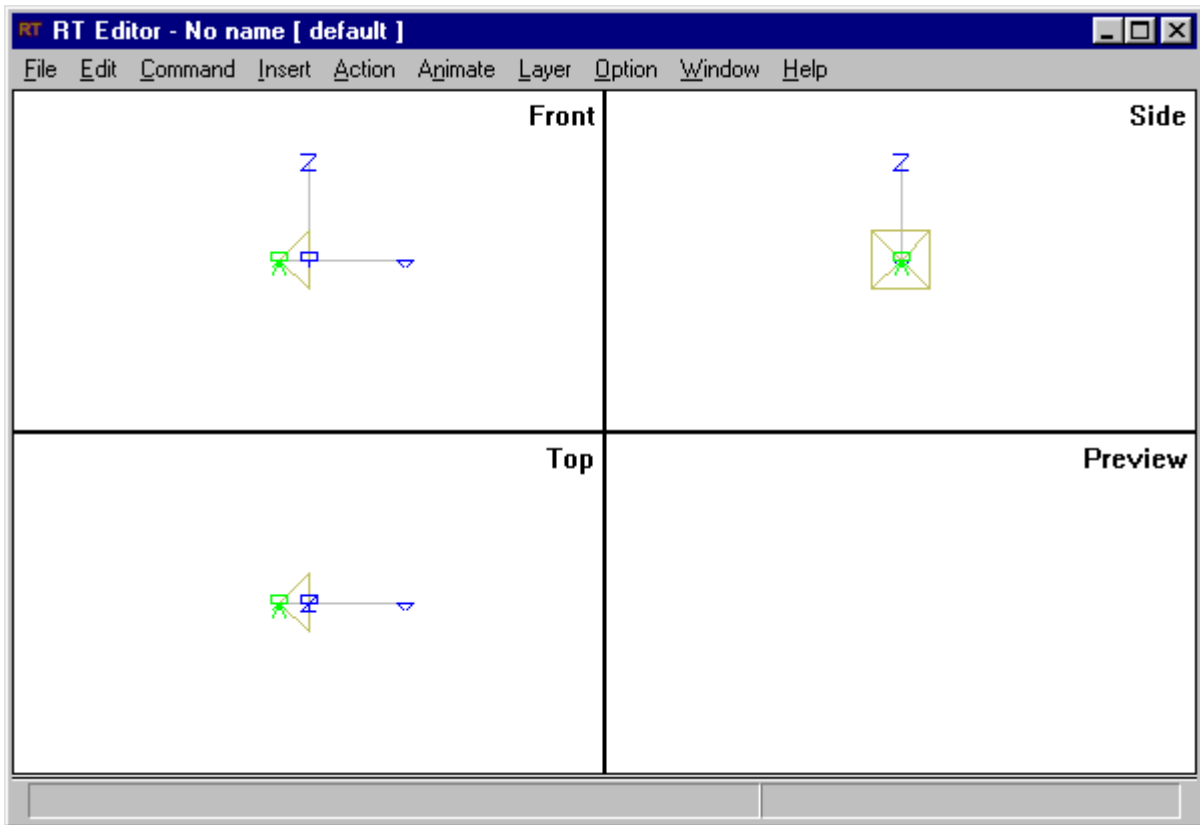


Tutorial for RT Scene Editor 0.5.3

This tutorial explains step by step how to create a scene with RT Scene Editor program.

Start the editor

From filemanager (for Windows 3.1 or Windows NT) or explorer (for Windows 95) click on rted.exe file. The program will start and you will see this:



All is divided in four view windows: front, top, side, preview. Any view window shows the scene from a different point of view.

Front: seen in the plane X-Z.

Top: seen in the plane X-Y.

Side: seen in the plane Y-Z.

Preview : like in the final rendering.

The simbols in the view windows describe the view of the scene in the final rendering. They are:

The VRP



VRP is the center of the image window (the final image rendered).

The VUP



This symbol shows the "up" of the view.

The VPN



This symbol shows the direction where you look the scene.

The IMAGE PLANE is the base of the yellow pyramid.

The PRP



This symbol defines the position of the observer.

