

# MAXONFORM FOR ARCHICAD TUTORIAL

## 2. WORKING ENVIRONMENT

### Content Outline

- **Part 1:** Overview of the Environment
- **Part 2:** Navigation in the Editor Window
- **Part 3:** Tools and Settings
- **Part 4:** Managing Windows

### Exercises

- Start MaxonForm
- Navigate in View panel
- Send back design from MaxonForm to ArchiCAD

### Objectives

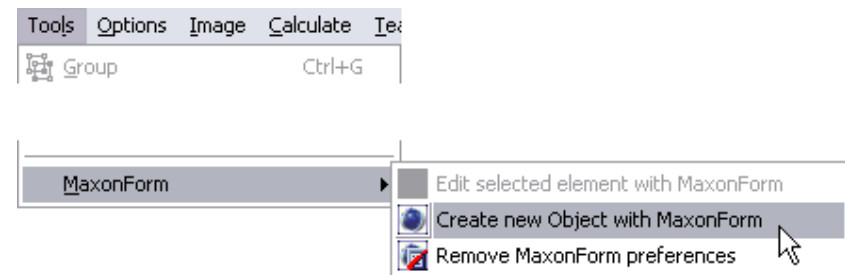
At the completion of this lesson you will be able to

- 1 Understand the structure of the MaxonForm working environment
- 2 Understand the structure of Left Command Palette
- 3 Effectively navigate in the View panel
- 4 Understand the importance of the Object Manager
- 5 Set up parameters in the Attribute Manager
- 6 Manage palettes

### OVERVIEW OF THE ENVIRONMENT

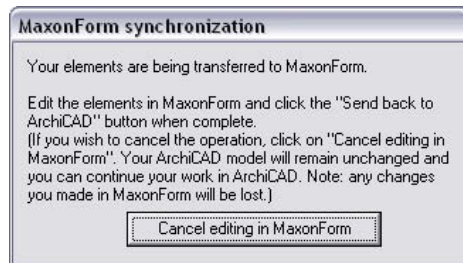
MaxonForm for ArchiCAD is developed by MAXON Computer, tailoring its award winning free-form modeling software CINEMA 4D to meet the specific needs of architects, especially those using the Virtual Building. Founded in 1985, MAXON Computer is ranked today among the largest modeling software developers in the world. More information about MAXON Computer GmbH is available at their web site: [www.maxon.net](http://www.maxon.net). This section introduces the visible elements of the MaxonForm working environment, to help you find your way in the MaxonForm workplace during your working process and understand the role each component plays in MaxonForm.

To access MaxonForm the way you will actually work, first start ArchiCAD and open the TestModel.pln file (please download it at [www.graphisoft.com/maxonformtutor](http://www.graphisoft.com/maxonformtutor)). This plan file contains standard ArchiCAD elements in a very simple arrangement. Next, go to the 3D view and choose the “Create new Object in MaxonForm” command in the Tools menu.



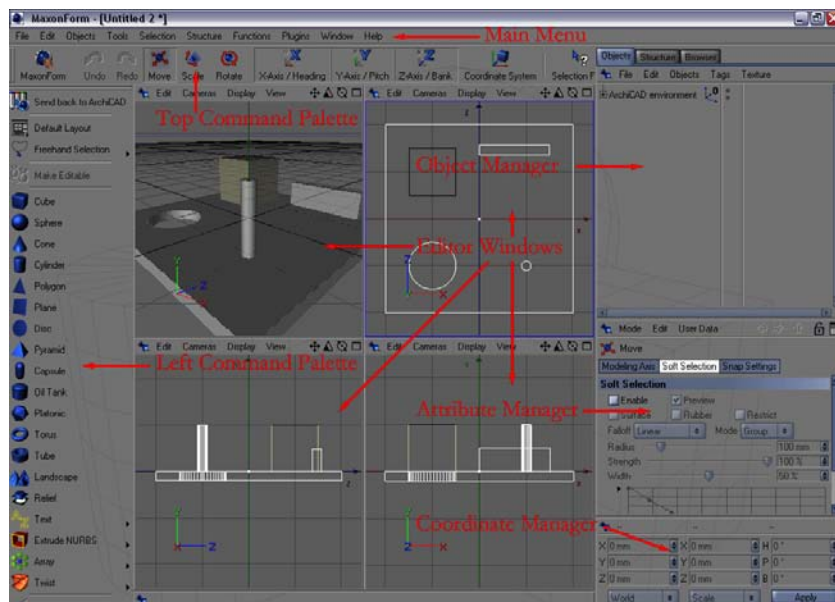
A dialog appears while MaxonForm opens and imports the ArchiCAD model.

