

# RESIDENT EVIL 5 PC TRANSLATION MANUAL

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## 1. Foreword

※ Please note that English is not my native language. So please don't be upset if you find that I'm screwing up English in this manual.

Resident Evil 5, aka Biohazard 5 in Japan, is an horror survival first person shooting game. It was first released for the PS3 and Xbox 360 in 2009 by Capcom, and for the PC after that. The game itself supports multi language, such as Japanese, English, French, Russian,... to name a few. But if your language isn't included in the list, and you want to do translation for more people playing in this language and don't know how to do, where to start, then this is the manual for you.

Resident Evil 5 (hereafter RE5) is the first game I played in the series. I know it existence since the first entry for the PSX, but didn't play it until 2014 November, when a Vietnamese game translating group introduced this to me and ask me to support their translation for the game. RE5 is considered "old" and it has many tools out there to support your translation. But if your

language is “rare”, in a different writing way other than Latin languages, such as Sanskrit, or it has many accent marks which are not used in common European languages, such as Vietnamese, then you might find it’s difficult or impossible to use these tools. Because (usually) these tools developed by European people and only support their Ansi languages, not Unicode. The above mentioned game translating group stuck at inserting Vietnamese text to the game because the text inserting tool for RE5 does not support Vietnamese.

When asked, I played around with it for a while and was able to insert Vietnamese text with some basic moves. While doing so, I found that the Japanese text in the game is somewhat different than the English text. To tell in another way, RE5’s Japanese text isn’t exactly what the characters speak in the game. So I decided to re-translate the text based on Japanese script. I wrote down memos during the translation hack. After finishing, I just edit a little these memos to become the manual you’re reading. That’s all folks!

## 2. Requirements

Here’s a list of things you will need to translate RE5.

- Google. The first required thing is the ability to do Google. If you don’t know what it is, then don’t bother reading this manual.
- An Hex editor is a must-have. There’re many free ones out there.
- Paint dot net: optional for the sake of easiness when it comes to edit the game’s graphic.
- Game script extractor: optional, for the sake of clarity for read. Catographer, Romjuice, Script Extractor,... I recommend Romjuice for this game.
- Game script inserter: optional, if you don’t want to type the text in a hex editor. Atlas, Gizmo, Scrip Inserter,... I recommend Script Inserter for this game.

- Microsoft Excel: **optional**, to keep the progress clear and clean, keep track on what are you doing,... Figure how to use it out your self.
- Text editor: **optional**. Windows notepad is good. I recommend using Emeditor. The text editor is used for memos, typing your translation text in order to insert it to the game using the script inserter above, if you don't want to type in the hex editor as hex code.
- Re5Tex: **optional**. This tool converts graphic archives to editable format. This thing is not important.
- ArcTool095c: **optional**. The function of this one is to convert graphic archives to editable format, too. This thing is also not important.
- RE5\_MSG2: a Brazilian tool to insert the text script. This is **optional**. If your language are not Latin, or it has uncommon accent marks, then this tool is a useless waste. Though, this tool come with a source code. If you can do some tweaks to the source, it might be useful.
- ARCTool: to decompress and recompress game archives. Actually, this one is also **optional** as you can decompress/compress archives with the hex editor, but doing so is much fruzzier. So consider this as a **must-have** in this manual.

All the above tools, knowledge about how to use them can be found at <http://google.com>

Also, it's required to have some basic knowledge in game translation. Not too hard to learn, just the basic ones such as hexadecimal, calculating in hexadecimal, how to use an hex editor,... You can acquire these knowledge also at Google dot com, or <http://romhacking.net> and web sites like this.

### 3. The structure

After installing the game, you can see there's a lot of data in RE5\nativePC folder. Its sub folder's names tell you the content inside it. For example,

RE5\nativePC\movie folder contains movies displayed in the game. If you want to replace the movies with another one with subtitles or something, just use a video encoding program like Megui, Virtualdub... to encode them and put them in the same folder.

