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# Registration

## Registration of PoVVB

PoVVB is a Beta product with a lofty goal: to become the best and most widely used PoV modeller on earth! And I need YOU to help achieve that goal. People who wish to become PoVVB beta testers can pre-register the product for a paltry \$20. This registration gets you the following:

All future versions of PoVVB at no extra cost (ever!)

Your name in lights (well, in the credits of the product, anyway)

All suggestions for enhancements and new features will be give first consideration. In a sense, you will be helping me write your own dream PoV modeller!.

At least a \$20 savings (PoVVB 1.0 is scheduled to be released at a cost of around \$45. I also plan to go the "cripple-ware" route or something similar once the product leaves beta, so fully functional PoVVBs won't be floating around out there. )

To register, please send \$20 to:

matt tagliaferri software

4416 Brooklyn Avenue

Cleveland, OH 44109

Remember, MANY new features are planned. (see [Shameless Plug](#) Section). Register now for the most unique, state of the art modeller for PoV on the planet!

## What is PoVVB?

PoVVB is a front end modeller for the ray-tracer Persistence of Vision. Its final version will be the most feature-packed and comprehensive PoV modeller on earth. Features include both wire frame and wire-frame with hidden line removal scene drawing, lighting and texture previews (using the actual lights defined in your scene), triangle objects like solids of revolution, and extrusions, as well as new object types like cross-sectional sweeps and lofted curves (to date unavailable in ANY product I've ever seen!) In short, PoVVB will do everything but the actual ray tracing!

This beta version is free to you to use at your discretion. It contains a solid subset of the myriad of features planned for final release. You are greatly encouraged, however, to pre-register PoVVB and help to make it the premiere modeller on the market as an official PoVVB beta tester. See [Registration](#) for details.

# Shameless Plug Department

What's in store for PoVVB..or...Why should I buy this damn thing, anyway?

Here's a list of features planned for the 1.0 release of PoVVB.

**Solids of revolution objects:** The standard two dimensional object rotated about an axis.

**Extrusion objects:** A two-dimensional solid extruded into the third dimension, giving a new solid. The line of extrusion need not be perpendicular to the the two-dimensional object.

**Cross Sectional Sweep objects:** Similar to solids of revolution, but much more versatile. A solid of revolution is really a two dimensional object swept around a perfectly circular path. These objects will allow the objects to be swept along ANY curved path. These will be great for pipe- or snake-like objects conforming to arbitrary curves!

**Loft Curves Objects:** A surface produced by a linear interpolation of two input curves.

**Advanced Rendering previews:** Several advanced rendering options will be available, which will act as previews to your actual ray-traced final image. Eliminates the need for hundreds of test renders! These renders are much faster than an actual ray-trace. Both texture and lighting of your scene will be previewed using one of several algorithms.

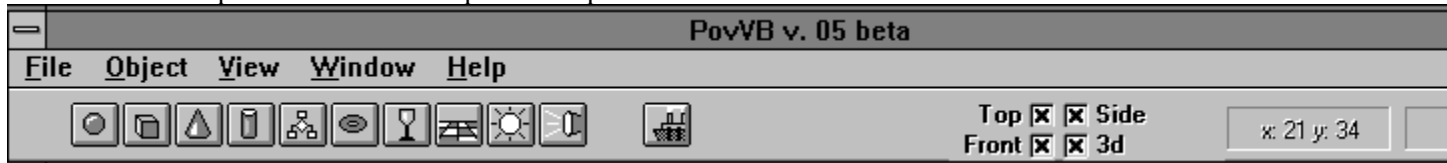
**Lighting previews:** The actual lighting used in your scene will cast shadows across your objects for good lighting previews in the advanced rendering modes. Both point light and spot lights will be supported!

**Texture previews:** The textures assigned to your objects will also be previewed in the advanced rendering modes. Objects defined as red will be red in the preview, objects with stone or marble-like textures will have a marble-like look, etc.