### Exercise



This dialog is shown in ArchiCAD while you are working in MaxonForm, allowing you to cancel the work you did in MaxonForm at any time.

Let's start with an overview of the MaxonForm user interface. The following screen shot shows the components of the working environment that first loads when a project is opened. You can construct your model using MaxonForm's main windows, each of which displays a different aspect of your project.



As you can see, the structure of the working environment is quite similar to ArchiCAD. Let's consider the interface elements one by one.

- **Editor Windows** are the basic construction area where most of the editing operations take place. You can open any number of views of the same scene. The active window is framed by a thin blue rectangle.
- **Object Manager:** The Object Manager lists all objects of the scene. You can use the Object Manager to select objects, set up a hierarchy, assemble complex objects, set tags for objects (small icons to the right of the Object Manager let you assign certain attributes to an object), or even give a name to objects.
- **Attribute Manager** is a versatile palette in MaxonForm. First, it manages the attributes of each object or tool. The basic properties of an object (such as visibility in the Editor window, name, size and coordinates) can be set here. Second, tool properties, commands (such as Live Selection from the Left Command Palette or Move, Rotate in the Top Command Palette) and the properties and settings of the Editor Windows can be specified in this window.
- **Main Menu.** The Main Menu contains all available commands, operations and objects of MaxonForm. For example, in the Objects menu under Primitives you can find all primitive objects of the Left Command Palette.
- **Left Command Palette:** It is very similar to the Toolbox of ArchiCAD. However, the MaxonForm Left Command Palette also includes some basic commands and editing modes.
- **Top Command Palette:** This contains Undo/Redo and commands related to changing objects' positions.
- **Coordinate Manager** helps you ensure accuracy in the drafting process, similarly to ArchiCAD's Coordinate Box.

The Top Command Palette and the Left Command Palette are very similar to their equivalent palettes in ArchiCAD. In the next lesson, we will see how to work with the icons of the Top Command Palette, so for now we will focus on the Left Command Palette. Let's divide this palette into five main groups. The first group contains four commands which are quite different from each other; the other four groups are more homogenous.



**Communication**

The first group begins with the command for sending back the design to ArchiCAD.

**Layout**

If you find your customized working environment unsuitable, you can easily return to the default environment layout using the second command, “Default Layout.”

**Selection**

The third item in the Left Command Palette provides several selection methods in MaxonForm.

**Edit Primitives**

The “Make Editable” command lets you create complex shapes out of primitive elements.

**Primitives**

Clicking any element of the second main group helps you place primitive elements in your design.

In the next group, Complex Objects and Object Modifiers are the most important tools in creating organic forms.

Advanced tools are designed to operate with polygons of complex shapes.

The last group helps you easily edit the model as needed.

**Complex tools and modifiers**

Clicking any element of the second main group helps you place primitive elements in your design.

**Advanced tools**

Advanced tools are designed to operate with polygons of complex shapes.

**Editing modes**

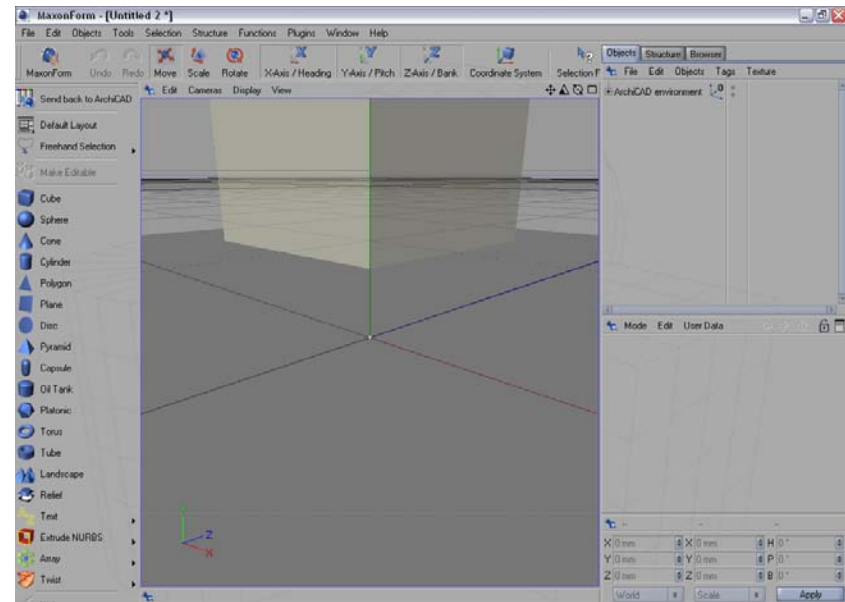
The last group helps you easily edit the model as needed.