You can mod, hack whatever you want in these folders. But for the language translation, just keep on this folder

RE5\nativePC\Image\Archive

This folder contains many archives file. For the language, just pay attention to the files below:

- CoreResource.arc: this archive contains the main font for all languages used in RE5. Tweak this archive to modify the font to your language.
- GameResource\_e.arc contains all the English text displayed in RE5.
- GameResource\_f.arc contains all the French text displayed in game.
- GameResource\_j.arc contains all the Japanese text displayed in game.
- GameResource\_i.arc contains all the Italian text displayed in game.

And much more. All files in this folder are in .arc format. Use ARCTool to decompress them to editable format, then recompress with the same tool after editing. Besides, in the folder

RE5\nativePC\Image\Archive\event contains a bunch of event script and texture. For the texture (.tex files), use the hex editor, or Re5Tex for simplicity, to convert them to editable format (.dds). Leave the event files alone if you don't know have knowledge on them.

※ Do back up your files before doing things or else it would end up like playing a long RPG game without saving.

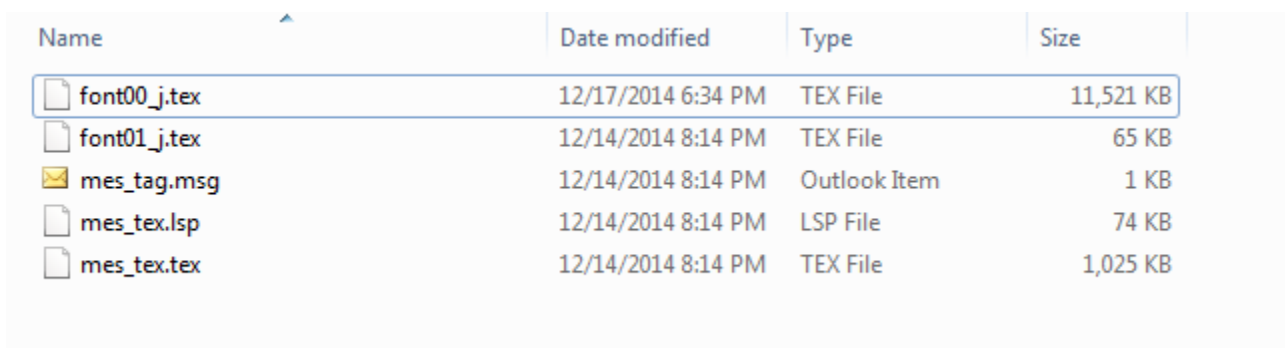
## 4. Edit the font

The first thing you might want to do when it come to game translating is to edit the font for your purpose. As mentioned above, the game font can be found in RE5\nativePC\Image\Archive\CoreResource.arc.

Use ARCTool to decompress this file, then you get CoreResource folder and its sub folders. The main font locates at

CoreResource\etc\message\ font00\_j.tex

And CoreResource\etc\message\ font01\_j.tex



| Name         | Date modified      | Type         | Size      |
|--------------|--------------------|--------------|-----------|
| font00_j.tex | 12/17/2014 6:34 PM | TEX File     | 11,521 KB |
| font01_j.tex | 12/14/2014 8:14 PM | TEX File     | 65 KB     |
| mes_tag.msg  | 12/14/2014 8:14 PM | Outlook Item | 1 KB      |
| mes_tex.lsp  | 12/14/2014 8:14 PM | LSP File     | 74 KB     |
| mes_tex.tex  | 12/14/2014 8:14 PM | TEX File     | 1,025 KB  |

The .tex files can be converted to .dds files that can be edited with photo editing program like Photoshop, Gimp, Paint.net,.... But for the sake of easiness, you should you Paint.net as it has the function to save in .dds format.

And here, how to convert .tex to .dds?

