FF7 Battle model simple editing tutorial

By Namespoofer, with special thanks to Borde.

I/ Getting started:

You will need to download the FF7 modding tools package that I uploaded on my website. Or at least you should have Kimera 0.93 by Borde and Lgptools by Fidecula, which can be found in http://forums.qhimm.com

Make sure you are already familiar with editing field models after reading Scorpicus and Borde's tutorials.

Now, open lgptools, go to file→ open lgp and open the battle.lgp located in your FF7 data subfolder. Then, click the extract all button and select a new empty folder. All the files in the battle.lgp will be extracted to that new folder.

Now download the Mirex's documents in the appendix section on my website. His notes contain a list of battle models id that will be very useful to you.

II/ Understanding the FF7 model:

A FF7 battle model consists of 6 file types:

**aa: The skeleton file of the battle model. Very similar to the .hrc file of field model, but you can't use notepad to edit it.

**ab: Little information is provided about this. Basically the file arranges the order of the parts of the battle models, and how they behave (enemy or controlable). You don't need to know about this since it is not necessary to mod this file.

**ac to **al: these are the 10 textures file of the battle model. A battle model normal only has 3 textures from **ac to **ae, some battle models have no textures. Normally only ported models will have 10 textures. These files are identical to the .tex file of field models. But they have no file extension.

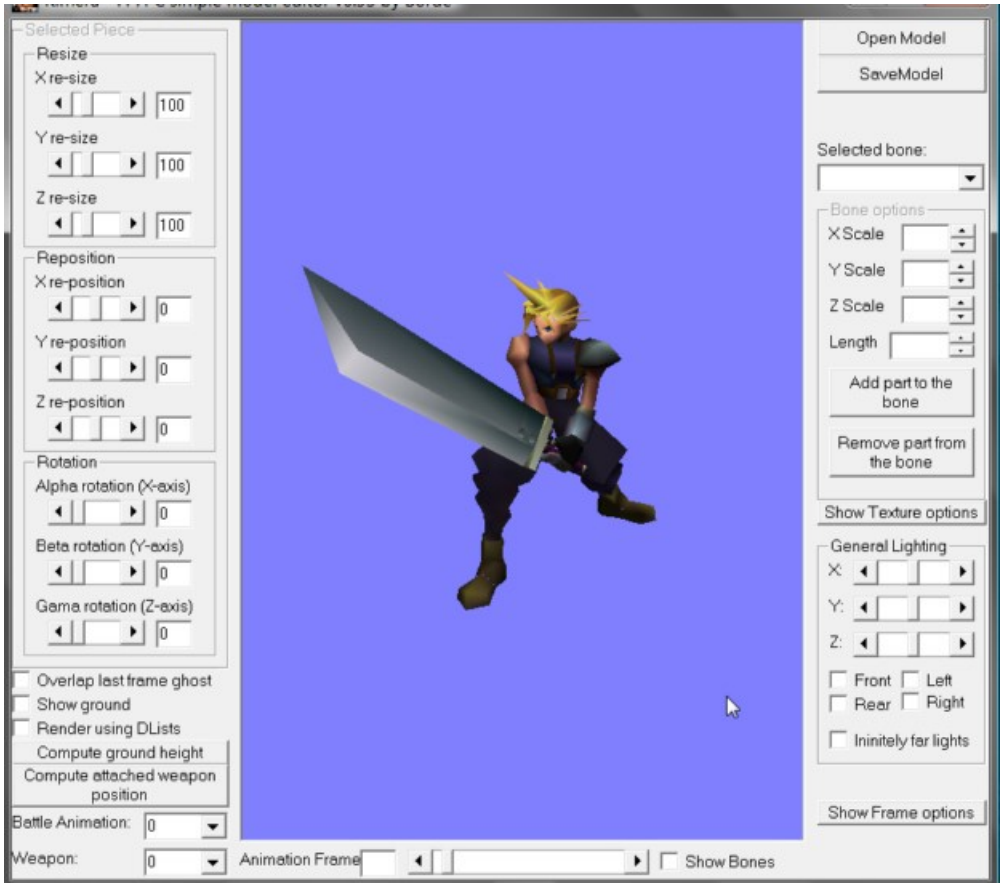
**am to **cj: these are the models parts. Very similar to .p file of field model. A model may not necessarily have all parts from **am to **cj. Most will just have 12-15 parts, so it will start at **am and end at **bz. Some even have less parts.