**Hint :** If some elements of the Top Command Palette or the Left Command Palette remain hidden on your screen, clicking with the right mouse button lets you pan them in order to see hidden elements. When clicking the Left Command Palette with the right mouse button, the cursor changes its form to a hand. In the Left Command Palette, scrolling the mouse-wheel produces the same effect as dragging the content with the right mouse button.

**NAVIGATION IN THE EDITOR WINDOW**

When you choose the “Create a New object with MaxonForm” command in ArchiCAD using the TestModel.pln file, you will see an image similar to the following as it opens in MaxonForm:



Unlike in ArchiCAD, the Editor Windows in MaxonForm have their own menu. These menu commands are an easy way to set the projection type of the Editor Window.


In the first part of the menu, you can choose between predefined cameras, or link the camera to a particular object. In the latter case, the camera will be placed into the object's origin, facing in the direction of the object's Z axis. Please keep in mind that the object surface may block the view.



In the second part, you can choose any of the 14 projection types for your Editor Window. You can also see all projections in the MaxonForm Reference Guide, in the section on Views and Viewports/Cameras menu.


By default, MaxonForm opens a perspective view in the Editor window, regardless of which projection are you using in ArchiCAD.

MaxonForm offers several handy ways to change this view.

In the upper right corner of the Editor Window, you find 4 icons: 

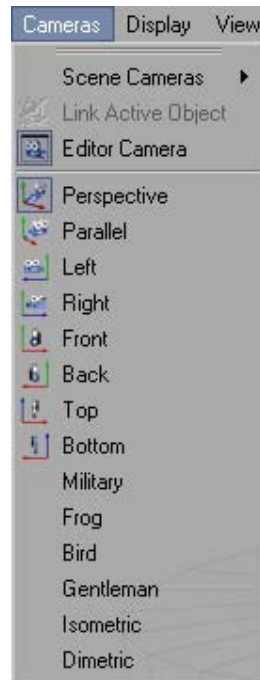
The  icons let you navigate in the Editor window. The technique is simple: click the desired icon and keep the mouse button pressed. Moving the mouse changes the view in the Window.

The  icon moves the view. The next icon  lets you zoom in and out.


The last one of the three navigational icons  lets you rotate the camera around the model – namely around the project zero. This icon does not have any effect in Left, Right, Front, Back, Top or Bottom views.


Now, try out these buttons in our model, for practice.


### Exercise




To enhance productivity, MaxonForm offers the option of using shortcuts instead of these icons. Shortcuts can include pressing a key on the keyboard, Left and Right Mouse buttons, and scrolling the Mouse wheel.

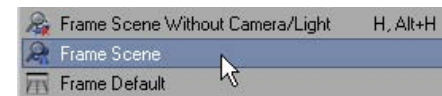
Pressing '1' on the Keyboard together with the Left Mouse Button has the same effect as using the  icon.

 can be substituted by pressing the 'Alt' and the Right Mouse Button. Scrolling with the mouse wheel in a window offers an alternative but much rougher zoom effect.

Instead of clicking the  icon, you can use 'Alt' key and the Left Mouse Button.

Change your view using the above methods in order to see the entire imported ArchiCAD model in your Editor Window from the desired point of view.

The last icon  in the upper right corner of the Editor Window will display all four views. Zoom out of the new views using the above described methods or use the Frame Scene command of the Editor Window's Edit menu to see the whole model.