Anything else **YOU** convince me to put in! (see [Registration](#))

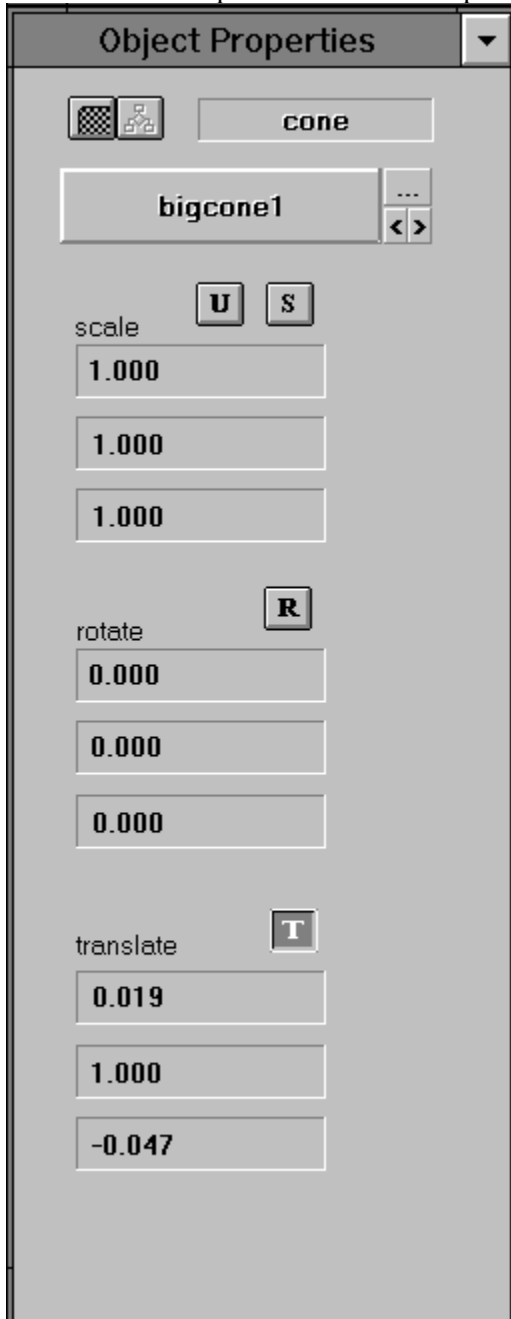
# Main Window

click on the bitmap below for control-specific help:



# Object Properties Window

click on the bitmap below for control-specific help:



## Live Modes

"Live" scaling, rotation, and translation can be done. This means that the user can use the mouse to scale the current object in one of the view windows (all but the 3D window). To prepare an object for "Live" transformation, make that object current (select it using the cycle buttons or the object select dialog), and then choose the current live mode with the buttons marked "U","S","R", or "T" in the Object Properties window.

*Note about Live modes and CSG objects:* To speed redraw times, instead of transforming EACH of a CSG object's children in live mode, a CSG object is represented by a 1X1X1 cube in live mode. Scale, Rotate, and Translate this cube to the proper orientation. When the window is redrawn, the current CSG object's children will be redrawn using the new transformation.

### **Live Scaling:**

Select Button U for Uniform scaling, S for non-Uniform scaling. Dragging the mouse will make the object bigger or smaller. Each of the three view windows will allow scaling in 2 of the 3 dimensions (the visible Axes will tell you which 2 Axes). Moving the mouse Up or Down scales in the Axis pointing Up in that window, moving left or right scales in the other of the two Axes.

### **Live Rotation:**

For best results, place the mouse to the RIGHT of the current object in the view window, and drag it up to achieve Counterclockwise rotation, down for Clockwise rotation. The rotation is about the axis that is pointing toward you (out of the screen) for the current view window.

### **Live Translation.**

Like scaling, translation can be done in 2 of the three Axes in each view window. Simply Drag the current object to the desired location.