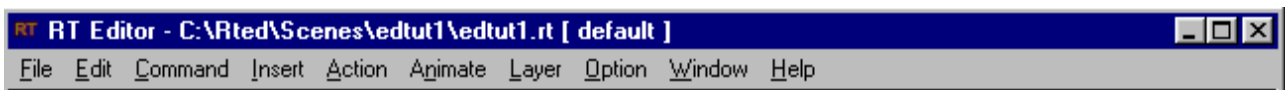
The first thing to do : SAVE THE FILE !

First you must create a directory where to save your scene. You can save it in "c:\rted\Scenes\edtut1\" directory. You must create it with File manager or explorer or other programs. Then from menu "File" select "Save As...". A Dialog box will pop up.

Select the directory, then choose a file name which finishes with ".rt". You can choose "edtut1.rt".

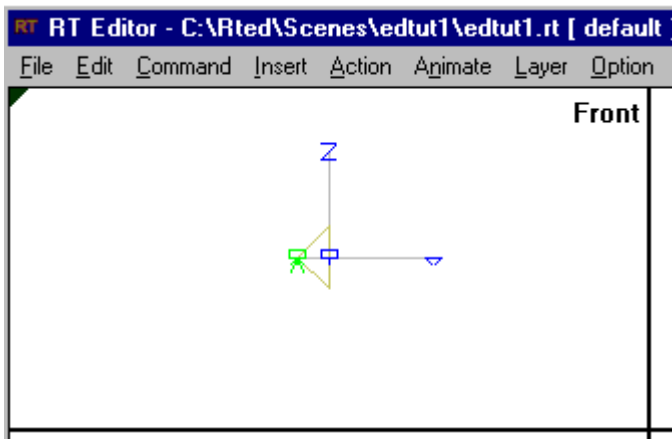
Press OK button.

Now you have created the scene file. On the title of the window you should see this:



Select a view

A window view may be selected. If a view is selected a small black triangle is shown in the top-left. To selected another view click in the new view.



Center a point in a view

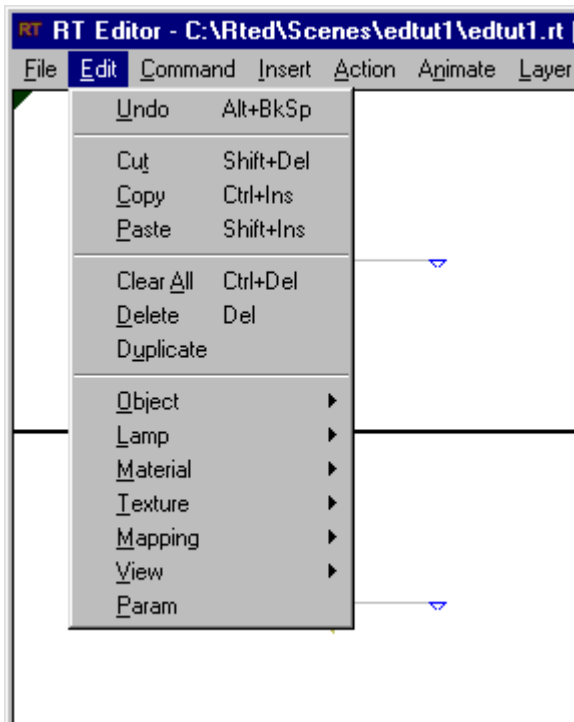
To center a point in a view you only have to open the “Command” menu and choose the command “center” or, more easily, use the key “c” and click with the mouse in the point you want to center the scene.

Zoom a view

To zoom is as easy as to center: open the “Command” menu and choose zoom in/out or use the keys “i”/ “o” .

