

# USER GUIDE



axYzDESIGN



SETUP .1  
ANIMATING .7

# 1 SETUP

UNITS SETUP - SKIN MODIFIER .3  
UNITS SETUP - PHYSIQUE MODIFIER .5  
MOVE AND ROTATE .6

In this chapter you will learn how to set up units and scale a character before importing it into your 3D project. After that, you will take a quick look on how to place the virtual actors in your scene.

# UNITS SETUP

Before you start populating your project with Metropoly 3D Humans you must be sure that the characters and your scene use the same working units.

aXYZ design Metropoly models are designed in meters and inches.

1 meter = 39.370079 inches

1 meter = 3.28084 feet

(UK and US)

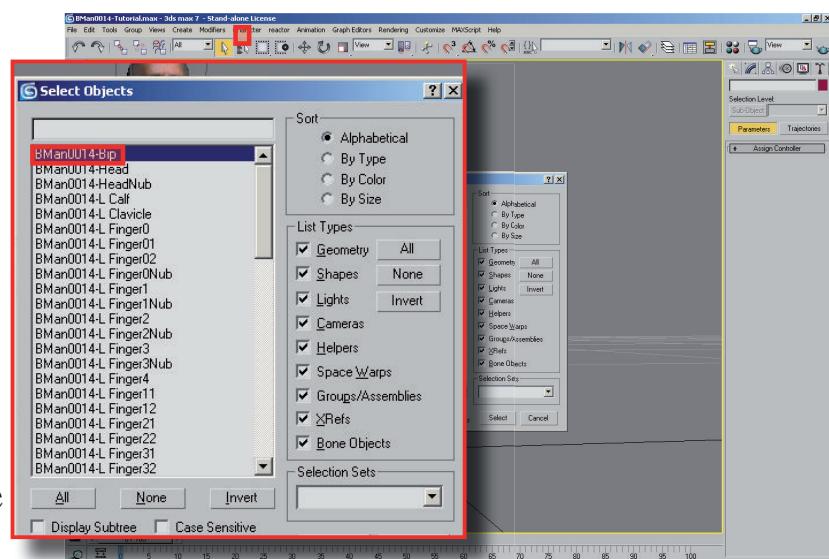
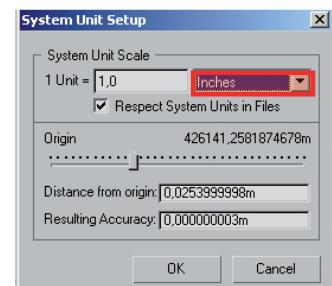
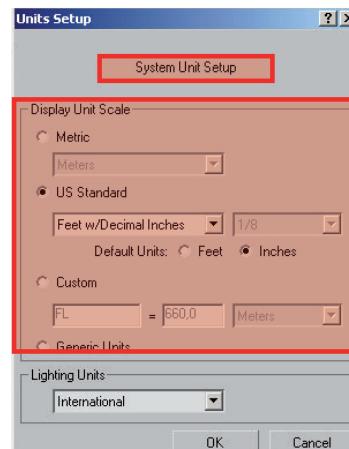
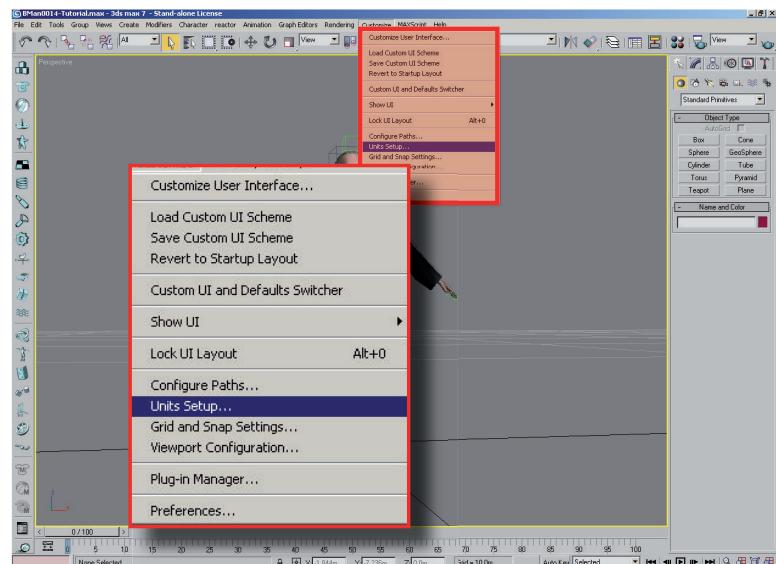
1. Open a character.
2. On the Main menu go to "Customize" and select "Units Setup...".

3. Inside the "Units Setup" window set "Display Unit Scale" to your drawing unit. Click on "System Unit Setup" button and repeat the operation.

4. Go to "Select by name"  and click on the character's root. (Ex: CMan0024-Bip).

Ensure that the character's root does not have any keyframe assigned.  
Otherwise, just select those keys and delete them.

5. If the character uses the Skin Modifier go to page 3.  
If instead it uses the Physique Modifier go to page 5.



# UNITS SETUP - SKIN MODIFIER

6. Go to "Modify"  and inside "Skin" uncheck "Always Deform" in the advanced parameters option.
7. Go to "Motion"  and select "Figure Mode"  inside the "Biped" rollout menu.
8. Inside the "Structure" rollout menu modify the character's height.

*If the character is 1,688m you must enter:*

*1,688m x your drawing unit*

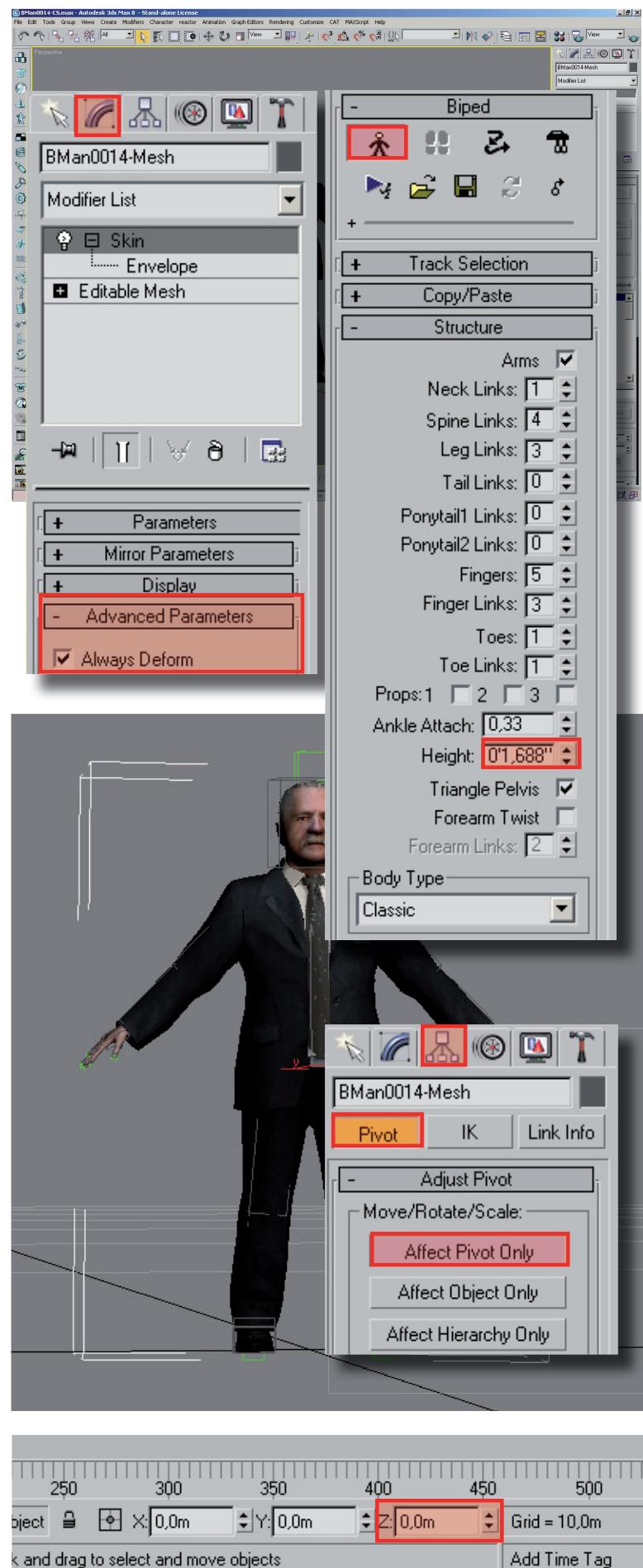
*At this point you have the scaled Biped with the mesh in its original size.*

