Insert Manually a Song Available on the Forum

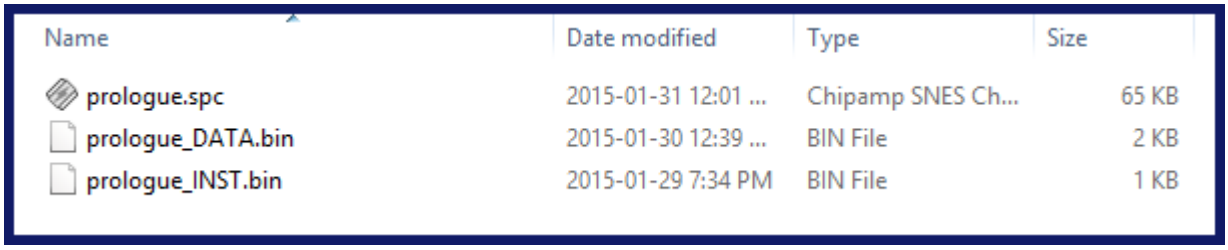
In this tutorial we'll be importing in FF3us a song that is already in FF6 music format. There is no need for musical knowledge to be able to complete the following steps. The only things that will help is being familiar with the hexadecimal system as well as some basic ROM hacking knowledge like what is an offset, the difference between an absolute and hirom offset and how to use an hex editor.

1. Getting the file and tool

We'll be using the FFIV song "The Prologue" from our Song Database. The other thing you will need is a hex editor. There are many you can choose from but I'd suggest one that has a copy selection, paste-write and paste-insert functionalities. One good all purpose hex editor is HxD and this is what has been used to take the screenshots below.

2. Files we will be importing

Extract the files from **FF4_prologue.7z** and you will see the following files:



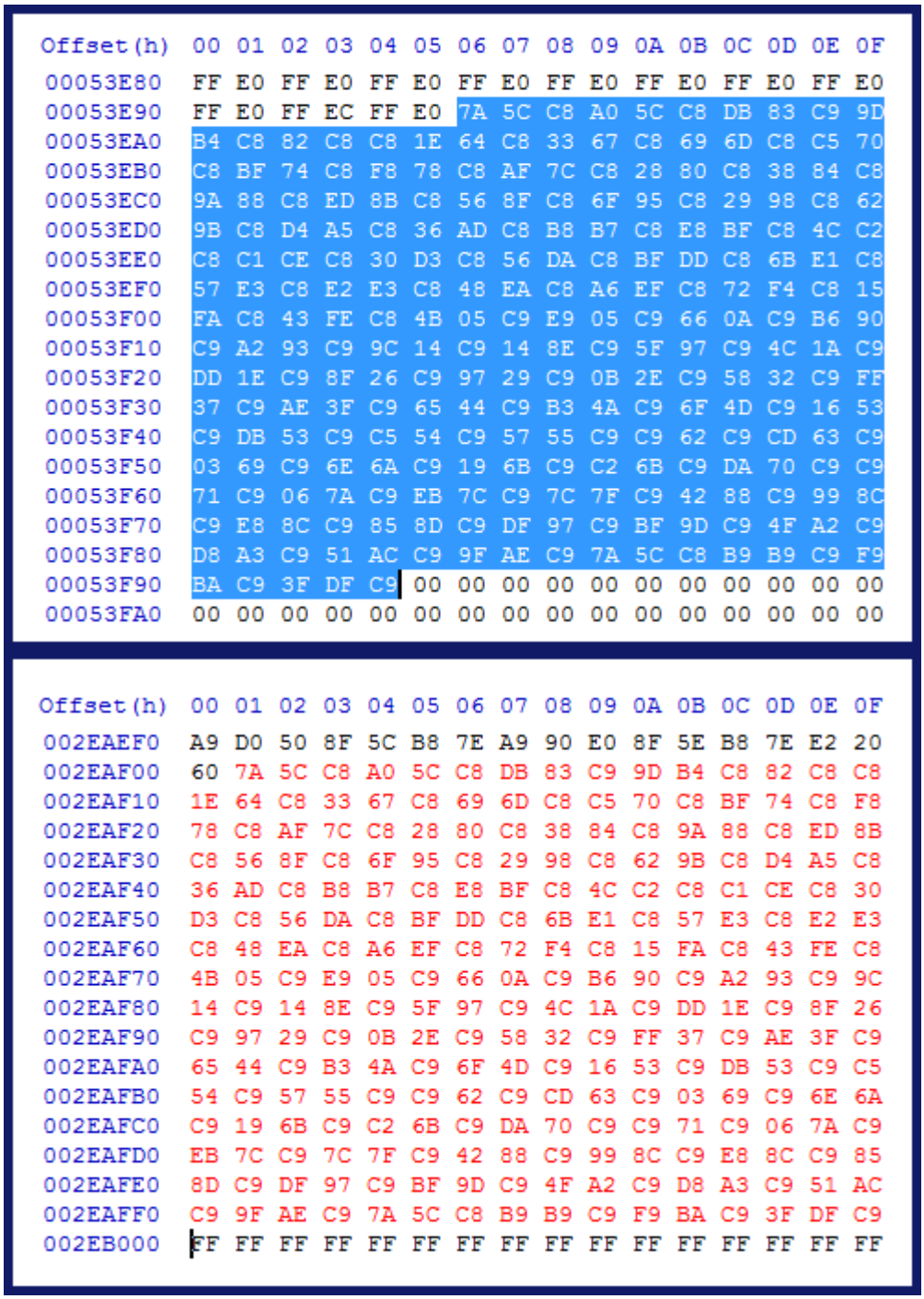
prologue.spc is the song in SNES format. Those can be played with a SPC player or with winamp and a plug-in. For more info on SPC file and how to play them, use Google or check the great extracted music tutorial at FantasyAnime.com. **prologue_DATA.bin** and **prologue_INST.bin** are two binary files, the first has the music data in FF6 format and the other the instruments used in the song. The DATA and INST files do not contain instrument samples, those are in the game.

