

# Character Animation for FPSC in 3DS Max

## Basic Tutorial

by  
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### INTRODUCTION

This tutorial will cover the basic use of the FPS Creator .FIG and .BIP files, as well as extending the animation using motion capture files in the Motion Blender tool. There are various ways to do this, but I have found this method the easiest to work with.

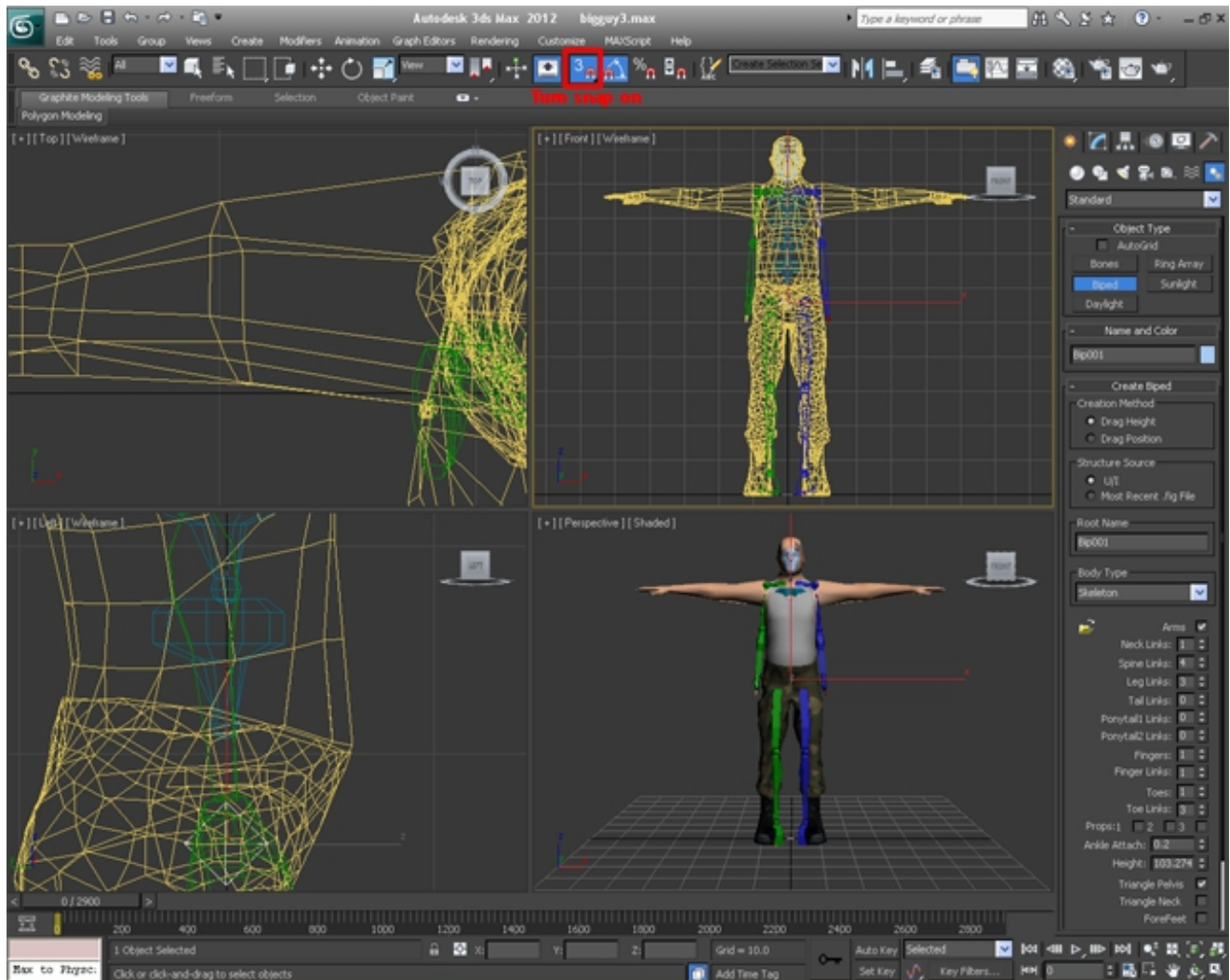
This tutorial will not cover the skinning and rigging of the character, nor will it cover exporting to DirectX .X format.

