Apple Menu

The Apple menu gives you access to developer information, on-line help for ModelPro, and desk accessories.

About ModelPro 3.0

Displays the splash screen which you see briefly upon launching the application. Simply click anywhere on screen to return to ModelPro.

Help...

Gives you access to the on-line help for ModelPro. Follow the instructions for navigating in the Help file to locate the information you want. This easy-to-use on-line help is a good companion piece for the printed Reference Manual.

Desk Accessories

You get normal access to all of your desk accessories.

File Menu

The File menu gives you access to the most basic file generation and maintenance functions. In addition to these basic functions, you may open non-ModelPro databases, open ModelPro databases as Library files, import Postscript line art, save your model in a non-ModelPro format, and transfer to Presenter for animation and rendering.

New

The New command performs three functions: 1) makes the current database inactive (invisible), 2) opens a new, untitled database with all settings reset to default, and 3) creates a new Menu (Model) at the top of the screen next to Operations. The Model menu lists all of the current (not Closed) databases. Highlight the name of the database you wish to work on to activate it.

Open...

This command opens an existing ModelPro file. Choosing Open presents you with the standard Apple Open dialog box. A Presenter Professional 1.5 file may be opened, and will be converted to a ModelPro 3.0 database.

Note: Keystroke equivalents appear next to commonly used commands, allowing you to work more efficiently.
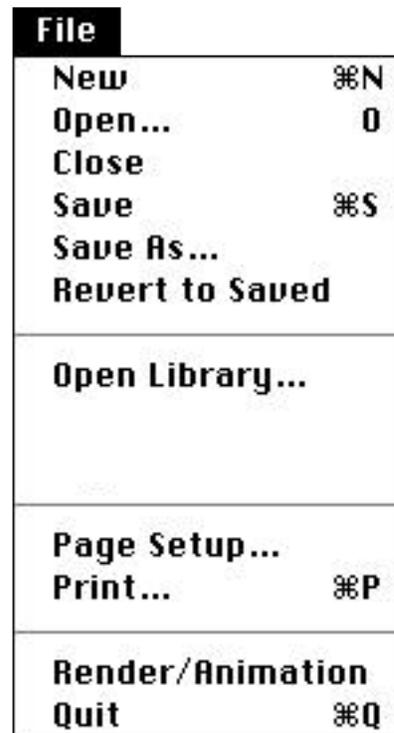
To Open a file:
In the standard Open dialog box, click on the file name to highlight it, then click on the Open button; or simply double-click on the name.

Opening a file de-activates the current active file and creates a new Menu (Model) described above under New.

Close

Closes the current active file. If you attempt to Close a file that has not been saved since making changes, you will be prompted to do so.

Save

Note: It is recommended that you periodically save working files to prevent the loss of an entire file due to a power failure, etc.

This command saves the current file to the location from where it was loaded, updating the original file. To save without overwriting the original file, choose Save As… and specify a different file name. If this is the first Save of a new database, you will be presented with a dialog box identical to the one shown under Save As…

Save As…

Tip: Use Save As… to save multiple revisions of a ModelPro file at its various stages of development. These "extra" files are helpful if you encounter a system crash or any mishap which destroys the current database.

The Save As… command is used when renaming an altered file to preserve the original, when first saving a new file, or when saving a file in a non-ModelPro format. If you designate a name that already exists on the disk, ModelPro will present a choice to either overwrite the old file or select a different name for the new one. The Save As… command is also used when the current file must be saved to a different folder or disk. Use the Desktop button to switch to a different disk and the Location pop-up menu to return from nested folders.

ModelPro currently supports one file format—the native ModelPro 3.0 database format.

To save a file with a new name, or a New file
1) Select Save As… from the File menu.
2) Choose the file format desired from the File Type pop-up menu.
3) Select the disk destination, then click on the Save button.

Revert to Saved

Resets the database of the current active file back to the way it was at the last Save. This is useful when serious design errors occur that cannot be undone.

Open Library...

This command opens an existing ModelPro file. Choosing Open Library… presents you with the standard Apple Open Dialog Box. Files opened in this fashion will be listed in the Libraries Palette.

Page Setup...

This is the standard Macintosh Page Setup command and is used to set the page characteristics for your printouts. The dialog which is displayed varies depending upon the type of printer being used. The options for the ImageWriter® includes page orientation, page sizes, and reduction. The Apple LaserWriter® page setup also includes enlargement, font substitution, smoothing and fast bitmap printing. Please refer to your printer manual for additional information.

Print...

This command prints selected views and information on the active printer or to a file on disk. The windows to be printed can be tiled on one page or printed on separate pages. The Page Preview will display the page layout. There are two options when printing one page per object window:

Enlarge Window to Paper - enlarges the window printed on that page so that it fills the entire page.

Use Window Scale & Centering - this option prints the desired window(s) at the scale and position shown on-screen. A line measuring three inches on screen will measure three inches on paper.