*The next step is to scale the mesh.*

9. Select the character's mesh and in "Hierarchy"  select "Pivot" and click on "Afect Pivot Only" button.

*Click on "Select and Move"  tool and type:*

*Z:0,0*



## UNITS SETUP - SKIN MODIFIER

10. Right-Click "Select and Uniform Scale"  button to display the "Scale Transform Type-In" window.

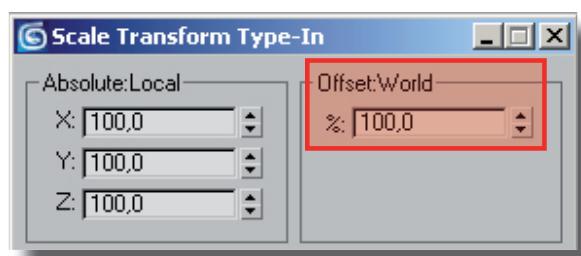
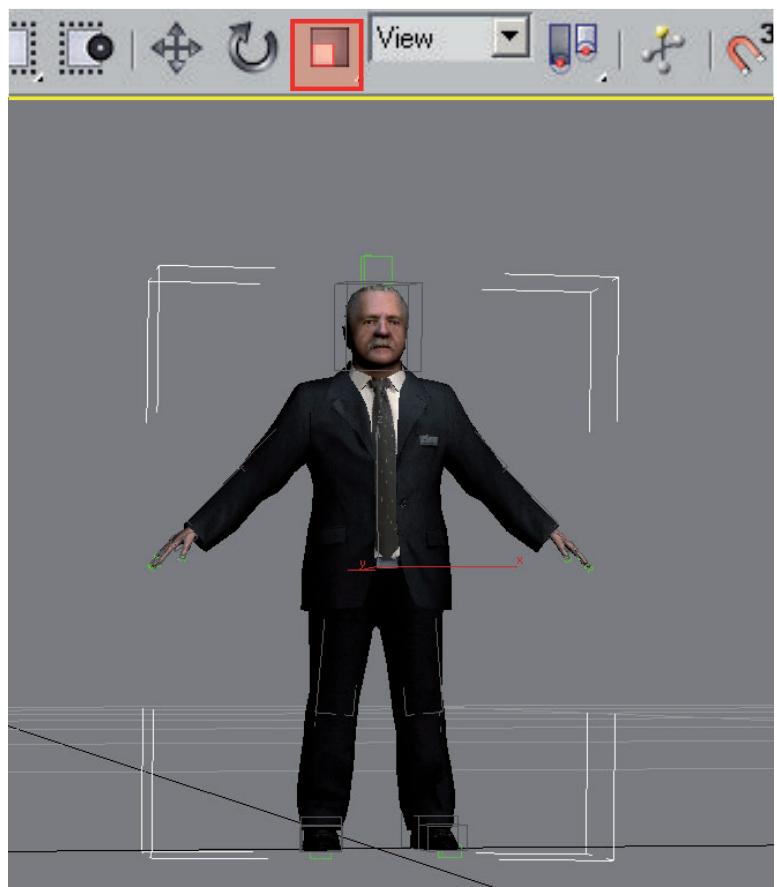
Inside the "Offset:Local" dialog box type the new mesh scaling factor.

*The Mesh scaling factor will be:*

1,82m - 71,65in  
100% 3937%

11. Go back to "Modify"  and inside "Skin" check "Always Deform" in the advanced parameters option.

12. Save your scaled character.  
You can now merge it into your scene without problems.



## UNITS SETUP - PHYSIQUE MODIFIER

In the case the character is using the Physique modifier you must repeat the steps 1-4 on page 2 and then continue with the steps below.

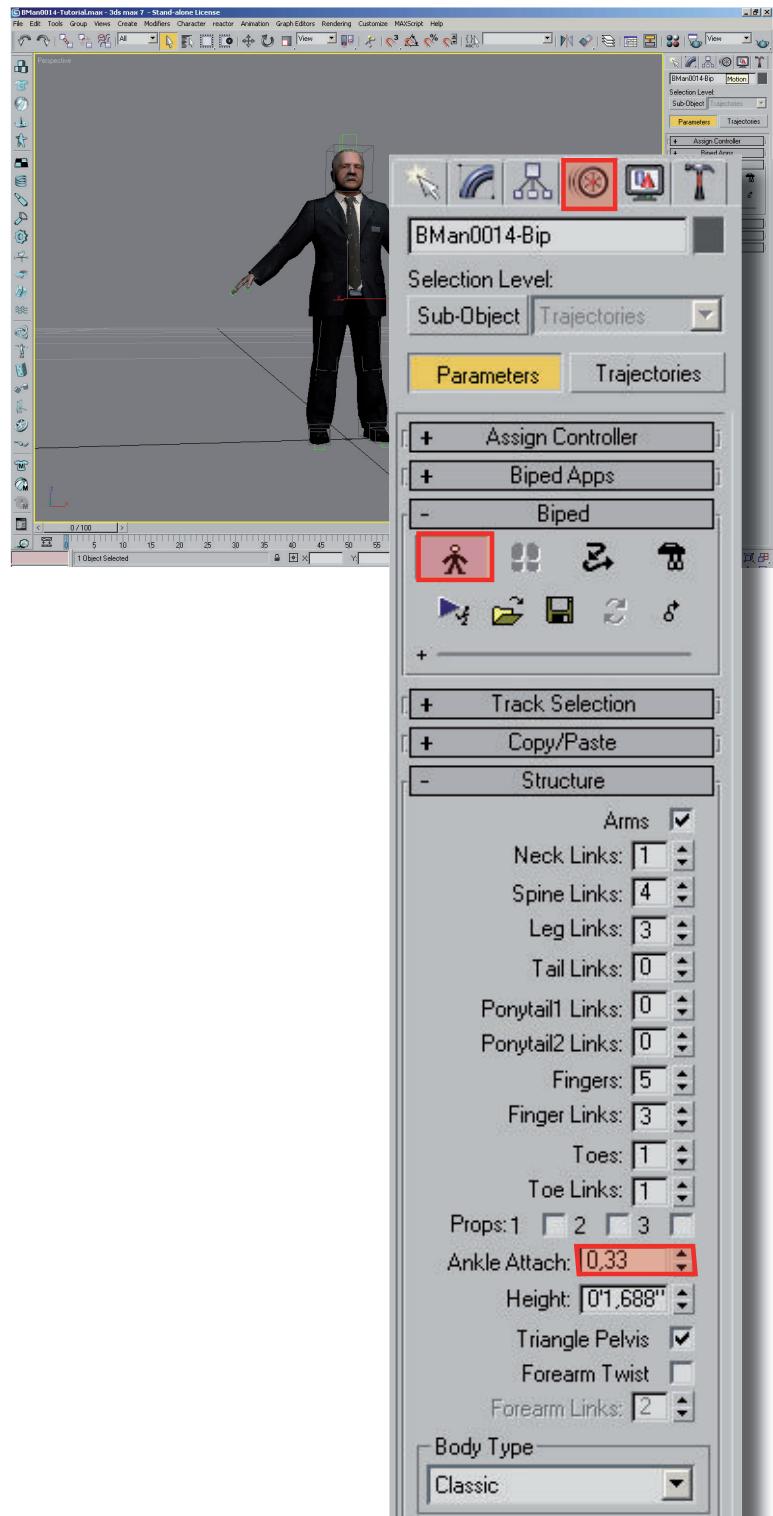
6. Go to "Motion"  and select "Figure Mode"  inside the "Biped" rollout menu.