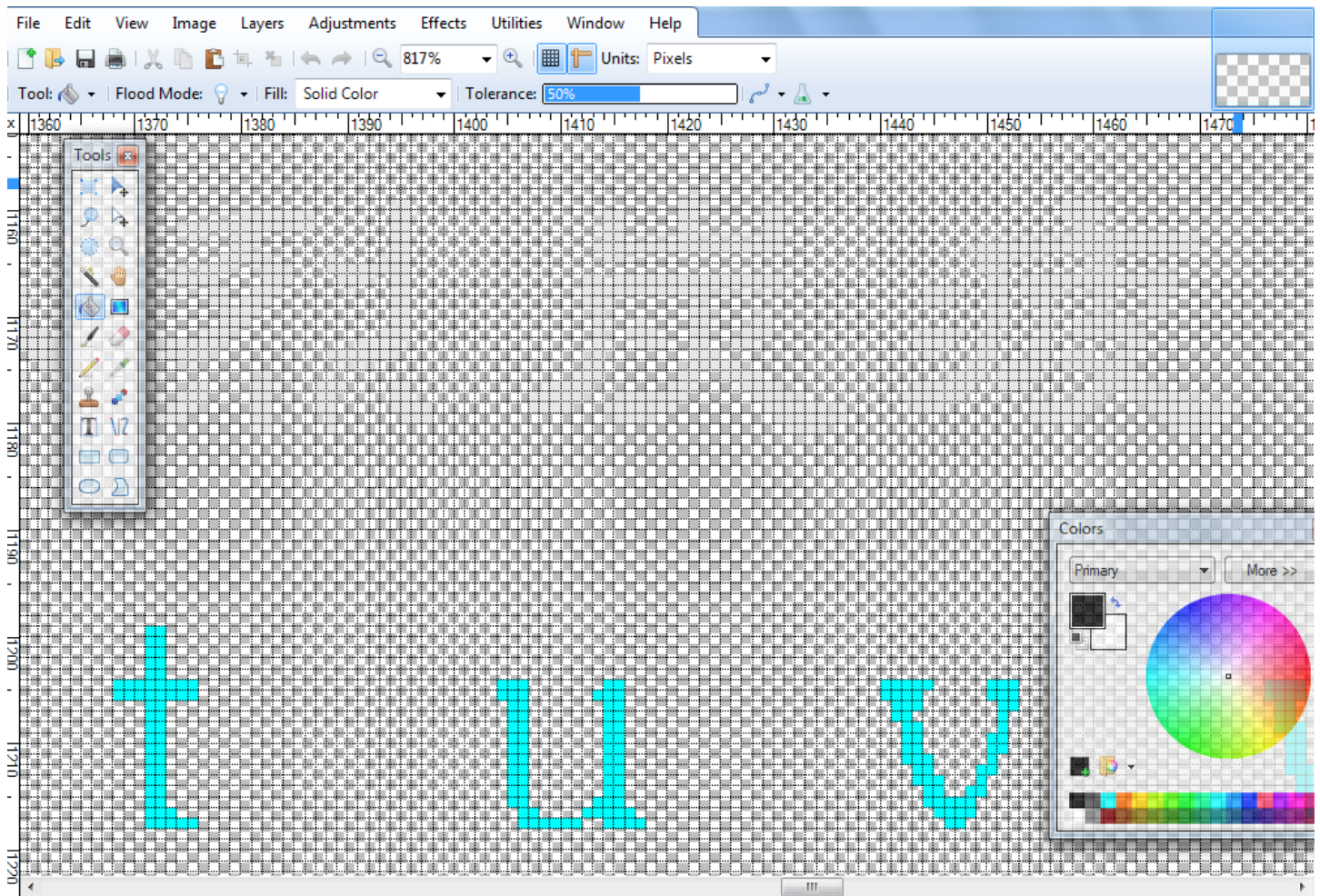
You can use Re5Tex. This is the fastest way. Or ArcTool095c, but this one sucks for the font. Unfortunately, Re5Tex **can not** convert .dds back into .tex and ArcTool095c is suck in converting back too. So in this section, I'll tell you how to convert with your hex editor.