Print dialog box
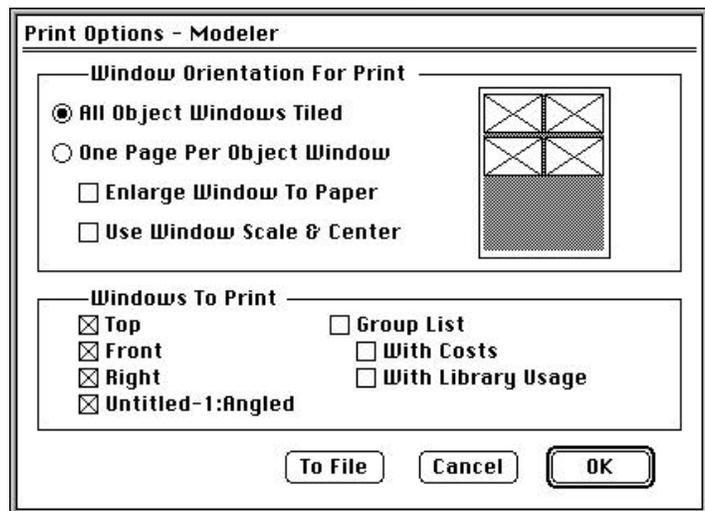
Render/Animation…

Render/Animation… command transfers control from ModelPro to Presenter for animation and rendering.

Quit

This command exits ModelPro and returns you to the Macintosh desktop. If you attempt to Quit a file without saving changes, you will be prompted to do so.

Edit Menu

The Edit menu contains commands for screen data manipulation. This menu allows you to Cut, Copy, Paste and Duplicate selected items from your database. ModelPro allows Undo/Redo up to 10 times through this menu. Additionally, access ModelPro's Preferences to fine-tune your interface for an efficient modeling environment.

ModelPro uses its own clipboard for moving 3-D data and does not support the Macintosh clipboard. This means that ModelPro's information cannot be pasted into other programs.

Undo

The Undo command negates the most recent action performed on the database. You may undo up to 10 actions by selecting Undo or typing ⌘-Z.

Cut

The Cut command removes the current selected item from a design and places it in a temporary ModelPro clipboard (not to be confused with the standard Macintosh Clipboard). All attributes pertaining to that group are removed from the current database. Cutting a folder removes all elements contained in it. If a folder or element is Cut unintentionally, you can return it with the Undo or Paste command. Each time the Cut command is used, the cut selection replaces anything previously in the ModelPro clipboard.

To use the Cut command
1) Select the item to be cut. You may also select the item name in the Group Info Palette.
2) Select Cut from the Edit menu or type ⌘-X to execute the command.

Copy

The Copy command works like Cut, but does not remove the item from the current design. A copy is placed in the ModelPro clipboard for later placement in the same or different design. The copied data replaces anything previously in the ModelPro clipboard.

To use the Copy command
1) Select the item to be copied. You may also select the item name in the Group Info Palette.
2) Select Copy from the Edit menu or type ⌘-C to execute the command.

Paste

The Paste command places the last Cut or Copy (ModelPro clipboard item) into a model database. The data remains in the ModelPro clipboard and can be pasted as many times as needed (this manner of duplication can save valuable time in designs requiring repetition of a single item). The pasted item will be located at its position when it was copied to the ModelPro Clipboard.

To use the Paste command
1) Select Paste from the Edit Menu or type ⌘-V to add the item in the ModelPro clipboard to the current database. The item is then discreet from other items and may be edited the same as any other item in the database.

Clear

Clear works like the Cut command but does not save the cut elements in the ModelPro clipboard. Instead, Clear removes data permanently from a model. If a group is cleared unintentionally, it can only be returned by using Undo.

To use the Clear command
1) Select the item to be cleared. Select Clear or type ⌘-B to execute the command.

Select All

Select All selects all the elements of the model. Any operations which you perform will effect all elements of the model. The keyboard equivalent is ⌘-A.

Clone

Makes a copy of the selected item in the same location as the selected item.

To use the Clone command

1) Select the item to be cloned.
2) Select Clone from the Edit menu or type ⌘-W.

Duplicate…

Gives access to a dialog box for entering numeric information required to complete a Linear or Polar duplication. Select Duplicate… from the Edit menu, or type ⌘-= to access the dialog box. Duplicate operations may be performed intuitively using the Linear- or Polar-Duplicate tools located in the Tool palette.

The Duplicate dialog box

This dialog is used for making multiple copies of a selection with a translation and a rotation for each copy. A new folder is automatically created and all of the copies, including the original object, appear in that folder. There are a number of options which affect the way the duplicate command operates. Most of them are applicable to both Linear and Polar Duplication.

Duplicate dialog box

Total #–Use this field to indicate how many total objects you want (including the original) after the duplication operation is complete. (The default is 2.) If you enter a very large value for Total # (by mistake or not), you can use 'Command-period' to abort this operation.

