

# **eCabinet Systems V5.2**

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# **THERMWOOD**

*F i r s t i n C N C R o u t e r s*

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## *eCabinet Systems V5.2*

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*A typical Thermwood Multi-Purpose 3 Axis Machine: The M42-55DT*

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## **eCabinet Systems Introduction**

## About This Manual

Using a number of sources at Thermwood Corporation, through the combined talents of the Software Engineering and Training Departments, as well as through the input from our customers, this comprehensive manual covers the operation and use of *eCabinet Systems*, and also highlights some important features beyond the software.

This manual is organized into 2 basic sections. The first 13 chapters provide specific introductory information as well as a familiarization to *eCabinet Systems*. The next 3 chapters show further details of the procedures, as well as some suggestions and examples to get the most out of *eCabinet Systems*. Additionally, information is presented about the **Thermwood Furniture Network**, which (with or without a Thermwood CNC router) can take your designs from the computer screen to a fully finished work of art with only a few keystrokes of your computer.

Thermwood wants you to be productive and successful, and we know that *eCabinet Systems* is a tool that can ensure this. If you have any questions or comments, suggestions or criticisms, feel free to call us at 800.533.6901, or email us at: [software@thermwood.com](mailto:software@thermwood.com)

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## Summary of the Second Edition Changes

This Edition is applicable to *eCabinet Systems* V5.2 Build 2

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1. **Presentation View** - Added enhanced rendering mode options.
  2. Minor text and illustration clarifications added.
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## Related Thermwood Software Update Information

**CNC Carving Library** - Current version: 2.8 (July 2007)

**Control Nesting** - Current version is: 5.40 (April 2008)

**Profile Modeler** - Current version is: 2.2.1.0 (March 2007)

**SuperControl** - Current version is: 7.1.0 (April 2008)

## Introduction

[Thermwood Corporation](#) has been developing its [eCabinet Systems](#) cabinet design software for over 5 years. While many enhancements and new features have been added (and of course, unexpected "bugs" have been identified and corrected) the fundamental concept of this program is still unchanged; provide the user with a logical approach to cabinet design.

First, design the cabinet (or modify an existing cabinet design) and then, incorporate the cabinets into a Job. A Job includes the variations of the basic cabinet to meet the requirements of the cabinetmaker. This is shown in a three dimensional representation of the room (or rooms) where these cabinets will be placed. Additionally, parts lists and material requirements, costing and profit data, as well as a proposal writer, too, are provided to the user. Then there is Custom Layout, where photorealistic renderings can be created with your cabinets, as well as the wall coverings, floors, interior decorations and, if desired, even scale representations of the paintings on their walls! To complete the concept, with a few mouse clicks you can have your designs sent directly to your Thermwood CNC machine, or via Thermwood's [Production Sharing Network](#), to any Thermwood machine, anywhere in the world.

What makes this more than just a simple software package is the [Thermwood Furniture Network](#). Here, you can browse designs of both cabinets and furniture, created by professional woodworking artisans, and purchase the rights to use and modify the designs, using *eCabinet Systems* to adapt these to your preferences. Additionally offered is the [Design Sharing](#) feature, where individual *eCabinet Systems* members offer their designs for your use, for a small fee. Eventually, if you find your designs getting compliments and accolades, then you too can offer them over the **Design Sharing** network. This is a true set of comprehensive schemes and integrated functionalities, linked all over the world; the *eCabinet Systems*.

Did we mention that *eCabinet Systems* is provided fully functional and completely free-of-charge?

## System Requirements

### Recommended Desktop System:

Dell Precision Workstation 39 or HP xw4600 Workstation  
Intel® Core™ 2 Duo E6700  
Windows® XP Professional (32-bit)  
2GB, 667MHz, DDR2 SDRAM memory  
160GB SATA Hard Drive  
256MB PCIe x16 nVidia Quadro FX3500 graphics adapter  
XGA (1024X768) Capable (or higher) monitor  
Integrated Ethernet and/or 56K PCI data fax modem  
CD-RW/DVD-ROM combo drive  
Two-button mouse with scroll wheel  
Broadband Internet access  
Microsoft Office Basic Edition (Word, Excel, Outlook)

### Minimum Requirements:

2.0GHz Intel or AMD™ processor  
64MB nVidia GeForce or ATI Radeon™ series AGP or PCI Express graphics adapter  
Windows 2000, Windows XP Home or Windows XP Pro  
512MB memory  
XGA (1024X768) capable monitor  
Internet connection (either modem or broadband)  
CD-ROM Drive  
Two-button mouse with scroll wheel

### Recommended Laptop System:

Dell Precision Mobile Workstation M6300, or HP Compaq 8710w Mobile Workstation  
Intel® Core™ 2 Duo Processor T7700  
Windows XP Professional  
2 GB, DDR2-667 SDRAM Memory  
80GB Hard Drive (7200RPM)  
NVIDIA® Quadro FX 1600M OpenGL graphics adapter  
Integrated Ethernet  
24X max/10X min CD-ROM Drive  
Two-button mouse with scroll wheel  
Broadband Internet access  
Microsoft Office Basic Edition (Word, Excel, Outlook)

**This information is correct as of April 2008**

*eCabinet Systems* software does not benefit from multi-processor or multi-core processor systems. *eCabinet Systems* strongly recommends avoiding computers or laptops with "integrated graphics" and/or those that have "shared" memory.

**Important: - eCabinet Systems is not compatible with Windows XP 64-bit Edition, Windows Vista (all versions), Windows 95, Windows 98, Windows Me, or Windows NT 4.**  
**eCabinet Systems recommends Windows XP Pro.**

# Optimizing for Best Performance

## Settings for Slower Computers

*eCabinet Systems* is a sophisticated software program that is highly graphics intensive. These graphic features require, above all else, a powerful graphics card. The capability of the graphics card, probably more than anything else, defines how well the software will function on a particular computer system. Since older, slower systems are still prevalent, we have provided some tools to try to help as much as is possible.

The first aid is the **Level of Detail** setting, found in **Settings/Preferences**. This sets the amount of image detail that is displayed in the **Cabinet/Assembly Editor**, and in **Custom Layout**. A lower **Level of Detail** renders faster, but with reduced image quality. There are some additional tools in the **Custom Layout** area that work in conjunction with a lower **Level of Detail** setting. We recommend that you set the **Level of Detail** to the minimum level needed to give acceptable performance in the **Cabinet/Assembly Editor** and **Custom Layout**.

## Other Factors Affecting Performance

The more RAM you can add to your computer, the better. Windows XP can use up to 4GB of RAM, and while this may not have a great impact on the graphics, it will assure that you are using the RAM and not the hard disk while processing your data. Check with the manufacturer of your PC for additional information.

Another important point that affects performance when running *eCabinet Systems*, because of its substantial demands on computer resources, it that is best to run it alone and shut down all other programs. Some programs install monitors and other features for their application, which then slow other applications. Also, viruses and spyware (malicious and other unintended installs) can invisibly use a substantial amount of system resources. Ensure you have a good A/V suite and that it is functioning and is updated frequently.

It is important to minimize the number of background tasks running if you want to get the best performance from your system. A clean reboot, with all other nonessential programs closed or disabled, and a new session of *eCabinet Systems* loaded will provide the best possible performance.

Ensure that you have the latest Windows Updates installed. These software files ensure your Windows is up to date with any performance and security updates. Your hardware too can be updated. Check with the manufacturer of your PC, to see if the BIOS, the chipset, graphics or other parts have updates available. Some computers may have hardware items installed after they were sold. (Items like sound and graphics cards) If this is the case, it is important to ensure that their software (sometimes called "drivers") are updated.

It is also a good idea to defragment your hard disk monthly, and to periodically inspect inside your PC; dust and debris can cause excessive heat build up, which may cause the processors in your computer to overheat, or to lower their power level and performance.



## Optional Settings and Enhancements

### NVIDIA Tweak Utility

If you have an NVIDIA Quadro FX series graphics card, a “tweak” utility is available for download. This file can be found in the forum section of the *eCabinet Systems* website. This utility may boost frames-per-second video performance in the cabinet editor, room layout, and other 3D areas by up to two to four times. It appears that the Quadro driver defaults from NVIDIA are not optimized for performance in *eCabinet Systems*' 3D areas. Also with this optimization, anti-aliasing can be enabled with little affect on performance.

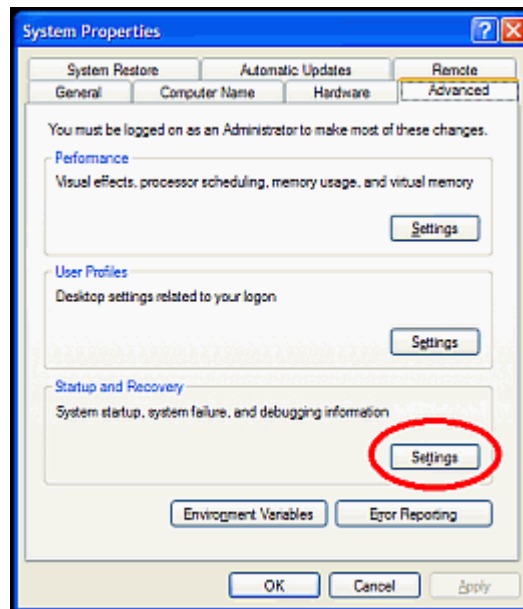
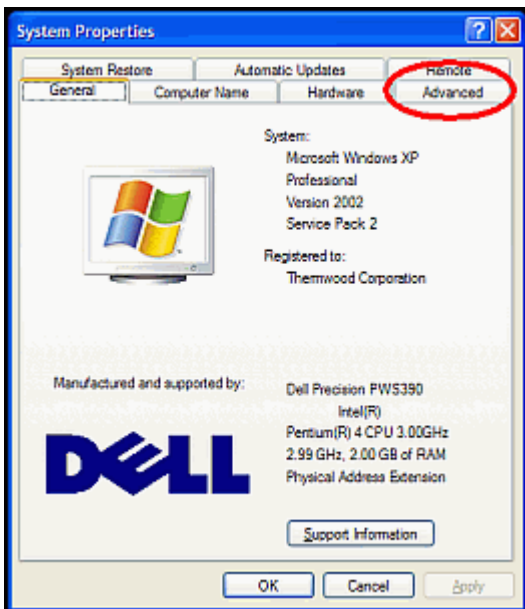
#### To use this Tweak Utility:

1. You must be running Windows XP. This will not work with Windows XP 64-bit or Vista.
2. You must be running a late-model NVIDIA Quadro chip, specifically the Quadro FX series.
3. You must have 128MB or more video memory (VRAM).
4. You must be running the NVIDIA ForceWare version 67.00 or higher.
5. Exception: NVIDIA Quadro FX Go770 128MB used in some laptops does not work with this.

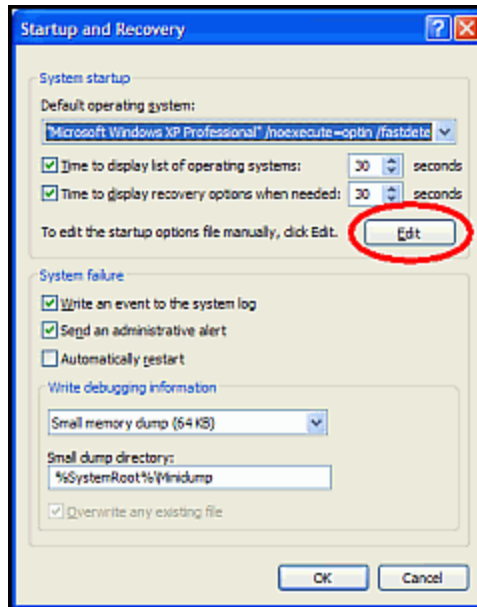
**Note:** This utility does not work with NVIDIA GeForce or ATI Radeon or any other brand of graphic cards. Also, this utility does not do a conditional check for Windows XP, or for VRAM, or ForceWare version, so it is up to you to ensure that you meet the criteria.

### Windows Boot.ini Setting

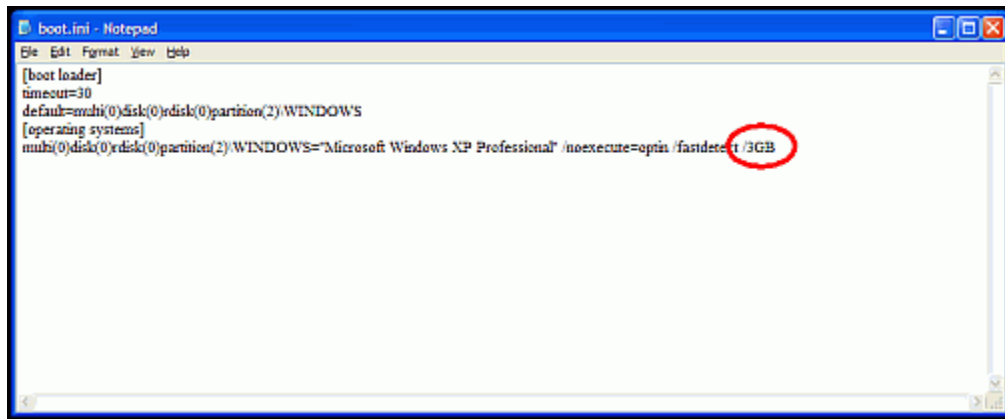
If you encounter problems with Presentation View not completing an image, (see the section in this manual called "**Render View, Presentation View**" for more information) this setting increases the size of the user process address space from 2GB to 3GB, to provide more address space for virtual memory intensive applications, like eCabinet Systems. To enable this switch, go to **System Properties** window. (Right click on the "My Computer" icon, or at the Windows "Start" button, right click on "My Computer" and then click on "Properties".)



Click the **Advanced** tab, and then, at **Startup and Recovery**, click the **Settings** button.



At **System startup**, click the **Edit** button, and a new window will appear with the contents of your Boot.ini file.



**Note:** It may not look exactly like the above illustration.

At the end of the last line, add the following: [SPACE] [Forward Slash] 3 [Uppercase]GB [Return], so your entry will look like this: "...ectet /3GB".

Then go to **File-Save**, to save this file, then **Exit**, to exit the editor, and then reboot your computer.

# File Compatibility

## Moving Design Files Between Systems

There are a few possible compatibility issues between files from *eCabinet Systems* that users need to be aware of. Presuming that the shared files were created with the same version of the software, one important area of attention is the selection of **Materials**. The only **Materials** specification actually checked by the system is thickness. If the material exists in the receiving system and it is the correct thickness, it is accepted. However, if the material exists in the proper thickness but the color or texture is incorrect, it will be accepted, but the surface texture from the receiving system is used. Another area where conflict can occur is with **Hardware Hole** definitions. An incoming cabinet may include specific hardware, with a **Hardware Hole** pattern associated with it. The system in which it is being loaded may, however, have a different hole pattern associated with the same part. If you are importing the design to build it yourself, you may very well want to use the hole pattern you associated and not the one coming in with the cabinet. If, on the other hand you are going to machine parts for someone else, you will want to use their hole pattern.

## Sharing System Files

Software users that operate more than one system will want to share system files. **Materials** and other databases are saved in the file **eCabinets.mdb**. Settings and preferences are saved in the file **eCabinets.ini**. Both of these files can be found in the *C:\Program Files\Thermwood\eCabinet Systems\* directory.

## Sharing Job Files

Job files are stored by the user in a directory of their choice, and are all in the ".esj" format. When an imported Job file is first loaded, the system checks for conflicts in **Materials**. If the material name does not exist in the target system, you will be asked to either add the new material from the cabinet file or you can substitute an existing material. If the material name exists but thickness is different, you can change the thickness of your existing material (Since will affect all uses of that material in your system, this is not recommended) or you can substitute an existing material of the same thickness. If the material name exists with the correct thickness but has a different Texture image, you can use the existing material with its existing image or you can substitute an existing material of your choice, as long as they both are of the same thickness.

If the **Hardware Hole** patterns associated with hardware on the incoming Job are different than the hole patterns associated with the same hardware on your system, the system will use the hole patterns associated with the incoming Job. To correct this, load the job, highlight the first cabinet and take it into the **Cabinet/Assembly Editor**. Go to the **Door/Drawer Editor**, highlight the drawers and select a new default. Repeat the process for the remainder of the cabinets.

## Sharing User Files

**Cabinets** - Their design files are stored in the appropriate *C:\Program Files\Thermwood\eCabinet Systems\Cabinets\* subdirectories. The "Seed" cabinets are then found in *C:\Program Files\Thermwood\eCabinet Systems\Cabinets\Standard Cabinets* and the user can store their cabinets with user defined subdirectory names such as *C:\Program Files\Thermwood\eCabinet Systems\Cabinets\My Cabinets*.

Each cabinet has two files associated with them; the actual data of the cabinet is in the ".hsf" format file, while a small ".jpg" image file is used to display the image for identification and selection of the cabinet.

When an imported cabinet file is first loaded, the system checks for conflicts in material, and a resolution dialog appears if a conflict exists. If the Material name does not exist in the target system, you can add the new material from the cabinet file, or you can substitute an existing material. If the Material name exists but thickness is different, you can change the thickness of your existing material (not recommended) or you can substitute an existing material of the same thickness. If the Material name exists with the correct thickness but different image, you can use the existing material with the existing image, or you can substitute an existing material of the same thickness.

A conflict can also exist if hardware hole patterns associated with hardware on the incoming cabinet are different than the hole patterns associated with the same hardware on your system. The system will use the hole patterns associated with the incoming cabinet. To correct this, you can load the cabinet into the **Cabinet/Assembly Editor**, and then go to the **Door/Drawer Editor**. Highlight the drawers and select a new default.

**Assemblies** - Their design files are stored in the *C:\Program Files\Thermwood\eCabinet Systems\Assemblies\* subdirectories. No assemblies are supplied by default, thus the user should store their assemblies with user defined subdirectory names such as *C:\Program Files\Thermwood\eCabinet Systems\Assemblies\My Assemblies*.

Each assembly has two files associated with them; the actual data of the assembly is in the ".esa" format file, while a small ".jpg" image file is used to display the image for identification and selection of the assembly.

When an imported assembly file is first loaded, the system checks for conflicts in material, and a resolution dialog appears if a conflict exists. If the Material name does not exist in the target system, you can add the new material from the cabinet file or you can substitute an existing material. If the Material name exists but thickness is different, you can change the thickness of your existing material (not recommended) or you can substitute an existing material of the same thickness. If the Material name exists with the correct thickness but different image, you can use the existing material with the existing image or you can substitute an existing material of the same thickness.

A conflict can also exist if hardware hole patterns associated with hardware on the incoming assembly are different than the hole patterns associated with the same hardware on your system. The system will use the hole patterns associated with the incoming assembly. To correct this, you can load the assembly into the **Cabinet/Assembly Editor** and highlight the first cabinet that is part of the assembly. Go to the **Door/Drawer Editor** and highlight the drawers and then select a new default. Repeat the process for the remainder of the cabinets.

## Sharing Door and Drawer Box Design Files

**Door and Drawer Box** design files are stored in the appropriate *C:\Program Files\Thermwood\eCabinet Systems\Doors\Saved\* and *C:\Program Files\Thermwood\eCabinet Systems\Drawers\Saved\* and *C:\Program Files\Thermwood\eCabinet Systems\Drawer boxes\Saved\* subdirectories, under user defined directory names.

Each door or drawer front has two files associated with them; the actual data of the part is in the ".hsf" format file, while a small ".jpg" image file is used to display the image for identification and selection of the part.

## Sharing Display Part Files

**Display Part** files are stored in the *C:\Program Files\Thermwood\eCabinet Systems\Import\* subdirectory, under a series of user created directory names. These three-dimensional design files can be in the ".hsf" format or can be ".stl" format files, which can be loaded into the **Part Editor**, textured and then saved in the ".hsf" format.

## Sharing Profile Tool Files

**Profile Tool** files are created and stored by the user in a directory of their choice. These files are in the ".tol" format.

## Sharing Shape Manager Geometry Files

**Shape Manager** geometry files are stored by the user in a directory of their choice. These geometry files are in the ".x\_t" format.

## Sharing Hardware Hole Pattern Files

**Hardware Hole Pattern** files are stored in the *C:\Program Files\Thermwood\eCabinet Systems\Patterns\Standard\* subdirectory, and are stored with the ".ptn" file format.

## Selected Program Defaults

Some features of *eCabinet Systems* are supplied with default settings that can be modified by the user. Here is a list of some of these settings and their default values.

### General Parameters:

Dimension Format = Feet, Inches, Decimals

Cabinet Part Detail Display = Enabled

Cabinet Auto Spin = Enabled

Language = English

Learning Mode = Enabled

Zero Delay For New = Enabled

Tool Tip Delay = 0.5 Seconds

Line Color = Black

Ortho = ON

Angle Snap To = OFF

Object Snap = ON

Snap To = OFF

Pick Box = 2

Show Lines = off

Show Item Frames = 0

Show Hole Patterns = off

Hide Target = off

Hide Axis Marker = off

Grid Spacing = 10"

Grid Size = 10

Grid Style = dashed

X Grid Axis = on

Y Grid Axis = on

Z Grid Axis = off

Grid X Color = red

Grid Y Color = blue

Grid Z Color = yellow



*1.1*

## **Cabinetmaking Fundamentals**



## Designing Cabinets - Basic Fundamentals

Should you decide to develop your own cabinet designs, you need a full function software that gives you control over all aspects of design and construction. The software should understand how changing one parameter affects other parameters. *eCabinet Systems* automatically adjusts every parameter that is affected when you make a change.

In any design program, parameters can be modified, basically, in two ways. One way is to offer an area where the user defines each and every detail of construction. All parameters are displayed, and the user defines his or her preference for each, and specifies how conflicts are handled. This list of parameters resides in the software and defines how the design is created. In this approach, at this point, your designed cabinets do not exist. Once parameters are defined, you create a cabinet by instructing the software to create a cabinet of a certain size and configuration using the defined parameters. These parameters dictate the details of cabinet construction. This is a time consuming approach, and it also makes it difficult to develop and work with a variety of designs. In *eCabinet Systems*, the list of parameters is part of each cabinet design, not part of the initial configuration. Instead of specifically defining parameters for each cabinet, the "seed" cabinets already have parameters. To obtain a different design, the user modifies only the parameters they want changed, by modifying the "seed" cabinet, and then saves the result under a new name.

The key ingredient to the *eCabinet Systems* approach, which really characterizes the software, is the ability to display highly detailed, accurate three-dimensional images of the cabinet, while you are adjusting the parameters, in "real-time". These images show exactly what the cabinet looks like with the current parameters. Changing a parameter causes the image to change, so you can examine the result. This image can be moved, rotated, exploded and zoomed. Components can be hidden, edited or even changed, so you can examine, in minute detail, the actual effect of any parameter change.

The *eCabinet Systems* concept of "Defaults" is used to simplify specification of common items. This means that details such as doors, drawer fronts, drawer boxes, pulls and moldings have a **Default** selection so that they do not need to be selected each time they are used. When one of these components is added to a cabinet, the current **Default Selection** is automatically used; therefore using a specific design is a two step process. But first, the design is located and designated as the **Default** generally using a **Set Default** button.

To develop a standard library, start with a standard cabinet. Change it to include the parameters you want to be shared by every cabinet in your new library. Save it in a user directory, and now this becomes your own "seed" cabinet. Now, load this seed cabinet, resize it and modify it to the first cabinet you want in your library, and save it. Load the seed cabinet again, fashion it as desired, and save this as your next cabinet. In a short time, you will have an entire library of cabinets that all share the same characteristics as your seed cabinet.

In *eCabinet Systems*, the conceptual design of the cabinets, as well as the supplied standard seed cabinets, falls into one of 7 types: **base**, **upper**, **island**, **tall**, **base corner**, **upper corner** and **detached toe**. The necessity for these differences in cabinet type is to enable almost unlimited possibilities of placement in a room. For example, an upper cabinet can be turned into an exact copy of a base cabinet. It would be placed higher off the floor when added to a room, of course, but you could then move it down, along with the other base cabinets, and then forget about it. However, sometime later, when you select "All Base Cabinets" you will then frantically try to figure out why this one is not highlighted...

This is one reason why it is imperative to keep "uppers" uppers, and "corners" corners, and why it is not possible to change the type of a cabinet. The standard seed cabinets in *eCabinet Systems* are located in the "**Standard Cabinets**" directory. The frame cabinets all have face frames, and are made from material called "generic". They all have slab doors and drawer fronts. The frameless standard cabinets have no doors, drawers or shelves. The Standard Cabinets directory is used for the standard cabinets only, and you can not save cabinets in the Standard Cabinets directory. You must save them to a newly created directory, and it is a good idea to formulate a directory and naming system now, for your new cabinets, assemblies and Jobs.

Completed cabinets consist of the cabinet box, face frame, moldings, doors and drawers, plus any display objects that have been associated with the cabinet. Multiple cabinets and other components can be combined and saved as Assemblies. In addition to the basic cabinet construction area and the shelves and stretcher features, there are also the following independent design features:

**Door/Drawer Front Designer** - This develops and saves door and drawer front designs that are then used on cabinets.

**Drawer Box Designer** - This is used to develop and save designs for drawer boxes.

**Hardware Hole Editor** - This creates mounting hole patterns that are associated with specific cabinet hardware. Whenever that hardware is used on a cabinet, the holes are automatically added. Hole patterns are already available for most hardware in the program.

**Construction Settings** - This area defines the construction characteristics of a cabinet.

**Display Part Editor** - This provides options to color and texture three-dimensional files. These depict objects that can then be added to a cabinet or a room design.

**Shape Manager** - This develops shapes or profiles that can be saved as a "geometry file". A machine tool can then be developed to cut the profile shape. Additionally, most of the parts from the cabinet can be taken to the Part Editor, where they can be modified in an almost unlimited amount of ways.

**Vendor Database** - This includes hardware and other items from industry vendors that can be associated with the cabinet. This adds any associated hardware hole patterns to the cabinet, and adds the items to the Buy List.

**Custom Layout** - This enables the creation of "rooms", which are developed with your designed cabinets and assemblies, as well as other objects, like wall coverings, windows and doors. Photorealistic images of the room can then be developed using the Presentation View.

**Reports** - This feature includes the **Cut List**, **Buy List** and **Cost Sheet** for the layout. Also, the **Line Drawing Editor** can do engineering-type line drawings of the cabinets, assemblies and even entire rooms.

Aside from cabinets and assemblies, other items can be displayed, and some edited and modified:

**Vendor Items** - These are items available for purchase through industry vendors that can be associated with the cabinet, and for which three-dimensional display images are available.

**Moldings** - These are lengths of molding that are added to the workspace as Display Items. (Moldings can also be added to a cabinet in the Molding Editor. Moldings added in the Molding Editor automatically resize when the cabinet resizes, but are restricted to horizontal orientation. ) Moldings added here, as a Display Item, can be placed in any orientation, but do not resize automatically.