Basically, font00\_j.tex is not different than font00\_j.dds except for the extension and the header. Open both in an hex editor and you will see as below.





Voilà, now you can edit the font in .dds format. Open it with program like Paint dot net to edit it. Note that the background is transparent and the characters are white, so you might want to fill the background with color to view it easier. Off course, remember to fill the background back with transparency.



You can fill the characters with colors, too. So the text will appear in the game the same color as you filled.

There's a lot of free slot to add new characters in the font itself. Or if you want, you can replace existed characters with new ones.

Here's an example of what I did to the font





RE5\nativePC\Image\Archive

Open the game and see it yourself. You might notice that now characters are speaking garbage (cavespeak) because you changed the characters in the font. So we need to edit the dialogue text to our languages.

## 5. Building the table

This is one of the most important section in translation hack which tends to be ignored or underrated by novice game translators. Most veteran game translators do this section properly. The table, is a text file in .tbl extension and it contains the hexadecimal value for each characters used in the game.

Here I won't go into details, so if you want to know more about table file, go to <http://romhacking.net> and spend your time there.

Basically, there're 2 kinds of table file. The first one is for dumping the text out of the game. When the dump program like Romjuice hits the code included in table file, it will dump out equivalent character of that code. For example, if your table has these entries

**1A=m**

**1B=n**

**06=a**

**0F=i**

Then, if the dump program hits 1A0F1B06 in the game code, it will dump out as "mina".

The second type of table is the one for inserting. These 2 files can be the same, or different, depend on what you do to the font. If you don't change characters order in the font, then you can use the same table file for dumping and inserting. If you modify the font, especially to another language type,

then you need to build another table file. Take above example, if you replace "m" in the original font with "t", "n" with "u", "a" with "ó", then you must create a table file with these entries

**1A=t (originally m)**

**1B=u (originally n)**

**06=ó (originally a)**

**0F=i**

Then, if program like Atlas or Gizmo encounters the word "tuói" it will insert 1A1B060F to the data file.

You must create table file for inserting at the same time you edit the font, or else things will go chaotic and you can't keep track of which hexadecimal code is equivalent to which character.

Now, how to find which hexadecimal code is equivalent to which character in order to build the table files? For dumping purpose, just do some tweak to the data or do a relative search to find out. Unfortunately, relative search doesn't work for RE5 because the game use multi bytes characters while program like Search Relative only support one byte character. So the only way is to tweak the data, load the game and see the change.