Move–These three data fields define an offset vector that is used for moving the copied object(s) relative to the original object.

Resize–Each of these three data fields specify a value that ModelPro will use to resize the selected object(s) in each of the three axis. They are in the form of a ratio, so values smaller than 1.0 will reduce the size of the object(s) and values greater than 1.0 will enlarge the objects. For example, to make each of the new copies half-again as big as the previous copy, put a value of 1.50 in each of the three resize data fields.

Rotate–When using the Polar Duplicate mode, the values in the Top (xz), Front (xy), Right (yz) data fields determine how much rotation will be used for the duplication operation. The rotation defined by each value occurs in the plane of the window for which it is defined. The Incremental and Distributive radio buttons define whether to use the specified angle as the amount to rotate each copy relative to the last, or as the total rotation of all the copies. When using the Linear Duplicate mode, the Rotate Copies check-box must be checked in order for each copy to be rotated in addition to the linear offset that is defined.

Rotate Copies–when this option is checked, each copy will rotate about an axis of rotation that goes through the point that is defined as the Center of Rotation.

Center of Rotation–This pop-up menu has several commonly-used points that can be used as a Center of Rotation. The X, Y, Z data fields allow an arbitrary point in space to be set for the Center of Rotation. If a choice from the pop-up menu is used, then the values of this point are automatically entered by ModelPro into the Center of Rotation data fields.

Method–These two radio buttons allow you to define the type of duplication that is to occur.

 Polar–This mode sets ModelPro to do an angular duplication of the selected objects about the Center of Rotation. Most commonly when using this mode, the Move values will all be zero. But an offset could be defined to be included in a polar duplication.

 Linear–This mode sets ModelPro to do a linear, or vector-based duplication of the selected objects. Most commonly when using this mode, the Rotate values will all be zero. But the objects could be caused to rotate along with the linear duplication.
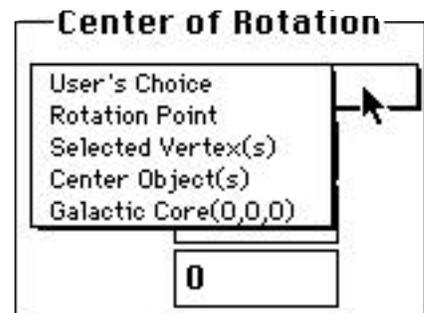
Distribute–These two buttons allow you to define how ModelPro will interpret the data in the Move and Rotate Copies data fields

   Incremental–Moves each of the copies the distance shown in the Move data fields. —and— Rotates each of the copies the angular amount shown in the Rotate Copies data fields.

   Distributive–Distributes the total number of copies over the distance between the selection's original position and the offset shown in the Move data fields. —and— Distributes the total number of copies over the rotational angle between the selection's original position and the angle shown in the Move data fields.

Rotate Copies–If this field is checked, then the selected object(s) will rotate according to the values in the Rotate Copies data fields while a linear duplication operation is carried out. This check-box has no effect when the Polar button is picked.

Resize Affects Rotation–If this field is checked, then the selected object(s) will resize according to the values in the Resize data fields during a polar duplication operation.

Default Values–sets all values back to the original values.

Preferences...

Gives access to dialog boxes for entering numeric information required to to fine-tune the ModelPro interface. The Preferences dialog boxes are: General, Screen, Drawing, Grid, and Colors.

General

Beep After Long Functions–ModelPro will beep once after finishing any function which takes over 3 seconds for the program to accomplish. This is done so that when you do not happen to be looking right at your computer when the operation is finished, you get an audible alert to signal you.

Auto-Update Library Items–Library objects will use newer information, if available.

Delete Spline After 3-D operation–This will remove the spline that an operation is based on. For example, if this check-box is not checked, when you Extrude an ellipse, a new extrusion object gets created, and it appears in the Group palette. The original ellipse is still there, but it is automatically changed to be invisible. (The black box in the "D" column turns to white for the ellipse.) This allows you to go back and work with the original ellipse later for any reason. But, if you put an "x" in the check-box, then when you extrude the ellipse, the new extrusion object still gets created, but the original ellipse object gets deleted from the Group palette.

3-D Operations Create Folders–This will put the original spline and the operation result into a new folder. The original spline is also "turned off."

Faster Spline Drawing–This will draw splines in a more jagged way. However, this will enable the display to be faster.