**Display Object** - These are items that you have a display file for, but are not available from a vendor. Generally, if the item should appear each time the cabinet is used, a brass mounting foot for example, it should be part of the cabinet. If the item is sometimes, but not always, used with the cabinet, it should be added in **Custom Layout**. Display Objects can be resized (scaled) rotated, Texturized, and edited.

**Display Cube** - This item has no parameters, and is strictly for illustrative purposes. It is created as a cube, but it can be edited in Part Editor, can have Textures placed on it, and it can be scaled. As an example, if you built a picture frame and wanted to put a picture in it, you could create a thin Display Cube and stretch a picture image over it and then locate the cube inside the frame. If you built a speaker box and need a cloth covering for the front, you could make the covering as a Display Cube. In **Custom Layout**, a Display Cube can be used to simulate almost anything.

**Display Panel** - This is a rectangular panel made from any sheet material in your library. You can specify the size and material if it, and then locate it as you want. Like the Display Cube, a Display Panel can be taken to the Part Editor and modified. The advantage the Display Panel has is that it is an actual part that shows up on the Cut List, nest diagrams, part drawings and CNC programs. In other words, a Display Panel can actually be manufactured.

**Display Board** - This works the same as a Display Panel, but by using board stock rather than sheet stock.

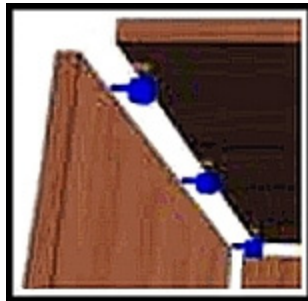
It is also possible to insert and edit **Doors**, **Drawer Fronts** and **Drawer Boxes** independently of any cabinet or assembly.

## Cabinet Joinery and Tooling

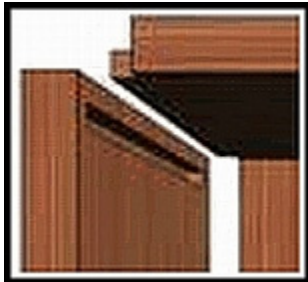
The following types of joinery are commonly found in cabinets and drawer boxes:



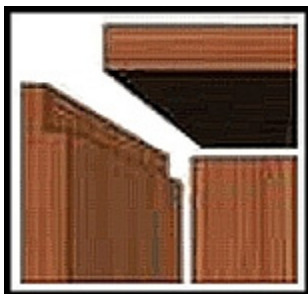
**Butt** – In this joint the edge of one panel butts against the surface of another. This joint will require some type of mechanical fastener, such as screws or nails.



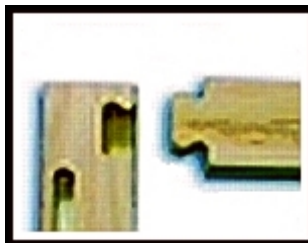
**KD/RTA** – This joint supports KD (knocked down) RTA (ready to assemble) hardware fasteners. The hole pattern for these fasteners can be developed in the **Hardware Hole Editor**.



**Blind Dado** – This is a joint specifically designed for machining by a CNC router. A tenon (shorter than the length of a panel edge) is machined into the panel edge. A corresponding mortise is machined into the mating panel surface. The resulting joint is both strong and easy to assemble.



**Full Dado** – This joint cuts a dado into the surface of one panel, and lengthens the corresponding panel to fit into the dado, which extends across the entire edge.



**Puzzle Joint** - This joint, which looks like the interlocking ends on the parts in a jigsaw puzzle, can be machined directly in the nest. Without needing clamps, fixtures or screws, the face frame assembly is fast, accurate, square and extremely strong.

## Dovetail Joints and Tooling

Dovetail Settings		
<b>Placement</b>		
<b>Right Edge</b>		
Front Inset	Back Inset	Max. Dist. Between
0.5625"	0.5625"	1"
<b>Left Edge</b>		
Front Inset	Back Inset	Max. Dist. Between
0.5625"	0.5625"	1"
<b>Front Edge</b>		
Left Inset	Right Inset	Max. Dist. Between
0.5625"	0.5625"	1"
<b>Back Edge</b>		
Left Inset	Right Inset	Max. Dist. Between
0.5625"	0.5625"	1"
Dovetail Depth	Fit Clearance	Thickness (% of Material)
0.35"	0.005"	58.000%
Dovetail Width	Corner Radius	Corner Angle
0.55"	0.125"	9.000°

Thermwood has developed a method of making Dovetail Joints with a Thermwood CNC router. These joints can even be nested with the other components. This does, however, require a special dovetail tool that includes a radius at the top. This top radius mates with the curved inside corner that results from machining the mating part (using a small diameter straight cutter).

Dovetail settings are grouped into two areas. The top area defines the placement of the dovetail tabs along the edge. The bottom area defines the geometry of the Dovetail Joint itself. To define placement along an edge, begin with the point at which the first dovetail starts, from the edges of the part, and the width of the combined male/female joint, or "pin". For purposes of this manual, we will refer to the male portion of the dovetail as the "tab" and the female pocket into which it fits the "socket".

We also specify the maximum distance we want between pins. As the part size grows, the system separates the pins farther and farther apart, keeping the pin width the same. When the maximum separation distance is reached, the system adds another pin and reduces all separations accordingly. The software supports dovetail joints on all four edges of each part, but for drawer boxes you will normally only deal with the front and back edges. Still, data must be input for all four edges or the system will not allow you to proceed.

**Front and Back Inset** - Distance from the edge of the part to the center of the first tail. This distance remains the same regardless of changes in size.

**Max. Dist. Between** - Maximum allowed distance (center to center) before adding an additional tail. The actual center to center distance may be smaller than this, but will never be larger.

**Dovetail Depth** - This value is dependant on the female dovetail tool's geometry. See "A" on Illustration 1. When using the Thermwood dovetail tool FSH1065, which is illustrated, this value is 0.35".

**Fit Clearance** - This value will apply side clearance for the dovetails. This may be desired for gluing purposes. The amount entered is the sum of the total clearance. For example, a 0.01" fit clearance will apply 0.005" of clearance on each side of the dovetail.

**Thickness (% of Material)** - This value defines the thickness of the dovetails. When using the Thermwood tool FSH1065, it will be necessary to machine down approximately 0.21" of material, to hide the dovetail radius when parts are assembled. The **Thickness (% of Material)** can be calculated by taking the material thickness being used, minus 0.21", divided by material thickness as shown in the equation below:

$$\text{Thickness \%} = ((\text{Material Thickness} - 0.21") / \text{Material Thickness})$$

**Dovetail Width** - This is the dovetail width from tip to tip. Typically, this value should not exceed 2 times the dovetail bit diameter. See "B" on Illustration 1.

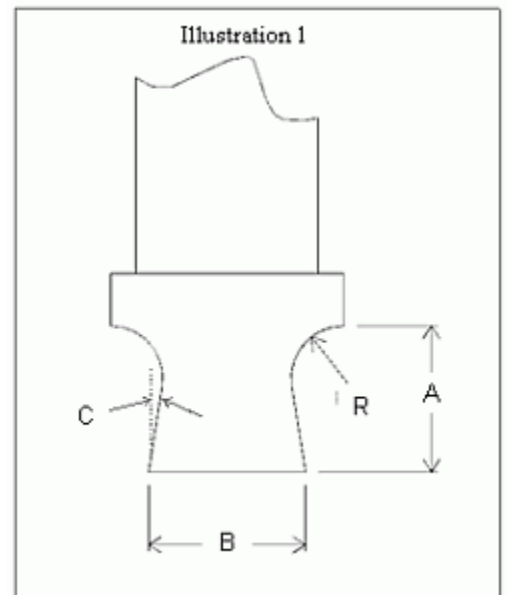
**Corner Radius** - This value is dependant on the female dovetail tool's geometry. See dimension "R" on Illustration 1. When using the Thermwood tool FSH1065, this value is 0.125".

**Corner Angle** - This value is also dependant on the geometry of the female dovetail tool. See the angular dimension "C" on Illustration 1. When using the Thermwood tool FSH1065, this value is 7 degrees.

Next, we must define the geometry of the dovetail itself. To actually machine the joint, the dimensions must correspond to a specific dovetail tool set, which means that each tool only works for a specific dovetail depth. The top radius also corresponds to the radius of the straight tool used to machine the pin.



The one dimension you can freely adjust (in addition to pin width) is the corner angle; the angle of the pin. This angle is shown in the illustration. The dovetail on the left has a 40 degree angle and the one on the right, a 10 degree angle.





This is an example of a dovetail tool (Thermwood FSH1065) that is used to create dovetail drawer boxes in 1/2" thick material.

## Set up at the CNC Machine

Table flatness is very important to the success of a quality dovetail joint. If the machining surface is not flat, it may result in the top surfaces of the dovetail tool gouging in some areas and being too shallow in others. Surfacing of the spoilboard and (if applicable) the wasteboard will most likely be required. The tool for the female dovetail routes must be configured in the **Tool Setup** up screen of the Thermwood SuperControl. The **Diameter** and **Daylight** values are the only critical values that must be set.

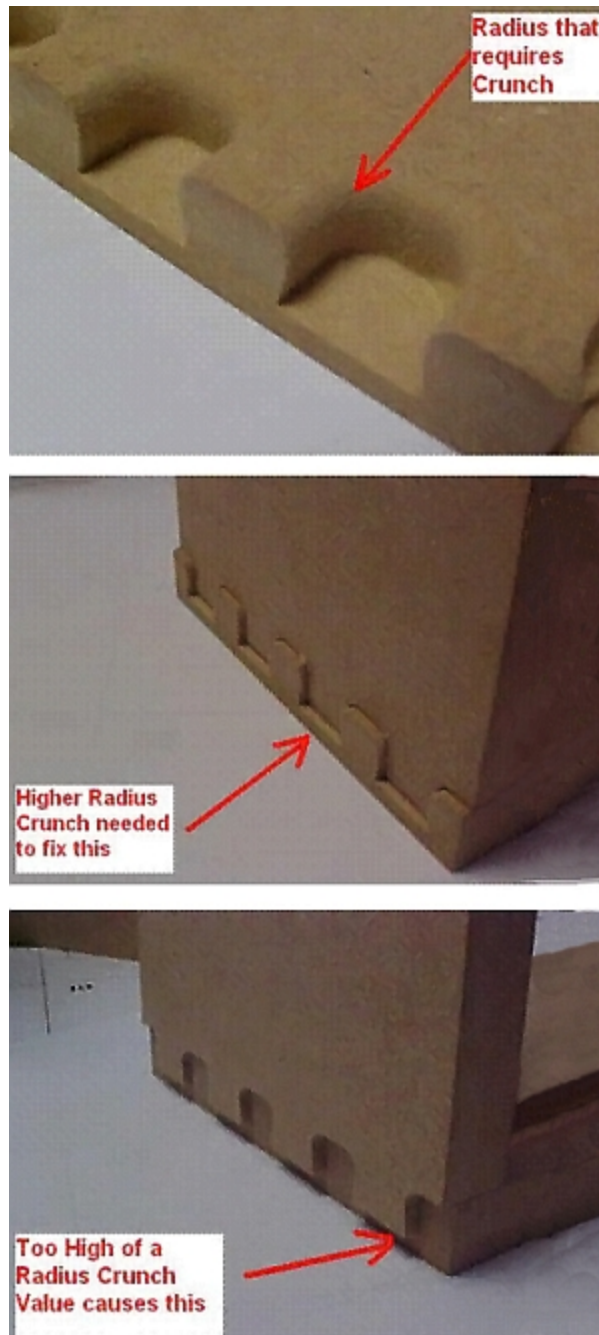
**Daylight** - This is the fixed dimension from the bottom of the cutting tool, to the surface of the Spoilboard (and thus, the bottom of the part being machined). It is critical that this is accurately measured and is consistent for the entire area being machined.

**Diameter** - This value is taken from the tip of the tails. See dimension "B" on Illustration 1.

## Control Nesting

In Control Nesting, there are 2 parameters in the settings dialog that pertain to dovetail machining. They are **Dovetail Radius Crunch** and **Male Dovetail Feed**.

**Dovetail Radius Crunch** - Due to the nature of the dovetail joint, there are certain "crushing" factors that take place when assembling the parts. When machined to the perfect dimension, the sharp corners of the male tails will crush against the radius created by the female dovetail tool, causing the tails to seat potentially too deep. This phenomenon is controlled by the **Dovetail Radius Crunch** value. The value entered in this field will pull the female tool geometry backwards, causing a shallower fit. This amount should be adjusted until desired fit is achieved. Keep in mind that different materials may require different values. A value of 0 (zero) will have no crunch applied. The larger the value, the shallower the female cut will be. See illustration for details.





**Male Dovetail Feedrate** - This is the feedrate that will be used when machining around the male dovetail joints. It is not uncommon for the same tool that has been used for cutting dado operations (which typically can be cut at much higher feedrate) to be used for cutting around the male dovetail cuts.

In development of the dovetail drawer box programs, it was discovered that a conventional cut direction seemed to leave a much cleaner finished edge, resulting in no or minimal clean up for assembly. Of course, not all materials will react in the same way, so a climb cut should be tried if conventional does not seem to give the edge quality desired. This setting is changed on the SuperControl settings dialog under **Cut Parameters, Direction**.

When setting up tooling for the dovetail joints, there are a few other tooling settings requiring attention. To get to the tooling dialog, select the **Tooling** button on the main **Control Nesting** dialog. Designate an operation tool as being the female dovetail tool, as shown in the example below:

**Select the operation # desired.**

**Select a tool number for that operation.**

**Check on the Dovetail Tool option for that operation.**

Next, the operation tool for the male dovetail routs may be specifically designated by checking the **Use for Male Routs with Dovetail** option. Having this option checked will force it to use this tool, if the diameter is acceptable for the rout. If the diameter is too large, it will search the Operation Tools for the largest acceptable diameter that will work. If this option is not checked for any Operation Tools, it will automatically do a search for the largest acceptable tool diameter available.

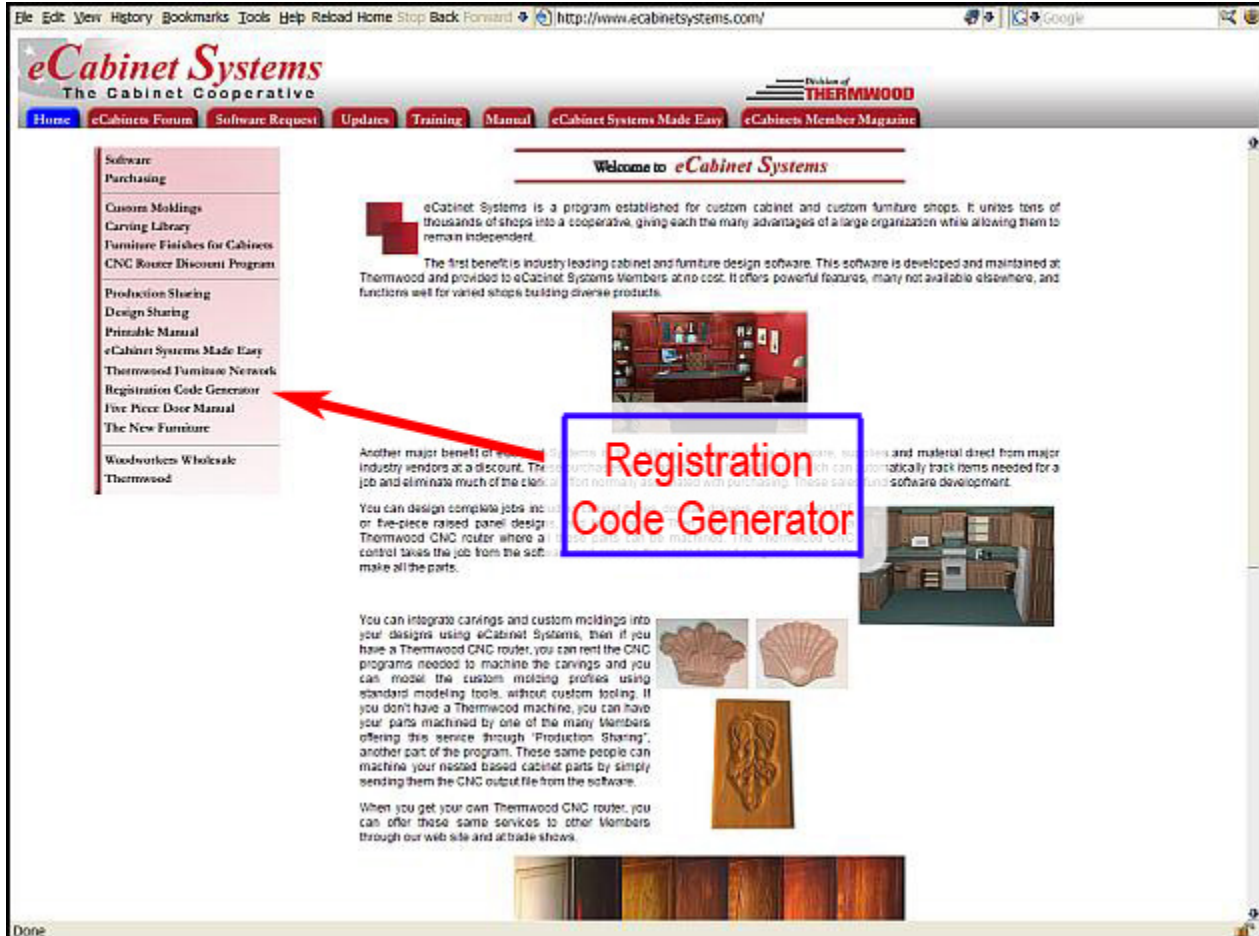
**Note:** If using tooling groups, ensure that the material being used exists in the group, and that the Operation Tools needed are specifically set for that group.

## *1.2*

# **Getting Started with eCabinet Systems**

## Using eCabinet Systems for the First Time

The first time that you run *eCabinet Systems*, you will be asked to enter your Registration Code. If you have not received your Registration Code, or if you want to install *eCabinet Systems* on another computer, you will need to have your code generated online.



Open your Internet browser and go to [www.ecabinetsystems.com](http://www.ecabinetsystems.com) and look on the left side for the Registration Code Generator option. Click there and you will be presented with the following dialog:

A registration dialog box for eCabinet Systems. The title bar reads "eCabinet Systems The Cabinet Cooperative". The main text says "Please enter the email address you registered with eCabinet Systems:". To the right of this text is a text input field. Below the input field are two buttons: "Submit" and "Reset".

Enter the exact same email address that you used originally when you requested your copy of *eCabinet Systems* and an email will automatically be generated and sent to that address. As shown below, this email will contain your Registration Code, which you can cut and paste into the dialog that appears when you run *eCabinet Systems* for the first time.

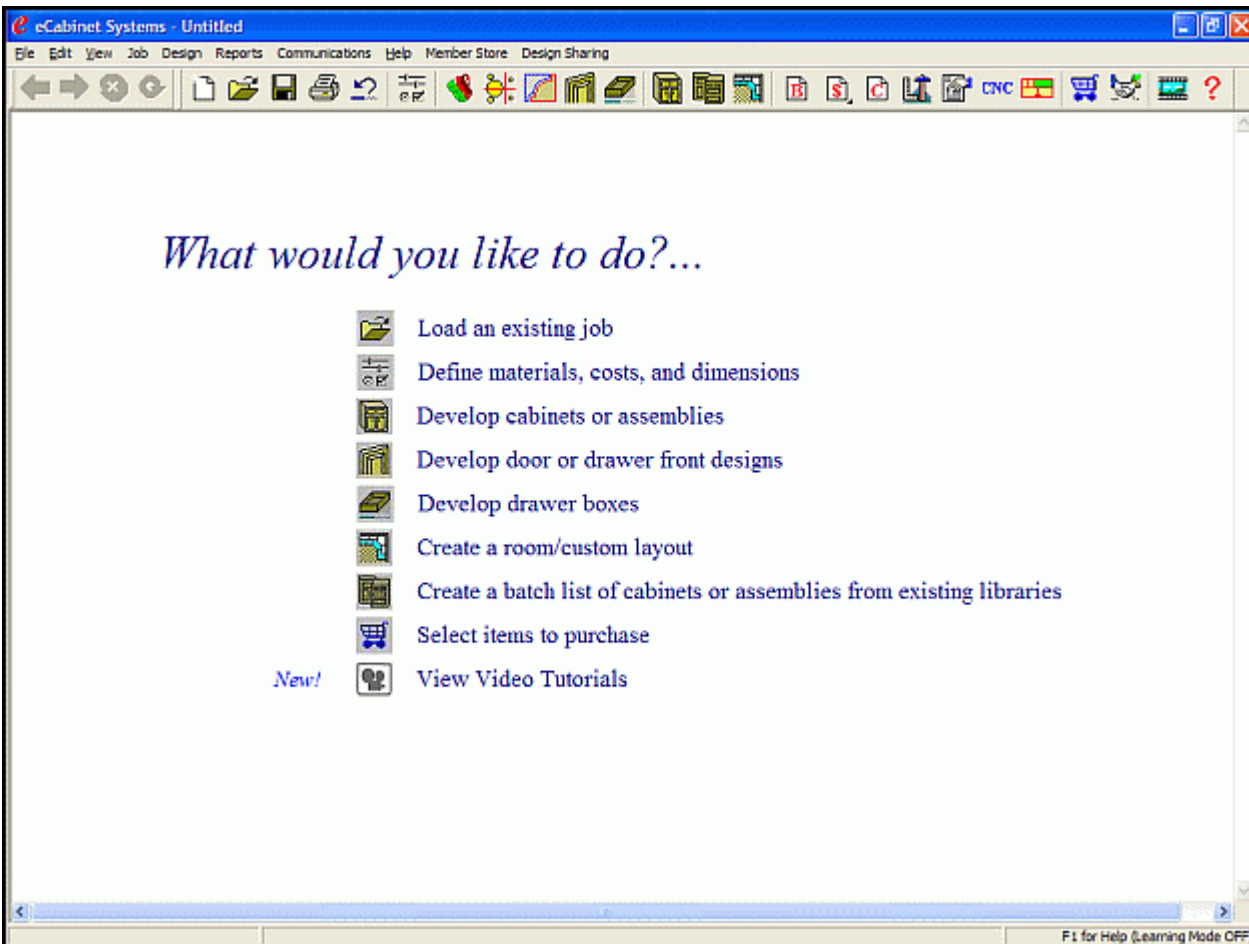


## Menu Structure Introduction

*eCabinet Systems* follows a standard Microsoft Windows menu structure. Certain items are displayed on the screen as symbols that represent various commands, operations and files. These symbols are called icons. On your Microsoft Windows Desktop, you will see the *eCabinet Systems* icon. Depending on your choice of backgrounds, it could look similar to one of the following samples:



Clicking on the icon will open *eCabinet Systems*, and you will then see the Opening Screen, which looks like the screen image shown below.



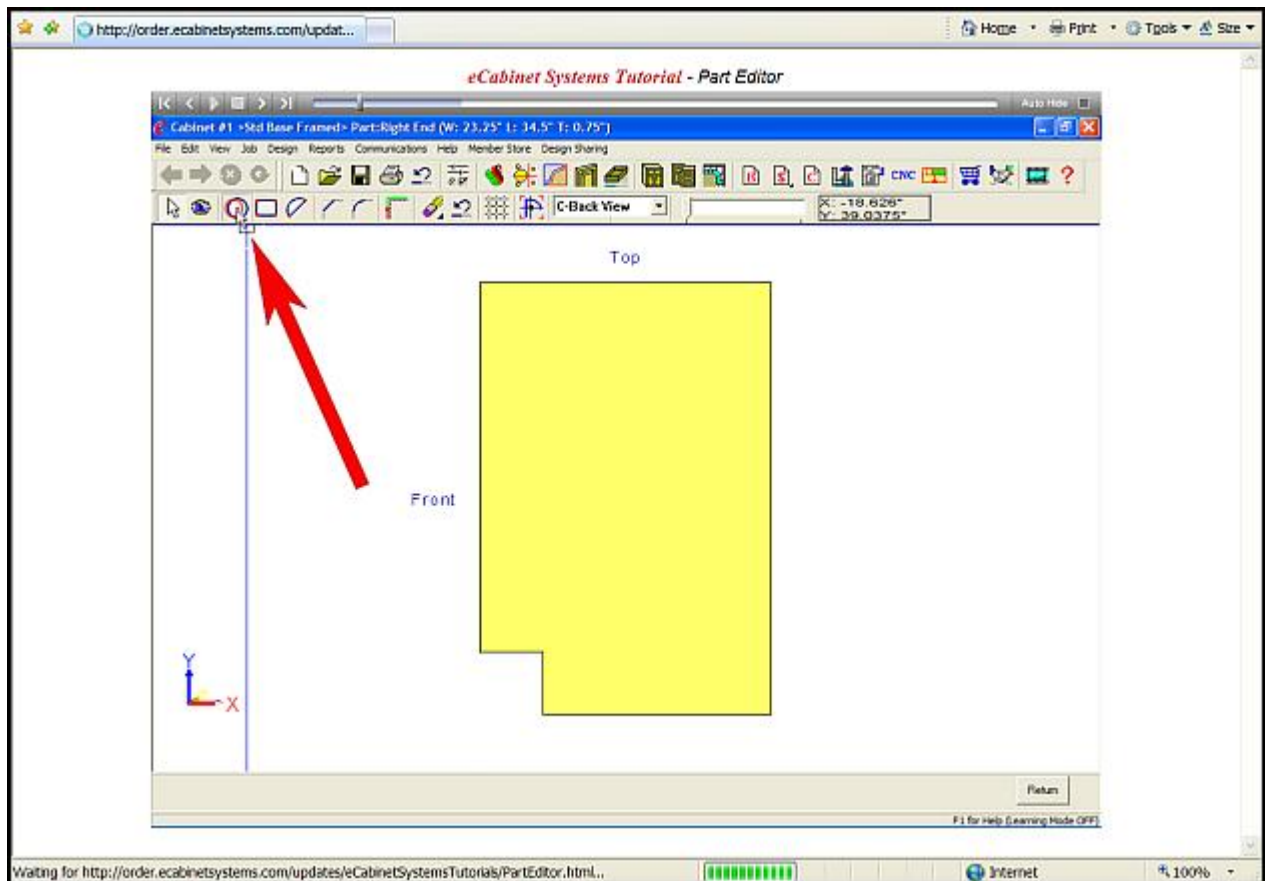
There are 9 icons with descriptions listed on the Opening Screen. They provide some of the most frequently used tasks in a single, easy to use place.

## View Video Tutorials

At the bottom of the Opening Screen, there is the choice called **View Video Tutorials**.



Clicking this option will open an Internet browser window, which will list the main categories of the Video Tutorials. Some of these, when clicked, will then display additional titles that may feature extra details or other more specific information. Generally, there is also the option to download the Tutorials to your computer for viewing offline.



A typical **Video Tutorial**, illustrated above, will contain a screen capture of an actual *eCabinet Systems* session, with highlights, arrows, image zooms and other features as well as a comprehensive script that is fluently narrated in time with the action that is occurring onscreen.



