



cowmunications
letters to the editor, site feedback, love & hate mail

with Royalty-Free Stock Footage

Mocca tutorial: Part Three (Expressions)

[View Posts](#)
[Add New Post](#)
[Search Posts](#)

[Change Forum](#)
[Tutorials](#)
[Features](#)
[Archives](#)
[Dairy Store](#)
[Join the Cow](#)
[Edit Profile](#)
[About Us](#)
[Contact Us](#)

OK, here's where we make it all come together with XPresso.

First, we'll write the floor clamp expression for the Left Foot Controller. This is the same as the one from the "Advanced 9 - Feet Expressions" tutorial in the Mocca Manual.

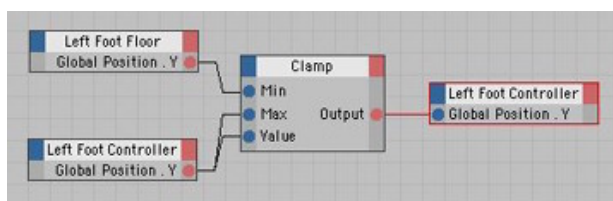
In the Object Manager, Command-click (right click on a PC) on the Left Foot Controller and select New Expression > XPresso Expression from the context menu.

Drag the Left Foot Floor and the Left Foot Controller into the opened XPresso Editor window. Click on the red corner of Left Foot Floor node and select Coordinates > Global Position > Global Position.Y from the menu.

Do the same for the Left Foot Controller. In the XPresso Editor, Command-click (right click on a PC) and select New Node > XPresso > Calculate > Clamp from the context menu.

Again, drag the Left Foot Controller into the XPresso Editor window to create a second Left Foot Controller node. On this node click the blue corner and select Coordinates > Global Position > Global Position.Y from the menu.

Now connect the nodes as shown in the image below.



The next three expressions are similar but with an added positioning object for the clamped object to return to when the foot raises the object above the clamping limit (Left Foot Floor object).

First expression: In the Object Manager, Command-click (right click on a PC) on the Left Heel.Tip Goal and select New Expression > XPresso Expression from the context menu.

Drag the Left Heel.Tip Position, the Left Heel.Tip Goal and the Left Foot Floor into the opened XPresso Editor window. Click on the red corner of Left Heel.Tip Position node and select Coordinates > Global Position > Global Position from the menu.

Click on the blue corner of Left Heel.Tip Goal node and select Coordinates > Global Position > Global Position from the menu.

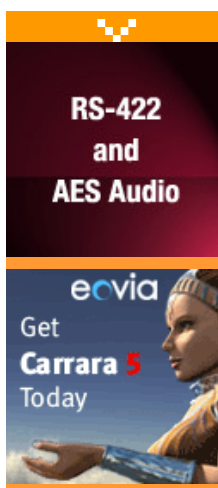
Click on the red corner of Left Heel.Tip Goal node and select Coordinates > Global Position > Global Position.Y from the menu.

Click on the red corner of Left Foot Floor node and select Coordinates > Global Position > Global Position.Y from the menu.

In the XPresso Editor, Command-click (right click on a PC) and select New Node > XPresso > Calculate > Clamp from the context menu.

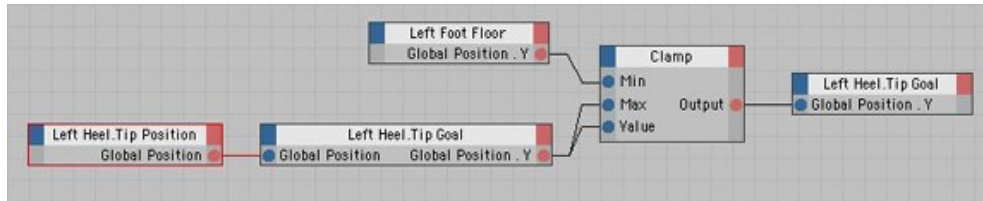
Again, drag the Left Heel.Tip Goal into the XPresso Editor window to create a second Left Heel.Tip Goal node. On this node click the blue corner and select Coordinates > Global Position > Global Position.Y from the menu.

Now connect the nodes as shown in the image below.



AdvertPRO Error:
Parameter exception:
Invalid banner parameter!





Second expression: In the Object Manager, Command-click (right click on a PC) on the Left Toes.Up and select New Expression > XPresso Expression from the context menu.

Drag the Left Toes.Up Position, the Left Toes.Up and the Left Foot Floor into the opened XPresso Editor window.

Click on the red corner of Left Toes.Up Position node and select Coordinates > Global Position > Global Position from the menu.

Click on the blue corner of Left Toes.Up node and select Coordinates > Global Position > Global Position from the menu.