7. Inside the "Structure" rollout menu modify the character's height.

If the character is 1,688m you must enter:

1,688m x your drawing unit

8. Exit from "Figure mode" and save your scaled character.  
You can now merge it into your scene without any problem.



# MOVE AND ROTATE

To move and rotate the characters to the correct place in your scene there are two simple methods: the "Move all mode" and using a Dummy helper.

## Move all mode:

1. Merge a character into your scene. By default it will be placed at 0,0,0.

Ensure that your drawing and character units are the same.

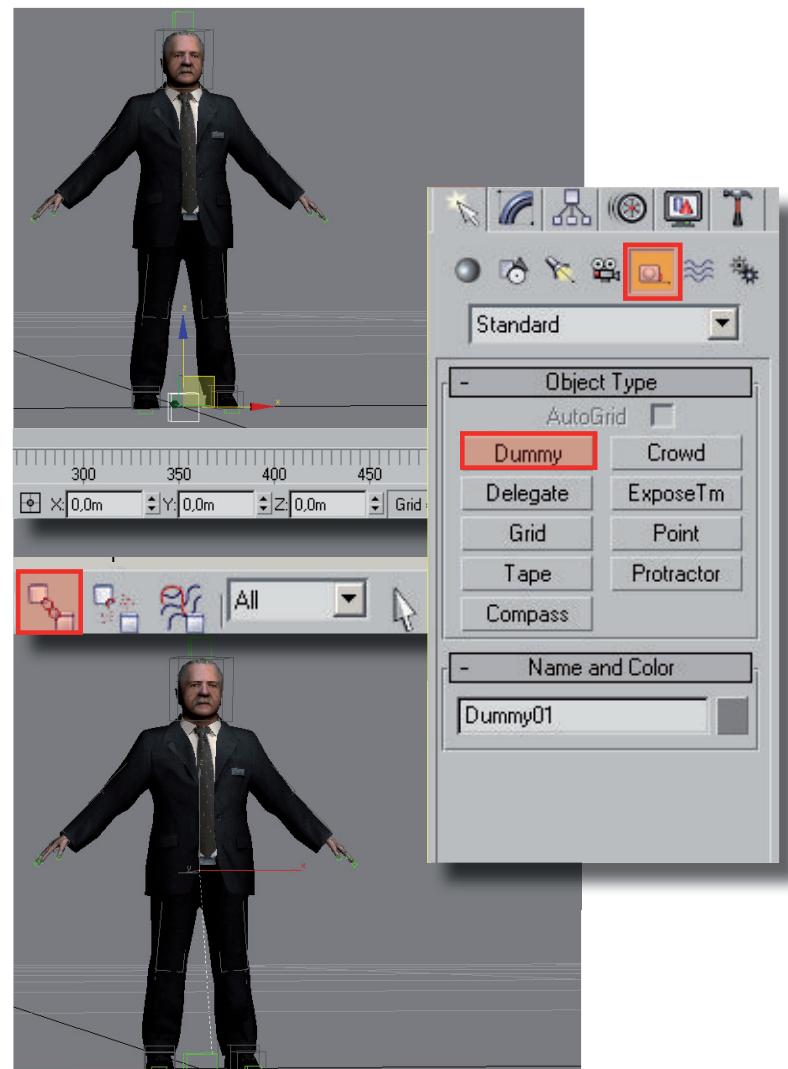
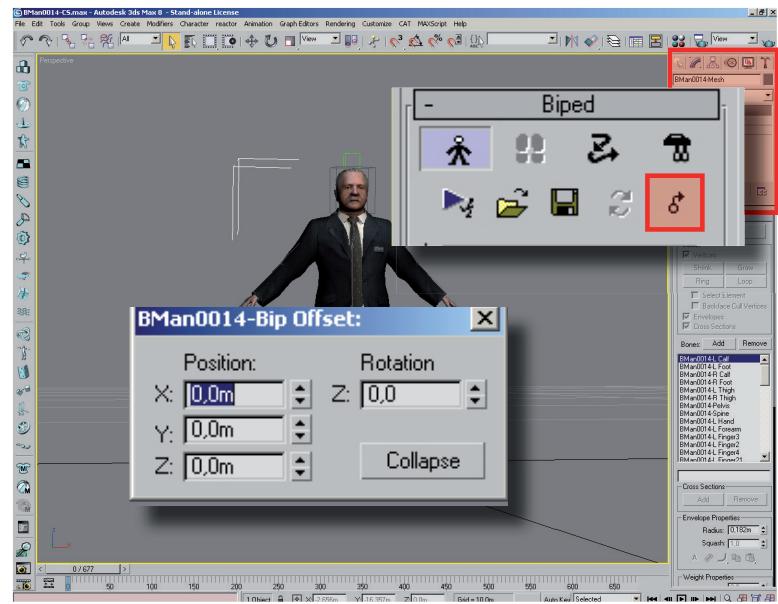
2. Go to "Motion"  and select "Move all Mode"  inside the "Biped" rollout menu.

You can either type in the coordinates or use the move and rotate tools   to place the character in the desire position.

## Dummy helper:

1. Go to "Create"  and select "Helpers" . Select "Dummy" and create one at 0,0,0. If you want you can rename it to CMan0024-Move.

2. Use "Select and Link"  tool and link the character's root (Ex: CMan0024-Bip) to the Dummy object you have just created. The Dummy can now be used to place the character.



# 2 ANIMATING

MOCAP DATA .8  
MOTION FLOW .10  
MOTION MIXER .14  
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In this chapter you will learn how to load a .bip file onto a character and adjust the animation with any of Character Studio's tools, append one motion to another and combine motions to create completely new animated sequences.

## MOCAP DATA

The easiest way to animate a Metropoly 3d character is using Motion Capture clips. MOCAP provides an accurate digital representation of natural human movements, allows you to save time and to achieve professional animation results.

1. Open a character (See Chapter 1 - Scaling) and select any bone. Click on "Motion"  and then on the "Load file"  icon in the "Biped" rollout menu.