The Edit menu

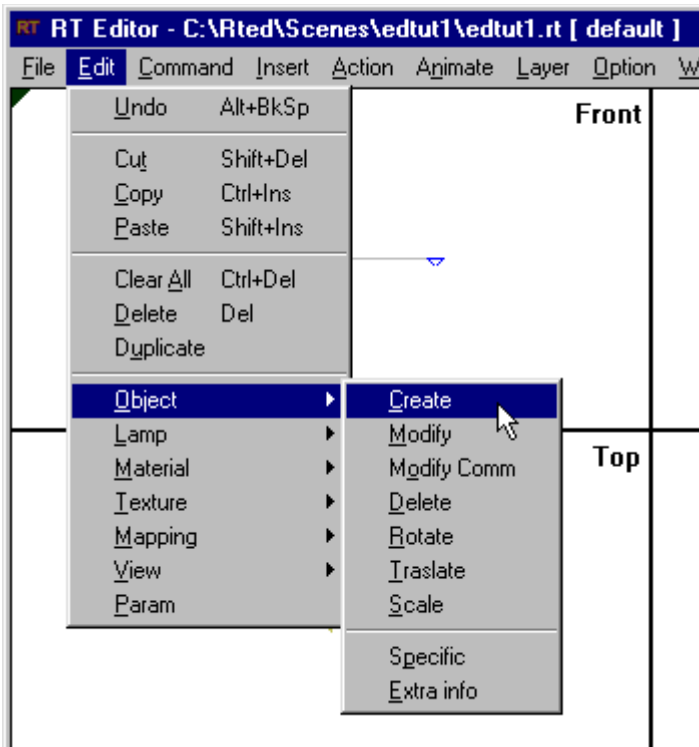
The main menu is the edit menu. There you find the main commands to build and modify a scene. You can edit graphic objects, light sources, material, textures, mapping, view.



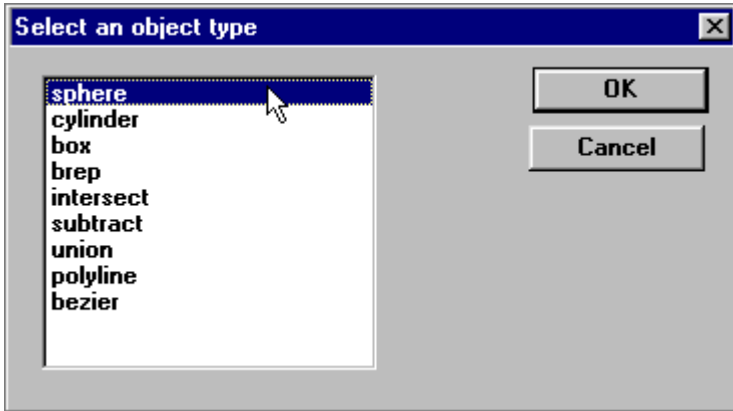
Creating the first scene

Creating a sphere

The scene is now empty. No object, no lamp is in. Use Edit|Object|Create to add an object.

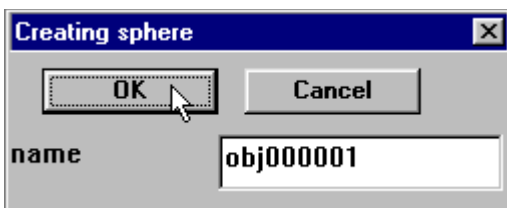


There are many object types. First, you have to select one of them. Some are primitive objects, others are complex and you will need an external modeler. Choose “sphere” voice to create a sphere.

