
# hsCADView Help

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# 1 Introduction


This help document includes information on how to Quickly get Started in **hsCADView** as well as the more in-depth details of the hsCADView Handbook. Also available are Licensing, Support, and Version Information, as well as Frequently Asked Questions.

## 1.1 Quick Start

***Quick Start*** provides an overview of hsCADView. It is a primary goal of **Hachisoft Corporation** that **hsCADView** be a powerful tool in the hands of its user clientele. There are two fundamental ways to use **hsCADView**. Click on a link below to learn more about the program.

1. **Printing Drawings**
2. **Viewing Drawings**

To insure user success we recommend the following steps:

1. **Become acquainted with all of the** tools--one may be more effective for your job undertaking than another; knowing which tool to access and how to use it is critical to efficiently using the program.

2. **Use the program Help manual** (or the hard copy **Owners Manual**). Questions you may have can often be answered by carefully reading the pertinent information there.

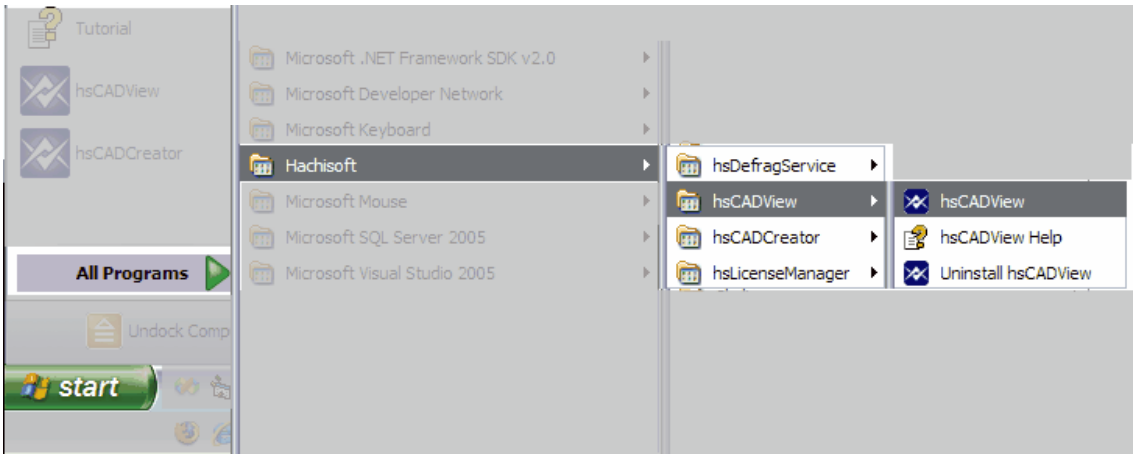
3. Check the Frequently Asked Questions (FAQ) page. Your inquiry may already be covered there.

4. Contact us if steps (1), (2), or (3) have not alleviated your questions about how to use the program. We would be glad to assist you.

***Note:***
Evaluators of the free trial version of hsCADView may want to peruse the Evaluation Quick Start.

### 1.1.1 Open hsCADView

To open **hsCADV ew** click on **hsCADV ew** under your All Programs items. This will start the **hsCADV ew** program.

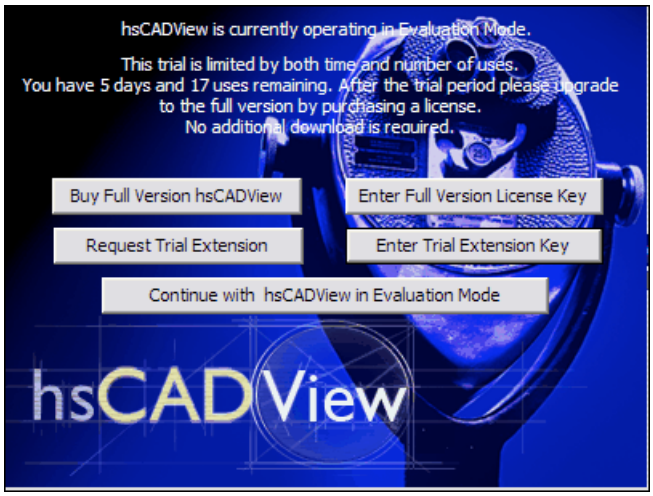



### 1.1.2 Evaluation (Trial Version)

If you have acquired a free trial copy of **hsCADView**, then it will start in an "Evaluation" mode. The good news is that you now have everything you need to run a full version of **hsCADView** except a license key. No additional downloads are necessary should you wish to purchase and continue using **hsCADView** past the evaluation period.

For information on how to buy one or more licenses, please see the Upgrade Instructions.
For information on how to request trial extension, please see the Trial Extension Instructions.

When **hsCADView** starts in Evaluation mode, you will see this dialog:




Click the "Continue with **hsCADView** in Evaluation Mode" button to start **hsCADView.**

When the trial period expires the prompt will continue to allow you enter a license key, but will prevent entrance to **hsCADView**. If more time is required to evaluate **hsCADView**, please see Trial Extension for further information.

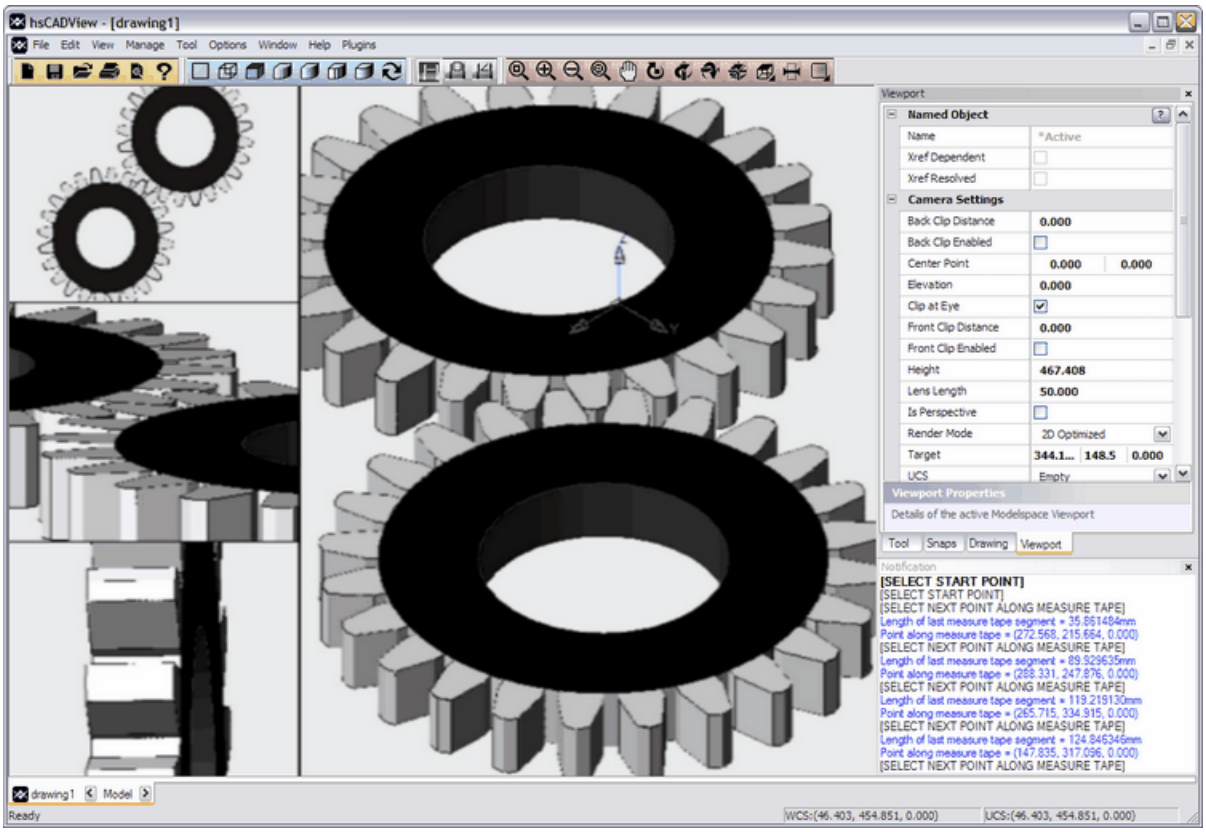
Return to the Quick Start.

Also See:

Licensing

### 1.1.3 Viewing Drawings

**hsCADView** has variety of view tools available to easily inspect the drawing from different angles and zoom levels.

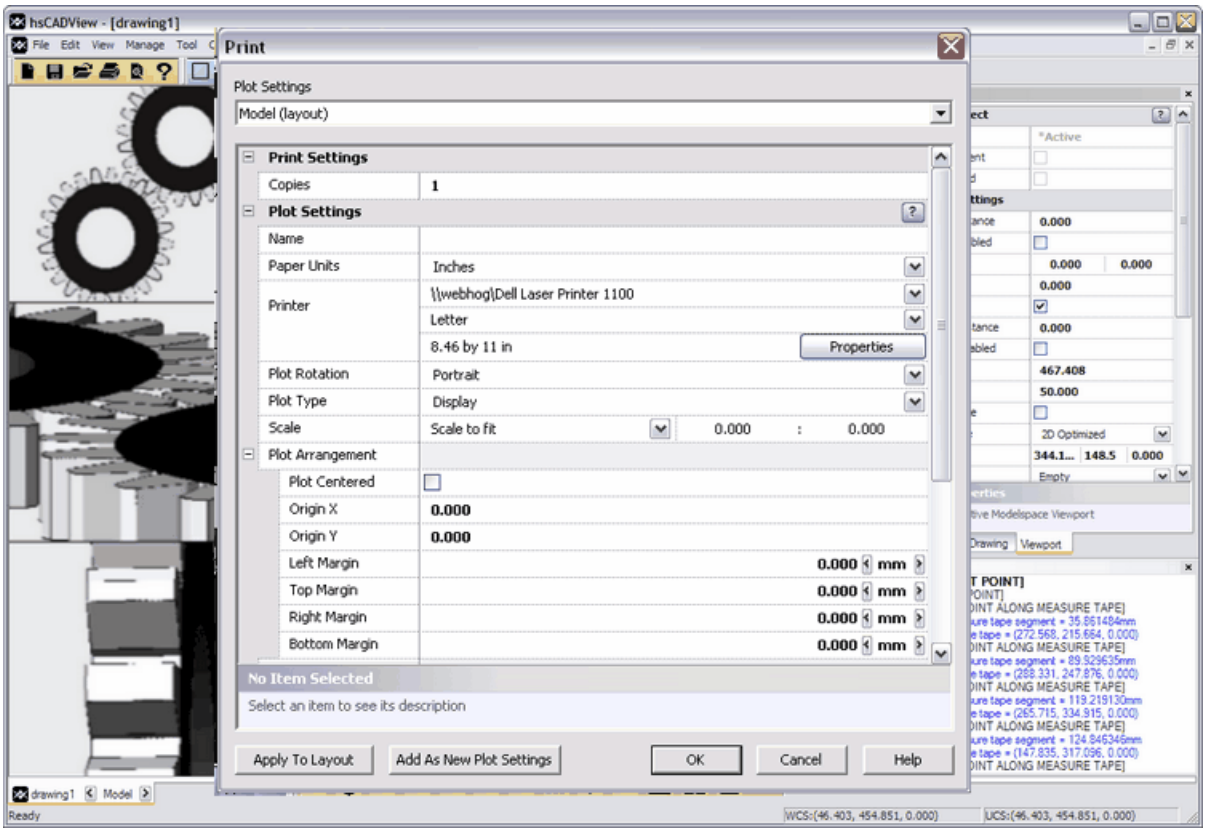



Also see:

***View Tools***

### 1.1.4 PrintingDrawings

**hsCADView** printing tools allow the user to print/plot existing drawings. Print Dialog allows user to select paper size from more than 40 commercial paper sizes available, configure orientation and scale, and import plot styles.




Also see:

***View Tools***

## 1.2 Terminology

### Mouse-mode Term nology:

*Left Click* : Left-button of mouse pressed and released. (also referred to as **click**)


*Right Click* : Right-button of mouse pressed and released.


*Middle Click/Wheel Click* : Middle/Wheel button of mouse pressed and released.

*Wheel Scroll* : Middle/Wheel button of mouse rotated.

*Left Mouse Drag* : Left-button of mouse pressed while moving mouse.

*Right Mouse Drag* : Right-button of mouse pressed while moving mouse.

*Middle Mouse Drag*: Middle-button of mouse pressed while moving mouse.

*Mouse Move*: Without pressing any mouse button, move the mouse.

*Release Mouse* : Release any button that is currently pressed on mouse.

Double Click : Use left click operation in quick succession.

## Mathemat cal Term nology:

*Perpendicular*: Perpendicular is a geometric term that may be used as a noun or adjective. The fundamental meaning pertains to the position of straight lines relative to one another. Two lines are said to be perpendicular if they meet at a right angle. Note that two line segments positioned at 90° to one another are perpendicular only if they meet.

*Orthographic Projection*: Orthographic projection is a means of representing a three-dimensional object in two dimensions. It uses multiple views of the object, obtained by rotating camera about the object's center through increments of 90°. It produces two plan views (top, bottom) and four side views (front, back, left side, right side).

*Isometric Projection*:Isometric projection is a form of orthographic projection, or more specifically, an axonometric projection. It is a method for the visual representation of three-dimensional objects in two dimensions in which the angles between the projection of the *x*, *y*, and *z* axes are all the same, or 120°. Isometric projection can be visualized by considering the view of a cubical room from an upper corner, looking towards the opposite lower corner. The term *isometric* comes from the Greek for "equal measure.", which reflects that the scale along each axis of the projection is the same (this is not true of some other forms of graphical projections). Isometric projection is one of the projections used in drafting engineering drawings.

*UCS:* User Coordinate System/Space. The three-dimensional coordinate system where the drawing screen is located (as compared to the World Coordinate System [WCS] which may or may not coincide with the UCS).

*WCS*: World Coordinate System/Space. The three-dimensional coordinate system that is base for all UCS. Each UCS-axis is define in WCS coordinates. In a drawing there is only one WCS but may have one or more UCS.

*2D space:* 2D refers to the concept of a two-dimensional plane as in the Cartesian coordinate system

with two axes, X and Y. Each axis is at right angles with the other axis. The point of intersection, where the axes meet is called the origin and normally labeled 0 (or 0,0). To specify a particular point in a two-dimensional coordinate system, the X unit (the horizontal distance from the origin, or abscissa), is indicated first, followed by the Y unit (the vertical distance from the origin, or ordinate) is second. So for example, the ordered pair (4,3) would represent that point four units to the **right**, and three units **above** the origin. Likewise, the ordered pair (-4,-3) would represent that point four units to the **left**, and three units **below** the origin.

*3D space:* 3D refers to the concept of a three-dimensional coordinate system that includes the Z-axis [altitude, or other third dimension of space measurement] in addition to the X-axis [horizontal] and Y-axis [vertical] of the two-dimensional Cartesian coordinate system. Each axis is at right angles with the other two. The point of intersection, where the axes meet is called the origin and normally labeled 0. To specify a particular point in a three-dimensional coordinate system, the X unit (the horizontal distance from the origin, or abscissa), is indicated first, followed by the Y unit (the vertical distance from the origin, or ordinate) is second, and the Z unit (the applicate) is third.

## 1.3 Feature List

### Full CAD V ewer funct onal ty:

- View Drawings
- Print/Plot Drawings
- Export Drawings

### Uses ndustry-standard f le formats for v ew ng:

- DWG
- DXF
- DWF

### Work w th the ass stance of Intu t ve Tools:

- **Tool Interact on** ➲
  - Point, click and drag ***mouse-based mode***
  - Context-sensitive tool properties allow for a precise ***data-entry mode*** (no cryptic "command line" necessary)
  - "Notify window" gives context-sensitive help, instructions, and feedback
  - Visual aids guide you through each tool process
  - Unique cursors show you which tool you are using

- **V ew Man ulat on Tools** ➲
  - Pan
  - Zoom to Window
  - Zoom In
  - Zoom Out
  - Zoom Extent
  - Rotate
  - Snap to standard orthogonal and isometric views
  - Divide Viewport
  - Standard Viewports

- **Render ng Tools**
  - 2D Wireframe
  - 3D Wireframe
  - Hidden Lines
  - Flat Shaded
  - Gouraud Shaded
  - Flat Shaded with edges
  - Gouraud shaded with edges
  - Regenerate

- **Measure Tools**
  - Measure Distance
  - Measure Area
  - Measure Angle

# 2 Handbook

Designing and drafting with the aid of a computer is equal parts art and craft. **hsCADView** seeks to facilitate the precision and practicality of CAD while still maintaining an enjoyable user experience. The following handbook details aspects of the art and craft of CAD.

- Concepts - Background information and introductive CAD theory.
- User Interface - The visual components of the **hsCADView** design interface, what they do, and why. Describes all Tools, Toolbars, Menus, and Dialogs in detail.
- Files and Formats - Details on what file types, formats, and versions that are supported in this application, as well as compatibility details.

## 2.1 Concepts

**hsCADView** employs specific concepts to facilitate drawing viewing:

*Objects* : Information holders for easy access to stored data.

*Entity Snap Settings* : Ability to direct cursor to various points on an entity.

*Grid* : Display of equidistant points along X and Y axis for ease of drafting.

*Drawing Settings* : Background color of drawing screen, Units, etc. settings for active drawing.

*Data Types and Properties* : Various types of information commonly used in drawings.

*Property Trees* : Collection of properties displayed in tree structure.

*Tools* : **hsCADView** provides a number of ways to easily create/edit/delete/manage all entities, objects, and their properties.

*Toolbars* : Collection of tools.

*Dialogs* : Collection of various user interfaces to get done various complex tasks easily.

*Undo/Redo* : Process to remove or reinstate last change made in drawing.

## 2.1.1 Objects

***Objects*** are information holders in **hsCADV ew.** ***Objects*** allows easy access to stored non-graphical data. There are total 4 type of objects in **hsCADV ew.**

1. *Colors*
2. *Layers*
3. *Layouts*
4. *Plot Settings*

### 2.1.1.1 Colors

***Color Objects*** store color information in **hsCADV ew**. ***Color Objects*** are used to represent colors of background, layer, line color, etc. **hsCADV ew** creates nine colors on every drawing: Red, Green, Yellow, Cyan, Blue, Magenta, Foreground, Dark Background and Light Background.

### 2.1.1.2 Layers

***Layer Objects*** can be described as invisible drawing sheets that can be activated to draw, turn off/on to see entities on that layer, etc.

### 2.1.1.3 Layouts

***Layout Objects*** represents virtual drawing sheets.

### 2.1.1.4 Plot Settings

***Plot Settings Objects*** represents settings for printing drawings.

## 2.1.2 Snap Point Settings

***Snap Settings*** define settings for Entity Snap Points and Grid Snap Points. These settings allow a user to specify a precise point on any entity without any difficulty.

1. Entity Snap Points
2. Grid Snap Points

### 2.1.2.1 Entity Snap Points

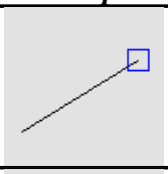
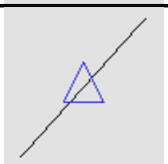
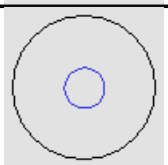
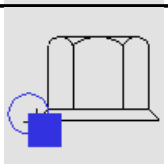
***Entity Snap Points*** are key points on any entity that allows a user to select a precise point without difficulty.

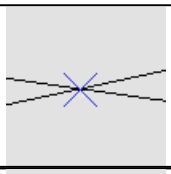
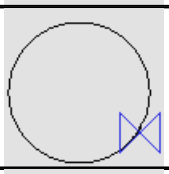
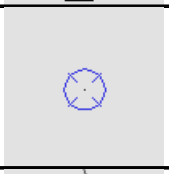
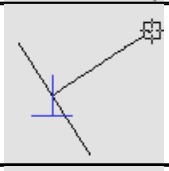
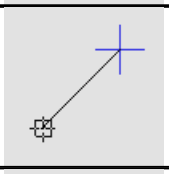
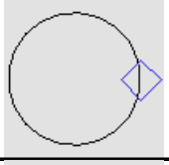
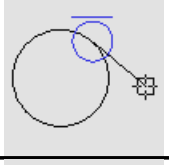
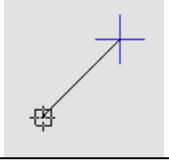
There are two settings for ***Entity Snap Points*** **:**

***Permanent Entity Snaps*** : This setting enables the ***Entity Snap Points*** till they are explicitly turned OFF using "Enabled" property under Snap Properties Tree. Or by the menu item "Enabled" found under the View Menu >> Entity Snaps Submenu.

