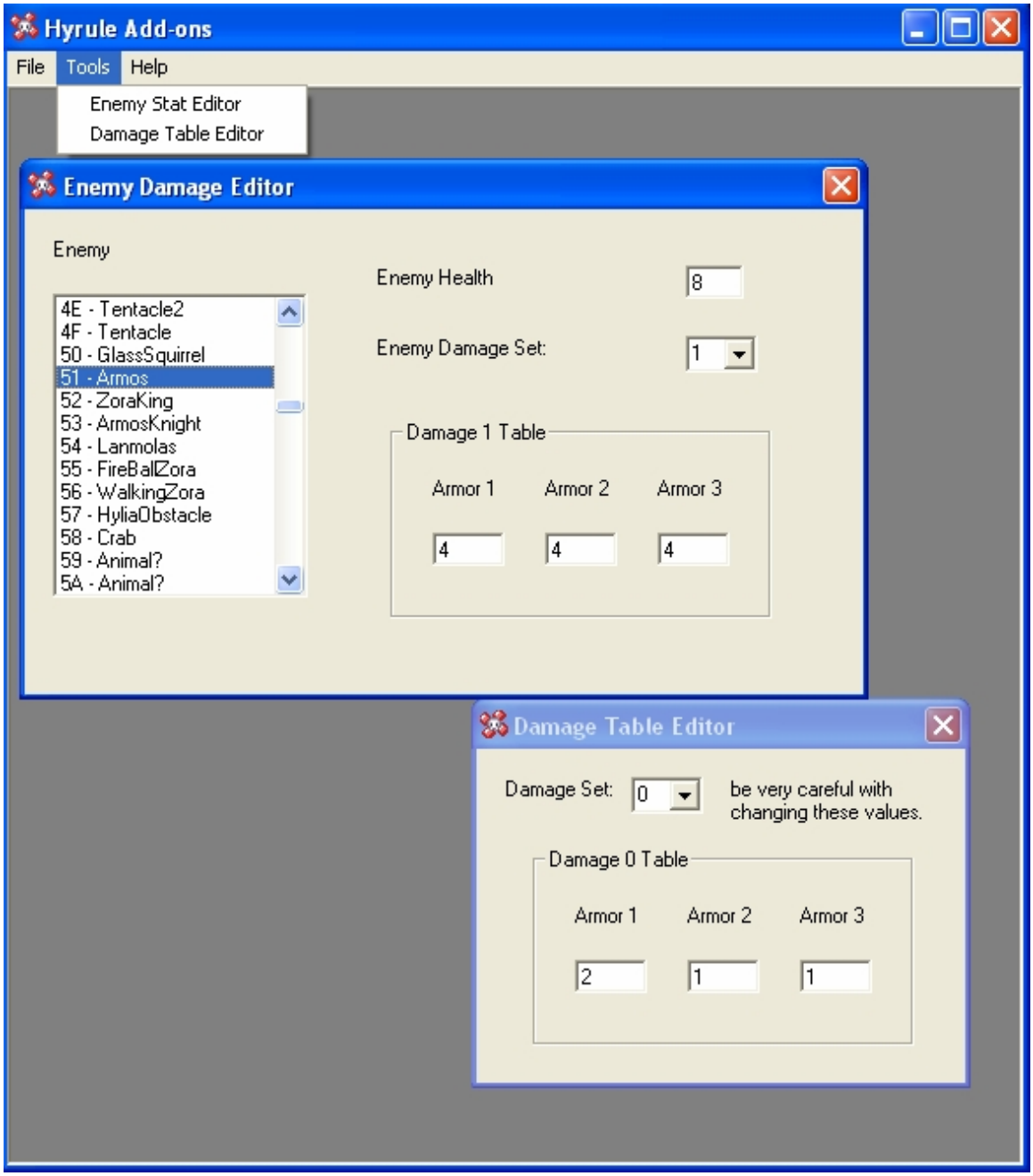
The rest is pretty self-explanatory, you'll find most of the tiles in the game in this format. However, there are a few that you can't edit in 4BPP mode. In 2BPP GB mode, you can edit the intro:



Also in 2BPP GB mode, you can find the items that are displayed in the top left corner in gameplay (Link's current item) aswell as in the layout display.



20-02) HYRULE ADD-ONS



This editor edits Zelda 3 things which is not editable in HM (eg/ enemy stats)
Right now it can edit sprites **damage** and **health**.

It's stable, i haven't seen it crash yet and it doesn't save into the rom until you hit that **Ctrl+S** or **Save**. You need the Visual Basic 6 Runtimes for it to work properly.

You might need to register the DLL in execute: **regsvr32 <path>\msstdfmt.dll**

http://www.geocities.com/libercy/HAv020.zip

Special Notes:

There's ~10 different "types" of damage (There's about **16**, but I suspect the rest ain't used due to the ridiculous amount of damage you'll take if they used it).

Each enemy chooses one of these "types" as to how much damage they'll do to Link.

You're free to change the damage, but I've put them into 2 separate forms so you can't accidentally change them in the enemy stats editor.

Do make sure you don't play around with damage type **0** and **2** (They're somewhat special since sprites which ain't enemies uses them)

Also don't attempt to change sprite **F3-FF** since I believe those ain't really sprites.

If you want to change the names of some sprite, go change them in the names.cfg file.

One more thing, the program doesn't know if you have changed the values so there won't be a confirm exit box when you hit that close button.

Warnings:

- Don't try to modify sprites F5 onwards, i believe those ain't really sprites.

Tip:

- Everything is loaded in memory, so even if it crashes, your rom is safe, and also your rom is not modified until you hit that save button or CTRL+S. Don't trust me? Make a backup then.

20-02) TILE LOCATIONS

<ZST> 2000h	64x64:word 16x16	Overworld Field (One large piece)
	64x64:word 8x8	Underworld Tilemap (One large piece)
4000h	64x64:word 8x8	Second story of (If applicable)
	128x?:word	Overworld Pre-Graphics Field?
12000h	64x64:byte 8x8	Underworld Field
13000h	64x64:byte 8x8	Second story of underworld (If applicable)
<ROM> 54927h	byte 8x8	Overworld Map (When X is pressed)

Underworld simply refers to anything not above ground, caves, castles, dungeons, and the insides of homes.

Modifying the field at 2000h while in the Overworld changes both the tile looks and physical properties. Modifying any tiles at 2000h while in a dungeon only changes the look; the attributes remain the same. Change them at 12000h to change its properties, perhaps to remove a wall or change where a door takes you.

<ROM> 492032	150000h	Base of Overworld tile table

Note that only the Overworld uses a tile table (since it is so large with varying landscapes), not the dungeons or caves. They instead store the exact units as they would appear in VRAM. Also, they use an 8x8 playfield rather than one 16x16.