**ck to **cz: these are the weapon models of the playable characters. Ck is initial weapon, cz is the final.

**da: this is the animation file of the battle model. The newest version of kimera allows you to edit the battle model animation.

** is the id of the model. For example, all files start with RT represent cloud's file, or RZ represent cid's files, so RZAA is cid's skeleton file.

Sounds confusing? Alright let's get to action and you should be able to understand it. So open Kimera, open the new folder that you extract the files to. Click open model, and choose the file named RTAA. This is cloud's battle model. You should see an image like this:



Take a look at this horrible cloud model (sorry, but it is really old, a 1997 model). Click on the head model, double click it and a new window will open. On top it will say RTAO which is cloud's head. You can now edit this part individually, the same way in which you edit this part like editing .p file in borde or scorpicus's tutorial. But make sure if you save it, save is as a battle model.

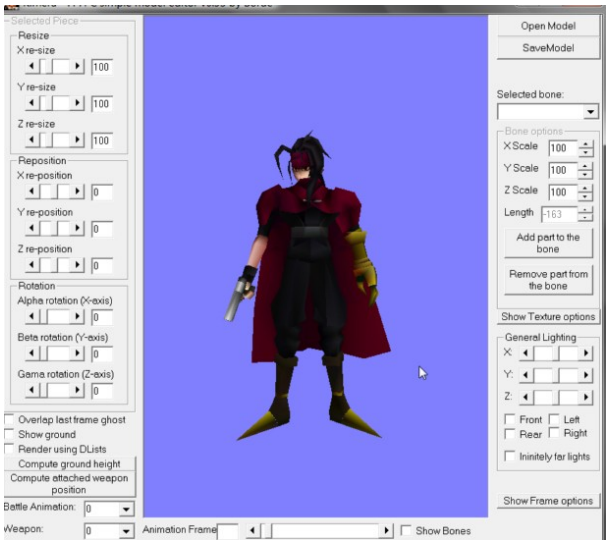
If you read the readme that comes with Kimera, it should provide more than enough information with the user interface.

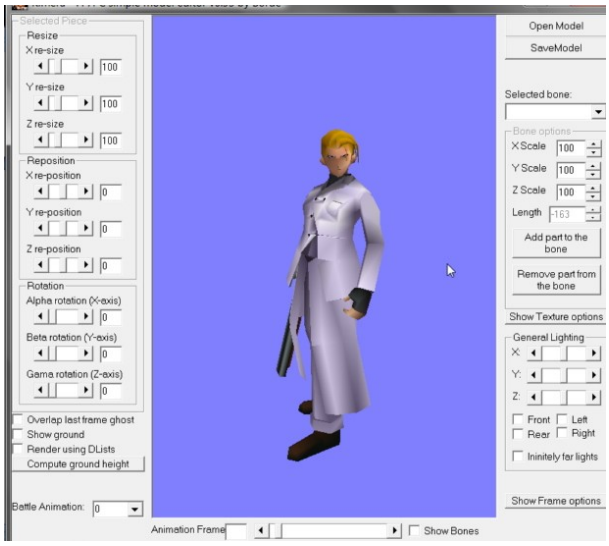
III/ Swapping a battle model:

Swapping a battle model contain 2 processes. The first one is to replace the parts. The second one is optional and much harder, which is editing the battle animation.