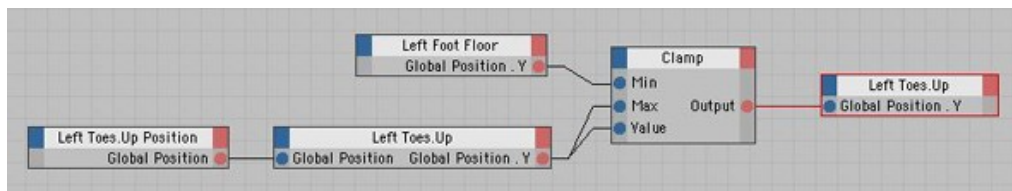
Click on the red corner of Left Toes.Up node and select Coordinates > Global Position > Global Position.Y from the menu.

Click on the red corner of Left Foot Floor node and select Coordinates > Global Position > Global Position.Y from the menu.

In the XPresso Editor, Command-click (right click on a PC) and select New Node > XPresso > Calculate > Clamp from the context menu.

Again, drag the Left Toes.Up into the XPresso Editor window to create a second Left Toes.Up node. On this node click the blue corner and select Coordinates > Global Position > Global Position.Y from the menu.

Now connect the nodes as shown in the image below.



Third expression: In the Object Manager, Command-click (right click on a PC) on the Left Toes.Tip Goal and select New Expression > XPresso Expression from the context menu.

Drag the Left Toes.Tip Position, the Left Toes.Tip Goal and the Left Foot Floor into the opened XPresso Editor window.

Click on the red corner of Left Toes.Tip Position node and select Coordinates > Global Position > Global Position from the menu.

Click on the blue corner of Left Toes.Tip Goal node and select Coordinates > Global Position > Global Position from the menu.

Click on the red corner of Left Toes.Tip Goal node and select Coordinates > Global Position > Global Position.Y from the menu.

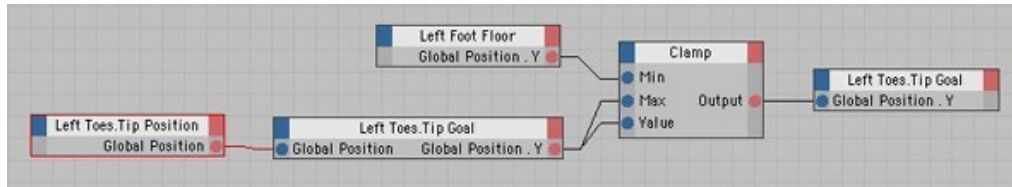
Click on the red corner of Left Foot Floor node and select Coordinates > Global Position > Global Position.Y from the menu.

In the XPresso Editor, Command-click (right click on a PC) and select New Node > XPresso > Calculate > Clamp from the context menu.

Again, drag the Left Toes.Tip Goal into the XPresso Editor window to create a second Left Toes.Tip Goal

node. On this node click the blue corner and select Coordinates > Global Position > Global Position.Y from the menu.

Now connect the nodes as shown in the image below.



And finally, this last expression helps rotate the upper leg by changing the rotation of the Left Thigh.Position object (which will have the Left Thigh.Up vector as a child) according to the rotation of the Left Foot Controller.

In the Object Manager, Command-click (right click on a PC) on the Left Thigh.Position and select New Expression > XPresso Expression from the context menu.

Drag the Left Thigh.Position and the Left Foot Controller into the opened XPresso Editor window.

Click on the red corner of Left Foot Controller node and select Coordinates > Global Rotation > Global Rotation from the menu.

Click on the blue corner of Left Thigh.Position node and select Coordinates > Global Rotation > Global Rotation from the menu.

Now connect the nodes as shown in the image below.



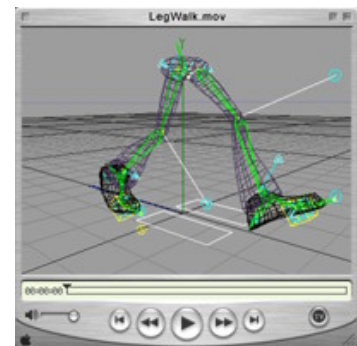
In the Object Manager at this point, it's time to drag the Left Thigh.Up into the Left Thigh.Position. The left leg rig is now complete. You won't be able to use the Bone Mirror tool because there are too many extra objects in the hierarchy that the Bone Mirror tool does not understand, so you'll have to repeat the process for the right leg.

Once you complete the right leg set up, try a few test animations to see how well the rig behaves for you.

I hope you've found this tutorial helpful.

Adios, Cactus Dan
cactusdan@earthlink.net

05.17.2003 Leg Rig Tutorial [Update](#)



Please visit our forums and view other articles at [CreativeCOW.net](http://www.creativecow.net) if you found this page from a direct link.

This forum mechanism is a custom developed database system and is ©2001-©2006 by [CreativeCow.net](http://www.creativecow.net). All rights are reserved.

[\[Top of Page\]](#)

This document was created with Win2PDF available at <http://www.win2pdf.com>.
The unregistered version of Win2PDF is for evaluation or non-commercial use only.