



# ShapeShifter<sup>®</sup> 3D Help

[Installation](#)

[ShapeShifter 3D Basics](#)

[Creating Geometry](#)

[Importing Files](#)

[Creating and Assigning Materials](#)

[Editing Texture Coordinates](#)

[Working with Joints](#)

[Command Reference](#)

[How to Order and Register](#)

[Limitations of the Unregistered Version](#)

[Tutorials and Samples](#)

[Technical Support](#)

For up-to-date information please visit  
our web site:

[xtras.tabuleiro.com](http://xtras.tabuleiro.com)



SHAPESHIFTER 3D HELP: INSTALLATION

The installation procedure is slightly different depending on the version of Director and platform used, and the location where Director is installed on your system. Make sure you have administrative rights to create files in the directory where Director is installed on your system.

INSTALLING THE XTRA ON WINDOWS – Director 8.5 and Director MX

Decompress the installation .zip file. This will unpack the Xtra, documentation and sample files to a folder named "ShapeShifter3D" on your machine. To install the Xtra, just copy the files ShapeShifter3D.x32 and ShapeShifter3D.dxr to the Director 8.5 or Director MX XTRAS folder. If you have previously installed an older copy of the Xtra make sure to remove or replace it.

These are the final pathnames for the Xtra file after being copied to the default location of the Xtras folder in each application:

Director 8.5– C:\Program Files\Macromedia\Director 8.5\Xtras

Director MX– C:\Program Files\Macromedia\Director MX\Xtras

No additional configuration is needed. Restart Director for the changes to take effect. The ShapeShifter3D menu item should appear in the XTRAS menu in Director.

INSTALLING THE XTRA ON WINDOWS – Director MX 2004

Decompress the installation .zip file. This will unpack the Xtra, documentation and sample files to a folder named "ShapeShifter3D" on your machine. To install the Xtra, just copy the files ShapeShifter3D.x32 and ShapeShifter3D.dxr to the Director MX 2004 XTRAS folder. If your copy of Director MX 2004 is installed at the default location, the files will be located at:

C:\Program Files\Macromedia\Director MX

## ShapeShifter 3D Help

2004\Configuration\Xtras\ShapeShifter3D.x32

C:\Program Files\Macromedia\Director MX  
2004\Configuration\Xtras\ShapeShifter3D.dxr

No additional configuration is needed. Restart Director for the changes to take effect. The ShapeShifter3D menu item should appear in the XTRAS menu in Director.

### INSTALLING THE XTRA ON MAC OS 8 AND 9 – Director 8.5

Decompress the installation .sit file. This will unpack the Xtra, documentation and sample files to a folder named "ShapeShifter3D" on your machine. To install the Xtra just copy the files "ShapeShifter3D" from the MacClassic folder to the Xtras folder of your Director 8.5 installation. The final pathname for the Xtra will be for example:

Macintosh HD:Applications:Macromedia Director 8.5:Xtras:ShapeShifter3D

Now copy the file "ShapeShifter3D.dxr" from the "ShapeShifter3D" folder to the same directory:

Macintosh HD:Applications:Macromedia Director 8.5:Xtras:ShapeShifter3D.dxr

No additional configuration is needed. Restart Director for the changes to take effect. The ShapeShifter3D menu item should appear in the XTRAS menu in Director.

### INSTALLING THE XTRA ON MAC OSX 10 – Director MX

Decompress the installation .sit file. This will unpack the Xtra, documentation and sample files to a folder named "ShapeShifter3D" on your machine. To install

## ShapeShifter 3D Help

the Xtra first copy the file "ShapeShifter3D OSX " from the MacOSX folder to the Xtras folder of your Director MX installation. The final pathname for the Xtra will be for example:

Macintosh HD:Applications:Macromedia Director MX:Xtras:ShapeShifter3D  
OSX

Now copy the file "ShapeShifter3D.dxr" from the "ShapeShifter3D" folder to the same directory:

Macintosh HD:Applications:Macromedia Director MX:Xtras:ShapeShifter3D.dxr

No additional configuration is needed. Restart Director for the changes to take effect. The ShapeShifter3D menu item should appear in the XTRAS menu in Director.

### INSTALLING THE XTRA ON MAC OSX 10 – Director MX 2004

Decompress the installation .sit file. This will unpack the Xtra, documentation and sample files to a folder named "ShapeShifter3D" on your machine. To install the Xtra first copy the files "ShapeShifter3D OSX " from the MacOSX folder to the Xtras folder of your Director MX 2004 installation. The final pathname for the Xtra will be for example:

Macintosh HD:Applications:Macromedia Director MX  
2004:Configuration:Xtras:ShapeShifter3D OSX

Now copy the file "ShapeShifter3D.dxr" from the "ShapeShifter3D" folder to the same directory:

Macintosh HD:Applications:Macromedia Director MX  
2004:Configuration:Xtras:ShapeShifter3D.dxr

## ShapeShifter 3D Help

No additional configuration is needed. Restart Director for the changes to take effect. The ShapeShifter3D menu item should appear in the XTRAS menu in Director.



### SHAPESHIFTER 3D HELP: SHAPESHIFTER 3D BASICS

ShapeShifter 3D is a low polygon count modeler designed specifically for Macromedia Director 8.5. It is completely integrated with the Director environment, and models can be exported as Shockwave 3D (.w3d) files directly to the internal cast of your Director movie. ShapeShifter 3D models have the extension .ss3D, and can be saved to disk to be modified at a later time. It is important to understand that ShapeShifter 3D can not open or edit Shockwave3D files since w3D files are optimized for streaming and playback, not as a raw model format. Models can be created by scratch or imported from other 3D modeling tools. ShapeShifter 3D is optimized for the production of models with less than 5.000 faces, appropriated for real-time applications. It supports the definition of surface material properties that are translated to Director 8.5 shaders. It also supports the creation of texture coordinates for a texture image applied to the diffuse material channel of the object. Finally ShapeShifter 3D allows the creation of a bones structure that can be linked to your model.