All songs in our song database have the three same files. Some songs, mostly done by tsushiy and having a samll “p” next to their title need the instrument patch, available in the same thread. This patch install new BRR samples in the game, giving access to a wider range of instruments to use in songs. Some songs instrument file use those added instruments.This is not the case of our prologue song.

3. Choosing the right spot

The first thing that you have to ask yourself is *“do I want to replace an existing song or expand the number of existing songs?”* If you only want to replace a existing song you can skip to section 4. To expand the number of songs there are few thing to do. First you have to move the $C53E96-$C53F94 song pointers block because there is no room to add an extra one. To find a spot in non-expanded ROM, you can look here. The offsets in this list take in account the ROM header though while my whole tutorial assume you have a headerless ROM, so substract 0x200 from the offset you choose. You can also expand your ROM and put the pointers in the $FX banks.

I decided for the example to take the $EEAF01 spot, which has 767 free bytes, which is more than enough. As shown in the image below, I select with the mouse the pointer block, I do **Ctrl+c**, **Ctrl+g** to enter my destination (you can scroll a long time for the same result) and then **Right-Click→Paste write**. Now let's say I would put my song at $F30540 in expanded ROM, I would type **40 05 F3** at $EEB0000 (see right picture). As you have guessed pointers are always inverted whether they are two or three bytes long. As for the old pointer data copied, you can blank with 00 or FF all the data since you moved it, giving you room for other things if needed.



Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00053E80	FF	E0	FF	E0	FF	E0	FF	E0	FF	E0	FF	E0	FF	E0	FF	E0
00053E90	FF	E0	FF	EC	FF	E0	7A	5C	C8	A0	5C	C8	DB	83	C9	9D
00053EA0	B4	C8	82	C8	C8	1E	64	C8	33	67	C8	69	6D	C8	C5	70
00053EB0	C8	BF	74	C8	F8	78	C8	AF	7C	C8	28	80	C8	38	84	C8
00053EC0	9A	88	C8	ED	8B	C8	56	8F	C8	6F	95	C8	29	98	C8	62
00053ED0	9B	C8	D4	A5	C8	36	AD	C8	B8	B7	C8	E8	BF	C8	4C	C2
00053EE0	C8	C1	CE	C8	30	D3	C8	56	DA	C8	BF	DD	C8	6B	E1	C8
00053EF0	57	E3	C8	E2	E3	C8	48	EA	C8	A6	EF	C8	72	F4	C8	15
00053F00	FA	C8	43	FE	C8	4B	05	C9	E9	05	C9	66	0A	C9	B6	90
00053F10	C9	A2	93	C9	9C	14	C9	14	8E	C9	5F	97	C9	4C	1A	C9
00053F20	DD	1E	C9	8F	26	C9	97	29	C9	0B	2E	C9	58	32	C9	FF
00053F30	37	C9	AE	3F	C9	65	44	C9	B3	4A	C9	6F	4D	C9	16	53
00053F40	C9	DB	53	C9	C5	54	C9	57	55	C9	C9	62	C9	CD	63	C9
00053F50	03	69	C9	6E	6A	C9	19	6B	C9	C2	6B	C9	DA	70	C9	C9
00053F60	71	C9	06	7A	C9	EB	7C	C9	7C	7F	C9	42	88	C9	99	8C
00053F70	C9	E8	8C	C9	85	8D	C9	DF	97	C9	BF	9D	C9	4F	A2	C9
00053F80	D8	A3	C9	51	AC	C9	9F	AE	C9	7A	5C	C8	B9	B9	C9	F9
00053F90	BA	C9	3F	DF	C9	00	00	00	00	00	00	00	00	00	00	00
00053FA0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

Offset(h)	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
002EAEF0	A9	D0	50	8F	5C	B8	7E	A9	90	E0	8F	5E	B8	7E	E2	20
002EAF00	60	7A	5C	C8	A0	5C	C8	DB	83	C9	9D	B4	C8	82	C8	C8
002EAF10	1E	64	C8	33	67	C8	69	6D	C8	C5	70	C8	BF	74	C8	F8
002EAF20	78	C8	AF	7C	C8	28	80	C8	38	84	C8	9A	88	C8	ED	8B
002EAF30	C8	56	8F	C8	6F	95	C8	29	98	C8	62	9B	C8	D4	A5	C8
002EAF40	36	AD	C8	B8	B7	C8	E8	BF	C8	4C	C2	C8	C1	CE	C8	30
002EAF50	D3	C8	56	DA	C8	BF	DD	C8	6B	E1	C8	57	E3	C8	E2	E3
002EAF60	C8	48	EA	C8	A6	EF	C8	72	F4	C8	15	FA	C8	43	FE	C8
002EAF70	4B	05	C9	E9	05	C9	66	0A	C9	B6	90	C9	A2	93	C9	9C
002EAF80	14	C9	14	8E	C9	5F	97	C9	4C	1A	C9	DD	1E	C9	8F	26
002EAF90	C9	97	29	C9	0B	2E	C9	58	32	C9	FF	37	C9	AE	3F	C9
002EAFA0	65	44	C9	B3	4A	C9	6F	4D	C9	16	53	C9	DB	53	C9	C5
002EAFB0	54	C9	57	55	C9	C9	62	C9	CD	63	C9	03	69	C9	6E	6A
002EAFC0	C9	19	6B	C9	C2	6B	C9	DA	70	C9	C9	71	C9	06	7A	C9
002EAFD0	EB	7C	C9	7C	7F	C9	42	88	C9	99	8C	C9	E8	8C	C9	85
002EAFE0	8D	C9	DF	97	C9	BF	9D	C9	4F	A2	C9	D8	A3	C9	51	AC
002EAFF0	C9	9F	AE	C9	7A	5C	C8	B9	B9	C9	F9	BA	C9	3F	DF	C9
002EB000	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

The next thing to do is to change the following code. It's the only place pointers are read and you have to enter each byte of the pointer base offset so new base offset, new base offset + 1, new base offset + 2. This is not an ASM course so I'm not explaining further except only mentioning you have a total of 9 bytes to change.

Original code

Modified code

Last thing to do is changing the total number of songs. The offset is $C53C5E. It's a single byte that should be $55. Increase it of one each time you add a new song (replacing an existing one does not count). So congratulation you have not expanded pointer and can add as much songs as you want up to a limit of 255!

Result in-game

sd-result.mp4

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