20-03) DECOMPRESSION CODES

```
; 65816 SNES Disassembler   v2.0a
; Begin: $00e7a3  End: $00e852
; Hirom: No   Quiet: No   Comments: 2  DCB: No   Symbols: No   65816: No

00e7a3 20 43 e8    JSR $e843     ; Get next byte
00e7a6 c9 ff       CMP #$ff      ; End of compressed stream if code = 0FFh
00e7a8 d0 03       BNE $e7ad     ; Continue if any other code
00e7aa e2 10       SEP #$10      ; Index (8 bit)
00e7ac 60          RTS           ; End of compression routine

; Get code and length (code is upper 3 bits, length is lower 5)

00e7ad 85 cd       STA $cd       ; Save byte
00e7af 29 e0       AND #$e0      ; Get code (upper 3 bits)
00e7b1 c9 e0       CMP #$e0      ; Special code for longer run count
00e7b3 f0 0a       BEQ $e7bf
00e7b5 48          PHA           ; Save code
00e7b6 a5 cd       LDA $cd       ; Retrieve byte
00e7b8 c2 20       REP #$20      ; Accum (16 bit)
00e7ba 29 1f 00    AND #$001f    ; Mask byte to get length (lower 5 bits)
00e7bd 80 12       BRA $e7d1

; Long run count

00e7bf a5 cd       LDA $cd       ; Retrieve byte
00e7c1 0a          ASL           ; Shift byte left 3 times for new code
00e7c2 0a          ASL
00e7c3 0a          ASL
00e7c4 29 e0       AND #$e0      ; Get new code (upper 3 bits)
00e7c6 48          PHA           ; Save code
00e7c7 a5 cd       LDA $cd       ; Retrieve original byte
00e7c9 29 03       AND #$03      ; Select lowest two bits for count
00e7cb eb          XBA           ; Save count's two msb in AH (*256)
00e7cc 20 43 e8    JSR $e843     ; Read next byte for a total 10bit count
00e7cf c2 20       REP #$20      ; Accum (16 bit)

; Depending on if the code was E0, the count will either be 0-63 or 0-1023

00e7d1 1a          INC           ; count++
00e7d2 85 cb       STA $cb       ; Store count
00e7d4 e2 20       SEP #$20      ; Accum (8 bit)
00e7d6 68          PLA           ; Retrieve code
00e7d7 f0 16       BEQ $e7ef     ; Transfer bytes from source
00e7d9 30 4a       BMI $e825     ; Transfer bytes from output buffer
00e7db 0a          ASL
00e7dc 10 20       BPL $e7fe     ; Repeat single byte
00e7de 0a          ASL
00e7df 10 2a       BPL $e80b     ; Repeat two alternating bytes

; Repeat single incrementing byte??

00e7e1 20 43 e8    JSR $e843     ; Read single byte
00e7e4 a6 cb       LDX $cb       ; Load count
```

```
00e7e6 97 00      STA [$00],Y     ; Write byte
00e7e8 1a         INC             ; Increment byte value??
00e7e9 c8         INY             ; Destination ptr++
00e7ea ca         DEX             ; Count--
00e7eb d0 f9      BNE $e7e6       ; Loop while count <> 0
00e7ed 80 b4      BRA $e7a3       ; Go to top of loop for next code
```

; Transfer bytes directly

```
00e7ef 20 43 e8   JSR $e843       ; Read next byte to transfer
00e7f2 97 00      STA [$00],Y     ; Write byte
00e7f4 c8         INY             ; Destination ptr++
00e7f5 a6 cb      LDX $cb         ; Reload count (since ReadByte changed it)
00e7f7 ca         DEX             ; Count--
00e7f8 86 cb      STX $cb         ; Store count
00e7fa d0 f3      BNE $e7ef       ; Loop while count <> 0
00e7fc 80 a5      BRA $e7a3       ; Go to top of loop for next code
```

; Repeat single byte

```
00e7fe 20 43 e8   JSR $e843       ; Read single byte to repeat
00e801 a6 cb      LDX $cb         ; Load count
00e803 97 00      STA [$00],Y     ; Write byte
00e805 c8         INY             ; Destination ptr++
00e806 ca         DEX             ; Count--
00e807 d0 fa      BNE $e803       ; Loop while count <> 0
00e809 80 98      BRA $e7a3       ; Go to top of loop for next code
```

; Repeat run of alternating even/odd bytes

```
00e80b 20 43 e8   JSR $e843       ; Read first byte
00e80e eb         XBA             ; Save first byte into AH
00e80f 20 43 e8   JSR $e843       ; Read second byte
00e812 a6 cb      LDX $cb         ; Load count
00e814 eb         XBA             ; Swap first byte with second
00e815 97 00      STA [$00],Y     ; Write first byte
00e817 c8         INY             ; Destination ptr++
00e818 ca         DEX             ; Count--
00e819 f0 07      BEQ $e822       ; Exit loop if count = 0
00e81b eb         XBA             ; Swap first byte with second
00e81c 97 00      STA [$00],Y     ; Write second byte
00e81e c8         INY             ; Destination ptr++
00e81f ca         DEX             ; Count--
00e820 d0 f2      BNE $e814       ; Loop while count <> 0
00e822 4c a3 e7   JMP $e7a3       ; Go to top of loop for next code
```

; Copy run of bytes already in output buffer to end

```
00e825 20 43 e8   JSR $e843       ; Read low byte ptr
00e828 eb         XBA
00e829 20 43 e8   JSR $e843       ; Read high byte ptr
00e82c eb         XBA
00e82d aa         TAX             ; Copy buffer source to X
00e82e 5a         PHY             ; Save destination ptr
00e82f 9b         TXY             ; Move buffer source to Y for indexing
00e830 b7 00      LDA [$00],Y     ; Read existing buffer byte
```

```
00e832 bb          TYX            ; Copy back to X, why??
00e833 7a          PLY            ; Retrieve destination ptr
00e834 97 00       STA [$00],Y    ; Write byte
00e836 c8          INY            ; Destination ptr++
00e837 e8          INX            ; Buffer source++
00e838 c2 20       REP #$20       ; Accum (16 bit)
00e83a c6 cb       DEC $cb        ; Count--
00e83c e2 20       SEP #$20       ; Accum (8 bit)
00e83e d0 ee       BNE $e82e      ; Loop while count <> 0
00e840 4c a3 e7    JMP $e7a3      ; Go to top of loop for next code
```

; Read next byte

```
00e843 a7 c8       LDA [$c8]      ; Read single byte from ROM
00e845 a6 c8       LDX $c8        ; Load source ptr
00e847 e8          INX            ; Source ptr++
00e848 d0 05       BNE $e84f      ; If not beyond end of bank
00e84a a2 00 80    LDX #$8000     ; Wrap source to beginning of next bank
00e84d e6 ca       INC $ca        ; Increment to next source bank
00e84f 86 c8       STX $c8        ; Store source ptr
00e851 60          RTS            ; End of read byte
00e852 ff ff ff ff SBC $ffffff,X  ; Those familiar separating FF's
```

