How to Create a Tree

TREE window is divided into two areas: Rendering Panel and Parameter Control Panel.

endering Panel consists of the canvas on which the rendering occurs and a set of buttons.

The two leftmost buttons called Structural Abstraction buttons enable you to preview a tree without and with the foliage.

The four buttons in the middle allow you to select the preferred rendering mode. You can choose to preview a tree in linear (the fastest), wire frame, or full shading rendering mode. With the fourth button called Envelope, you build the tree's crown envelope. You can export the envelopes as 3D DXF objects and use them for tree massing where the file size is critical and the detail is not important.

The E (Elevation) and A (Azimuth) displays show the elevation and azimuth angles of the current viewpoint. The elevation angle is the angular distance of the eye from the horizontal plane. The azimuth angle is the horizontal angular distance of the eye from -Y axis.

You can change the viewpoint by positioning the cursor anywhere on the TREE's canvas, pressing the mouse and moving the cursor to the left, to the right, upwards, or downwards.

viewpoint cursors

As you start moving to the left, for example, the cursor will change to a left arrow, the tree will rotate clockwise around Z-axis (which is the principal direction of the trunk growth), and the A display will continuously update the azimuth angle. If you change the direction of movement from left to right, the cursor changes to a right arrow and the tree rotates counter clockwise.

By pressing the mouse and moving the cursor upwards, the cursor will change to an upward arrow, the tree will rotate around the axis lying in the XY plane (ground plane), and the E display will continuously update the elevation angle. If you change the direction of movement from upwards to downwards, the cursor changes to a downward arrow and the tree rotates in the opposite direction.

If you hold the Option key while you are moving the cursor, the tree will rotate in both directions simultaneously, and the A and E displays will be continuously updated.

Next to the E and A displays is Render button. When pressed, it initiates the rendering. The rendering is stopped by clicking the mouse anywhere in the window, including the menus.

The two rightmost buttons are Translate and Zoom buttons. Translate activates the translate mode which allows you to grab and drag the model. When you press the Translate button and position the cursor anywhere on the TREE's canvas, you will see the cursor changing to a hand. Press the mouse and drag the model in any direction.

Zoom allows you to zoom-in and to examine the model in detail. You can also export these zoomed images as PICT files and use them effectively in your 2D imaging work. When you press the Zoom button and position the cursor anywhere on the TREE's canvas, you will see the cursor changing to a magnifier with a plus sign. Press the mouse to zoom-in on specific detail of the model. To zoom-out, hold the Option key and press the mouse. Please note that when the Zoom mode is active, Auto Scale is inactive. Auto Scale

will become active again when you zoom all the way out and unpress the Zoom button.

Parameter Control Panel consists of the parameter buttons, the windows for the

isplay of their current values, and the slider that enables you to change these
values. Not all of the parameters that describe a tree are displayed at the same time. They are grouped in four main groups: the trunk and bough parameters, the branch and twig parameters, the volume parameters, and the foliage parameters. The buttons at the bottom of the panel set the associated groups of parameters to be the currently active and visible.

The first button from the left enables you to access the parameters that describe the trunk and main boughs and the second button accesses the parameters for branches and twigs. By pressing the third button, you can access the parameters that control the widths and color of the trunk, boughs, branches, and the twigs. The fourth, foliage button accesses the parameters

for controlling the leaf types, their size, color, and positioning, and the foliage distribution across the tree crown. In conifers, this button accesses the parameters that apply to needles. Palms have three buttons that allow you an access to the parameters that describe the trunk and crownshaft, the stems, and the leaflets.

The parameter buttons with double quotation mark at the top right hand corner, as, for example, Trunk Height, have associated sub-group of parameters and these parameters can be accessed by double clicking the corresponding parent button. The parameter buttons without the window display of their current values as, for example, Length Change, serve only as access buttons to the associated sub-group of parameters.

Tips!

TREE can create virtually an infinite number of different trees. There is a vast search space in front of you. The key to using TREE most effectively is acquiring a good grasp of its behavior. Begin by playing with the software. Once you comprehend the effects that a parameter or group of parameters have upon the tree, it is much easier to define purposeful actions that will lead to the desired results. Here are some tips for making your exploration of TREE more productive:

1. Use the trees from libraries as templates. It is much easier to grasp TREE's behavior by changing a tree template than by starting from scratch.

2. Concentrate on one group of parameters at a time. Play with the trunk and bough parameters first, and pretend for now that the rest of the parameters do not exist. Once in control of the trunk and bough parameters, proceed to other parameter groups.

3. Examine the trunk, bough, branch and twig parameters in the linear mode. The linear mode is the fastest, and it shows most clearly how a parameter affects tree structure.

4. Read Broadleaf Parameters, Conifer Parameters, and Palm Parameters. It will give you better understanding of the parameters and how they work.

5. Take a photograph of a tree and try to model the same tree by visually referencing the photograph. For most of us, it is easier to model a tree by copying it from the photograph than by visualizing it in our heads.