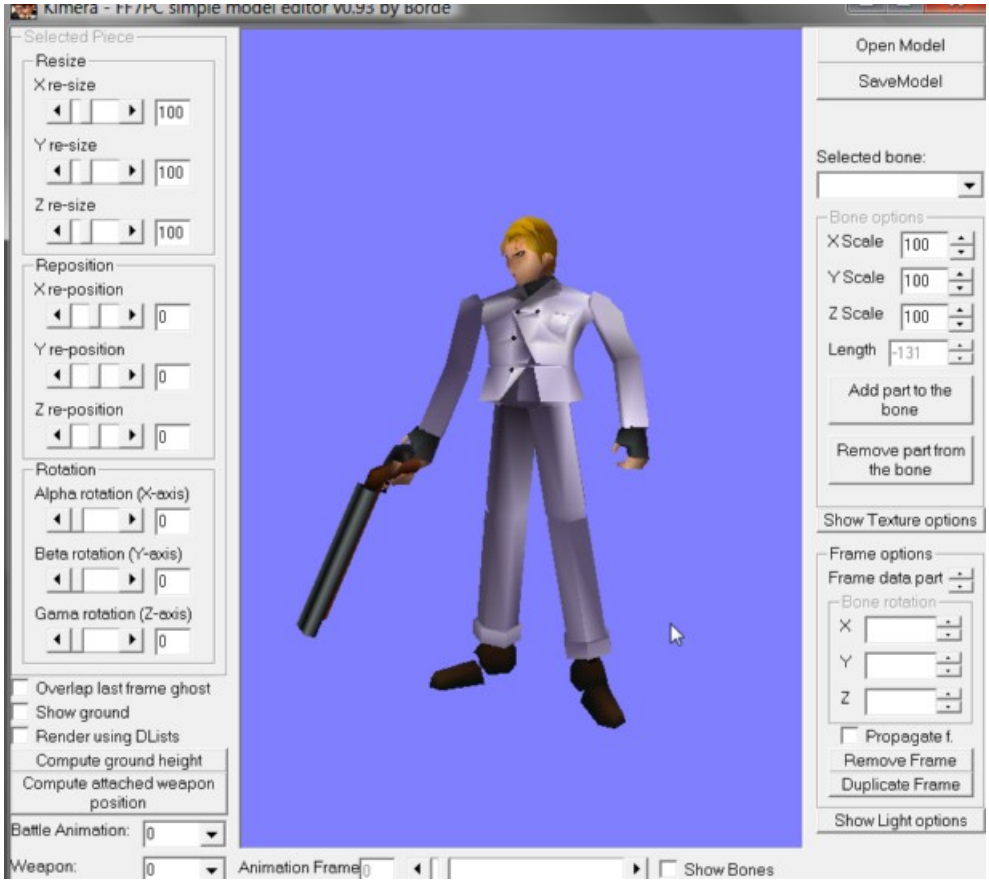
a) Swapping the parts

Say you want to swap Rufus with Vincent. Vincent battle skeleton is SFAA and Rufus battle skeleton is CQAA. Copy all of Vincent files from SFAA to SFDA to new folder. And rufus files from CQAA to CQDA to new folder.