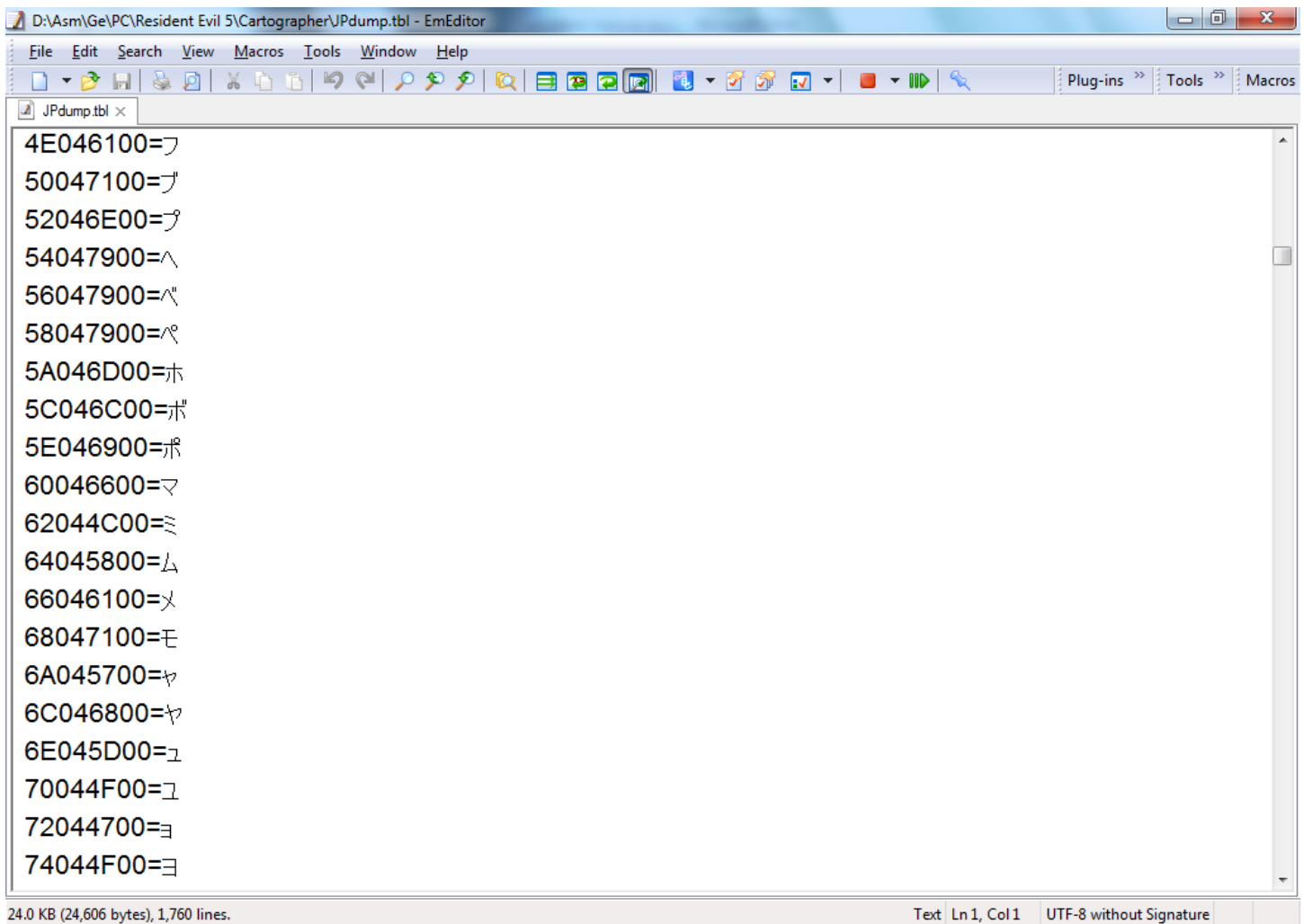
Use ARCTool to convert GameResource\_j.arc (or GameResource\_e.arc if you want to replace English with your language) to MsgResource\_j folder. In MsgResource\_j \etc\message we have these files

1. mes\_event\_j.msg: event dialogue in the game. Displayed in cutscenes.
2. mes\_file\_j.msg: document text in the game. History of Resident Evil, other mual files,... are in this one.
3. mes\_item\_j.msg: text for Item names and description.
4. mes\_stage1\_j.msg: text for dialogue appears in chapter xxyyzz.
5. mes\_stage2\_j.mes: as above
6. mes\_stage3\_j.msg: as above

7. mes\_stage5\_j.msg: as above
8. mes\_system\_j.msg: text for menu things.