*2.0*

## **Main Menu**



## Menu Toolbar & Main Menu Icons



At the top of the screen are the Main Menu toolbar and the Main Menu icons, which show the various operations and functions of *eCabinet Systems*.



When working with cabinets or assemblies, there is another set of icons that will be displayed. These appear when you enter the **Cabinet/Assembly Editor** by clicking the cabinet icon, as shown by the arrow in the above illustration.

## Main Menu Toolbar Icons



**Open New** - Closes any existing Jobs and opens a new Job.  
Optionally, use **Ctrl + N**.



**Open** - Opens a standard Windows dialog where you can select a Job to open.  
Optionally, use **Ctrl + O**.



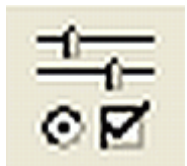
**Save Job** - Opens a standard Windows dialog where you can select a Job to save.  
Optionally, use **Ctrl + S**. Jobs use an ".exj" file extension.



**Print** - This opens a dialog to print the current image.  
Optionally, use **Ctrl + P**.



**Undo** - Click this button to undo a delete or edit. Note that only one level of **Undo** is available. Optionally, use **Ctrl + Z**.



**Settings/Preferences** - This accesses the area where system settings and user preferences for operation of the software are established. Optionally, use **Ctrl + E**.



**Display Part Editor** - This is where the 3D ".stl" files are given color and texture. They can also be saved in a form so that they can be used later in the **Cabinet/Assembly Editor** or in **Custom Layout**.



**Hardware Hole Editor** - This is where the holes and machining patterns associated with specific hardware are created and saved.



**Shape Manager** - Profile shapes are developed here and applied to cutting tools that can then be used to cut profiles on parts in the **Part Editor**.



**Door/Drawer Front Designer** - This is where door and drawer fronts are designed and saved.



**Drawer Box Designer** - This opens an area where you can create and save various types of drawer boxes.



**Cabinet/Assembly Editor** - This is used to modify an existing cabinet design and then save it under a new name. Cabinets are modified using a series of Editors, reached through toolbar icons or from the Right Click Menu and by changing parameters in the Construction Settings. The **Cabinet/Assembly Editor** is also used to combine cabinets and other items into Assemblies, which can be saved and used as a single entity.



**Batch Cabinets** - Opens a dialog where Cabinets, Cabinet parts and Assemblies are placed directly into a Job, without placing them in a **Custom Layout**.



**Custom Layout** - Opens an area where a detail layout of one or more rooms is created, complete with cabinets and display objects.



**Cut List** - Creates a list of machined components required for the Job. If accessed from the **Cabinet/Assembly Editor**, it is for the current cabinet. If accessed from **Custom Layout**, it is for highlighted items. If nothing is highlighted, then it is for the entire Job.



**Buy List** - Creates a list of everything that must be purchased for this Job. If accessed from the **Cabinet/Assembly Editor**, it is for the current cabinet. If accessed from **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job.



Cost Sheet  
Cost Listing  
Selling Price

**Cost Sheet, Cost Listing & Selling Price** - Creates a cost estimate for the Job, based on material cost and specified markups, or based on material cost and labor cost for each cabinet or assembly.



**Line Drawing Editor** - Opens an area where engineering drawings for this Job are arranged and dimensioned. Drawings are sent to this area from within the **Cabinet/Assembly Editor** and/or **Custom Layout**.



**Proposal Writer** - This area is where you can create a professional sales proposal for the Job.

CNC

**CNC Output** - This is where the CNC files needed to machine all components required for the Job are created. These files run on Thermwood CNC machines that are equipped with the 91000 SuperControl and up.



**Shopping Cart** - The **Shopping Cart** is used to gather items for purchase. In addition to adding or removing items individually, if desired, a list of all items that must be purchased for this Job can be automatically placed in the **Shopping Cart**.



**Design Sharing Library Creator** - This generates an *eCabinet Systems* **Design Sharing Library**. It will then connect to the Internet where you can fill out a form that will enable you to collect your cabinets and/or assemblies into a single file that you can send to Thermwood Corporation. There, they can be offered to other *eCabinet Systems* members for use, with you receiving a fee if they are used.



**Image Control** - This is a separate program to manage graphic images.



**Area Overview** - A detail guide for each area of the software is accessed by going to each area and selecting this icon. A Flow Chart of the entire system is accessed by using this icon when the software first starts, or through the **Help** menu at the top.



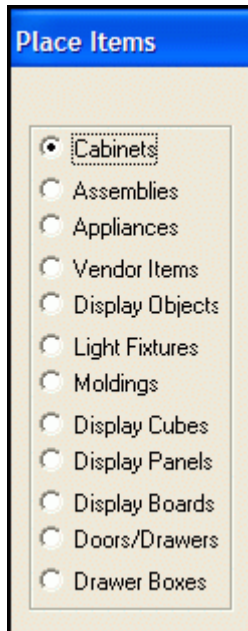
## *2.1*

# **Common Menu Operations**



## Place/Install/Load Items

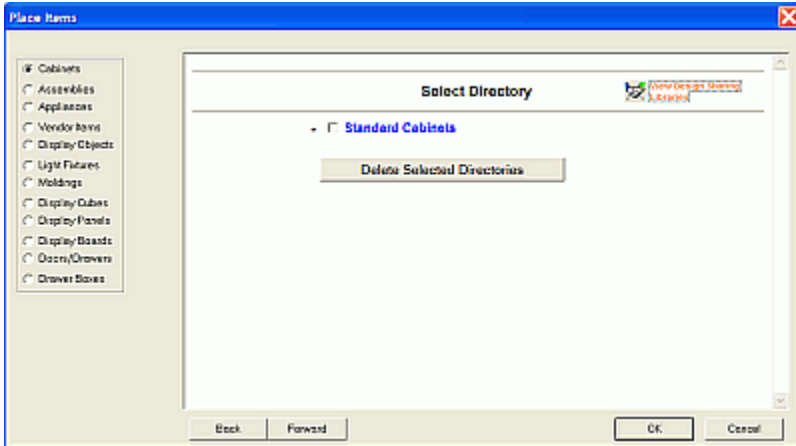
*eCabinet Systems* uses the same menu to **Place/Install/Load Items** into both the **Cabinet/Assembly Editor** and for **Custom Layout**. In the **Cabinet/Assembly Editor**, there is the **Load Item** icon, and **Load Item** also appears in the Right Click menu. In **Custom Layout**, there is the **Select Items to Install** icon. **Select Items to Install** also appears in the Right Click menu. All of these operations bring up the **Place Items** window, the left side of which is illustrated below.



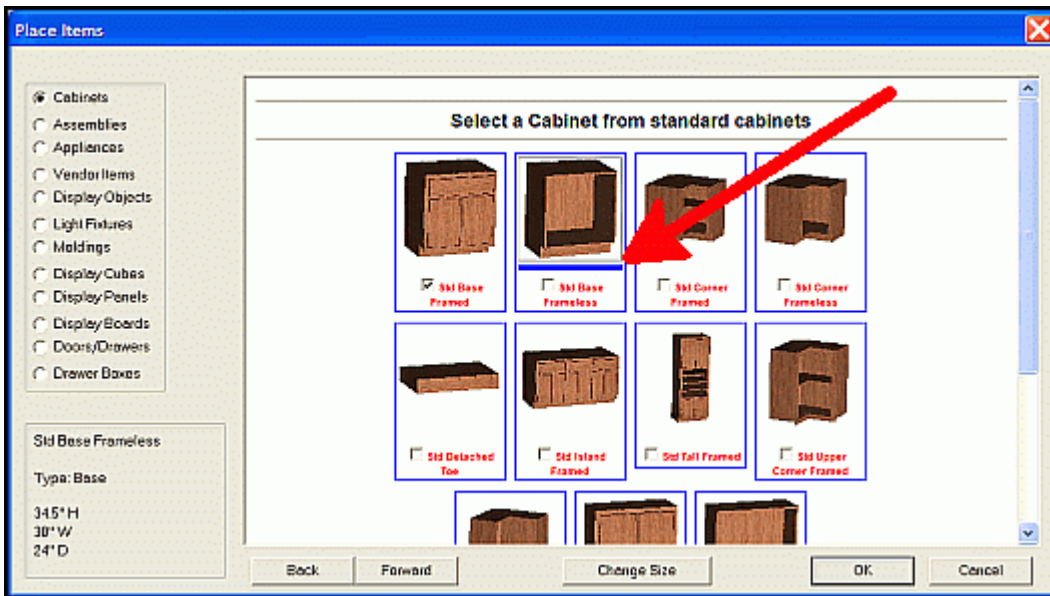
**Note:** In **Cabinet/Assembly Editor**, **Appliances** and **Light Fixtures** are not available for selection. In **Custom Layout - Elevation/Wall View**, the selection of **Light Fixtures** is not available.



## Cabinets



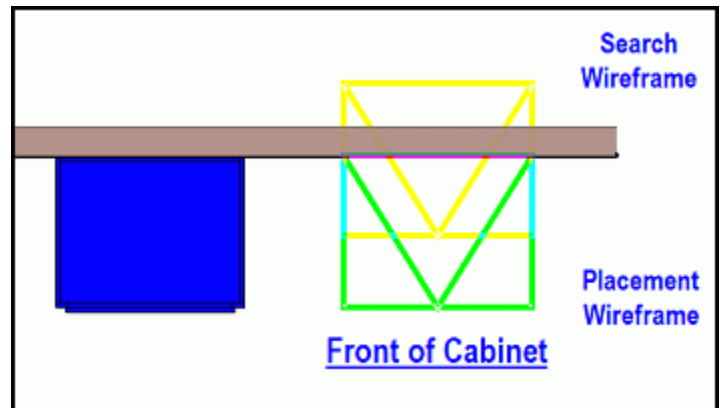
This window appears when **Load Items** is selected in the **Cabinet/Assembly Editor**, or while in **Custom Layout**, if **Select Item to Install** is chosen and **Install Item** is selected. If the option of **Cabinets** is chosen, you will get the default window as shown above. If you have added any directories of your own cabinets, they will also appear in this window. Selecting **Standard Cabinets** and then clicking **OK** will get you the following window where you select which "seed" cabinet to begin with.



Highlighting any cabinet will cause a blue line to appear below it, as shown by the arrow. Details of this cabinet will then show in the **Detail Box** at the lower left. Clicking the checkbox will select this cabinet for editing, and clicking **OK** will load it into the appropriate editor.

## Placement in Custom Layout

If you are in **Custom Layout**, you will see a wireframe representation of this cabinet, which moves with the cursor. This cabinet symbol will be the size of the actual cabinet as you move it around in the layout. This is the **Placement Wireframe**. Notice that it has a "V" shape in the center. The point of this "V" denotes the front of the cabinet. Be advised that if, and when you click the mouse, a cabinet will install exactly where this **Placement Wireframe** exists.



Also, note that a second wireframe cabinet outline appears; this is the **Search Wireframe**. It remains fixed to the cursor when the **Placement Wireframe** stops its movement if it has encountered a wall or other item that can be snapped to. What this means is that the **Placement Wireframe** is now stationary; it is against an object that keeps it from moving, but the **Search Wireframe** has now separated from the **Placement Wireframe**, and it now follows the cursor. The **Search Wireframe** will be yellow, while the **Placement Wireframe** is green (these colors may appear slightly different, depending on the background colors that these wireframes may be hovering over).

**Note:** *eCabinet Systems* uses this **Search Wireframe**, sometimes in conjunction with the cursor, to make decisions as to how the **Placement Wireframe** should position when it come in contact with walls, cabinets, windows, doors, etc.

Additionally, the basic orientation of the cabinet changes if this wireframe cabinet comes in contact with wall or other cabinets. When it contacts a wall, it turns its back to the wall and aligns with the wall, and it does the same thing when it contacts another cabinet. Without any interference, both wireframes are overlapped, and they follow the cursor.

The **Placement Options** in the **Options Dialog** features determine how a cabinet will react to other cabinets in the room.

**Align to Back** - This aligns the back of all added cabinets to the one it touches.

**Align to Front** - This aligns the fronts of all added cabinets to the one it touches.

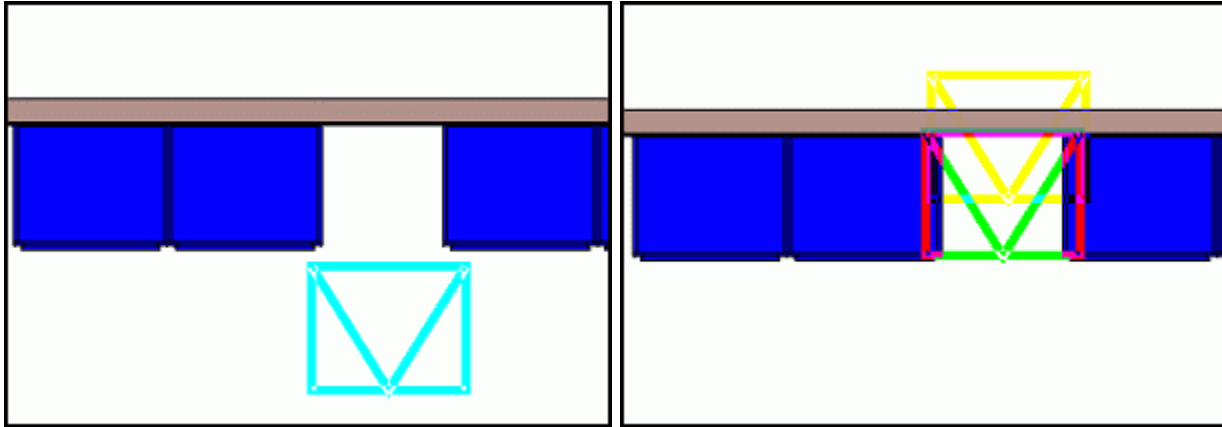
**Align to Center** - This aligns the centerline of any added cabinets to the one it touches.

**Free Style** - The cabinet can be placed anywhere; normally, halfway through the wall or meshed with another cabinet if that is desired.

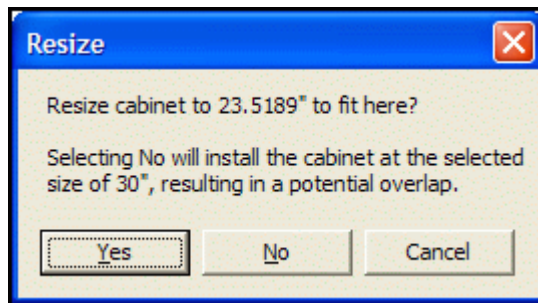
**Note:** If you are not in the **Free Style** mode, the cabinet snaps into alignment with other cabinets when it touches them, and it will stop moving at the wall as you approach the wall, and then snap to the other side of the wall if you keep moving beyond the wall.

All cabinets and assemblies (with the exception of Corner Cabinets) can be placed in both the **Overhead/Main View** and the **Elevation /Wall View**. Since a Corner Cabinets needs two walls to place, it would be impossible to do so in the **Elevation/Wall View**.

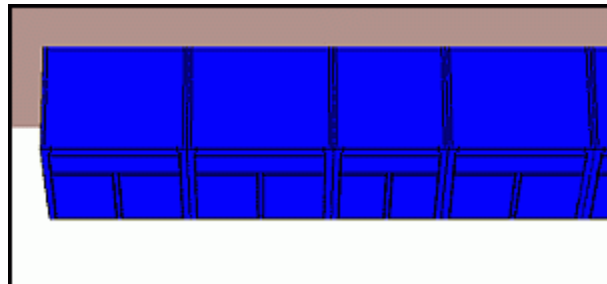
## Automatic Cabinet Resizing



*eCabinet Systems* can automatically resize a cabinet to fit an existing opening. If you intend to resize a cabinet to fit an opening, it does not matter if the **Placement Wireframe** is overlapping to the left, the right, or is centered in the open space, for it will simply resize to fit the available space. However, if for some reason you choose not to resize when you place it in a smaller opening, it will overlap exactly as the **Placement Wireframe** is positioned. So, ensure that the Search Wireframe is over or even slightly beyond the wall behind it.



Click, and notice the **Resize** dialog that appears. You now have the option to have this cabinet sized to fit the available space (which is indicated by the stated dimension) or to place it overlapped as the **Placement Wireframe** appears, overlapping the cabinets as shown, or to cancel the operation. Click **Yes** and see how the cabinet has been resized and placed in the illustration below.



## "Quick Delete" & "Last Cabinet Selected" Features

In the case of an inadvertent mouse click, or a misplaced cabinet, **Quick Delete** allows you to recover from this mistake and proceed without interruption. Using the **Delete** key, the **Delete** icon or the **Delete** option from the **Right Click Menu**, the cabinet will now be deleted, but the Placement Wireframe will still be available, so you can continue and place this cabinet where intended. This feature can also be used to remove the most recently placed cabinet, and it works until another cabinet is placed, when it will then function on that cabinet. Press **Esc** to discontinue this cabinet wireframe.

The Function key **F2** is the **Last Cabinet Selected** hotkey. Select **F2** and the **Placement Wireframe** of the previously selected cabinet will appear. This feature works for the last cabinet, or assembly selected, as long as you do not leave the **Custom Layout** area or visit the **Select Items to Install** dialog.

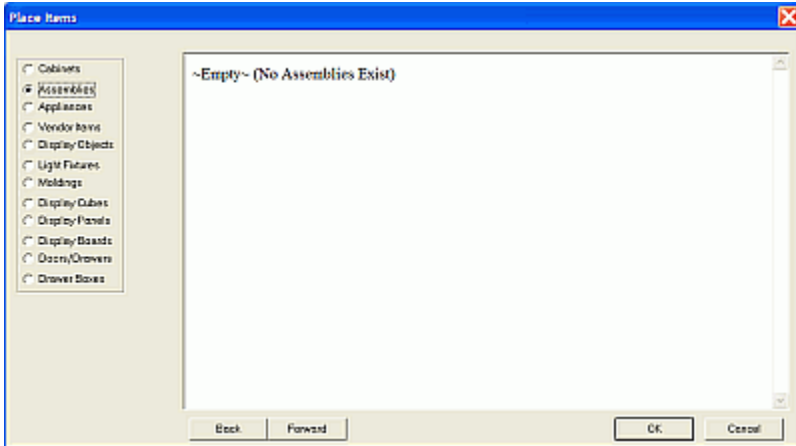
## Corner Cabinet Placement

When installing and placing a **Corner Cabinet**, *eCabinet Systems* rotates the cabinet to automatically align it with the corner of the 2 connected walls when the **Search Wireframe** sees them. The circular marker in the wireframe of a Corner Cabinet indicates the front face corner location of the cabinet.

**Note:** The angle of a **Corner Cabinet** must match the angle of the wall for proper alignment.

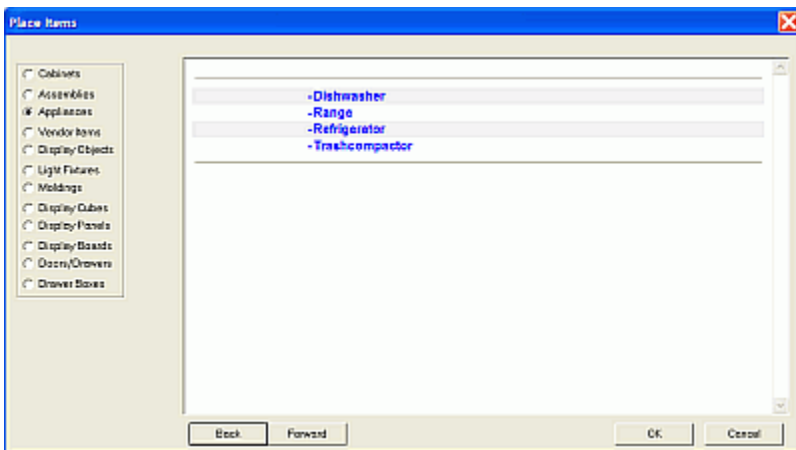
Finally, be advised that the auto aligning, resizing and snapping features may not always result in satisfactory behavior for all circumstances. If you can not get the **Placement Wireframe** to position, or resize as desired, then manual positioning or resizing is recommended.

## Assemblies



If you have not created any **Assemblies**, you will get the above window. Otherwise, there will be selectable directories, and then the individual **Assemblies** will appear. **Assemblies** install similar to cabinets, except they will not auto-resize, and you can not align or snap to already placed assemblies. Their **Placement Wireframes** are made up of the maximum boundaries of all of the items that make up that assembly. They will always place at floor level, but this can be adjusted later.

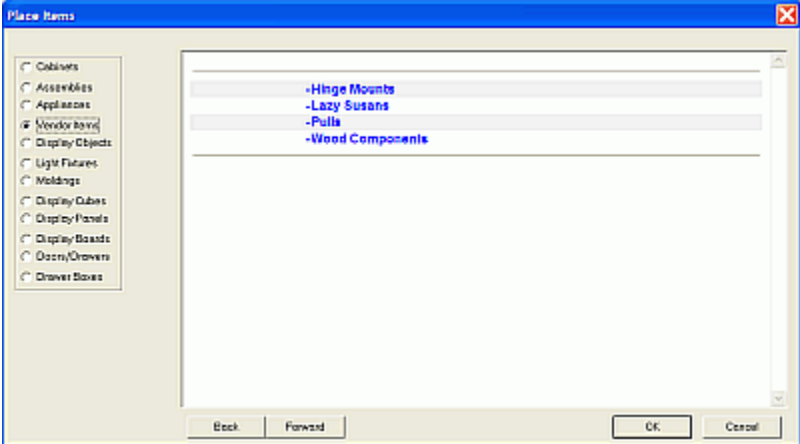
## Appliances



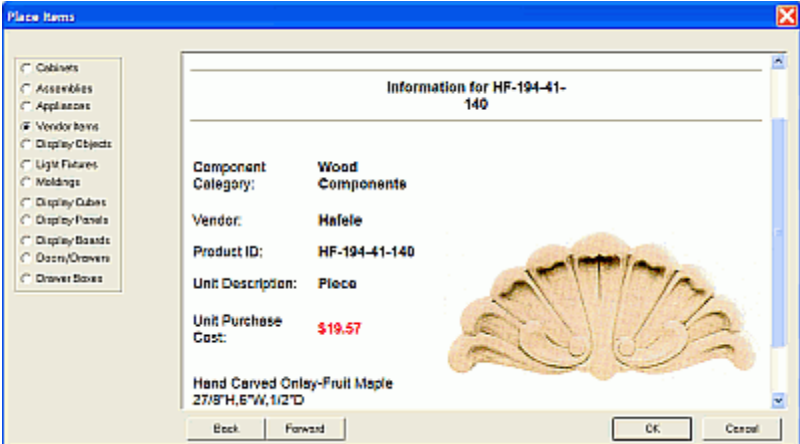
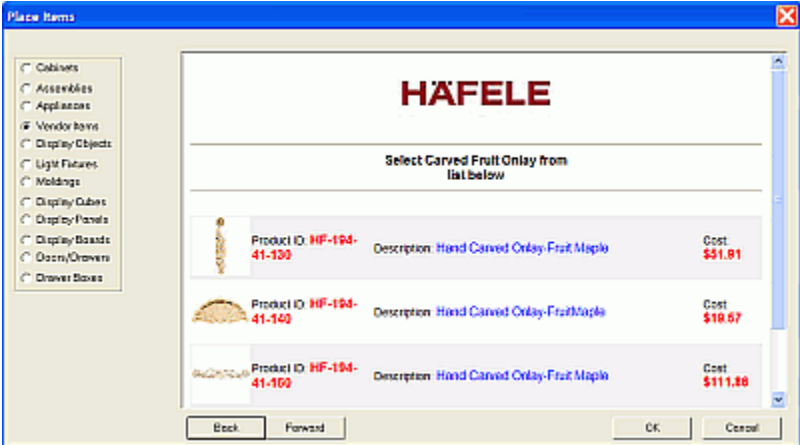
Selections of various **Appliances** are supplied, and this is where they can be located. Like the **Cabinet** menu, highlighting the **Appliance** will show its specific details in the box in the lower left. **Appliances** install similar to cabinets, except they will not auto-resize. Their **Placement Wireframes** are made up of the maximum boundaries of all of the items that make up that appliance. They will always place at floor level, but this can be adjusted later.

**Note:** **Appliances** are placed like **Cabinets** and **Assemblies** but they can not be resized.

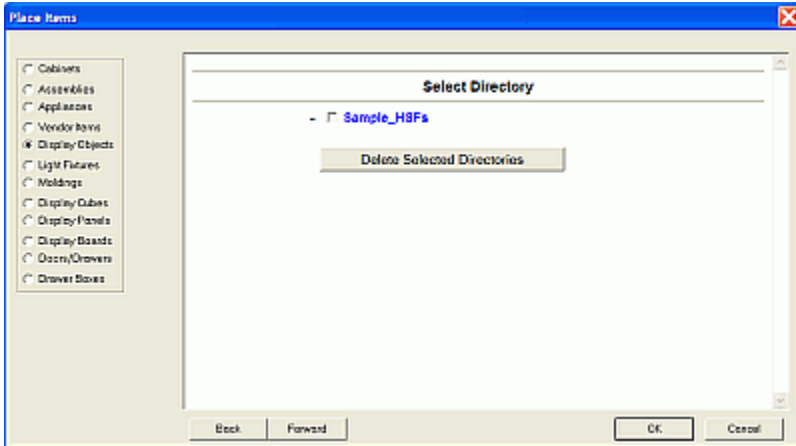
# Vendor Items



Here, selections of Items that can be purchased from online vendors are provided. Selecting an item category will present a list of vendors, their offerings and a detail of the item, as shown in the following illustrations.