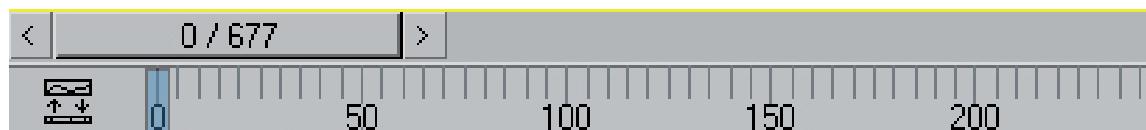
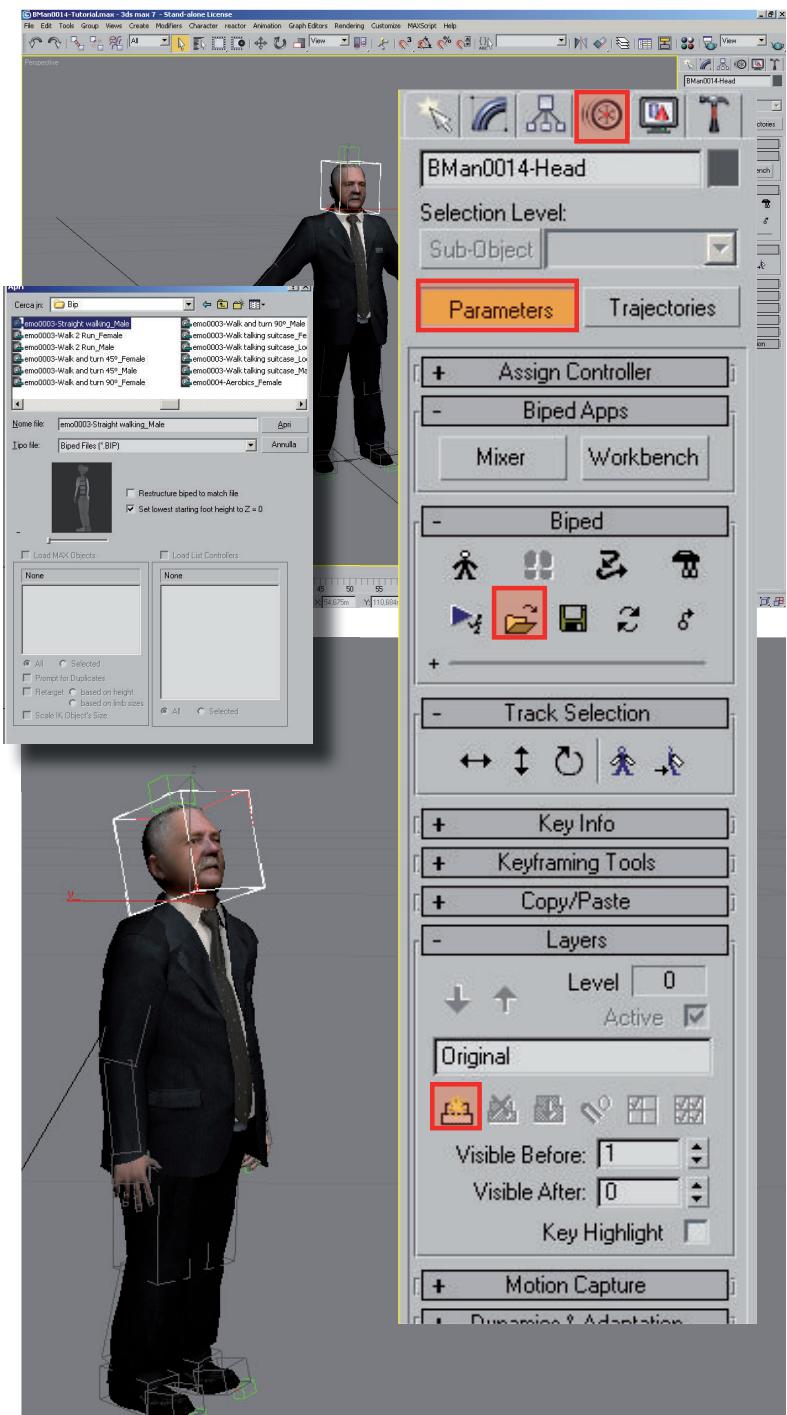
In the pop-up window browse the folder where you have installed the MOCAP .bip files and load the Motion Clip that you will use in your animation project.

If the Biped disappears from the viewport, zoom and pan as needed to get a new view.

2. After loading the MOCAP file you may need to fix the character pose.

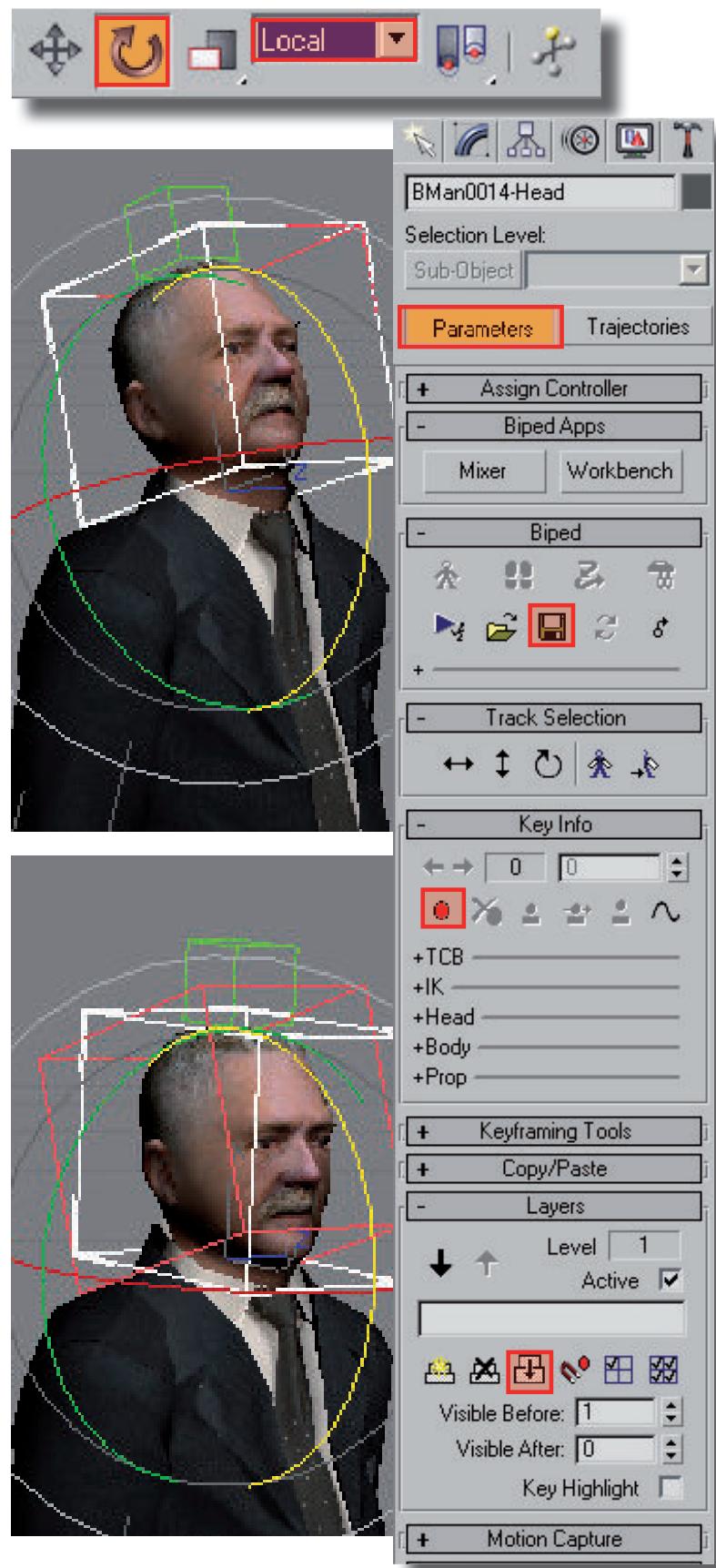
Again, on "Motion"  select the "Layers" rollout menu and click on "Create Layer" .

You will notice in the new Track Bar that there are no keyframe markers.



## MOCAP DATA

At this point you can start to correct the character pose.



3. Select the body part that you want to correct and change the “Reference Coordinate System” to “Local” .

Use “Select and Rotate”  tool to place the body part in a new posture.

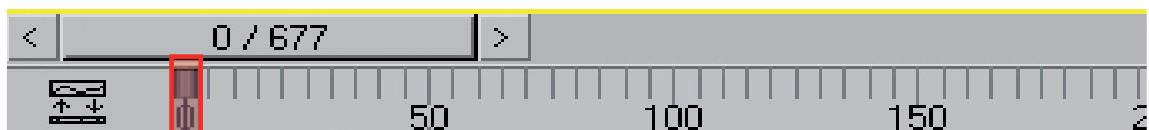
Set a new key in frame “0” using the Set Key  tool inside the “Key Info” rollout menu.

A keyframe marker at frame "0" will appear in the Track Bar.

4. Repeat Step 3 with all the body parts that need to be corrected and remember always to set the keys at keyframe "0".

5. When you consider that your animation is ready, collapse all the layers into a single layer using the "Collapse"  button inside the “Key Info” rollout menu.