As a low polygon tool ShapeShifter 3D limits the number of vertices and polygons that can be used. Some of the restrictions are listed below:

Maximum number of vertices: 8192

Maximum number of faces: 16384

Maximum number of groups: 128

Maximum number of materials: 128

Maximum number of joints: 128



### SHAPESHIFTER 3D HELP: CREATING GEOMETRY

Every 3D object in ShapeShifter 3D is created from vertices and faces. Vertices are created with the CREATE VERTEX tool, and are invisible until they are arranged into faces. Each face is formed by 3 vertices connected by edges. To create a face in ShapeShifter 3D select the CREATE FACE tool and click on three different vertices, one at a time. Faces in ShapeShifter 3D are one-sided: they are only visible from one direction, and this is determined by the order the vertices are connected when the face is created. If you connect the vertices counter-clockwise then the face will be visible in the direction facing you. If the vertices are connected clockwise the face will be visible from the opposite side. See the ShowMe movie "Creating Faces" available at the TUTORIALS AND SAMPLES area of the ShapeShifter 3D website for a visual explanation of face creation in ShapeShifter 3D.

Objects can also be created from standard primitives. ShapeShifter 3D allows creation of boxes, spheres, cylinders and geospheres using the appropriate tool in the CREATE menu. To create a primitive just select a tool (CREATE SPHERE for example) and click on a viewport. Hold the mouse button down and drag to size your primitive. Primitives are also composed of vertices and faces, and they are good starting points to be shaped into a different model.

Another powerful way to create geometry is by using the EXTRUDE tool. This tool works only when you have one or more faces selected. See the tutorial movie "Creating a simple head" available at the ShapeShifter 3D website for a visual explanation of model building using primitives and the extrude tool.

Geometry in ShapeShifter 3D is organized into groups. A group is simply a collection of faces. The controls in the GROUPS Tab can be used to select, rename, hide and recombine groups. The SELECT GROUP tool can also be used to quickly select a group in a viewport. One important quality of a group is that materials are assigned to groups, not individual vertices or faces. So if you want to assign different materials to the same object you have to split it into two groups (using the REGROUP SELECTED button available in the GROUPS Tab). By default in Director 8.5 each group will be visible as a different mesh of the same model. If you need to manipulate each group separately in Lingo you can choose to export each group as a separate model in the Save As Shockwave 3D exporter options dialog box.



### SHAPESHIFTER 3D HELP: IMPORTING FILES

ShapeShifter 3D can import files created in other 3D modeling programs and saved as Wavefront .OBJ or 3Dstudio ASC files. Most files are compatible, but due to the wide variance between OBJ and ASC files saved by different programs we can not guarantee compatibility with all objects. If you have a file that does not translate correctly please submit a problem report using the Support area of the ShapeShifter 3D site at [xtras.tabuleiro.com](http://xtras.tabuleiro.com). Our support staff will make sure your file is analyzed in order to improve compatibility of our importers. It is our goal to support files generated by the majority of applications, and we will issue minor updates to ShapeShifter 3D frequently to guarantee this ability. Below we have listed some known problems and basic information about each file format:

#### 3Dstudio ASC:

This is a simple format for translation of geometry only. Materials are not supported.

Known issues: None

#### Wavefront .OBJ:

This is a very popular format and supported by many programs. Unfortunately this also means that some .OBJ files are not written correctly, and may not import in ShapeShifter 3D. Our importer only supports .OBJ files with polygonal meshes: NURB patches cannot be imported into ShapeShifter 3D. Material properties and texture coordinates are also supported. Materials are usually described in a file named .MTL, present with all the texture maps in the same directory of the .OBJ file. Some converters do not write a separate .MTL file: in this case materials will not be imported into ShapeShifter 3D.

Known issues: Some exporters do not limit the texture coordinates between -1 and 1. In this case the resulting file will have bad texture coordinates mapping.

If the object appears to be inside out, with holes or with faces missing it is possible that face orientation is wrong in the exporter (Normals are reversed.) You can select all faces (or just individual groups) in ShapeShifter 3D and use the "REVERSE VERTEX" command to correct this issue. The "SMOOTH ALL" button in the FACES Tab can also be used to correct objects that import with mangled smoothing groups.

Some exporters produce .OBJ files that have large dimensions. The object will import but you will not be able to see it in the ShapeShifter 3D viewports. If this



## ShapeShifter 3D Help

is the case then use the "SELECT ALL" menu item and use the manual scale option (SCALE TOOL) to reduce the scale of the object (try scaling to 0.1 in all dimensions.)



### SHAPESHIFTER 3D HELP: CREATING AND ASSIGNING MATERIALS

A material describes the surface properties of an object. Materials are created in the MATERIALS Tab of ShapeShifter 3D, using the NEW button. Each material has different properties that describe its colors and how it reacts to lights. ShapeShifter 3D materials have the same property names available to Director 8.5 shaders. Please consult Director 8.5 help for more information about each material property. The properties you can define in ShapeShifter 3D are:

**Ambient:** Controls how much ambient light is reflected by the material.

**Diffuse:** The default color of the object. It is blended with a texture if one is assigned.

**Emissive:** Adds light to the material independently of scene lighting.

**Specular:** Controls the color of the highlights. Only effective when the shininess property is greater than 0.

**Shininess:** Controls the percentage of the surface devoted to highlight. A value of 0 disables specular highlights. Low values (greater than zero) produce large highlight areas, while higher values reduce the highlight. Due to differences in OpenGL the preview of shininess values in ShapeShifter 3D does not match Director 8.5 in all cases, but the numerical value of shininess is exported correctly.

**Blend:** Controls the transparency level of the object.

**Texture:** The name of an external image file to be used as a texture for this material. Textures are applied according to the texture coordinates of each group (see the Editing Texture Coordinates section of the docs for more information on this.)

Once a material is defined it can be assigned to a geometry group. This is done in the GROUPS Tab. Select a group from the groups list. Click the ASSIGN MATERIAL button. A list with all available materials will appear. Select a material name and click OK. The 3D view will show the selected group with the updated material applied.

**Important Tip:** Almost all 3D accelerator cards requires textures with dimensions that are a power of 2 (16, 32, 64, 128, 256, 512.) If you use textures that do not

## ShapeShifter 3D Help

have these dimensions they will most likely be scaled by Director 8.5 at runtime to fit these dimensions, thus creating undesirable artifacts. ShapeShifter 3D will scale your textures for preview to a power of 2, but it will not force scaling of textures when exporting to Shockwave 3D. We recommend that you always use dimensions that are square and are a power of 2 (256X256 pixels for example) if you want to get the best possible image quality for your textures. Also, wherever possible use smaller images (128X128, 64X64) over that of larger ones (256X256, 512X512) to increase performance in Director.