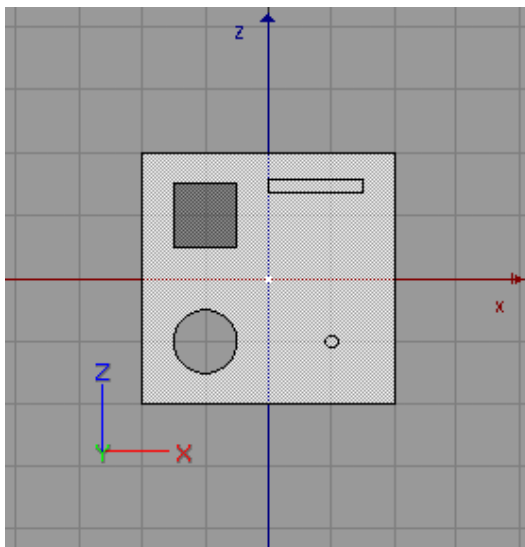
The result of this command is very similar to the Fit in Window command in ArchiCAD.

### Exercise

## TOOLS AND SETTINGS

Choose one of the newly opened views. In the Display menu of the Editor window, change its representation from Lines to Gouraud Shading (Lines). The icon of current representation in the menu is framed like any other setting that is active in the menus.

The result will look like this:

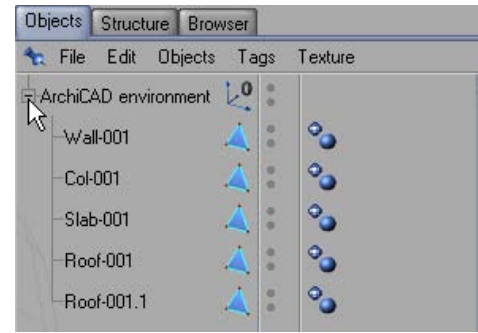


Now, go to the Object Manager and open the object group 'ArchiCAD Environment' by clicking the small '+' sign on the left side of the group name.

You can see that all ArchiCAD elements are listed by their Element IDs.

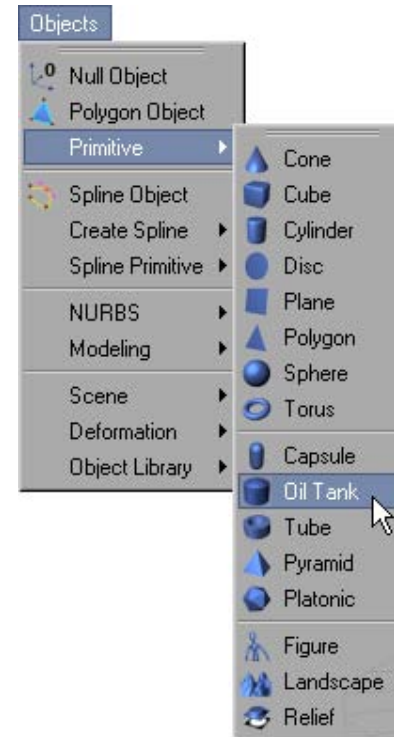
The roof is composed of two elements, because the top of the roof was drawn with a different material. Those ArchiCAD elements that have

different materials assigned are imported into MaxonForm as separate elements.



In our example, the top of the roof has been assigned a different material than its other sides.

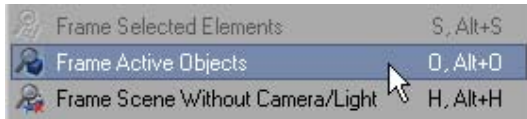
In ArchiCAD, the wall, column and slab elements were assigned the same material on every surface.



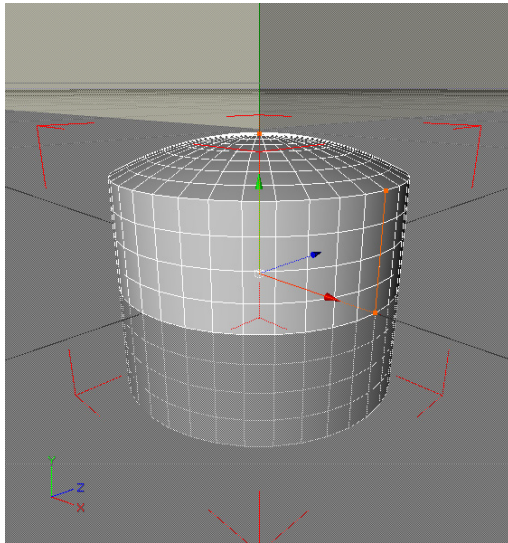
Let's put a new element onto the model. Click the Oil Tank icon in the Left Command Palette, or choose the Oil Tank command from Object Menu, Primitive.