Facet shading for Angled view–This is slightly faster and displays shading at the facet level. In some cases, this allows you to see the geometry more clearly.
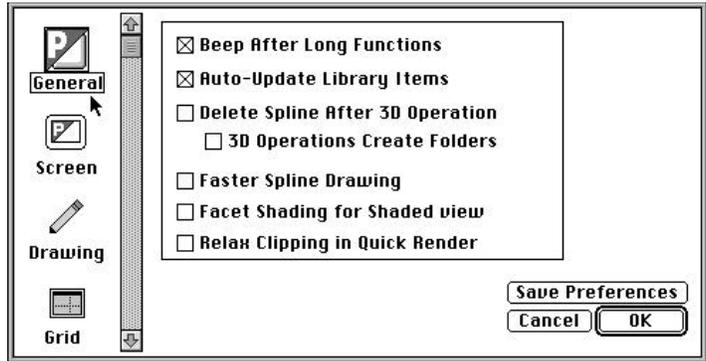
Relax Clipping in Quick Render–It is possible to zoom in so close to an object that the object will not display; it will be "clipped." Enable this check box to ease those restrictions on zooming. Warning: you may encounter other problems when zooming "too close" to an object.
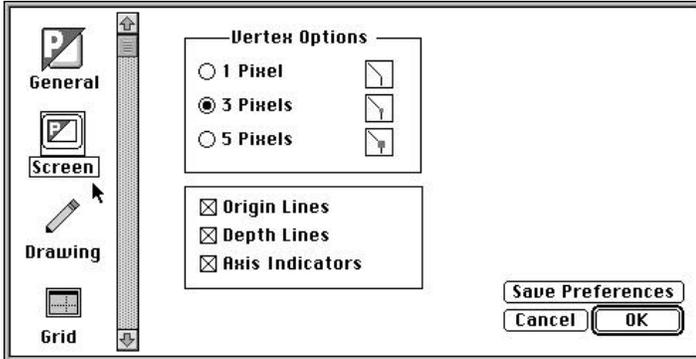
Screen

1, 3, 5 Pixels (radio buttons)–these let you choose the size of your vertices based on the number of pixels. Larger vertices make it easier to determine the state of each vertex (is it visible or selected?) but this can clog up the view when there are lots of vertices to display.

Origin Lines–If there is an "x" in this box then ModelPro displays axis lines through absolute 0,0,0 in all the view windows. The option is on by default.

Depth Lines–If there is an "x" in this box then ModelPro displays dotted axis lines through a temporary "depth origin." This depth origin moves each time the space bar is hit while the cursor is in one of the orthogonal view windows.

Axis Indicators–If there is an "x" in this box then ModelPro displays a graphic in the lower left side of the drawing windows showing the orientation of the coordinate axis in each of the orthogonal view windows. These are the small arrows with "xz," "xy," and "zy" labels. This option is on by default.
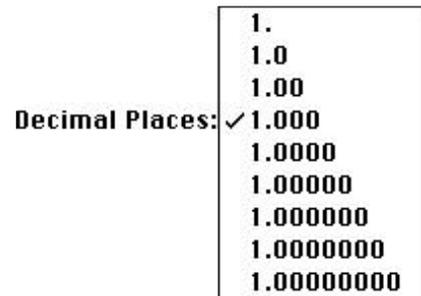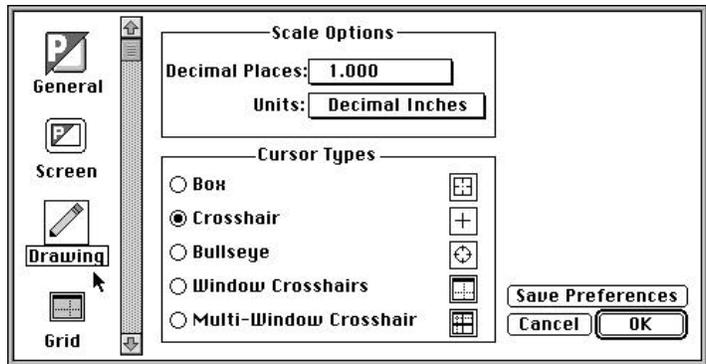
Drawing

Scale Options–The Scale options provide the ability to set the data accuracy and units used.

Decimal Places (pull-down menu)– This lets you vary the data accuracy display by factors of 10: 1.0, 1.00, to 1.00000000. This is the precision of the numbers that are displayed in the data fields throughout ModelPro. This setting does not affect the fact that ModelPro is keeping track of your geometry with full floating point precision regardless of how the display setting is made.

Units (pull-down menu)–lets you design your drawing in the units which are most appropriate for the model you are constructing. Note: The "Feet" option uses feet and fractions of inches.