### PART 1: SETTING UP THE CHARACTER BIPED

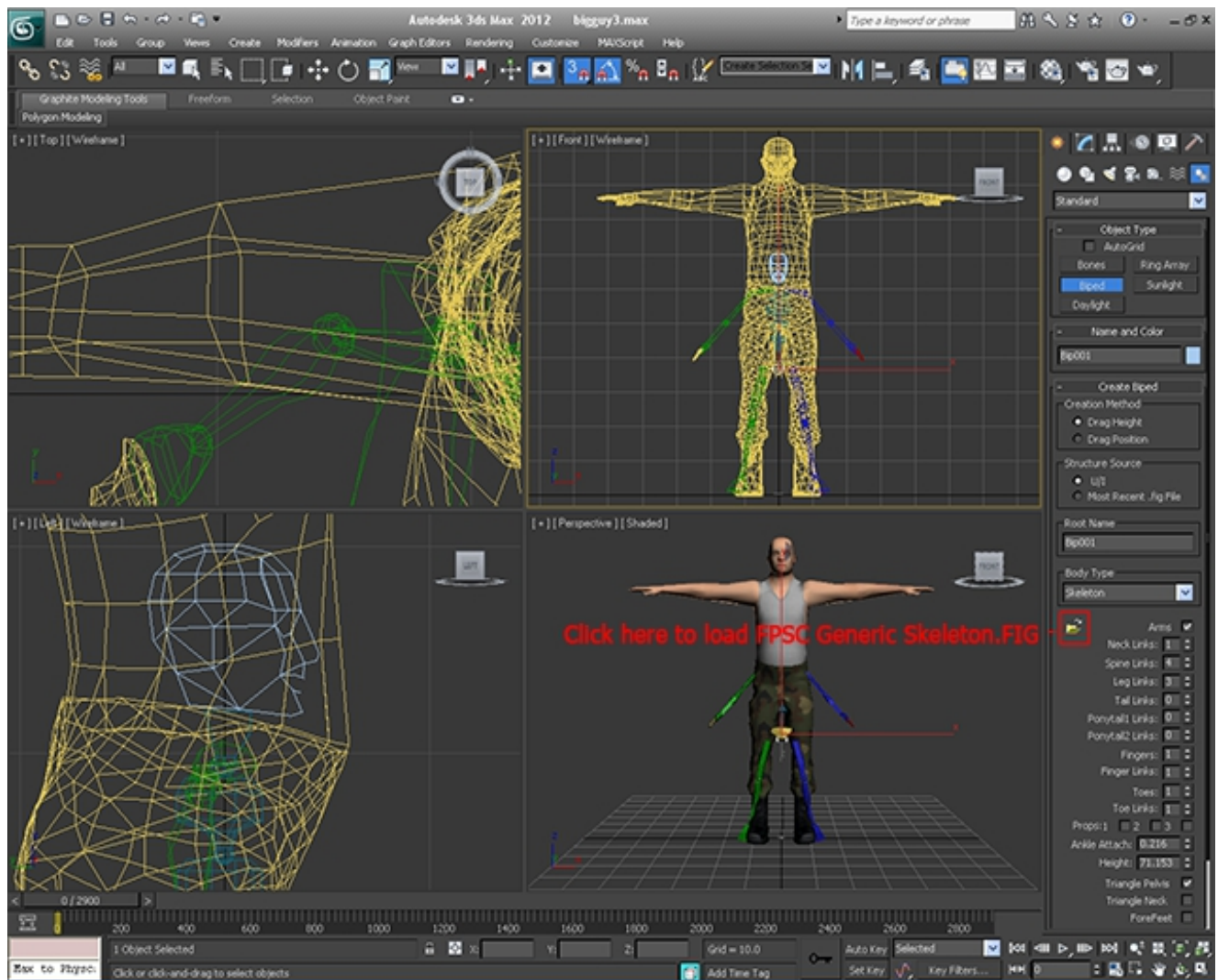
1. First, load in your character model (naturally). It is best to work with models in a T pose, since they are easier to rig and animate without causing strange artifacts. Make sure the model is centered.