### Translating the camera object:

An option button reading "P" and "L" is visible by the translate edits in the Object Properties window when the camera is the current object. These stand for camera <P>oint and camera <L>ook-at point. Select the desired point to translate when moving the camera. When the camera is moved in live mode, a tri-color grid appears in the 3D window to give a good view of the relative changes your camera translation will make in the final picture. When your changes are done, the 3D window will be redrawn.



## Texture Button

This button opens a dialog where you can assign a texture to the current object. A drop-down contains PoV's standard textures and colors. To paste one of these into the text box, select it and press the button labelled "<".

Note that you can manually type any texture into the box, allowing for user-defined textures (including image maps, material maps, etc.) Textures can be manually transformed (scaled, rotated, translated), by typing the transformation directly into the box. POVVB does NO texture syntax checking, by the way: ANYTHING you type into this box will be incorporated directly into the POV export. Future versions will probably incorporate more texture features, including templates for image maps, color maps, etc.

If the current object is the INCLUDE object, a dialog will open so you can edit the INCLUDE section of the POV file. Again, anything you add to this section will be incorporated directly into the POV file.

The contents of the texture drop down list box, as well as the default INCLUDE section, can be changed by editing the PREDEF.LST file.

## Extended Edit Button

This button brings up a different dialog depending on the current object. The dialog is for extended editing of the object-specific properties of each object. A description of the dialogs is below:

### **CSG:**

The CSG editor allows you to add child objects to your CSG groups. An outline is at the left of the dialog, highlighting the current children of the CSG. Click on each object you wish to be a DIRECT child of the CSG (one level below). Objects highlighted will become children of the current CSG object. Note that a given object can have only one parent, so selecting it as a child of the current object will deselect it as the child of its former parent, if it had one.

The radio buttons at right select the CSG type of this object (union, intersection, difference) If the object is a difference type, choose the primary object in the drop down at the lower right. Choosing the primary object for the other two types has no effect.

### **torus:**

the dialog allows you to select the major and minor radii of the torus. The major radius is the distance from the center of the hole to the center of the tube. The minor radius is the radius of the tube.

### **light/spotlight:**

the dialog allows to choose the color of the light. Note that this information can also be edited manually in what are normally the objects SCALE attributes on this window. Valid values are from 0-1. Spotlight radius, falloff, and tightness can also be specified (a visual preview of these values will probably be available, also)

### **rotational/cross sectional sweeps (when implemented):**

this button will be pressed to edit the base point sets of the sweep objects.

# Menu Options

## File

*New*: creates a new scene. You will be prompted for a scene name (8 char)

*Open*: Open an existing scene

*Save As*: Save the current scene under another name

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*Exit*: Outtahere

(There is no option to Save because of the way the Visual Basic database engine works. The (unfortunate) side effect is that there is no way to undo or revert to an old version. I'm thinking about coding one in later....)

## Object

*Select*: calls forth the select object dialog. Identical to the button to the upper right of the Object name button in the Object Properties window.

*Delete*: Deletes the current object. If it is a CSG, all children move "up" one level (to the current object's parent)

## View:

*Reset Cameras*: Set the Top, Side, and Front cameras to their initial state (about 20 units above their respective axes). Good if a Zoom or Pan gets out of hand and you lose the scene in the window.

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*Wireframe*:

Drawing operations are wireframe with NO hidden line removal. This is the fastest rendering method.

*Hidden Line*: Also a wireframe render, but hidden lines are removed. Good for checking if objects are behind or inside each other.

*Advanced Rendering Options* (Flat Shaded, Phong Quick, etc)

These will be the advanced texture and lighting rendering options. They are currently disabled. (To give you an idea of the advanced rendering options, see the "About Box" picture. It is a very rough Flat shaded picture, with 4 colored spotlights. The objects are all white in color, with no textures.)

## Window:

*Arrange All*: Place the 4 view windows to their starting stages.

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*Max* (Top, Side, Front, 3D): Allows for one of the view windows to be twice as long and wide, (as big as the area enclosed by all 4 view windows after an Arrange All.)