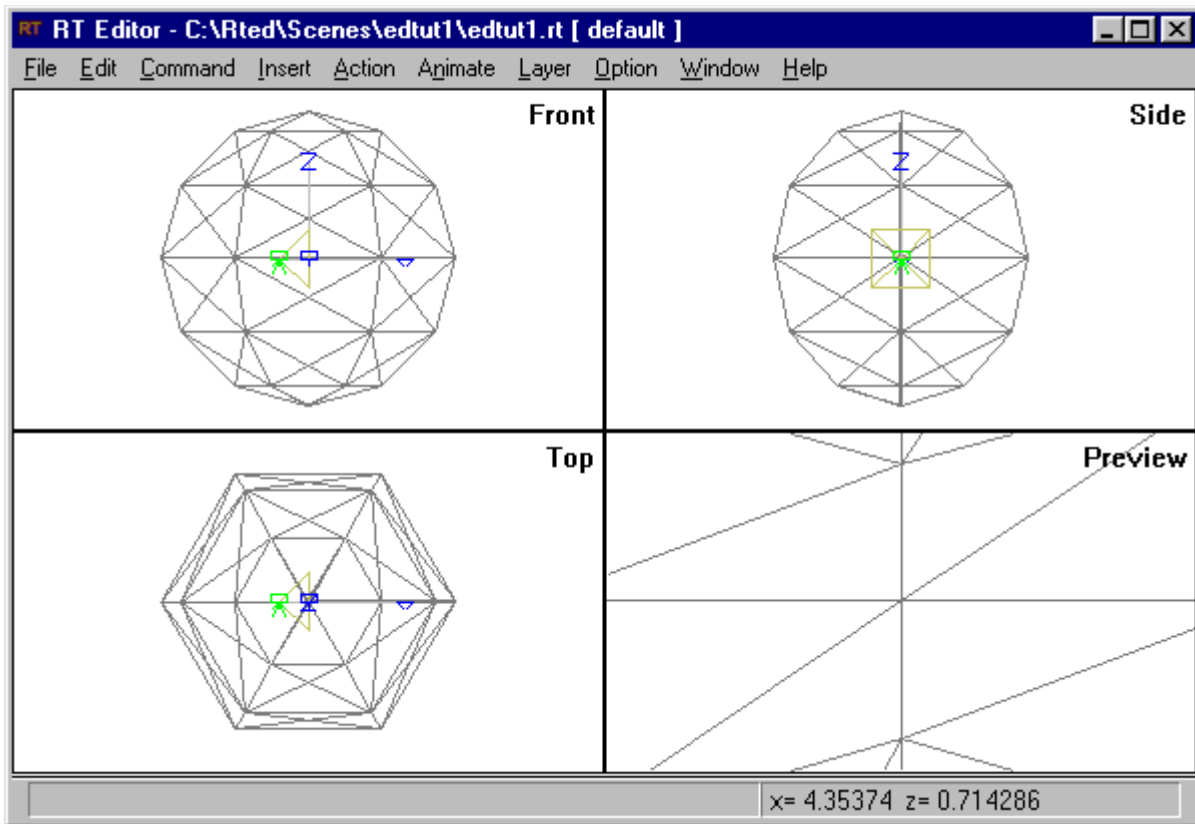


Then you have to insert the name of the object. Every object has his own name, different from any other. RTED finds a name for you, but you can change it. You can do it, if you want, simply by using the command Edit|Object|Modify Comm.

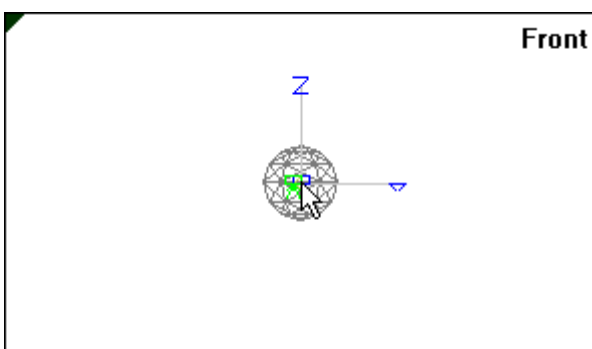
Press OK button.



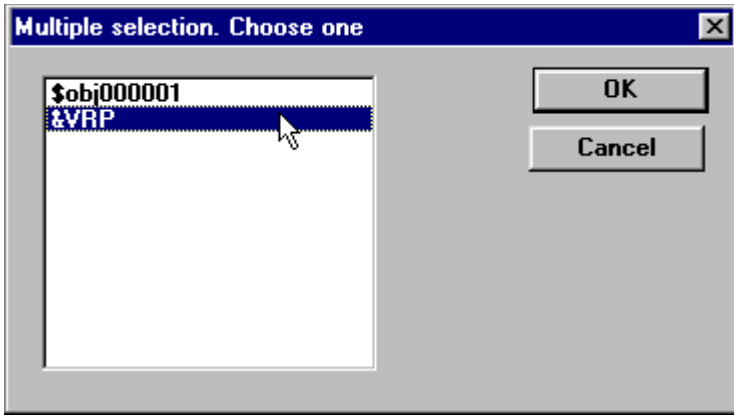
A wireframe representation of the object will appear in the view windows. You can modify it with command “Edit|Object|Modify”. The program tries to fit the object in the selected window if possible. When you will render the scene again, you will see an accurate representation of the object. Don’ t try to render now the scene,you have not created a light yet.