***Temporary Entity Snaps*** : This setting enables the ***Entity Snap Points*** only for one mouse click. This type of snap is found by right-clicking and bringing up the Temporary Snap Context menu

There are 12 different types of ***Entity Snap Points*** in **hsCADView :**

| *Name of Snap Point* | *Description* | *Example* |
|---|---|---|
| End Point | Snap to Entity end points (Line, Polylines) |  |
| Mid Point | Snap to Entity mid points (Line, Polylines) |  |
| Center Point | Snap to Entity center points (Arc, Circle, and Ellipse Entities) |  |
| Insertion Point | Snap to insertion points (Block Insert Entities, Image Insert Entities, Text) |  |

| | | |
|---|---|---|
| Intersection Point | Snap to Intersection (between any two linear entities) |  |
| Nearest Point | Snap to nearest point on adjacent Entity |  |
| Node Point | Snap to Entity nodes (Point Entity or Dimension Entity reference points) |  |
| Parallel Point | Snap to end point on a parallel line (When creating a Line Entity) |  |
| Perpendicular | Snap to an end point on a perpendicular line to adjacent Entity (Line, Polyline Entity) |  |
| Polar Point | Snap to Polar coordinates specified by Polar Angle |  |
| Quadrant Point | Snap to quadrant (Circle, Arc, and Ellipse Entities) |  |
| Tangent Point | Snap to an end point on a line tangent to adjacent curve Entity |  |
| Polar Angle | Incremental angle for Polar Point snaps. |  |

See also:

***Snap Properties Tree***
***View Menu***

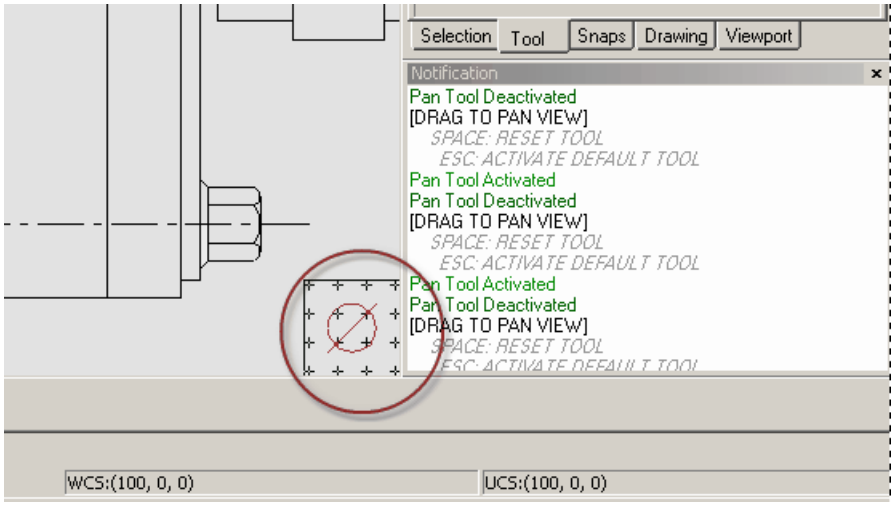
#### 2.1.2.2 Grid Snap Points

***Grid Snap Points*** allows easy access to snap the current cursor point to nearest grid point available. This allows a user to easily jump from one point another point on regular intervals along UCS X and Y axis. A user can also keep the Grid invisible and still have access to its ***Grid Snap Points***. The increments of ***Grid Snap Points*** can be changed by changing "Grid Spacing along X-Axis" and "Grid Spacing along Y-Axis" variables in Modelspace Viewport.

### 2.1.3 Grid

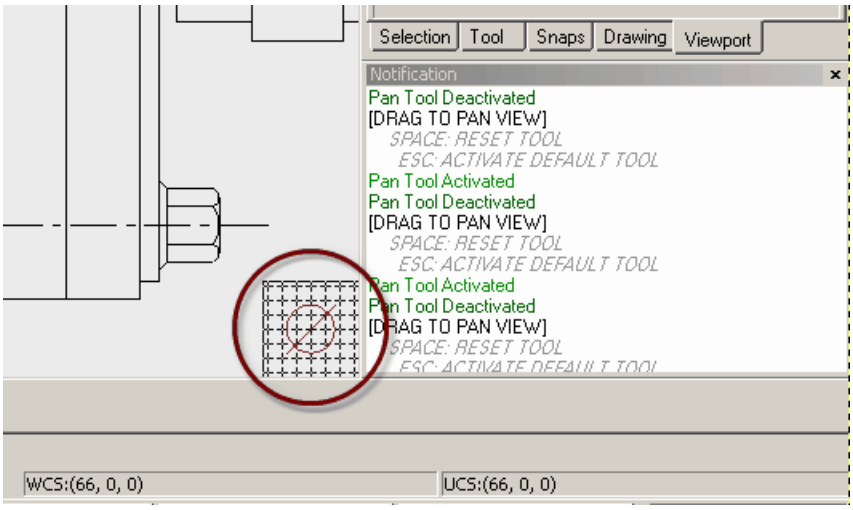
The size of the grid sometimes is either too small or too large to display on the drawing screen. When the user attempts to display the grid and a **small grid window** appears in the **lower right hand corner** of the drawing screen with a red ∅ symbol, the grid cannot currently be displayed.

If the grid is **too sparse** the user must **zoom out** to display the grid; this grid window will show a widely spaced grid like the following:




To zoom out, **roll the top mouse wheel toward you**, or find the Zoom Out Tool and select a point on the drawing screen and Click.

Likewise, if the grid is **too small** the user must **zoom in** to display the grid; this grid window will show a tightly spaced grid like the following:




To zoom in, **roll the top mouse wheel away from you**, or find the Zoom In Tool and select a point on the drawing screen. Click.

### 2.1.4 Drawing Settings

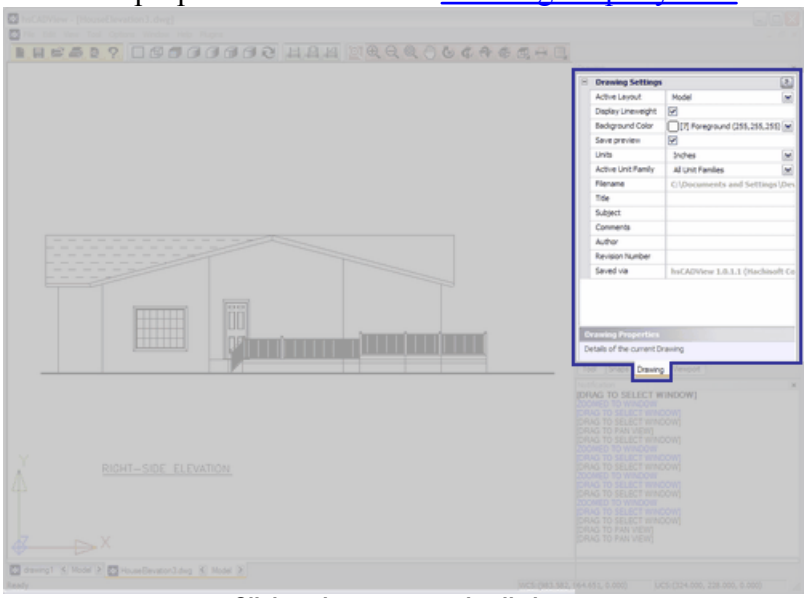
***Drawing Settings*** define settings for overall drawing. These settings allow user access to common properties for drawing.

In **hsCADV ew**, a ***Drawing Settings*** consists of the following data:

| Field Name | Data Type | Description |
|---|---|---|
| Active Layout | Multiple option combo box. | Allows user to select from available Layout list and make it active. |
| Display Lineweight | Boolean | When checked(true) draws all lines with actual lineweights specified as lineweight properties, otherwise it shows all lines with default lineweight. |
| Background Color | Color | Background color for Layouts. |
| Save preview | Boolean | If checked(true) saves the preview along with drawing file. Saving preview allows user to see snap shot of file before actually opening it. |
| Units | Multiple option combo box. | Allows user to select from available units and make it default unit for this drawing. All measurements are derived from drawing's unit. |

| | | |
|---|---|---|
| Active Unit Family | Multiple option combo box. | Allows user to select from available unit families and make it active unit family for this drawing. When using unit conversion feature for all Scientific data, it uses active unit family to show next conversion. |
| Filename | File Name with full path | Filename to save the current drawing file. |
| Title | Text | Title name for this drawing |
| Subject | Text | Subject for this drawing |
| Comments | Text | Any comments or description for this drawing |
| Author | Text | Name of author for this drawing |
| Revision Number | Text | Revision number for this drawing |
| Saved Via | Text | Name of application that last saved this drawing |

In **hsCADV ew** above properties are shown in Drawing Property Tree.



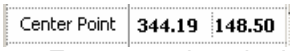
**Click on image to see detail view.**

## 2.1.5 Data Types and Properties

In **hsCADV ew** all entities and objects have different values(data) associated with it. These values are also know as properties data or simply ***Properties.*** Properties data are of various types (***Data Types***) as described below. **hsCADV ew** uses property trees (located to the right hand side of the drawing screen) to edit individual ***Properties*** of entities, objects, and tools. Each property has its own visual depiction and ways of editing data depending on its ***Data Type.*** **hsCADV ew** has following data types and properties associated with it:

### Two-d mens onal Po nt (2D Po nt):

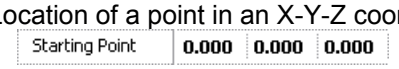
Location of a point in an X-Y coordinate plane(2D space).




Press Enter to update the information.
Press Escape to return the information to its previous value.
Press Tab to move to the next editable field.

## Three-d mens onal Po nt (3D Po nt):

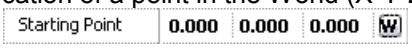
Location of a point in an X-Y-Z coordinate space(3D space).




Press Enter to update the information.
Press Escape to return the information to its previous value.
Press Tab to move to the next editable field.

## World Coord nate System Po nt (WCS Po nt):

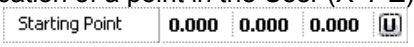
Location of a point in the World (X-Y-Z) Coordinate Space.




Press Enter to update the information.
Press Escape to return the information to its previous value.
Press Tab to move to the next editable field.
Left click **W** icon that appears to the right to convert the point property from the WCS to the active UCS.

## User Coord nate System Po nt (UCS Po nt):

Location of a point in the User (X-Y-Z) Coordinate Space.




Press Enter to update the information.
Press Escape to return the information to its previous value.
Press Tab to move to the next editable field.
Left click **U** icon that appears to the right to convert the point property from the active UCS to WCS.

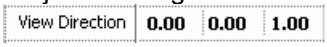
## Sc ent f c Data:

A real number that has associated units (either metric or imperial) and can have minimum or maximum values. Scientific Data can also represent angles in either degrees or radians.


Left click unit text (**mm**) to convert the scientific data property from the current units to next unit in the conversion set.

## Vector:

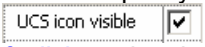
An object defining direction and length of a ray.




Press Enter to update the information.
Press Escape to return the information to its previous value.
Press Tab to move to the next editable field.

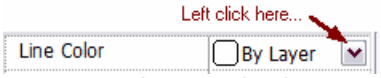
## Boolean (On/Off):

Check box specifying True/False or On/Off or Yes/No Value.




Left click on the check box to change the value.

### Mult le o t on:



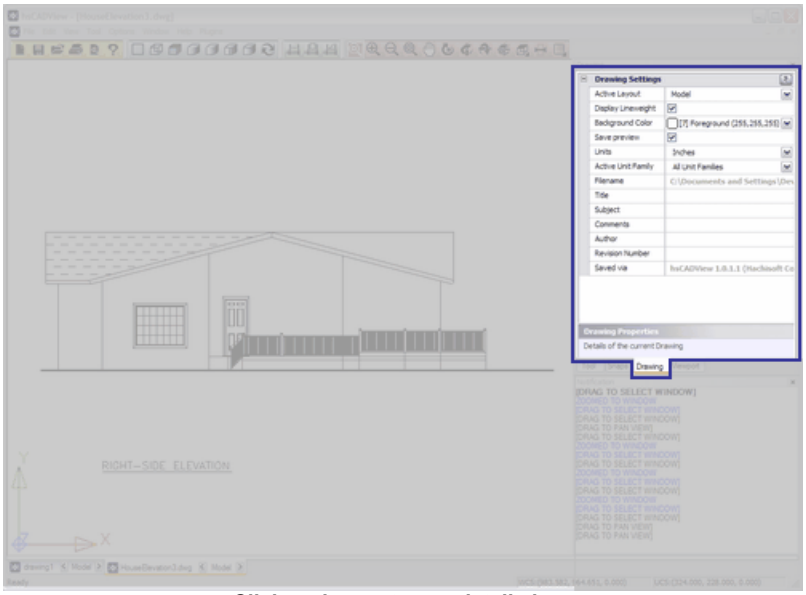

These properties are also known as drop-down list. They are accessed by left clicking on the down arrow and then selecting required option from list using left click.

See also:

***Tool Property Tree***
***Snap Property Tree***
***Drawing Property Tree***
***Viewport Property Tree***

## 2.1.6 Property Trees

**Property Tree** is collection of properties arranged in a tree fashion. Each property in the **property tree** has associated brief description. A property in a **property tree** is selected by left clicking on property name. Whenever a property is selected, its brief description is shown at the bottom of the property tree and the selected property name is highlighted. A **property tree** may have one or more sub-trees within it. Each of these trees can be expanded/collapsed by double-clicking on the sub-tree name or the (+) or (-) icon in front of the sub-tree name.



**Click on image to see detail view.**

For more information on **Property Trees** used in **hsCADV ew**, please see chapter on hsCADView Property Trees.

See also:

**hsCADView Property Trees**

## 2.1.7 Tools

This application is built on the concept of tools. Loosely speaking, a tool for **hsCADV ew** is an implementation with the ability to perform a certain class of operation or procedure with regards to viewing and editing a drawing.

**Tool Properties**
Each tool may have a set of properties associated with it.

**Active Tool**
Only one tool may be active at a time. By choosing a tool with a toolbar, menu, or shortcut key, you are making it the active tool. In the case of Stackable Tools, only the "top most" tool is active. The Tool Properties
shows properties and options available for the active tool.

## 2.1.8 Toolbars

### Toolbar

***Toolbar*** is a collection of Tools. Tool buttons are grouped by their functionality into tool "bars". Similar tools are combined together in a toolbar for their easy placement and access. All of the toolbars have the ability to dock/be placed on the various edges of the drawing window or place them anywhere on drawing screen. A toolbar can be moved by one of following methods depending on position of the toolbar:

1. Left mouse dragging from its anchor line.


2. Left mouse dragging from its title bar.


When a toolbar is moved near the edge of the **hsCADV ew** screen area, its title bar is removed and the toolbar tightly fits on the edge to save the screen space. Once you have managed to position the toolbars and tool windows to fit your needs you can manage their positions by using the following commands.

**Preserve Layout** (Saves the current placement and sizes of all user interface elements within the workspace)
**Restore Layout** (Returns the current placement and sizes of all user interface elements to the last **Preserved Layout** state)
**Reset Layout** (Sets the current layout to the **hsCADV ew** default)

These commands can be found by going to **Window Menu** ➡ **Layout** ➡ **Preserve Layout** command. Visit **Window Menu** for more information on these menu items.

### Flyout Toolbar

Many toolbars have one or more than one toolbars hidden within them. These are known as ***Flyout Toolbars***. Flyout Toolbars are provided to save the screen space and allow easy access to different Tool Modes. ***Flyout Toolbars*** are sub-toolbars hidden withinthe normal toolbars and are designated by a small black arrow in the lower right hand corner of a toolbar icon ( ). By simply pointing at the icon with the mouse cursor and right clicking, this hidden submenu will appear. The user may now choose a tool from the sub toolbar by left clicking. When a user selects a tool from the ***Flyout toolbar*** the selected tool will take the place of the tool in the parent menu.

**Activating Flyout Toolbar:** (right click)

**Choosing New Tool to Activate:**

**Chosen Tool Replaces Old Tool in Parent Toolbar:**

Following ***Flyout Toolbars*** are present in **hsCADV ew**:

**View Toolbar:**

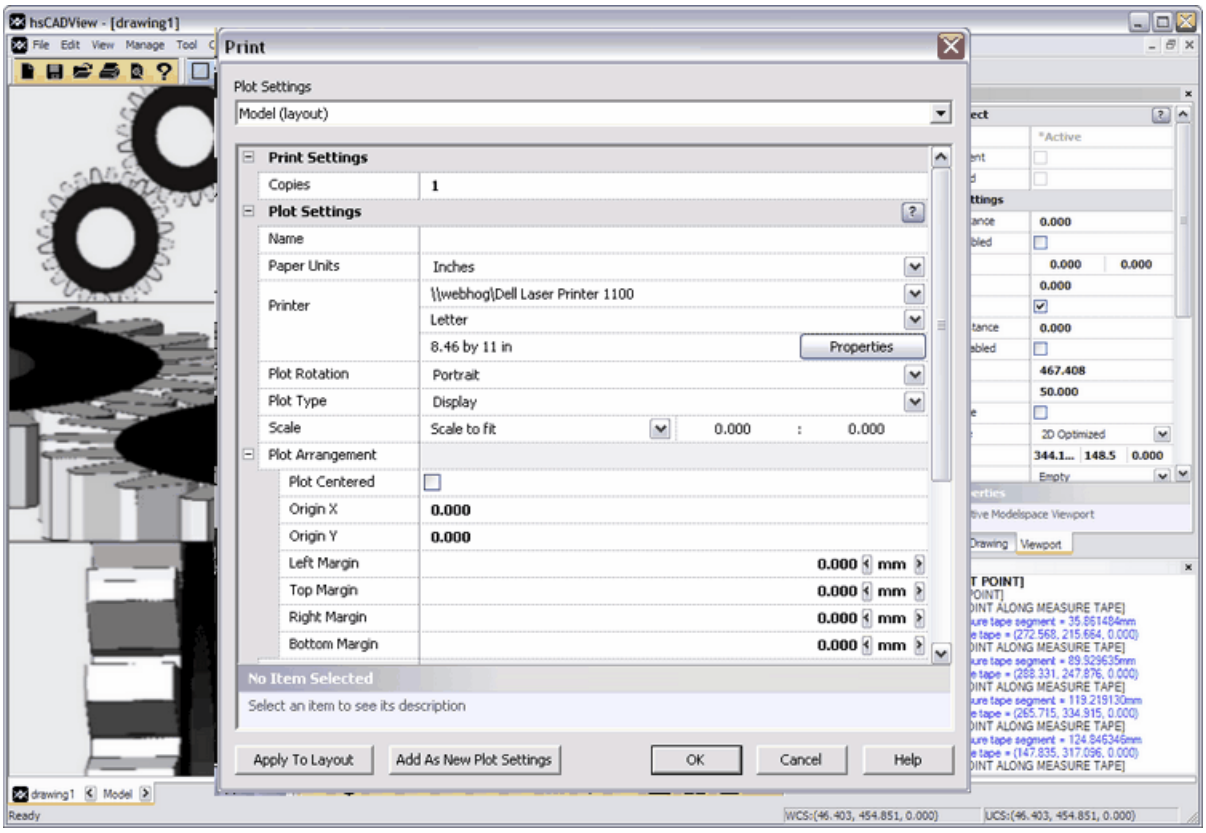
Rotate View Tools (10 additional tool choices available)

See also:

**hsCADView Toolbars**

## 2.1.9 Dialogs

**Dialog** is a collection of various user interface elements (tools, property trees, and properties). **Dialogs** provides easy access and management of more complex objects and entities. **Dialogs** also provides easy way to do complex tasks. Most of dialogs when activated restricts access to the **hsCADV ew** main screen and other user interfaces outside the **dialog**. For more information on **dialogs** used in **hsCADV ew**, please see chapter on hsCADView Dialogs.




See also:
[hsCADView Dialogs]

## 2.1.10 Undo/Redo

### To Undo a recently made change n draw ng:

#### Using the keyboard

: Press ***Ctrl+Z*** from the keyboard. Repeat as necessary to undo additional changes in reverse order.

#### Using the Mouse:

: Go to the Edit menu and select ***Undo***

### To Redo a recently undone change n draw ng:

#### Using the keyboard:

: Press ***Ctrl +Y*** from the keyboard. Repeat as necessary to redo additional undone changes in reverse order.

#### Using the mouse:

: Go to the Edit menu and select ***Redo***

## 2.2 User Interface

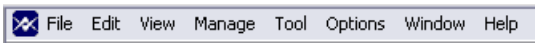
The ***User Interface*** of **hsCADV ew** is designed to be a simple, yet powerful tool for dealing with daily tasks in computer aided drafting and design. The following types of user interfaces are available in **hsCADV ew**.

- **Menus**
- **Tools**
- **Toolbars**
- **Property Trees**
- **Dialogs**
- **Notify Window**
- **Status Bar**
- **Visual Aids**
- **Keyboard Shortcuts**

### 2.2.1 hsCADView Menus

There are eight main ***Menus*** available in **hsCADView**. They are located above the drawing screen in the upper left hand corner of the monitor screen.

#### Ma n Menu:



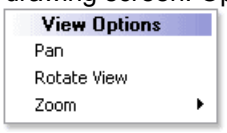

1. ***File Menu***
2. ***Edit Menu***
3. ***View Menu***
4. ***Manage Menu***
5. ***Tools Menu***
6. ***Options Menu***
7. ***Window Menu***
8. ***Help Menu***

#### Context Menus:

In addition, there are also context menus available. Depending upon the tool in which the user is

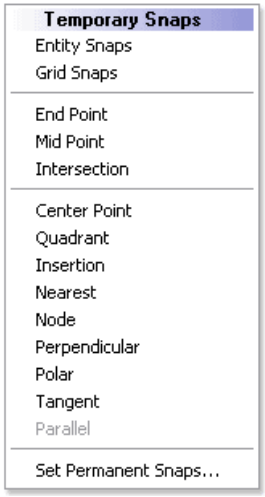
working, these are accessed by right clicking the mouse or pressing the **Shift** key on the keyboard while right clicking the mouse.

1. ***View Options*** menu (available to most tools) Access by right clicking the mouse with the cursor in the drawing screen. Options available:




- ***Pan***
- ***Rotate View***
- ***Zoom***
  - ***Zoom In***
  - ***Zoom Out***
  - ***Zoom Extents***
  - ***Zoom Window***

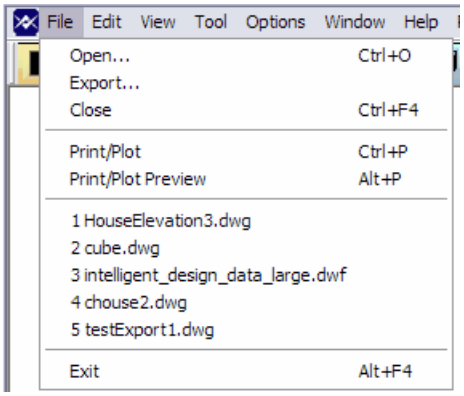
2. ***Temporary Snaps*** menu (available most tools) Access by holding **Shift** + right clicking with the cursor in the drawing screen. The Temporary Snaps act much like the Permanent Entity Snaps except that they last for only one mouse click. You can temporarily disable/enable the currently set Entity Snaps and or Grid Snaps. You may also select one or more Entity Snaps you desire to use temporarily. This is useful for entity snapping that you do not commonly use but want to quickly switch too. Options available:




- ***Entity Snaps***
- ***Grid Snaps***
- ***End Point***
- ***Mid Point***
- ***Intersection***
- ***Center Point***
- ***Quadrant***
- ***Insertion***
- ***Nearest***
- ***Node***
- ***Perpendicular***
- ***Polar***
- ***Tangent***

- ***Parallel***
- ***Set Permanent Snaps*** ( This will translate your Temporary Snap choices into your permanent Entity Snaps.)

