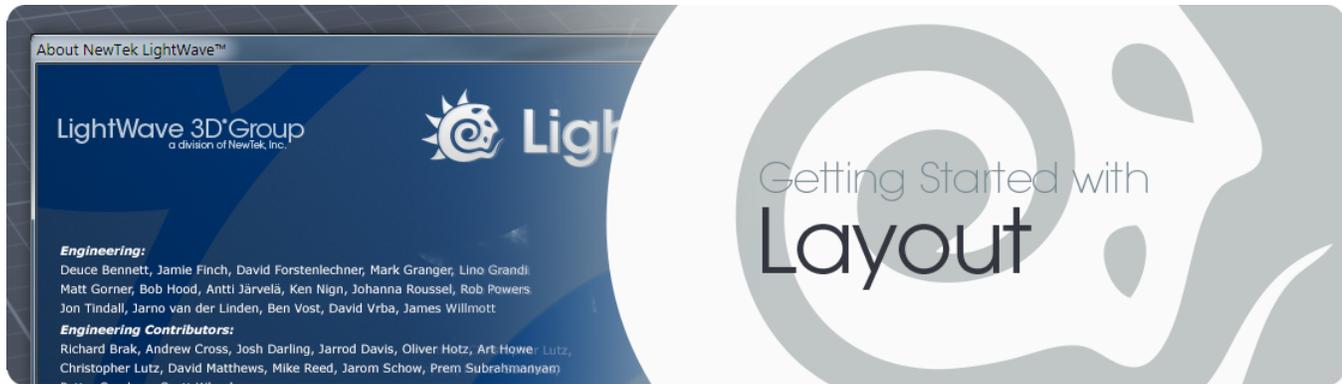


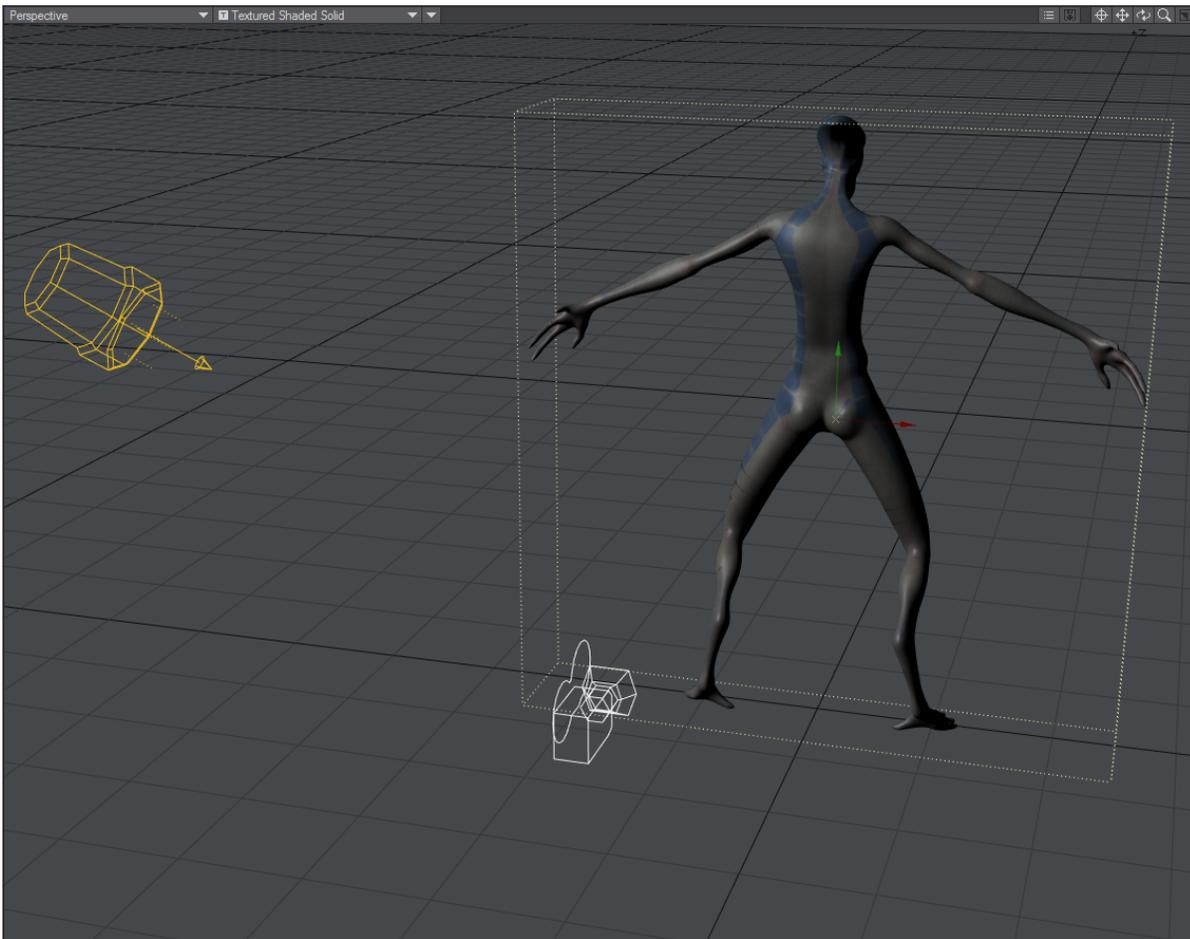
Getting Started with Layout



- [LightWave's Virtual World](#)
 - [World and Local Axes](#)
 - [Your Point of View](#)
- [Next...](#)
 - [User Interface Overview](#)
 - [User Preferences](#)
 - [Working with Files](#)
 - [Working with Viewports](#)
 - [Working with Items](#)
 - [Lights](#)
 - [Camera](#)
 - [Action! - Start Animating](#)
 - [Advanced Animation](#)
 - [Conventions](#)