Look at the views. The observer is inside the sphere. But in this way, you cannot see clearly the sphere. You should move the observer position in order to get it in a good one. So you have to move the VRP position. First, select the front view and Zoom out twice (with “Command|Zoom out” or the o’ key). You should see this:



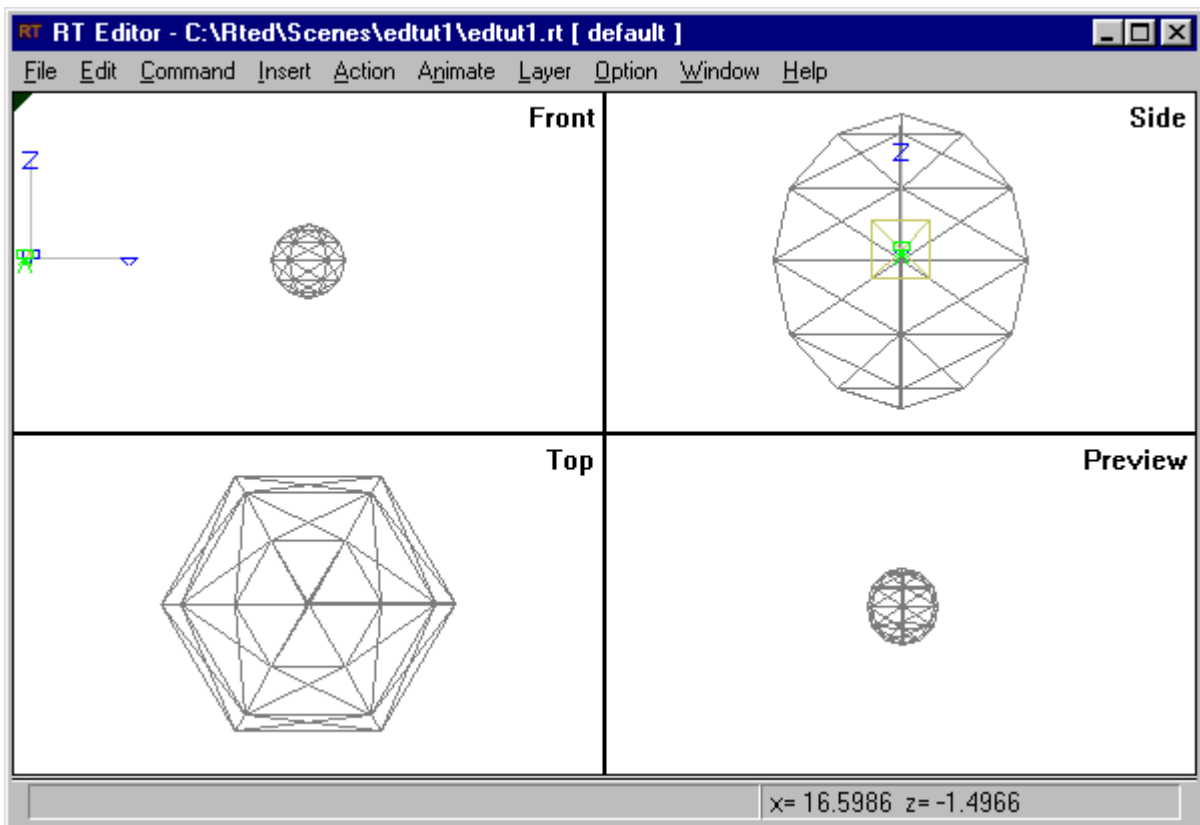
Now go with the mouse over the VRP symbol and click with the right button. This is necessary to show some properties of the object on the scene. In the point where you click there is more than an object:so,you must specify which object you want to select. (If you don’ t see the image below, you may have missed the exact point.) Look at the first letter. \$ is for a graphic object, & is for a view element, * is for a light source. Choose VRP and press OK.



The only thing you can do with VRP is to move it. Look at the status bar and follow the instruction.



Try to click in a position as shown in the example. The preview will change.