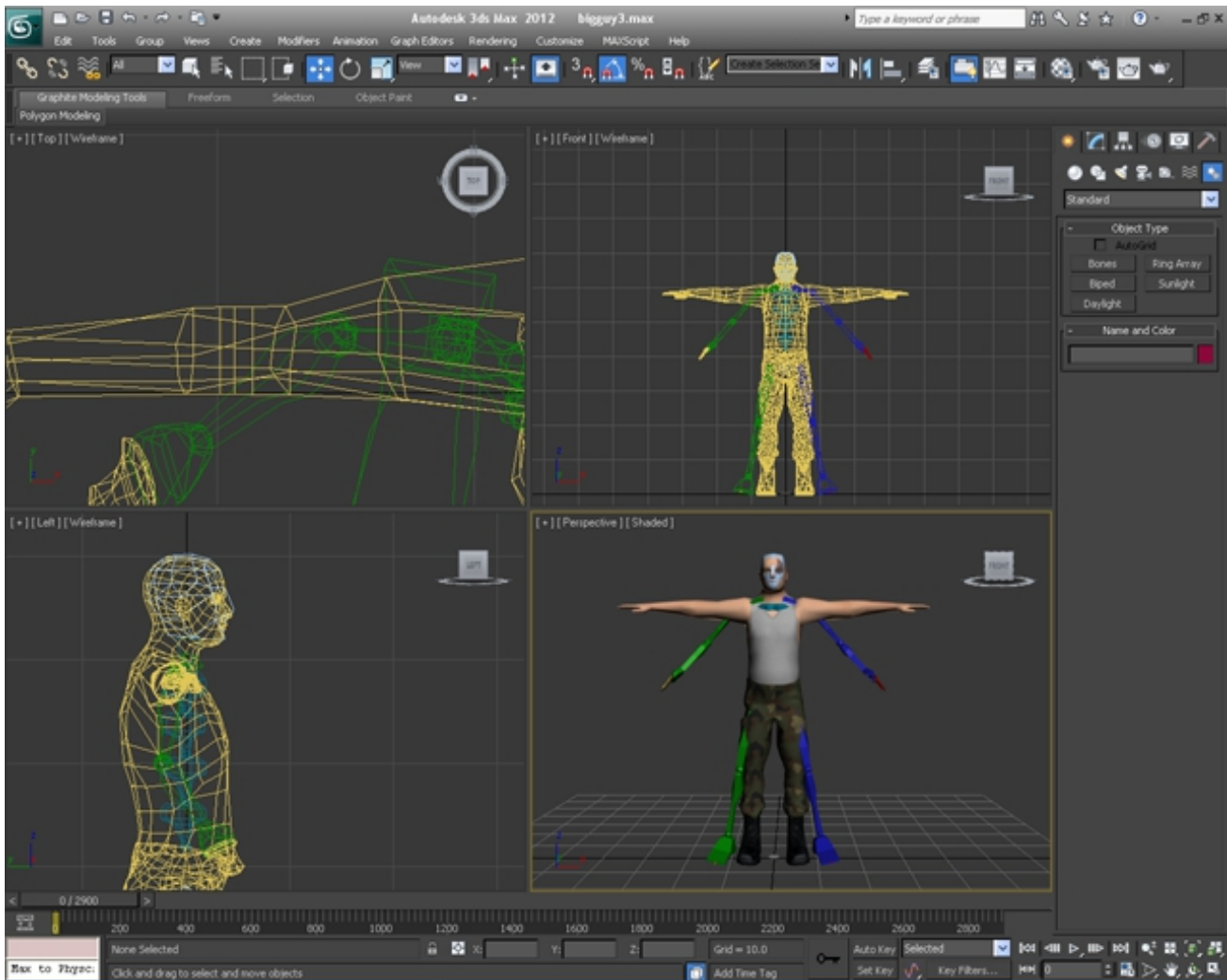
2. Turn on 3D snap, select Biped from the systems tab, center your cursor in the front viewport at 0,0,0, hold down the left mouse button and pull upwards to create your biped. At this point its size, number of limbs and attachments don't really matter, since that will all be changed in the next step.



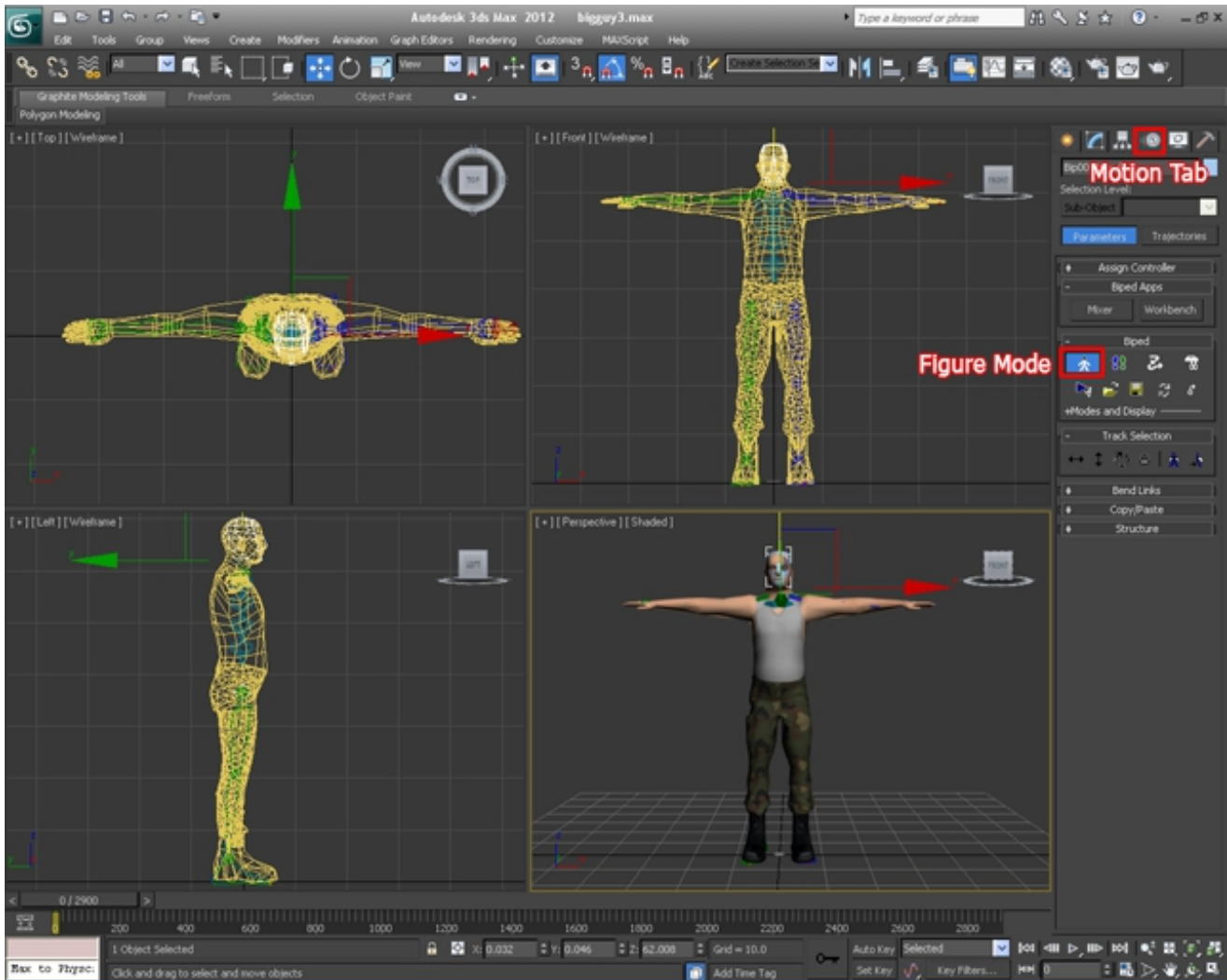
3. Load in the FPSC Generic Skeleton.FIG file. The biped will change to the standard FPSC biped.