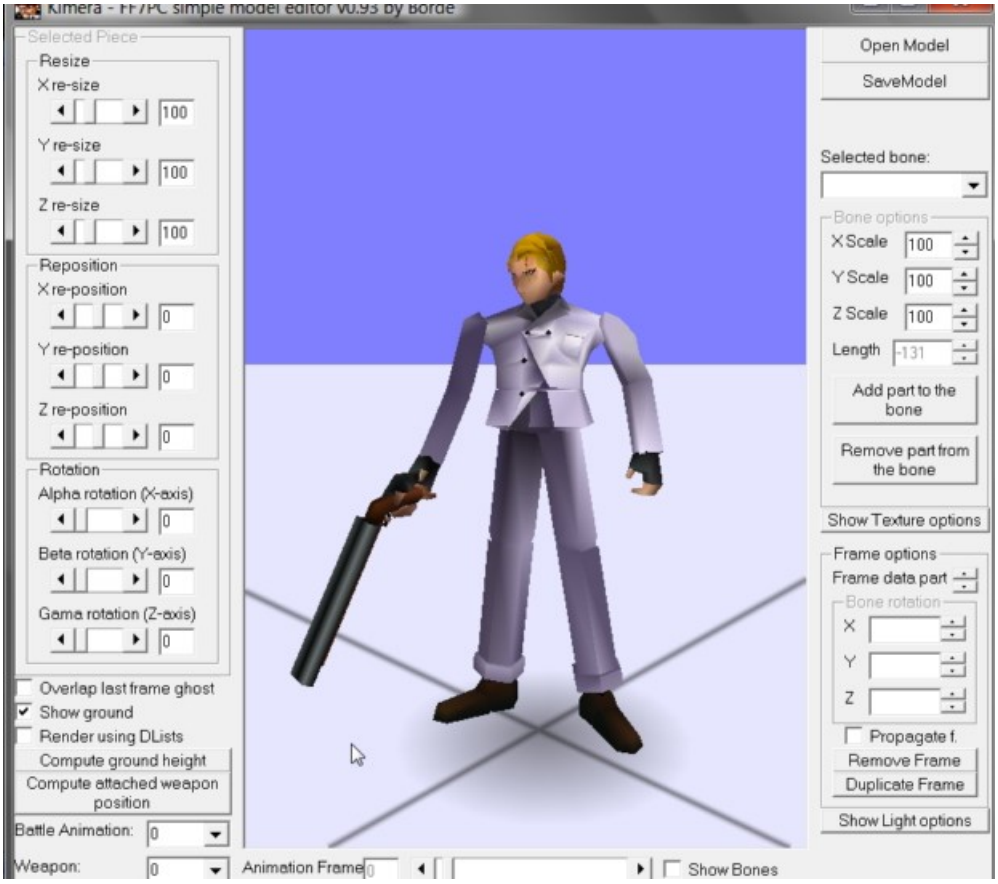




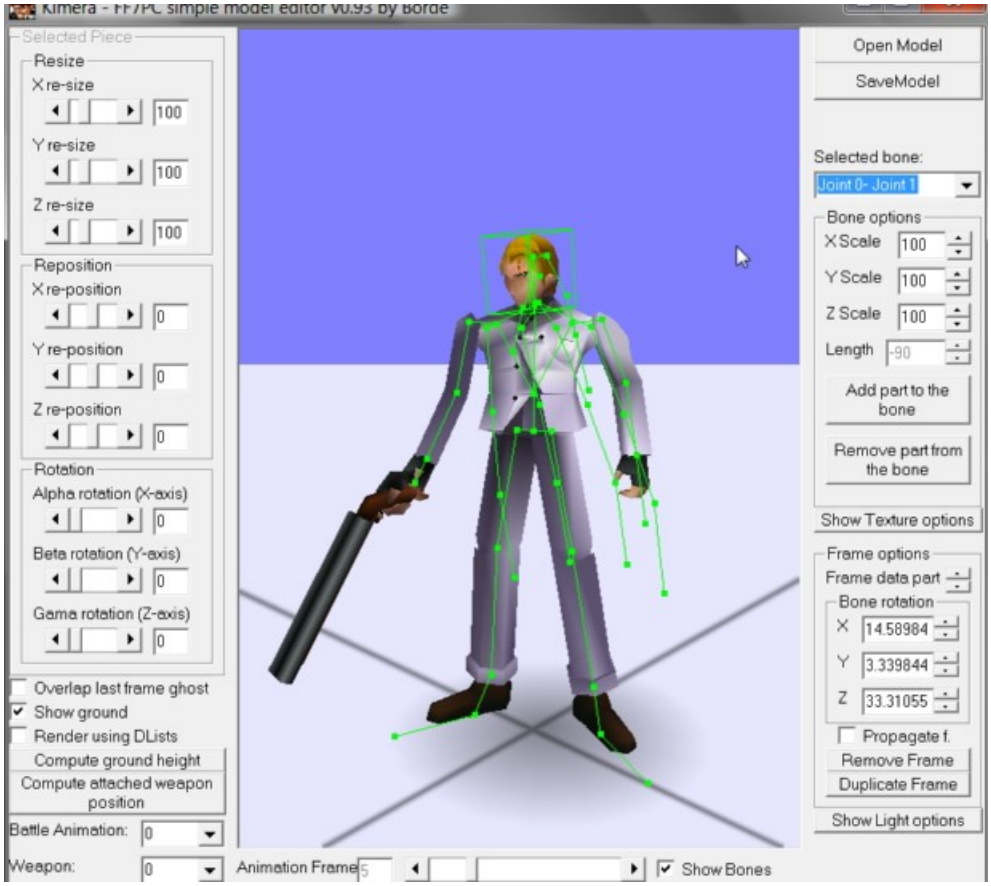
I suggest you view the model in kimera or mirex's biturn0.87, and see which part is what, and take notes on a piece of paper. For example, rufus's head is CQAN, vincent's head is SFAN. So rename CQAN to SFAN and paste it into vincent's folder and so on. Make sure you do not replace the SFAA,SFAB and SFDA files because rufus is an enemy, not a playable character, so you must keep Vincent animation. The parts that Rufus doesn't have, like the Vincent cape, you can't replace, so "remove part from bone". After you are done it should look like this:



The proportion is a bit off, so fix it until you are happy.