All these files use the same encoding codes, except for mes\_item\_j.msg, which is a little different. Open one of these files in your hex editor, change some hex value, save it, recompress the .arc file and put it to RE5\nativePC\Image\Archive

Then load the game, see how it changes yourself. For reference, you can see my table file included in archives folder.



```
D:\Asm\Ge\PC\Resident Evil 5\Cartographer\JPdump.tbl - EmEditor
File Edit Search View Macros Tools Window Help
JPdump.tbl x
4E046100=フ
50047100=ブ
52046E00=プ
54047900=ハ
56047900=ヘ
58047900=ベ
5A046D00=ホ
5C046C00=ボ
5E046900=ポ
60046600=マ
62044C00=ミ
64045800=ム
66046100=メ
68047100=モ
6A045700=ヤ
6C046800=ヤ
6E045D00=ユ
70044F00=ユ
72044700=ヨ
74044F00=ヨ
24.0 KB (24,606 bytes), 1,760 lines.
Text Ln 1, Col 1 UTF-8 without Signature
```

You can see, each character is 4 bytes. Actually, just 2 bytes. The last 2 bytes are used to control proportional width as described in the next section. The end byte value for character code are always even, not odd in RE5. Space between these values is 2 bytes, too. So 6A04 is the right value, while 6A05 is wrong.

Also, there are some control codes you should locate. Control codes are codes that tell the game to make a line break, a sentence break, change text's color, etc whenever the game hits it. For example, when the game hits 00000104 then the sentence will be stopped.

## 6. Proportional width code

Each character in RE5 uses 4 bytes code, but the "real" code is just 2 bytes. The last 2 bytes is proportional width code, aka variable width code. These code are used to adjust each character's width, as you might notice the letter "a" is wider than "i". In RE5's Latin font, each character width is 3B00, except for the letter "i", which is 3100. The width used in mes\_file\_j.msg is a bit different, see it your self.

Also, all Kanji in Japanese font has the width of 7E00. You can adjust the width by changing this value.

※Proportional width codes in RE5 are not stored in one place, but they stick to each character codes. This is weird and the first game I encountered that uses this way.

## 7. Text dump

The purpose dumping text is to control of which text to be inserted to where, not only for reading. Program like Cartographer, Romjuice or Script Extractor can dump out the text with the table. RE5 doesn't use Pointer in its text, so Cartographer's strong point go in vain, which is also more complicated than Romjuice. I recommend using Romjuice for RE5, but it's up to you to choose the best for you.