6. Save the new Motion Clip using the "Save File"  button inside "Biped" rollout menu.

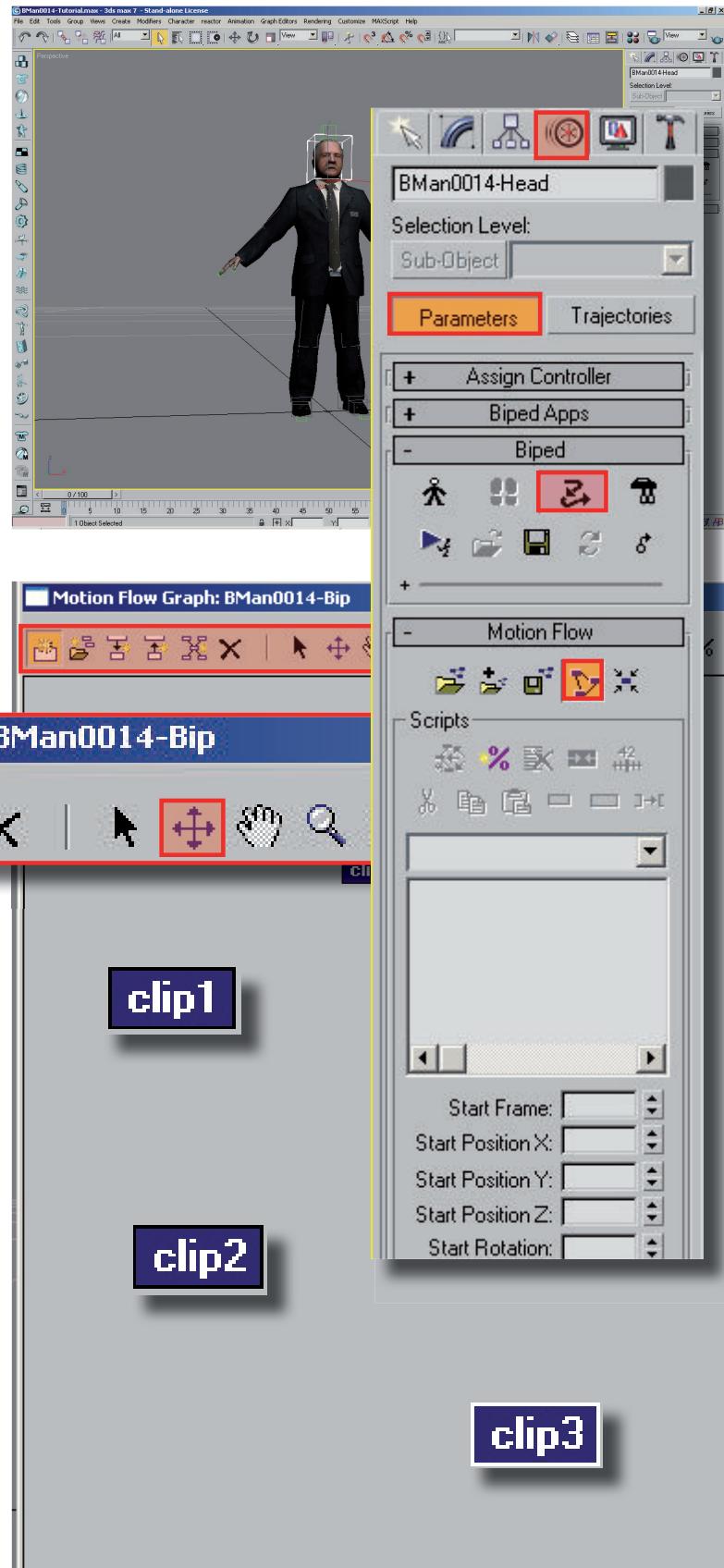


# MOTION FLOW MODE

*With Motion Flow you can create a network of multiple .bip clips to create completely new animated sequences.*

1. Select a character bone, go to "Motion"  and click on the "Motion Flow Mode"  icon in the "Biped" rollout menu.
2. On the "Motion Flow" rollout menu click on the "Show Graph"  icon.

*The Motion Flow Graph will be displayed. From here you can control all the clips and transitions of your animation sequences.*



3. Inside "Motion Flow Graph" select "Create Clip"  tool and then click on the graph for each clip you want to load.

Once clips are created, you can use "Move Clip"  tool to move them around on the graph.

## MOTION FLOW MODE

4. To load the clips, Right-Click on each clip you have just created. Click on "Browse" and load the .bip files you want to use. Then click OK.

*After loading each clip, you will need to define a script for the all of them.*

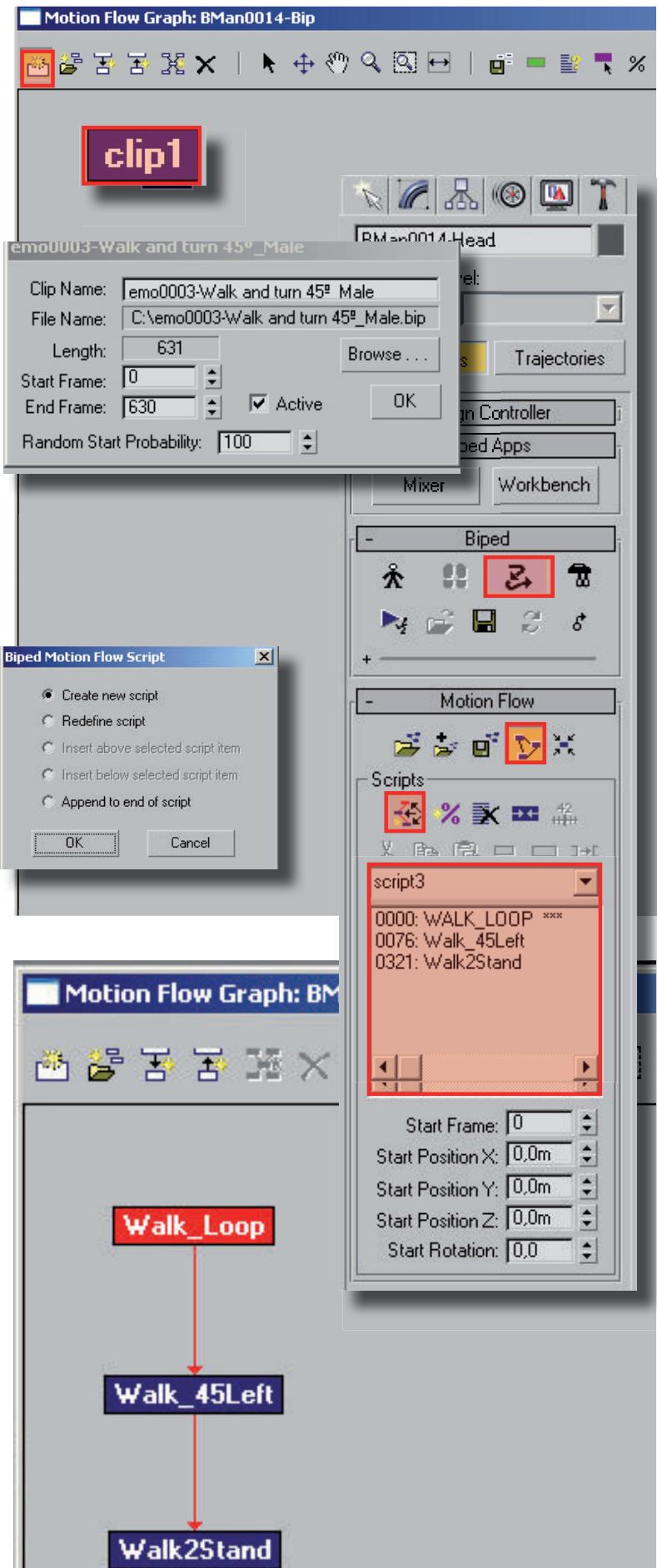
*The script is where you control the transitions between clips, the order they are played, and the number of times each one is looped.*

5. Click on the "Define Script" button in the "Motion Flow" rollout menu and select "Create New Script". If you want, you can name the script.