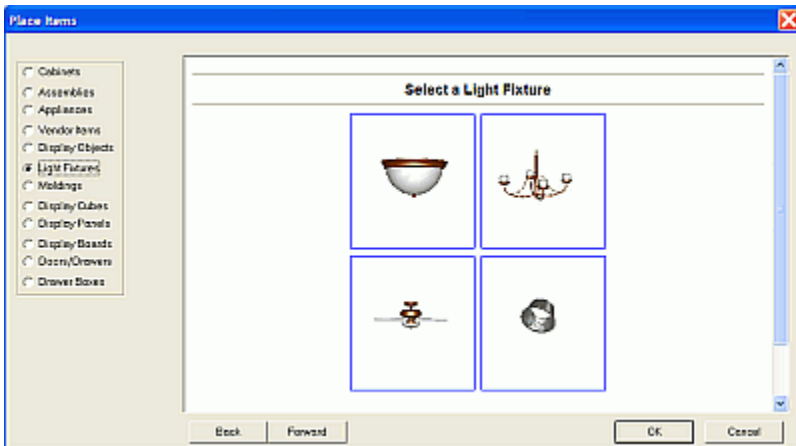


## Display Objects



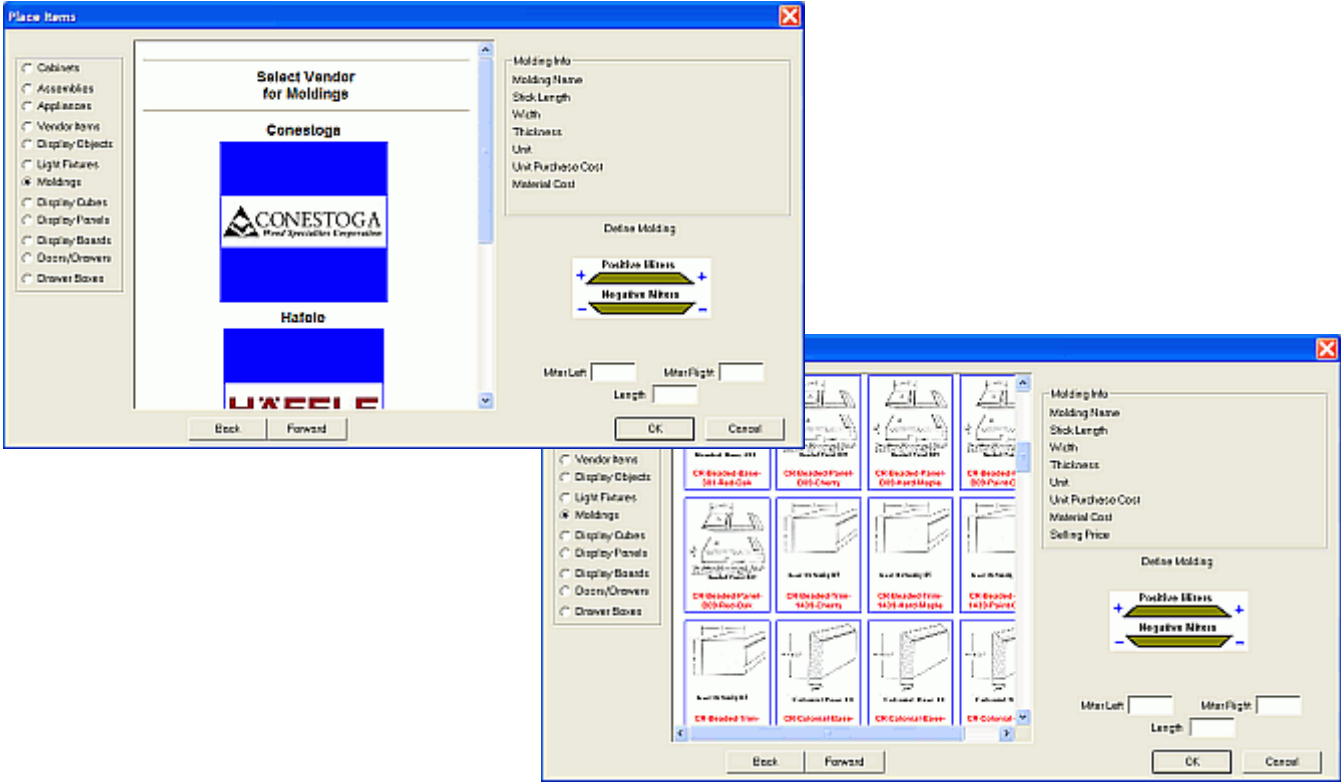
Selections of **Display Objects** (sinks, vases, faucets, chairs, etc.) are supplied, and this is where they can be located. Like the **Cabinets** menu, highlighting the **Display Object** will show its specific details in the box in the lower left.

## Light Fixtures

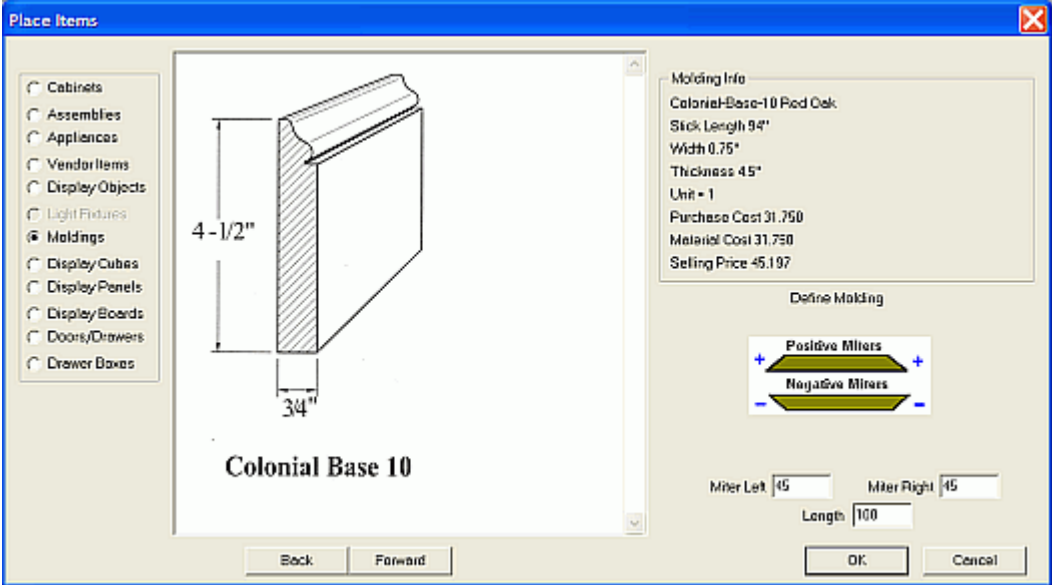


Selections of **Light Fixtures** are supplied, and this is where they can be located. As with the **Cabinet** menu, highlighting the **Light Fixture** will show its specific details in the box in the lower left. **Light Fixtures** are installed in the **Overhead/Main View** area of **Custom Layout**, and can then be associated with a wall or walls. Then, if needed, their elevation can then be adjusted in **Elevation/Wall View**.

# Moldings



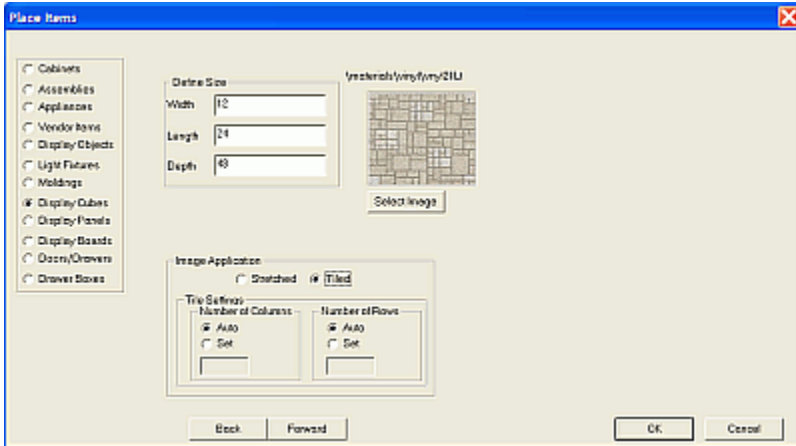
Here, selections of **Moldings** that can be purchased from online vendors are provided. Selecting an item category will present a list of vendors, their offerings and a detail of the item, as shown in the following illustrations. Moldings inserted in this manner will be considered **Display Moldings**. They can be moved, rotated scaled and manipulated as any other display part. **Moldings** (both **Display Moldings** and those added via **Molding Editor**) can not, however, be edited in **Part Editor**.



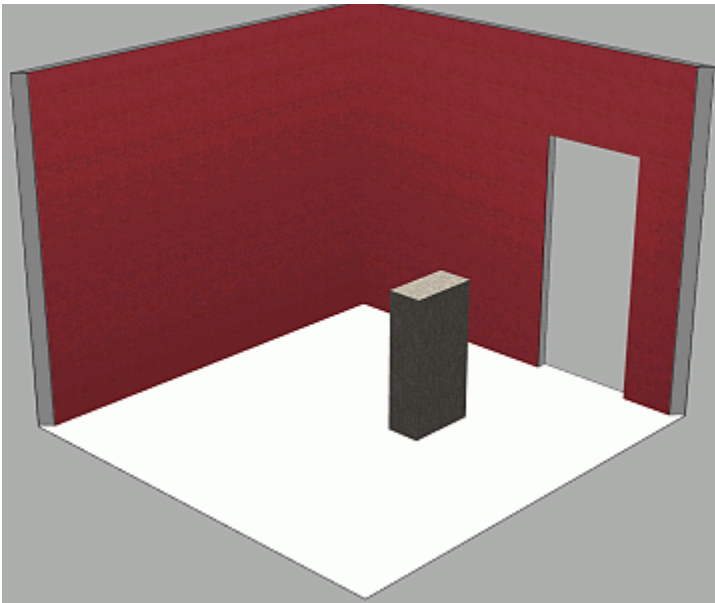
**Note:** When you have selected a **Molding** to place, you will need to determine the angle of the miter (if required) for both ends, and the total length of the **Molding**.



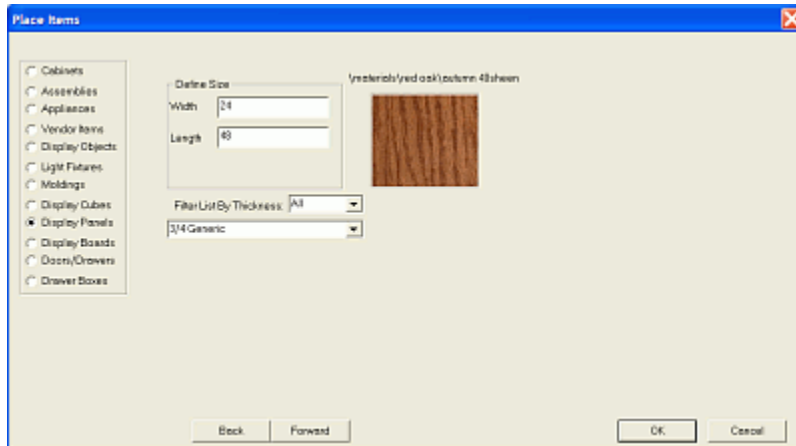
## Display Cubes



The window for **Display Cubes** provides options for the length, width and depth of the Cube, as well as the Texture. The Texture can be automatically **Tiled**, **Manually Tiled** or **Stretched** across the faces of the Cube (see the section in this document titled "**Common Menu Operations - Select Image**" for complete details). The created **Display Cube**, as drawn with the exact information entered above, is shown in the following illustration.

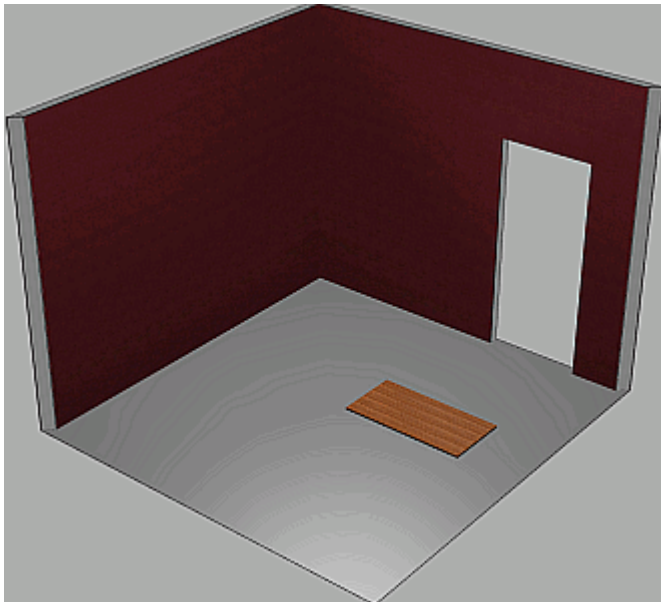


## Display Panels & Display Boards

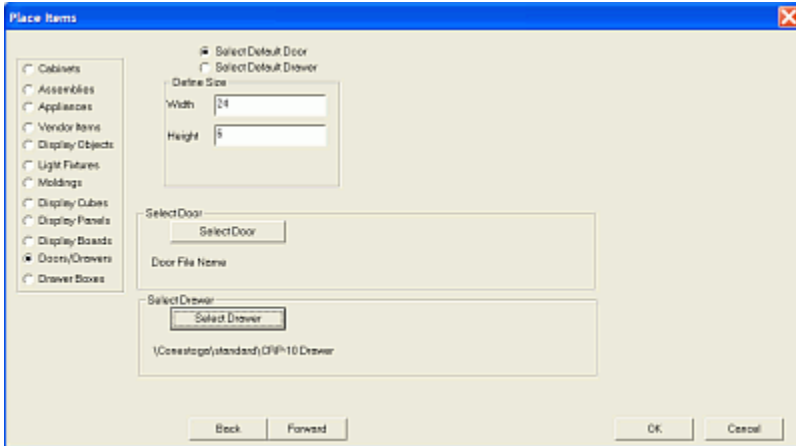


These **Items** are identical, with the exception that **Display Panels** are made from **Sheet Stock**, whereas **Display Boards** are made from **Board Stock**.

The window for **Display Panels** or **Display Boards** provides options for the length and width of the Panel. The material is selected from the **Stock Materials** listing. The created **Display Panel** or **Display Board** as drawn with the exact information entered above is shown in the illustration. Default sizes for **Display Boards** are set in **Settings/Preferences, Define Standard Dimensions**.

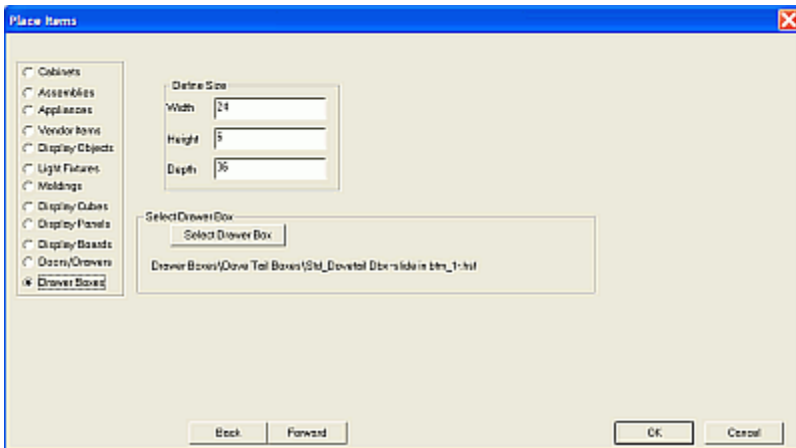


## Doors/Drawers



Here, you select the Door/Drawer to be inserted. Type the dimension data as desired and hit **Select Door** and/or **Select Drawer**. Then the **Door/Drawer Front Designer** window will appear where you can select your desired Door or Drawer. See the section in this document titled "**Door/Drawer Front Designer**" for complete details.

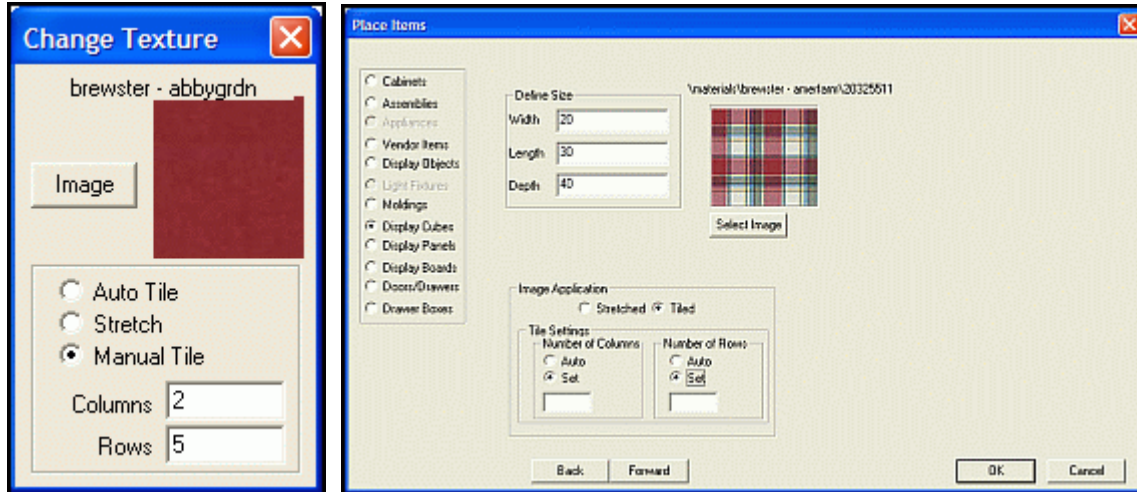
## Drawer Boxes



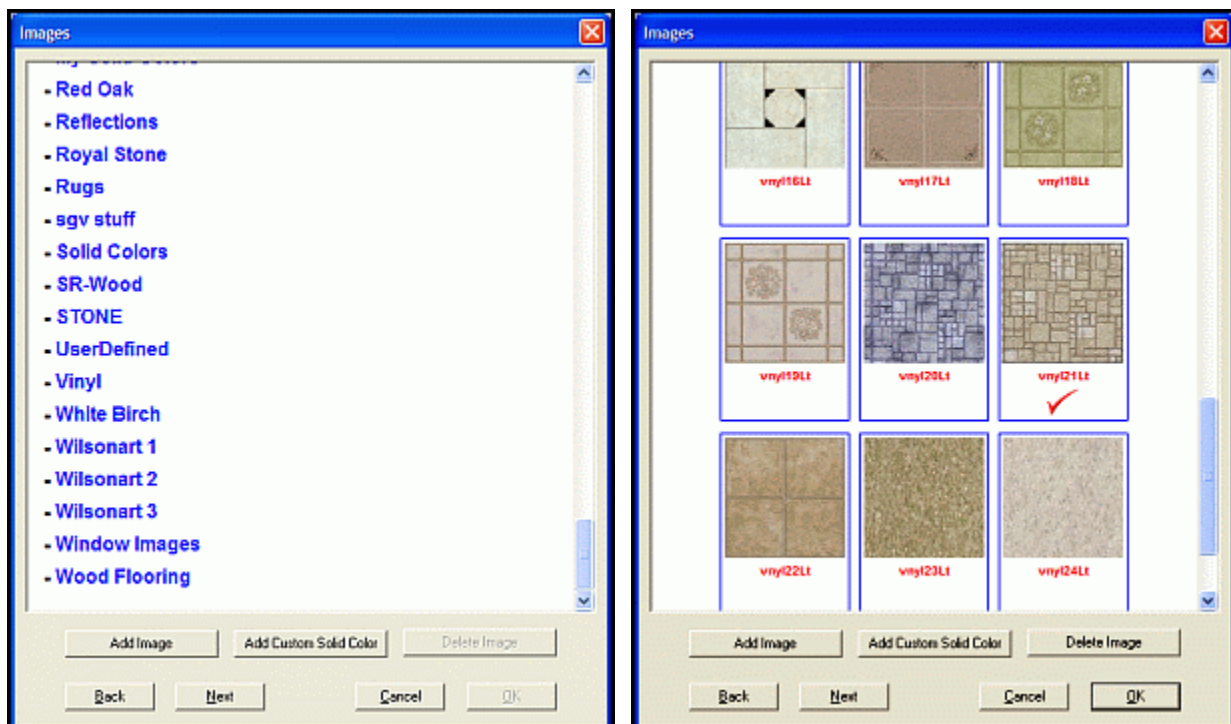
Here, you select the Door/Drawer to be inserted. Type the dimension data as desired, and press **Select Drawer Box** and the **Drawer Box Designer** will appear where you can select your desired Drawer Box. See the section in this document titled "**Drawer Box Designer**" for complete details.

## Select Image

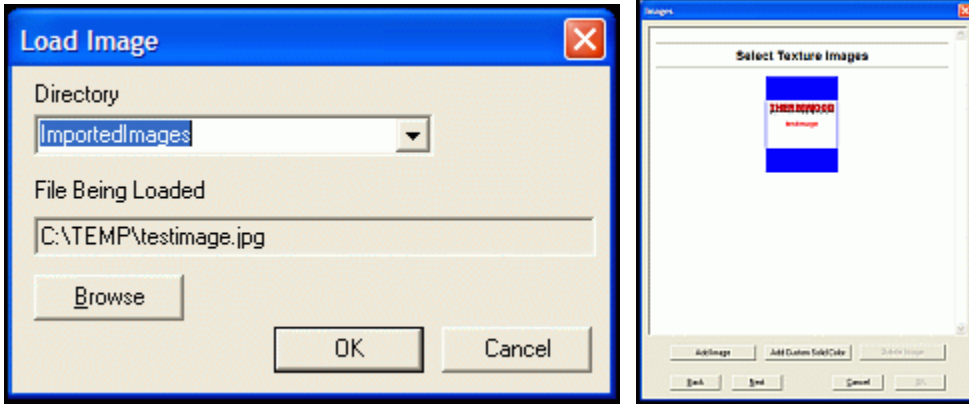
*eCabinet Systems* uses the same menu to **Select Images** to apply as Textures, as well as to add detail to various display options. A **Select Image** button (or just **Image** if space is limited) will appear, next to a square, to indicate that this option is available for this operation. (Two examples are shown below.)



**Image/Select Image** - This opens the **Select Image** windows. These windows, as shown below, will appear with the many choices of colors, patterns and textures.



**Add Image** - You can add any image to use in *eCabinet Systems*, as long as it is in either the ".jpg" or ".bmp" format, and the image resolution should be 300 DPI (Dots Per Inch). This enables a unique opportunity to personalize a proposal with the customer's specific patterns, outdoor scenes, or even paintings and photographs displayed for a true professional presentation.

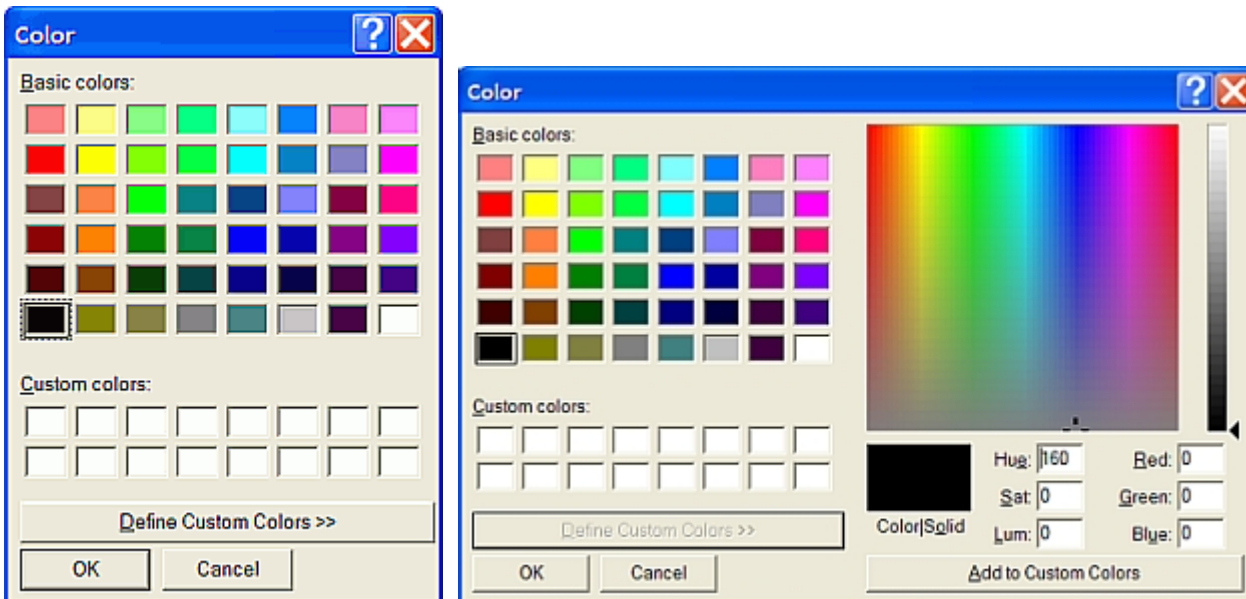


The **Load Image** dialog (illustrated) will appear with a selection menu for the **Directory** (It is recommended to place these images in the *C:\Program Files\Thermwood\ECabinet Systems\Materials\ImportedImages\* subdirectory, as shown), and the filename of the **File Being Loaded**. Returning to the **Images** selection window, select **ImportedImages** and you will see your image, as illustrated in the above sample.



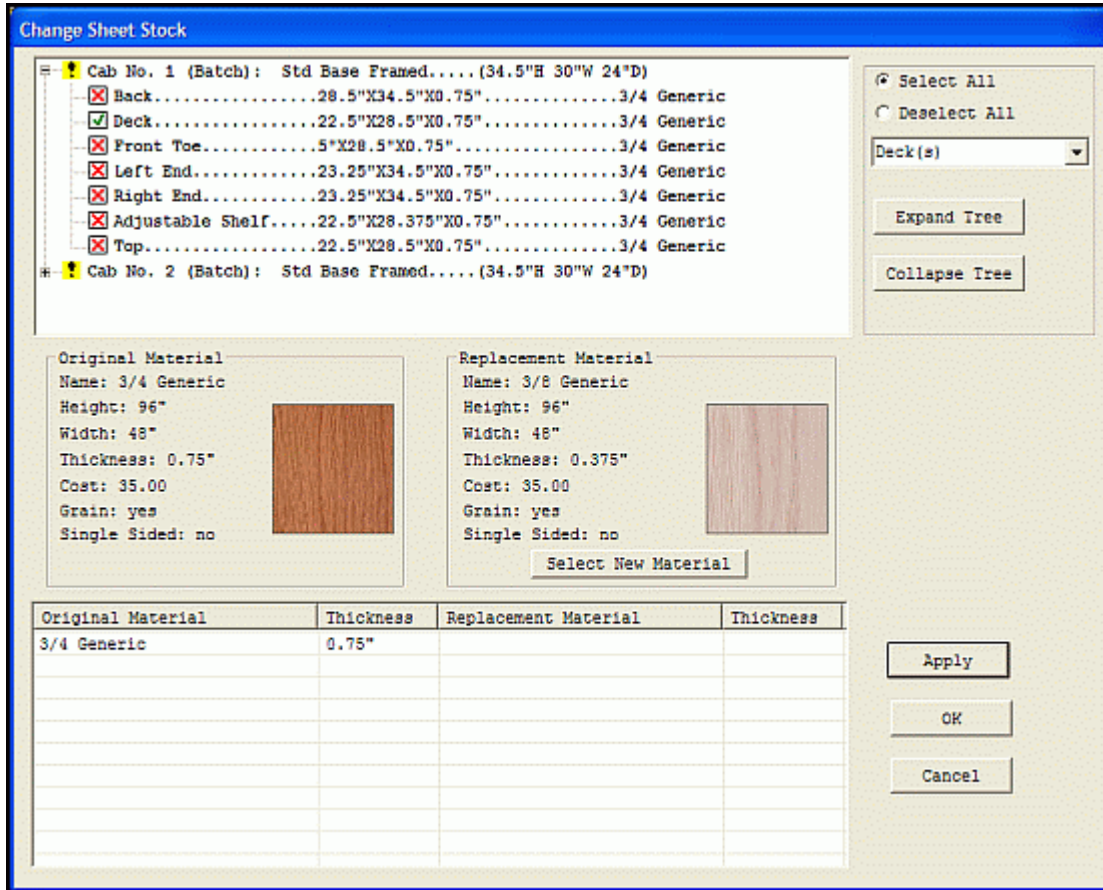
**Note:** Once a **Texture** has been selected, holding the **Ctrl** key will make the cursor become a **Paint Roller**, whereby Left Clicking the **Paint Roller** over a surface will apply the currently selected texture there.