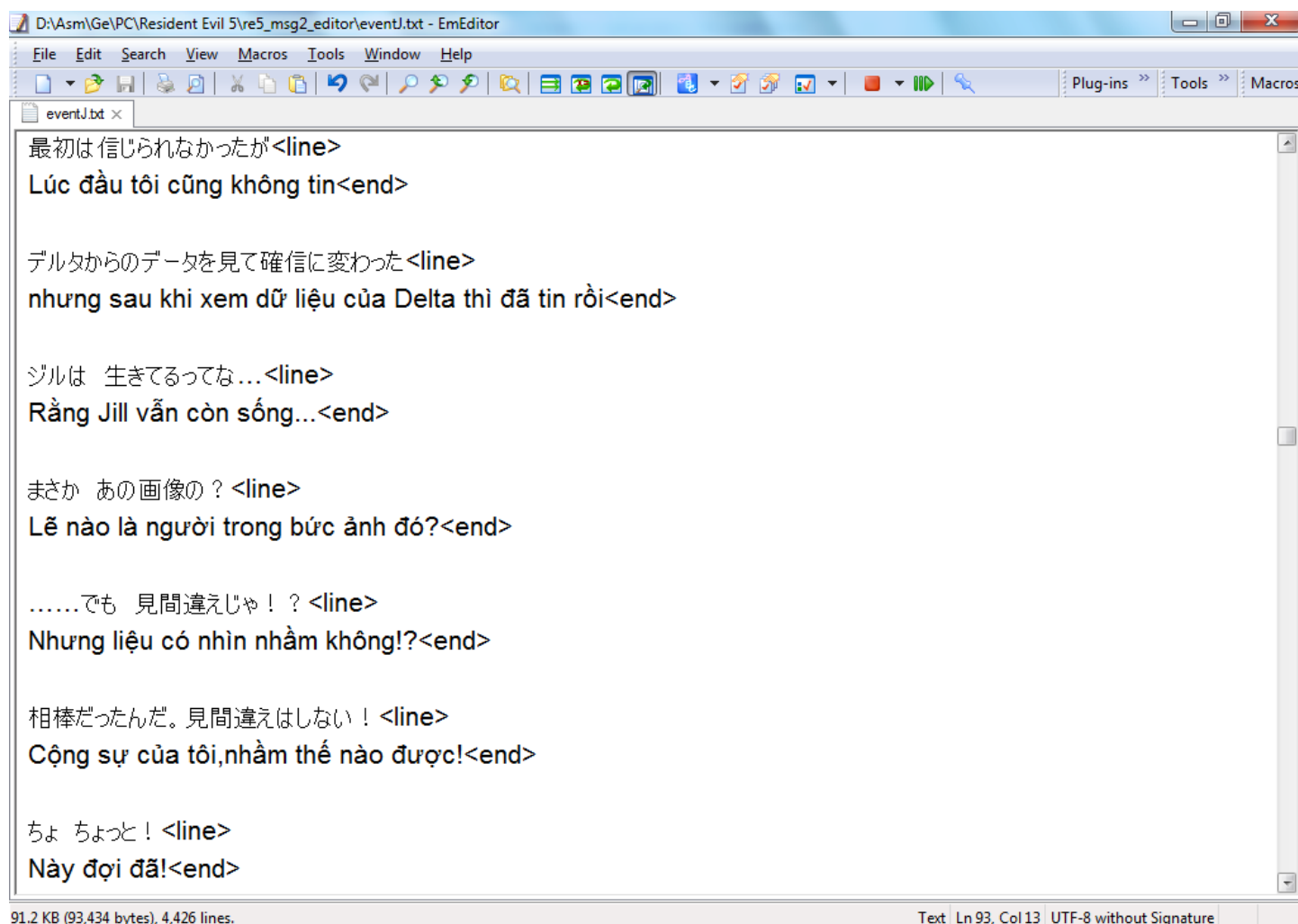
How to use these dumping program is simple. Just tell it where to start dumping from, the table file to use and which file from which the text be dumped.

※Text in all files in MsgResource\_j \etc\message starts at \$40 in common.

Check archives folder for the text I dumped out from Japanese files.

## 9.Insert translated script

After translating the dumped text, you might want to insert your translation to the game using program like Atlas, Gizmo or Script inserter. RE5 doesn't use Pointer in dialogue text but somehow it controls where the text begins by the number of sentences in each .msg file. For example, mes\_event\_j.msg has 1824 sentences, if your translated text has more or lesser than 1824, the game will crashes whenever mes\_event\_j.msg is called out.



```
D:\Asm\Ge\PC\Resident Evil 5\re5_msg2_editor\eventJ.txt - EmEditor
File Edit Search View Macros Tools Window Help
eventJ.txt x
最初は信じられなかったが<line>
Lúc đầu tôi cũng không tin<end>

デルタからのデータを見て確信に変わった<line>
nhưng sau khi xem dữ liệu của Delta thì đã tin rồi<end>

ジルは 生きてるってな...<line>
Rằng Jill vẫn còn sống...<end>

まさか あの画像の？<line>
Lẽ nào là người trong bức ảnh đó?<end>

.....でも 見間違えじゃ！？<line>
Nhưng liệu có nhìn nhầm không!?<end>

相棒だったんだ。見間違えはしない！<line>
Cộng sự của tôi,nhầm thế nào được!<end>

ちょ ちょっと！<line>
Này đợi đã!<end>

91.2 KB (93,434 bytes), 4,426 lines. Text Ln 93, Col 13 UTF-8 without Signature
```