4. If your model is bigger or smaller than the biped, resize your model to fit the biped. Do not resize the biped, as this could cause problems with the default animation and character scale in FPSC at a later stage.

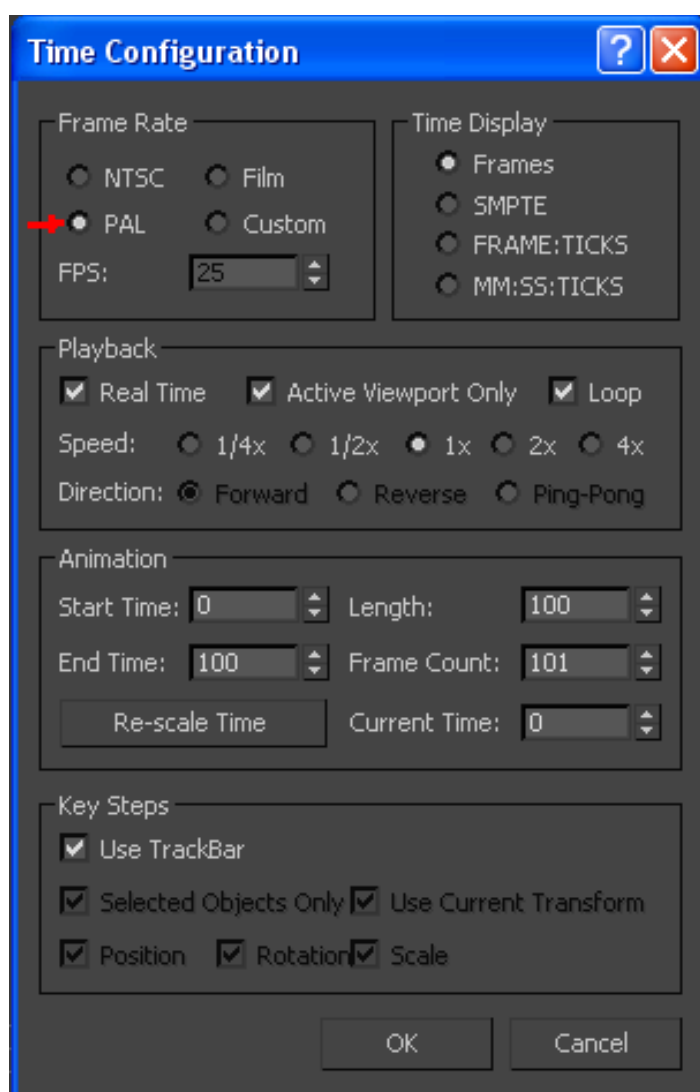


5. With a limb of the biped selected, click on the Motion Tab, and click on the Figure Mode button under the Biped rollout. Move the Biped limbs to line up with your character model. If the bones are too long or short to fit the model, adjust the model vertices. Do not lengthen or shorten the Biped bones, as this will affect the default FPSC animation badly, like hands in the wrong positions when aiming etc. You can, however, change the width and height of the bones to better fill out the rig.