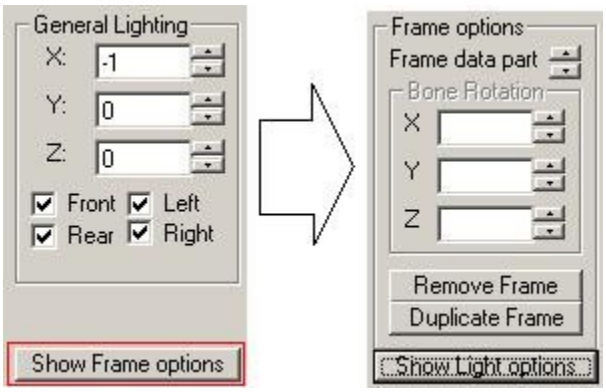
b) Editing the battle animation



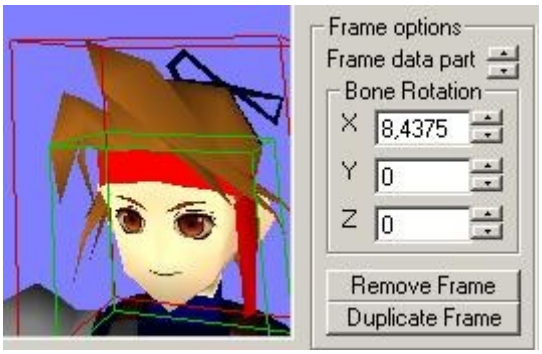
To do this, you will need an artistic mind and patience. Even I have hard time with this. In the bottom of kimera there is the tick box which says "show bones" and you will see the skeleton of the model. If you study animation you will know that the animation is actually the movement of the skeleton from frame 1 to frame 2 and so on. Now on the right side of kimera there is the show frame options. Click on that. A down/arrow will appear and says frame data part and some x/y/z. Now just select a bone from the drop down list of "select bone", and play the animation by holding the arrow at the bottom. You will see the x/y/z values keep changing as the model moves. Your job is change the x/y/z value in each frame to create a desired new animation. It is really a hard job to do so good luck on this. I will quote the official instructions of Borde:

" Animations

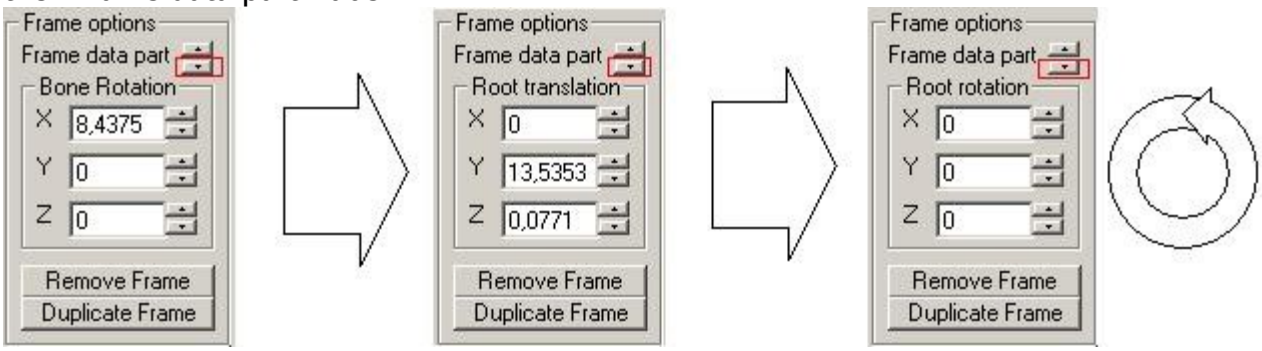
The animations (both battle and fields ones) can be almost completely edited (there is some data on the battle models who's meaning is still unknown for me). The interface is a bit uncomfortable, though. The animation options re hidden by default, and you must press the "Show frame options" in order to display them.