20-04) COMPRESSION CODES

000..... (00e7ef) - Transfer bytes from source
; Transfer Count bytes after code to buffer
001..... (00e7fe) - Repeat single byte
; Read next byte and repeat Count times
010..... (00e80b) - Repeat two alternating bytes
; Read next two bytes and alternately repeat
011..... (00e7e1) - Repeat single incrementing byte
; Read next byte and repeat incrementing each time
111..... (00e7bf) - Long count
; bits 2-4 become 5-7 for the new code. bottom 2 bits
; become top two bits of count. read next byte for lower
; 8 bits of count +1.
1xx..... (00e825) - Transfer bytes from output buffer
; Read next two bytes for buffer source pointer (low/high)
11111111 (00e7aa) - End of compressed stream

Examples:

transfer bytes from source
03 12 34 56 -> 12 34 56
repeat single byte
23 12 -> 12 12 12
repeat two alternating bytes
45 12 34 -> 12 34 12 34 12
repeat single incrementing byte
63 12 -> 12 13 14
long count (followed by source transfer of 302h bytes)
E3 01 12 34 56 .. -> 12 34 56 78 90 12 34 ...
transfer byte from output buffer (starting at offset 4)
83 00 04 -> 90 12 34

20-05) RAM DATA:

VARIABLE LISTINGS:

$0-F Mainly used as work registers. Storage of addresses and values.

$10 Main Module index
$11 Submodule Index (See **$B0**)

$12 NMI Boolean. If set to zero, the game will wait at a certain loop until NMI executes. The NMI interrupt generally sets it to one after it's done so that the game can continue doing things other than updating the screen.

$13 Screen settings

$14 Graphics Flag
$15 Graphics Flag
$16 Graphics Flag
$17 Graphics Flag
$18 Graphics Flag
$19 Graphics Flag

$1A Frame Counter

$1B Flag, set if you are in a dungeon. **0** otherwise.

$1C Main Screen Designation (**$212C**)
$1D Sub Screen Designation (**$212D**)

$1E Window Mask Activation (**$212E**)
$1F Subscreen Window Mask Activation (**$212F**)

$20-$21 Link's **Y**-Coordinate (mirrored at **$0FC4**)
$22-$23 Link's **X**-Coordinate (mirrored at **$0FC2**)

$24-$25 I have seen them being accessed in reference to Link being invisible.

$26 Link's push state. right = **#1**, left = **#2**, down = **#4**, up = **#8**, nothing = **#0**. These of course can be combined.

$27 Link's Recoil for horizontal collisions
$28 Link's Recoil for vertical collisions.

$2F The direction Link is facing. **0** - up, **2** - down, **4** - left, **6** - right.

$3D A delay timer for the spin attack. Used between shifts to make the animation flow with the flash effect.

$46 A flag for Link's movement. If set, no movement input is recorded for Link.

$4B Link's visibility status. If set to **#C**, Link will disappear.

$4D An Auxiliary Link handler. As far as I know, **#0** - ground state (normal), **#1** - the recoil status. **#4** - swimming state.

$50 - A flag indicating whether a change of the direction Link is facing is possible. For example, when the B button is held down with a sword.

$56 - Link's graphic status. **1** - bunny Link, **0** - real Link.

$5D Link Handler - **0** - ground state, **#1** - falling into a hole, **#2** - recoil from hitting wall, **#3** - spin attacking, **#4** - swimming, **#8** - using ether medallion, **#9** - using bombos medallion, **#A** - using quake medallion, **#11** - falling off a ledge, **#13** - hookshot, **#14** magic mirror, **#17** - permabunny, **#18** - stuck under a heavy rock, **#1C** - tempbunny, **$1E** The actual spin attack motion.

$5E - sort of a speed setting for Link. When he's going up stairs this will make him go slower.

$94 Screen Mode Register (**$2105**)
$95 Mosaic Settings (**$2106**)
$96 Window Masks for Backgrounds 1 and 2 (**$2123**)
$97 Window Masks for Backgrounds 3 and 4 (**$2124**)
$98 Window Masks for Obj and Color Add/Subtraction Layers (**$2125**)
$99 Enable Fixed Color +/- (**$2130**)
$9A Enable +/- per layer (**$2131**)
$9B HDMA channels to write to (**$420C**)
$9C-$9E Writes to (**$2132** With an internal pointer)

$A0 The index used for loading a dungeon area. (mirrored in other vars.)

$B0 Sub-submodule index. (Submodules of the **$11** submodule index.)

$C8 keeps track of what part of a menu you are in. For example, on the select game screen this will take on values **0 - 4**, **0 - 2** for each save game, **3** & **4** are copy and erase game.

$E4-$E5 BG3 Horizontal Scroll Register (**$2111**)
$EA-$EB BG3 Vertical Scroll Register (**$2112**)

$EE Seems to be a state determining how Link interacts with solid objects.

Note on Joypad registers: Given the following addresses, simply add one to each address to get the corresponding Joypad 2 variables. There is a routine in the ROM for reading the second pad, though it is never used.

$F0 UNFILTERED JOYPAD REGISTER: Same as **$F4**, except it preserves buttons that were being pressed in the previous frame.

$F2 UNFILTERED JOYPAD REGISTER: Same as **$F6**, except it preserves buttons that were being pressed in the previous frame.

$F4 FILTERED JOYPAD REGISTER: [BYST | udlr]. Lower case represents the cardinal directions
T = start. **S** = select.

$F6 FILTERED JOYPAD REGISTER [AXLR | ????] :
LR: The shoulder buttons. **?** = unknown inputs

$FF Vertical IRQ Trigger

--End of direct page memory

$011E-$011F BG2 Horizontal Scroll Register (**$210F**)
$0120-$0121 BG1 Horizontal Scroll Register (**$210D**)
$0122-$0123 BG2 Vertical Scroll Register (**$2110**)
$0124-$0125 BG1 Vertical Scroll Register (**$210E**)

$012C Music Control
-**#01** = Triforce Opening
-**#02** = Light World
-**#03** = Legend Theme
-**#04** = Bunny Link
-**#05** = Lost Woods
-**#06** = Legend Theme
-**#07** = Kakariko Village
-**#08** = Mirror Warp
-**#09** = Dark World
-**#0A** = Restoring the Master Sword
-**#0B** = Faerie Theme
-**#0C** = Chase Theme
-**#0D** = Dark World (Skull Woods)
-**#0E** = Game Theme (Overworld Only?)
-**#10** = Hyrule Castle
-**#13** = Fanfare
-**#15** = Boss Theme
-**#16** = Dark World Dungeon
-**#17** = Fortune Teller
-**#18** = Caves
-**#19** = Sentiment of Hope
-**#1A** = Crystal Theme
-**#1B** = Faerie Theme w/ Arpeggio
-**#1C** = Fear & Anxiety
-**#1D** = Agahnim Unleashed
-**#1E** = Surprise!
-**#1F** = Ganondorf the Thief
-**#20** = Nothing
-**#21** = Agahnim Unleashed
-**#22** = Surprise!
-**#23** = Ganondorf the Thief
-**#F1** = Fade Out
-**#F2** = Half Volume
-**#F3** = Full Volume

$0200 Map index for mode E. For example, 5 means we're in overworld map mode. 3 means a dungeon map is up.