### SHAPESHIFTER 3D HELP: EDITING TEXTURE COORDINATES

Each vertex in a ShapeShifter 3D group can be assigned a set of texture coordinates. These are also known as UV coordinates, and determine the position of the vertex in a texture map applied to the geometry. Texture coordinates usually fall in the range of 0 to 1, and this is translated to a relative position of the vertex in the texture. For example: a vertex with UV coordinates (0,0) will correspond to the top left corner of a texture map, while a vertex with coordinates (0.5 , 0.5) will fall in the middle of the map.

To edit texture coordinates a material needs to be created and assigned to a group. The ShowMe movie "Texturing a dice", available at the TUTORIALS AND SAMPLES area of the ShapeShifter 3D website shows the process in detail, you may want to consult it while you read this section.

With a group selected click the "TEXTURE COORDINATE EDITOR" button in the GROUPS Tab. The texture coordinate window will appear and the texture will be displayed with any current mapping coordinates for the selected vertices and faces. In ShapeShifter 3D you can interactively edit texture coordinates and the results can be viewed in real-time in the 3D perspective window. Select the faces you want to edit in the FRONT viewport. You can also change the current viewport projection by clicking in the little arrow to the left of the viewport name if you want to select faces using a different viewport. When you select a face that belongs to the group being edited in the Texture coordinate window, the face will be drawn over the texture in its current coordinates. You can select individual vertices to be adjusted using the Texture Coordinate SELECT tool. Vertices can be moved, rotated or scaled using the appropriate Texture Coordinate editing tools.

ShapeShifter 3D can also project selected faces into the texture to make it easier to adjust coordinates at beginning, using the REMAP function. To use this function select a number of faces in the FRONT viewport. Now click the REMAP Tab in the Texture Coordinate Editor window. Click and drag to mark a rectangular area covering a portion of your texture: the selected faces will be remapped to this area. Click CONTINUE. Now select a projection to be used by the remap function: generally you want to use the same projection used for the selection. Click REMAP and the selected faces will be projected into the remap rectangle. This is a quick way to set initial texture coordinates for complicated models, and you can fine tune the position of the vertices using the other Texture Coordinate Editor tools after this is done. Again, consult the ShowMe movie "Texturing a dice" for a visual explanation of Texture coordinate editing in ShapeShifter 3D.



### SHAPESHIFTER 3D HELP: WORKING WITH JOINTS

Joints are used to define a skeleton structure consisted of bones that is used to animate a model at runtime. ShapeShifter 3D allows the creation of skeletons and assignment of vertices to each joint. To create a joint select the CREATE JOINT tool in the CREATE Palette, and click on a Viewport. If you create a joint while other joint is selected the new one becomes a child of the parent joint: it will move and rotate automatically when the parent is moved. Joints can be selected, renamed and deleted in the JOINTS Tab.

In order for joints to operate and deform geometry you need to assign vertices to a particular joint in the skeleton. In ShapeShifter 3D this is done in an easy way: simply select a group of faces or vertices in any viewport window. Click on a joint name in the joints list, and click the ASSIGN button. You can also select a joint and click the SELECT ASSIGNED button to check which vertices are assigned to a particular joint. It is possible to clear joint assignment for a group of selected vertices by using the UNASSIGN button. And you can use the SELECT ALL UNASSIGNED button at any time to select vertices that are currently not assigned to any joint. For a smooth deformation of your model it is a good idea to have all vertices assigned to a joint.

The current version of ShapeShifter 3D exports bones data to Shockwave3D, and can optionally export a list of bone names to the USERDATA property of the model. Bones export is only possible if you choose to export all groups as a single model, which is the default option for the Shockwave 3D exporter. If you choose to export each group as a separate model ShapeShifter 3D will not export the skeleton structure. This restriction exists because the bonesplayer modifier is applied only to a single model in Director, and can not influence vertices that belong to different models.

It is possible to use the bones player modifier in Director 8.5 to animate joints using Lingo. When a bone is moved it will also moves the vertices assigned to it. The rest of the model's geometry will deform smoothly to accommodate the change. Please consult Director's documentation for more information on this topic.

You can also visit the TUTORIALS AND SAMPLES page on our web site to download sample director movies and models. There you will find a tutorial available in Quicktime and AVI format that shows the process of creating bones, and a Shockwave movie that shows how to manipulate bones via Lingo for interactive animation. Source code is provided for educational purposes.



SHAPESHIFTER 3D HELP: COMMAND REFERENCE

TITLE BAR This is what you see when you launch ShapeShifter 3D:

MENU BAR

TOOL PALETTE

CREATE PALETTE

VERTEX TAB

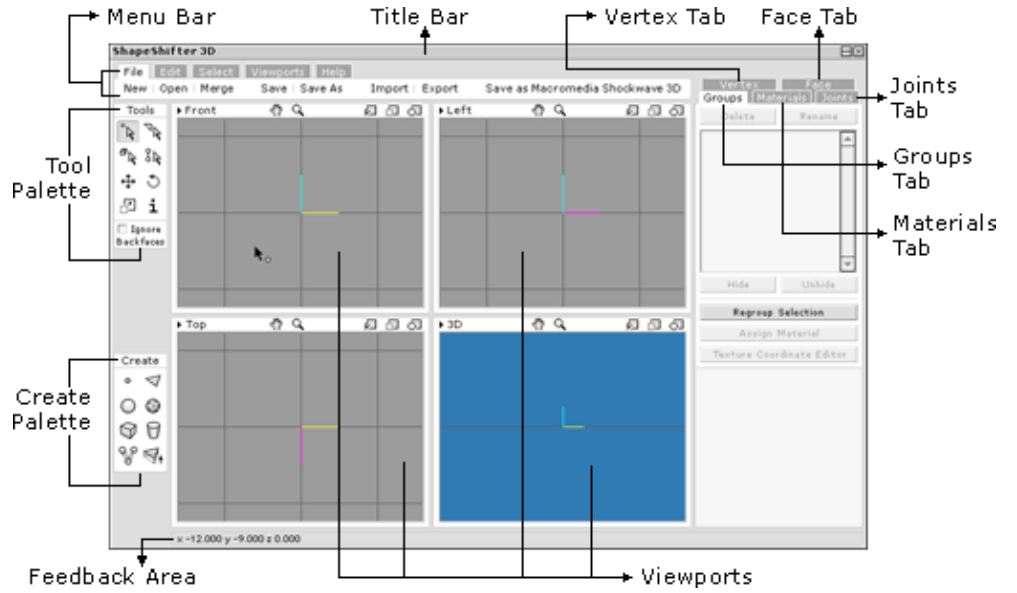
FACE TAB

GROUPS TAB

MATERIALS TAB

JOINTS TAB

VIEWPORTS





FEEDBACK  
AREA



SHAPESHIFTER 3D HELP: COMMAND REFERENCE

TITLE BAR



Double click the title bar or click the minimize button  to minimize/maximize the ShapeShifter 3D application. Click the close button  to quit the application.