#### 2.2.1.1 File Menu

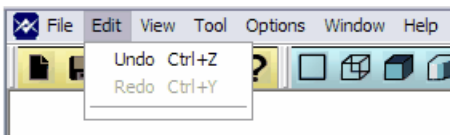



The ***File Menu*** in **hsCADV ew** has the following options available:

1. **New** (Start a new drawing)
2. **Open**... (access a named drawing file previously saved)
3. **Save** (store a drawing for future access)
4. **Save As**...(store a drawing under a different file name)
5. **Export** (save a copy of the drawing under a different file format)
6. **Close** (terminate the current drawing file)
7. **Plot** (print a drawing file)
8. **Plot Preview** (see beforehand how a drawing file will be printed)
9. **Recent Files** (displays files you have recently opened for quick access)
10. **Exit** (terminate all documents as well as the program)

(Note: Each option above is equipped with a keyboard shortcut to improve drawing efficiency; to customize your shortcuts, see Key Accelerators under Options Menu)

#### 2.2.1.2 Edit Menu



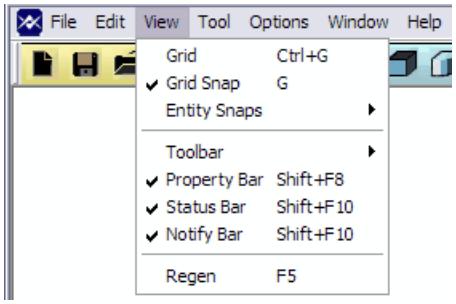
The ***Edit Menu*** in **hsCADV ew** has the following options available:

1. **Undo** (take back the most recent change made within the drawing)

2. **Redo** (restore a change that has been removed using the **Undo** command)

(Note: Each option above is equipped with a keyboard shortcut to improve drawing efficiency; to customize your shortcuts, see Key Accelerators under Options Menu)

### 2.2.1.3 View Menu




The ***View Menu*** in **hsCADV ew** has the following options available:

1. **Grid** (Toggles the framework of evenly spaced/parallel vertical and horizontal lines used as a drawing reference on/off)

2. **Grid Snap** (Toggles the grid snap ability on/off)

3. **Entity Snaps** (Sub-menu)
   a. Enabled (Enable/Disable Permanent Entity Snaps)
   b. End Point (Snap to an end point of a line segment)
   c. Mid Point (Snap to mid point of a line segment)
   d. Intersection (Snap to the intersection point)
   e. Center Point (Snap to center of a circle, ellipse or arc)
   f. Insertion (Snap to the Insertion point of blocks, images, or text)
   g. Nearest (Snap to the nearest point on the entity to the cursor)
   h. Node (Snaps to the point entity only)
   i. Parallel (Snap parallel to nearest line to cursor)
   j. Perpendicular (Snap to perpendicular point on line segment)
   k. Polar (Snap to 0, 45deg, 90deg... etc)
   l. Quadrant (Snap to the nearest quadrant on a circle, ellipse or arc)
   m. Tangent (Snap to the point tangent to the circle, ellipse or arc)

4. **Toolbar** (Sub-menu)
   a. File Toolbar (Show/Hide this toolbar)
   b. View Toolbar (Show/Hide this toolbar)
   c. Render Toolbar (Show/Hide this toolbar)
   d. Measure Toolbar (Show/Hide this toolbar)

5. **Property Bar** (Prop tree Tool Properties to the right of the drawing screen when a tool is activated)

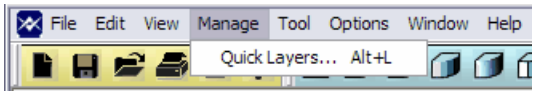
6. **Status Bar** (program information bar found at the bottom of drawing screen)

7. **Regen** (redraw all entities with updated information)

(Note: Each option above is equipped with a keyboard shortcut to improve drawing efficiency; to customize your shortcuts, see Key Accelerators under Options Menu)

Also See:
***Toolbars***

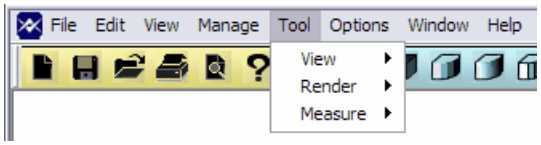
### 2.2.1.4 Manage Menu




The ***Manage Menu*** in **hsCADV ew** has the following options available:
1. **Quick Layers...**(set color, line weight, line style, visibility, printed or not, etc.)

(Note: Each option above is equipped with a keyboard shortcut to improve drawing efficiency; to customize your shortcuts, see Key Accelerators under Options Menu)

### 2.2.1.5 Tool Menu




The ***Manage Menu*** in **hsCADV ew** is a second way to access all the tools that are found on the View , Measure, and Render Toolbars.

- **View**
  a. Rotate
  b. Pan
  c. Zoom
  d. Snap
  e. Divide Viewport

- **Render**
  a. 2D Wireframe
  b. 3D Wireframe
  c. Hidden
  e. Flat Shaded
  f. Gouraud Shaded
  g. Flat Shaded w/Edges
  h. Gouraud Shaded w/Edges

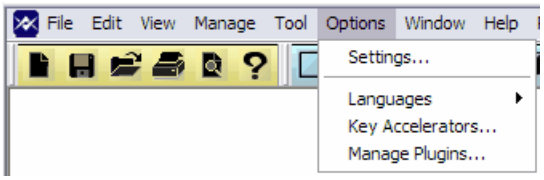
- **Measure**
  a. Measure Distance

b. Measure Area
c. Measure Angle

(Note: Many of the above options and sub menus are equipped with a keyboard shortcut to improve drawing efficiency; to customize your shortcuts, see Key Accelerators under Options Menu)

Also See:
***Render Toolbar***
***Measure Toolbar***

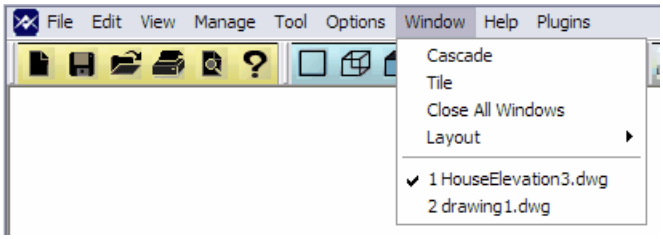
### 2.2.1.6 Options Menu




The ***Options Menu*** in **hsCADV ew** is generally where you go to alter the default settings as well as manipulate the Keyboard shortcuts and manage **hsCADV ew** plugins.

1. **Settings...** (Location of the Application settings)
2. **Key Accelerators...** ( Set, Remove, Add, and Reset Keyboard Shortcuts for your favorite tools)
3. **Manage Plugins...** (Manage additions to the **hsCADV ew** application.)

### 2.2.1.7 Window Menu




The ***Window Menu*** in **hsCADV ew** is where you can manage multiple documents as well as customize the Layout of the user interface.

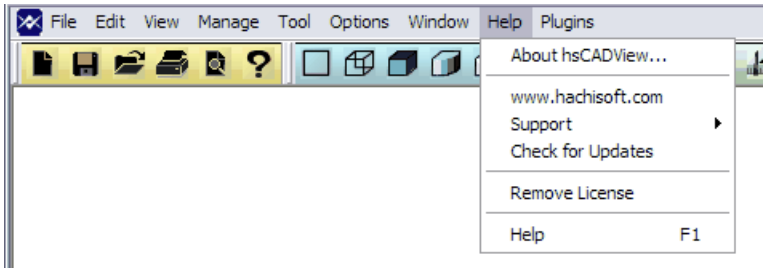
1. **Cascade** (Places all open documents in an overlapping stair stepping fashion within the **hsCADV ew** workspace)
2. **Tile** (Places all open documents in a visible rectangle within the **hsCADV ew** workspace without any overlapping between documents)
3. **Close All Windows** (Will close all open documents within the **hsCADV ew** workspace. This will not close the program.)
4. **Layout**

a. **Preserve Layout** (Saves the current placement and sizes of all user interface elements within the workspace)
b. **Restore Layout** (Returns the current placement and sizes of all user interface elements to the last **Preserved Layout** state)
c. **Reset Layout** (Sets the current Layout to the hsCADView default)

5. **Current Open Drawings** (List of open drawings within the workspace. Selection will activate that document and make it the current working document.)

Also See:
***Toolbars***

#### 2.2.1.8 Help Menu




The ***Help Menu*** in **hsCADV ew** provides an easy way to open the help documentation, manage the license and discover the current program version you are working with.

1. **About hsCADView...** (Displays the About dialog that will display the program version number and quick view at the license status.)

2. **www.hachisoft.com** (This is a link to the designers of **hsCADV ew**. Check this site for update, version upgrades and plugins.)

3. **Purchase Upgrade to Full Version** (This is a web link to the online store where you can purchase one or more licenses of **hsCADV ew**.)

4. **Activate License** (Opens the License management dialog)

5. **Help** (Activates this help documentation)

### 2.2.2 hsCADView Tools

This application is built on the concept of tools. Loosely speaking, a tool for **hsCADView** is an implementation of ability to perform a certain class of operation or procedure with regards to viewing and editing a drawing. All tool gives different type of notifications in notification window as you advance to different steps.

#### Tool Modes

- Select, click and drag ***mouse-based mode***
- Context-sensitive tool properties allow for a precise ***data-entry mode***

#### Tool Pro ert es

Each tool may have a set of properties associated with it. Tool properties can be changed to change the tool's behavior.

**hsCADView** has always one active tool at any time.

**hsCADView** has six different tool categories available to the user in addition to the standard file tools:

1. **View Tools** : Tools used to alter viewing parameters (i.e. camera location, camera angle, camera zoom level, etc.)

2. **Rendering Tools** : Tools used to produce the different rendering view of the drawing.

3. **Measure Tools** : Tools to measure lengths and area

### 2.2.2.1 View Tools

Following tools are available in **hsCADView** for manipulating the view of created entities within model or paperspace:


1. **Zoom to Window Tool** : Allows to draw a rectangle for zoom level

2. **Zoom In Tool** : Allows entity (or region of entity) to be enlarged to fill the drawing screen

3. **Zoom Out Tool** : Allows entity (or region of entity) to be shrunk to fill the drawing screen

4. **Zoom Extent Tool** : Allows user to easily change view to cover full extents of drawing using single click

5. **Pan View Tool** : Allows entire drawing screen to be translated

6. **Rotate View Tools** : Tools Allowing entity movement about one or three axes
   - Rotate About Eye Vector Tool : Allows rotation of drawing screen about Z-axis (axis coming to/going away from user)
   - Rotate About Vertical Vector Tool : Allows rotation of drawing screen about Y-axis (up/ down axis)
   - Rotate About Horizontal Vector Tool : Allows rotation of drawing screen about X-axis (left/right axis)
   - Rotate View 3D Tool : Allows simultaneous rotation of drawing screen about all three axes (X,Y, and Z)

7. **Preset View Snap Tools** : Tools representing three-dimensional objects in two dimensions (w/ two axes)
   - Top View Tool : Tool representing overhead view of an object (traditional representation)

- Bottom View Tool : Tool representing underside of an object
- Front (South) View Tool : Tool representing front side of an object (traditional representation)
- Back (North) View Tool : Tool representing back side of an object
- Left Side (West) View Tool : Tool representing left side of an object
- Right Side (East) View Tool : Tool representing the right side of an object (traditional representation)
- Southwest View Tool : Tool representing front-left view of an object
- Southeast View Tool : Tool representing front-right view of an object
- Northeast View Tool : Tool representing back-right view of an object
- Northwest View Tool : Tool representing back-left view of an object

8. **Divide Viewport Tool** : Allows user to divide active Modelspace viewport vertically or horizontally.

9. **Pre-configured Viewport Tools** : Various (10) screen division formats to accommodate simultaneous multiple viewing
   - Single Viewport
   - Two Vertical Viewports
   - Two Horizontal Viewports
   - Three - Right Viewports
   - Three - Left Viewports
   - Three - Bottom Viewports
   - Three - Top Viewports
   - Four Even Viewports
   - Four - Right Viewports
   - Four - Left Viewports

2.2.2.1.1 Zoom Tools

Following **Zoom Tools** are available to change zoom level of current view in **hsCADView**:

**Zoom to Window Tool** : Allows to draw a rectangle for zoom level

**Zoom In Tool** : Allows entity (or region of entity) to be enlarged to fill the drawing screen

**Zoom Out Tool** : Allows entity (or region of entity) to be shrunk to fill the drawing screen

**Zoom Extent Tool** : Allows user to easily change view to cover full extents of drawing using single click

2.2.2.1.1.1 Zoom to Window Tool

View Toolbar :

The ***Zoom to Window Tool*** allows for a user to designate a rectangle and the view will zoom to that user specified window.

## Us ng the Zoom to W ndow Tool:

### Activate the Zoom to Window Tool:

Find one of the ***Zoom to Window Tool*** icon from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

### Use the Mouse to Zoom to Window:

1. Click and hold the left mouse button to start drawing the **Zoom** rectangle.
2. Move the mouse while still holding the left button down. This will display a temporary zoom rectangle. Release the left button when the rectangle is positioned as desired. The drawing will now update with the proper zoom for the designated rectangle to fit within the view screen.

**Reset:**
You have just zoomed to a custom zoom window. The Tool has now **Reset** and you can choose a different tool or select another **Zoom Window**.

## Tool O t ons:

***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:
***View Toolbar***

2.2.2.1.1.2 Zoom In Tool

View Toolbar :

In **hsCADView** the ***Zoom In Tool*** is used to enlarge the drawing screen.

## Us ng the Zoom n Tool:

### Activate the Zoom in Tool:

Find one of the ***Zoom in Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

*Note: This tool can be utilized via the middle mouse scroll wheel without activating this tool and without interrupting other tool processes. This usage is noted below.*

### Use the Mouse to Zoom In:

1. Click on a point within the drawing screen to zoom to that location. This point of focus will be placed at the center of the screen for easier viewing.

**Reset:**
You have just zoomed in. The Tool has now **Reset** and you can choose a different tool or select another point to **Zoom In** on.
*Note: Zooming in or Zooming out too far may cause the loss of sight of the drawing grid. See the topic Grid for more information.*

### Use the Mouse Scroll Wheel to Zoom In:

1. Use the mouse Scroll Wheel to zoom in. Move the scroll wheel in a counter-clockwise motion. The mouse must contain a middle mouse scroll wheel to utilize this feature.

**No Reset:**
Using the Scroll Wheel to zoom does not Reset the tool. You can utilize other tools and within a tool process you may **zoom in**, zoom out and pan using the mouse without interrupting that tool's procedure.
*Note: Zooming in or Zooming out too far may cause the loss of sight of the drawing grid. See the topic Grid for more information.*

## Tool O t ons:

***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:
***View Toolbar***

2.2.2.1.1.3 Zoom Out Tool

View Toolbar : 

In **hsCADView** the ***Zoom Out Tool*** is used to shrink the view size within the drawing screen.

## Us ng the Zoom Out Tool:

### Activate the Zoom Out Tool:

Find the ***Zoom Out Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

*Note: This tool can be utilized via the middle mouse scroll wheel without activating this tool and without interrupting other tool processes. This usage is noted below.*

### Use the Mouse to Zoom Out:

1. Click on a point within the drawing screen to zoom out from that location. This point of focus will be placed at the center of the screen for easier viewing.

**Reset:**
You have just zoomed out. The Tool has now **Reset** and you can choose a different tool or select another point to **Zoom Out** from.
*Note: Zooming in or Zooming out too far may cause the loss of sight of the drawing grid. See the topic Grid for more information.*

### Use the Mouse Scroll Wheel to Zoom Out:

1. Use the mouse Scroll Wheel to zoom out. Move the scroll wheel in a clockwise motion. The mouse must contain a middle mouse scroll wheel to utilize this feature.

**No Reset:**
Using the Scroll Wheel to zoom does not Reset the tool. You can utilize other tools and within a tool process you may zoom in, **zoom out** and pan using the mouse without interrupting that tool's procedure.
*Note: Zooming in or Zooming out too far may cause the loss of sight of the drawing grid. See the topic Grid for more information.*

## Tool O t ons:

***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:
***View Toolbar***

2.2.2.1.1.4 Zoom Extent Tool

View Toolbar : 

In **hsCADView** the ***Zoom To Extents*** is used zoom in or out such that the entire drawing is visible within the drawing screen.

## Us ng the Zoom To Extents Tool:

### Using the Zoom to Extents Tool:

Find the ***Zoom To Extents Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it will fit to the limits of the drawing screen.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*

Also See:
***View Toolbar***

2.2.2.1.2 Pan View Tool

View Toolbar : 

In **hsCADView** the ***Pan View Tool*** is used to translate the entire drawing within the drawing screen.

## Us ng the Pan V ew Tool:

### Activate the Pan View Tool:

Find one of the ***Pan View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

*Note: This tool can be utilized via the middle mouse button click without activating this tool and without the interruption other tool processes. This usage is noted below.*

### Use the Mouse to Pan the View:

1. Click and hold the left mouse button on a point within the drawing screen. While holding the button down move the mouse and translate the entire drawing within the drawing screen to the desired location.

**Reset:**
You have just performed a Pan of the View. The Tool has now **Reset** and you can choose a different tool or perform another **Pan View**.
*Note: It is possible to pan the drawing to where you can no longer see any of the drawing on the screen. If you cannot find the drawing use the Zoom to Extents to reset the view on the drawing.*

### Use the Middle Mouse Button to Pan the View:

1. Click and hold the middle mouse button. While holding the button down move the mouse and translate the entire drawing within the drawing screen to the desired location. *Note: you must have a middle mouse button to utilize this feature.*

**No Reset:**

Using the Middle Mouse button to **Pan the View** does not Reset the tool. You can utilize other tools and within a tool process you may **zoom in**, zoom out and pan using the mouse without interrupting that tool's procedure.
*Note: It is possible to pan the drawing to where you can no longer see any of the drawing on the screen. If you cannot find the drawing use the Zoom to Extents to reset the view on the drawing.*

## Tool O t ons:

***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:
***View Toolbar***

2.2.2.1.3 Rotate View Tools

View Toolbar : 

In **hsCADView**, entities can be rotated around each axis in a 2D or 3D plane separately, or all three simultaneously. The following tools facilitate viewing from different perspectives:

## Us ng the Rotate V ew Tools:

### Activate a Rotate View Tool:

Find one of the ***Rotate View Tool*** icons  from the View Toolbar(color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

### Rotating the View:

There are four different tools that will allow rotation of the view.

**Rotate About Eye Vector Tool** : The eye vector is that which approaches (or goes away from) the user's eye. This tool rotates entities about an axis in a circular motion (similar to a pinwheel twirling on a wall).

**Rotate About Vertical Vector Tool** : This tool rotates entities around an up and down axis (similar to a tetherball circling an upright pole).

**Rotate About Horizontal Vector Tool** : This tool rotates entities around a side to side axis (similar to a gymnast rotating about a high bar).

**Rotate View 3D Tool** : This tool rotates entities about all three axes simultaneously (like a skydiver rolling and tumbling in a free fall--any rotational movement is possible).

Also See:

***View Toolbar***

2.2.2.1.3.1 Rotate About Eye Vector Tool

View Toolbar :

In **hsCADView**, the ***Rotate About Eye Vector Tool*** facilitates rotational movement about an axis coming to and going away from the eye of the user. (Note: depending upon the arbitrary assignment of axes this axis can either be X,Y, or Z or some other user designated vector.)

## Us ng the Rotate About Eye Vector Tool:

### Activate the Rotate About Eye Vector Tool:

Find the ***Rotate About Eye Vector*** icon from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

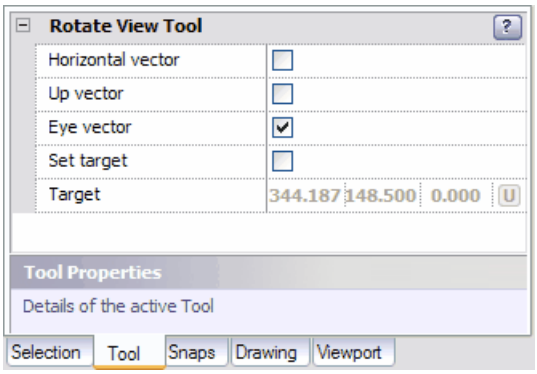
### Use the Mouse to Rotate the View about the Eye Vector:

1. Click and hold the left mouse button down. While holding the left button down move the mouse around the center of the drawing screen. As you move the mouse you will see the drawing rotate about the vector created from the center of the screen to the eye of the user or Eye Vector. Release the left mouse button when the rotation is as desired.

**Reset:**

You have just **Rotated about the Eye Vector**. The Tool has now **Reset** and you can choose a different tool or rotate about the Eye Vector again.

*Note: It may be helpful to watch the UCS icon in the bottom left corner of the drawing screen as you rotate the entity. Any axis that is moving toward you is represented with a solid line while an axis moving away is dotted.*




## Tool O t ons:

***Horizontal vector*** mode changes the active tool to Rotate about Horizontal Vector Tool.
***Up* vector** mode changes the active tool to Rotate about Vertical Vector Tool
***Eye vector*** mode is the mode where the view is **Rotated about Eye Vector**

***Set target*** mode changes the active tool to Rotate about 3D Tool.
***Target*** point depicts the point about which the rotation will occur.
***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:
***View Toolbar***
***UCS Axis Display***
***Eye Vector***

2.2.2.1.3.2 Rotate About Vertical Vector Tool

View Toolbar : 

In **hsCADView**, the ***Rotate About Vertical Vector Tool*** facilitates rotational movement around an up/down axis or vertical vector. (Note: depending upon the arbitrary assignment of axes this axis can either be X,Y, Z, or some other user defined vector.)