Cursor Types (radio buttons)–The cursor usually used for the drawing tools in the drawing windows is selectable using this option.
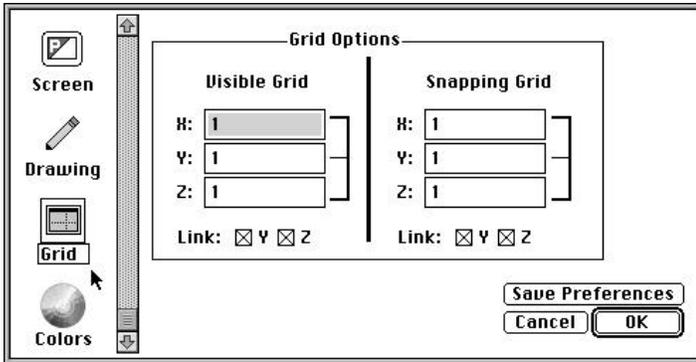
> Arrow
> Crosshair
> Bullseye
> Window Crosshair
> Multi-Window Crosshair

Decimal Places pull-down menu


Units pull-down menu

Grid

Grid Options–These define grid spacing, visibility, and locking.

Visible Grid (check box)–will display a grid, with the spacing determined by the data fields, which will not affect the drawing tools and is only visible for guidance.

Snapping Grid (check box)– places an invisible constraining grid over the drawing surface to which all cursor controlled actions will snap when the Grid snap option in the Snap palette is activated.

Link: Y Z (check boxes)–when these are checked, the program will use the values of the X axis data fields, and will automatically assign those for the Y and Z axes as well. When these are unchecked, the three data fields are allowed to act independently.
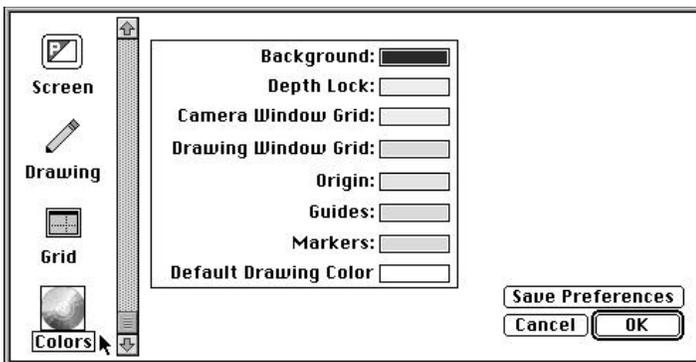
Colors

Background–Background color for all windows

Depth Lock–Color of depth lines going through the Depth Origin.

Camera Window Grid–Color of the Grid in the Angled window

Drawing Window Grid–Color of the Grid in the Top, Front and Right windows

Origin–Color of the zero lines going through the absolute Origin (0,0,0).

Guides–Color of guides

Markers–Color of markers

Default Drawing Color–Color that is set in the Color palette by default. This will be the color of any new objects that are created.
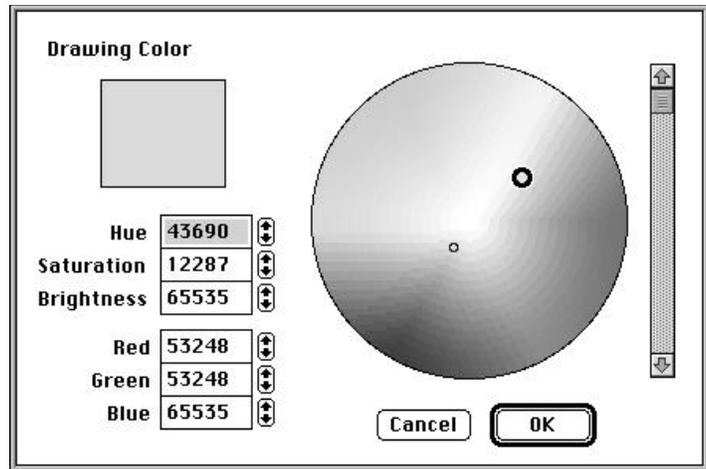
Standard color edit dialog box

Windows Menu

The Windows menu controls on-screen display of the Windows and Palettes in ModelPro, as well as allowing access to finished still images and animations from Presenter 3.0.
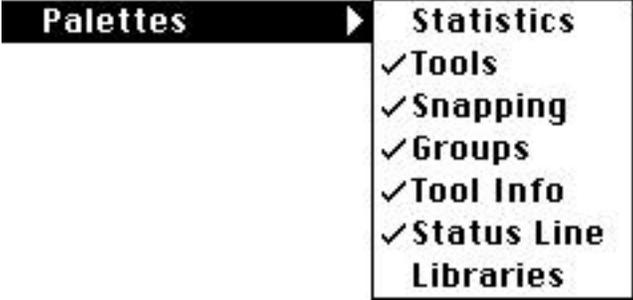
Re-display

This command re-displays the images shown in the Top/Front/Right and 3-D View Windows. You will find many instances in which the images are not redrawn after operations; ⌘-D is the keyboard equivalent for Re-display, and should be one of the first that you memorize and use often.

Top / Front / Right / Angled Window

Each of these commands performs two functions in association with the Window it shares its name with: 1) if the Window has been closed, it opens the Window and makes it the current active Window; 2) if the Window is open, but not the current active Window, it makes the Window the current active Window. In case 2, this command would be used in place of clicking in an open area in the appropriate Window with the Selector tool.