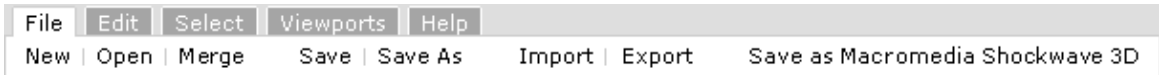
SHAPESHIFTER 3D HELP: COMMAND REFERENCE

MENU BAR

The menu bar gives you access to many of the features of ShapeShifter 3D. It is located at the top of the ShapeShifter 3D window. The commands are identified in the Feedback Area as your cursor passes over each one.

FILE TAB

The File Tab is used for managing documents.



New: Erase the current model and open a new one.

Open: Open an existing ShapeShifter 3D (extension .ss3d) file.

Merge: Load a ShapeShifter 3D file and merge it with the current model.

Save: Lets you save the current model as a ShapeShifter 3D file. If the current model has never been saved, the Save dialog box appears.

Save As: Save the current model as a ShapeShifter 3D file. The Save dialog box appears where you can enter the filename and select where you want to save your file.

Import: Import a 3D object of a specific file format. Supported file formats are Wavefront OBJ and 3D Studio ASC.

Export: Export the current model as a specific file format. Supported file formats are Wavefront OBJ and 3D Studio ASC.

Save as Macromedia Shockwave 3D: Save the current model as a Shockwave 3D (extension .w3d) file. A dialog box appears where you can specify a number of options.

Texture Quality: Control the amount of JPEG compression applied to the Textures. Geometry

Precision: Increase or decrease the precision of the current model geometry to reduce file size.

Include Default Light: Check to export a default light. Import W3D to Internal Cast: Check to automatically export the current model to the internal cast of your Director movie. Overwrite

## ShapeShifter 3D Help

existing cast member: Check to automatically replace a previously exported cast member of your Director movie.

### EDIT TAB

The Edit Tab is used for basic operations.



Undo: Undo the last operation.

Redo: Clicking Redo lets you redo what was undone.

Delete Selected: Delete selected objects.

Delete All: Delete all objects.

Duplicate Selection : Duplicate selected faces to a new group.

### SELECT TAB

The Select Tab commands let you control selections and the visibility of objects.



Select All: Select all objects.

Select None: Deselect all objects.

Select Invert: Invert the current selection.

Hide Selection: Hide selected objects.

## ShapeShifter 3D Help

Unhide All: Unhide all hidden objects.

### VIEWPORTS TAB

The Viewports Tab lets you change the configuration of the Viewports displayed on the screen from a list of predefined arrangements. Click on any of the icons to change to that configuration.



### HELP TAB



**Register:** Lets you register your copy of ShapeShifter 3D. A dialog box appears where you need to enter the username and Serial number for the software.

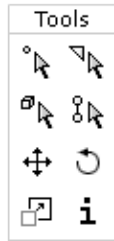
**About:** Open a dialog box showing the current version of ShapeShifter 3D, copyright notices and URLs for sales and technical support.

**Check for Updates:** Click to check if a new version of ShapeShifter 3D is available.



SHAPESHIFTER 3D HELP: COMMAND REFERENCE

TOOL PALETTE



The Tool Palette is located at the top left corner of the screen below the menu bar. The buttons are identified in the Feedback Area as your cursor passes over each one. Tools are selected by clicking, and they stay selected until you choose another tool. Some tools have specific properties associated with it and they appear at the bottom of the Tool Palette when you click on a tool. Your cursor will change in appearance as you select different tools, helping you keep track of which tool is selected. You can also access each tool by its keyboard

shortcut.

SELECT TOOLS

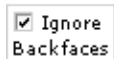
The Select Tools are located at the top of the Tool Palette. They let you select objects from different selection modes.



Select Vertex:

Click on a vertex to select it or click and drag around a region to select the vertexes in that region. Hold down the Shift key while clicking to select more vertexes. Hold down the Control key while clicking to deselect vertexes. To deselect all vertexes, click anywhere in the Viewport away from any object.

Shortcut: X



Select Vertex Properties:

Ignore Backfaces: Check to select only the first layer of vertexes in the Viewport.

## ShapeShifter 3D Help

### Select Face:

Click on a face to select it or click and drag around a region to select the faces in that region. Hold down the Shift key while clicking to select more faces. Hold down the Control key while clicking to deselect faces. To deselect all faces, click anywhere in the Viewport away from any object.

Shortcut: F

### Select Face Properties:

<input checked="" type="checkbox"/> By Vertex
<input checked="" type="checkbox"/> Ignore Backfaces

By vertex: check to select all faces shared by the selected vertices. Ignore Backfaces: check to select only the first layer of faces in the Viewport.

### Select Group:

Click on a group to select it or click and drag around a region to select the groups in that region. Hold down the Shift key while clicking to select more groups. Hold down the Control key while clicking to deselect groups. To deselect all groups, click anywhere in the Viewport away from any object.

Shortcut: G


### Select Joint:

Click on a joint to select it or click and drag around a region to select the joints in that region. Hold down the Shift key while clicking to select more joints. Hold down the Control key while clicking to deselect joints. To deselect all joints, click anywhere in the Viewport away from any object.

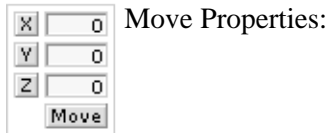
Shortcut: J

## MANIPULATION TOOLS


The Manipulation tools are located at the bottom of the tool palette. Use these tools to manipulate objects in the Viewports. Note that when you manipulate an object in a Viewport you will be operating on that Viewport's 2 axis. The Viewport axis are identified by 2 colored lines usually displayed at the center of the Viewport. When you use the manipulation tools the Feedback Area displays the cursor's position using x, y and z coordinates. You can use the Feedback Area to see which axis you are operating on.