**Add Custom Solid Color** - This brings up the following palette of colors. If the default colors are not adequate, selecting **Define Custom Color** adds the additional choice of every available color, as shown to the right:



**Delete Image** - This deletes the selected image.

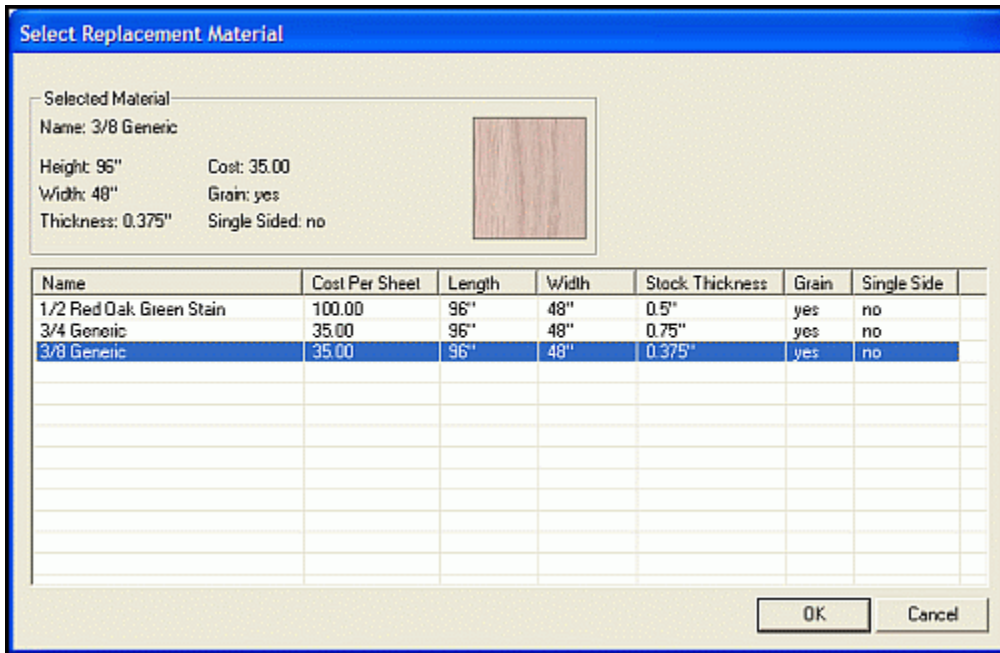
## Change Sheet Stock



This feature enables a near "on the fly" change of the sheet material that is used in a cabinet or assembly. When this option is available, you can select the Item or Items and their **Sheet Stock** component parts will be displayed in the window, as shown in the above illustration.

The upper display area shows the Items that have been selected. To expand the display and show the individual component parts of the Item, click the "plus" sign directly in front of the Item. The green checkmark in front of the Item indicates that this entire Item is selected, and all the **Sheet Stock** is shown in the bottom window, and can be changed. A red "X" indicates that the component part (or parts), or the entire Item has been deselected, and the respective **Sheet Stock** has also been removed from the lower window. If any parts are removed from the selection, a yellow exclamation point icon will appear in any of the component assemblies (as well as the entire Item), to alert you that the entire Item's Sheet Stock usage is not selected. This is especially important because this information would not be seen if you do not have the display trees expanded. To remove an Item or a part, click the green checkmark and the red "X" will appear.

In the upper right are the global selection and tree display buttons, as well as a drop down menu of the parts in the items, grouped for easy access (back panels, for example). To change the **Sheet Stock**, in the lower window, select the material you want to change, and detailed information about that material will then appear in the left-center display area.



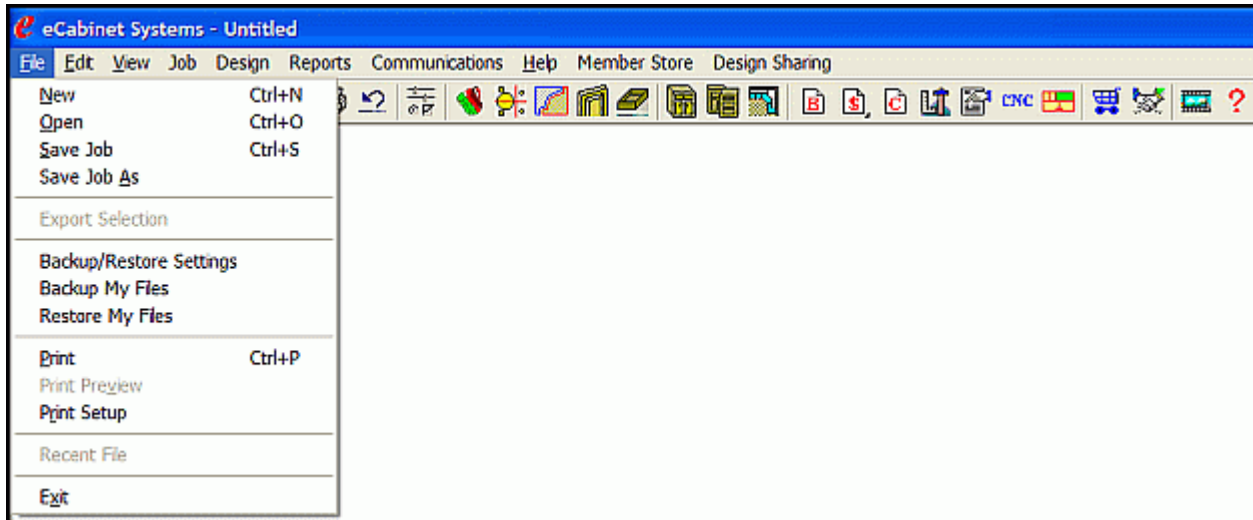
Pressing the **Select New Material** button will display the **Select Replacement Material** window, shown above, with information about the new material. Clicking **OK** will enter this material for review. Click on the material name in the lower window you want to change, and you will see both the original and the proposed replacement material. If this replacement is correct, press the **Apply** button if you intend to make more changes, or the **OK** button to return to where you were previously, with the new materials in place.

***3.0***

**File Menu**



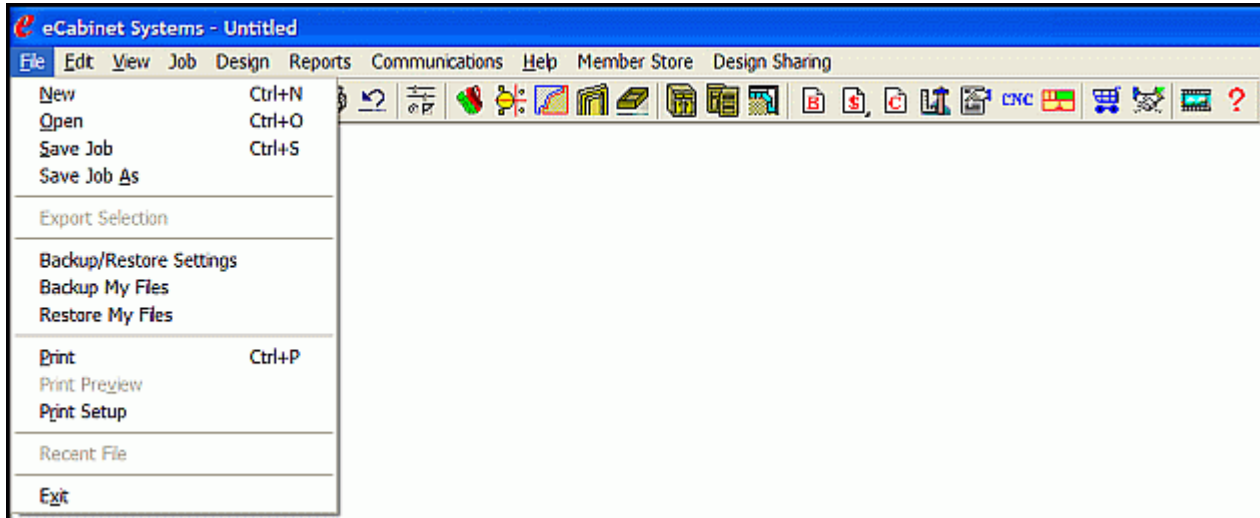
# File Menu Introduction



The **File Menu** contains the following submenus:

- New**
- Open**
- Save Job**
- Save Job As**
- Export Selection**
- Backup/Restore Settings**
- Backup My Files**
- Restore My Files**
- Print**
- Print Preview**
- Print Setup**
- Recent File**
- Exit**

## New, Open, Save and Export Selection



**New** - Closes any existing Jobs and opens a new Job. Optionally, use **Ctrl + N**.

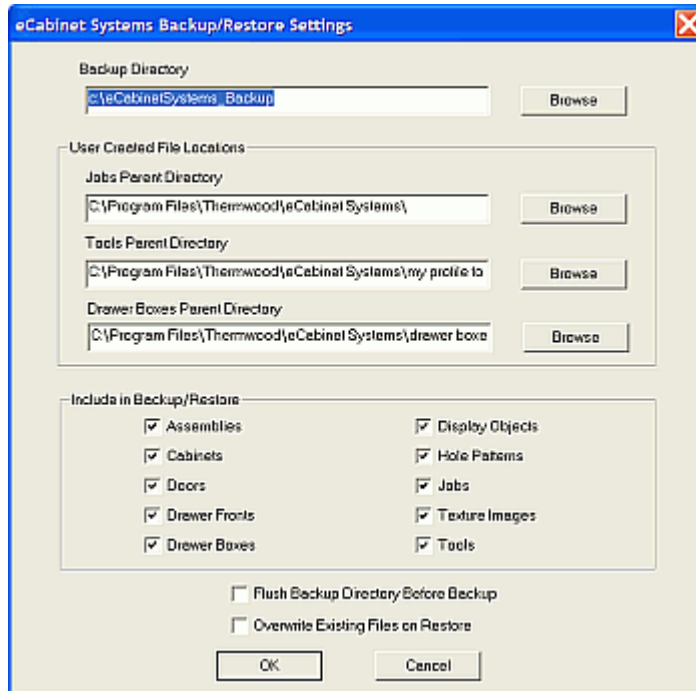
**Open** - Opens a dialog where you can select a Job to open. Optionally, use **Ctrl + O**.

**Save Job** - Opens a dialog where you can select a Job to save. Optionally, use **Ctrl + S**.

**Save Job As** - Opens a dialog where you can select a Job, to save it with a different name. *eCabinet Systems* will automatically place an ".esj" extension on the file. Filenames must follow the standard Microsoft Windows naming conventions.

**Export Selection** - Opens a dialog, where you can save an item for use in the **Display Part Editor**. The item will be saved with an ".hsf" extension and will become a **Display Object**. You must be in the **Cabinet/Assembly Editor** and have the entire cabinet or assembly selected.

## Backup/Restore Settings



Selecting **Backup/Restore Settings** opens a dialog where you can set your preferences, such as where your files are and where you wish to store them.

**Backup Directory** - Users can save their files anywhere, so the location of these files needs to be specified for the Backup/Restore process.

**User Created File Locations** - This specifies where the Backup files are stored.

**Jobs Parent Directory** - Users can save these types of files anywhere, so the location of these files needs to be specified for the Backup/Restore process.

**Tools Parent Directory** - Users can save these types of files anywhere, so the location of these files needs to be specified for the Backup/Restore process.

**Drawer Boxes Parent Directory** - Users can save these types of files anywhere, so the location of these files needs to be specified for the Backup/Restore process.

**Include in Backup/Restore** - This area allows you to select whether or not to have the Backup/Restore feature include these types of files. Check the boxes to include the following:

**Assemblies, Cabinets, Doors, Drawer Fronts, Drawer Boxes, Display Objects, Hole Patterns, Jobs, Texture Images and Tools.**

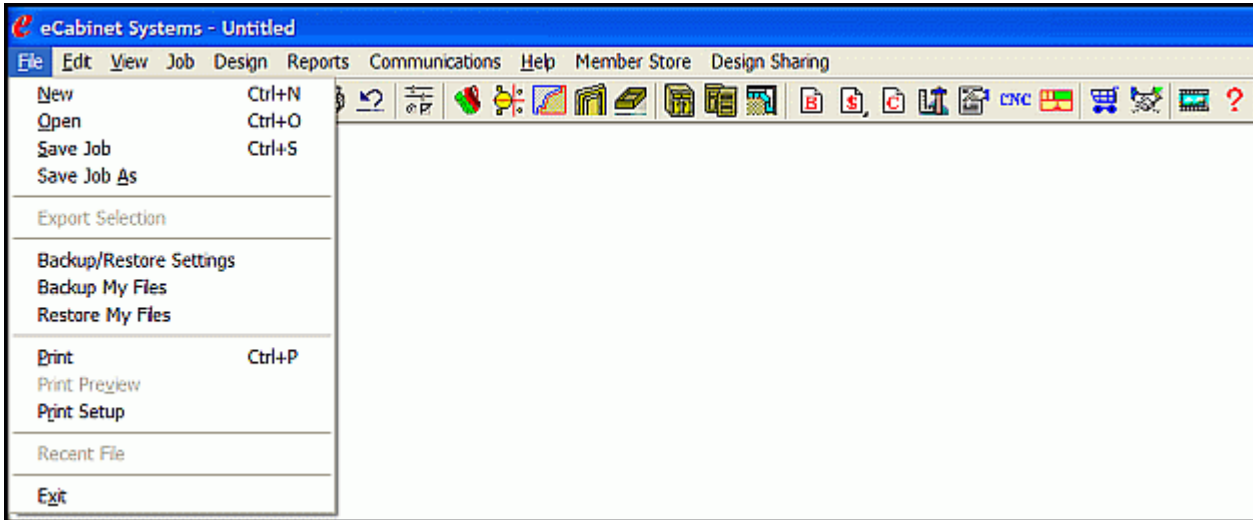
**Flush Backup Directory Before Backup** - Check if you wish to have your backup directory cleared prior to a new backup.

**Overwrite Existing Files on Restore** - Check if you wish to have the restore function overwrite files on your system that have same name as the files in your last backup.

**Backup My Files** - This will perform a backup of your files, as based on the settings in **Backup/Restore Settings**.

**Restore My Files** - This will perform a restore of the files you previously backed up, as based on the settings in **Backup/Restore Settings**.

## Print, Recent File and Exit



**Print** - This opens a dialog to print the current image. Optionally, use **Ctrl + P**.

**Print Preview** - Provides a preview of the page that will be printed using the **Print** command.

**Print Setup** - Accesses an area where the printer is selected and print parameters established. The settings defined here also determine the page size and orientation for the **Line Drawing Editor**.

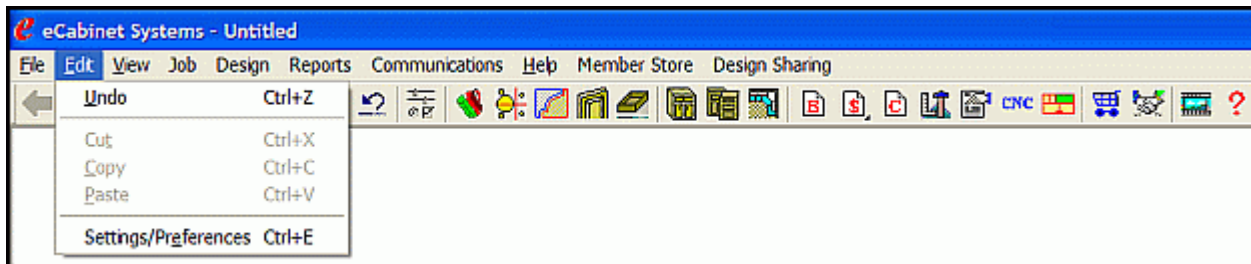
**Recent File** - This shows a list of recent files that have been opened.

**Exit** - Closes *eCabinet Systems* and exits the program.

***4.0***

## **Edit Menu**

## Edit Menu Introduction

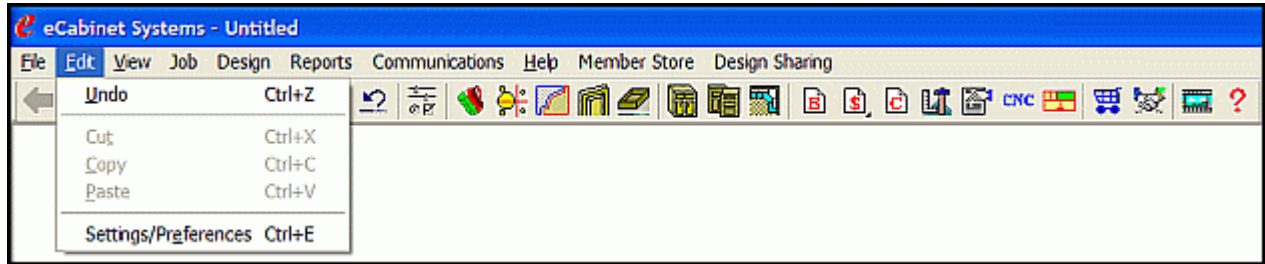


The **Edit Menu** contains the following submenus:

- Undo**
- Cut**
- Copy**
- Paste**
- Settings/Preferences**

**Note:** **Settings/Preferences** consists of the main **Settings/Preferences window**, as well as **Define Stock Materials**, **Define Costs**, **Define Standard Dimensions** and **Default 5 Piece Door Details for Cut List**.

## Undo, Cut, Copy and Paste



**Undo** - This reverts the program to the previous state after performing a delete or edit. Only one level of **Undo** is available. Optionally, use **Ctrl + Z**.

**Cut** - Removes highlighted item and places it on the Windows Clipboard, where it can then be pasted elsewhere. Optionally, use **Ctrl + X**.

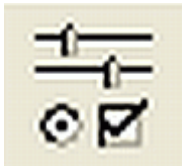
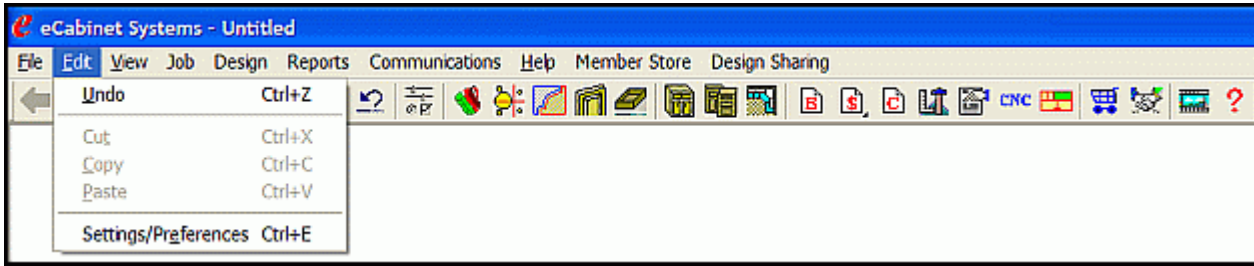
**Copy** - Copies the highlighted item and places it on the Windows Clipboard, where it can then be pasted elsewhere. Additionally, use **Ctrl + C**.

**Paste** - Copies last item placed into Windows Clipboard into the file. Optionally, use **Ctrl + V**.

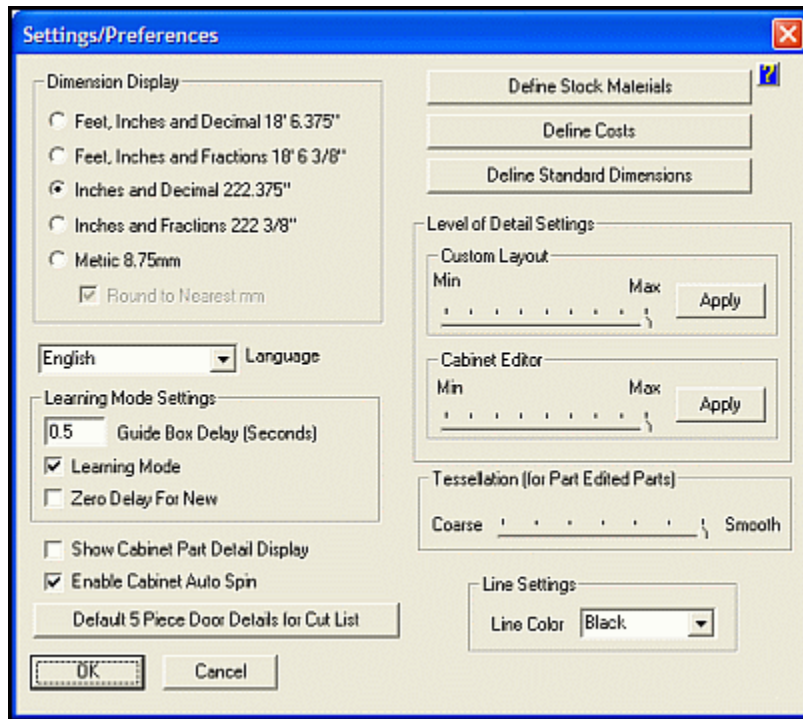
**Note:** The functionality of copy and paste is not restricted to text only. In *eCabinet Systems*, cabinets can be copied in the **Cabinet/Assembly Editor**, and other objects can also be copied and pasted, such as furniture legs or other display objects.



# Settings/Preferences



## Settings/Preferences



This is where system settings and user preferences for operation of the software are established. Click on the icon, use the Main Menu or use the Hotkey of **Ctrl + E**.

**Dimension Display** - This defines how *eCabinet Systems* displays dimensions. This selection affects dimension display everywhere, including the dimensioning on line drawings. There are five choices of formats, and although you must select one format for display, you are free to use any format to enter dimensions. These choices are:

**Feet, Inches, Decimals | Feet, Inches, Fractions | Inches, Decimals | Inches, Fractions | Metric.**

The proper syntax including the foot (‘), inch (”) and millimeter (mm) symbols should be used when entering dimensions. If you do not use those symbols, the system will presume inches (or millimeters, if you have specified Metric). Math functions, such addition ("+"), subtraction ("-"), division ("/") and multiplication ("\*") can also be used while inputting numbers. For example, if two numbers are entered with a plus sign (+) between them, the dimension entered is the sum of the two numbers.

When working with fractions, for both input and display, the system only accepts and displays fractions down to 1/32 inch and all measurements are rounded to the nearest 1/32 inch. If you need tighter dimensions than this, use the "**Inches and Decimal**" option in **Settings/Preferences**.

**Note:** While working in certain areas (such as doors or drawer boxes), occasionally vendors only offer product in specific fraction increments not divisible by 1/32 inch. In these cases, the software automatically adjusts the applicable dimensions so that they match the product that is actually available.

**Language** - The software will operate in this language. All text and controls are displayed in the selected language. You will need to restart the software to activate a new language selection.

**Learning Mode Settings** - This area controls **Learning Mode** operation.

**Guide Box Delay** - This is the delay in seconds between the time the cursor passes over an item and the Learning Mode guide box appears.

**Learning Mode** - If checked, it turns on the Learning Mode; these are also known as the pop-up Tool Tips.

**Zero Delay for New** - If checked, anything new or different in this software version displays without a delay, making it easier to identify new features.

**Show Cabinet Part Detail Display** - If checked, part information boxes pop up when the cursor pauses over them in the **Cabinet/Assembly Editor**. This function is separate from the **Learning Mode**.

**Enable Cabinet Auto Spin** - If checked, this enables a feature that allows you to have the cabinet rotate automatically in the display. Hold **Shift + Left Click** as you move the mouse in the direction you want it to spin, and then release the mouse. The faster you drag the mouse, the faster the cabinet will spin. Any key will stop the spinning motion.

**Level of Detail Settings** - These controls specify how much detail is displayed when working in **Custom Layout** and the **Cabinet/Assembly Editor**. High settings offer better images but slow operation on some computers. Lower settings run better on slow systems but with reduced image quality. Set these for the most comfortable operation. An **Enhanced View** button in each area switches to full **Level of Detail** when desired.

**Custom Layout** - The slider bar adjusts detail level in this area.

**Cabinet [/Assembly] Editor** - The slider bar adjusts detail level in this area.

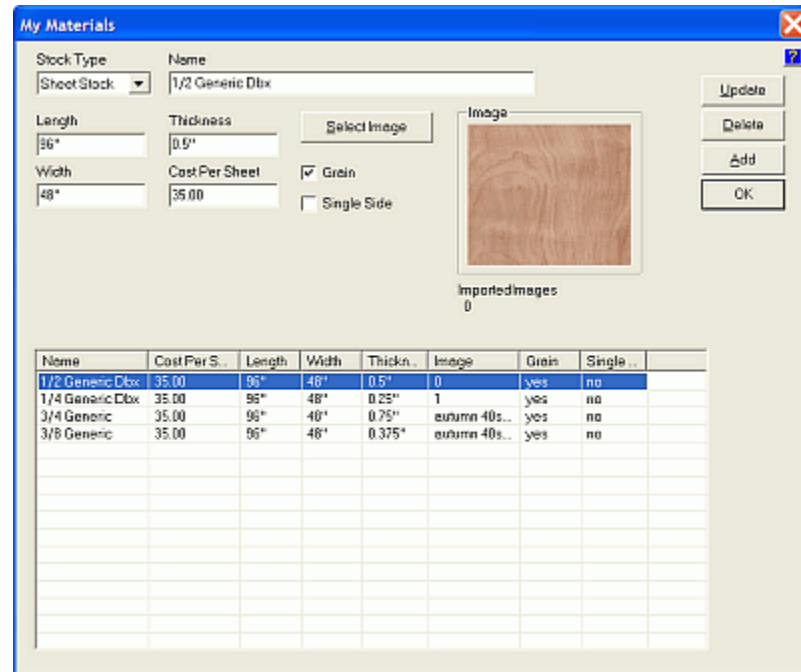
**Tessellation** - This slider bar adjusts the smoothness of the display of parts with **Part Editor** cuts on them. Smoother views can be displayed by sliding the slider to the right, but with the possible disadvantage of slower graphics performance.

**Note:** **Tessellation** is only a display function and does NOT affect the cabinet data or the **CNC Output**; it is only provided to adjust the detail settings on those parts that may have complex and intricate curves.

**Line Settings** - This area controls the color of accent and wireframe lines. Accent lines highlight the edges of all cabinet parts in the **Cabinet/Assembly Editor** and **Custom Layout**. These lines can be turned ON and OFF in each area, and they make distinguishing individual parts easier.

**Line Color** - Select the color for lines used as accent lines and wireframe lines in the **Cabinet/Assembly Editor** and wireframe lines in **Custom Layout**.