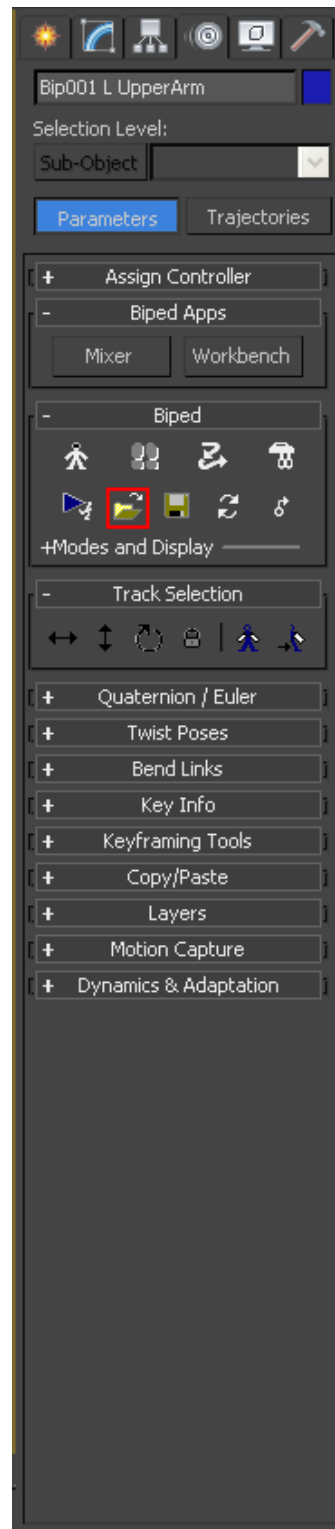


6. Once you are satisfied with the biped, you can skin your character using either the Skin modifier or the Physique modifier. As mentioned above, I will not cover this process in this tutorial.

- Once the character has been rigged and skinned, you can move on to importing the default FPSC animations, but before doing so, you first need to set up the correct frame rate for the .bip file. Click on the Time Configuration button in the lower right, then in the Time Configuration dialog, under Frame Rate, select PAL and click OK.



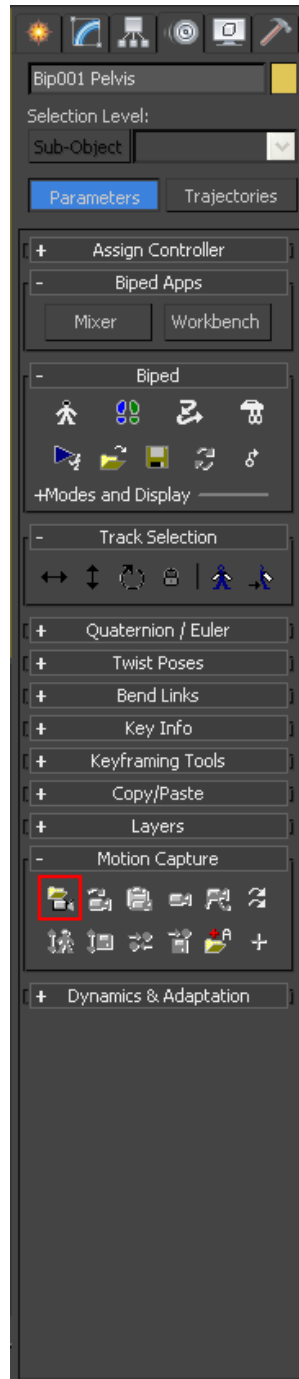
8. Select a Biped limb, click on the motion tab and turn off Figure Mode. Click on the Load File button under the Biped rollout, and load in the FPSC Character Anims.bip file. The character now has the default FPSC animations applied to it. Test the animations and do any necessary adjustments to the skin if weird artifacts occur. Once you are satisfied, hide the biped and export your model to .X format.