## Us ng the Rotate About Vert cal Vector Tool:

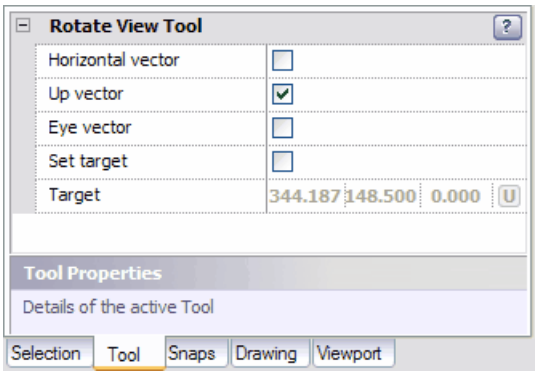
### Activate the Rotate About Vertical Vector Tool:

Find the ***Rotate About Vertical Vector*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

### Use the Mouse to Rotate the View about the Vertical Vector:

1. Click and hold the left mouse button down. While holding the left button down move the mouse from right to left for a clockwise rotation about the vertical vector or left to right for counter-clockwise rotation about the vertical vector. As you move the mouse you will see the drawing rotate about the vertical vector. Release the left mouse button when the rotation is as desired.

**Reset:**
You have just **Rotated about the Vertical Vector**. The Tool has now **Reset** and you can choose a different tool or rotate about the vertical vector again.
*Note: It may be helpful to watch the UCS icon in the bottom left corner of the drawing screen as you rotate the entity. Any axis that is moving toward you is represented with a solid line while an axis moving away is dotted.*




## Tool O t ons:

***Horizontal vector*** mode changes the active tool to Rotate about Horizontal Vector Tool.
***Up* vector** mode is the current mode for rotating the view about the vertical vector.
***Eye vector*** mode changes the active tool to Rotate about Eye Vector Tool.
***Set target*** mode changes the active tool to Rotate about 3D Tool.
**Target** point depicts the point about which the rotation will occur.
***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:

***View Toolbar***
***UCS Axis Display***
***Vertical Vector***

2.2.2.1.3.3 Rotate About Horizontal Vector Tool

View Toolbar :

In **hsCADView**, the ***Rotate About Horizontal Vector Tool*** facilitates the rotational movement of an object about a side to side axis or Horizontal Vector. (Note: depending upon the arbitrary assignment of axes this axis can either be X,Y, or Z.)

## Us ng the Rotate About Hor ontal Vector Tool:

### Activate the Rotate About Horizontal Vector Tool:

Find the ***Rotate About Horizontal Vector*** icon from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

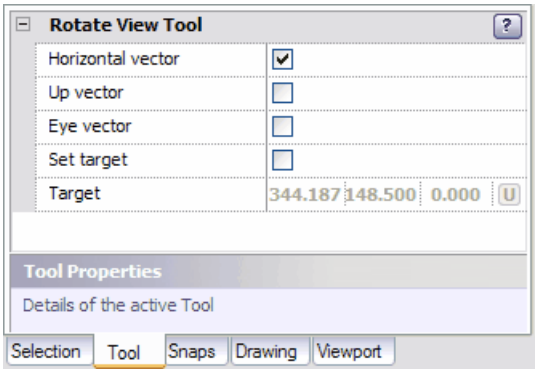
### Use the Mouse to Rotate the View about the Horizontal Vector:

1. Click and hold the left mouse button down. While holding the left button down move the mouse from top to bottom or bottom to top for rotation about the Horizontal Vector. As you move the mouse you will see the drawing rotate about the Horizontal Vector. Release the left mouse button when the rotation is as desired.

**Reset:**
You have just **Rotated about the Horizontal Vector**. The Tool has now **Reset** and you

can choose a different tool or rotate about the Horizontal Vector again.

*Note: It may be helpful to watch the UCS icon in the bottom left corner of the drawing screen as you rotate the entity. Any axis that is moving toward you is represented with a solid line while an axis moving away is dotted.*




## Tool O t ons:

***Horizontal vector*** mode is the current mode for rotating the view about the Horizontal Vector .
***Up* vector** mode changes the active tool to Rotate about Vertical Vector Tool.
***Eye vector*** mode changes the active tool to Rotate about Eye Vector Tool.
***Set target*** mode changes the active tool to Rotate about 3D Tool.
**Target** point depicts the point about which the rotation will occur.
***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:

***View Toolbar***
***UCS Axis Display***
***Horizontal Vector***

2.2.2.1.3.4 Rotate View 3D Tool

View Toolbar :

In **hsCADView**, the ***Rotate View 3D Tool*** facilitates the simultaneous rotational movement of an entity about all three axes with the origin at a user defined **Target**. (Note: depending upon the arbitrary assignment of axes a particular axis can be X,Y, or Z.)

## Us ng the Rotate 3D Tool:

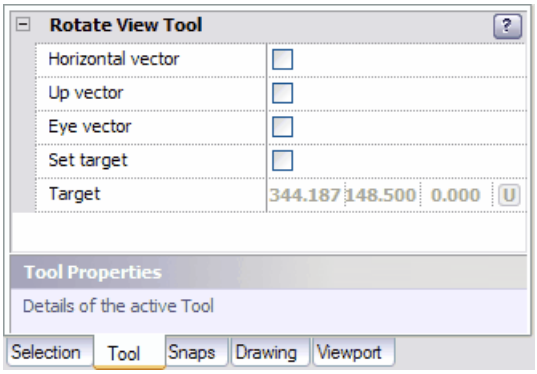
### Activate the Rotate 3D Tool:

Find the ***Rotate 3D Tool*** icon from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

### Use the Mouse to Rotate the View in 3D about the Target:

1. Click and hold the left mouse button down. While holding the left button down move the mouse in any direction. As you move the mouse you will see the drawing rotate about the **Target**. Release the left mouse button when the rotation is as desired.

**Reset:**
You have just **Rotated about the Target Point**. The Tool has now **Reset** and you can choose a different tool or rotate about the Target Point again.
*Note: It may be helpful to watch the UCS icon in the bottom left corner of the drawing screen as you rotate the entity. Any axis that is moving toward you is represented with a solid line while an axis moving away is dotted.*
*Note: It may be necessary to reset the rotation.*




## Tool O t ons:

***Horizontal vector*** mode changes the active tool to Rotate about Horizontal Vector Tool.
***Up vector*** mode changes the active tool to Rotate about Vertical Vector Tool.
***Eye vector*** mode changes the active tool to Rotate about Eye Vector Tool.
***Set target*** mode is the current mode for rotating the view about the **Target** in 3D.
**Target** point depicts the point about which the rotation will occur.
***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:
***View Toolbar***
***UCS Axis Display***

2.2.2.1.4 Preset View Snap Tools

View Toolbar **:**

In **hsCADView**, Viewing the drawing in the best manner possible as well as snapping to common views within 3D space make working in this drawing environment much easier. The View Snap Tools provide a quick view manipulation toolbox for this very reason.

## Us ng the Preset V ew Sna Tools:

### Activate a Preset View Snap Tool:

Find one of the ***Preset View Snap Tool*** icons  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use. This set of tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.

### Use a Preset View Tool:

There are six different Orthographic View Tools to use for quick view manipulation

**Top View Tool**

**Bottom View Tool**

**Front (South) View Tool**

**Back (North) View Tool**

**Left Side (West) View Tool**

**Right Side (East) View Tool**

There are four different Isometric View Tools to use for quick view manipulation.

**Southwest View Tool**

**Southeast View Tool**

**Northeast View Tool**

**Northwest View Tool**

Also See:

***View Toolbar***
***Flyout Toolbar***

2.2.2.1.4.1 Top View Tool

View Toolbar : 

In **hsCADView** the Orthographic Projection ***Top View Tool*** facilitates viewing of an object from above. This traditional plan view used in architecture and building engineering can be thought of as a diagram of a room, a building, or a level (floor) of a building as if seen from a "bird's eye" view.

## Us ng the To V ew Tool:

### Using the Top View Tool:

Find the ***Top View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking down in a "bird's eye" view of the 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at*

*any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.2 Bottom View Tool

View Toolbar : 

In **hsCADView** the Orthographic Projection ***Bottom View Tool*** facilitates viewing of an object from underneath. This nontraditional plan view is used primarily in instances where additional object detail (to a top view) is necessary.

## Us ng the Bottom V ew Tool:

### Using the Bottom View Tool:

Find the ***Bottom View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking up at the underside of 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.3 Front (South) View Tool

View Toolbar : 

In **hsCADView** the Orthographic Projection ***Front (South) View Tool*** facilitates viewing of an object from its front side. This traditional orthographic view is used in architecture and building engineering and is the most critical elevation (i.e the above-ground-level front view of a building)

## Us ng the Front (South) V ew Tool:

### Using the Front (South) View Tool:

Find the ***Front (South) View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking at the front side of a 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a*

*flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.4 Back (North) View Tool

View Toolbar :

In **hsCADView** the Orthographic Projection ***Back (North) View Tool*** facilitates viewing of an object from behind. This traditional elevation (i.e. above ground level rear view of a building) used in architecture and building engineering is second only to the front elevation.

## Us ng the Back (North) V ew Tool:

### Using the Back (North) View Tool:

Find the ***Back (North) View Tool*** icon from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking at the back side of a 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.5 Left Side (West) View Tool

View Toolbar :

In **hsCADView** the Orthographic Projection ***Left Side (West) View Tool*** facilitates viewing of an object from its left side. This nontraditional orthographic view, however, is important in architecture and building engineering (i.e the above-ground-level left side view of a building)

## Us ng the Left S de (West) V ew Tool:

### Using the Left Side (West) View Tool:

Find the ***Left Side (West) View Tool*** icon from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking at the Left or West side of a 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at*

*any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.6 Right Side (East) View Tool

View Toolbar : 

In **hsCADView** the Orthographic Projection ***Right Side (East) View Tool*** facilitates viewing of an object from its right side. This traditional orthographic view is also used in architecture and building engineering (i.e the above-ground-level right side view of a building)

## Us ng the R ght S de (East) V ew Tool:

### Using the Right Side (East) View Tool:

Find the ***Right Side (East) View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking at the Right or East side of a 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.7 Southwest View Tool

View Toolbar : 

In **hsCADView** the Isometric Projection ***Southwest View Tool*** facilitates viewing an object from above, as well as from the front (south) and left (west) sides. *Note: After a front view is arbitrarily assigned, four different isometric projections can be viewed as the object is rotated clockwise.*

## Us ng the Southwest V ew Tool:

### Using the Southwest View Tool:

Find the ***Southwest View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking down at the **Front Left** or **South West** corner of a 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.8 Southeast View Tool

View Toolbar : 

In **hsCADView** the Isometric Projection ***Southeast View Tool*** facilitates viewing an object from above, as well as from the front (south) and right (east) sides. *Note: After a front view is arbitrarily assigned, four different isometric projections can be viewed as the object is rotated clockwise.*

## Us ng the Southeast V ew Tool:

### Using the Southeast View Tool:

Find the ***Southeast View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking down at the **Front Right** or **South East** corner of a 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.9 Northeast View Tool

View Toolbar : 

In **hsCADView** the Isometric Projection ***Northeast View Tool*** facilitates viewing an object from above, as well as from the back (north) and right (east) sides. *Note: After a front view is arbitrarily*

*assigned, four different isometric projections can be viewed as the object is rotated clockwise.*

## Us ng the Northeast V ew Tool:

### Using the Northeast View Tool:

Find the ***Northeast View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking down at the **Back Right** or **North East** corner of a 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.4.10 Northwest View Tool

View Toolbar : 

In **hsCADView** the Isometric Projection ***Northwest View Tool*** facilitates viewing an object from above, as well as from the back (north) and left (west) sides. *Note: After a front view is arbitrarily assigned, four different isometric projections can be viewed as the object is rotated clockwise.*

## Us ng the Northwest V ew Tool:

### Using the Northwest View Tool:

Find the ***Northwest View Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display all of the drawing such that it is looking down at the **Back Left** or **North West** corner of a 3D drawing.

*Note: This tool will not Activate. It is a one time tool. This means you can use this tool at any time and without interrupting other tool processes.*
*Note: This tools is part of a Flyout toolbar. To learn how to change tool selection on a flyout toolbar see Flyout Toolbar.*

Also See:
***View Toolbar***
***Flyout toolbar***

2.2.2.1.5 Divide Viewport Tool

View Toolbar : 

In **hsCADView** the ***Divide Viewport Tool*** will custom divide the drawing screen into multiple viewports allowing you to create you own personal workspace with the views you need.

## Us ng the V ew  ort D v de Tool:

### Activate the Viewport Divide Tool:

Find the ***Viewport Divide Tool*** icon  from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool.  The tool is now the active tool and ready for use.

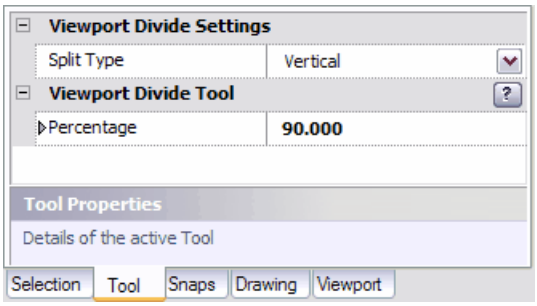
### Use the Mouse Divide the Active Viewport:

1. Move the mouse around and you will see a temporary cutting edge.  When this cutting edge is positioned as desired Click to divide the viewport at that location. The tool will divide the active viewport either horizontally or vertically based on the **Split Type** found in the **Viewport Divide Settings**.
   *Note: The Viewport Divide tool will only divide the Active Viewport. To divide a different viewport you will need to select it before using this tool.*

**Reset:**
You have just divided this viewport.  The Tool has now **Reset** and you can choose a different tool or divide the active viewport.

### Divide the Active Viewport using the Property Tree:

To divide the viewport with more precise data do the following.  Move the mouse cursor beyond the right side of the drawing screen to the Tool Property Tree.




1. Select the **Split Type** from the "**Split Type**" Drop down Combo.  The two choices are Vertical and Horizontal.
2. Type in the **Percentage** data into the "**Percentage**" Scalar Data Field found on the Tool Property Tree and press **Enter** to accept.  In **Horizontal Mode** 0% is at the bottom of the viewport and 100% is the top of the viewport.  If in **Vertical Mode** 0% is located at the left and 100% is located at the right of the viewport.

**Reset:**
You have just divided this viewport.  The Tool has now **Reset** and you can choose a different tool or divide the active viewport.

## Tool O t ons:

***Split Type*** is the type of cut the divide tool will make. The choices are Vertical or Horizontal.
***Percentage*** allows the user to specify splitting percentage of the active viewport.
***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:
***View Toolbar***
***Pre-Configured Viewport Tools***

2.2.2.1.6 Pre-configured Viewport Tools

View Toolbar **:** 

In **hsCADView** there are ten ***Pre-configured Viewport Tools*** from which to choose. Each offers a different drawing screen format to aid the user in viewing multiple projections of an entity simultaneously. The following descriptions will aid you in choosing the best format for your drawing project:

## Us ng the V ew ort D v de Tool:

### Activate a Pre-Configured Viewport Tool:

Find one of the ***Pre-Configured Viewport Tool*** icons   from the View Toolbar (color coded red) and highlight it. While highlighted Click on the tool. The tool has now changed the viewport settings for your drawing.

*Note: These tools will not Activate. They are one time tools. This means you can use this tool at any time and without interrupting other tool processes to change the way you work within the drawing screen.*

There are ten different Pre-Configured ways to display the drawing screen broken into one or more viewports.

1.  **Single Viewport Tool** : Drawing screen remains whole. Find the **Single Viewport Tool** icon <insert image> from the View Toolbar (**color coded red**) and maneuver the mouse to it. The cursor will highlight the icon and a small box around it. Right click. Ten pre-configured viewport tools will appear in a flyout toolbar. The **Single Viewport Tool** is the **first** (default). Click. The drawing screen viewport will remain whole.

2.  **2 Vertical Viewports Tool** : The drawing screen will be divided into **two equal** viewports with a vertical divider. Select the **second** tool from the flyout toolbar. Click.

3.  **2 Horizontal Viewports Tool** : The drawing screen will be divided into **two equal** viewports with a horizontal divider. Select the **third** tool from the flyout toolbar. Click.

4. **3 Right Viewports Tool** : The drawing screen will be divided into **two equal** viewports vertically. The portion on the **left** will be further divided horizontally into **two** viewports (for a total of three). Select the **fourth** tool from the flyout toolbar. Click.

5. **3 Left Viewports Tool** : The drawing screen will be divided into **two equal** viewports vertically. The portion on the **right** will be further divided horizontally into **two** viewports (for a total of three). Select the **fifth** tool from the flyout toolbar. Click.

6. **3 Bottom Viewports Tool** : The drawing screen will be divided into **two equal** viewports horizontally. The **upper** portion will be further divided vertically into **two** viewports (for a total of three). Select the **sixth** tool from the flyout toolbar. Click.

7. **3 Top Viewports Tool** : The drawing screen will be divided into **two equal** viewports horizontally. The **lower** portion will be further divided vertically into **two** viewports (for a total of three). Select the **seventh** tool from the flyout toolbar. Click.

8. **4 Even Viewports Tool** : The drawing screen will be divided into **four equal** viewports (horizontally and vertically). Select the **eighth** tool from the flyout toolbar. Click.

9. **4 Right Viewports Tool** : The drawing screen will be divided into **two equal** viewports vertically. The portion on the **left** will be further divided horizontally into **three** equal viewports (for a total of four). Select the **ninth** tool from the flyout toolbar. Click.

10. **4 Left Viewports Tool** : The drawing screen will be divided into **two equal** viewports vertically. The portion on the **right** will be further divided horizontally into **three** equal viewports (for a total of four). Select the **tenth** (or last tool) from the flyout toolbar. Click.

Also See:

***View Toolbar***
***Divide Viewport Tool***

### 2.2.2.2 Rendering Tools

In **hsCADV ew,** Eight ***Rendering Tools*** are available to the user to render drawings in different ways:


1. ***2D Wireframe Tool***
2. ***3D Wireframe Tool***
3. ***Hidden Tool***
4. ***Flat Shaded Tool***

5. ***Gouraud Shaded Tool***
6. ***Flat Shaded With Edges Tool***
7. ***Gouraud Shaded With Edges Tool***
8. ***Regenerate Tool***

2.2.2.2.1 2D Wireframe Tool

*Rendering Toolbar* :

## Us ng the 2D W reframe Tool:

### Using the 2D Wireframe Tool:

Find the ***2D Wireframe Tool*** icon from the *Rendering Toolbar* (color coded teal) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display 2D wireframe model for all solid entities.

***Note****: This tool will not Activate. It is a one click tool and when finished it will activate select tool.*

Also See:
***Rendering Toolbar***

2.2.2.2.2 3D Wireframe Tool

*Rendering Toolbar* :

## Us ng the 3D W reframe Tool:

### Using the 3D Wireframe Tool:

Find the ***3D Wireframe Tool*** icon from the *Rendering Toolbar* (color coded teal) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display 3D wireframe model for all solid entities.

***Note****: This tool will not Activate. It is a one click tool and when finished it will activate select tool.*

Also See:
***Rendering Toolbar***

2.2.2.2.3 Hidden Tool

*Rendering Toolbar* :

## Us ng the H dden Tool:

### Using the Hidden Tool:

Find the ***Hidden Tool*** icon  from the *Rendering Toolbar* (color coded teal) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display model such that all lines that are behind any solid face are hidden from view.
***Note****: This tool will not Activate. It is a one click tool and when finished it will activate select tool.*

Also See:
***Rendering Toolbar***

2.2.2.2.4 Flat ShadedTool

In **hsCADView** the ***Flat Shaded Tool*** alters the 3D rendering mode. Flat shading is lighting technique used in 3D computer graphics. It shades each polygon of an object based on the angle between the polygon's surface normal and the direction of the light source, their respective colors and the intensity of the light source. It is usually used for high speed rendering where more advanced shading techniques are too computationally expensive.

The disadvantage of flat shading is that it gives low-polygon models a faceted look. Sometimes this look can be advantageous though, such as in modeling boxy objects. Artists sometimes use flat shading to look at the polygons of a solid model they are creating. More advanced and realistic lighting and shading techniques include Gouraud shading and Phong shading.

This tool incorporates the flat shading technique but **without** visible object edge lines.

 *Rendering Toolbar* : 

## Us ng the Flat Shaded Tool:

### Using the Flat Shaded Tool:

Find the ***Flat Shaded Tool*** icon  from the *Rendering Toolbar* (color coded teal) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display modelspace entities with Flat Shaded mode.
***Note****: This tool will not Activate. It is a one click tool and when finished it will activate select tool.*

Also See:
***Rendering Toolbar***

2.2.2.2.5 Gouraud ShadedTool

In **hsCADView** the ***Gouraud Shaded Tool*** alters the 3D rendering mode. Gouraud shading is a method used in computer graphics to simulate the differing effects of light and color across the surface of an object. In practice, Gouraud shading is used to achieve smooth lighting on low-polygon surfaces without the heavy computational requirements of calculating lighting for each pixel.

This tool incorporates the Gouraud shading technique but **without** visible object edge lines.

 *Rendering Toolbar* : 

## Us ng the Gouraud Shaded Tool:

### Using the Gouraud Shaded Tool:

Find the ***Gouraud Shaded Tool*** icon  from the *Rendering Toolbar* (color coded teal) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display modelspace entities with Gouraud Shaded mode.
***Note****: This tool will not Activate. It is a one click tool and when finished it will activate select tool.*

Also See:
***Rendering Toolbar***

2.2.2.2.6 Flat Shaded With EdgesTool

In **hsCADView** the ***Flat Shaded With Edges Tool*** alters the 3D rendering mode. Flat shading is lighting technique used in 3D computer graphics. It shades each polygon of an object based on the angle between the polygon's surface normal and the direction of the light source, their respective colors and the intensity of the light source. It is usually used for high speed rendering where more advanced shading techniques are too computationally expensive.