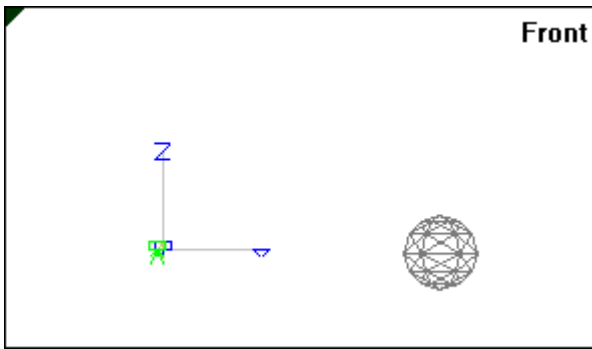


Create a lamp

Now you should add a light source in the scene if you want to render it. First of all you must choose a good position for the lamp. The lamp will appear in the center of the window. To change the center of the window use command "Command|Center" or press the c' key. In the status bar you should see:



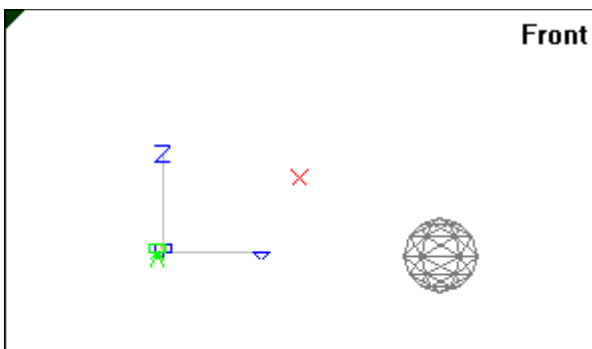
Press the left button in the position where you want the new center. The view will be like this:



Select command “Lamp|Create”. There are many types of lamps. You must choose one and press OK. Choose “pointlamp”.

You must give a name to the lamp as you did for other graphic objects. Choose the proposed “Imp000001”.

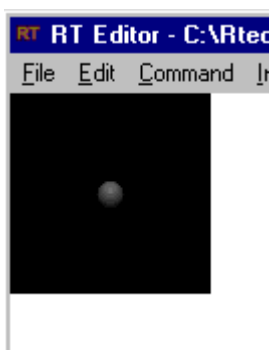
A red cross will be in the lamp position. You can change the lamp characteristics using command “Edit|Lamp|Modify”, or its name, with “Edit|Lamp|Modify Comm”.



Create the image

Now you can render the image. Use Command “Action|Create image”. The views will disappear and program will start to render. If you have a true color display you will see the correct image, else you will see an approximate image. The status bar will show the line under rendering and a guess of the time remaining.

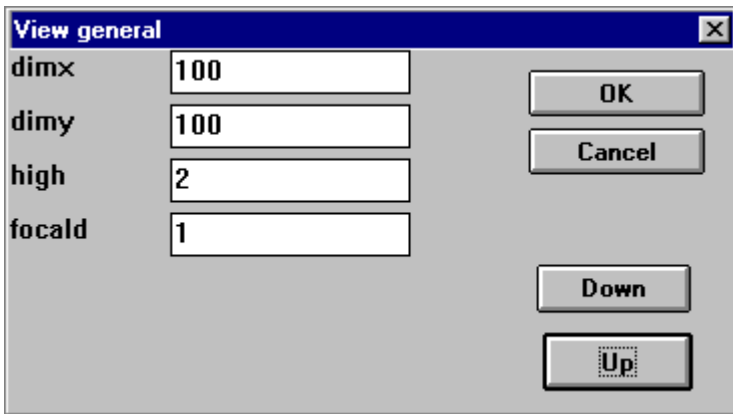
The final image will be:



You can return to the wireframe views using command “Window|All views”.

The image size is 100x100 pixels. If you think it is too small you can change it. Use command “Edit|View|General...”. “Dimx” is the horizontal dimension (in pixels), “dimy” is the vertical dimension (in pixels), “focald” the focal

distance (the distance from PRP to VRP), “high” is the dimension of the window on the projection plain.



