

Life Forms & Poser:

Generating motion for Poser

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Background

The BVH motion import function in Poser 3 allows users to import BioVision motion capture files from motion composition software such as Life Forms. Because of the complementary nature of Poser 3 and Life Forms 3, a tutorial that about how to bring motion from Life Forms into Poser 3 will be useful to many users. Says Yacov Sharir, 3D artist and Professor of choreography at the University of Texas:

“For creating character movement, Life Forms has no equal. Now that Life Forms works with Poser, I can really combine Life Forms’ strengths with Poser’s strength in texture mapping, rendering, and modeling. It’s a great combination.”

This document is meant for every Poser 3 users: users who have Life Forms 3 and users who would like to use Life Forms with Poser 3.

Key Point

This document is for any Poser 3 user who wants to use Poser’s new **BVH motion import** feature to bring in animation from Life Forms, a motion composition and editing software.

What does Life Forms do?

Life Forms is a motion editing and composition software. It is a easy and cost-effective way to edit and work with motion capture data. It is also known for its simple and effective keyframing interface.

Life Forms editing functions allow you to recombine, blend, edit frame ranges, thin motion data and use premade sequences before importing motion data into Maya. These features allow you to use motion capture animations more creatively.

Some of the editing functions that are particularly useful to Maya users are described here:

Smart Paste Functions

Life Form is an excellent tool for blending and combining animations. In Life Forms you combine animations by pasting keyframes from one animation to another. Life Forms adjusts the path for you.

In addition to the automatic adjustment in the path or location keyframes, Life Form’s is able copy and paste motion from selected joints only. For example, this allows you to combine the arm action from one animation with the leg action from another.

Thinning mocap data

In Life Forms, you can reduce the density of motion capture data by deleting or thinning keyframes. You may, for example, instruct Life Forms to remove one keyframe for every 5 keyframes.

Slow down mocap animation easily

To slow down an action simply select a range of frames in the graphical timeline, and then expand the selection. While you are expanding the selection, the status box in the Timeline window displays the percentage by which you have slowed down the motion.

Editing a range of frames

Applying a relative offset or absolute rotation to a joint over a range of frames is very easy to do in Life Forms. Use this feature when you want to apply a small change to all frames in the animation. For example, you can apply a relative rotation to the figure's upper back joints so that it bends over during the entire walk cycle.

Source of animation content

Aside from the 600 + keyframed variations and 140 + motion captured animations from the **PowerMoves Library CD** that comes with Life Forms Studio 3.0, Life Forms is complemented by the **PowerMoves - Online 3D Content series**. This product consists of 3D models and motion sets that you can purchase online from <http://www.credo-interactive.com>.

In addition to premade motions, Life Forms can be used for keyframing your own animations and transitions, and for generating walk sequences using the procedural **Walk Generator**.

Copy and paste to different skeletons

Motion data is never wasted in Life Forms. You can reuse the motion data by applying it to different models by using the Joint Map editor.

The motion editing features described here are explained in detail in the User Guide.

Generating motion for Poser Figures

There are two ways to create motion for Poser 3:

- by using premade animations,
- by keyframing your own animation.

About the Tutorial

This tutorial explains how to adjust motion data in Life Forms before exporting it to Poser 3. It is broken into 3 parts:

- Adjusting Motion
- Exporting the Motion
- Importing the Motion

What you need

- **Poser 3.** (Poser 2 does not import BVH files)
- **Life Forms Studio 3.0.**

Life Forms 3 cannot be used with Poser. You need the STUDIO version.

Tutorial 1: Exporting Motion to Poser 3

Life Forms comes motion captured animation and keyframed motions that you can export to Poser 3.

Mocap sequences are recorded from a live actor using motion sensitive equipment. The motion is recorded at a frame rate of 30 frames/s creating 30 keyframes for every second of animation. This dense motion data produces very natural animation. The motion is represented by a skeleton figure. Motion captured animations are found in the Animation Gallery/ New Motion Capture folder and on the PowerMoves 1&2 CD.