The disadvantage of flat shading is that it gives low-polygon models a faceted look. Sometimes this look can be advantageous though, such as in modeling boxy objects. Artists sometimes use flat shading to look at the polygons of a solid model they are creating. More advanced and realistic lighting and shading techniques include Gouraud shading and Phong shading.

This tool incorporates the flat shading technique **with** visible object edge lines.

 *Rendering Toolbar* : 

## Us ng the Flat Shaded W th Edges Tool:

### Using the Flat Shaded With Edges Tool:

Find the ***Flat Shaded With Edges Tool*** icon  from the *Rendering Toolbar* (color coded teal) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display modelspace entities with Flat Shaded With Edges mode.
***Note****: This tool will not Activate. It is a one click tool and when finished it will activate select tool.*

Also See:
***Rendering Toolbar***

2.2.2.2.7 Gouraud Shaded With EdgesTool

In **hsCADView** the ***Gouraud Shaded With Edges Tool*** alters the 3D rendering mode. Gouraud shading is a method used in computer graphics to simulate the differing effects of light and color across the surface of an object. In practice, Gouraud shading is used to achieve smooth lighting on low-polygon surfaces without the heavy computational requirements of calculating lighting for each pixel.

This tool incorporates the Gouraud shading technique **with** visible object edge lines.

 *Rendering Toolbar* : 

## Us ng the Gouraud Shaded W th Edges Tool:

### Using the Gouraud Shaded With Edges Tool:

Find the ***Gouraud Shaded With Edges Tool*** icon from the *Rendering Toolbar* (color coded teal) and highlight it. While highlighted Click on the tool. The drawing screen will now refresh and will display modelspace entities with Gouraud Shaded With Edges mode.

***Note****: This tool will not Activate. It is a one click tool and when finished it will activate select tool.*

Also See:
***Rendering Toolbar***

2.2.2.2.8 Regenerate Tool

In **hsCADView** the ***Regenerate Tool*** initiates a refreshment of the drawing in progress.

*Rendering Toolbar* :

## Us ng the Regenerate Tool:

### Using the Regenerate Tool:

Find the ***Regenerate Tool*** icon from the *Rendering Toolbar* (color coded teal) and highlight it. While highlighted Click on the tool. The drawing screen will now redraw all the entities visible on the screen.

***Note****: This tool will not Activate. It is a one click tool and when finished it will activate select tool.*

Also See:
***Rendering Toolbar***

### 2.2.2.3 Measure Tools

In **hsCADView**, ***Measure Tools*** allow easy measurement of length and area. There are two different tools for measuring length and area.


1. ***Measure Distance Tool***
2. ***Measure Area Tool***
3. ***Measure Angle Tool***

2.2.2.3.1 Measure Distance Tool

Measure Toolbar :

In **hsCADView** the ***Measure Distance Tool*** facilitates measurement of length along polyline or arc.

# Measur ng Lengths:

## Activate the Measure Distance Tool:

Find the ***Measure Distance Tool*** icon from the Measure Toolbar (color coded lavender) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

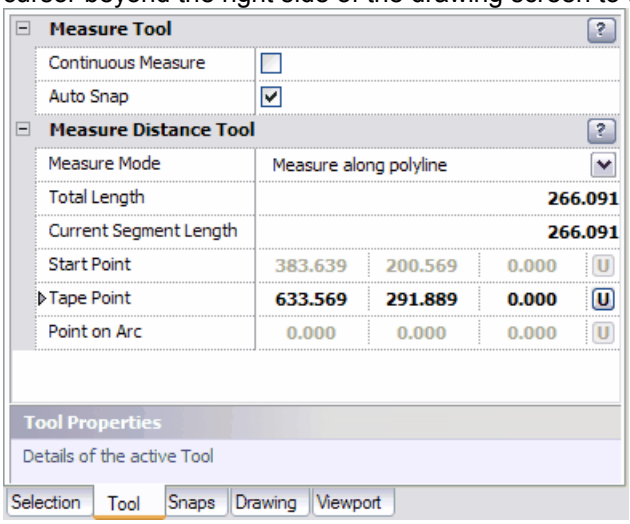
## Measure Distance using Mouse:

1. Move the mouse and Click anywhere on the screen. This will be the **Start Point** from which the current length will be measured.
2. Move the mouse and Click anywhere on the screen. This will be the **Tape Point** to which the current length will be set. And current length will be added to **Total Length**.
3. Successively select next **Tape Points** to keep on adding length to **Total Length.**
4. Alternatively, to change **Start Point** of tape in-between adding **Total Length,** use SHIFT+ENTER shortcut.
5. To measure length along an arc, change **Measure Mode** in Tool Property Tree to "***Measure along arc***" and select **Start Point, Point on Arc,** and **Tape Point**.

**Reset:**
You have just finished measuring lengths. The tool has now **Reset** and you can either continue with other tools or measure other lengths again.

## Measure Distance using Property Tree:

To **Measure Distance** in a more precise manner do the following. Move the mouse cursor beyond the right side of the drawing screen to the Tool Property Tree.




1. Type in the **Start Point** point data into the "**Start Point**" 3D Point Property Field found on the Tool Property Tree and press **Enter** to accept.
2. Type in the **Tape Point** point data into the "**Tape Point**" 3D Point Property Field found on the Tool Property Tree and press **Enter** to accept. The tool measures current length from **Start Point** to **Tape Point** and adds it to Total Length.
3. Successively, type in the **Tape Point** point data into the "**Tape Point**" 3D Point Property Field found on the Tool Property Tree and press **Enter** to accept to keep on adding length to **Total Length**.
4. Alternatively, to change **Start Point** of tape in-between adding **Total Length,** use

SHIFT+ENTER shortcut.

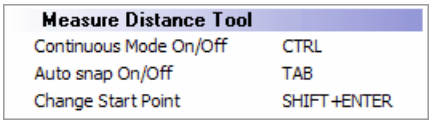
5. To measure length along an arc, change **Measure Mode** in Tool Property Tree to "***Measure along arc***" and type in **Start Point,** press **Enter,** type **Point on Arc,** press **Enter,** type **Tape Point,** and press **Enter.**

**Reset:**

You have just finished measuring lengths. The tool has now **Reset** and you can either continue with other tools or measure other lengths again.

### Measure Distance Options Menu :

Options Menu for **Measure Distance Tool** can be accessed by right click on drawing screen while **Measure Distance Tool** is active.




## Tool O t ons:

***Continuous Measure*** keeps on adding the current length to Total length.
***Auto Snap*** turns on common entity snaps for easy selection of points on entities.
***Measure along polyline*** mode allows measuring length along polylines.
***Measure along* arc** mode allows measuring length along circular arcs.
***Change Start Point*** allows user to change current start point of tape.
***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:

***Entity Snaps***
***Measure Area Tool***
***Notification Bar***

2.2.2.3.2 Measure Area Tool

Measure Toolbar :

In **hsCADView** the ***Measure Area Tool*** facilitates measurement of area of polygons.

## Measur ng Areas:

### Activate the Measure Area Tool:

Find the ***Measure Area Tool*** icon from the Measure Toolbar (color coded lavender) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

### Measure Area using Mouse:

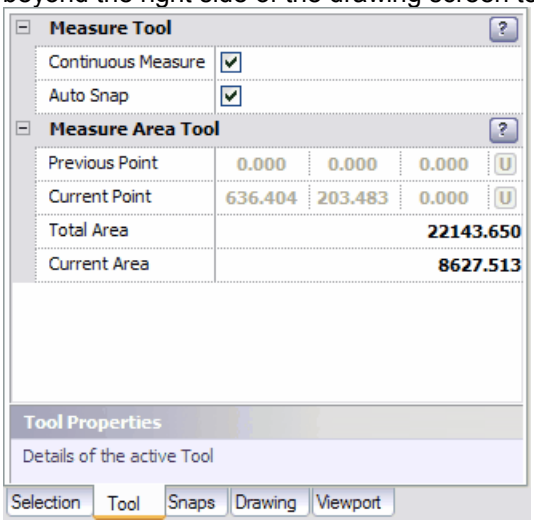
1. Move the mouse and Click anywhere on the screen. This will be the first vertex for polygon, from which the current area will be measured.
2. Move the mouse and Click anywhere on the screen. This will be the second vertex for polygon.
3. Successively select next vertext points to measure **Current Area.**
4. Alternatively, use SHIFT+ENTER to start new polygon. This will add **Current Area** to

**Total Area** and reset **Current Area** to zero to measure new polygon area.

**Reset:**
You have just finished measuring area. The tool has now **Reset** and you can either continue with other tools or measure other polygon area again.

## Measure Area using Property Tree:

To **Measure Area** in a more precise manner do the following. Move the mouse cursor beyond the right side of the drawing screen to the Tool Property Tree.

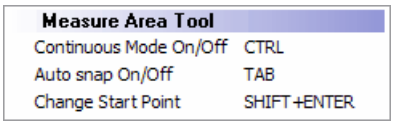



1. Type in the **Current Point** point data into the "**Current Point**" 3D Point Property Field found on the Tool Property Tree and press **Enter** to accept.
2. Successively, type in the **Current Point** point data into the "**Current Point**" 3D Point Property Field found on the Tool Property Tree and press **Enter** to accept to keep on adding area to **Current Area**.
4. Alternatively, use SHIFT+ENTER to start new polygon. This will add **Current Area** to **Total Area** and reset **Current Area** to zero to measure new polygon area.
5. To measure area along an arc, change **Measure Mode** in Tool Property Tree to "***Measure along arc***" and type in **Start Point,** press **Enter,** type **Point on Arc,** press **Enter,** type **Tape Point,** and press **Enter.**

**Reset:**
You have just finished measuring area. The tool has now **Reset** and you can either continue with other tools or measure other polygon area again.

## Measure Area Options Menu :

Options Menu for **Measure Area Tool** can be accessed by right click on drawing screen while **Measure Area Tool** is active.




**NOTE:** Measure Area tool can not calculate area of self intersecting polygons or non-planar polygons. In order to calculate these, use "**Continuous Mode**" and dis-integrate self-intersecting/non-planar polygons into simple polygons.

## Tool O t ons:

**Continuous Measure** keeps on adding the current area to Total area.
***Auto Snap*** turns on common entity snaps for easy selection of points on entities.
***Measure along polyline*** mode allows measuring area along polylines.
***Measure along* arc** mode allows measuring area along circular arcs.
***Change Start Point*** allows user to start a new polygon to measure area.
***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:

***Entity Snaps***
***Measure Distance Tool***
***Notification Bar***

2.2.2.3.3 Measure Angle Tool

Measure Toolbar : 

In **hsCADView** the ***Measure Angle Tool*** facilitates measurement of angles.

## Measur ng Areas:

### Activate the Measure Angle Tool:

Find the ***Measure Angle Tool*** icon  from the Measure Toolbar (color coded lavender) and highlight it. While highlighted Click on the tool. The tool is now the active tool and ready for use.

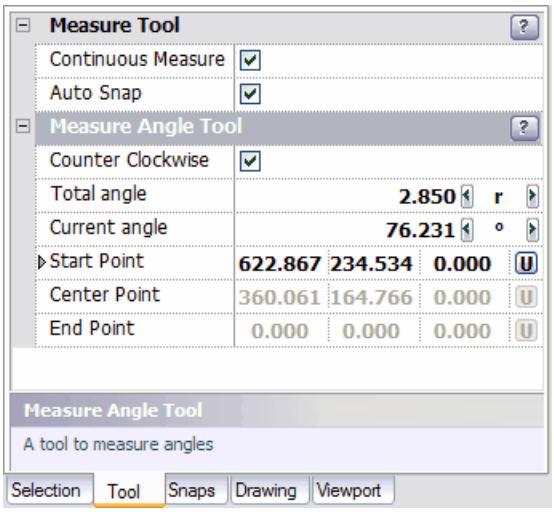
### Measure Angle using Mouse:

1. Move the mouse and Click anywhere on the screen. This will be the start point for the angle being measured.
2. Move the mouse and Click anywhere on the screen. This will be the center point for the angle being measured.
3. Move the mouse and Click anywhere on the screen. This will be the end point for the angle being measured.

**Reset:**
You have just finished measuring angle. The tool has now **Reset** and you can either continue with other tools or measure angles again.

### Measure Angle using Property Tree:

To **Measure Angle** in a more precise manner do the following. Move the mouse cursor beyond the right side of the drawing screen to the Tool Property Tree.

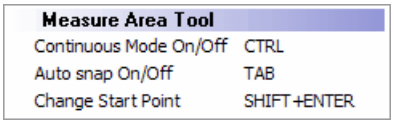



1. Type in the **Start Point** point data into the "**Start Point**" 3D Point Property Field found on the Tool Property Tree and press **Enter** to accept.
2. Type in the **Center Point** point data into the "**Center Point**" 3D Point Property Field found on the Tool Property Tree and press **Enter** to accept.
3. Type in the **End Point** point data into the "**End Point**" 3D Point Property Field found on the Tool Property Tree and press **Enter** to accept.

**Reset:**
You have just finished measuring angles. The tool has now **Reset** and you can either continue with other tools or measure angles again.

### Measure Angle Options Menu :

Options Menu for **Measure Area Tool** can be accessed by right click on drawing screen while **Measure Area Tool** is active.




### Tool O t ons:

**Continuous Measure** keeps on adding the current area to Total area.
***Auto Snap*** turns on common entity snaps for easy selection of points on entities.
***Escape (Esc)*:** key cancels current tool and activates the default tool (Pan Tool).
***Space:*** key **Resets** this tool.

Also See:

***Entity Snaps***
***Measure Distance Tool***
***Notification Bar***

## 2.2.3 hsCADView Toolbars

**hsCADV ew** makes its Tools available primarily through the use of *Toolbars* and Menus. Each tool has a representational icon and a tool button. By pressing the tool button, you activate that tool.

### Toolbar Visibility:

**hsCADView** has the ability to show/hide each of toolbars and tool windows. To show/hide a toolbar/tool window open the View Menu➡**Toolbar** and select the name of the toolbar to show/hide.

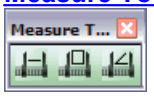
## Toolbars:

File Toolbar :


View Toolbar :


Rendering Toolbar :


Measure Toolbar :




Also See:

*Menus*
*Toolbars*

### 2.2.3.1 View Toolbar

## Description:

The tools associated with the ***View Toolbar*** are used to alter the 2D or 3D view of the drawing.


**1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.**

1. ***Zoom To Window Tool***
2. ***Zoom In Tool***
3. ***Zoom Out Tool***
4. ***Zoom Extent Tool***
5. ***Pan View Tool***
6. ***Rotate About Eye Vector Tool***
7. ***Rotate About Vertical Vector Tool***

8. ***Rotate About Horizontal Vector Tool***
9. ***Rotate View 3D Tool***
10. **View Snap Tools** has a Flyout Toolbar

**a. b. c. d. e. f. g. h. i. j.**

a. *Top View Tool*
b. *Bottom View Tool*
c. *Front (South) View Tool*
d. *Back (North) View Tool*
e. *Left Side (West) View Tool*
f. *Right Side (East) View Tool*
g. *Southwest View Tool*
h. *Southeast View Tool*
i. *Northeast View Tool*
j. *Northwest View Tool*

11. **Divide Viewport** (Splits the current viewport into two parts either horizontally or vertically based on the tool setting)
12. **Viewport Presets** has a Flyout Toolbar

**a. b. c. d. e. f. g. h. i. j.**

a. Single Viewport Tool
b. 2 Vertical Viewports Tool
c. 2 Horizontal Viewports Tool
d. 3 Right Viewports Tool
e. 3 Left Viewports Tool
f. 3 Bottom Viewports Tool
g. 3 Top Viewports Tool
h. 4 Even Viewports Tool
i. 4 Right Viewports Tool
j. 4 Left Viewports Tool

Also See:

***Tool Menu***
***Flyout Toolbar***

### 2.2.3.2 Rendering Toolbar

## Description:

The tools associated with the ***Rendering Toolbar*** are used to alter the rendering of the drawing.


**1. 2. 3. 4. 5. 6. 7. 8.**

1. **2D Wireframe Tool** (Default Render mode)
2. **3D Wireframe Tool**

3. **Hidden Tool**
4. **Flat shaded Tool**
5. **Gouraud Shaded Tool**
6. **Flat Shaded With Edges Tool**
7. **Gouraud Shaded With Edges Tool**
8. **Regenerate Tool** (Refreshes all entities and rendering within a drawing.)

Also See:
***Tool Menu***

### 2.2.3.3 File Toolbar

## Description:

The tools associated with the ***File Toolbar*** are used to for the basic document operations of open, save, print, and help.


**1. 2. 3. 4. 5. 6.**

1. **New** (Create a new document)
2. **Save** (Save the active document)
3. **Open** (Open an existing named document)
4. **Print/Plot** (Print/Plot the active document)
5. **Print/Plot Preview** (Preview how the active document will print)
6. **Help** (Opens the help documentation)

Also See:
***File Menu***
***File Formats***
***Print/Plot***

### 2.2.3.4 Measure Toolbar

## Description:

The tools associated with the ***Measure Toolbar*** are used to for the basic document operations of open, save, print, and help.


**1. 2. 3.**

1. **Measure Distance :** Measure Distance along lines and arc.

2. **Measure Area** : Measure area of polygons.
3. **Measure Angle** : Measure angles

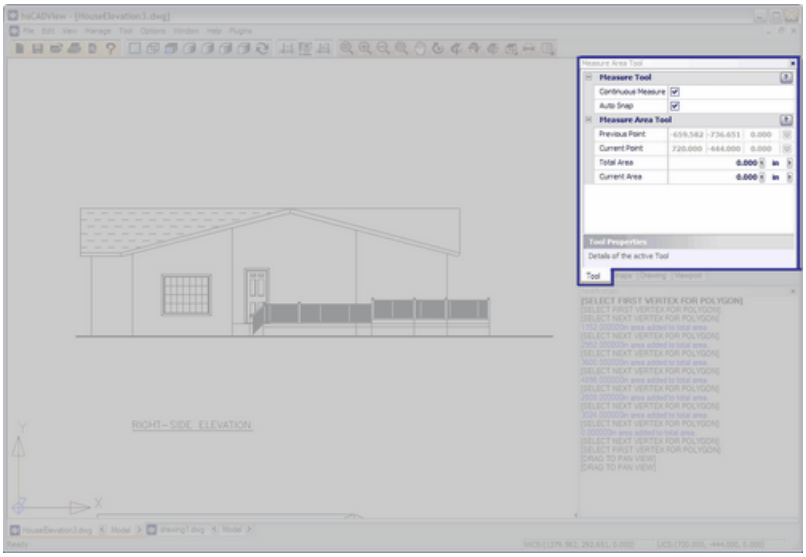
Also See:
***Tool Menu***

## 2.2.4 hsCADView Property Trees

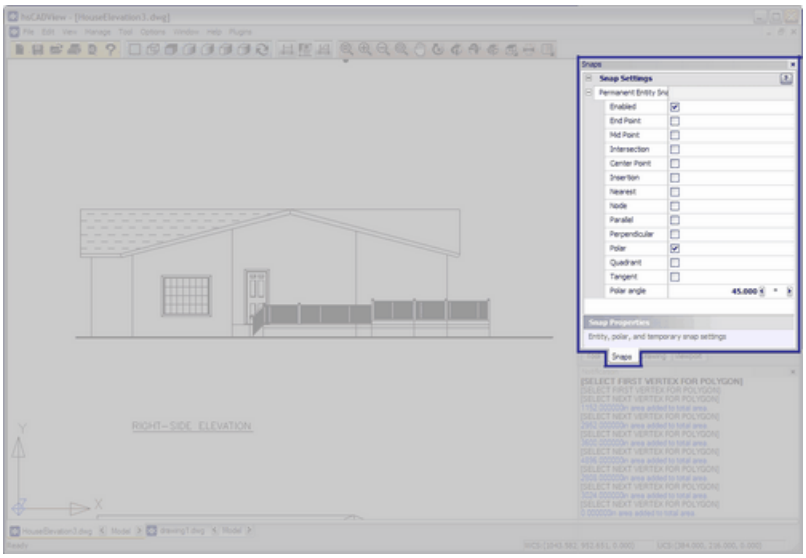
**hsCADV ew** uses property trees to edit individual properties. Following property trees are accessible in **hsCADV ew** :

- Tool Property Tree
- Snap Property Tree
- Drawing Property Tree
- Viewport Property Tree