Now you will notice a box titled "Bone Rotation". It will display the rotation on the X, Y and Z axes for the selected bone and the selected frame. You can change this data by pressing the up-down buttons next to every text box or write the value you want directly there. Please note if there is no bone selected this field will be disabled.



You may also want to change the root rotation and root translation of the model. You can switch between those different data fields by pressing the up-down button next to the "Frame data part" label.



Then you also have a couple more options for frames:

- **Duplicate Frame:** Duplicates the currently selected frame. This way you can change the duplicate to define the next frame ofthe animation.
- **Remove Frame:** Removes the currently selected frame. You can't do this if there is only one frame on the animation.

Notes about animations:

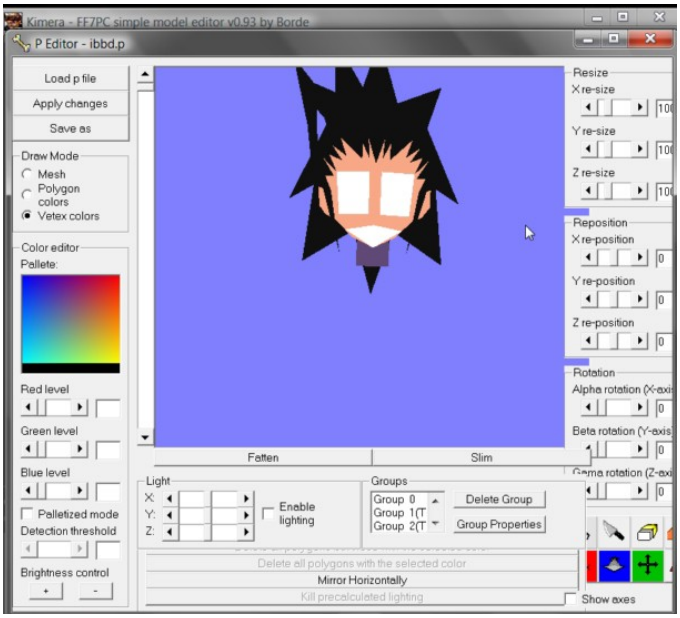
When working with animations please keep in mind the following things:

- Be careful with the gimbal lock. Depending on the rotation you define you may notice it doesn't look as it should. This happens because some of the axes gets locked. This is a mathematical limitation of the euler angles description of rotations. It can be solved though several methods (quaternions, matrices, etc.), but I think none of the is compatible with FF7
- The battle animations don't have a root rotation. Thus, this data can't be edited on battle animations.
- The weapon animations are independet of the model animations. So if you change the model animation keep in mind to change the weapon animation also. Select the weapon in order to acces to it's data.

Well, hope this solves most of your doubts. If not, don't heasitate to ask."

IV/ Converting a field model to battle model:

In Borde's tutorial you learn how to convert a battle model to field model. This will teach you the vice versa. Normally this is not popular, because field parts have less polygons than battle parts. But for some reasons if you want to do it (like converting zack head from field to battle to replace cloud's battle head), then here is how.



First you need to open the field model which you convert into battle. So in this case of zack, is ibad.hrc. Select his head, double click and you will reach the new editing window. Battle part is much larger in size than the field part, so you will need to resize the part first. Here is the trick:

In the resize corner, increase all x/y/z to maximum 400, then click apply change. Now continue resizing all x/y/z to 200. Then apply change and save the model as battle file, name it RTAO which is cloud head. Remember to rename 3 of zack .tex files to RTAC, RTAD AND RTAE. Now paste the 4 files into cloud's folder. It should look like this:

There is a white mouth, because the RTAA file only reads 2 textures, we need to change it to 3. Now open Reunion's pcreator, go to options, tick battle model, then go to file → open battle hrc, and change number from 2 to 3. Now it should work. Add some lighting to zack head because there will no additional light in battle system.