$020E Floor index for the dungeon map. Floor 1F (1st Floor) is the basic floor with **#00**. 1B (1st Basement) is **#FF**. 2F (2nd Floor) is **#01**. You get the idea.

$02E0 - Flag for Link's graphics set. **0** - Normal Link, **1** - Bunny Link (Mirrored at **$56**)

$02E2 - Timer for when Link transforms between Link and Bunny modes.

$02E4 - Flag that if set will not allow Link to move. Requires further research as to its generalized usage.

$0316-7 -

$031C - Tells us the actual graphic/state to use on the given step of a spin attack.
$031D - Step counter for the spin attack.

$031E - Used as an offset for a table to retrieve values for **$031C**. The offset comes in increments of four, depending on which direction Link is facing when he begins to spin. This makes sense, given that he always spins the same direction, and allows for reusability between the different directions, each one being a sub set of the full sequence.

$0324 - A flag telling a medallion spell it's okay to proceed with the effect. If set to **1**, the effect will wait until it is set to **0** to activate.

$0372 - Flag indicating whether Link will bounce off if he touches a wall.

$034A - Flag indicating whether Link is moving or not.

$0351 -

$03F5-6 - The timer for Link's tempbunny state. When it counts down he returns to his normal state. When Link is hit it always falls to zero. Is always set to **#100** when a hunter hits him. If Link is not in normal mode, however, it will have no effect on him. The values is given in frames, so if the value written is **#80**, you will have 128 frames.

$03F7 - Flag indicating whether the "poof" needs to occur for Link to transform into the tempbunny.

$040C - Map index for dungeons. If it **= #FF**, that means there is no map for that area.

$041E -

$04F0-$04FF Timers for Torches. Starts at **#FF** and counts down to **0**. Setting it before the torch is lit is a bad idea. It will not cause a torch to light, nor will it brighten the room.
Note that this range probably indicates we can have up to 16 torches in an area.

$0618 - **Y** coordinate of the scrolling camera. Probably the lower bound for scrolling.
$061A - **Y** another coordinate. Probably the upper bound for scrolling.
$061C - **X** coordinate of the lower bounds of scrolling.
$061E - **X** coordinate of the upper bounds of scrolling.

$0710 Global flag for graphics routines. Detailed usage undocumented as of yet.

($0AA0, X) - Mysterious palette/ tile selector type variable. requires much research.

$0AB6 Palette Selector for some Indoors and Select Screen. Perhaps affects only one background.

$0B58-$0B67? – Timers for stunned enemies. Counts down from **#FF**.

$0B7B - Flag indicating whether Link can move or not. Set to 1 to prevent him from moving.

$0C22, X - Helps trigger the Ether effect.

$0D00, X - The lower byte of an effect's **Y** - coordinate.
$0D10, X - The lower byte of an effect's **X** - coordinate.
$0D20, X - The high byte of an effect's **Y** - coordinate.
$0D30, X - The high byte of an effect's **X** - coordinate.
$0D40, X - Y direction for an effect.

$0D50, X - X direction for an effect.
$0D60, X - Y "second derivative" to give a path a more rounded shape when needed.
$0D70, X - X "second derivative" to give a path a more rounded shape when needed.
$0D80, X - Controls whether the effect has been spawned yet. **0** - no. Not **0** - yes.

$0DC0, X - Designates which sprite frame of animation to use.
$0DD0, X - An indicator to determine whether certain effects are happening.
Specifically, if this value = **#09**, the effect/ sprite is still alive.

$0DF0, X - Timers for yellow hunters, waiting to be activated.

$0E00-$0E0F – Timers for Dead Rocks (deddorokku) They remain in statue form until this counts down from **#FF**.

$0E20, X - What type of sprite it is.
Sprite Catalog:

59 = Book of Mudora
61 = Statue Sentry
63 = Sand Lion Pit
64 = Sand Lion
69 = Things that spit metal balls.
6A = Ball N' Chain Trooper
70 = Splitting Fireballs from Helmasaur King
71 = Burrower
7A = Agahnim
D1 = A yellow hunter

$0E40, X - Unknown

$0FA0

$0FC2 Link's X-Coordinate (See **$22**)
$0FC4 Link's Y-Coordinate (See **$20**)

$7EC300 specifies a range of palette data, starting here.

$7EF000 is the beginning of save game memory. It is **#500** bytes long.
See the following inserted document:

MathOnNapkins' Zelda 3 SRAM (***.srm**) hacking guide.
***.srm** is the save file type used with **Snes9x**.

This FAQ is based off of save slot 1. There is an offset of **#500** bytes for each slot. Thus, First Game starts at **$000**, Second at **$500**, and the Third at **$A00**. Also note that each slot is "mirrored," a technique that makes two copies of your save data in the same file.

Slot 1: **$000**; Mirror: **$F00**
Slot 2: **$500**; Mirror: **$1400**
Slot 3: **$A00**; Mirror: **$1900**

It suffices to edit the main copy. Note each copy has its own checksum.

CRASH COURSE IN READING THE FAQ:

Hex Numbers: Numbers written with the **#** symbol before them denote hexadecimal numbers, or numbers in base 16. For example, **#521** denotes **5*(16^2) + 2*(16^1) + 1*(16^0) = 1313** in decimal. Numbers without a hash (**#**) can normally be assumed to be decimals.

Bit ordering in bytes: a byte contains **8 bits**, and they are numbered from right to left as follows-

7 6 5 4 3 2 1 0

For example, a byte with bits **2** and **6** set would look like **01000100** in binary.
#77 is the hexadecimal way to represent this number.

Each bit position corresponds to a value in base **2**.

Bit	Decimal Value	Hex Value
0	1	#1
1	2	#2
2	4	#4
3	8	#8
4	16	#10
5	32	#20
6	64	#40
7	128	#80

Some binary numbers are larger, such as **16,24,32,or even 64 bit numbers**. In this case, bits of higher order correspond to greater powers of two. Ex: **Bit 8** of a **16-bit** number corresponds to **256**. **16-bit** numbers are often called "Words" as opposed to "Bytes".