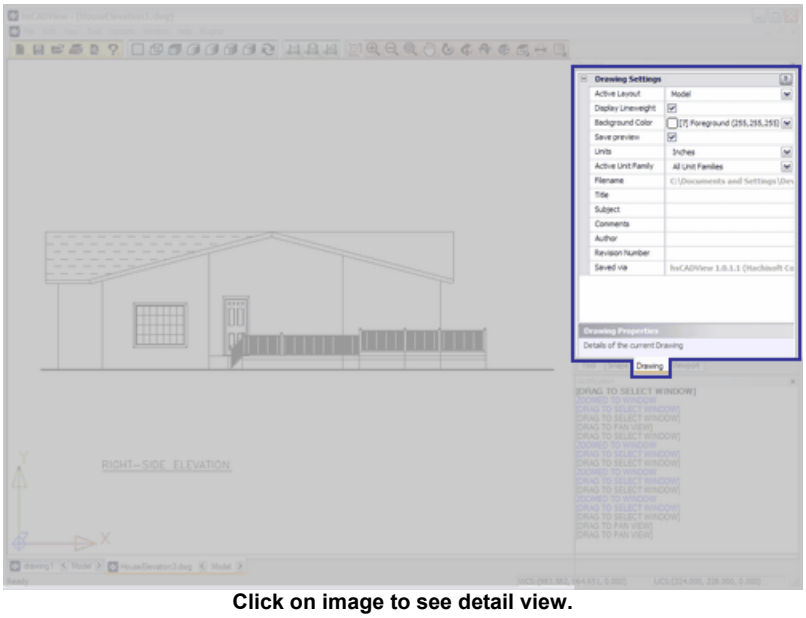
### 2.2.4.1 Tool Property Tree



### 2.2.4.2 Snap Property Tree

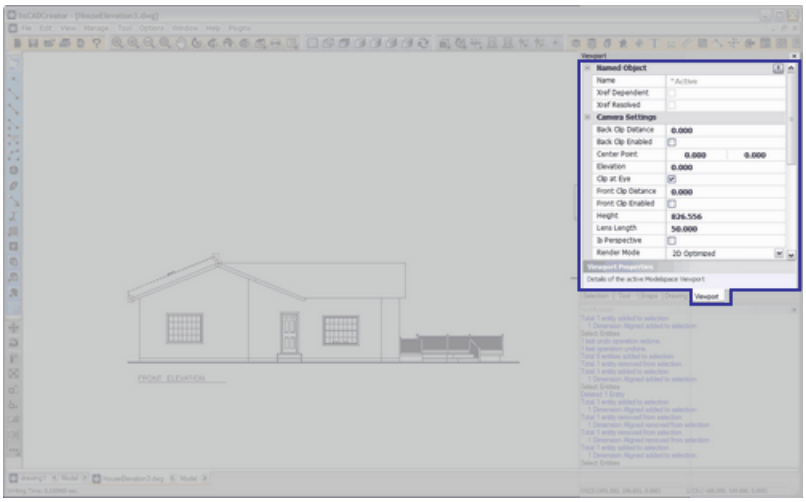


### 2.2.4.3 Drawing Property Tree



**Click on image to see detail view.**

#### 2.2.4.4 Viewport Property Tree



## 2.2.5 hsCADView Dialogs

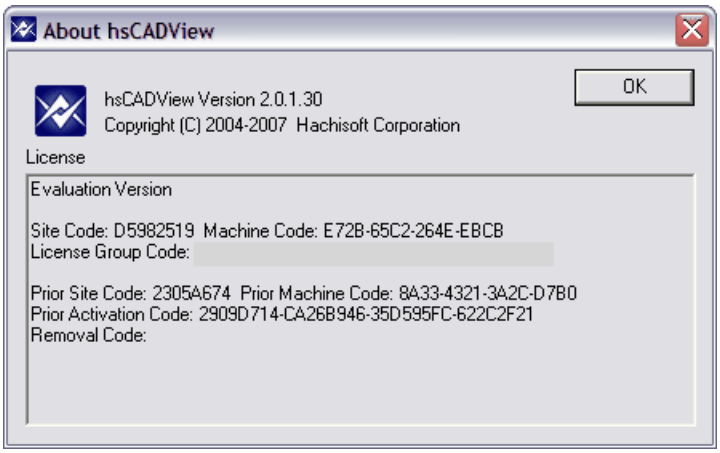
Following dialogs are used in **hsCADV ew:**

- About Dialog
- Application Settings Dialog
- Print Dialog

### 2.2.5.1 About hsCADView Dialog

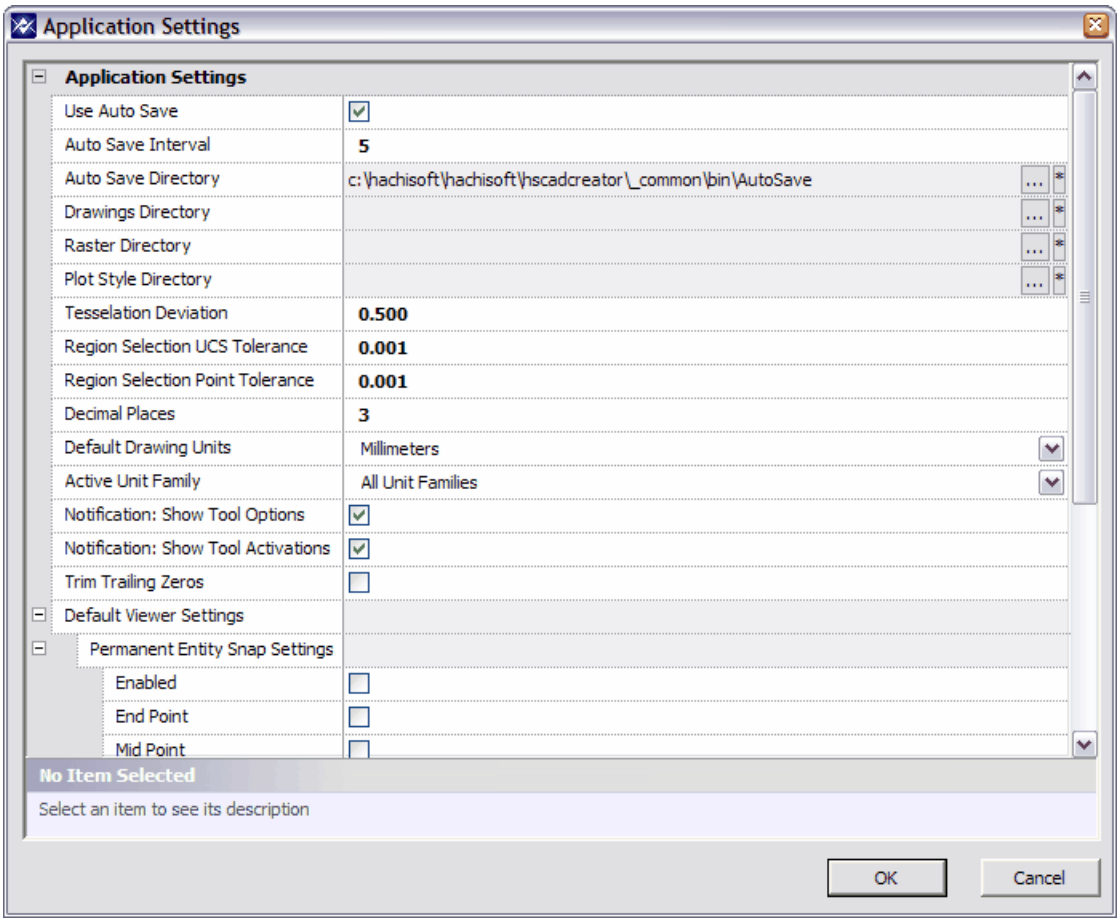
The About Dialog displays information about **hsCADView** and the current status of the License.

- **Current Version Number for hsCADView**
- **Licensee Name**: Name of License Owner or Company License Contact
- **Licensee Company**: Name of Company
- **Licensee Email** Email of License Owner or Company Contact
- **Licensee Phone Number** : Phone number of License Owner or Company Contact
- **License Site Code** : Generated
- **Machine Code** : Generated
- **License Group Code** : Code from online purchase or media case.
- **Activation Code** : Generated




### 2.2.5.2 Application Settings Dialog

**Application Settings** are program level settings. These settings are not saved with drawing, but saved with **hsCADV ew** program. Whenever a new drawing or an existing drawing is opened previously set Application Settings are applied to it. Application Settings are accessible through Application Settings Dialog. To access this dialog use Options->Settings... Menu item.

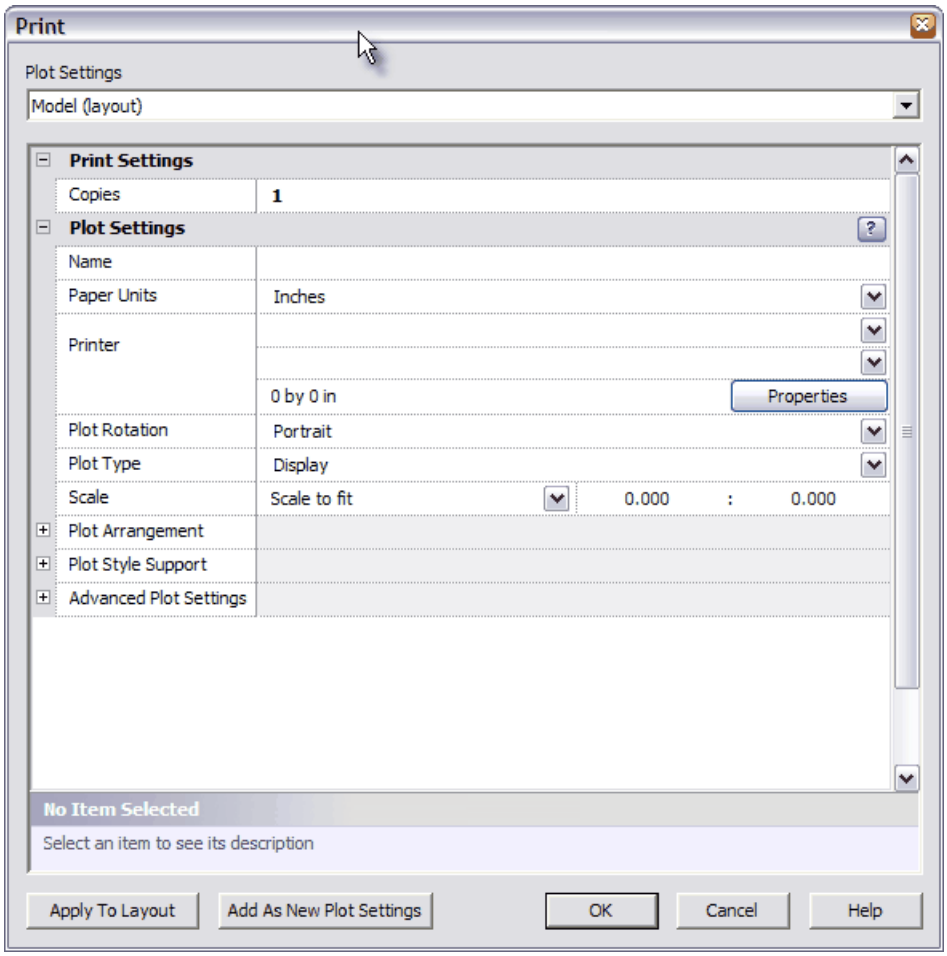



| Field Name | Data Type | Description |
|---|---|---|

| | | |
|---|---|---|
| Use Auto Save | Boolean | Enable/disable auto save feature |
| Auto Save Interval | Integer Number | Time interval between each auto save in minutes. |
| Auto Save Directory | Folder Path | Path to folder for temporary auto save files. |
| Drawings Directory | Folder Path | Path to current drawing's directory. |
| Raster Directory | Folder Path | Path to current drawing's raster files. |
| Plot Style Directory | Folder Path | Path to current drawing's plot style directory. |
| Tesselation Deviation | Real Number | Value that controls the resolution for drawing non-linear curves. Lower the value, higher is resolution. |
| Region Selection UCS Tolerance | Real Number | Tolerance for selecting region that is on UCS plane. |
| Region Selection Point Tolerance | Real Number | Tolerance for selecting point that is on UCS plane. |
| Decimal Places | Integer Number | Number of decimal places to display for all numbers used in drawing. |
| Default Drawing Units | Multi-option selection box | Default drawing units to be used for newly created drawings. |
| Active Unit Family | Multi-option selection box | Currently active unit family |
| Notification: Show Tool Options | Boolean | Enable/disable tool options notifications. |
| Notification: Show Tool Activations | Boolean | Enable/disable tool activations notifications. |
| Trim Trailing Zeros | Boolean | Enable/disable trimming of trailing zeros. |
| Default Viewer Settings: Permanent Entity Snap Settings | Entity Snap Settings | Default entity snap settings to be used for newly created drawings. |
| Default Drawing Settings | Drawing Settings | Default drawing settings to be used for newly created drawings. |

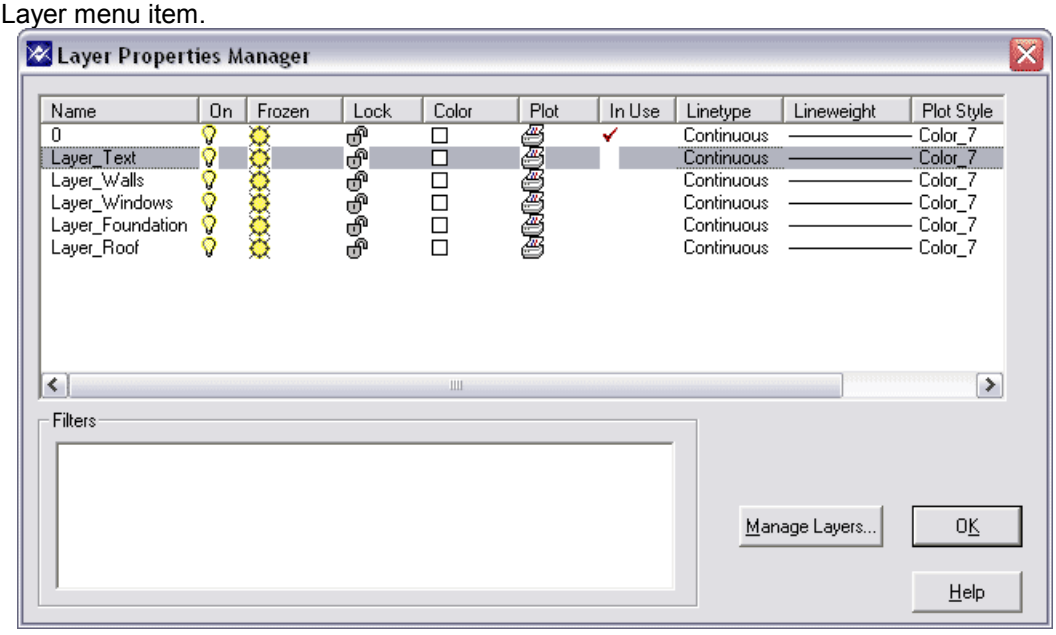
### 2.2.5.3 Print Dialog

Print dialog gives access to print/plot settings. This dialog is accessible from File->Print/Plot menu item.




### 2.2.5.4 Quick Layer Dialog

Quick Layer dialog gives access to edit layer properties. This dialog is accessible from Manage->Quick Layer menu item.

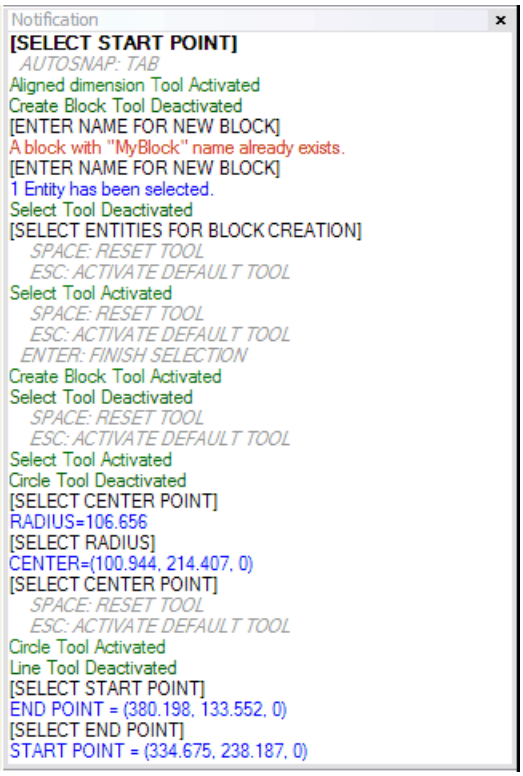


**To turn ON/OFF any layer:**
Click on the "light-bulb" icon infront of the layer name. Depending on drawing's size, it may take longer to reflect changes in drawing.
**To FREEZE/THAW any layer:**
Click on the "Sun/Snow" icon infront of the layer name. Depending on drawing's size, it may take longer to reflect changes in drawing.
**To Lock/Unlock any layer:**
Click on the "Lock" icon infront of the layer name. Depending on drawing's size, it may take longer to reflect changes in drawing.
**To include/exclude a layer in printing:**
Click on the "Printer" icon infront of the layer name. Depending on drawing's size, it may take longer to reflect changes in drawing.

To edit any other properties, click on "Manage Layers..." button to access detailed layer properties dialog.

## 2.2.6 Notify Window

The ***Notify Window*** tracks and displays a variety of information regarding the current state of the design process. Messages are displayed in order of arrival, with the latest message first. Messages have one of 6 color-coded types.

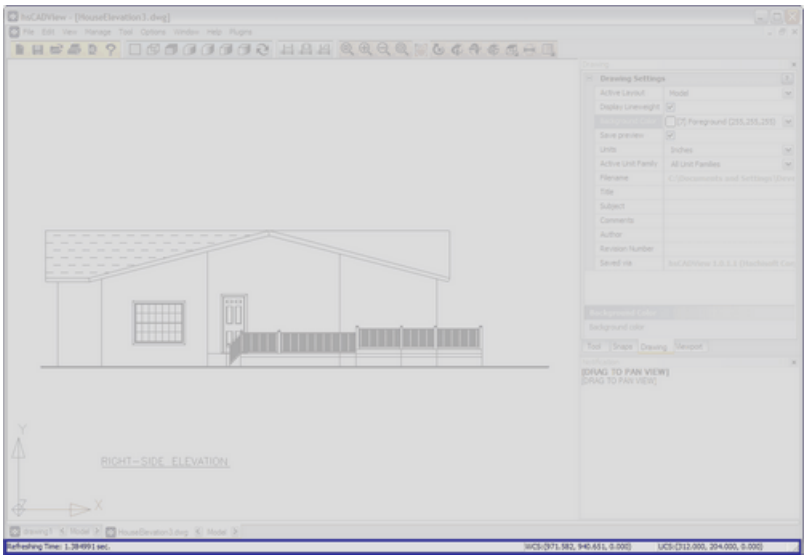



| Type | Format | Purpose |
|---|---|---|

| | | |
|---|---|---|
| **Option** | *OPTION:ACTION* | Displays information on how to activate special options in the currently active tool. OPTION is the name of the choice, and ACTION is the key or mouse action used to activate the choice. These messages can be turned on or off in the Settings Dialog. |
| **Instruction** | [INSTRUCTION] | When a tool is expecting user input, it uses these messages to explain precisely what action is necessary in order to continue. |
| **Action** | ENTITY=(0,1,2) | When a tool completes an action of interest, it relates this information back to the user. |
| **Activate / Deactivate** | Tool Name Activated<br>Tool Name Deactivated | These messages occur when a tool is activated or deactivated. These also show when Stackable Tools are being used. These messages can be turned on or off in the Settings Dialog. |
| **Warning** | Warning! "I" before "E" EXCEPT after "C". | A tool uses these messages to notify the user that input and actions may not have the desired result, or if there exists a potential for error. |
| **Error** | ERROR! "Ain't" ain't a word. | This mechanism notifies the user when a problem has occurred in the system, either through incorrect input or an internal error. |

### 2.2.7 Status Bar

***Status Bar*** is located at the bottom of **hsCADView's** window. It shows the current status of the **hsCADView**. It also shows brief description of a tool when user moves over mouse on any tool.



## 2.2.8 Visual Aids

Beside the usual visual feedback of the mouse cursor, different tools will employ visual aids to enhance the use of that tool. Different tools will use different visual aids as appropriate.

### Preview Entities

Entity Creation tools incorporate a preview entity and one or more entity design widgets. The preview entity shows what an entity would look like if you were to complete the current process with the current choices. Thus, a line preview entity would show you what the line would look like if you were to click it. The preview entities are shown with dotted lines.

### Cursor Icons

There are various ***cursor icons*** to give user a visual feedback of currently active tool. The cursor icon changes whenever active tool is changed. Apart from active tool cursor icons, there is also invalid input cursor icon ∅. Whenever the input under cursor becomes invalid the cursor icon changes to invalid input cursor ∅.

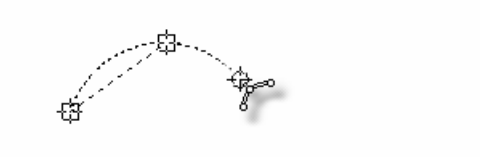
### Cursor Targets

This is a very common visual aid. There are two types of cursor target representation.

- Round cursor target (⌖)
- Square cursor target (⌖)

  Round target cursor(⌖) is shown whenever user moves the mouse around before selecting any point. Square target cursor (⌖) is drawn whenever user selects some point during any tool step. In example below drawing arc with *arc tool* start and middle points are already selected and are shown with square target ⌖. The end point is still not selected

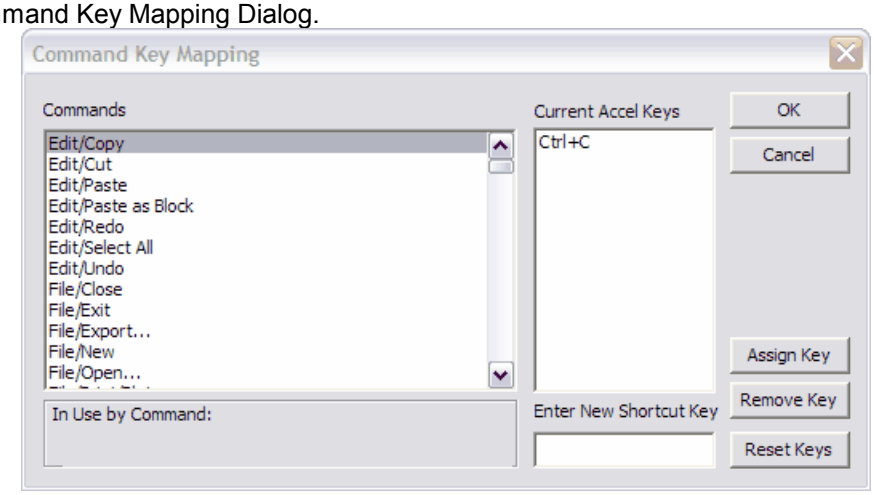
and hence is shown as round target :



## 2.2.9 Keyboard Shortcuts

**hsCADV ew** is installed with color coded shortcuts from keyboard for very easy access to various frequently used tools.These default shortcut keys can be changed by from

- Command Key Mapping Dialog.




Command Key Mapping dialog can be opened from Options->Key Accelerators... menu item. In the following picture, each default shortcut key is shown with its toolbars color.