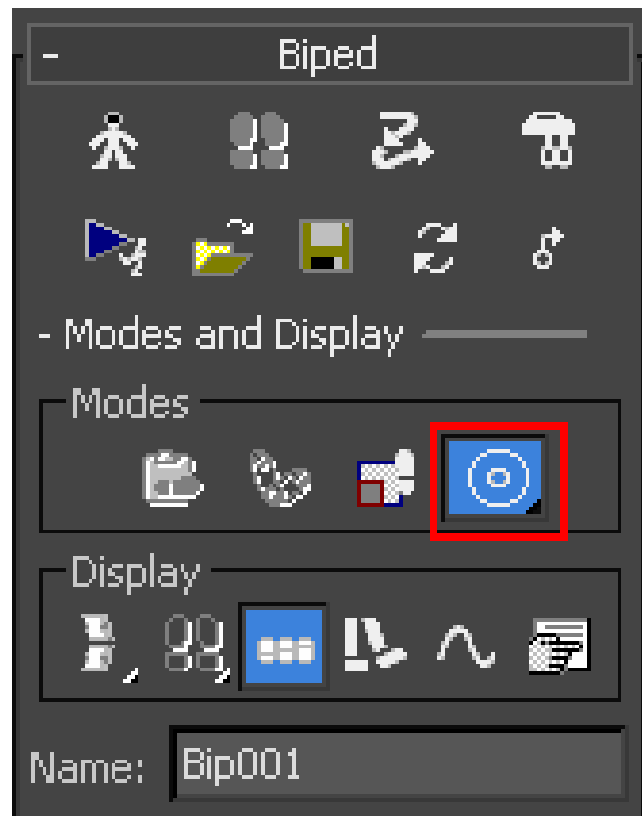
## **PART 2: PREPARING BVH MOTION CAPTURE FILES FOR THE MOTION MIXER**

Since Max's Motion Mixer tool only allows you to import .bip files into the mix, you will first need to convert the BVH files to the .bip format in Max.

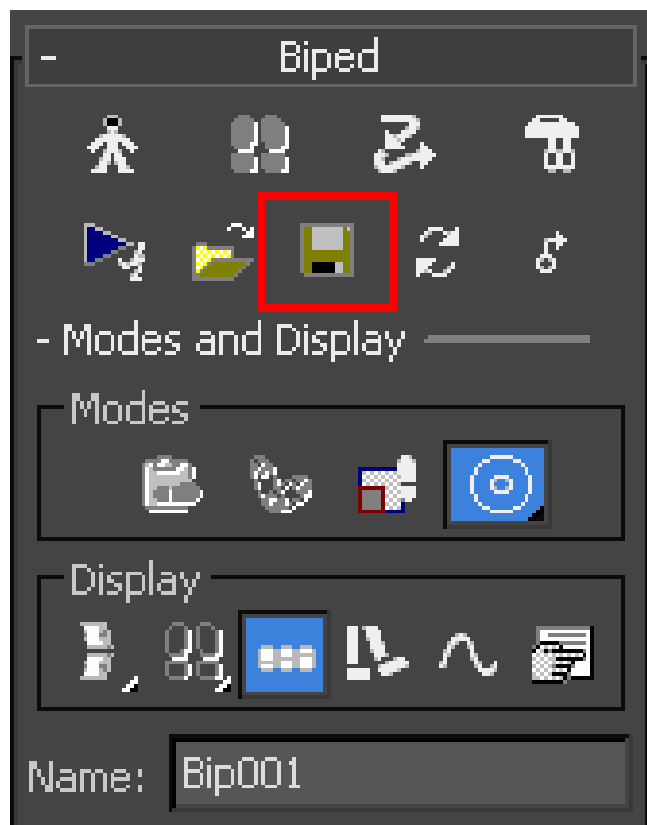
1. Reset Max, create a Biped, or use the standard FPSC biped. Set the Frame Rate to PAL. With the Biped selected, open the Motion tab, and open the Motion Capture rollout. Click on the Load Motion Capture File button, and load in your selected BVH file.



2. In order for the animations to work well in FPSC, expand the Modes and Display rollout under the Biped rollout, and click the In Place Mode button. This will ensure that your character stays centered when animating.

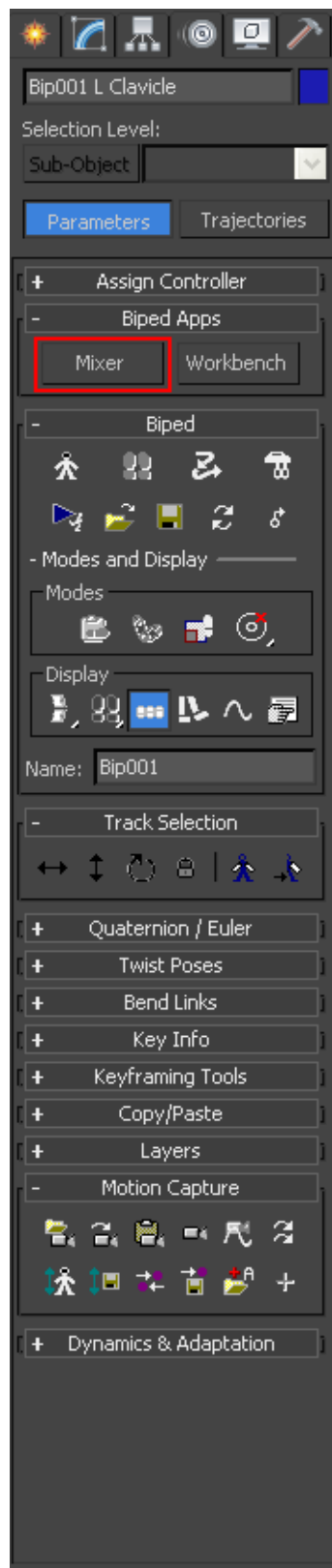


3. When you are satisfied with the end result, click on the Save File button under the Biped Rollout, and save your animation as a .bip file.