Palettes

Statistics
✓Tools
✓Snapping
✓Groups
✓Tool Info
✓Status Line
Libraries
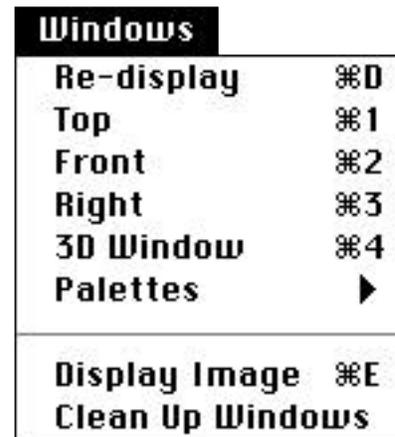
Palettes

This displays a sub-menu listing the seven palettes available to you in ModelPro: Statistics, Tools, Snapping, Groups, Tool Info, Status Line, and Libraries. Selecting any one of the list items enables the display of the corresponding palette. If a check mark appears to left of the list item, the palette is currently displayed and active on-screen. To close a palette click on the Close box in the upper-left corner of the palette.

Image/Movie…

This command allows you to view already completed renderings of Presenter Professional 3.0 files for reference. Choosing Image/Movie… presents you with the standard Apple Open dialog box. Locate the file you wish to open and select Open, or double-click on its name.

Click-hold on the title bar of the image window to expose the option to put the image into the data base, and use it as a template which may be moved, rotated and resized.

Clean-Up Windows

The Clean-Up Windows Command returns the arrangement of the Windows and Palettes to the default arrangement you see upon application launch. Note that if an old model is opened and does not fill your larger screen (or clips Windows and Palettes on your smaller screen), Clean-Up Windows rectifies this situation.

Options

✓Show Rulers
✓Show Guides
Show Grid
✓Show Depth Line
✓Show Markers

✓Snap To Guides
Lock Guides

Clear All Guides
Clear All Markers

The Options menu controls the display of Rulers, Guides, Grid, Depth Line, and Markers. If a check mark appears to left of the menu item, the item is currently displayed and/or active on-screen.

Show Ruler / Guides / Grid / Depth Line / Markers

Each of these commands enables/disables the on-screen display of the item which shares its name.

Snap To Guides

When Snap To Guides is checked, drawing tools will snap to guides when they are within a 3 pixel distance. This option is also available in Snap Palette (the top-right box).

Lock Guides

When Lock Guides is checked, no guides may be moved or deleted, after placement, until Lock Guides is unchecked. Locked guides will be removed if Clear All Guides is selected.

Clear All Guides / Markers

Removes all Guides/Markers from the View windows. There is no check mark associated with this function. Simply select the menu item to activate it.

Group

The Group menu automates some functions which can be performed in the Groups Palette, as well as providing access to Object Info dialog boxes.

Group

The Group command combines two or more items (groups and/or objects) to make it possible to select and edit the items as one. When the Group command is used, a new folder is created in the Groups Palette containing the selected items. For more detailed information regarding folders and groups see the Group palette chapter in this manual.

To create a new group

1) Select the items you want to group, then choose Group from the Group menu (⌘-G).
2) Enter a name for the new folder.
3) Click Add.

Ungroup

The Ungroup command splits the items (groups and/or objects) from their group structure (folder) back into discreet items (groups and/or objects); the folder is deleted from the Groups Palette.

To ungroup

1) Select the group you want to split, then choose Ungroup from the Group menu (⌘-U).

Create Folder

The Create Folder command inserts a new, empty folder at the Insertion Pointer in the Group palette. A Folder is a structure which can hold other Folders and Objects.

To create a new folder

1) Select Create Folder (⌘-F) from the Group Menu.
2) Enter a name for the folder.
3) Click Add.

Information

The Information command accesses the Information dialog box for the selected item (group or object). You may accomplish the same function by double-clicking on the item name in the Group palette, or on the item in a View window with the Selector tool.

Operations

This Menu gives you access to some very important dialog boxes used to precisely position your model, and to Join two or more separate elements.

Transform...

Highlight this item to access the Transform dialog box.

The Transform dialog box

The Transform dialog allows you to make multiple specific adjustments to the placement and size of selected elements.

When the program does the Transform it does the operation in a specific order which can affect how the selection will be changed. The order is Resize, Rotate, and then Translate.

Translate: X,Y,Z–Moves the selection the desired distance. The values typed in here are treated as offsets. The values are not read as absolute coordinate locations relative to the origin.

Rotate: Top, Front, Side–Rotates the selected object(s) the amount set in the data fields. The rotation takes place about the point set in the Center of Transform section of this dialog box.

Resize: X,Y,Z–has two options. Sets the dimensions of the selection to either match the size in the data fields, or changes the size according to a factor that is in each of the data fields.