In **hsCADV ew,** default shortcut keys are as follows:

| Shortcut Key | Function |
|---|---|
| F1 | Opens Help for hsCADView |

**View Toolbar** :


| Shortcut Key | Function |
|---|---|
| W | Zoom to Window Tool |
| NUMPAD + | Zoom In Tool |

| | |
|---|---|
| NUMPAD - | Zoom Out Tool |
| F | Pan View Tool |
| NUMPAD 5 | Top View Tool |
| NUMPAD 0 | Bottom View Tool |
| NUMPAD 8 | Front (South) View Tool |
| NUMPAD 2 | Back (North) View Tool |
| NUMPAD 4 | Left Side (West) View Tool |
| NUMPAD 6 | Right Side (East) View Tool |
| NUMPAD 1 | Southwest View Tool |
| NUMPAD 3 | Southeast View Tool |
| NUMPAD 7 | Northwest View Tool |
| NUMPAD 9 | Northeast View Tool |

**Rendering Toolbar** :


| Shortcut Key | Function |
|---|---|
| F6 | 2D Wireframe Tool |
| F7 | 3D Wireframe Tool |
| F8 | Hidden Tool |
| F9 | Flat Shaded Tool |
| F10 | Gouraud Shaded Tool |
| F11 | Flat Shaded with Edges Tool |
| F12 | Gouraud Shaded with Edges Tool |

## 2.3 Export

**hsCADView** can export opened drawing file to following formats.

- DWG
- DWF : Multi Layout
- DWF : Single Layout
- DXB
- DXF
- Email Attachment
- Image
- PDF
- SVG

### 2.3.1 DWG Format

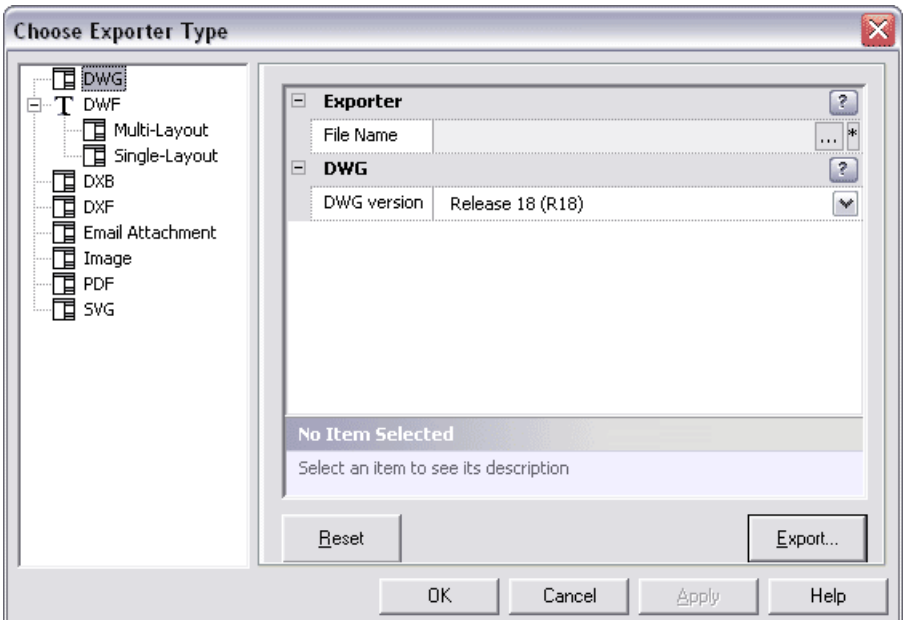
**DWG(Drawing)** format is standard format for most of the CAD(Computer Aided Drafting) drawing files.

**hsCADView** supports DWG formats for open/edit/create drawings.

Following release formats of DWG are supported:

DWG Release 9
DWG Release 10
DWG Release 12
DWG Release 13
DWG Release 14
DWG Release 15
DWG Release 18
DWG Release 21

***Exporter Dialog*** can be used to export existing drawing to any of above format.
***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.




Pressing **Export...** button creates new DWG file with given File Name.

## 2.3.2 DXF Format

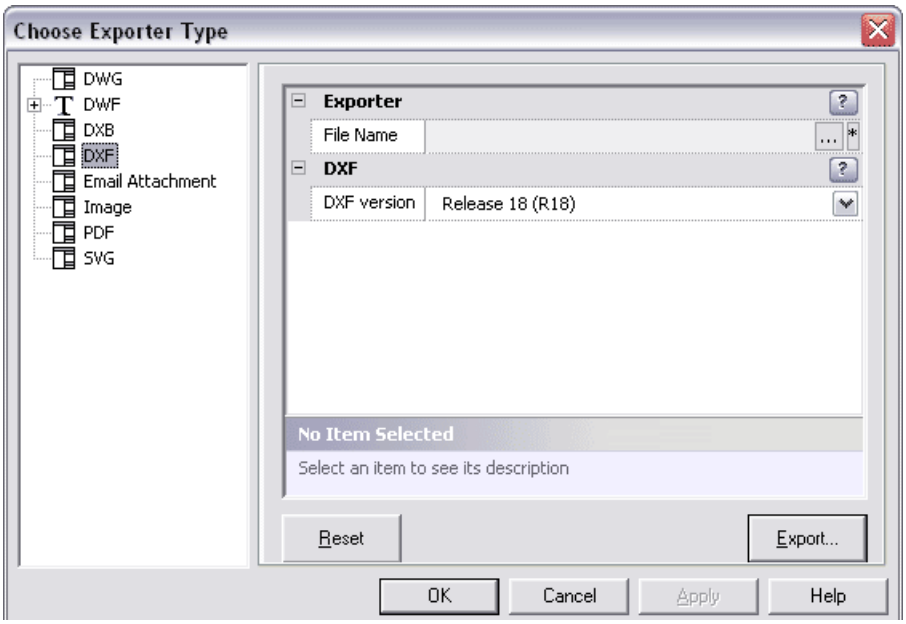
**DXF** is a **Drawing Interchange Format.**

**hsCADView** supports DXF formats for open/edit/create drawings.

Following release formats of DXF are supported:
DXF Release 9
DXF Release 10
DXF Release 12
DXF Release 13
DXF Release 14
DXF Release 15
DXF Release 18
DXF Release 21

***Exporter Dialog*** can be used to export existing drawing to any of above format.

***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.




Pressing **Export...** button creates new DXF file with given File Name.

### 2.3.3 DWF : Multi Layout Format

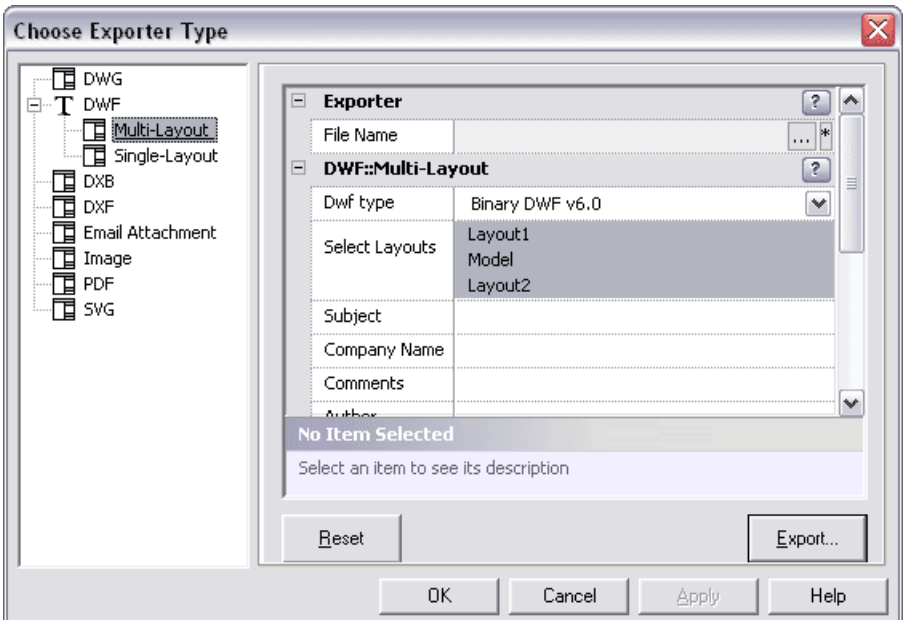
**DWF** is a **Drawing Web Format.** This format is commonly used to upload drawings on website for easy viewing and access.

**hsCADView** supports DWF: Multi Layout formats for open/edit/create drawings.

Following release formats of DWF : Multi Layout are supported:
- Binary DWF v6.0
- Zipped ASCII Encoded 2D Stream DWF v6.0

***Exporter Dialog*** can be used to export existing drawing to any of above format.

***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.




Pressing **Export...** button creates new DWF file with given File Name.

### 2.3.4 DWF : Single Layout Format

**DWF** is a **Drawing Web Format.** This format is commonly used to upload drawings on website for easy viewing and access.

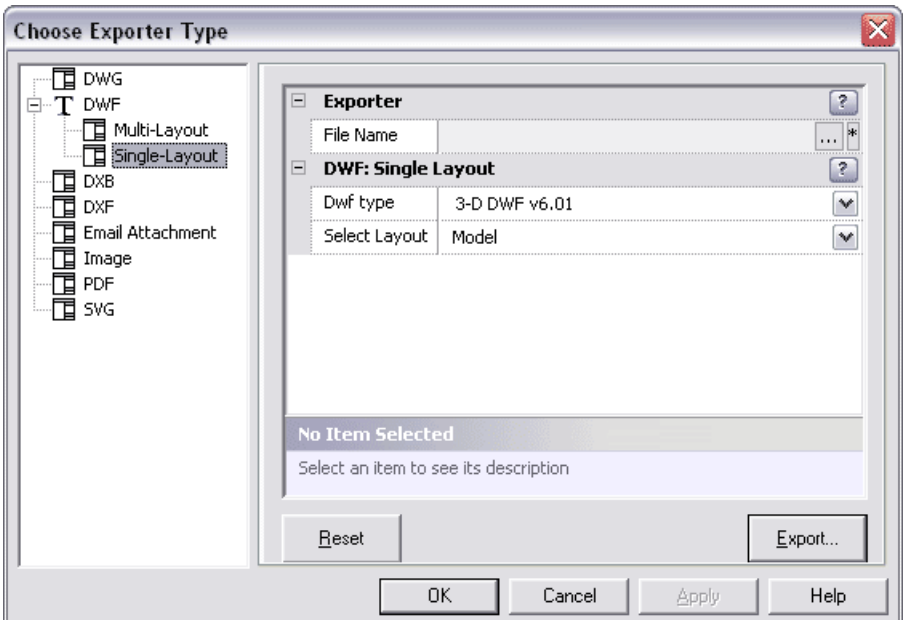
**hsCADView** supports DWF : Single Layout formats for open/edit/create drawings.

Following release formats of DWF : Single Layout are supported:

- 3-D DWF v6.01
- Binary DWF v6.0
- Zipped ASCII Encoded 2D Stream DWF v6.0
- Compressed Binary DWF v5.5
- Uncompressed Binary DWF v5.5
- ASCII DWF v5.5
- Compressed Binary DWF v4.2
- Uncompressed Binary DWF v4.2
- ASCII DWF v4.2

***Exporter Dialog*** can be used to export existing drawing to any of above format.

***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.




Pressing **Export...** button creates new DWF file with given File Name.

### 2.3.5 DXB Format

**DXB** is a **Drawing Interchange Binary** Format**.**

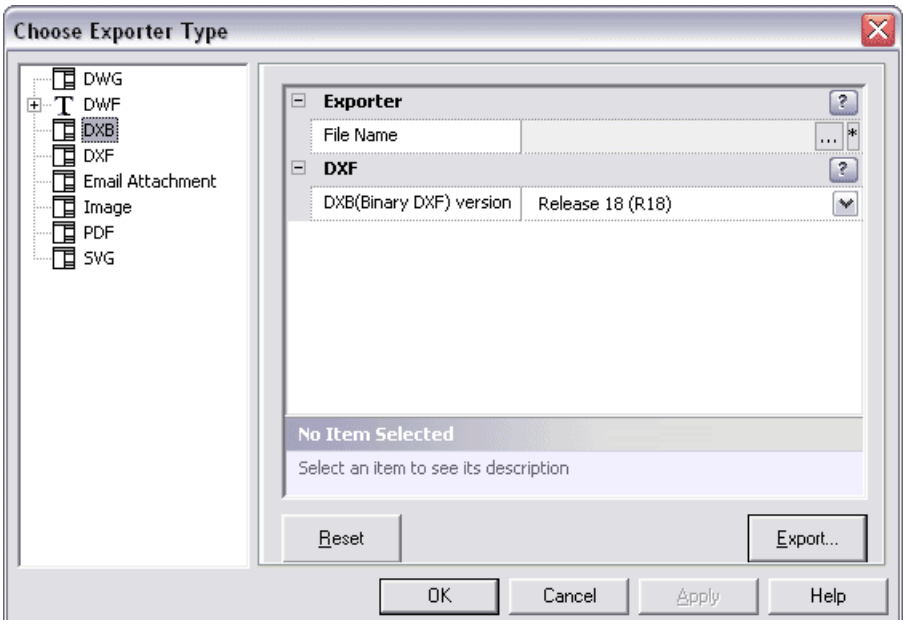
**hsCADView** can convert any opened drawing to **DXB** format:

Following release formats of DXB are supported:

- DXB Release 9
- DXB Release 10
- DXB Release 12
- DXB Release 13
- DXB Release 14
- DXB Release 15
- DXB Release 18
- DXB Release 21

***Exporter Dialog*** can be used to export existing drawing to any of above format.

***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.

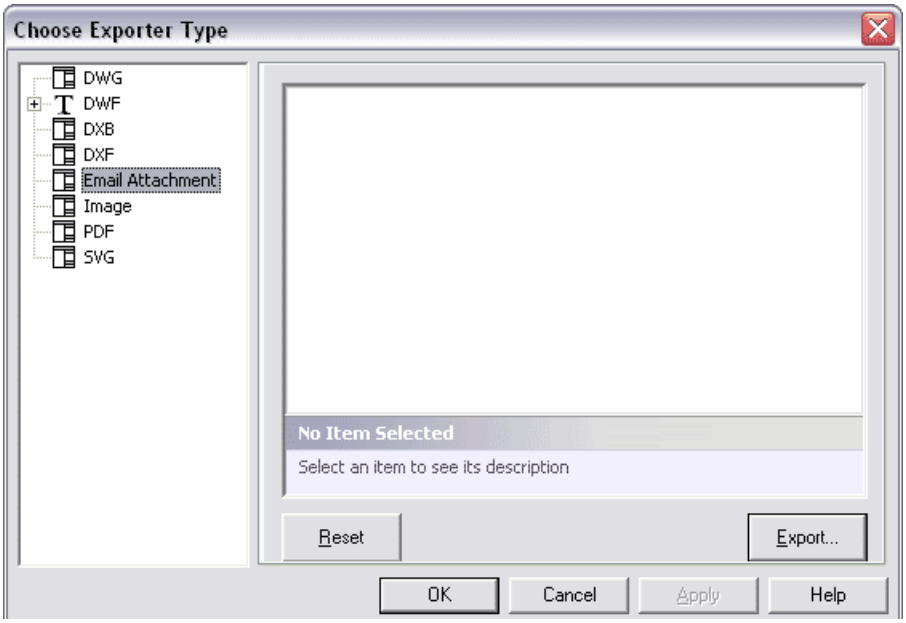



Pressing **Export...** button creates new DXB file with given File Name.

## 2.3.6 Email Attachment

**hsCADView** can be used to attach current drawing in an email easily with ***Exporter Dialog***.

***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.

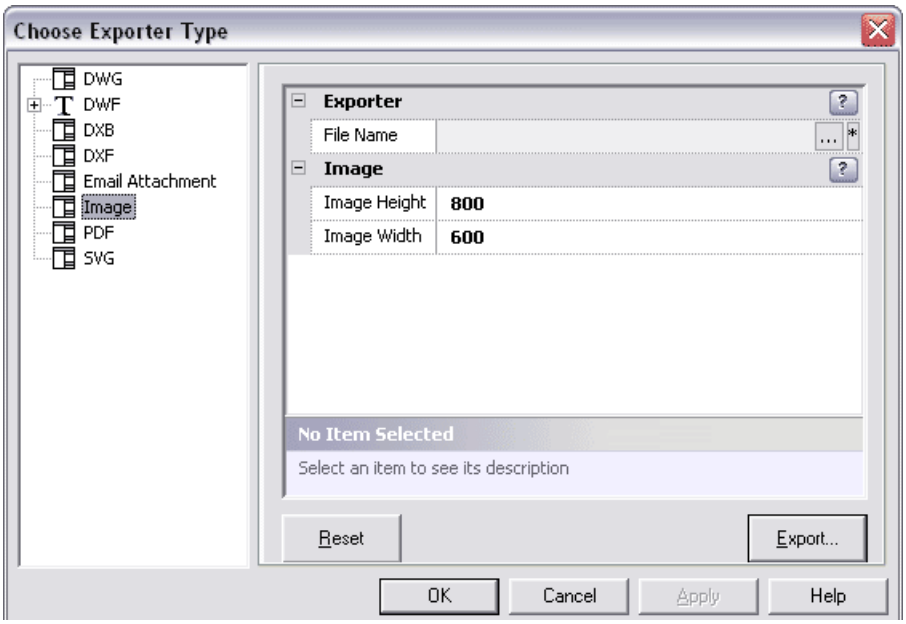



Pressing **Export...** button opens a new email to compose with current drawing already attached with email.

### 2.3.7 Image Format

Currently **hsCADView** supports BMP (Bitmap) Image format. Using ***Exporter Dialog,*** **hsCADView** can convert current drawing to BMP format.

***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.



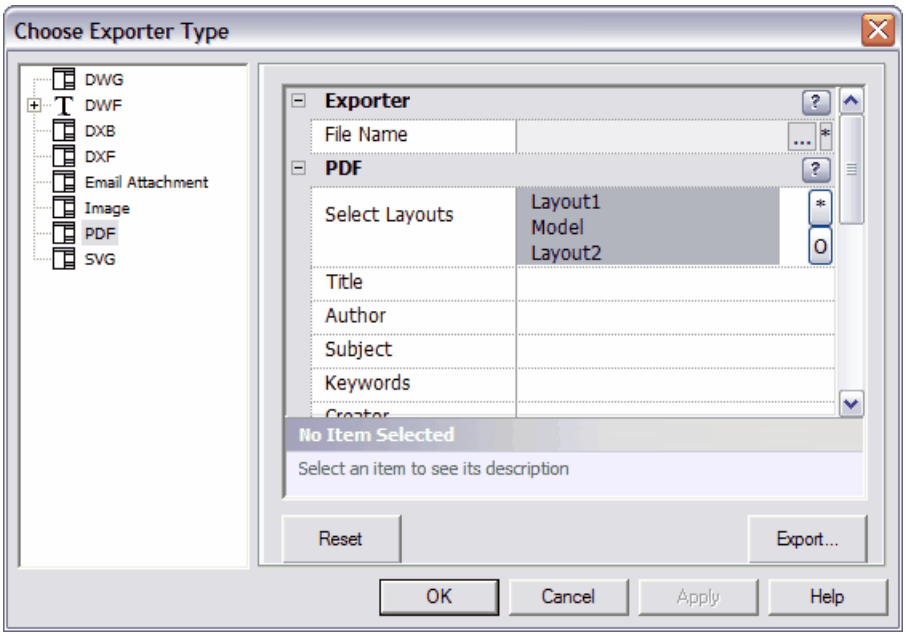

Pressing **Export...** button creates new BMP image file with given File Name.

### 2.3.8 PDF Format

**PDF** is a **Portable Document Format.**

**hsCADView** can convert any opened drawing to **PDF** format using ***Exporter Dialog***.

***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.



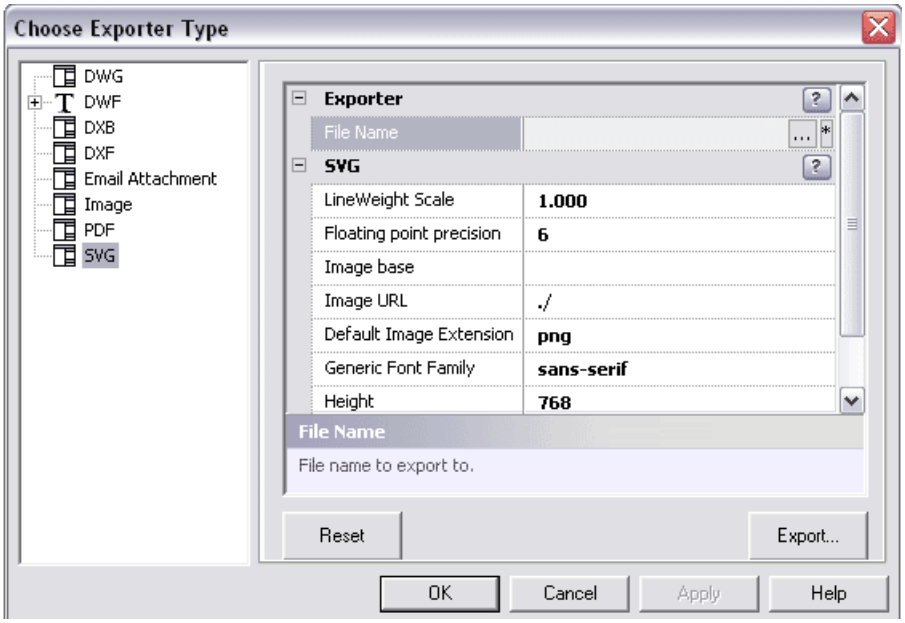

Pressing **Export...** button creates new PDF file with given File Name.
If there is any plot style(stylesheet) associated with exported layout, it gets applied to pdf document.

## 2.3.9 SVG Format

**SVG** is a **Scalable Vector Graphics** format.

**hsCADView** can convert any opened drawing to **SVG** format using ***Exporter Dialog***.

***Exporter Dialog*** is accessed from File Menu :: Exporter... menu option.



Pressing **Export...** button creates new SVG file with given File Name.