The Object is placed with its origin – marked by the colored arrows - into the Origin of the model, which is the same as the Project Origin in ArchiCAD. As you can see, the origin of the Object is at the middle of its bounding box from every direction. This is true for any new element in MaxonForm.

Go to the Perspective window and choose the “Frame Active Objects” in the Edit menu.

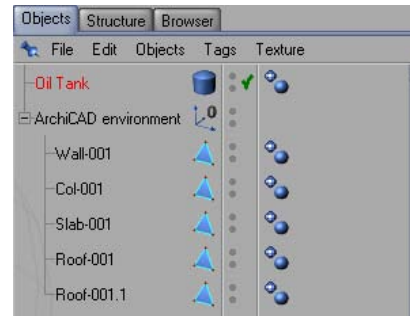


You will see something like this:





**Hint:** There are many handy shortcuts in MaxonForm (just like in ArchiCAD). As you can see, if you press the letter ‘O’ on your keyboard it activates the Frame Active Objects command. If you combine it with holding down the ‘Alt’ key, the active object will be framed in all open Editor Windows. Regarding the ‘Alt’ key combination the same applies to the other Frame... commands in this menu.

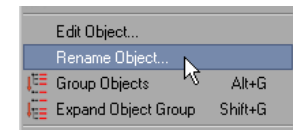
When placing an element in Editor Window, the new element appears in Object Manager as well:



After placing an Object in MaxonForm, it becomes automatically selected. The Object is bounded by red edges in the Editor Window and its name is written in red characters in Object Manager, meaning that the Object is selected (active).

By clicking the  icon in Object Manager, you can switch off any object’s visibility in the Editor Window. However, if it was selected at the time you switched its visibility off, its selection edges, the axis of the Object’s own coordinate system and the editing handle(s) remain visible (they will be discussed in detail in the next lesson). The icon now changes to . Click this icon to make the object visible again.

When you double-click the name of the new object in Object Manager or clicking it by the right mouse button and choosing the Rename command in the appearing menu, a new window will open where you can rename the object. Change the name of the object from Oil Tank to Water Tank.



Below the Object Manager, the Attribute Manager palette displays the attributes of the active (selected) Object. Several tab pages are available for every Object in Attribute Manager. Click the Basic tab page first. Here you can also set the name of the Object and its visibility in the Editor Window.

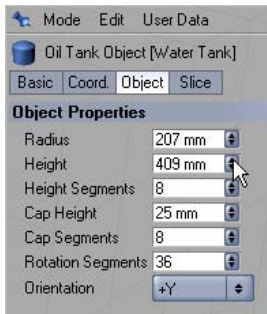
Since the rendering functions of Cinema 4D are not available in MaxonForm, the Visible in Render parameter does not have any significance.



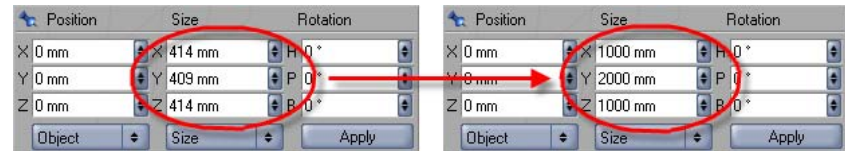
**Hint:** Set the Use Color parameter to “Always” and select a Display color for the object. These display colors will be translated into ArchiCAD materials on return.

Let’s click the Object tab in the Attribute Manager.

In MaxonForm it is very easy to modify numeric parameters by moving the cursor over the numeric field, or the arrows next to it, and scrolling with the mouse wheel. It is very useful when you want to fine-tune an object, since the active Editor window offers real-time feedback.



Of course, entering a number works as well. So, let’s give 500 mm as radius of the tank, and 2000 mm as the height. Change Cap Height to 125 mm. As you can see, the size of the object bounding box has automatically changed in the Coordinate Manager:



Consulting the Coordinate Manager as you work is vital to ensuring accuracy.