 The Move tool moves selected objects in the Viewports. You can move an object in two ways: Click-and-drag on a Viewport to move a selected object or use the Move properties to perform a numeric move.

Shortcut: V

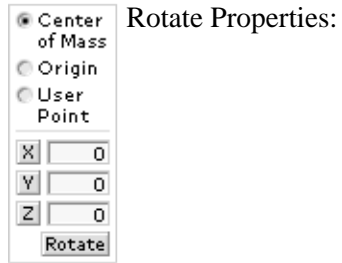


Enter a value for each axis and click the move button to perform a numeric move. Click on an axis button (X, Y or Z) to lock the operation on that axis.


 The Rotate tool rotates selected objects in the Viewports. You can rotate an object in two ways: Click-and-drag on a Viewport to rotate a selected object or use the Rotate properties to perform a numeric rotation.

Shortcut: R

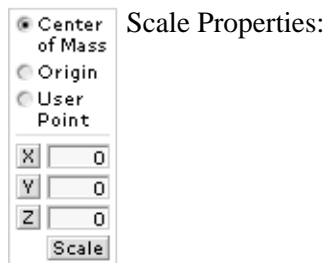
## ShapeShifter 3D Help



Use these radio buttons to specify how your object will rotate. Center of mass: lets you rotate the selection around its center of mass. Origin lets you rotate the selection around the world origin. User point lets you rotate the selection around a point you click on the Viewport. To perform a numeric rotation enter a value for each axis and click the rotate button. Click on an axis button (X, Y or Z) to lock the operation on that axis.


 The Scale tool is used to resize selected objects in the Viewports. Scaling an object allows you to enlarge or reduce it. You can scale an object in two ways: Click-and-drag on a Viewport to scale a selected object in the direction the cursor is dragged. Or use the Scale properties to perform a numeric scale.

Shortcut: S



You can select 3 different ways of scaling an object. Center of mass: lets you scale the selection relative to its center of mass. Origin lets you scale a selection relative to the world origin. User point lets you scale the selection relative to a point you click on the Viewport. To perform a numeric scale enter a value for each axis and click the scale button. Click on an axis button (X, Y or Z) to lock the operation on that axis.

## ShapeShifter 3D Help

 The Info tool is used to show the current model statistics, such as number of vertices, faces, groups, materials and joints, helping you keep track of the size of your models.





SHAPESHIFTER 3D HELP: COMMAND REFERENCE

CREATE PALETTE



The Create Palette is located at the bottom left corner below the Tools Palette. The buttons are identified in the Feedback Area as your cursor passes over each one. Creation tools are selected by clicking, and they stay selected until you choose another tool. Some tools have specific properties associated with it and they appear at the bottom of the Create Palette when you click on a tool. Your cursor will change in appearance as you select different tools, helping you keep track of which tool is selected.



Create Vertex:

Click on a Viewport to create a vertex.



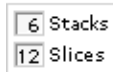
Create Face:

Click on 3 vertices, one at a time, to create a one-sided face.



Create Sphere:

Click and drag on a Viewport to create a sphere and determine its size as you drag.



Sphere Properties:

Stacks: Click to specify the number of stacks of a new sphere. The Minimum value is 3 and the maximum is 16 stacks. Slices: Click to specify the number of slices of a new sphere. The Minimum value is 3 and the maximum is 16 slices.


## ShapeShifter 3D Help

 Create Geosphere:

Click and drag on a Viewport to create a Geosphere and determine its size as you drag.

 Depth Geosphere Properties:


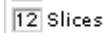
Depth: Click to specify the depth of a new goesphere. The Minimum value is 1 and the maximum is 3.

 Create Box:


Click and drag on a Viewport to create a box and determine its size as you drag.

 Create Cylinder:


Click and drag on a Viewport to create a cylinder and determine its size as you drag.

 Stacks  
 Slices  
 Close  
Cylinder  
Cylinder Properties:

Stacks: Click to specify the number of stacks of a new cylinder. The Minimum value is 3 and the maximum is 16 stacks. Slices: Click to specify the number of slices of a new cylinder. The Minimum value is 3 and the maximum is 16 slices. Close Cylinder: Check to create a closed cylinder.

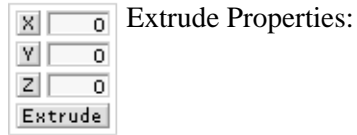
 Create Joint:

Click on a Viewport to create a new joint. To create a child joint, select the intended parent joint first and then click anywhere on a Viewport to create the child joint.

 Extrude:

## ShapeShifter 3D Help

The extrude tool only works when you have more than one face selected. You can use the extrude tool in 2 different ways. First select a number of faces. Then click and drag on a Viewport to extrude the selection or use the Extrude Properties to perform a numeric extrusion.



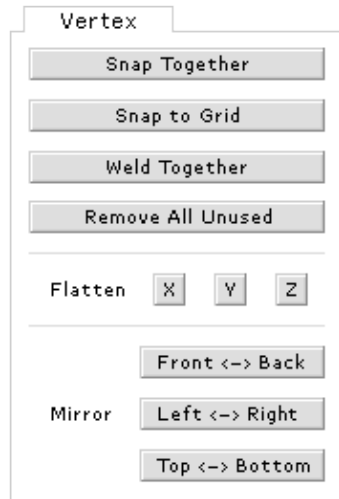
Enter a value for each axis and click the extrude button to perform a numeric extrusion. Click on an axis button (X, Y or Z) to lock the operation on that axis.



SHAPESHIFTER 3D HELP: COMMAND REFERENCE

VERTEX TAB

The Vertex Tab gives you access to all the operations you can perform with the vertices of your current model.



**Snap Together:** Select 2 vertices and click this button to snap the vertices together.

**Snap To Grid:** Lets you snap selected vertices to the lowest grid setting.

**Weld Together:** Select 2 vertices that have been snapped together and click this button to combine them into a single vertex.

**Remove All Unused:** Removes all vertices not assigned to a face in the model.

**Flatten:** Flatten selected vertices in the x, y or z axis. Click an axis button to flatten the selected vertices in that axis.