******CAUTION*******

The Zelda sram relies upon an inverse checksum. That is, if you add to any byte in the ***.srm** file, you must subtract from that save game's checksum to maintain the balance of things. Otherwise, when the game is started, Zelda3.smc [Assuming that's your rom name] will detect that all the bytes in the file don't add up to the checksum, and your file will be deleted. If you know how to NOP (make ineffective) the subroutine that does this than you can work a lot easier. That is beyond the scope of this document and is a topic in **65816** assembly language (**ASM**), i.e. the code for the the SNES processor.

******CAUTION*******

$002: **#0C**:

$004: **#0C**: HCS, B1 rat room with 4 pots. **#0F**: Lower half complete.

$022: **#05**: HCS, B2 room4. room with bombable doors.

$042: **#03**: HCS, B2 room2. Connected to room3's state. **#0F** HC, B2 room3

$**044**: **#03**: HCS, B2 room1

$064: **#0F**: HCS, B1 room1. **#1F**: Chest opened.

$082: **#0F**: Entrance to HCS (2F).

$084: **#0C**: HC, 1F room1.

$0A0: **#05**: HC, left, up

$0A2: **#0F**: HC, up

$0AA: **4**: Set, you have opened the treasure chest in the HC secret passage.

$0C0: **#05**: Room left of HC entrance has been visited

$0C2: **#0F**: Main HC entrance.

$0C4: **#0F**: Right of HC entrance

$0E0: **#08**: HC, B2 only room.

$0E2: **#02**: HC, B1 room3, no doors triggered. **#03**: Right door triggered. **#0B**: Locked door opened.

$0E4: **#0C**: HC, B1 room1, door locked. **#0F**: door unlocked.

$100: **#0C**: HC, B3, Zelda's cell locked. **#2C**: Zelda's cell unlocked **#3C**: Chest opened.

$102: **#0F**: HC, B1 room2

$104: **#0F**: Lower half of HC, B1 room1.

$2F0: Bit **5**: When set, misery mire is revealed.

Bombs: **$343**. Can exceed 50 (by far!)

Book of Mudora: **$34E**. Set bit **0** to **1** and you will have it.

Cane of Somaria:**$350**. Set bit **0** to **1**. Byte should read **#01**.

Cane of Byrna: **$351**. Set bit **0** to **1**. Byte should read **#01**.

Magic Cape: **$352**. Set bit **0** to **1**. Byte should read **#01**.

Magic Mirror: **$353**. Set bit **1** to **1**. Byte should read **#02**.

Gloves: **0** - normal, **1** - Power Gloves, **2** - Titan's Mitt

Moon Pearl: **$357**. Set bit **0** to **1**. Byte should read **#01**.

Sword: **$359**. **0**-No sword **1**-Fighter Sword **2**-Master Sword **3**-Tempered Sword **4**-Golden Sword
*****See Side Note 2*****

Shield: **$35A**. **0**-No shield **1**-Blue Shield **2**-Hero's Shield **3**-Mirror Shield
*****See Side Note 2*****

Armor: **$35B**. **0**-Green Jerkin **1**-Blue Mail **2**-Red Mail
*****See Side Note 2*****

Bottle: **$35C-F** **0**-No bottle **1**-Mushroom (no use) **2**-Empty bottle **3**-Red Potion **4**-Green Potion **5**-Blue Potion **6**-Fairy **7**-Bee **8**-Good Bee

Rupees: **$360-3**. This number can be set above the **999** limit. It is a word, so you can have lots of rupees. (Up to about **65000**) One word is capacity, the other is your current supply.

Magic Power: **$36E**. Magic power ranges from **0** to **#20** (**32**). Each small bottle refills **#10**. Setting Magic above **#80** causes the magic meter to glitch and you can't use special items.

Arrows: **$377**. Can exceed **70**.

Ability Flags: **$379**. Bit **2**: Dash

$3C5: **0**: Unset, Will put Link in his bed state at the beginning of the game.
1: Will allow you to start the game from your house or Sanctuary. The game also thinks you beat Agahnim already. (It has you search for the crystals.)
2: Unknown
$3C6: **0**: When set, your uncle won't show up in the secret passage under HC.
4: Unknown. Possibly activation of shield.
$3C8: **0**: If not set, you start in Zelda's cell.

$3CC: **0**: If set, Zelda won't give her speech when you rescue her in HC.
Changing the byte to a number that is not **#01** will cause the speech to trigger again.
4: Can crash the game if set.

Name: **$3D9-$3E4**. See appendix for listing of character codes. Note each of the six letters can be represented by a **16-bit** number.

IsValid: **$3E5-6**. There is a subroutine in the ROM that checks to make sure this value is **#55AA**. (Note the reverse byte order.) If you alter this your file is automatically tagged for deletion at startup. Translation: Don't mess with it. The empty slots have **#0000** here, of course.

Life/Save Counter: **$403-4**. Counts the number of times your saved or died in the game.

NameWasWritten: **$405-6**. Once you name your character, this becomes **#FFFF**.

Inverse Checksum: **$4FE-F**. If you add numbers to the file, you need to subtract from this location.

*****See Side Note 3*****

APPENDIX:

Side Note 2: Items other than the standard equipment can be equipped. For instance, it's possible to equip the compass as a sword. By some miracle, the items you end up with often work the same way as their appropriate counterparts. Sometimes they are far superior to the normal items, and sometimes they just suck. At least one item makes your armor invincible! Just experiment a little. Beware, the palletes will not be standard.

Side Note 3: A tutorial on inverse checksums. Let's say I add to location **$3EE**. Now **E = 14** in the decimal system. (Note we are looking at the last digit. "**E**" that is.) Therefore **#3EE** is even. The use of the hash (**#**) is intentional because in this case we are talking about a number as opposed to an address (**$**).

If I add a value to a memory location with an even address, I must subtract from the even address of the inverse checksum. Example: Suppose I add **#4** to **$305**. **#305** is odd, so I SUBTRACT **#4** from the odd checksum byte: **$4FF**. If I subtracted from **$305**, I must add to **$4FF**. This maintains the "balance" of the file and keeps it from being erased.

Now this will work for slight changes in the checksum, but it takes a bit of insight to recognize that the checksum is really a 16-bit number, not just two 8-bit numbers functioning separately.

CHARACTER CODES:

Alpha Numeric

00-A 01-B 02-C 03-D 04-E 05-F 06=G 07-H 08-I^ 09-J 0A-K 0B-L 0C-M 0D-N OE-O OF-P
10-??
20-Q 21-R 22-S 23-T 24-U 25-V 26-W 27-X 28-Y 29-Z 2A-a 2B-b-2C-c 2D-d 2E-e 2F-f
40-g 41-h 42-k 43-j 44-i 45-l 46-m 47-n 48-o 49-p 4A-q 4B-r 4C-s 4D-t 4E-u 4F-v

60-w 61-x 62-y 63-z 64-0 65-1 66-2 67-3 68-4 69-5 6A-6 6B-7 6C-8 6D-9 6E-"?" 6F-"!"
80-"-" 81-"." 82-"," 85-"(" 86-")"

Special characters (not normally accessible. This is by far an incomplete listing).