6. In the "Motion Flow Graph", click once on each clip to be used in the order that you want them to flow.

*If you click more than once on a clip, a duplicate clip will be loaded into the script which will make the clip loop.*

*After you have filled up the script with all the clips, you need to edit the transitions between them.*



## MOTION FLOW MODE

### 7. Click on the "Edit Transition" button.

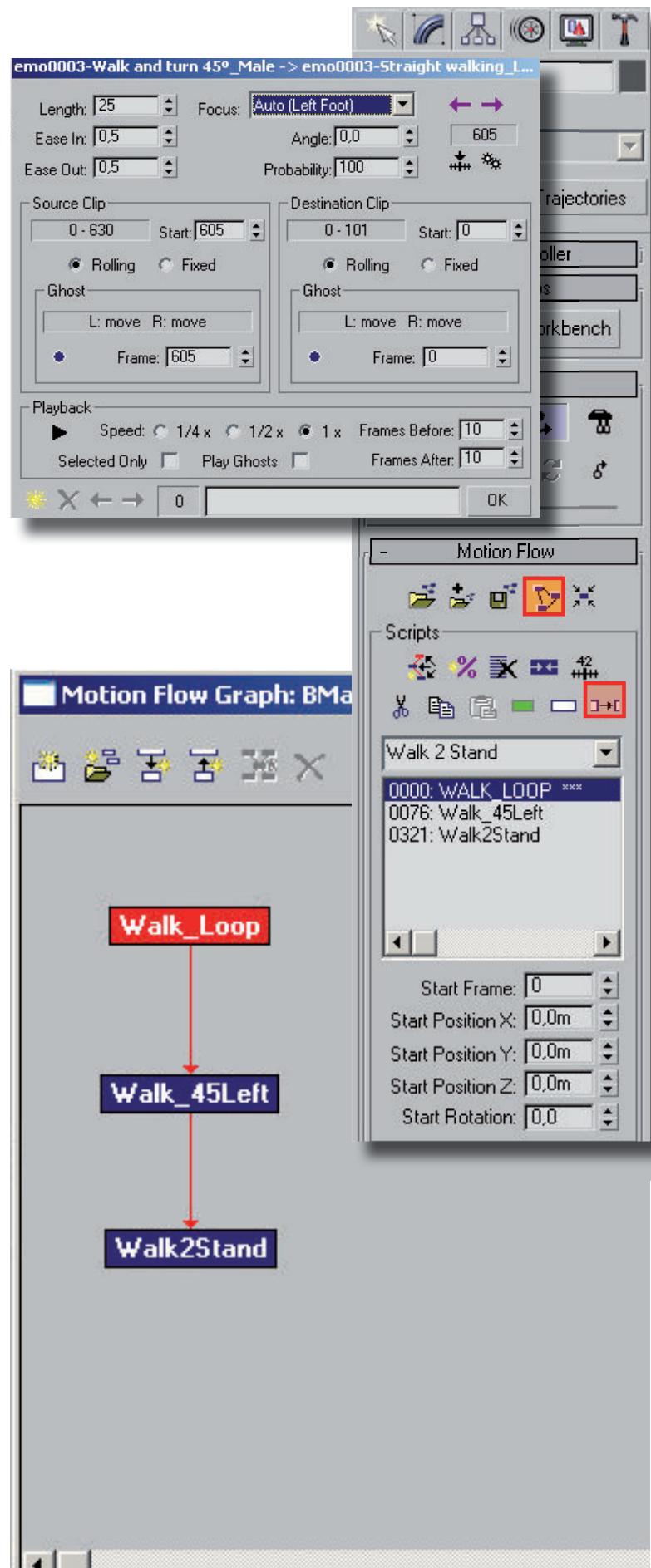
This will bring up a dialogue for editing the transition to avoid sliding of the character feet.

### 8. In the "Transition Editor", you can set the starting frames on each clip and the length of the transition to line up the two clips as best as possible.

*In the View Ports you will see a visual representation of how the two clips fit together. The starting clip is represented by a yellow stick figure and the second clip is represented by a red stick figure. If either of the sequences is a run or walk motion, try to do the transition while the character's feet are in the air; otherwise the feet will "skate" or slide.*

*Use the length setting to make the transition happen faster or more slowly.*

### 9. Click on OK and edit the transition of all of the rest of your clips.

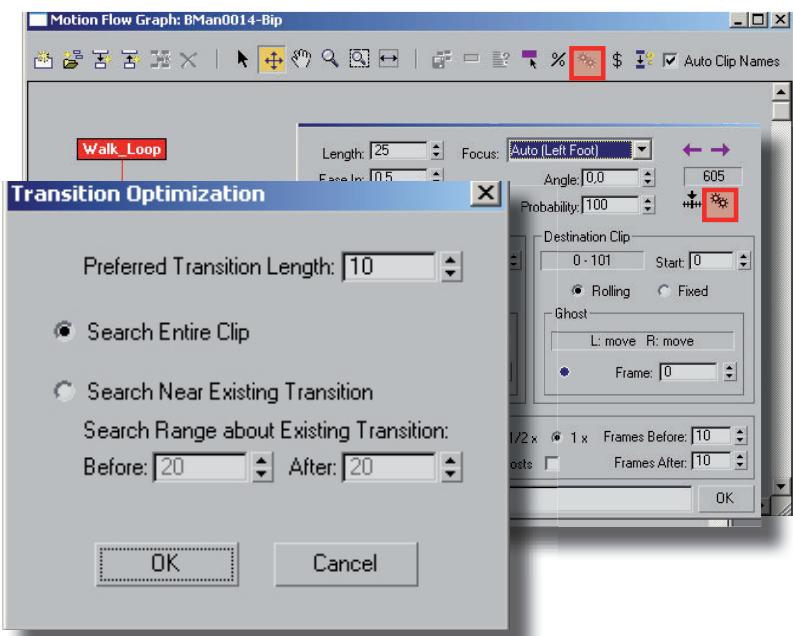


## MOTION FLOW MODE

10. There is one useful tool to optimize transitions. It is located inside the "Transition Editor" and in the "Motion Flow Graph".

Click the "Optimize"  button and in the "Transition Optimization" dialog box choose either "Search Entire Clip" or "Search Near Existing Transition".

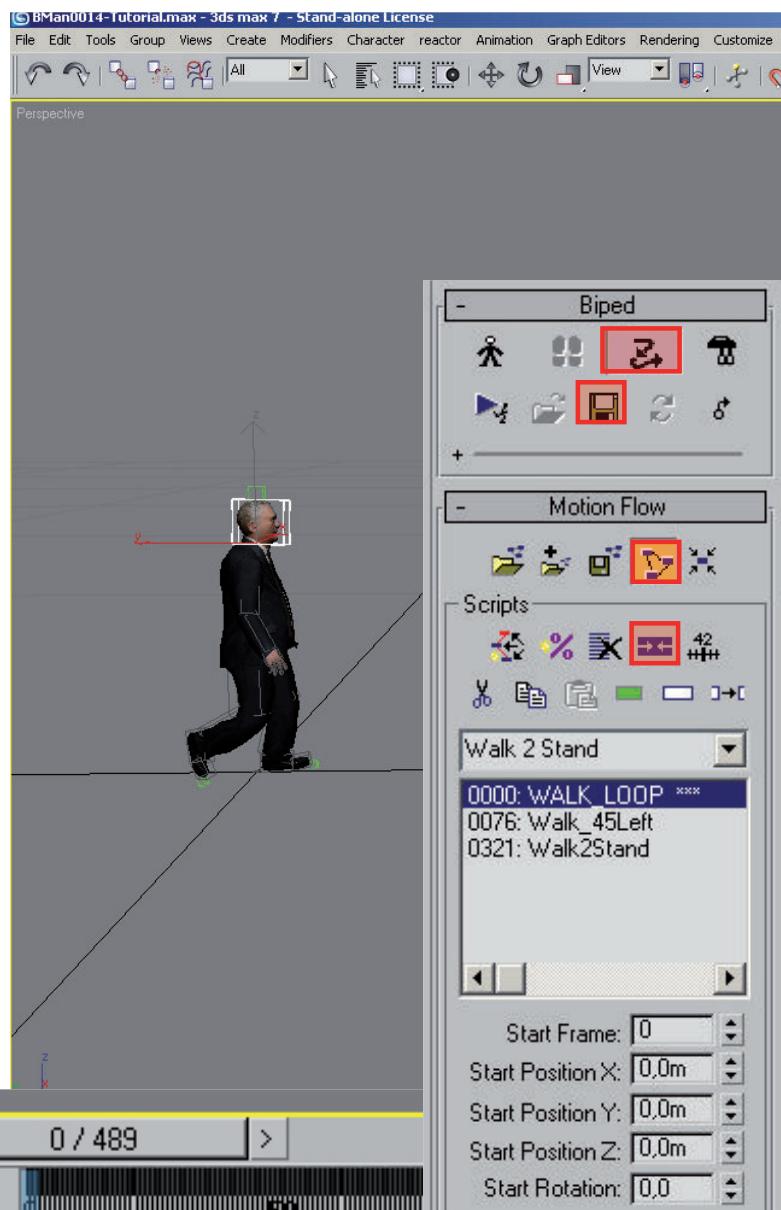
You should try which method works better for your specific project.