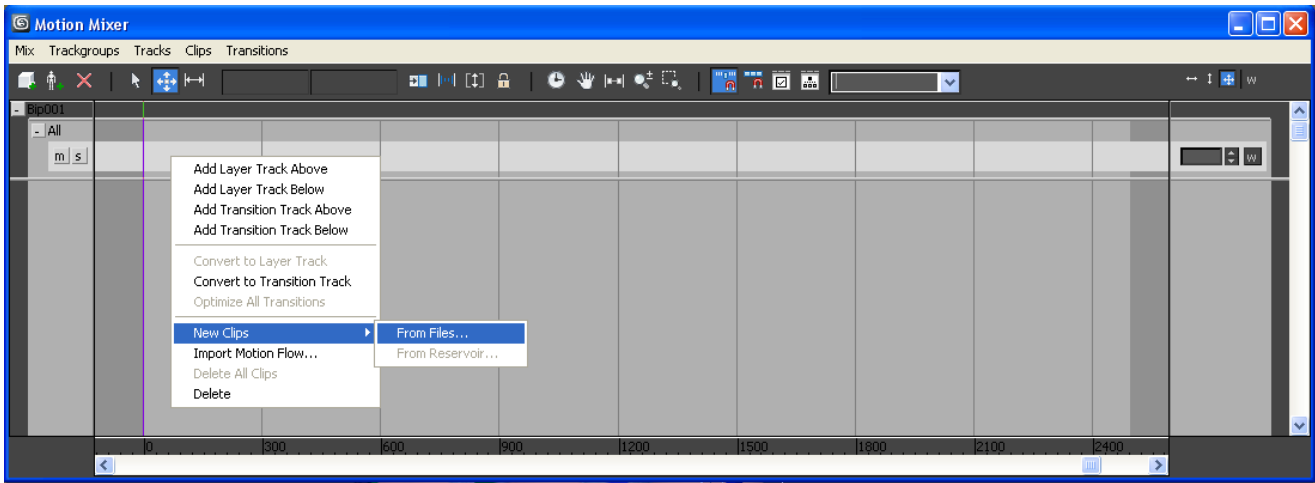


## **PART 3: USING THE MOTION MIXER**

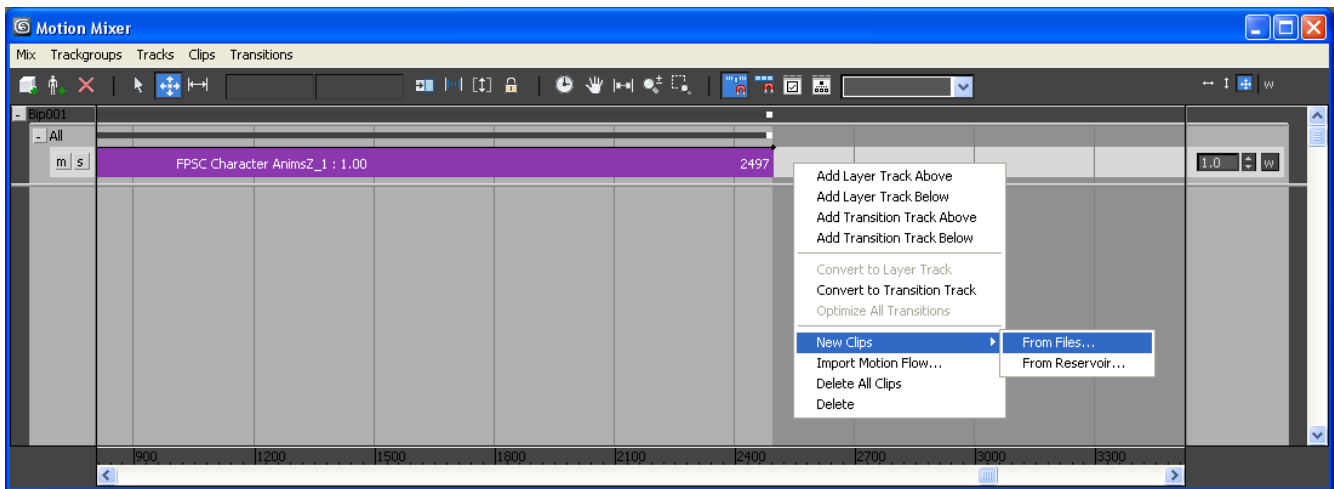
1. With a rigged and skinned model loaded, select a biped limb, open the motion tab and under Biped Apps, click the Mixer button. The motion mixer track bar will open.