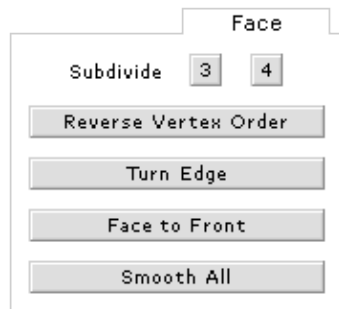
Mirror: Mirror selected vertices.



SHAPESHIFTER 3D HELP: COMMAND REFERENCE

FACE TAB

The Face Tab gives you access to all the operations you can perform with the faces of your current model.



**Subdivide:** Select faces in the Viewports and click the button 3 to subdivide them in 3, or the button 4 to subdivide them in 4.

**Reverse Vertex Order:** Reverse the order of vertex data in a selected face or faces. This function inverts the face normal of a face, making it appear visible to the opposite side.

**Turn Edge:** Select 2 adjacent faces and click this button to turn the edge connection between the faces.

**Face to Front:** Change the order of vertex data in a selected face so that the face normal points to the front.

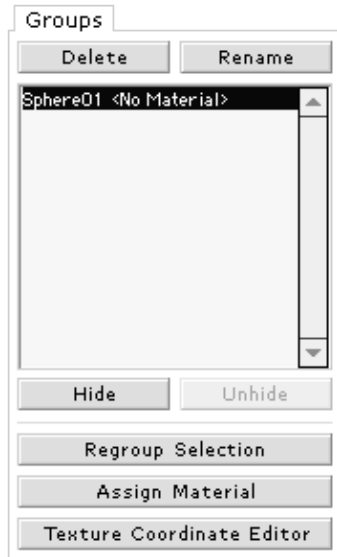
**Smooth All:** Smooth all selected faces.



SHAPESHIFTER 3D HELP: COMMAND REFERENCE

GROUPS TAB

The Groups Tab gives you access to all the operations you can perform with the groups of your current model. The Groups Tab buttons may be active or dimmed. If the button's function is not available, the button is dimmed. To activate the buttons you must first select a group from the Group list.



Delete: Delete a selected group.

Rename: Rename a selected group. A dialog box will appear where you can enter the new name of that group.

Group List: Gives you a list of all the groups in your current model, along with the materials assigned to each group.

Hide: Hides the selected group.

## ShapeShifter 3D Help

Unhide: Unhide the selected hidden group.

Regroup Selection: Combine all selected objects in a new group.

Assign Material: Lets you assign a material to a group. First select a group in the group list, and then click the Assign Material button. Choose a material from the list of materials (shown below) that appears at the bottom fo the Groups Tab and click the OK button.

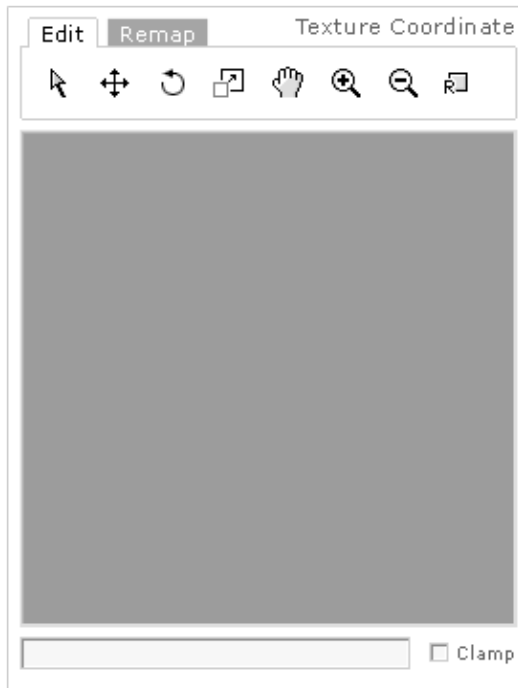
Texture Coordinate Editor





SHAPESHIFTER 3D HELP: COMMAND REFERENCE

GROUPS TAB: TEXTURE COORDINATE EDITOR



The Texture Coordinate Editor lets you edit the texture coordinates of a selected group. You must have a material assigned to a group to edit its coordinates. When you click the Texture Coordinate Editor button, a window (left) appears at the left of the Groups Tab.

Texture Coordinate View: Displays the current texture and geometry.

Field: Displays the name of the current group and material being edited.

Clamp: Check to restrict the vertex position to the texture size.

## ShapeShifter 3D Help



The Edit Tab contains the tools you can use to view and manipulate the

texture. The Arrow tool is used to select the geometry to be edited. Click and drag to select. The Move tool is used to move the selected geometry. Click and drag to move. The Rotate tool is used to rotate the selected geometry. Click and drag to rotate. The Scale tool is used to scale the selected geometry. Click and drag to scale. The Hand tool locks the view in pan mode. Only the view moves, not the objects themselves. To pan click anywhere on the window and drag in any direction. The Zoom in tool magnifies the view and the Zoom out tool reduces the view. Click to zoom in or out. The Reset View tool resets the texture coordinate editor view to its original default configuration.



The Remap Tab lets you remap the selected geometry texture in the specific region of the texture. First click and drag around a region in the view to select it. Then click the Continue button. Then Select a projection from the list and click the Remap button.



SHAPESHIFTER 3D HELP: COMMAND REFERENCE

**MATERIALS TAB**

The Materials Tab gives you access to all the operations you can perform with the materials of your current model. The Materials Tab buttons may be active or dimmed. If the button's function is not available, the button is dimmed. To activate the buttons you must first select a material from the Material list.



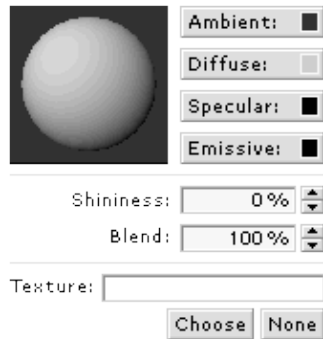
**New:** Create a new material.

**Delete:** Delete a selected material.

**Rename:** Rename a selected material. A dialog box will appear where you can enter the new name of that material.

**Material List:** Gives you a list of all the materials in your current model.

## ShapeShifter 3D Help

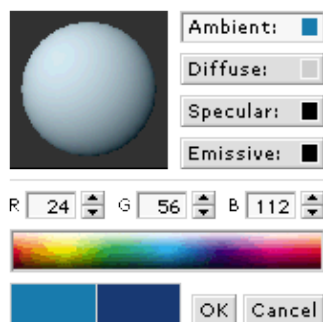


The Material Properties are available when you select a material from the Material list. They contain a window displaying the appearance of the current material, buttons and fields to control its properties, and a place where you can assign a texture to the diffuse channel of the selected material.