11. When you are satisfied with the entire sequence, you can save the whole thing as one Biped file by clicking on "Create Unified Motion"  in the "Motion Flow" rollout menu.

12. Exit "Motion Flow Mode" by clicking on the "Motion Flow Mode"  icon in the "Biped" rollout menu.

Go to the "Save File"  icon, name your file and browse to the location where you want to save it.



# MOTION MIXER MODE

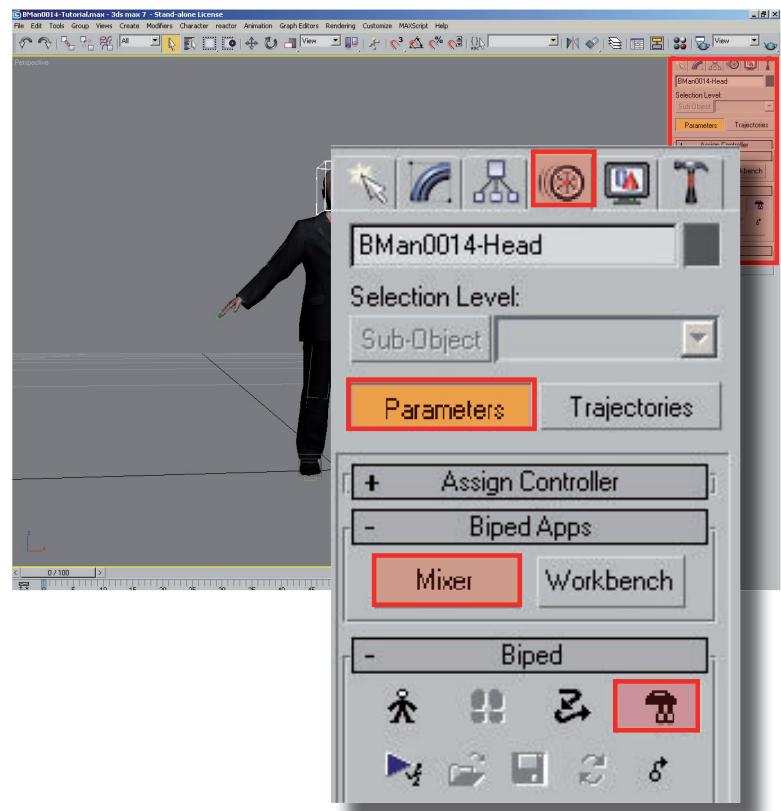
*Motion Mixer will allow you to combine multiple sets of MOCAP files to create longer sequences with varied motions and blend them together similarly to a video editing programme.*

1. Select a character bone, click on "Motion"  and then on the "Mixer mode"  icon in the "Biped" rollout menu.

Press the "Mixer"  button in the "Biped Apps" rollout menu to display the "Motion Mixer Graph".

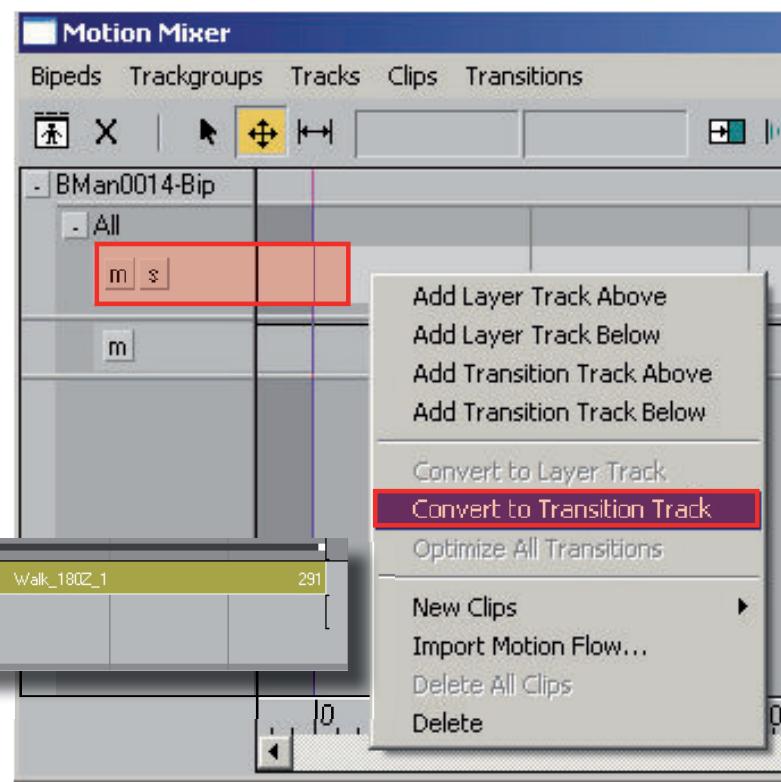
*When you open the Motion Mixer you'll see a track for each Biped in the scene.*

*The tracks are labelled with the name of the Biped.*



2. Right-Click on a blank area of the "Motion Track" and select "Convert to Transition Track".

*A Transition Track consists of three slots. The upper and lower slots are for .bip files, and the middle slot holds a transition between the two.*



# MOTION MIXER MODE

- Right-Click on the track again and choose "New Clips > From Files".

Load the first motion clip on your animation sequence and repeat this step with the rest of the .bip files you intend to use in your project.

*To make the active time segment be long enough for all the animation click on the "Set Range"  button.*