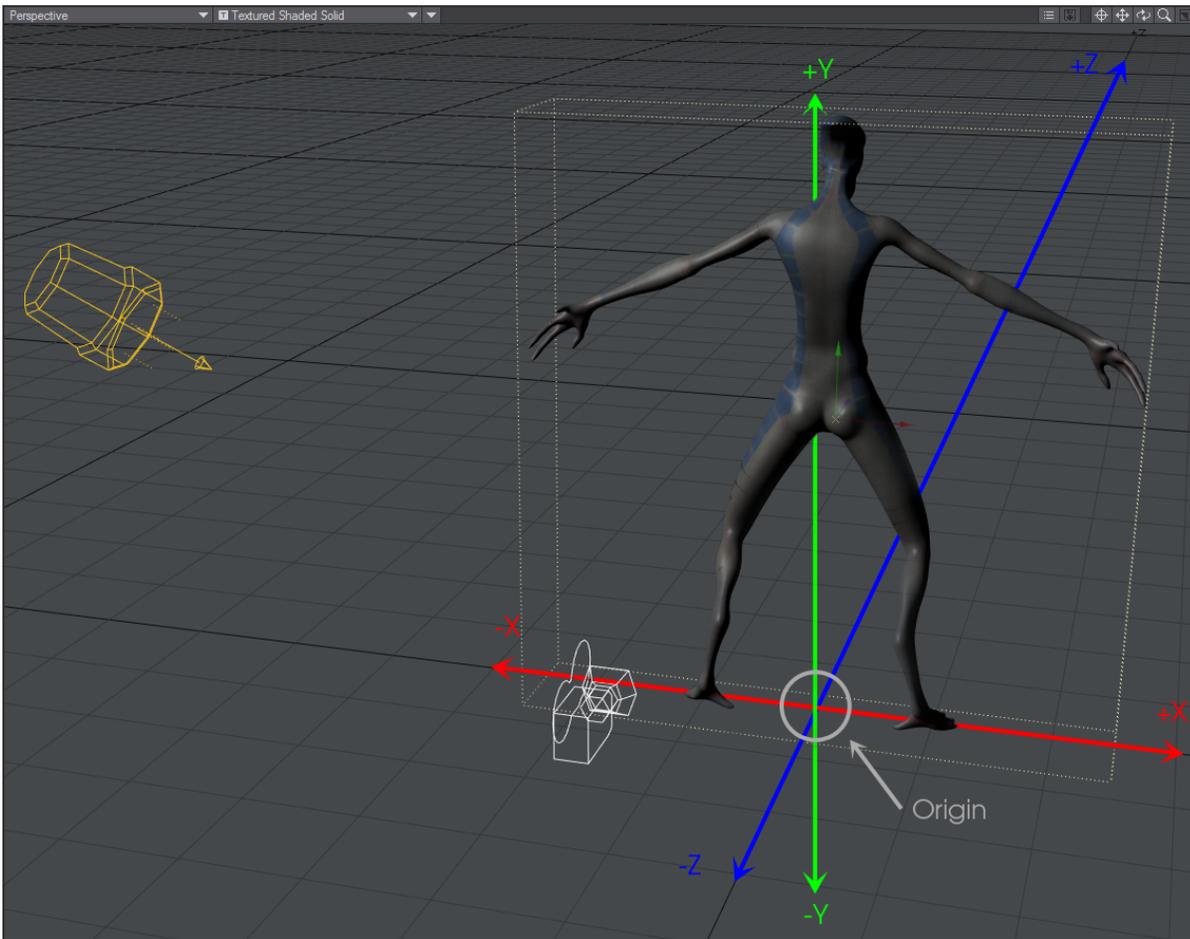
LightWave's Virtual World

LightWave's world is defined using three axes: X, Y, and Z. Here we've loaded the Alien Emissary object and haven't rotated it. At its default position, from front to back, the Alien Emissary's body is aligned along the Z axis and is facing the positive Z direction. The X axis runs left to right, with right as the positive side. The Y axis runs up and down, with up as the positive side.



It is common to see objects that have a front and back (e.g., vehicles, spaceships and animals) facing in the positive Z direction. As you will understand later, this orientation works best with LightWave's motion features.

The center of the world, called the Origin, is defined by the XYZ coordinates 0, 0, 0 and represents the intersection of all three axes. Any position in LightWave's virtual world can be defined by positive and negative XYZ values. The alien is standing right over the Origin. (The Size and Stretch tools also use XYZ (scaling) values along those axes; note that these are applied relative to the object's Pivot Point, also known as the Local Origin, discussed in the next section, rather than the World Origin.)



World and Local Axes

Objects in a scene also have axes and, thus, an Origin, called the local Origin. When an object is first loaded, its local Origin is lined up with the world Origin. Moreover, its local axes are lined up with the world axes. However, once you move or rotate the object, this is no longer the case. LightWave provides functions that let you move and rotate items using global or local axes. Now, most of the time you'll use World, but sometimes using local will be invaluable.

To illustrate the difference, let's say you are standing in the middle of a one-room house facing the front door. If you held your right arm straight out, it would point to the right side of the house, and your left arm would point to the left side of the house.