A0-small right arrow A1-"'" (apostrophe) A2-HPiece again A3-"empty right hand heart cont."
A4-see A7 A5-Same as A7 A6-"Quarter Heart piece, top right corner."
A7-"Heart piece,left half" A8-"Heart piece, right half" A9-blank AA-"left arrow"
SNES Button Alphabet: AB-A AC-B AD-X AE-Y
AF-I
B1-blank^

^This code is not the canon encoding of this character. ex. AF is the proper "I". 08 is not.

----------End of variables----------

ROUTINES:

$333
While this routine appears to be complicated and technical, it really serves two purposes. Depending upon the entry point to the routine, two 16 bit values will be written to VRAM. The value at **$00** goes to **$0000-$1FFF** and the one in **$02** goes to **$6000-$67FF**. That's it. The values are written non-incrementally, so it's just those two values getting written over and over again.

$07C0
Zeroes Out first **#2000** bytes
Verifies Save Files

$00082E

$0888
Loads SPC with data at specified address

$0901
Sets up address for **$8888**
Address = **$198000** => **$0C8000**

$093D
Initializes the Screen

$07C0
Sets up address for **$8888**
Address = **$1A9EF5** => **$D1EF5**

$12A1
Upon starting this routine, inspect the **8-bit** value at the long address **[$00]**, **Y**. If it is positive, that value is stored at **$04**, **Y** is incremented, and the next value is stored at **$03**. **Y** increments. If the next value at [**$00**], **Y** is negative (AND **#80** tells us this) then **A** will end up as **#1**, and **#0** is the value was positive. This is stored at **$07**. The very same value is read in but this time we AND with **#40**, **STA $05**, and LSR A three times. The AND left a nonzero result, we will have **A** = **#80**, and if not, **A** = **#00**. Ultimately either are ORed with **#01** so we have **A** = **#81** or **#01**. The **#01** tells us data will be being transferred in Mode 2 (a la register **$4310**). Data from the source is written to **$2118**.

Summary: 1st Value read: XXXX XXXX (If negative, the SR exits) -> **$04**
2nd Value read: XXXX XXXX -> **$03**
3rd Value read: AXXX XXXX (A = **0**:)

$D81B
If NOPed, you will not be able to pick up some types of pots in dungeons.

$10054
The subroutine is used to verify that all the save files are uncorrupted. Each save file has one mirrored slot **#F00** bytes offset from the original. If the first file is corrupt and the mirror is fine, it will copy the mirror to the original and use it. Basically it checks if the **#500** bytes in the slot add up to **#5A5A**. When save files are saved a checksum is calculated to make sure this constraint is met.

$17EBB
I'm going to generalize this subroutine because the data extraction method is cumbersome to figure out at a moment's glance. Sub **$175F5** is used to get a sequence of codes, and after each code follows data to be put in memory at **$7F4000**, **Y**. Update: After some serious thought, I've begun to think of this as a decompression routine, possibly for OAM data.

The way the data is handled depends on the three most significant bits of the code. The number of bytes to write is determined by the five least significant bits of the code plus one. Let this number be called R.

[XXX | XXXXX]
(Code), (R - 1)

Example:
[010 | 10001]
Code = 010
R = 10001 + 1 = 10010 = 18d (d for decimal)

Codes:
[000] : Write R bytes after the code. For instance, 03 11 12 13 14 would have you write 11, 12, 13, and 14 in succession into memory.

[001] : Write the one byte after the code R times. 23 15 would make you write 15 four times into memory.

[100], [110], [101] : After the code is a 16-bit index. This means copy memory from **$7F4000 + (The Index)**. You will copy R bytes of course

[[010] : This code is used for repeatedly storing a 16-bit number, rather than the [001] case. Over all R bytes will still be written.

[011] : Whatever value is picked after the code will be incremented (R - 1) times and written R times. 34 01 for example would write 01 02 03 04 05

$6FE77-$6FFC0 Template for the status bar. That is, set of tile indices. When the game begins these are mapped to **$7EC700-$7EC849**

$3E245 Controls Link's movement, i.e. his speeds and different movement events, such as swimming and dashing.

These are all related to sprites.

And are loaded in this **0D/B820** area of the rom when you're close on a sprite in the overworld. The same loading routine applies to dungeons.

I'm not sure about ends for these values, but the starts are right.
$0B6B - $0B7A -
$0CD2 - $0CE1 - Array of damage which this sprite can deal.
$0CAA - $0CB9 -
$0E40 - $0E4F - Something to do with sprite animation i think.
$0E50 - $0E5F - Array of health for sprites on screen (or near screen)
$0F60 - $0F6F -
$0BE0 - $0BEF -

I suppose that means you can't have more than **16 sprites** in the screen.

I have yet to find out what the others are for (it doesn't seem to do anything when i change them, maybe it's got something to do with how this sprite will act when something is done to it.

Well if you look up there, there's all the other offsets you need for your ***.srm** guide, just subtract **7EF000** and you'll have the values for the items.

I'm surprised you wrote **#02** for mirror, it is functional with **#01**, just that the icon doesn't display right.

7EF300 - 40 when you've pulled out master sword (and **Area 00**'s overlay changes)

The location of the stack is determined by the stack register S. By default it is at **$01FF**, as I recall, b/c you start in emulation mode (**6502 mode**). Zelda3 and many other games set it to this value anyway in the first few lines of code, however. You usually won't expect it to be anywhere else. I has to be in bank **00**, however. When PHX is executed, that value is written to the stack, and the stackpointer decrements by the size of that data (contingent upon the X flag in the P register). When you execute a PLX it will pull a value off the stack (again using the current state of the X flag) and the stack pointer will increment.

PART 21: RELEASED/WIP HACKS DATABASE

By the time I started hacking this game, the're where no hack released.. Then a few months ago, the Z3 hacking community started to grow much more... As of now, some hackers show off the're works, some even released demos; this section will keep a up to date database of the hacks in progress, as well as information, pictures and demo links (If released), the WIP (work in progress) hacks and the discontinued, not updated in a long time hacks...

Legend:

Hack: Name of the hack here.
Author(s): People who made the hack.
Information: The type of hack, basic information.
Screenshots: Self-Explanatory.
Version: Complete, demo or N/A.
Threads: Places to discuss about the hacks.
URL: Where to get it / website URL.