The recommended process for generating motions for Poser is as follows:

- 1 Paste the motion to **Poserskel1**.

- 2 Check and tweak the motion in Life Forms.
- 3 Export the motion as BVH file.

Poserskel1 is a model whose arms have been shortened to match the arm length of the figures in Poser. After pasting the motion to this figure, you can check and adjust the motion to fit Poser figures before exporting motion data for Poser 3.



Child model animated using mocap sequence

Part1: Adjusting the Motion

- 1 **Open mt5948 Kick Fly Spin.bvh**
In Life Forms, open this file by choosing **File menu > Open**. Select **mt5948 Kick Fly Spin.bvh** and click Open.
- 2 **Import Poserskel1**
Choose **Figure menu > Import Figure**. Select **Poserskel1.lfa** and click Open.
- 3 **Copy motion from Kick Fly Spin**
Selecting all keyframes from the Kick Fly Spin motion. Choose **Edit menu > Copy**.
- 4 **Paste the motion to Poserskel1**
In the Timeline window, scroll to view Poserskel1's timeline.
 - Click in Frame 1 to position the Insertion point.
 - Choose **Edit menu > Paste**.
- 5 **Examine the motion**
Check the motion by stepping through each keyframe. Do this by clicking the Forward step button in the Control panel. See **Kick Fly Spin_2.lfa**.

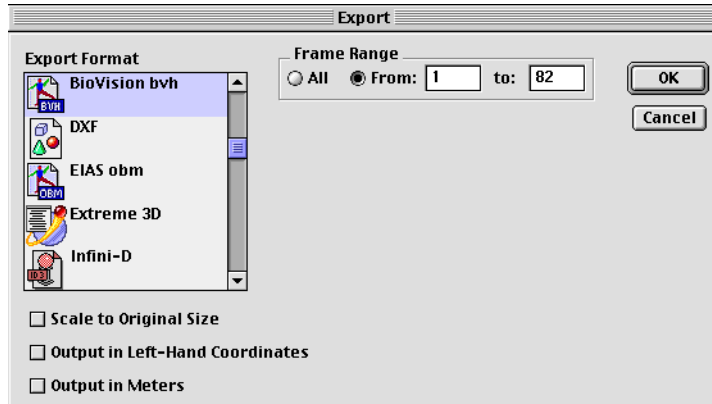
Part2: Exporting the Motion

- 1 **Open Kick Fly Spin_2.lfa**
In Life Forms, choose **File menu > Open**. Select **Kick Fly Spin_2.lfa** and click Open.
- 2 **Open the Export dialog box**
Open the Export dialog box by choosing **File menu > Export**.

3 Select the Export Options

- Select **BioVision BVH file** format from the **Export Format** list.
- Make sure that all export option checkboxes are **cleared**.
- Click OK.

Life Forms will export two BVH files: Kick Fly Spin_0.bvh one contains motion for the BioVision skeleton and Kick Fly Spin_1.bvh contains motion for Poserskel1. See **Kick Fly Spin_1.bvh**.



Export dialog box

Part3: Import the Motion

1 In Poser 3, open a new project

In Poser 3, open a new project.

2 Select a figure

Open the Figure Palette and select one of human figures.

3 Go to the destination frame

In the Animation Controls, advance to the desired frame.

4 Select the destination figure

Select the figure you want to apply the motion to. Select figures in the Current Figure popup under the Document window.

5 Import Kick Fly Spin_1.bvh

- Choose File menu > Import > BVH motion.
- Browse and select **Kick Fly Spin_1.bvh**.
- Click Import.

6 Align Arms along the X axis

A dialog box appears. Click “Along X axis.”



Poser: BVH Import dialog

7 Turn IK off

In the Figure menu > User Inverse Kinematics submenu, make sure that Right Arm and Left Arm is not checked.

8 Apply Limits

Choose Figure menu > Use Limits.