**External**: This allows for the PoV batch files or other external programs (TGA viewers, etc), to be called directly from PoVVB. Up to 10 external programs can be set up. To set them up, edit the file POVVB.INI. The section named [Externals] contains the actual line to be executed. Place a tilde (~) in the place you want the current scene's name to appear on the command line of the executable (if anywhere). The section [ExternalName] is the name that will appear in the menu.

The example given is a PoV batch file to render the current scene as a 160x100  
.TGA

## Help:

*Help:* Windows-style help (you're reading it!)  
*About:* Credits

**Sphere** - Creates a sphere of radius 1 centered at  $\langle 0,0,0 \rangle$

**Box** - Creates a box of "radius" 1 (each side length 2) centered at  $\langle 0,0,0 \rangle$

**Cone** - Creates a Cone with bottom circle of radius 1, total cone height 2 at  $\langle 0,0,0 \rangle$ . The cone's base lies parallel to the XZ Axes.

**Cylinder** - Creates a cylinder having circular bases of radius one, total height 2, at  $\langle 0,0,0 \rangle$ . The cylinder's base circles are parallel to the XZ Axes (length in Y Axis)



**CSG** - Creates a CSG (constructive solid geometry) object. The object initially has no children.

**Plane** - Creates a plane parallel to the XZ Axes. Note: The plane is displayed as a 50x50x0.001 box in PoVVB (it's not easy to render an infinite object!)

**Light** - Creates a point light at  $\langle 0,0,0 \rangle$ , with default color White. The light is displayed as a small yellow sphere.

**SpotLight** - Creates a spotlight at  $\langle 0,0,0 \rangle$  (Currently unavailable in the beta version).

**Export** - Allows for Export of the .POV file. A dialog appears where you can preview the .POV file to be exported. You can make last-minute changes to the output in this window, and they will be exported as well (these changes will in no way affect the object database).

**XY Location** - Shows the current XY pixel location in one of the view windows.

**Drawing Control** - Controls drawing in the four output windows. Removing the X in one of these check boxes will disable output to that window, speeding up refresh times of graphic output.

**Name Window** - Displays the name of the current scene (and the .DBF associated with it)



**Menu** - See [Menu Options](#) for a description of each option.

**Torus** - Creates a torus parallel with the XZ Axes.

**Sweep** - Creates a rotational sweep (currently unavailable in the beta version)

**Texture Button** - See [Texture Button](#) topic for full help

**Extended Edit Button** - See [Extended Edit](#) Topic for full help.

**Object Type** - This shows the shape type of the current object.

**Object Name** - This shows the name of the current object. Clicking on this panel allows for editing of the name (16 character max). After editing, <TAB> out of the field to accept it.

**Object Select** - This brings forth a dialog showing all the objects in the current scene, in hierarchical form. The top object is the scene itself. Click on the object you wish to make current and hit the OK button (or double-click the object).



**Object Cycle** - This will cycle through the objects in forward or reverse order, which may be faster than the object select dialog in some cases. Note that the object does not become highlighted in the view windows until the window is redrawn using this select method.

**Uniform Scale Button** - This selects Uniform Scaling as the current live mode (see [Live Modes](#)).

**ScaleBut** - This selects Scaling as the current live mode (see [Live Modes](#)).

**Rotation Button** - This selects Rotation as the current live mode (see [Live Modes](#)).

**Translate Button** - This selects Translation as the current live mode (see [Live Modes](#)).

**Scale Edit Boxes** - Manual Editing of the current object's scale parameters can be done with these three edit boxes. They represent the current object's X, Y, and Z scale. Note that with some objects (such as light sources), these numbers represent not scale but another value. The header above the boxes will change to reflect the meaning of the numbers.

**Rotation Edit Boxes** - Manual Editing of the current object's rotation parameters can be done with these three edit boxes. They represent the current object's X, Y, and Z rotation.

**Translation Edit Boxes** - Manual Editing of the current object's translation parameters can be done with these three edit boxes. They represent the current object's X, Y, and Z translation.