21-01) RELEASED HACKS/DEMOS

- **Hack:** The Legend of Zelda - Dodongo's Gold
  Author: NeonX
  Information: Complete overhaul (New dungeons, overworld, story, puzzles and bosses).
  Screenshots:

Version: Demo v1.0
Threads: http://www.tekhacks.net/bored/thread.php?id=5771&page=0
URL: http://www.zeldadg.tk/

- **Hack:** The Legend of Zelda - Tower of the Triforce
  Author: Euclid
  Information: Complete overhaul (New dungeons, overworld, story, puzzles and bosses).
  Screenshots:

  Version: Demo v1.1 Fixed
  Threads: http://www.tekhacks.net/bored/thread.php?id=6680
  http://board.acmlm.org/thread.php?id=2117
  URL: http://www.geocities.com/libercy/TowerOfTheTriforce/TotTdemo1.zip

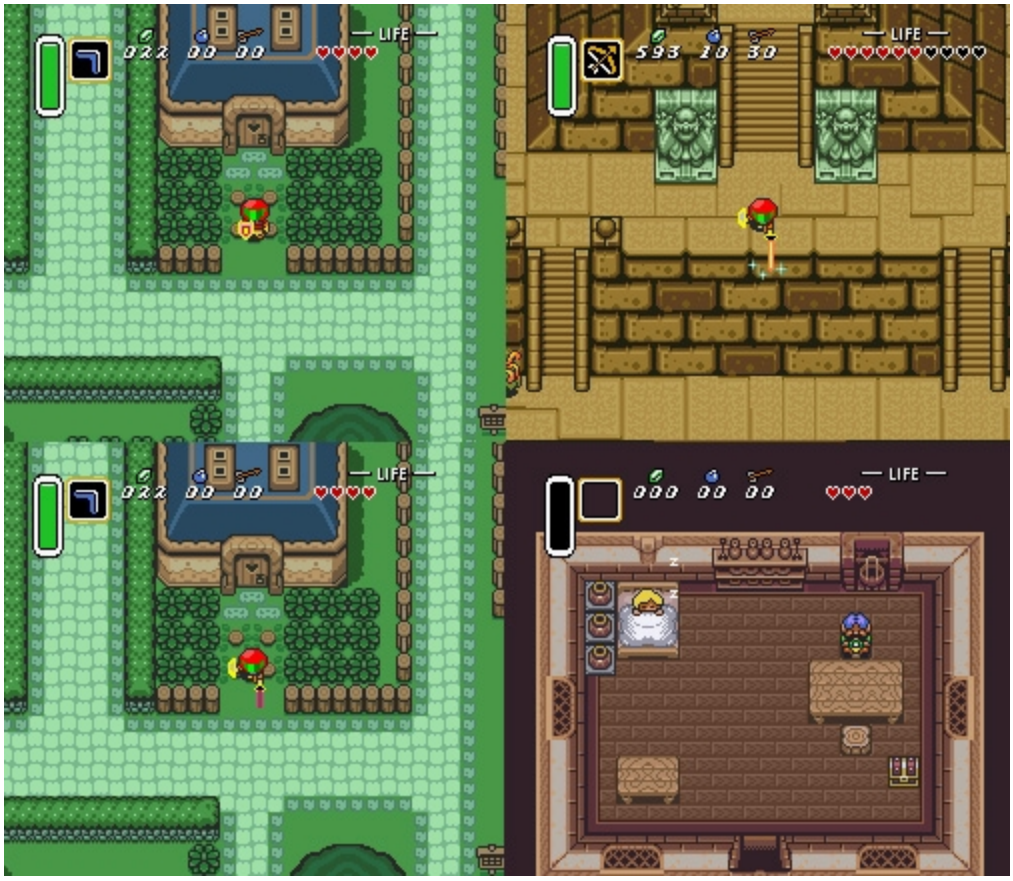
- **Hack:** The Legend of Zelda - Omega
  Author: Omega45889
  Information: Complete overhaul (New dungeons, overworld, story, puzzles and bosses).
  Screenshots:

  Version: Complete/Final
  Threads: http://board.acmlm.org/thread.php?id=2026
  URL: http://www.freewebs.com/omega458899/Zelda%203-Omega-IPS%20Patch.rar
  Mirror: http://www.angelfire.com/magic2/hyrule/Zelda3_Omega_Mirror.rar

- **Hack:** The Legend of Iced Hyrule
  Author: Unknown
  Information: Originally meant to be a total convertion of the original game.
  Screenshots:

  Version: Beta/Final
  Threads: N/A
  URL: http://www.angelfire.com/games4/densedomain/prod02.htm
  http://www.angelfire.com/games4/densedomain/icedhyrule.zip

- **Hack:** The Legend of Zelda - Samus
  Author: Megamancpx
  Information: Sprite hack. Link is replaced with that of Samus (from the Metroid games).
  Screenshots:



  Version: Complete/Final
  Threads: N/A
  URL: http://www.zophar.net/hacks/files/loz3samus.zip

- **Hack:** Zelda 3 - ALttP Minor Fix
  Author: EternalDragoonX
  Information: Sprite palette hack.
  Screenshots:

  Version: Complete/Final
  Threads: http://board.acmlm.org/thread.php?id=4019
  URL: N/A

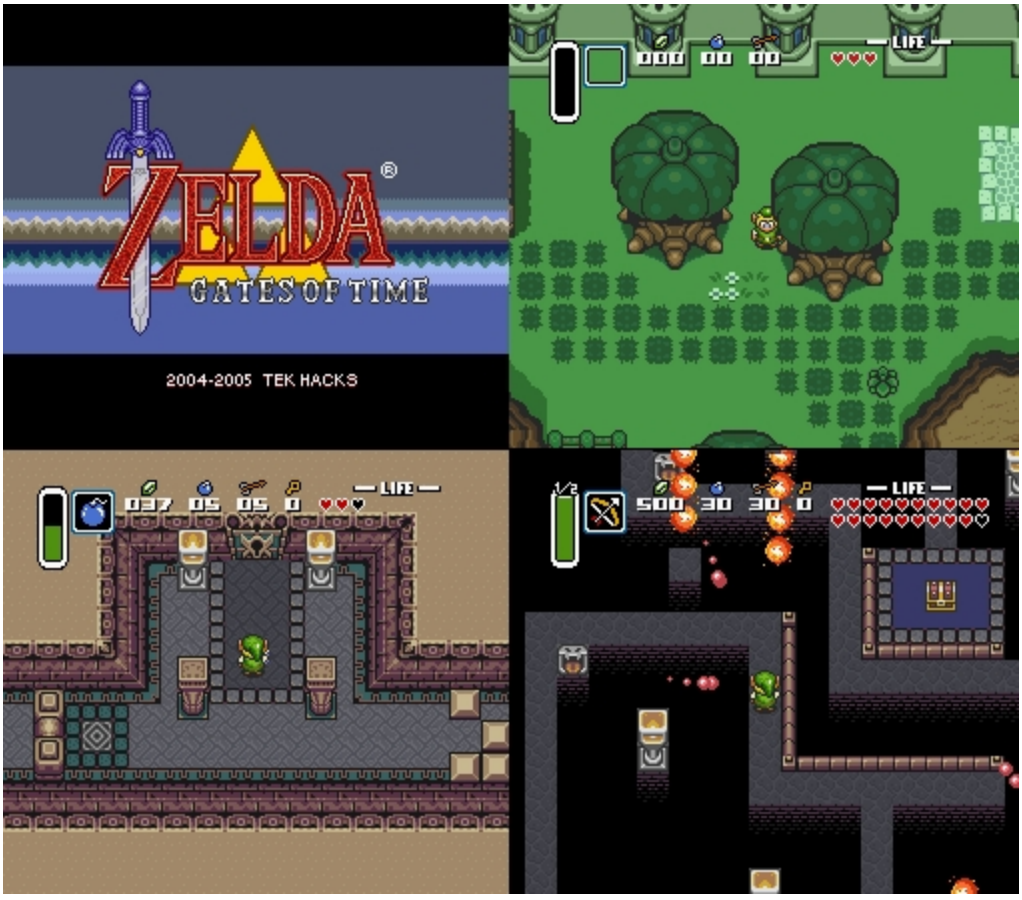
- **Hack:** The Legend of Pervert
  Author: Vampyrehunterd52
  Information: Basic text hack (contains strong language, sexual references etc.. 18+)
  Screenshots: N/A
  Version: Demo v0.50
  Threads: N/A
  URL: http://www.zophar.net/hacks/files/Legperv.zip