# Define Stock Materials Introduction



**Define Stock Materials** - This button, from the main **Settings/Preferences** screen, opens the illustrated window, where materials used to construct cabinets are defined. There are 4 different types of material as defined in the software:

**Banding Stock** - This is used to put Edgebanding on a cabinet part, slab door or slab drawer front. The system will track the amount of banding of each type needed for a Job and display this in the Cut List. Banding Stock is priced per lineal foot.

**Board Stock** - This is solid wood, primarily used for face frames but can also be used to make miscellaneous parts using the Display Board feature. It is also possible, however, to construct face frame components from sheet stock, where they will be nested with any other components that are made from the same material. Board Stock is priced per board foot.

**Countertop Stock** - This is used for adding countertops to cabinets. Notice that this function is only used to display the countertop. The cost calculations and cut listing of the material is not offered.

**Sheet Stock** - This is sheet material such as plywood, MDF, particleboard or other related materials and is used to make cabinet parts. This is the material that the nesting feature works with. Parts made from sheet stock are nested on the sheet sizes specified. Sheet Stock is priced per sheet.

Some "generic" materials are already defined in the software, and they should not be modified. Consider these as the "seed" materials.

## Add New Material

The image that is selected when you define a material is the texture that will be used to display all parts made from that material. If you change the image (or material) in **Settings/Preferences**, it will change the image (or material) for all cabinets that use this material. After all the information for the new material has been entered and an image has been associated with the material, press the **Add** button and the new material is added to the list.

If you are going to add several materials that are similar, for example several different types of 4 by 8 sheet material, it is not necessary to input all fields for each entry. Enter all the fields for the first sheet and press **Add**. Then, change only the fields that are different, and press **Add** again.

Additional information on adding or changing Texture Images can be found in the section of this manual called "**Common Menu Operations, Select Image**".

**Note:** It is important that the price for the material is input correctly when defining the material, for the costing routines will use these prices as baselines.

## Edit Existing Material

To edit an existing material, highlight the line you want to edit. Data from that line appears in the input boxes at the top. Change the data as required and press **Update**. Care should be taken when changing material used in cabinets that have been previously developed and saved, because if you change a characteristic of the material, the finish for example, every cabinet that uses that material will also change.

## Delete Material

To delete a material record, highlight the line you want to delete and press **Delete**.

**Note:** A material that is used on any cabinet saved in the system cannot be deleted until all cabinets that use the material have been deleted.

# Define Stock Materials Menu Structure

Name	Cost Per S...	Length	Width	Thickn.	Image	Grain	Single...
1/2 Generic Dlx	35.00	36"	48"	0.5"	0	yes	no
1/4 Generic Dlx	35.00	36"	48"	0.25"	1	yes	no
3/4 Generic	35.00	36"	48"	0.75"	autumn 40s...	yes	no
3/8 Generic	35.00	36"	48"	0.375"	autumn 40s...	yes	no

**Stock Type** - Choose from [Edge]Banding Stock, Board Stock, Countertop Stock and Sheet Stock.

**Name** - Here you input a name for the material. This is the name that will be displayed when you select this material from a list.

**Length** - This is the length of the material:

For **Banding Stock** in strips, use the length of the strip.

For **Banding Stock** in rolls, use the length of the roll.

For **Board Stock**, use the length of the board.

For **Sheet Stock**, use the longest dimension of the sheet.

**Thickness** - This is the exact thickness of the material.

**Width** - This is the width of **Banding Stock** or **Board Stock**, and/or the shortest sheet dimension of **Sheet Stock**.

**Cost per Sheet** - This is the cost per lineal foot for **Banding Stock** or **Board Stock**, and the cost per sheet for **Sheet Stock**.

**Grain** - Check if the material has grain that must be considered when parts are nested. If unchecked, grain direction is ignored during nesting and parts may be rotated to improve yield.

**Single Side** - This represents materials with a preferred side. When **Single Side** is not selected, *eCabinet Systems* will look at the amount of machining operations required per side, and will place the side with the most operations on the top side of the material when nesting. When **Single Side** is selected, the side of the part that is on the inside of the cabinet will be considered by *eCabinet Systems* to be the preferred side, and will arrange the nest so that this side is placed on the top side of the raw material.

**Select Image** - The lists of all available textures will appear here. Not all Images are applicable for all materials, as some are for wallcoverings, flooring and other decorative purposes.

**Image** - This is the image that will be used to display the surface of this material any time it is used.

**Update** - To update a material record, highlight the line, adjust the values in the boxes and press this button.

**Delete** - To delete a material record, highlight the record and press this button.

**Note:** Do not delete any materials listed as Generic. They are used for the "seed" cabinets.

**Add** - To add a new material, input the material specifications in the boxes and press this button. You can also highlight an existing material record, and change the values to reflect the new material and press this button.

**OK** - This saves the data and returns to the previous screen.

## Define Costs

Dynamic Markups for Cost Calculations

Percent Markup  Fixed Markup  Expected Yield

Product	Percent Markup %	Fix Markup \$	Expected Yield %
Sheet Stock	10	0.00	68
Board Stock	10	0.00	70
Banding Stock	5	0.00	100
Moldings	0	0.00	100
Purchased Door and Drawer Fronts	0	50.00	100
Purchased Drawer Boxes	0	0.00	100
Pulls	30	0.00	100
Hinges	30	0.00	100
Slides	30	0.00	100
Miscellaneous	0	0.00	100
User Created Objects	0	0.00	100

Use Historical Ratio Cost Calculation

Ratio to Material % Fixed Markup \$

Labor

Overhead

Profit Margin

% Profit Fixed Profit

Profit Margin %

Alternate Source Door Cost

Cost/Door  Cost/Sq

Use Labor Based Cost Calculations

Cost Type Cost/Hr.

Cost Type	Cost/Hr
Shop Hours	\$0.00
Meching	\$0.00
Assembly	\$0.00
Finishing	\$0.00
Installation	\$0.00
Misc 1	\$0.00

Overhead Cost

Overhead Cost/Hr.

**Define Costs** - This button, from the main **Settings/Preferences** screen, opens the **Dynamic Markups for Cost Calculations** window, where manufacturing cost parameters are established. This function permits automatic cost and pricing calculations to occur when working with a Job. Cost estimates are calculated based on three cost areas:

**Material** - This is the cost of materials required, plus any adjustments,

**Labor** - This is the cost of direct labor required to build the product,

**Overhead** - This is the sum of all business costs other than **Material** and **Labor** applied to this Job.

Throughout the program, **cost** is how much you pay for something and **price** is how much you sell something for. Material cost also includes any hardware or other components associated with cabinets in the Job. There are three primary components to cost, Material, Labor and Overhead. If you add profit to the sum of Material, Labor and Overhead, you get the Selling Price. If you take the Selling Price and subtract Material, Labor and Overhead, you get profit.



## Important Considerations when Estimating Costs

The most basic item is Material Cost. This is how much you pay for something, including all shipping, storage and handling. Estimates to these "hidden" costs range from twenty to thirty-three percent over the actual purchase price. With wood, however, you never quite use it all. There is always cut-offs and scrap material from any process. This is the material that you discard. This scrappage must be considered, and therefore, that is why we use "yield". Yield is the percentage of the material that turns into the finished product. If three-fourths of a sheet of material is used in the final product and the other quarter is scrapped, the yield is 75%.

*eCabinet Systems* determines Material Cost by calculating how much material will be required to build the product, including the cost of cut-offs and scrap, and then by adding the cost of other components and material you need to purchase for the Job. *eCabinet Systems* offers two different ways to estimate labor for a Job, but you must choose one or the other. The first method is based on Material Cost. For most shops that build a consistent product line, the ratio of Labor Cost to Material Cost is fairly constant. Generally, if the Material/Labor ratio from Job to Job, or from month to month, stays within a 5% or so range, this approach will work, and only requires that you establish the correct ratio. If not, you will need to estimate Labor Cost, by assigning a cost per hour for one or more labor categories, and then by assigning a specific number of labor hours to each cabinet. You can assign a cost per hour for Shop Hours and then assign a certain number of Shop Hours for each cabinet. This information becomes part of the cabinet file. To estimate Overhead you can use Historical Ratios or Overhead Hours. When you select Historical Ratios to calculate labor, you determine the ratio between Overhead expense and Material Cost and apply that ratio to the Material Cost of new Jobs. Alternatively, using Overhead Hours, you divide the overhead for a month by the average number of hours you work each month to determine an Overhead Cost/Hr. The system then multiplies this Overhead Cost/Hr by every hour assigned to the cabinet, regardless of the category, and calculates the Overhead Cost associated with this cabinet.

**Percent Markup** - This is a percent that the cost of material is increased to allow for miscellaneous costs directly associated with material such as shipping or scrap removal cost. It is the percent by which the cost is marked up. Markups are calculated by multiplying the number by one, plus the **Percent Markup** and then adding the **Fixed Markup**.

**Fixed Markup** - This is a fixed amount added to the cost. Markups are calculated by multiplying the number by one, plus the **Percent Markup** and then adding the **Fixed Markup**.

**Expected Yield** - This is the percent of the material that ends up in the final product, with the remainder being discarded. **Expected Yield** is used to estimate material cost until the Job is nested, at which point the exact amount of material required is known and used. Cost after **Percent Markup** and **Fixed Markup** is divided by this number to get final cost.

The sheet stock, board stock and molding cost in the **Cabinet/Assembly Editor** is calculated by dividing the amount of stock required for the cabinet parts, by the **Estimated Yield**, to determine the cost of the stock needed, before processing, and then by marking this up by the **Percent Markup** and adding the **Fixed Markup**.

The sheet stock, board stock and molding cost in **Custom Layout** is calculated by dividing the amount of stock required for the cabinet parts by the **Estimated Yield** to determine the number of full sheets or full lengths of material needed for the Job. The cost of these is then marked up by the **Percent Markup** and then the **Fixed Markup** is added. If the Job has been nested, the actual number of full sheets or full lengths is used for this calculation.

Purchased material cost is determined using the cost at which the item can be purchased through the *eCabinet Systems* program, and then marking this up by the **Percent Markup** and adding the **Fixed Markup**.

## Historical Ratio Calculation

**Use Historical Ratio Cost Calculation** - If this is checked, cost is calculated by marking up material cost to account for labor and overhead. The amount that material cost is marked up is based on historical ratios from previous Jobs.

**Ratio to Material %** - This is the percentage of amount of Material vs. Labor & Overhead.

**Fixed Markup %** - This is the percentage of Markup for Labor & Overhead.

This approach determines the historical ratio of Labor to Material and Overhead to Material and multiplies the Material Cost of a new Job by these ratios to estimate the Labor and Overhead cost for the Job. Determine the **Ratio to Material %** for Labor by taking the direct Labor cost for a period of time (six months perhaps) and dividing it by the Material cost for the same period of time.

Determine the **Ratio to Material %** for Overhead by taking the Overhead cost for a period of time (six months perhaps) and dividing it by the Material cost for the same period of time. **Fixed Markup \$** for both Labor and Overhead allows you to add a fixed Labor and Overhead cost to each cost calculation (either Job or cabinet depending on where the calculation is made).

## Labor Based Calculations

**Use Labor Based Cost Calculations** - If this is checked, cost is calculated by adding material cost and labor cost. Labor cost is determined for each individual cabinet by specifying a cost per hour in this area and then assigning a number of labor hours to a cabinet in the **Cabinet/Assembly Editor**.

**Cost Type** - Display area for Manufacturing Cost below.

**Cost/Hr** - Type the cost per hour for the respective Labor Cost.

**Manufacturing Cost** - Select from a list that includes Shop Hours, Machining, Assembly, Finishing, Installation and two Miscellaneous costs.

**Overhead Cost** - This is used to estimate Job cost by calculating and adding Overhead to Material and Labor. Overhead is calculated by multiplying the sum of Material and Labor by the Overhead Percent, and then adding the Fixed Overhead markup.

**Labor** - This approach specifies the Cost/Hr for various categories of Labor. Then an estimated number of Labor hours can be assigned to each cabinet for each category in the **Cabinet/Assembly Editor**. The system then multiplies the number of Labor hours assigned to a cabinet by the Cost/Hr to determine Labor cost for the cabinet.

**Overhead** - An Overhead Cost/Hr is specified here. Overhead Cost/Hr is calculated by taking the Overhead cost for a period of time (six months perhaps) and dividing it by the total number of Labor hours used during that same period. Overhead cost for a Job is calculated by taking the Overhead Cost/Hr and multiplying it by the total number of hours of all categories assigned to all the cabinets in a Job.

**Profit Margin** - This is the amount of Profit that is made on the Job.

**% Profit** - This is the percent of the final selling price that you want to be profit.

**Fixed Profit** - This is an additional amount you want added to the final selling price calculated using the **% Profit**.

**Note:** Profit for Catalog Cabinets is a straightforward calculation. The **Material, Labor** and **Overhead Cost** of each cabinet is subtracted from the fixed selling price to get the profit.

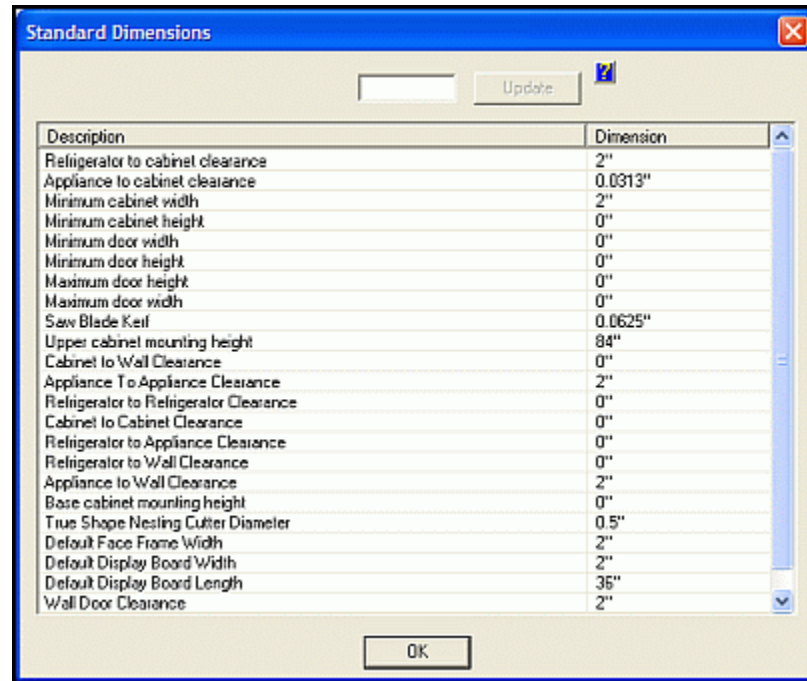
**Alternate Source Door Cost** - This offers a method of including the cost of doors not purchased through the program in the Job cost calculations. To calculate the cost, the door size is multiplied by the Cost/Sq. Foot and then a fixed Cost/Door is added.

**Cost/Door** - This is a fixed cost of the alternate source door. To calculate door cost, the door size is multiplied by the Cost/Sq. foot and then a fixed Cost/Door is added.

**Cost/Sq Ft** - This is the cost of the alternate source door per square foot. To calculate door cost, the door size is multiplied by the Cost/Sq. foot and then a fixed Cost/Door is added.

**OK** - This Saves the data and returns to the previous screen.

## Define Standard Dimensions



**Define Standard Dimensions** - This button, from the main **Settings/Preferences** screen, opens a window where certain dimensions can be specified globally, so that they do not need to be manually entered each time they are required.

**Description** - This is the specific dimensions of items that are defaulted to in program.

**Dimension** - This is the specific editable dimensions that are defaulted to in program.

**Update** - Saves change as displayed in the window to the left.

## Standard Dimensions - Details

**Refrigerator to Cabinet Clearance** refers to a gap on either side between the appliance and adjoining cabinets. Refrigerators are presented separately because, generally, they have a relatively large clearance while other built in appliances may only have a minimum clearance.

**Appliance to Cabinet Clearance** refers to a gap on either side, between the appliance and adjoining cabinets.

**Minimum Cabinet Width/Height** is generally determined by the Minimum Door Width. The default numbers set at the factory reflect the door sizes available through *eCabinet Systems*. Setting lower minimums or higher maximums means that certain size doors cannot be purchased through our program and you will need another source for these components.

**Saw Blade Kerf** is the thickness of the cut when sheet material is processed through a saw. This dimension is used when developing the nest diagrams using Cut Line nesting.

**Upper Cabinet Mounting Height** is the height measured from the FLOOR to the TOP of the upper cabinets. This is the height that the upper cabinets will initially be placed.

**Cabinet to Wall Clearance** defines a clearance between the back of a cabinet and the wall it butts against.

**Appliance to Wall Clearance** defines clearance between the back side of an appliance and the wall.

**Appliance to Appliance Clearance** defines clearance between adjoining appliances.

**Refrigerator to Refrigerator** and **Cabinet to Cabinet Clearance** refer to a gap on either side, between the respective items.

**Base Cabinet Mounting Height** is the dimension that the base cabinets are mounted, from the FLOOR to the BOTTOM of the base cabinet.

**True Shape Nesting Cutter** is the dimension of tool diameter used when nesting parts when **True Shape** is selected (as apposed to **Cut Line**, which sets the part in a configuration where a table saw can be used).

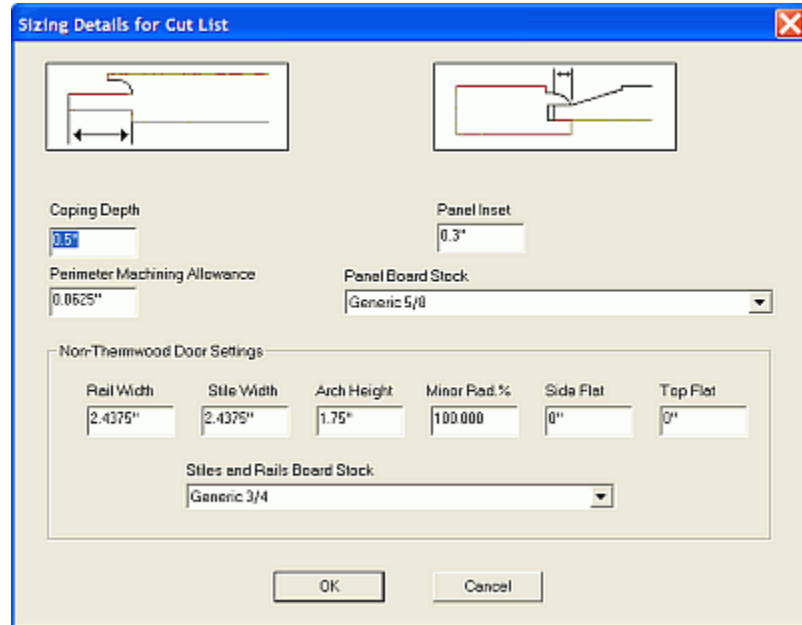
**Default Face Frame Width** is the width of the Face Frames as installed.

**Default Display Board Width** and **Length** are the default dimensions for installed **Display Boards**.

**Wall [Specific] Door Clearance** is the distance around the outside of a **Wall Door** frame, where items can not be placed.

**Window Clearance** is the distance around the outside of a **Window** frame, where items can not be placed.

## Sizing Details for Cut List



### Default 5 Piece Door Details for Cut List

Selecting the **Default 5 Piece Door Details for Cut List** button from the main **Settings/Preferences** screen opens a window where details for the Five Piece Door information is entered. This window is called the **Sizing Details for Cut List**.

**Note:** Be aware that the settings that display in the **Sizing Details for Cut List** fields are general defaults and must be confirmed to your application.

**Coping Depth** - This is the protruding edge of the rail that fits into the style. Allow clearance for any spacers that are inserted into the slot in the style.

**Perimeter Machining Allowance** - This will resize the overall door for perimeter machining. It resizes the panel and lengthens the rails and stiles. The rail and stile widths are not altered.

**Panel Inset** - This is the protruding edge of the Raised Panel that fits into the style. This distance is the actual amount the Raised Panel is inset, not the total length or the protruding edge. Allow clearance for any spacers that are inserted into the slot in the style.

**Panel Board Stock** - Select a board stock material for the panel here. Ensure the thickness value is correct.

**Non-Thermwood Door Settings** - This area is for designating values that can not be set for Non-Thermwood 5 piece doors and drawer fronts in the appropriate Door/Drawer Designers.

**Rail Width** - The width of the rail used. Notice that the board stock width is not used.

**Stile Width** - The width of the stile used. Notice that the board stock width is not used.

**Arch Height** - This is the height of the arch on an Arch door or the height of the major arch on a Cathedral door.

**Minor Rad. %** - This value is used for Arched and Cathedral doors. It lists the percentage of the minor arch from the main arch.

**Side Flat** - This value is used for Arched and Cathedral doors.

**Top Flat** - This value is used for Arched and Cathedral doors.

**Stiles and Rails Board Stock** - Select a board stock material for the rails and stiles, here. Ensure the thickness value is correct.

**OK** - This saves the data and returns to the previous screen.

**Cancel** - This does not save, and returns to the previous screen.

***5.0***

**View Menu**



## View Menu Introduction



The **View Menu** contains two options.

**View Receipt** - This opens a standard Windows dialog that shows the contents of the Receipts subdirectory. You can then select a **Receipt File** for viewing or editing. A **Receipt File** is automatically generated and saved when an order for parts or material is sent from the software, either directly from the **Shopping Cart** or through a **Master Purchase Order**.

**Display Views** - This submenu displays a checkmark to indicate which view is being displayed. Unselecting the checkmark removes that item from the display. Items where a checkbox is not displayed can not be shown.

**Toolbar** - A checkmark indicates that this toolbar is visible onscreen.

**Navigate Bar** - A checkmark indicates that this toolbar is visible onscreen.

**Status Bar** - A checkmark indicates that this toolbar is visible onscreen.

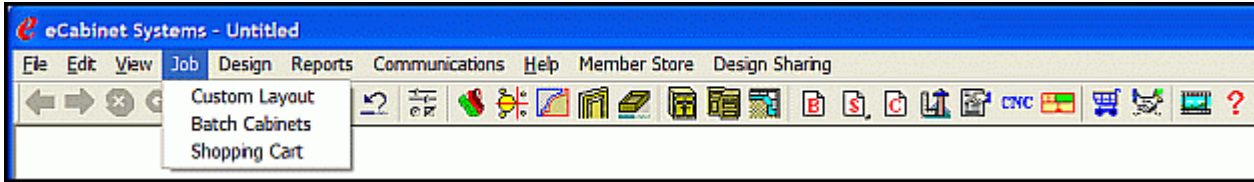
**Cabinet Toolbar** - A checkmark indicates that this toolbar is visible onscreen.

**Drawings Toolbar** - A checkmark indicates that this toolbar is visible onscreen.

***6.0***

**Job Menu**

## Job Menu Introduction



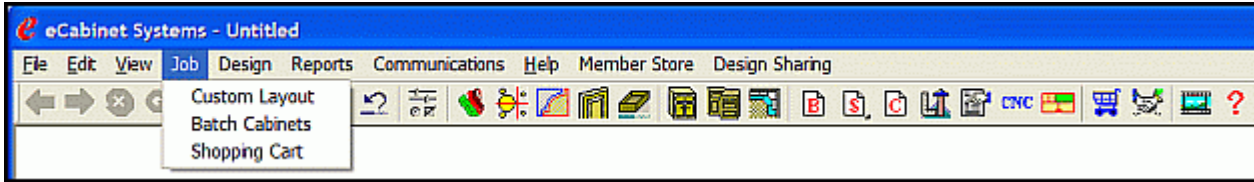
The **Job Menu** contains the following submenus:

- Custom Layout**
- Batch Cabinets**
- Shopping Cart**

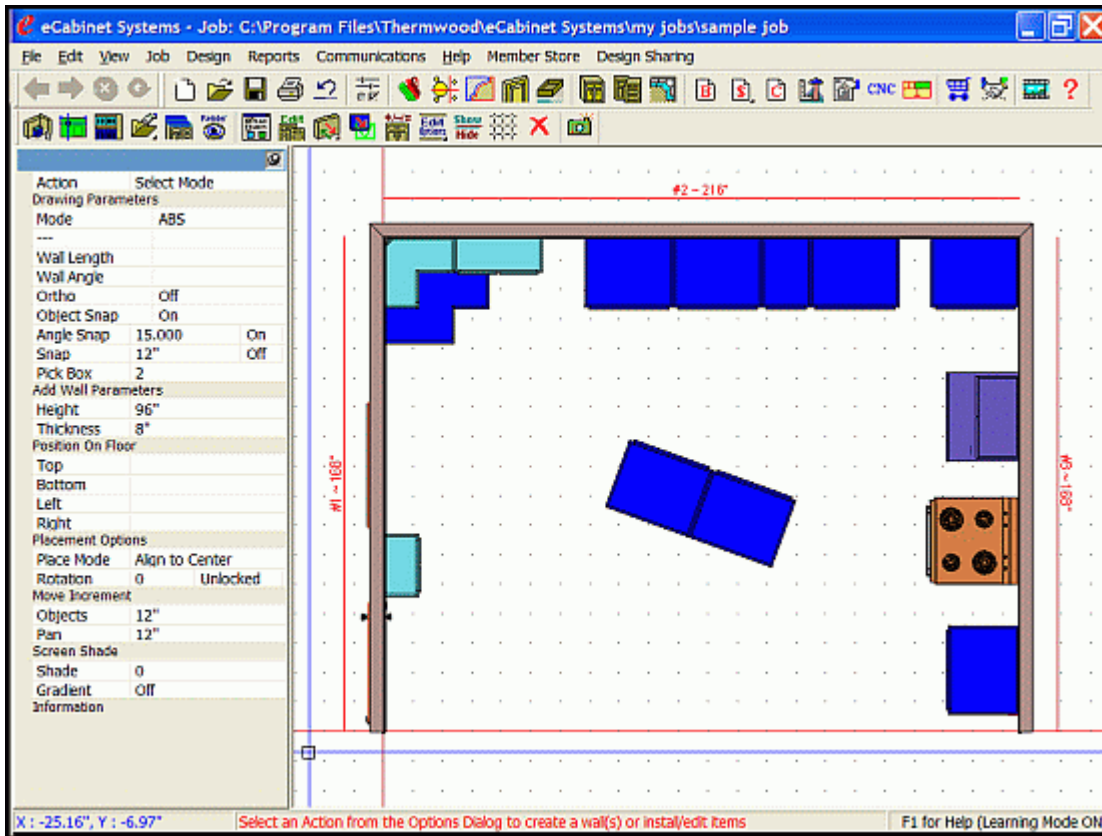
## *6.1*

# **Custom Layout**

# Custom Layout Introduction



**Custom Layout**



This is an area where a detailed layout of one or more rooms is created, complete with wall and floor coverings, cabinets, doors, display objects, fixtures and other items, to create a scale model of the cabinets and assemblies as placed in the intended room, along with a photorealistic **Presentation View** of the entire Job. The Default display upon entering **Custom Layout** is the **Overhead/Main View**.