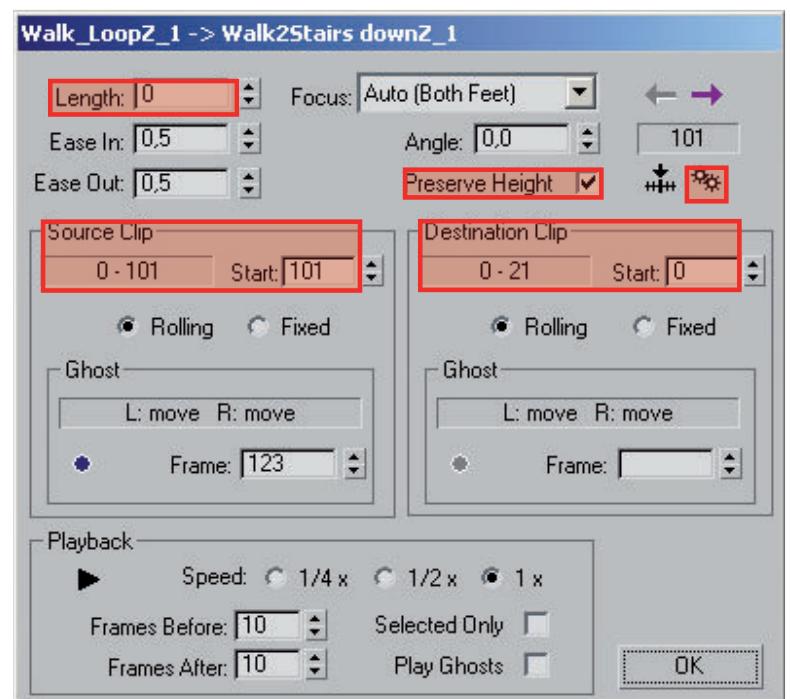
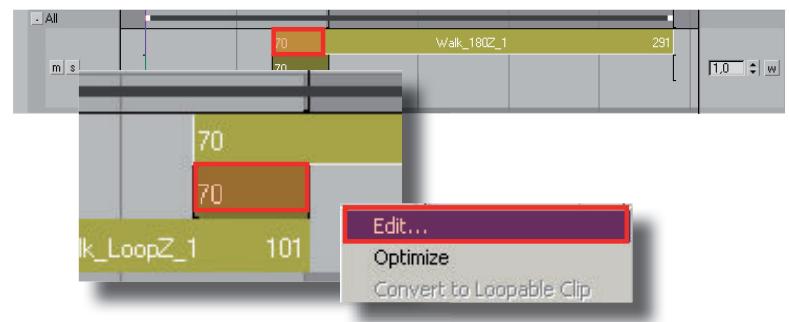
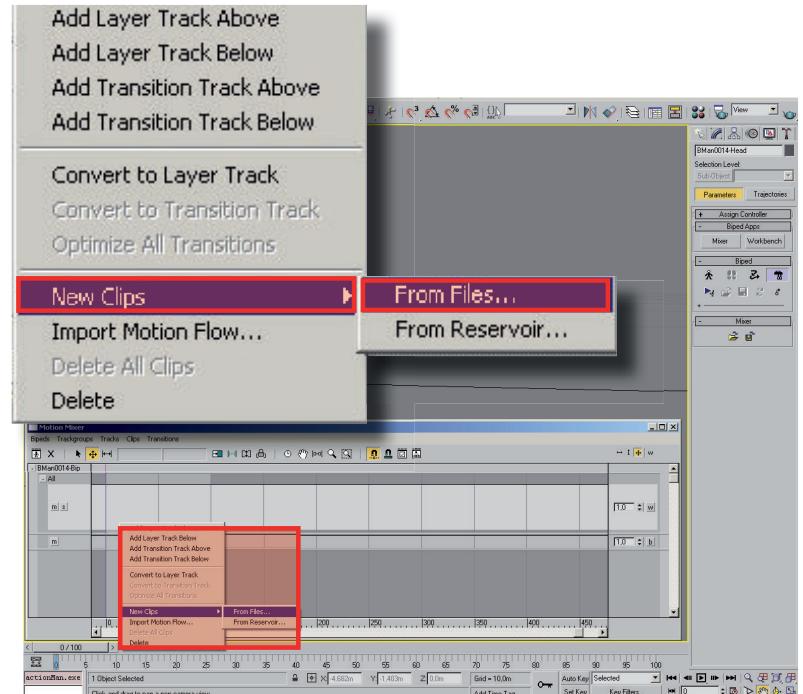
*Use "Zoom Extents"  in the "Motion Mixer" toolbar to see the animation in its totality.*

- In the middle slot a transition between two consecutive motion clips was created.

Right-Click on a transition and choose "Edit" to bring up the "Transition Editor".

Set the starting frames on each clip, and the length of the transition to line up the two clips as best as possible.

*The "Transition Editor" is the same as in the "Motion Flow Mode". Remember that you can also use the "Optimize"  tool to search for a smooth transition.*

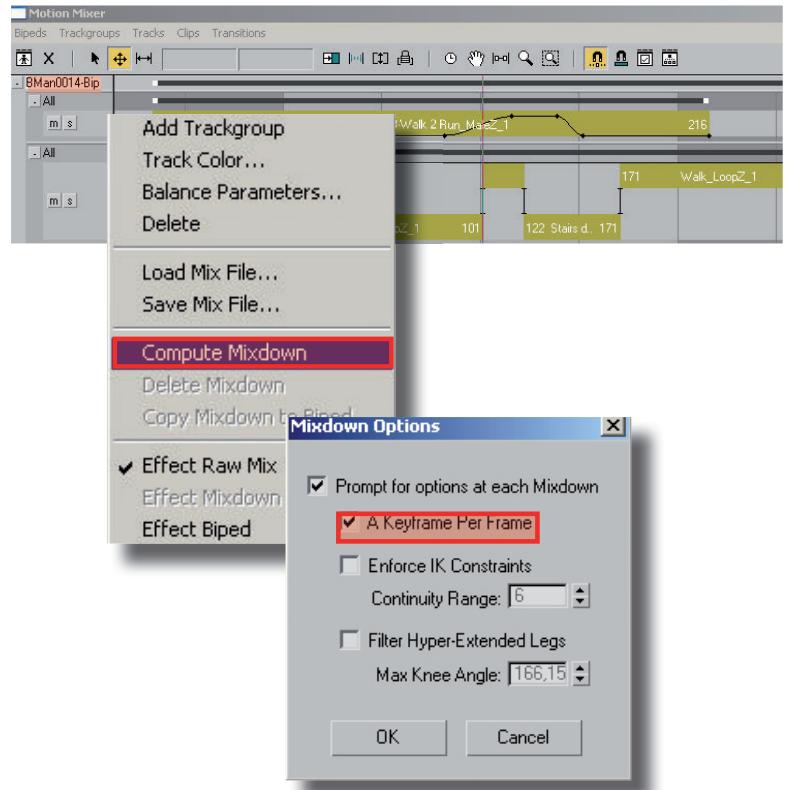


# MIXDOWN

If you want to use your Motion Mixed sequences on multiple characters you can perform a Mixdown.

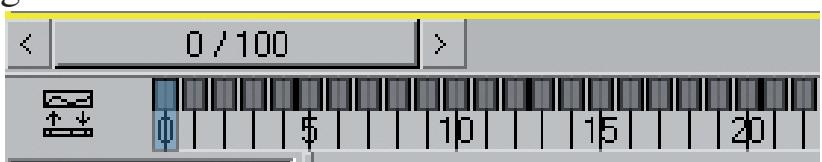
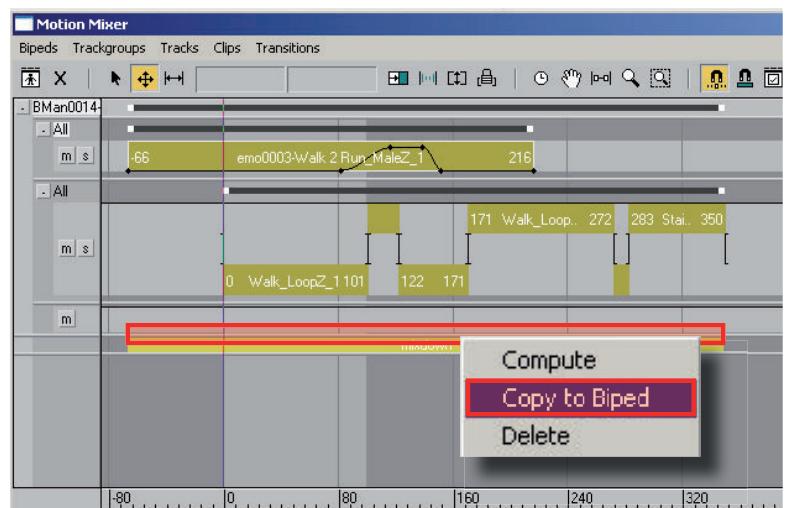
A "Mixdown" is used to convert all the motions in the "Motion Mixer" into a single animation and save it as a .bip file.

1. Right-Click on the name of your character (Ex: CMan0024-Bip) and choose "Compute Mixdown" from the pop-up menu.
2. In the "Mixdown Options" box, keep "A Keyframe Per Frame" option turned on when you use motion capture files. Click OK.



The motions are computed into a Mixdown track that appears below the other Trackgroups.

3. Right-Click on the "Mixdown Track" and choose "Copy to Biped" from the pop-up menu.
4. Close the "Motion Mixer" window and click on the "Mixer mode" icon in the "Biped" rollout menu to turn it off.
5. Save the new motion clip using the "Save File" button inside the "Biped" rollout menu.



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