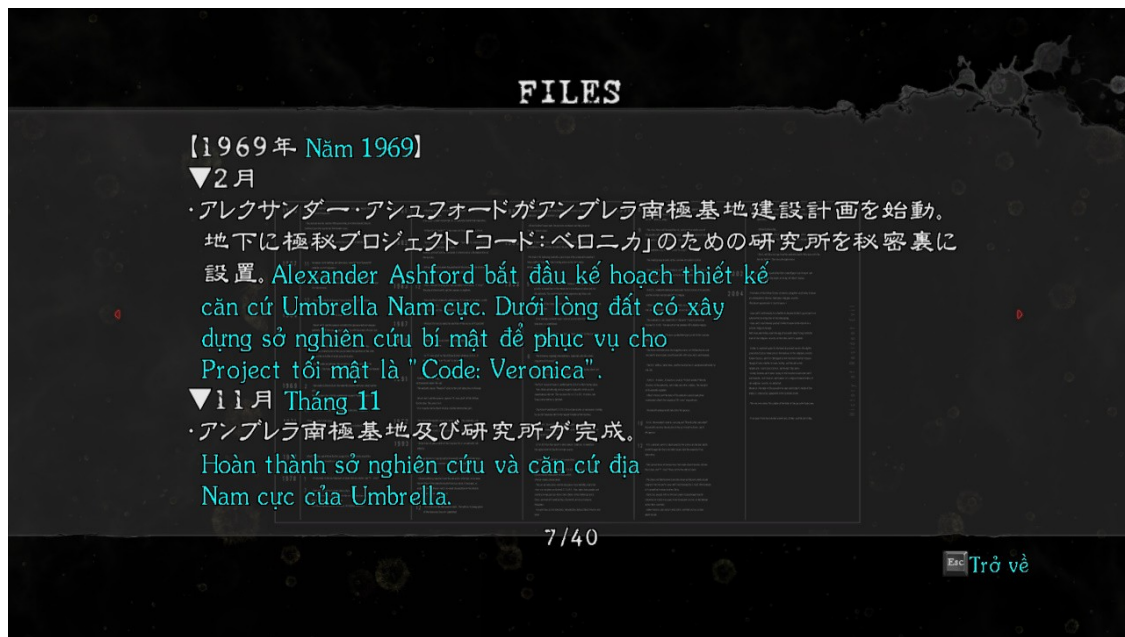


If you don't want to use insert programs, you can type with your hex editor, but this method is crazy and only used by novices. If you aim to be a pro-game-translator, then use a text editor.

- ✂ There's a Brazilian called RE5\_MSG2 tool that allows you insert the text by dragging the text file to it. But it supports Ansi encoding only. If you text is in Unicode or uncommon encoding, you better use Atlas as I recommended. But if you insist on using RE5\_MSG2, then tweak with it source code and recompile a custom new one. Source code included in the pack. No need programming skill to tweak it, just some knowledge on character encoding is enough.
- ✂ At the address \$08 of each MSG file, there're 24 bits (3 bytes) indicate how large the file is. After inserting the script text with Atlas or alike, adjust these bytes to fit your new size, or else the game will crash. These 3 bytes are in Little endian, which means you must reverse the byte order. For example, if your MSG file is 123456 bytes, then convert 12356 to 1E240 (hex). Since it's in Little endian, so at the adress \$08 it must be 40E201. Each MSG file is allowed up to FFFFFFFF bytes, or 16777215 bytes, or 16.7 Mb. A huge size for text, so no need to worry about the space for translated text.

After translating source language to your language, insert it to the game using programs like Atlas or Gizmo. Reference there Readme for how to use. Then use ARCtool to recompress them, place this file in  
RE5\nativePC\Image\Archive\

Voilà! You've done!



## 10. Miscellaneous

I put the dump table and dumped files from Japanese msg files in archives folder along with this manual. Take a look if you want.

Visit my Guest Page at

<http://gokuraku-shujo.blogspot.com/search/label/Game>

Visit my Game translation channel at

<http://youtube.com/yugisokubodai>