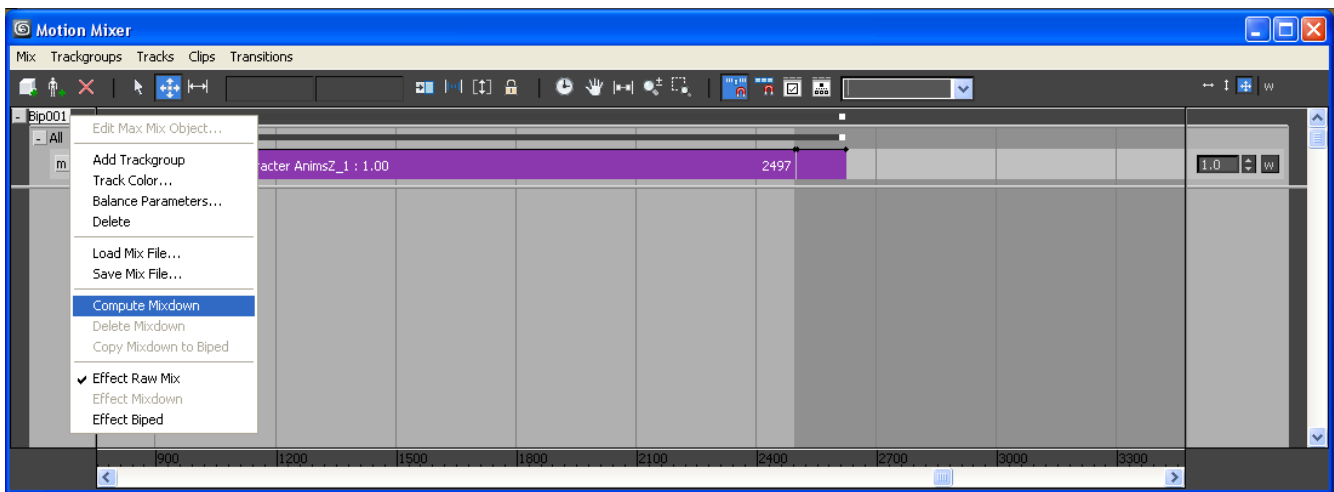
2. Right click in the light gray area of the first track on the track bar, select New Clips, From Files, and load the FPSC Character Anims.bip. After a short while the motion file will appear in the track bar.



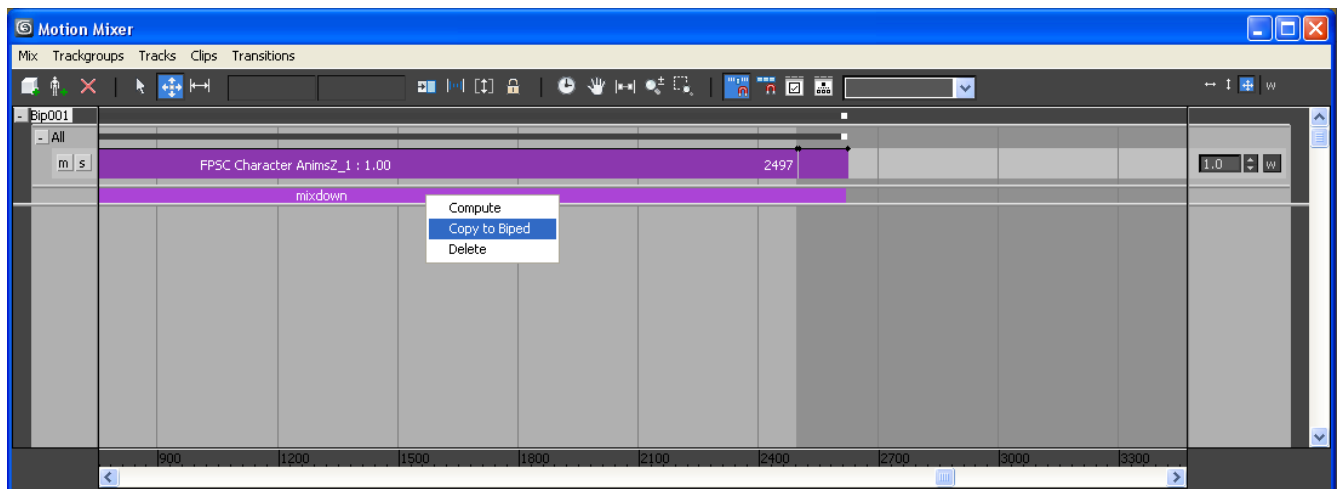
3. To add in other animations, repeat this process by right clicking behind your currently loaded clip, selecting New Clips, From Files, and selecting the .bip file you wish to append to the end of the default animations.



- Once you have all of the animations added to the trackbar, right click on the small text box at the top left of the track bar that contains the name of your Biped object (usually Bip001), and select Compute Mixdown from the drop down list.



- A new track called Mixdown will appear on the trackbar. Right click on it, and select Copy to Biped. The animation has now been added to the Biped. Just remember to extend the length of your timeline to accommodate the new frames of animation. Take a look at your new animations, tweak where you need to, and once you are satisfied, export your character. Make a note of the start and end frames of every appended new animation. Add them to your character's FPE file, so that they can be referenced in an FPI script later.



This has merely scratched the surface of what can be achieved with the Motion Mixer, but it should get you started with adding new animations to a FPSC character. I hope this tutorial has been of help. Happy animating!

Regards,  
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