Ratio–multiplies the size of the selection by the contents of the data fields. To make the object(s) enlarge, use a value greater than 1.0. To reduce the size of the object(s), use a value smaller than 1.0.

Actual Size–adds or subtracts what is needed to make the selection fit the values in the data fields.

Center of Transform–The coordinates entered here define the axis point for the Rotate function and the anchor point for the Resize function. There is a pop-up menu that contains several pre-defined reference points whose locations can be used as a center point. You can also enter any values for the x,y, and z data fields to define the location you want for the center point.
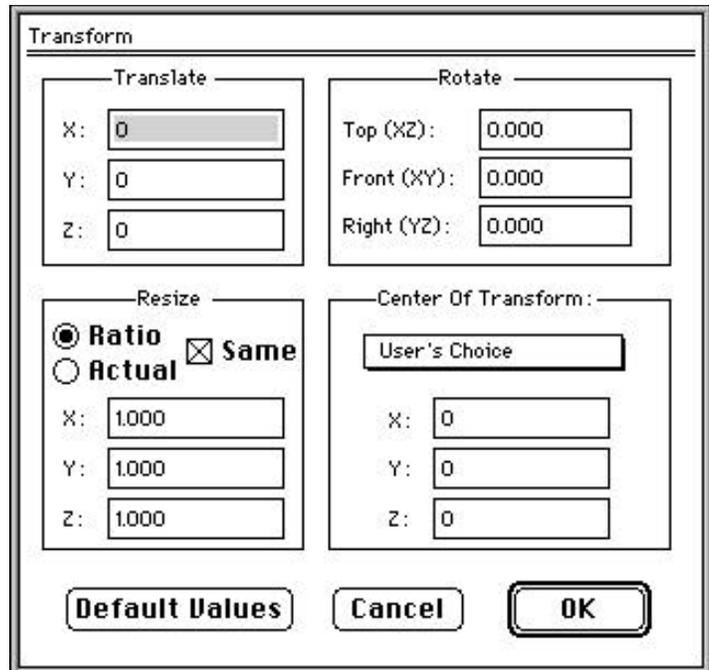
Transform dialog box

Pull-down menu

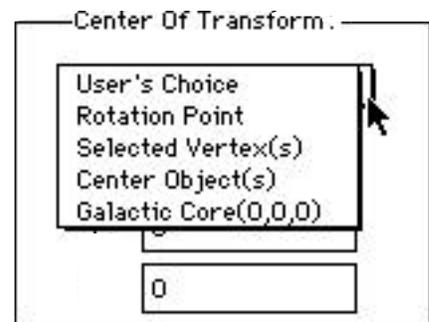User's Choice–The user enters a coordinate set to define the Center of Transform point.

Rotation Point–Uses the Rotation Point, as defined by the Information dialog for the selected object or group.

Selected Vertex(s)–Finds the geometric center of the selected vertex(s) and uses that as the center point. If only one vertex is selected, then that is used.

Center of Transform pull-down menu

Center of Object(s)–Finds the volumetric center of the selected object or group and uses that as the center point.

Galactic Core–uses the Origin (0,0,0) of the drawing universe.

Default Values–Sets the values in all of the data fields back to the default values that come up when ModelPro is first launched.

Join Elements

Use this function to join separate 2-D shapes.

To join 2 or more shapes
1) Select the shapes to join. Use the Shift key to make multiple selections.
2) Choose Join Elements in the Operations menu.

If you are trying to join the ends of spline shapes, the ends to be joined must be very close to, or directly "on" one another.

The original spline shapes are deleted from the Group palette (and the database) and are replaced by the new, joined item titled "Joined Splin."

Joining two, **closed** 2-D shapes is only useful if: 1) both shapes are in the same plane, and 2) one of the shapes is completely "inside" of the other. The result is that the smaller of the two shapes acts as a hole in the surface of the larger shape.

The display of the original shapes is disabled in the Group palette, and a new item is created, and displayed, titled "Joined Splin."

Align...

Highlight this menu item to access the Align dialog box.
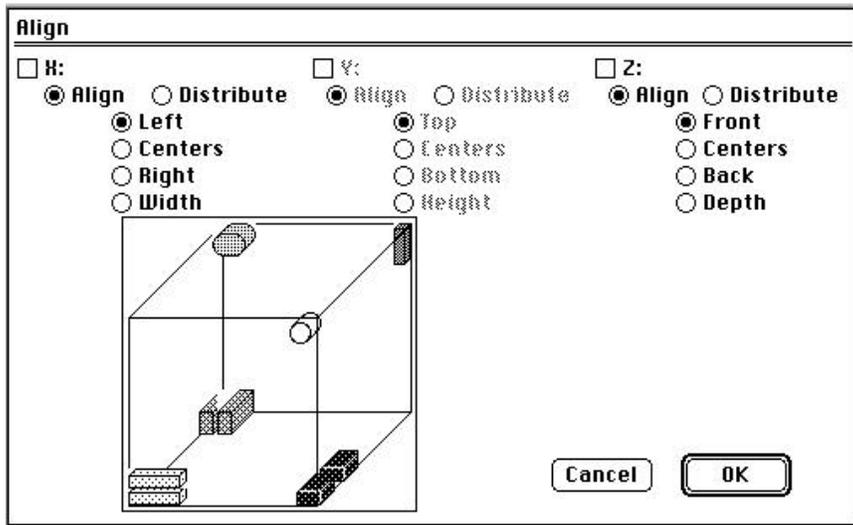
The Align dialog box

The Align command allows you to take a selection of objects and arrange them in space relative to one another in a very controlled way.