21-02) WIP (WORK IN PROGRESS) HACKS

- **Hack:** Zelda 3 Challenge - Quest for Calatia
  Author: GameMakr24
  Information: Complete overhaul (New dungeons, overworld, story, puzzles and bosses).
  Screenshots:

Version: N/A
Threads: N/A
URL: http://www.cg-games.net/challenges/zelda3c/index.shtml

- **Hack:** The Legend of Zelda - Gates of Time
  Author: Orochimaru
  Information: Complete overhaul (New dungeons, overworld, story, puzzles and bosses).
  Screenshots:



Version: N/A
Threads: N/A
URL: N/A

- **Hack:** The Legend of Zelda - Dark Prophecy
  Authors: Omega45889, Dude Man
  Information: N/A
  Screenshots: Complete overhaul (New dungeons, overworld, story, puzzles and bosses).

  Version: N/A
  Threads: http://board.acmlm.org/thread.php?id=3438
  http://www.tekhacks.net/bored/thread.php?id=8714&page=0
  URL: N/A

- **Hack:** The Legend of Zelda - Lyra Islands
  Authors: Orochimaru, Ghillie
  Information: N/A
  Screenshots: Complete overhaul (New dungeons, overworld, story, puzzles and bosses).

Version: N/A
Threads: N/A
URL: N/A

21-03) DISCONTINUED/NOT UPDATED IN A LONG TIME HACKS

- **Hack:** Zelda: Abyss of Affliction
  Author: Weasel
  Information: Basic world map and dungeon editing.
  Screenshots:

  Version: Demo
  Threads: N/A
  URL: http://desnet.fobby.net/index.php?page=hacks&system=1&id=27

- **Hack:** The Legend of Zelda - Dark Souls
  Author: ghillie
  Information: Complete overhaul (New dungeons, overworld, story, puzzles and bosses).
  Screenshots:

  Version: N/A
  Threads: http://s8.invisionfree.com/Thunder_Realm/index.php?showtopic=36&st=0
  http://www.tekhacks.net/bored/thread.php?id=7456
  URL: N/A

- **Hack:** The Legend of Zelda - Legend of The Two Isles
  Author: Devil_Evilone_RA
  Information: Basic title screen and world map editing.
  Screenshots:

  Version: N/A
  Threads: http://board.acmlm.org/thread.php?id=3756
  URL: N/A

- **Hack:** The Legend of Zelda - TEKHacks Community Hack (LTTP Trilogy)
  Authors: ghillie, windwaker101, Orochimaru, Imajin, cpubasic13, Euclid, The 6th Lime and Cheveyo Chowilawu.
  Information: http://tekhacks.net/bored/thread.php?id=7629
  Screenshots: N/A
  Version: N/A
  Threads: Private Board
  URL: N/A

- **Hack:** The Legend of Zelda - A Link to the Present
  Author: Justina
  Information: Mostly graphic changes.
  Screenshots: N/A
  Version: N/A
  Threads: http://eds.castledragmire.com/board/thread.php?id=3628
  URL: N/A

- **Hack:** Rockman's Hack
  Author: Rockman
  Information: Released a small demo a long time ago of a basic OW/Dungeon.
  Screenshots: N/A
  Version: Demo
  Threads: http://www.tekhacks.net/bored/thread.php?id=3835
  URL: N/A

- **Hack:** The Legend of Zelda - A Link To The Past Master Quest
  Author: FireFox
  Information: N/A
  Screenshots: N/A
  Version: N/A
  Threads: http://www.tekhacks.net/bored/thread.php?id=7236
  URL: N/A

PART 22: LEGAL NOTICE + CREDITS

22-01) LEGAL NOTICE

The **Hyrule Magic**, **ZCompress** and **YY-CHR** programs and all the other tools described in this FAQ (hereafter referred to as "ZTools") are not official or supported by Nintendo or any other commercial entity.

The ZTools are freeware thus they can be distributed freely on following conditions:
1) This document is for use with the ZTools and both the document and ZTools are not modifiable in any way.
2) The ZTools are not distributed with or as part of any ROM image in any format, and
3) No goods, services, or money can be charged for the ZTools in any form, nor may it be included in conjunction with any other offer or monetary exchange.

The ZTools are provided AS IS, and you use them at your own risk. Anyone mentioned in this document will not be held liable for any damages, direct or otherwise, arising from theirs use or presence.

Hyrule Magic: http://www.dragoneyestudios.net/index.php?page=utilities&id=6
Mirror: http://www.zophar.net/utilities/download/hmagic.zip
ZCompress: http://fusoya.cg-games.net/zelda/index.html
YY-CHR: http://www.briansemu.com/yymarioed/

22-02) CREDITS

Editor made by **Sephiroth3**
Beta-Testing by **Jonwil** (aka **wilsonj**), **Yarx** and **GameMakr24**.

FAQ written by **Orochimaru**
- Data gathering across the boards, compilling and correcting.
- For most lists (Overworld & Dungeons Sprites GFX# and such things...)

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dxEDGE
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- And some notes.

d4s
- For his WLA DX Assembler Notes.
- For some CPU adresses.
- For Dungeon GFX#218-219 Clarifications.

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- For his YY-CHR Tutorial.

Dude Man
- For his Dungeon Tips.

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FuSoYa
- For the help on using Zcompress.
- For the Legal Notice layout.

Weasel
- For his GameGenie Codes to HEX Converting Guide.

Peekin
- For the Tile Locations.
- For the Decompression/Compression Codes.

Unknown
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> And everyone that I forgot.