**Exercise**

**MANAGING WINDOWS**

MaxonForm provides numerous remarkable features for managing windows, which help you in working faster and more efficiently.

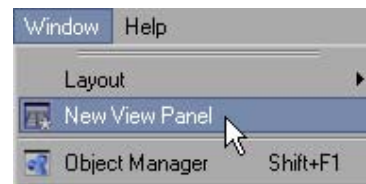
**Re-sizing**

To change a window’s height or width, first move the cursor to a window border. When the cursor changes its form to a double arrow (horizontal or vertical, always perpendicular to the border direction), drag the border to re-size. The neighboring windows are automatically re-sized. This is similar to the way the Navigation window resizing works in ArchiCAD. Using this feature of MaxonForm, you are able to see e.g. more complex structures in the Object Manager.

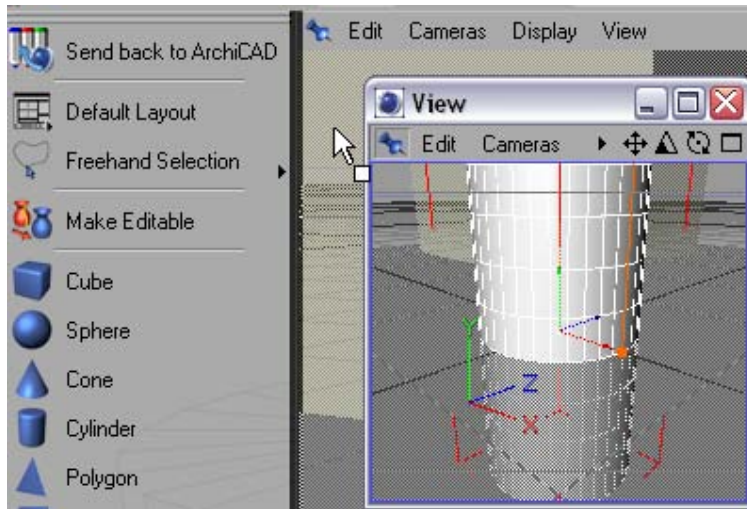


**Docking/Undocking**

New windows are undocked by default. Let’s create a new Editor Window:

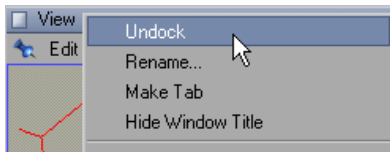


To dock this window, click its pin icon in the upper left corner and drag it to the docking position while holding down the mouse key.





A dark line appears, indicating where the window will be inserted. When you are in the right position, release the mouse button.

**Tabs**

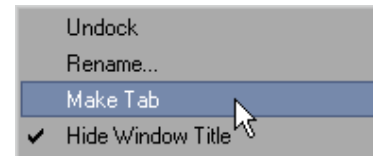


Undock the window you just docked by clicking its title bar with the right mouse button.

Then click the pin icon  and move it onto the pin icon of the other view panel and release when the cursor changes its form: . When you drop a pin onto another pin, both become tabs, even if the target was not a tab.



You can create a tab of any window by clicking its pin icon and choosing the Make Tab command in the appearing menu.



You can move a tab from one group of tabs to another; drag the tab's pin onto a tab or pin in the target group. The cursor changes its form to a hand to indicate where the tab will be inserted. If you drop the tab onto a pin, the tab will be inserted after the pin's tab. If you drop it onto a tab, it will be inserted before or after the tab, depending on whether you release the mouse button while the cursor is at the left or the right side of the target tab.

To convert a tab into a separate window, drag the pin of the tab slightly to the left and release the mouse button. Close the window you have created.

**Exercise**

**Lesson review**

- 1 How do you start the MaxonForm application from within ArchiCAD?
- 2 Name five important palettes in the MaxonForm Working Environment; describe the purpose of each palette.
- 3 What options are provided to navigate the MaxonForm Working Environment?
- 4 How many Editor Views can be opened as a maximum in MaxonForm, and how do you open them?

- 5 How can you dock/undock palettes and windows in MaxonForm and make tabs out of them? Is it possible to convert tabs into separate windows?