Now, let's say you turned 90 degrees clockwise. (You'd be facing the right side of the house.) If I told you to point your right arm towards the house's right side (global axes), you'd move it straight out in front of you. However, if I told you to point your right arm to your right (local axes), you would point to the back of the house.

Your Point of View

By default, Layout uses a single viewport. Later on in this section, you'll learn how to use up to four simultaneous viewports. You can choose between several different points of view (POV) for each viewport using the View Type pop-up menu at each viewport's top-left corner. Manipulating items in virtual 3D space on a 2D display (i.e., your monitor) can be difficult at times, so you will switch between nearly all of these as you edit your scene.



It is sometimes easier to work in just two dimensions at a time. The options with the axis notations (e.g., Top (XZ)) are the "orthogonal" views, which let you move items in only two dimensions (horizontally or vertically), along the XY, XZ, or ZY axes. The (none) setting blanks out the viewport.

Note that there are two options for each axis set. This allows you to look in either direction along the perpendicular axis (e.g., Top (XZ) and Bottom (XZ)). For these, Y is the perpendicular axis.) The Perspective view is a forced-perspective view. That is, it gives you a three-dimensional look at your scene.

The orthogonal and the Perspective views are dependent on each other. Changing the position of one will affect the other.

There are also pseudo-physical POVs. When setting up a light, you'll often want to look through it to see exactly what it points at. In such a case, you'll use the Light view to look through the current light. You'll always want to see your scene from the Camera view at some point since that is the perspective used in your rendered images.

Next...

User Interface Overview

User Preferences

Working with Files

Working with Viewports

Working with Items

Lights

Camera

Action! - Start Animating

Advanced Animation

Conventions