**Shininess:** Lets you change the current value of the shininess property of the selected material.

**Blend:** Lets you change the current value of the blend property of the selected material.

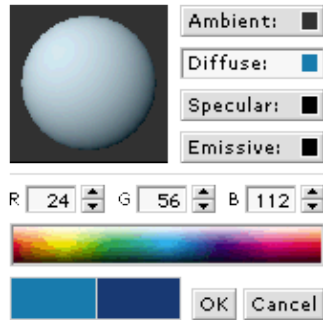
**Texture:** Choose a texture to be assigned to the diffuse channel of the selected material. Click the Choose button to select a texture, click the none button to clear the assignment. You must first assign a texture to a material to edit its coordinates in the Texture Coordinate Editor available in the Groups Menu.



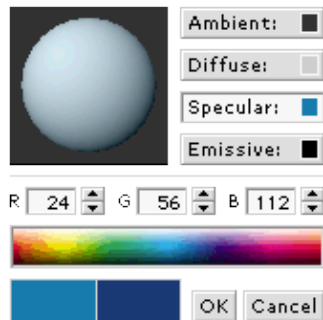
**Ambient:** Edit the ambient properties of the selected material. Click the button to access the ambient properties (left). The bottom part of the materials tab will change, displaying the ambient color properties. You can select a color specifying its Red, Green and Blue values by clicking the up and down arrows next to the values field, or you can choose a color from the color picker. The two boxes

## ShapeShifter 3D Help

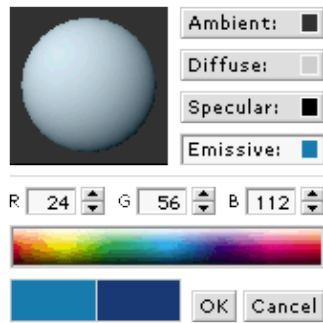
below the color picker display the previous and current colors for that material, letting you compare the changes you've made. Click OK to accept the changes or Cancel to cancel them. Important: you must click the OK button before clicking anywhere outside the ambient material properties for your changes to take effect.



Diffuse: Edit the diffuse properties of the selected material. Click the button to access the diffuse properties (left). The bottom part of the materials tab will change, displaying the diffuse color properties. You can select a color specifying its Red, Green and Blue values by clicking the up and down arrows next to the values field, or you can choose a color from the color picker. The two boxes below the color picker display the previous and current colors for that material, letting you compare the changes you've made. Click OK to accept the changes or Cancel to cancel them. Important: you must click the OK button before clicking anywhere outside the diffuse material properties for your changes to take effect.



Specular: Edit the specular properties of the selected material. Click the button to access the specular properties (left). The bottom part of the materials tab will change, displaying the specular color properties. You can select a color specifying its Red, Green and Blue values by clicking the up and down arrows next to the values field, or you can choose a color from the color picker. The two boxes below the color picker display the previous and current colors for that material, letting you compare the changes you've made. Click OK to accept the changes or Cancel to cancel them. Important: you must click the OK button before clicking anywhere outside the specular material properties for your changes to take effect.



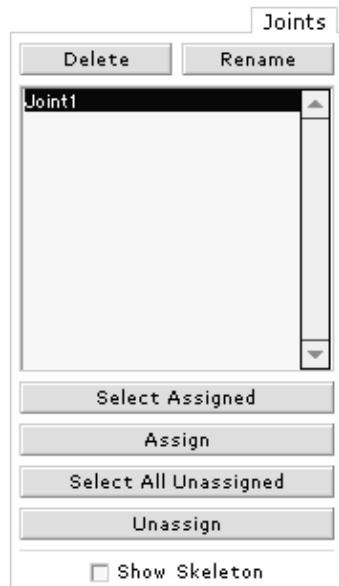
**Emissive:** Edit the emissive properties of the selected material. Click the button to access the emissive properties (left). The bottom part of the materials tab will change, displaying the emissive color properties. You can select a color specifying its Red, Green and Blue values by clicking the up and down arrows next to the values field, or you can choose a color from the color picker. The two boxes below the color picker display the previous and current colors for that material, letting you compare the changes you've made. Click OK to accept the changes or Cancel to cancel them. Important: you must click the OK button before clicking anywhere outside the emissive material properties for your changes to take effect.



## SHAPESHIFTER 3D HELP: COMMAND REFERENCE

### JOINTS TAB

The Joints Tab gives you access to all the operations you can perform with the joints of your current model. The Joints Tab buttons may be active or dimmed. If the button's function is not available, the button is dimmed. To activate the buttons you must first select a group from the Joint list.



**Delete:** Delete a selected joint.

**Rename:** Rename a selected joint. A dialog box will appear where you can enter the new name of that joint.

**Group List:** Gives you a list of all the joints in your current model.

**Select Assigned :** Lets you select all vertices assigned to the selected joint. Select a joint in the Joint list and click the Select assigned button.

## ShapeShifter 3D Help

**Assign:** Assign selected vertices to the selected joint. First select the vertices you want to assign to a joint using the selection tools in the Tools palette. Then select a joint in the Joint List and click the Assign button.

**Select All Unassigned:** Select all vertices not assigned to any joint.

**Unassign:** Clear any joint assignment from currently selected vertices.

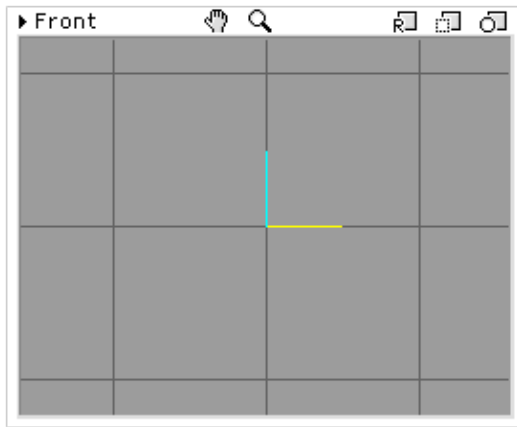
**Show Skeleton:** Check or uncheck to show or hide the joints of your current model.