Poser will now import and apply the Kick Fly Spin motion to the selected figure.

Tutorial2: Keyframing your own animation

You can keyframe your own animation using Poserskel1. There are four parts in this process:

- 1 Create the Keyframed animation
- 2 Change the Frame Rate to 30 f/s
- 3 Export the Motion in a BVH file
- 4 Import the BVH motion into Poser 3.

Part1: To create a Keyframe

- 1 **Open a new animation**
Choose **File menu > New Animation** to open a new animation.
- 2 **Add a new figure to the animation**
Choose **Figure menu > Import Figure**. Select **Poserskel1.lfa** and click **Open**.
- 3 **Position the insertion point in the Timeline**
Do this by clicking in any frame in the Timeline.
- 4 **Open the Figure editor window**
Open the Figure editor window by choosing **Window menu > Figure Editor**
Tip: You can open the Figure Editor by double-clicking on the figure in the Stage window.
- 5 **Position the joints to create a new shape or pose**
In the Figure Editor window, drag the joints to create the desired pose. This pose will appear in the Timeline at the insertion point.
- 6 **Complete the animation and improve the timing**
Repeat this to create the animation you want. Insert empty frames between the keyframes to improve the transition between Keyframes.
- 7 **Preview the animation**
Preview the animation by clicking **Play** in the Control Panel. You can preview the animation in Rendered mode by opening the Rendered window.

Part2: Adjusting Frame rate before export

The default frame rate in Life Forms is 3 f/s. Before exporting animations to Poser 3 as BVH file, you'll need to increase the frame rate to 30 f/s. The following steps show you how to increase the frame rate of keyframed animations to 30 f/s without changing the duration of the animation.

To increase the Frame rate to 30 f/s

- 1 Note the current frame rate and duration of the animation. Let's take for example a frame rate of 3 f/s and duration of 60 s.

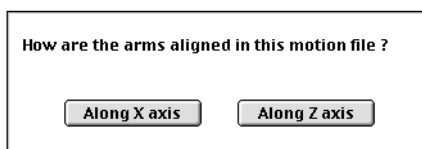
- 2 Choose **Control menu > Frame rate**. Enter 30 in the Frames/sec field.
- 3 Notice that the duration of your animation is now 6 s instead of 60 s. You will need to expand the animation to the desired duration. First zoom out of the Timeline as far as possible by using the Zoom bar.
- 4 Select all the frames by clicking in the grey area to the left of the timeline.
- 5 Then, position the cursor over the Selection handle until it becomes a double-headed arrow. Now, drag the cursor to the right. Do not release the mouse. While dragging the mouse keep an eye on the Current Frame box in the bottom left corner of the Timeline window. This will give you the percentage by which you have expanded the animation. Drag until the animation has been expanded by 1000% or 10 times.

Part3: To export BVH files

- 1 Make the animation you want to export the current animation by clicking in one of its windows.
- 2 Choose **File menu > Export**.
- 3 In the **Export Format list** select **BioVision BVH**.
- 4 Make sure that all export options are cleared. Then click OK.

Part4: To import BVH motion data into Poser 3

- 1 **In Poser 3, open a new project**
In Poser 3, open a new project.
- 2 **Select a figure**
Open the Figure Palette and select one of human figures.
- 3 **Go to the destination frame**
In the Animation Controls, advance to the desired frame.
- 4 **Select the destination figure**
Select the figure in the Current Figure popup under the Document window.
- 5 **Import Kick Fly Spin.bvh**
 - Choose File menu > Import > BVH motion.
 - Browse and select **Kick Fly Spin.bvh**.
 - Click Import.
- 6 **Align Arms along the X axis**
A dialog box appears. Click “Along X axis.”



Poser: BVH Import dialog

7 Turn IK off

In the Figure menu > User Inverse Kinematics submenu, make sure that Right Arm and Left Arm is not checked.

8 Apply Limits

Choose Figure menu > Use Limits.

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