## 2.4 Supported Files and Formats

**hsCADView** can open a variety of files and formats and convert between variety of formats.

Input Formats that can be opened/viewed/edited by **hsCADView** are :

DWG
DXF
DWF : Multi Layout
DWF : Single Layout

Output Formats can be created/converted to from opened drawing in **hsCADView** are :

DWG
DWF : Multi Layout
DWF : Single Layout
DXB
DXF
Email Attachment
Image
PDF
SVG

# 3 Licensing

- This software is controlled by a licensing system. A license key is a unique identifier used to activate your copy of the software for use under the End-User License Agreement.
- This software requires a valid license key and running this software causes a License Key Entry Dialog to appear until one is entered. By default, **hsCADView** is installed with an Evaluation license key which allows use for a trial period.
- Full version licenses may be purchased by opening the "Help" menu and clicking on the "Purchase Upgrade to Full Version" menu item, or by visiting hsCADView website.

This software is controlled by a seat enforcing licensing system. The evaluation version of **hsCADView** allows a user a trial period of 5 days and/or 5 uses. After the evaluation term has expired the software is locked and cannot be used without an activation code. Hachisoft Corporation sells its software as license groups. A license group can contain one or more license seats. You may purchase a license group by visiting (http blah).

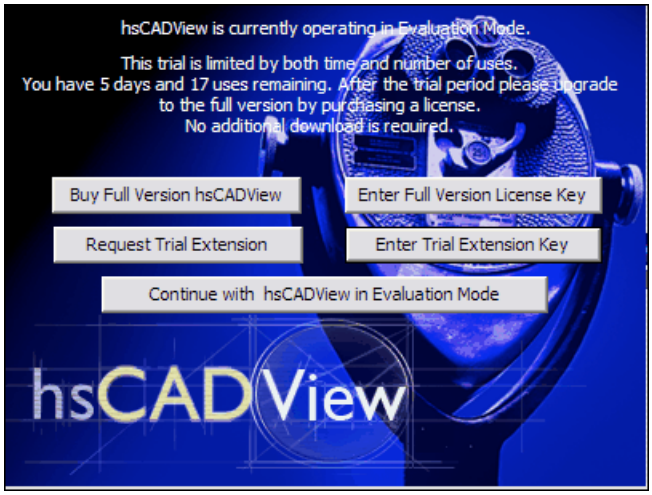
## 3.1 Licensing Application

### L cens ng hsCADV ew:

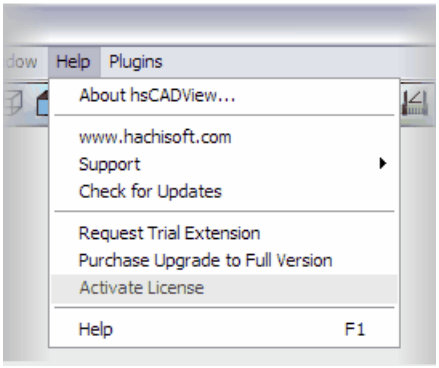
1. Press the "**Buy Full Version hsCADView**" or use hsCADView website to buy **Full Version License Key**.

2. Press the "**Enter Full Version License Key**" or use the Help->Activate License Menu to

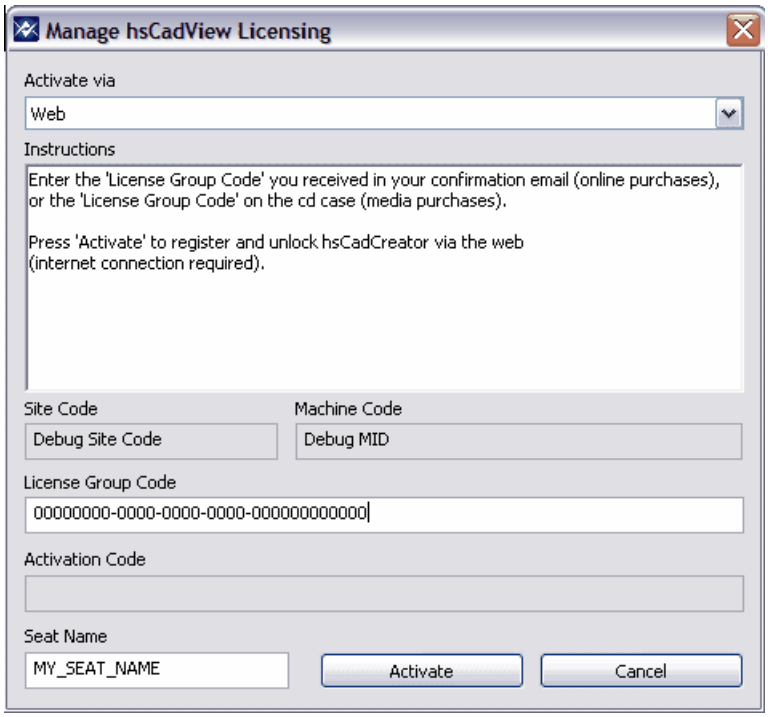
activate **hsCADView**.




or




3. The Manage **hsCADView** Licensing dialog will popup and will allow you to enter the "**License Group Code**" you purchased.




4. Press the "**Activate**" button to activate your copy of **hsCADView**.

Also See:

***Managing License Groups***
***About Dialog (License Interface)***
***End-User License Agreement***
***Trial Extensions***

## 3.2 Managing License Groups

### Manag ng L cense Grou s:

Hachisoft Corporation sells its software as license groups. A license group can contain one or more license seats. On activation the licensing system ties a seat of **hsCADView** to a given computer. The licensing system supports adding more seats to a license group, activating seats, removing seats and transferring seats of **hsCADView** from machine to machine.

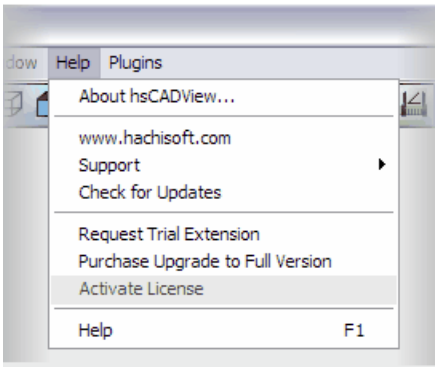
The hsCADView setup can be passed command line parameters that allow remote administration for volume and site license management. These parameters are:

/VERYSILENT -- runs the installation without showing any of the GUI configurations and forms.
/hsKEY -- uses the passed parameter as the license group code for each installation of hsCADView. On initialization, hsCADView will attempt to automatically activate a seat from the license group pool. This simplifies deployment of hsCADView across large groups of users.

Also See:

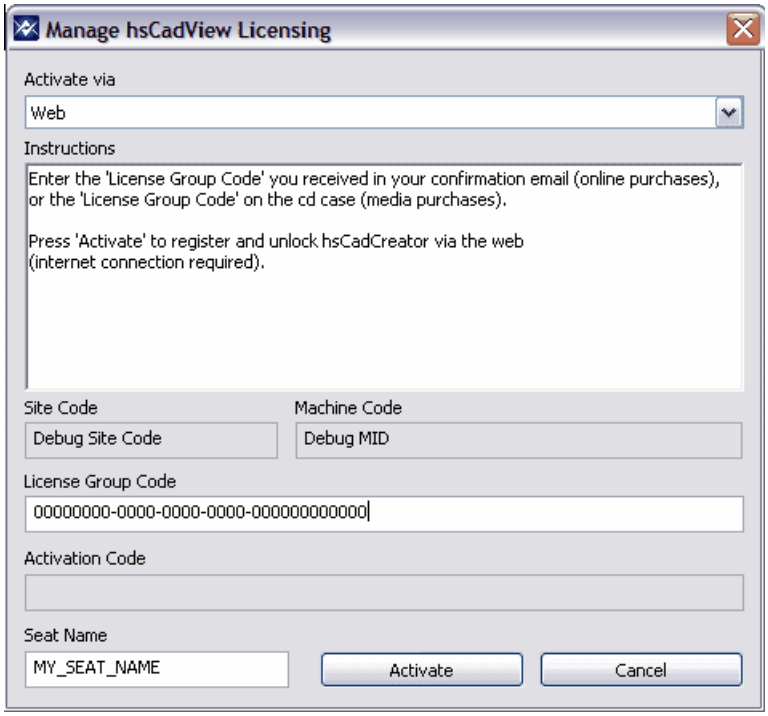
***Activating License Seats***
***Removing License Seats***

### 3.2.1 Activating a Seat




## Web Act vat on:

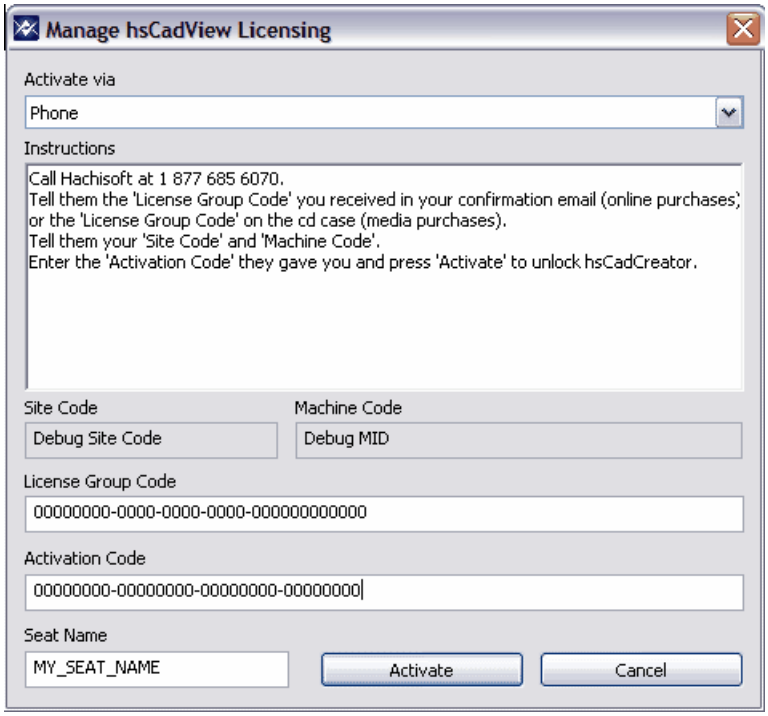
Enter the "**License Group Code**" you received in your confirmation email (online purchases) or the "**License Group Code**" on the cd case (media purchases), a unique "**Seat Name**" and press "**Activate**". Hachisoft Corporation will automatically check the validity of the "**License Group Code**" and generate an "**Activation Code**" that will unlock **hsCADView**. Press "**Done**" to use **hsCADView...** licensing is now complete.



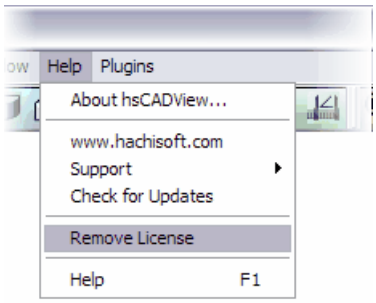

## Phone Act vat on:

Call Hachisoft Corporation at 1 877 685 0760. Tell the operator the "**License Group Code**" you received in your confirmation email (online purchases) or the "**License Group Code**" on the cd case (media purchases), the "**Site Code**", "**Machine Code**", and a unique "**Seat Name**". The

operator will check the validity of the "**License Group Code**" and generate an "**Activation Code**" that will unlock **hsCADView**. Enter the "**Activation Code**" that they told you and press "**Activate** ". Press "**Done**" to use **hsCADView...** licensing is now complete.

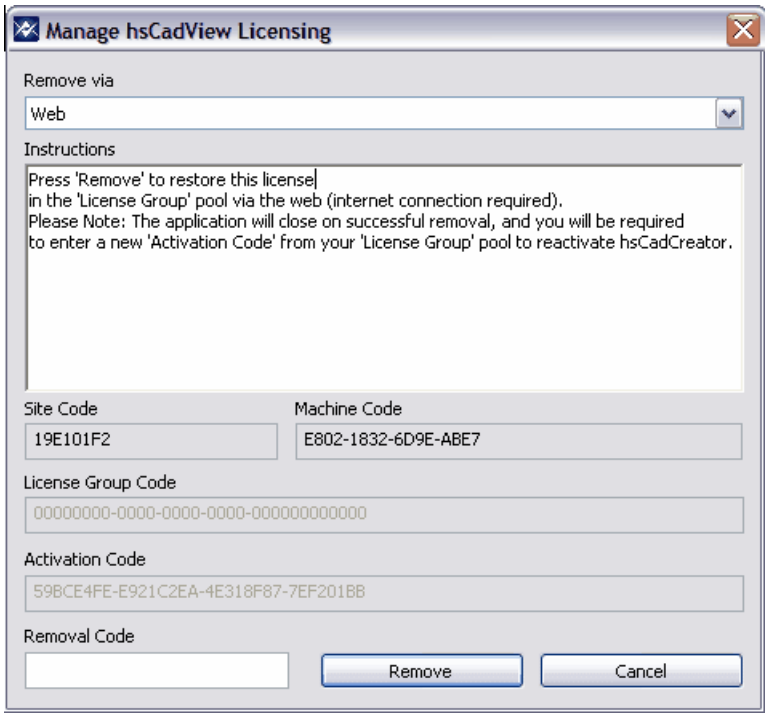



### 3.2.2 Remove a Seat



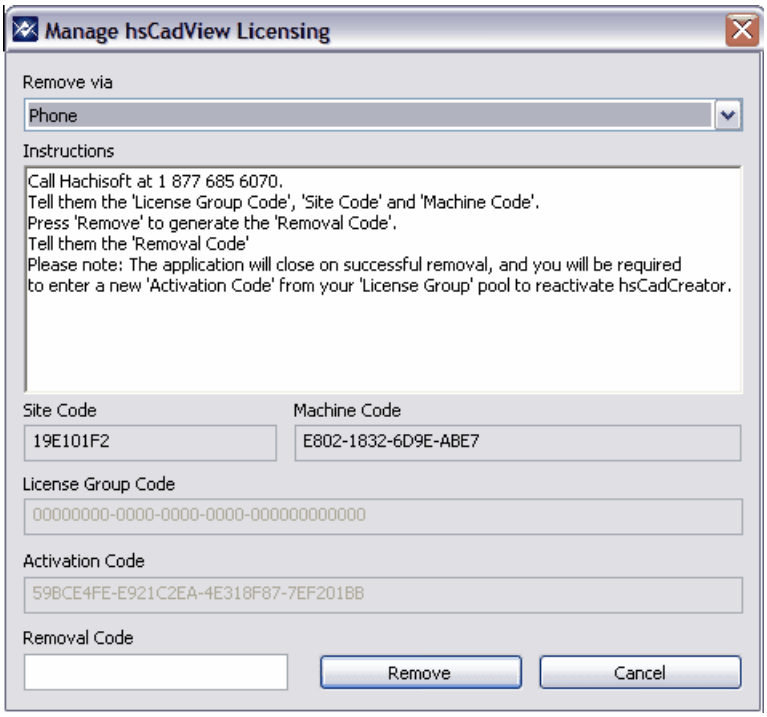

## Web Removal:

Press "**Remove**" to remove this license from current machine and restore into the "**License Group**" pool. Please note that the application will close on successful removal and you will be required to activate a seat to use **hsCADView** on this computer. A dialog will ask you if you really want to remove the seat. Press "**Yes**" to remove this seat of **hsCADView** and return it to the "**License Group**" pool. **hsCADView** will return to its evaluation mode after a successful seat removal.




## Phone Removal:

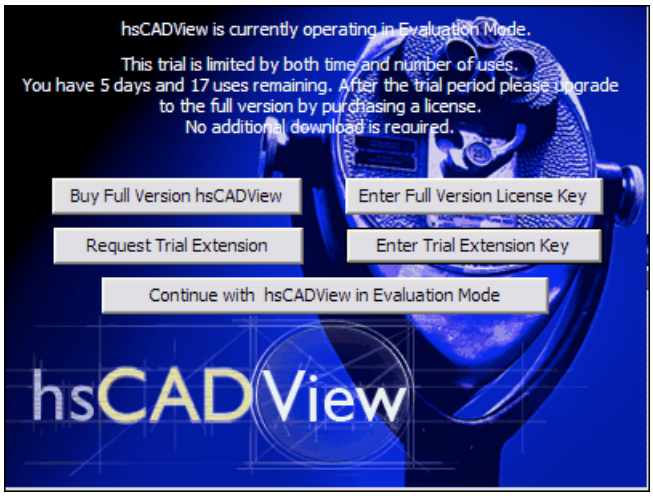
Call Hachisoft Corporation at 1 877 685 0760. Tell the operator the "**License Group Code**", "**Site Code**", and "**Machine Code**". Please note that the application will close on successful removal and you will be required to activate a seat to use **hsCADView** on this computer. A dialog will ask you if you really want to remove the seat. Press "**Yes**" to remove this seat of **hsCADView**. Tell the operator the "**Removal Code**" that was generated. The operator will return it to the "**License Group**" pool. **hsCADView** will return to its evaluation mode after a successful seat removal.



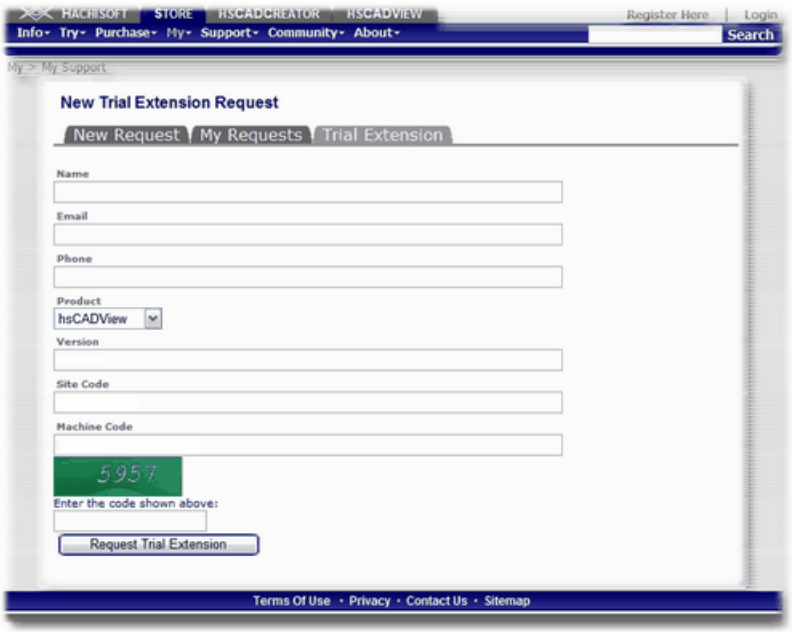

## 3.3 Trial Extension

Thanks for trying our software! We want you to feel comfortable with our products and appreciate you taking the time to do a thorough evaluation!

If you need more time simply click on **Request Trial Extension** button on the **hsCADV ew** startup screen.




This will open **hsCADV ew's New Trial Extension** website in your browser. Fill in required information on the form and click on **Request Trial Extension** button. This will send your request for trial extension to our support department. You will shortly get new **Trial Extension** code at your specified email address.




## 3.4 License Agreements

- hsCADView End-User License Agreement

**hsCADV ew** utilizes the following open source libraries:

- Apache Xerces (XML processing library): Apache License Agreement
- OpenCascade (Modeling library): OpenCascade License Agreement

### 3.4.1 hsCADView End-User License Agreement

**hsCADView End-User License Agreement**

**DEFINITIONS**
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**COMPLIANCE WITH LICENSES**
You agree that upon request from HACHISOFT, you will within thirty (30) days fully document and certify that USE of any HACHISOFT SOFTWARE and/or UPDATES at the time of the request is in conformity with your valid licenses from HACHISOFT, and is supported by an appropriate number of ALLOWED SEATS.

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**TERMINATION**
Without prejudice to any other rights, HACHISOFT may terminate this EULA if you fail to comply with the terms and conditions of this EULA. In such event, you must destroy all copies of the SOFTWARE and all of its component parts.

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Version 6.1 March 24, 2006

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# 4 Frequently Asked Questions

If your question is not answered here? Please contact our Support.

## FAQs

**Q: My circle looks more like a Hexagon. What is wrong?**

- Answer

  Just try refreshing your view with "Regen" tool.

**Q: My middle mouse doesn't work for "Pan". What is wrong?**

- Answer

  You might have mouse software installed that allows you to configure actions on different mouse buttons. Change Middle Button's action to "Middle Click" to be able to "Pan" using middle mouse button. These settings are accessible in Mouse Properties of your Operating System. Mouse Properties are located under Control Panel.

**Q: Entity snap settings are not saved when i close hsCADView. Every time I start hsCADView I have to reselect my entity snaps through Snaps Tab. Is there any way to save my entity snaps?**

- Answer

  The snap settings shown on Snaps Tab are only valid for current drawing. If a user wants to set **hsCADView's** Entity Snaps they can be accessed from Options->Settings... Menu item. Every time a new drawing is opened, it sets default entity snaps from **hsCADView's** Entity Snaps. Snap settings changed through Options->Settings... Menu item will be saved with **hsCADView** and will be activated everytime a new drawing is opened.

**Q: I used Measure Area Tool to measure area of a non-planar/self intersecting polygon, but it shows me the area as Zero or Negative value. What is correct area?**

- Answer

  Measure Area Tool can not measure area of non-planar/self intersecting polygons correctly. The best way to calculate correct area is to dis-integrate the required polygon into simple polygons conceptually and then use Measure Area Tool with Continuous Mode ON to find total area of polygons.

# 5 Support and Feedback

The most current support details can be found on the web at Hachisoft Support Website.

**Email Support:**
The primary form of support contact is via email. Our support staff can be reached at:
support@hachisoft.com

**Forums:**
At Hachisoft Support Website we have user forums for our products. Please use these to check for known bugs, view upcoming update details and progress, ask questions and give feedback.

**Phone Support:**
If the other support options are insufficient, then phone support is also available:

1 (509) 685-0760 (Voice)
1 (866) 685-6070 (Toll Free)
1 (509) 684-1351 (Fax)

**Feedback:**
Your feedback is extremely important to us. We create our products for you and we are interested in improving them. Please use one of the three methods of contact mentioned above to provide us with feedback and suggestions.

# 6 Version History

Visit hsCADView online version history to view the latest **hsCADView** changes.

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