Try to change:

dimx from 100 to 320

dimy from 100 to 200

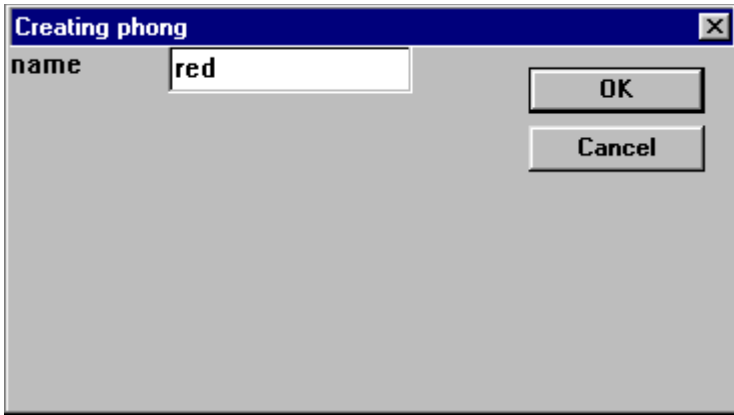
high from 2 to 0.5

Now render again the scene. The output should be :

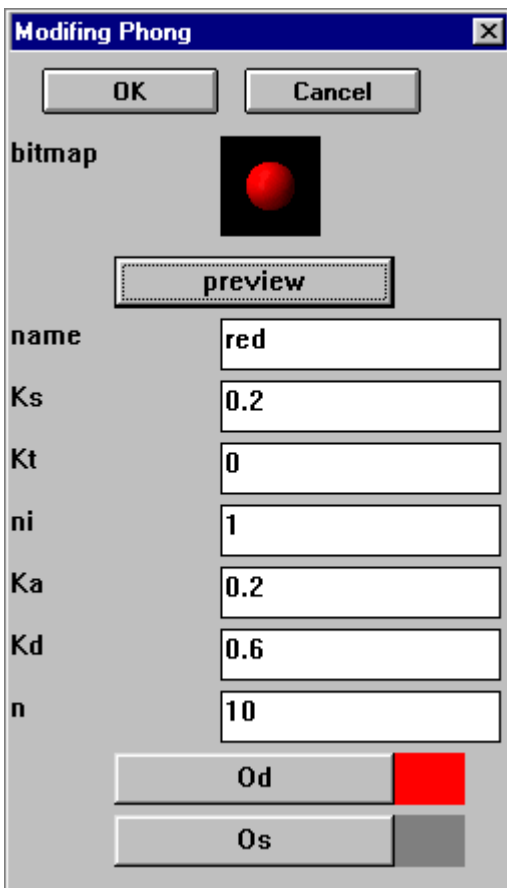


A new material

You can also create a new material. By using the command “Edit|Material|Create” this dialog box will pop up:



You will write the name you have chosen for your new material and another dialog box will appear:



This dialog box allows you to choose the color of your material by clicking “Od” and “Os”.

“Od” is the diffuse color, and if you want to change the color of an object you have to change this. A dialog box will pop up to show you the colors you can choose.

“Os” is the specular color, you have to use it if you want to change the color of highlight.

The other parameters are related to other characteristics of the material as reflection, refraction and others.

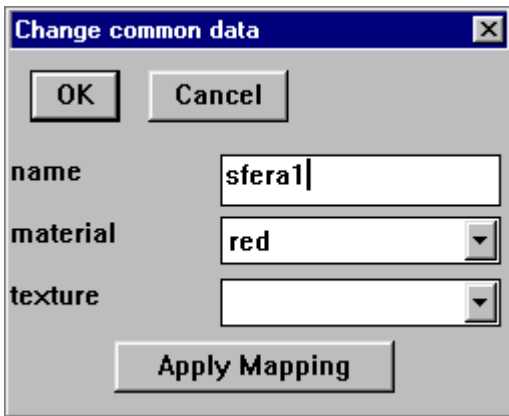
For better hints, look at the Tutorial for RT File Format in “manual.wri”.

You can also preview the characteristics of your material simply by clicking “preview”.

The material you have created will be saved and will be a part of your library of materials.