Walls can be created in both **Absolute** and in **Incremental** modes. This can simplify wall creation and manipulation in instances where (for example) jobsite dimensions may not be complete or are not all referenced from the same point. It is also possible, while in **Custom Layout**, to change and modify cabinet and assembly features by using the Right Click menu option **Adjust Cabinet Features. Doors, Drawer Fronts, Door Pulls and Drawer Boxes** (with or without **Drawer Fronts**) can all be changed by just selecting one or more cabinets or assemblies.

The **Dynamic Coordinate Display** will always report the position of the cursor, in blue text, in the lower left corner of the screen. Also, look at the bottom of the screen for the **QuickTips**, which will appear in red text, and provide hints and directions to perform the current **Action**.

## Custom Layout - Overhead/Main View - Right Click Options

**Note:** Not all selections are available at the same time, but all are listed below. Also, many items have keyboard shortcuts as well, listed on the right side of the menu.

Areas	A	▶	Overhead/Main View	O	
Select Items To Install	I	▶	Elevation/Wal View	W	
Adjust Cabinet Features	J	▶	Edit Wal View	D	
Change Materials	C	▶	Countertop Editor	U	▶
Edit Options	E	▶	Render View	R	
Place Cabinet/Assembly Options	P	▶			Add/Modify Countertop(s) A
Wall Options	W	▶			Edit Countertop E
Select	S	▶			
Move in Wireframe	O				
Delete					
Show/Hide	H				
Define Standard Dimensions	D				
Custom Layout Parameters	U				
Reports	R	▶			
<hr/>					
Grid Settings	G				
<hr/>					
Snap	F9				
✓ Angle Snap	F6				
✓ Object Snap	F3				
Ortho	F8				

**Areas** - This selection selects the specific display and edit screens.

**Overhead/Main View** - This opens an area where walls defining one or more rooms are created or edited. See the specific **Icon Details** page for details.

**Edit Wall** - This accesses an elevation view of the selected wall. See the specific **Icon Details** page for details.

**Elevation/Wall View** - This is the editor for items that are associated to the specific wall. See the specific **Icon Details** page for details.

**Countertop Editor** - This provides the following options for constructing and editing countertops:

**Add/Modify Countertop** - This will open the **Countertop Editor**, with a copy of the appropriate cabinet in place.

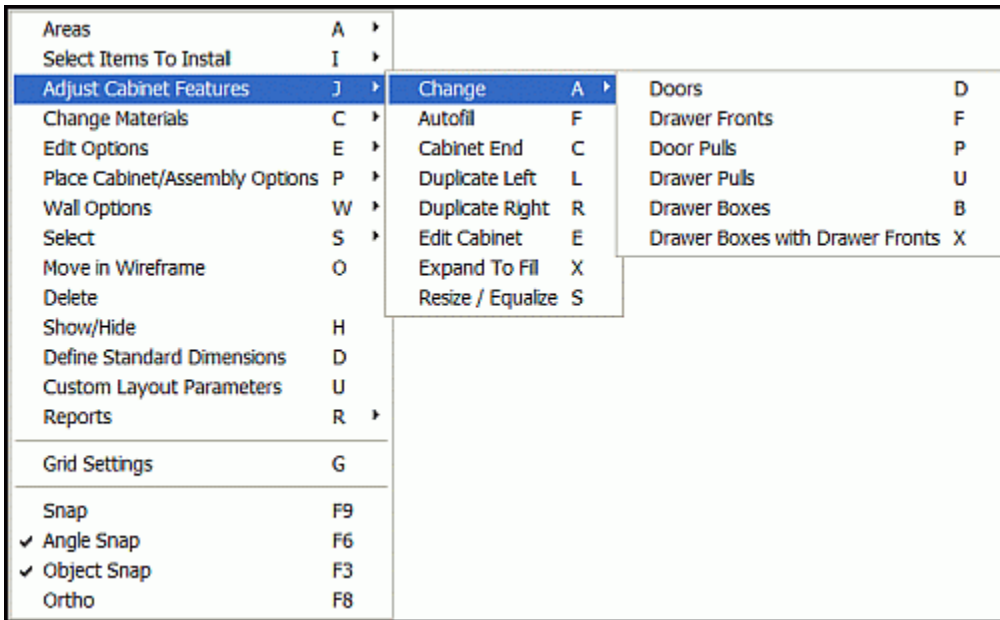
**Edit Countertop** - Select an existing countertop, and the **Construct Countertop Editor** window will appear, where you can adjust materials and provide details like waterfalls, splashes and overhangs.

**Render View** - See the specific **Icon Details** page for details.

Areas	A	▶	
Select Items To Install	I	▶	Install Item L
Adjust Cabinet Features	J	▶	Wall Specific Items W ▶
Change Materials	C	▶	
Edit Options	E	▶	
Place Cabinet/Assembly Options	P	▶	
Wall Options	W	▶	
Select	S	▶	
Move in Wireframe	O		
Delete			
Show/Hide	H		
Define Standard Dimensions	D		
Custom Layout Parameters	U		
Reports	R	▶	
<hr/>			
Grid Settings	G		
<hr/>			
Snap	F9		
✓ Angle Snap	F6		
✓ Object Snap	F3		
Ortho	F8		

**Select Items To Install** - See the specific **Icon Details** page for details.





**Adjust Cabinet Features** - List the features of the highlighted cabinets that can be modified.

**Change** - This includes the following submenu:

**Doors** - This changes cabinet doors on all highlighted cabinets to the default door design.

**Drawer Fronts** - This changes drawer fronts on all highlighted cabinets to the default drawer front.

**Door Pulls** - This changes door pulls on all highlighted cabinets to the default pull.

**Drawer Boxes** - This changes drawer boxes on all highlighted cabinets to the default drawer box.

**Drawer Boxes with Drawer Fronts** - This changes drawer fronts (with drawer boxes) on all highlighted cabinets to the default drawer front/drawer box design.

**Autofill** - This duplicates the highlighted cabinet, by adding exact copies of it to both the left and the right, until the entire wall is filled.

**Cabinet End** - This opens a dialog where you can define and place applied ends on a cabinet.

**Apply to side** - This selects appropriate side of cabinet.

**Scribe** - This area only applies to face frame cabinets, and is used to adjust the scribe or the amount that the face frame stile extends past the outside edge of the cabinet.

**Inset Values** - These settings here are used to make the applied end either larger or smaller than it would normally be. If you specify an inset for one edge, top, bottom, front or back, the corresponding edge of the applied end will be inset, or made smaller, than the original size. If you specify a negative inset, that edge is made larger or extended.

**Applied End** - This opens either the **Door/Drawer Editor**, where you can select a door and/or drawer to apply to the cabinet end, a **Defined Material** selection, to apply a different material to the end, or to remove any existing **Applied End**.

**Duplicate Left** - This duplicates the highlighted cabinet by adding exact copies of it to the left, until the entire wall to the left of the selected cabinet is filled.

**Duplicate Right** - This duplicates the highlighted cabinet by adding exact copies of it to the right, until the entire wall to the right of the selected cabinet is filled.

**Edit Cabinet** - This takes the highlighted cabinet to the **Cabinet/Assembly Editor** where it can be modified.

**Expand to Fill** - This expands the selected cabinet width to completely fill the space that it occupies.

**Resize/Equalize** - If a single cabinet is selected, this opens a dialog that allows you to resize it. If two or more adjacent cabinets are selected, or if a base and corresponding upper cabinet are selected, it makes them equal in width.

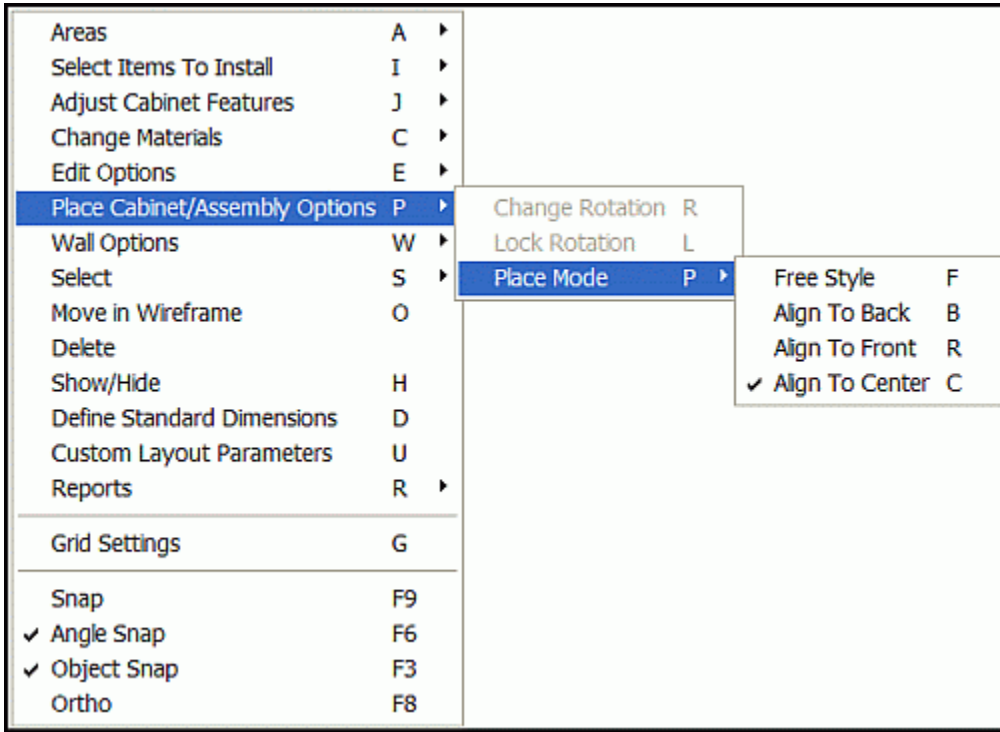
Areas	A	▶	
Select Items To Install	I	▶	
Adjust Cabinet Features	J	▶	
<b>Change Materials</b>	<b>C</b>	<b>▶</b>	Sheet Stock S
Edit Options	E	▶	
Place Cabinet/Assembly Options	P	▶	
Wall Options	W	▶	
Select	S	▶	
Move in Wireframe	O		
Delete			
Show/Hide	H		
Define Standard Dimensions	D		
Custom Layout Parameters	U		
Reports	R	▶	
<hr/>			
Grid Settings	G		
<hr/>			
Snap	F9		
✓ Angle Snap	F6		
✓ Object Snap	F3		
Ortho	F8		

**Change Materials** - See the section in this document titled "**Common Menu Operations - Changing Sheet Stock**" for complete details.

**Note:** Sheet Stock is the only material that can be changed while in **Custom Layout**.

Areas	A	▶											
Select Items To Install	I	▶											
Adjust Cabinet Features	J	▶											
Change Materials	C	▶											
<b>Edit Options</b>	<b>E</b>	<b>▶</b>	<table border="1"> <tr> <td>Rotate Object</td> <td>R</td> </tr> <tr> <td>Texture Match</td> <td>T</td> </tr> <tr> <td>Scale Object</td> <td>S</td> </tr> <tr> <td>Edit Molding</td> <td>E</td> </tr> <tr> <td>Part Editor</td> <td>P</td> </tr> </table>	Rotate Object	R	Texture Match	T	Scale Object	S	Edit Molding	E	Part Editor	P
Rotate Object	R												
Texture Match	T												
Scale Object	S												
Edit Molding	E												
Part Editor	P												
Place Cabinet/Assembly Options	P	▶											
Wall Options	W	▶											
Select	S	▶											
Move in Wireframe	O												
Delete													
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Define Standard Dimensions	D												
Custom Layout Parameters	U												
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Grid Settings	G												
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Snap	F9												
✓ Angle Snap	F6												
✓ Object Snap	F3												
Ortho	F8												

**Edit Options-** See the specific **Icon Details** page for details.



**Place Cabinet/Assembly Options** - This provides the ability to edit Cabinets and Assemblies from within **Custom Layout**.

**Change Rotation** - This adjusts the rotation angle of the cabinet in the Overhead/Main view when the cabinet is a wireframe.

**Lock Rotation** - This locks the rotation so that the cabinet will not have any placement mode adjustment applies as it contacts other items.

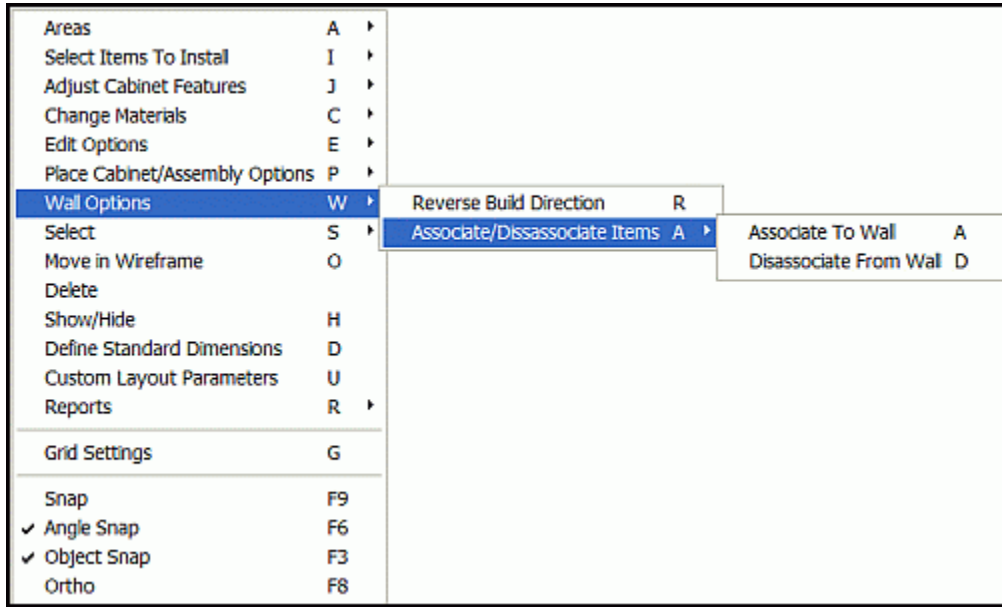
**Place Mode** - This specifies how cabinets being inserted in the room interact with cabinets already placed. The following choices are available:

**Free Style** - The cabinet being placed is free to move about without regard to existing cabinets including the ability to mesh or merge with cabinets and walls.

**Align To Back** - The back of the cabinet being placed aligns with the back of an existing cabinet, if it is touched during placement.

**Align To Front** - The front of the cabinet being placed aligns with the front of an existing cabinet, if it is touched during placement.

**Align To Center** - The centerline of the cabinet being placed aligns with the centerline of an existing cabinet, if it is touched during placement.



**Wall Options** - These functions are used when constructing walls.

**Reverse Build Direction** - This places the side of the wall with the default texture on the opposite side of the selected wall. If needed, the other side of the wall can be textured after the wall is built.

**Associate/Disassociate Items** - This enables objects to be associated to walls, and is useful when in **Elevation/Wall View**.

**Associate to Wall** - See the specific **Icon Details** page for details.

**Disassociate to Wall** - See the specific **Icon Details** page for details.

Areas	A	▶															
Select Items To Install	I	▶															
Adjust Cabinet Features	J	▶															
Change Materials	C	▶															
Edit Options	E	▶															
Place Cabinet/Assembly Options	P	▶															
Wall Options	W	▶															
Select	S	▶	<table border="1"> <tbody> <tr> <td>Select NONE</td> <td>N</td> </tr> <tr> <td>Select All</td> <td>A</td> </tr> <tr> <td>Select All Cabinets</td> <td>C</td> </tr> <tr> <td>Select All Appliances</td> <td>P</td> </tr> <tr> <td>Select All Base Cabinets</td> <td>B</td> </tr> <tr> <td>Select All Upper Cabinets</td> <td>U</td> </tr> <tr> <td>Select All Walls</td> <td>W</td> </tr> </tbody> </table>	Select NONE	N	Select All	A	Select All Cabinets	C	Select All Appliances	P	Select All Base Cabinets	B	Select All Upper Cabinets	U	Select All Walls	W
Select NONE	N																
Select All	A																
Select All Cabinets	C																
Select All Appliances	P																
Select All Base Cabinets	B																
Select All Upper Cabinets	U																
Select All Walls	W																
Move in Wireframe	O																
Delete																	
Show/Hide	H																
Define Standard Dimensions	D																
Custom Layout Parameters	U																
Reports	R	▶															
Grid Settings		G															
Snap	F9																
✓ Angle Snap	F6																
✓ Object Snap	F3																
Ortho	F8																

**Select** - This menu provides a choice of items to select. Selected items will have green highlights.

**Select NONE** - This removes the selection highlight from all items. (Or, use the **Esc** key.)

**Select All** - This selects and highlights all items placed in the **Custom Layout**, so that functions can be performed on all of them. In addition, you can double click an item to select it, or pull a rectangle (using the left mouse button) and select everything the rectangle touches.

**Select All Cabinets** - This selects and highlights all cabinets placed in the **Custom Layout**, so that functions can be performed on all of them. In addition to these selections, you can double click an item to select it, or pull a rectangle (using the left mouse button) and select everything that the rectangle touches.

**Select All Appliances** - This selects and highlights all appliances that have been placed in the **Custom Layout**, so that functions can be performed on them. In addition to these selections, you can double click an item to select it, or pull a rectangle (using the left mouse button) and select everything that the rectangle touches.

**Select All Base Cabinets** - This selects and highlights any cabinets that have been placed in the **Custom Layout**, that are the cabinet type Base, so that functions can be performed on them. In addition to these selections, you can double click an item to select it, or pull a rectangle (using the left mouse button) and select everything that the rectangle touches.

**Select All Upper Cabinets** - This selects and highlights any cabinets that have been placed in the **Custom Layout**, that are the cabinet type Upper, so that functions can be performed on them. In addition to these selections, you can double click an item to select it or pull a rectangle (using the left mouse button) and select everything that the rectangle touches.

**Select All Walls** - This selects and highlights all walls that have been placed in the **Custom Layout**. This feature is available in **Overhead/Main View** only.

**Move in Wireframe** - See the specific **Icon Details** page for details.

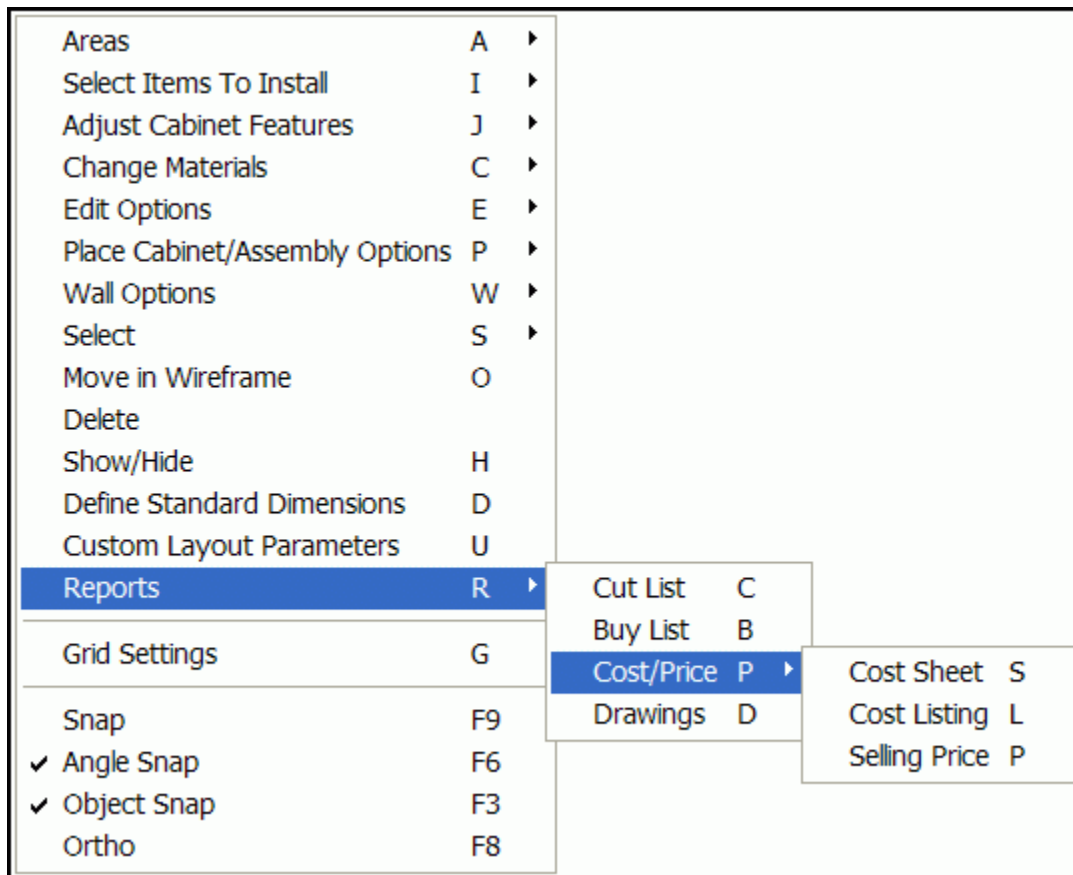
**Delete** - See the specific **Icon Details** page for details.

**Show/Hide** - See the specific **Icon Details** page for details.

**Define Standard Dimensions** - This opens the **Define Standard Dimensions** area of **Settings/Preferences**.

**Custom Layout Parameters** - See the specific **Icon Details** page for details.





**Reports** - This area provides **Report** outputs.

**Cut List** - This creates a list of machined components required for the Job. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, then it is for the entire Job.

**Buy List** - This creates a list of everything that must be purchased for this Job. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job.

**Cost/Price** - This provides the following Report outputs:

**Cost Sheet** - This creates a cost estimate for the Job, based on material cost and specified markups, or based on material cost and labor cost for each cabinet or assembly. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job. It is based on Estimated Yield unless the Job has been nested, then it is based on Actual Yield.

**Cost Listing** - This lists **Total Material Cost, Total Labor Cost, Total Overhead, Profit Total** and **Selling Price** of the Job.

**Selling Price** - This just displays the **Selling Price** of the Job.

**Drawings** - This provides options to send information to the **Line Drawing Editor**.

**Grid Settings** - See the specific **Icon Details** page for details.

**Snap** - This defines the increments at which **Snap** occurs. This can be the same as, or different from, the Grid spacing. Be sure to press **Enter** after inputting a dimension.

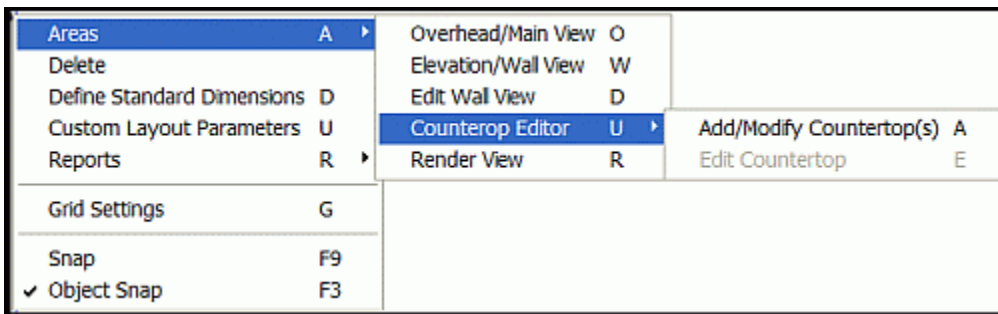
**Angle Snap** - This defines the angular increment at which **Angle Snap** occurs. Be sure to press **Enter** after inputting an angle.

**Object Snap** - When checked and active, **Object Snap** (also sometimes called **OSnap**) causes selections to be made at the nearest Node, if they are inside the pick box when selecting a point.

**Ortho** - When checked and active, **Ortho** restricts lines to vertical or horizontal. When unchecked, lines can be drawn at any angle.

## Custom Layout - Edit Wall View - Right Click Options

**Note:** Not all selections are available at the same time, but all are listed below. Also, many items have keyboard shortcuts as well, listed on the right side of the menu.



**Areas** - This selection selects the specific display and edit screens.

**Overhead/Main View** - This opens an area where walls defining one or more rooms are created or edited. See the specific **Icon Details** page for details.

**Edit Wall** - This accesses an elevation view of the selected wall. See the specific **Icon Details** page for details.

**Elevation/Wall View** - This is the editor for items that are associated to the specific wall. See the specific **Icon Details** page for details.

**Countertop Editor** - This provides the following options for constructing and editing countertops:

**Add/Modify Countertop** - This will open the **Countertop Editor**, with a copy of the appropriate cabinet in place.

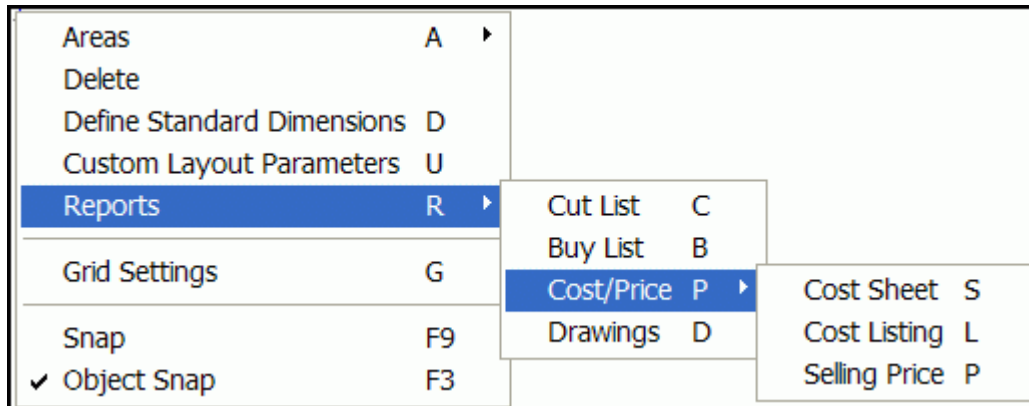
**Edit Countertop** - Select an existing countertop, and the **Construct Countertop Editor** window will appear, where you can adjust materials and provide details like waterfalls, splashes and overhangs.

**Render View** - See the specific **Icon Details** page for details.

**Delete** - See the specific **Icon Details** page for details.

**Define Standard Dimensions** - This opens the **Define Standard Dimensions** area of Settings/Preferences.

**Custom Layout Parameters** - See the specific **Icon Details** page for details.



**Reports** - This area provides **Report** outputs.

**Cut List** - This creates a list of machined components required for the Job. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, then it is for the entire Job.

**Buy List** - This creates a list of everything that must be purchased for this Job. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job.

**Cost/Price** - This provides the following Report outputs:

**Cost Sheet** - This creates a cost estimate for the Job, based on material cost and specified markups, or based on material cost and labor cost for each cabinet or assembly. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job. It is based on Estimated Yield unless the Job has been nested, then it is based on Actual Yield.

**Cost Listing** - This lists **Total Material Cost, Total Labor Cost, Total Overhead, Profit Total** and **Selling Price** of the Job.