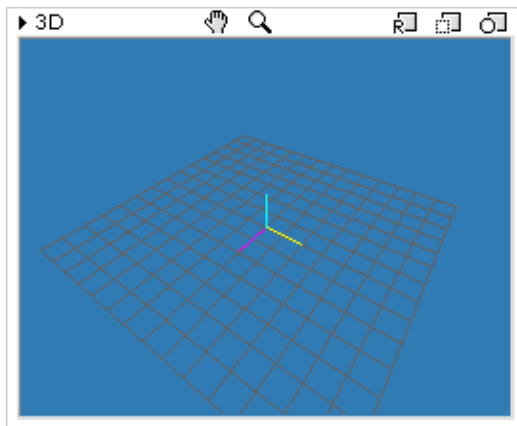
SHAPESHIFTER 3D HELP: COMMAND REFERENCE

VIEWPORTS



The Viewports are located at the center of the screen and they are where you view, create and manipulate your models in ShapeShifter 3D. Each Viewport displays the current model in a particular projection. The projections are: 3D, Front, Back, Left, Right, Top and Bottom. The default view of a Viewport displays its grid and its axis. Colored lines at the center of the Viewport identify the axes of a

Viewport. Each color represents a different axis: a yellow line represents the X axis, a cyan line represents the Y axis and a magenta line represents the Z axis. All Viewports, except the 3D Viewport, have 2 axes, and any operation performed in these Viewports take place in those 2 axes. The default setting for all Viewports, except the 3D Viewport, is to render the current model in wireframe mode. All settings can be modified in the Viewport Settings (see below).



3D Viewport : The 3D Viewport is different from the other Viewports. It displays the current model in a 3 dimensional environment and let you rotate around the 3 axes to view the model from different angles. Click and drag on the 3D Viewport to rotate the view around the 3 axes. Differently from the other Viewports, you cannot perform any operation by clicking on the 3D Viewport other than rotate the view. The default setting

for this Viewport is to render the current model in textured mode.

Projection	Render Mode	Show	VIEWPORT SETTINGS
3D	<input checked="" type="checkbox"/> Wireframe	<input checked="" type="checkbox"/> Axis	
<input checked="" type="checkbox"/> Front	Flat Shaded	<input checked="" type="checkbox"/> Grid	
Back	Smooth Shaded		
Left	Textured		
Right			
Top			
Bottom			

The arrow located at the top left corner of every Viewport is used to expand or collapse the Viewport Settings, where you can switch between different projections, render modes and show or hide that Viewport axis and grid. Click on the arrow to open the Viewport Settings. Click on the open arrow to close it. Projection: The current projection being displayed on that Viewport is identified by a checkmark. Click on a different projection to change to that projection. Render mode: The current render mode being displayed on that Viewport is identified by a checkmark. Click on a different render mode to change to that mode. Show: check to display the Viewport axis and grid. Uncheck to hide them.

▶ Front Viewport Label:

Shows the current projection being displayed on that Viewport.

## VIEWPORT TOOLS

Each Viewport has its own set of tools, located at the top of the Viewport window. The Viewport tools allow you to control how your model appears in the Viewport. These tools do not affect the objects in any way; they only change how the objects are viewed.

 Pan:

The Pan tool locks the Viewport in pan mode. Only the view moves, not the objects themselves. To pan click anywhere on the Viewport and drag in any direction. You can also activate the Pan tool temporarily by holding the spacebar and clicking on a viewport.

## ShapeShifter 3D Help

### Zoom:

The Zoom locks the Viewport in zoom mode. It is used to magnify or reduce the view in a Viewport. Position the cursor in the Viewport and click and drag to zoom in or zoom out. You can also activate the Zoom tool temporarily by holding the OPT key (ALT on Windows) and clicking on a viewport.

### Reset View:

The Reset view tool resets the current Viewport to its original default configuration.

### Frame Selected Objects:

The Frame Selected Objects tool lets you fit the selected objects in your model inside that Viewport.

### Frame All Objects:

The Frame All Objects tool lets you fit all the objects in your model inside that Viewport.



### SHAPESHIFTER 3D HELP: COMMAND REFERENCE

#### FEEDBACK AREA

The Feedback Area is located at the bottom of the ShapeShifter 3D window. The Feedback Area helps you identify tools and buttons. As you move the cursor across the tools and buttons in ShapeShifter 3D, the name and the description of the tool or button appear in the Feedback area. If you move the cursor over the Viewports, the feedback area will display the cursor's position, using the x, y and z coordinates.

x -12.000 y -9.000 z 0.000



### SHAPESHIFTER 3D HELP: HOW TO ORDER AND REGISTER

The unregistered version of ShapeShifter 3D may be used for evaluation, nonprofit and educational purposes. Check the limitations of the unregistered version. The registered version of ShapeShifter 3D can be purchased online at <http://xtras.tabuleiro.com> using a secure server. At our web site you can also consult our purchase policy, purchase instructions, payment, delivery and security methods.

If you decide to buy the Xtra you don't need to download a new copy of the software. After your order is processed you will receive an e-mail with a serial number to register the software you've already installed on your machine.

To register go the Help Tab in the menu bar and select the REGISTER button. Please keep your serial number archived. You will need it to register again if you re-install Director or the ShapeShifter 3D.



SHAPESHIFTER 3D HELP:  
LIMITATIONS OF THE  
UNREGISTERED VERSION

The unregistered version of ShapeShifter 3D is fully functional, but can not save or export models with more than 500 faces. This limitation is removed when you purchase and register the Xtra (using the HELP->REGISTER item in the ShapeShifter 3D menu bar.)



### SHAPESHIFTER 3D HELP: TUTORIALS AND SAMPLES

Please visit the [Tutorials and Samples](#) page on our web site to download sample director movies and models. There you will find tutorials available in Quicktime and AVI format that shows the process of creating vertices and faces, assigning texture coordinates, creating bones and more. The web site also contains Director and Shockwave movies that show how to manipulate bones and models via Lingo for interactive animation. Source code is provided for educational purposes.



### SHAPESHIFTER 3D HELP: TECHNICAL SUPPORT

Please use the Your Account section available at our web site [xtras.tabuleiro.com](http://xtras.tabuleiro.com) to submit your questions. The site also contains Technotes and other resources that can help you identify and solve the most common problems quickly.