Modify name and material

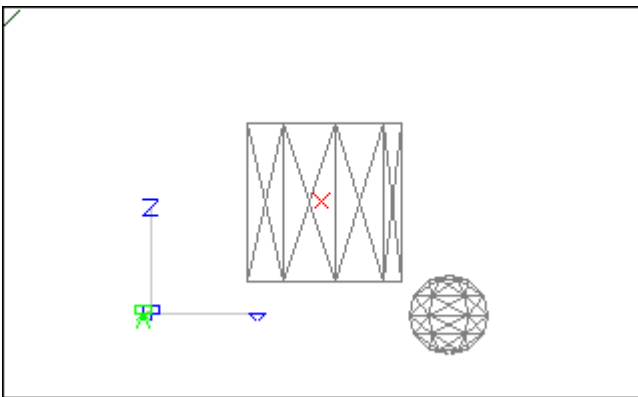
To modify names you have to use the command “Edit|Object|Modify comm”. A dialog box will pop up:



In this way you can change the name of the object and the material.

Adding a cylinder

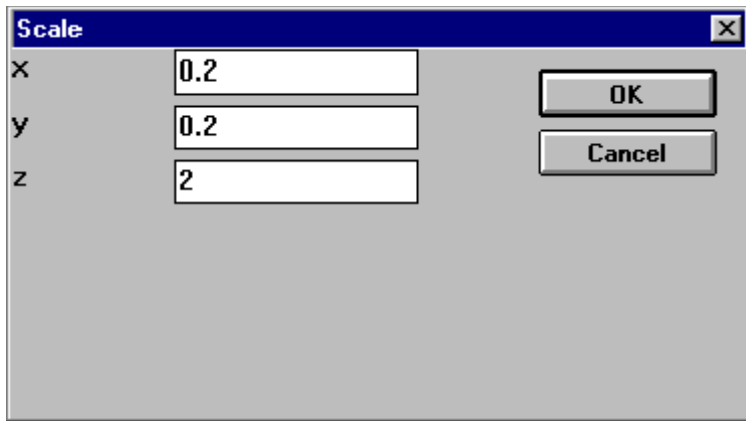
Cylinder is one of the objects you can create with RT Editor. As done with the sphere, you have to choose the cylinder in the Edit menu, command “Object|Create”. Naturally the new object will have a new name and will be positioned at the center of the view. In the same way you can operate with all the objects that RT is able to create (boxes, bezier, brep...).



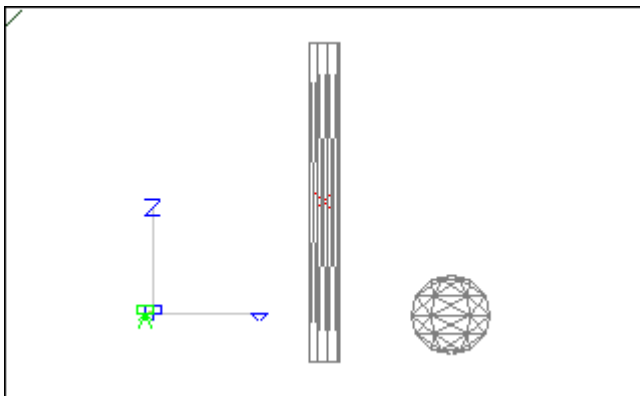
Scale object

The scale function allows you to change the dimensions of your objects and to obtain new geometries (ex.:an ellipse from a sphere).

In order to get the parameters you want you should work with this dialog box:

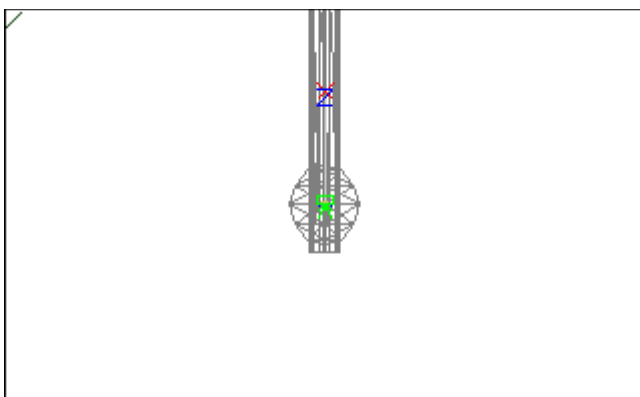


We can clearly see the output of our doing: the cylinder is scaled.



Rotate object

To rotate the object you have to select in the "Edit menu" the "Object|Rotate" command. Another dialog box will ask you to insert the rotation degrees for the three axes.



A dialog box with the objects in the scene will appear. Select the objects you choose to rotate.