X,Y,Z (check-boxes)–Determines the choice of axis which the selection is going to be aligned to or distributed along. To activate an axis, put an "x" in its check-box by clicking on it. A sample 3-D space is shown to represent what the results of the alignment settings will be.

Align–Sets up all the selected items so that they are lined up along a single line.

Distribute–Takes the selected items and spreads them out evenly between the two items which are farthest apart.

Left, Centers, Right, Width (radio buttons) defines what boundary of the objects are to be aligned.

Move To...

Highlight this menu item to access the Align dialog box.

The Move To dialog box

Use this dialog box to move object(s) or groups to a specific location. You will see a box representing the bounding box of the selected object(s). Control points on this box can be selected to represent a point within the object space. A location can then be selected, and all objects will then translate (move) to that location.
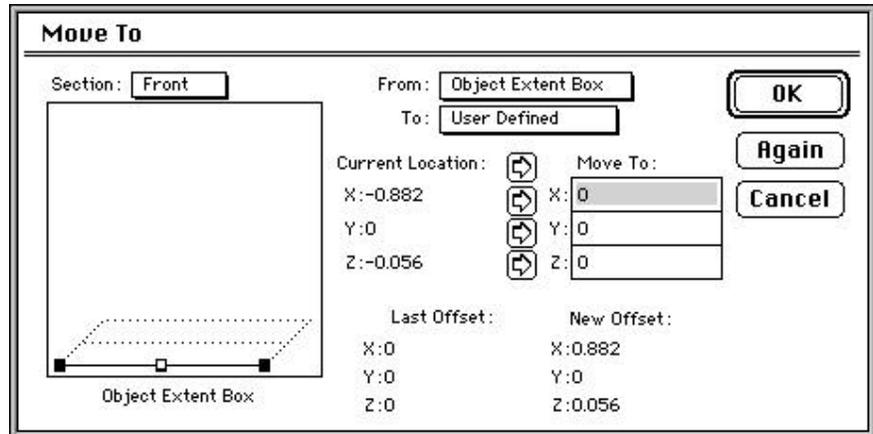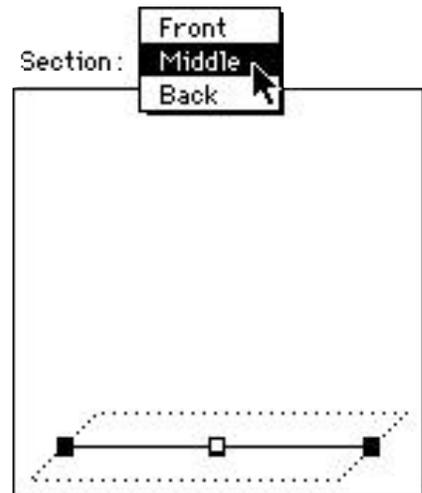

Section pull-down–Use this pull-down menu to move the sample section to one of the three default locations in the sample bounding box; Front, Middle or Back.

Object Extents Box–This is a sample bounding box that allows you to select one of 27 different control points along the centers and edges of that space to be used as a reference point for the move operation. Move the section line with the Section pop-up and select the desired control point by clicking on it to make it white.

From/To (pop-up menus)–Use these pop-up menus to take advantage of standard reference points to move the selected objects. Pick the point of your choice in each of the menus and the object will be moved accordingly.

Typical Section pull-down menu

Move to (data fields)–The four sets of coordinates are used to give information about location of selected points and about the move operation.

Current Location–This set of coordinates show the x, y, z values for the selected control point in the Object Extents Box.
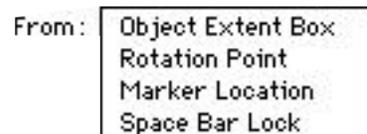
Typical From/To pull-down menu

Arrows–The four right-facing arrows are used to transfer coordinate data from the "Current Location" coordinate set to the "Move To" data fields. The top-most arrow transfers all three coordinates at once. Each of the other arrows move just that one value.

Last offset–This retains the offset values of the last move operation and displays them here for reference.

New offset–This shows what the actual offset will be for this move operation as a result of the settings made in this dialog box.

Again button–This will repeat the move operation, using the values currently set in the dialog box.