**Selling Price** - This just displays the **Selling Price** of the Job.

**Drawings** - This provides options to send information to the **Line Drawing Editor**.

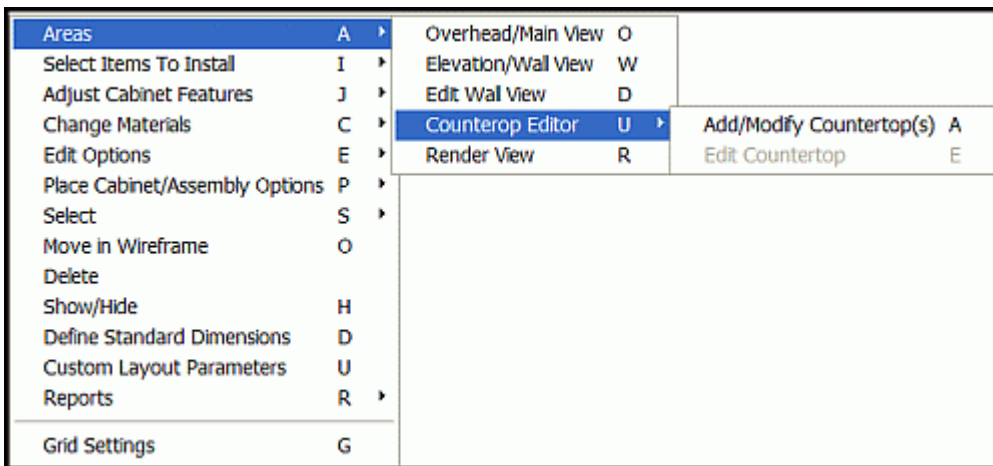
**Grid Settings** - See the specific **Icon Details** page for details.

**Snap** - This defines the increments at which **Snap** occurs. This can be the same as, or different from, the Grid spacing. Be sure to press **Enter** after inputting a dimension.

**Object Snap** - When checked and active, **Object Snap** (also sometimes called **OSnap**) causes selections to be made at the nearest Node, if they are inside the pick box when selecting a point.

## Custom Layout - Elevation/Wall View - Right Click Options

**Note:** Not all selections are available at the same time, but all are listed below. Also, many items have keyboard shortcuts as well, listed on the right side of the menu.



**Areas** - This selection selects the specific display and edit screens.

**Overhead/Main View** - This opens an area where walls defining one or more rooms are created or edited. See the specific **Icon Details** page for details.

**Edit Wall** - This accesses an elevation view of the selected wall. See the specific **Icon Details** page for details.

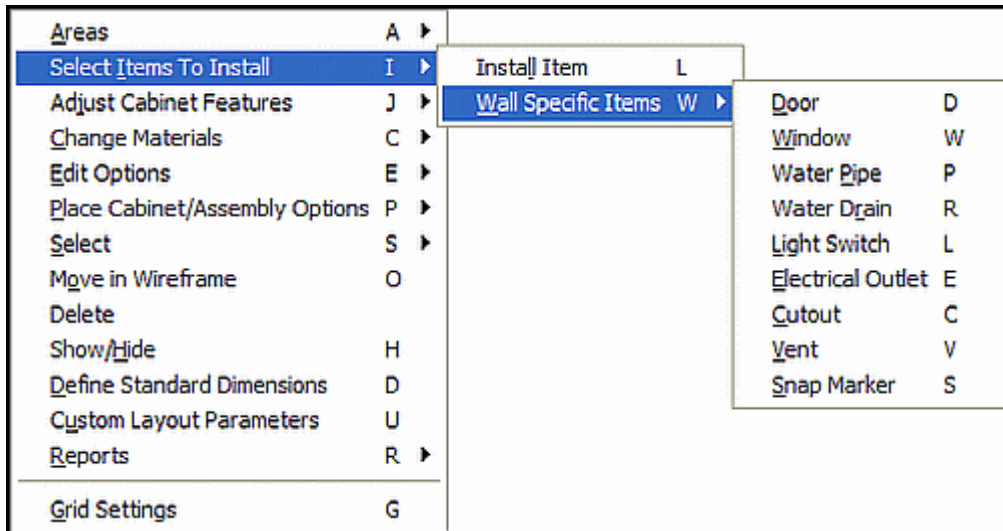
**Elevation/Wall View** - This is the editor for items that are associated to the specific wall. See the specific **Icon Details** page for details.

**Countertop Editor** - This provides the following options for constructing and editing countertops:

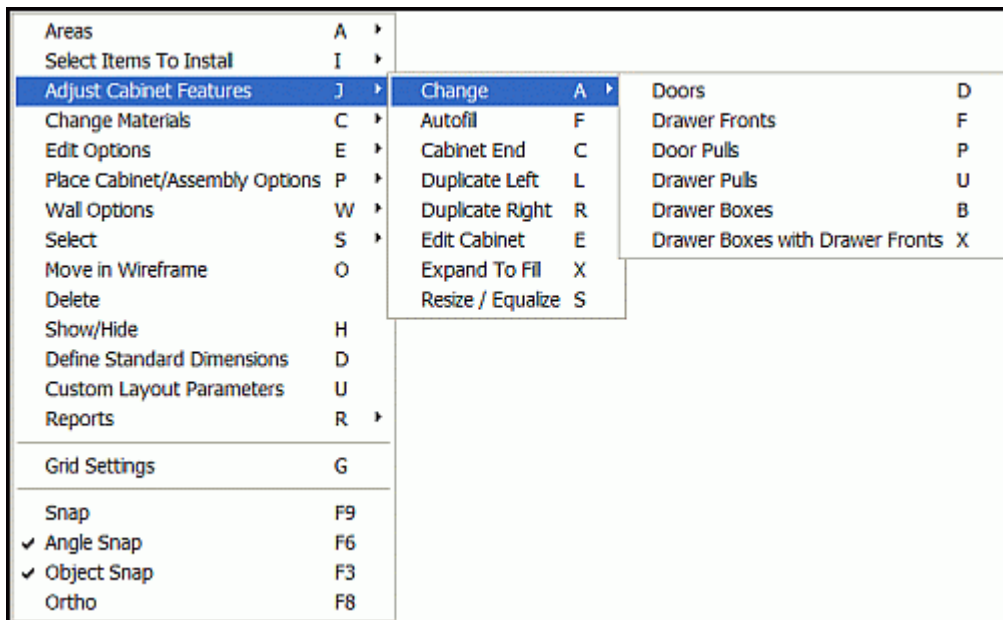
**Add/Modify Countertop** - This will open the **Countertop Editor**, with a copy of the appropriate cabinet in place.

**Edit Countertop** - Select an existing countertop, and the **Construct Countertop Editor** window will appear, where you can adjust materials and provide details like waterfalls, splashes and overhangs.

**Render View** - See the specific **Icon Details** page for details.



**Select Items To Install** - See the specific **Icon Details** page for details.



**Adjust Cabinet Features** - It lists the features of the highlighted cabinets that can be modified.

**Change** - This option includes the following submenu:

**Doors** - This changes cabinet doors on all highlighted cabinets to the default door design.

**Drawer Fronts** - This changes drawer fronts on all highlighted cabinets to the default drawer front.

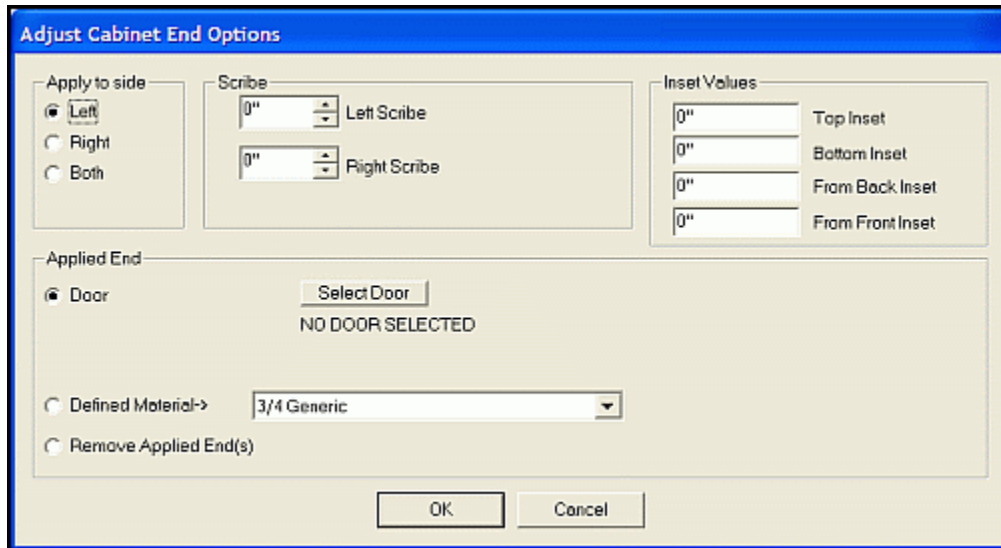
**Door Pulls** - This changes door pulls on all highlighted cabinets to the default pull.

**Drawer Boxes** - This changes drawer boxes on all highlighted cabinets to the default drawer box.

**Drawer Boxes with Drawer Fronts** - This changes drawer fronts (with drawer boxes) on all highlighted cabinets to the default drawer front/drawer box design.

**Autofill** - This duplicates the highlighted cabinet, by adding exact copies of it to both the left and the right, until the entire wall is filled.

**Cabinet End** - This opens a dialog where you can define and place applied ends on a cabinet.



**Apply to side** - This selects appropriate side of cabinet.

**Scribe** - This area only applies to face frame cabinets, and is used to adjust the scribe or the amount that the face frame stile extends past the outside edge of the cabinet.

**Inset Values** - These settings here are used to make the applied end either larger or smaller than it would normally be. If you specify an inset for one edge, top, bottom, front or back, the corresponding edge of the applied end will be inset, or made smaller, than the original size. If you specify a negative inset, that edge is made larger or extended.

**Applied End** - This opens either the **Door/Drawer Editor**, where you can select a door and/or drawer to apply to the cabinet end, a **Defined Material** selection, to apply a different material to the end, or to remove any existing **Applied End**.

**Duplicate Left** - This duplicates the highlighted cabinet by adding exact copies of it to the left, until the entire wall to the left of the selected cabinet is filled.

**Duplicate Right** - This duplicates the highlighted cabinet by adding exact copies of it to the right, until the entire wall to the right of the selected cabinet is filled.

**Edit Cabinet** - This takes the highlighted cabinet to the **Cabinet/Assembly Editor** where it can be modified.

**Expand to Fill** - This expands the selected cabinet width to completely fill the space that it occupies.

**Resize/Equalize** - If a single cabinet is selected, this opens a dialog that allows you to resize it. If two or more adjacent cabinets are selected, or if a base and corresponding upper cabinet are selected, it makes them equal in width.

Areas	A	▶	
Select Items To Install	I	▶	
Adjust Cabinet Features	J	▶	
<b>Change Materials</b>	<b>C</b>	<b>▶</b>	Sheet Stock S
Edit Options	E	▶	
Place Cabinet/Assembly Options	P	▶	
Select	S	▶	
Move in Wireframe	O		
Delete			
Show/Hide	H		
Define Standard Dimensions	D		
Custom Layout Parameters	U		
Reports	R	▶	
<hr/>			
Grid Settings	G		

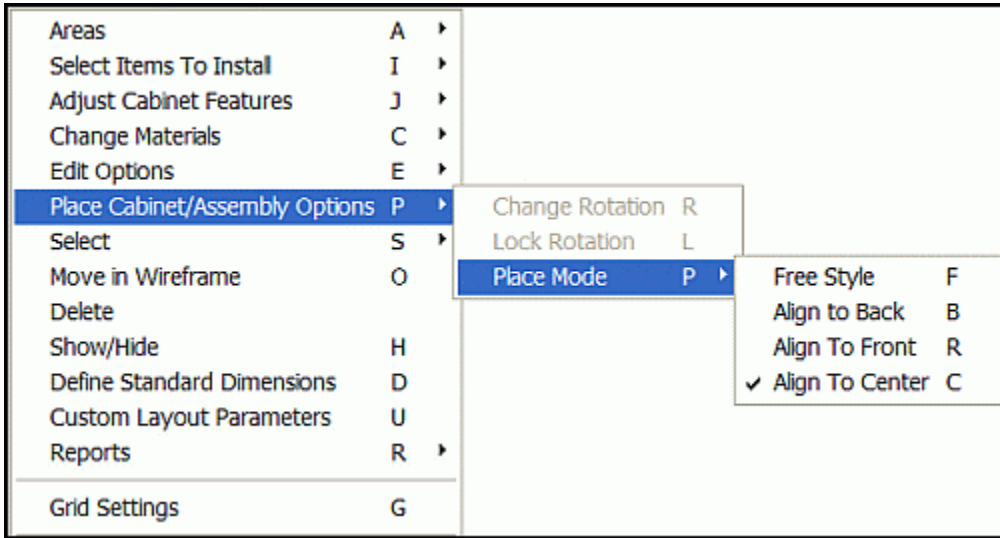
**Change Materials** - See the section in this document titled "**Common Menu Operations - Changing Sheet Stock**" for complete details.

**Note:** **Sheet Stock** is the only material that can be changed while in **Custom Layout**.

Areas	A	▶	
Select Items To Install	I	▶	
Adjust Cabinet Features	J	▶	
Change Materials	C	▶	
<b>Edit Options</b>	<b>E</b>	<b>▶</b>	Rotate Object R Texture Match T Scale Object S Edit Molding E Part Editor P
Place Cabinet/Assembly Options	P	▶	
Select	S	▶	
Move in Wireframe	O		
Delete			
Show/Hide	H		
Define Standard Dimensions	D		
Custom Layout Parameters	U		
Reports	R	▶	
<hr/>			
Grid Settings	G		

**Edit Options** - See the specific **Icon Details** page for details.





**Place Cabinet/Assembly Options** - This provides the ability to edit Cabinets and Assemblies from within **Custom Layout**.

**Change Rotation** - This adjusts the rotation angle of the cabinet in the Overhead/Main view when the cabinet is a wireframe.

**Lock Rotation** - This locks the rotation so that the cabinet will not have any placement mode adjustment applies as it contacts other items.

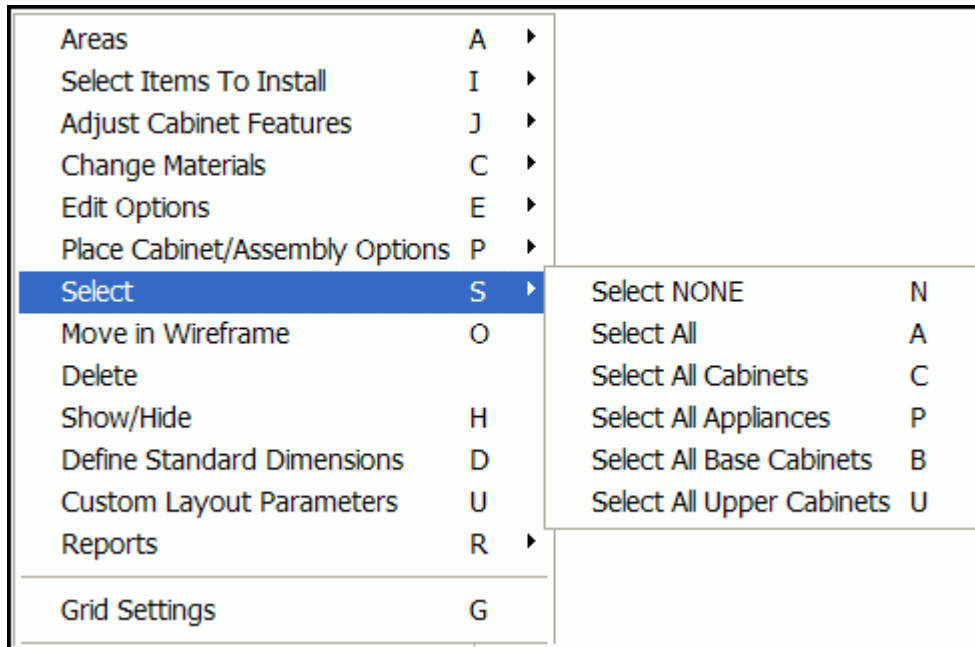
**Place Mode** - This specifies how cabinets being inserted in the room interact with cabinets already placed. The following choices are available:

**Free Style** - The cabinet being placed is free to move about without regard to existing cabinets including the ability to mesh or merge with cabinets and walls.

**Align To Back** - The back of the cabinet being placed aligns with the back of an existing cabinet, if it is touched during placement.

**Align To Front** - The front of the cabinet being placed aligns with the front of an existing cabinet, if it is touched during placement.

**Align To Center** - The centerline of the cabinet being placed aligns with the centerline of an existing cabinet, if it is touched during placement.



**Select** - This menu provides a choice on what items to select. These will have green highlights.

**Select NONE** - This removes the selection highlight from all items. (Or, use the **Esc** key.)

**Select All** - This selects and highlights all items placed in the **Custom Layout**, so that functions can be performed on them. In addition to these selections, you can double click an item to select it, or pull a rectangle (using the left mouse button) to select everything the rectangle touches.

**Select All Cabinets** - This selects and highlights all cabinets placed in the **Custom Layout**, so that functions can be performed on all of them. In addition to these selections, you can double click an item to select it, or pull a rectangle (using the left mouse button) and select everything that the rectangle touches.

**Select All Appliances** - This selects and highlights all appliances that have been placed in the **Custom Layout**, so that functions can be performed on them. In addition to these selections, you can double click an item to select it, or pull a rectangle (using the left mouse button) and select everything that the rectangle touches.

**Select All Base Cabinets** - This selects and highlights any cabinets that have been placed in the **Custom Layout**, that are the cabinet type Base, so that functions can be performed on them. In addition to these selections, you can double click an item to select it, or pull a rectangle (using the left mouse button) and select everything that the rectangle touches.

**Select All Upper Cabinets** - This selects and highlights any cabinets that have been placed in the **Custom Layout**, that are the cabinet type Upper, so that functions can be performed on them. In addition to these selections, you can double click an item to select it or pull a rectangle (using the left mouse button) and select everything that the rectangle touches.

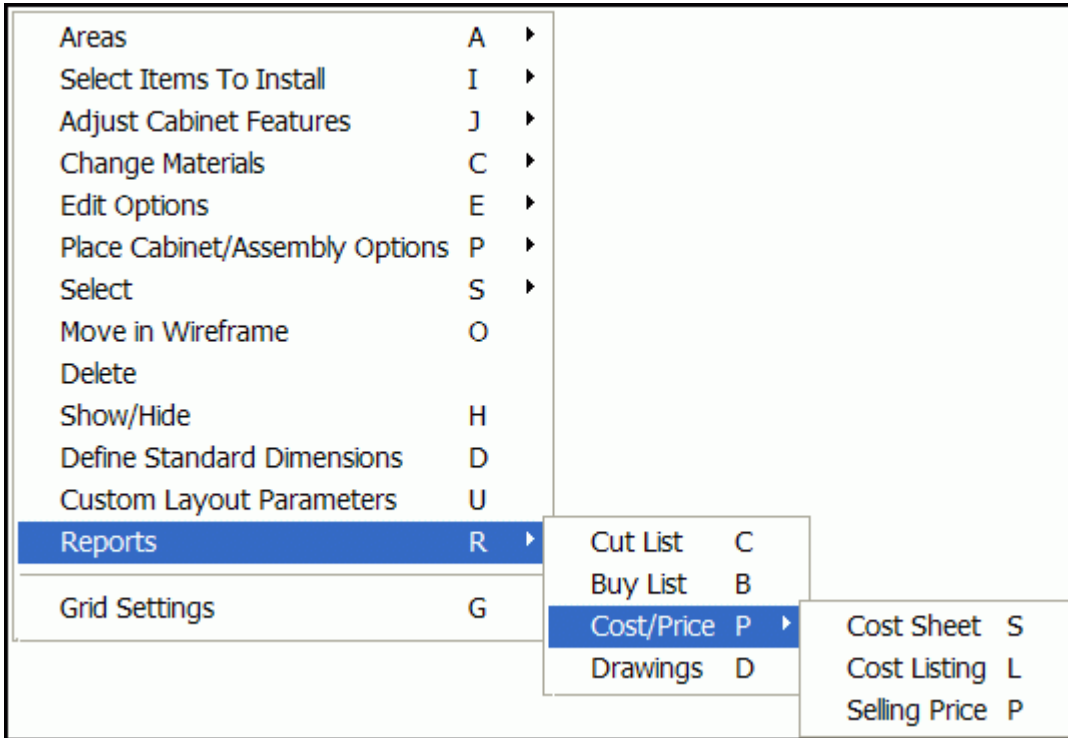
**Move in Wireframe** - See the specific **Icon Details** page for details.

**Delete** - See the specific **Icon Details** page for details.

**Show/Hide** - See the specific **Icon Details** page for details.

**Define Standard Dimensions** - This opens the **Define Standard Dimensions** area of **Settings/Preferences**.

**Custom Layout Parameters** - See the specific **Icon Details** page for details.



**Reports** - This options provides **Report** outputs.

**Cut List** - This creates a list of machined components required for the Job. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, then it is for the entire Job.

**Buy List** - This creates a list of everything that must be purchased for this Job. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job.

**Cost/Price** - This provides the following Report outputs:

**Cost Sheet** - This creates a cost estimate for the Job, based on material cost and specified markups, or based on material cost and labor cost for each cabinet or assembly. From **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job. It is based on Estimated Yield unless the Job has been nested, then it is based on Actual Yield.

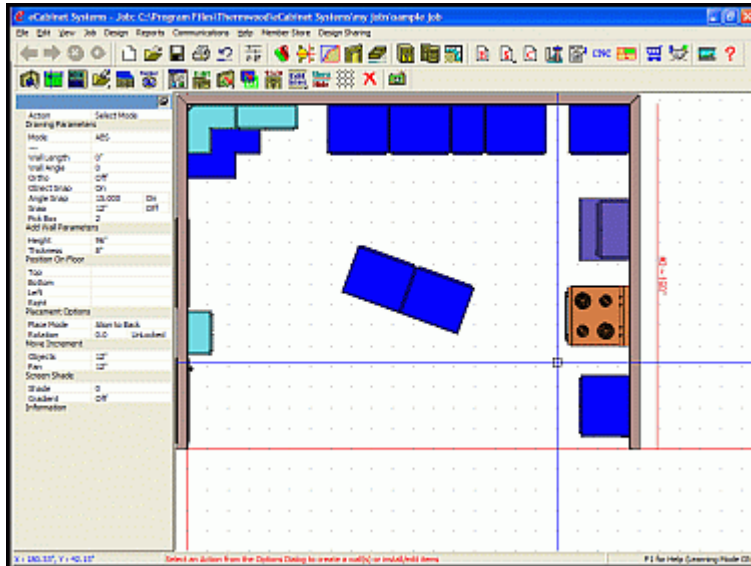
**Cost Listing** - This lists **Total Material Cost, Total Labor Cost, Total Overhead, Profit Total** and **Selling Price** of the Job.

**Selling Price** - This just displays the **Selling Price** of the Job.

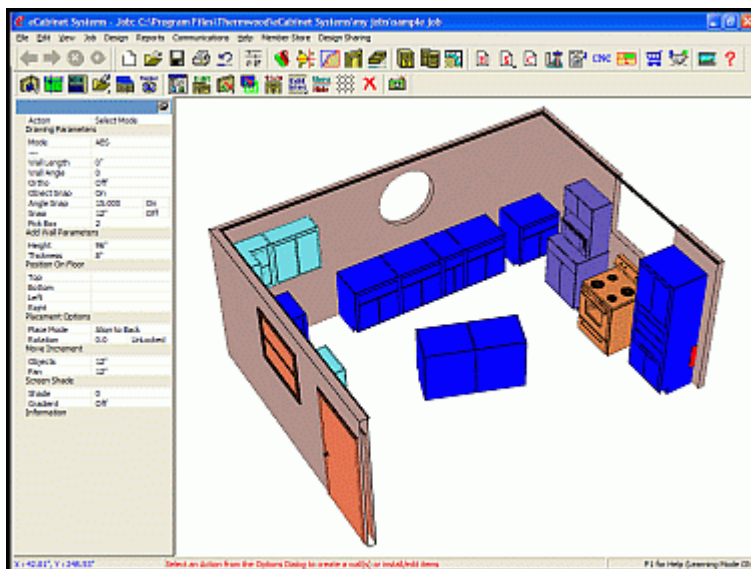
**Drawings** - This provides options to send information to the **Line Drawing Editor**.

**Grid Settings** - See the specific **Icon Details** page for details.

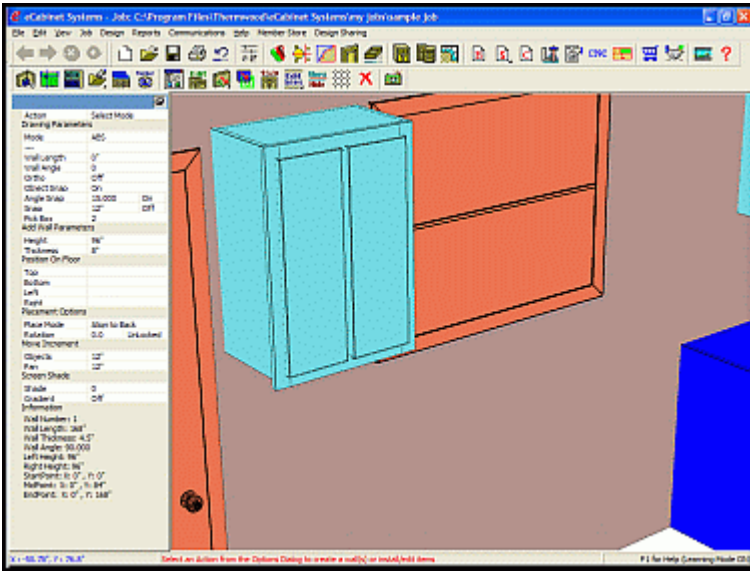
## Custom Layout - Display Features



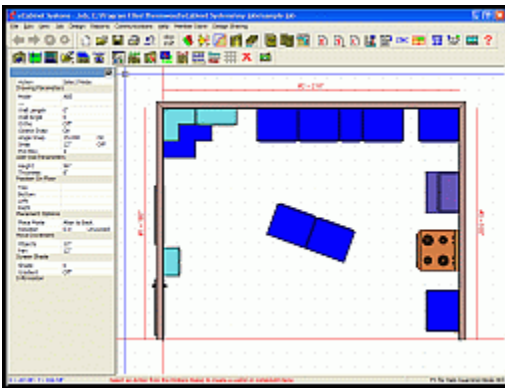
**Shift + Right Click** - Moves the display (pans room). Notice how perspective changes with movement. Optionally, use the **ARROW keys** move display in their respective directions.



**Shift + Left Click** - Rotates and changes angle of room, in three dimensions, as the mouse is moved both horizontally and vertically. As soon as you tilt the view, it will automatically switch to a perspective view, with visual depth based on the distance from the view. **Dimensions**, the **Origin Axis** and the **Grid** will not show when in a rotated state. **Home** will return to the overhead non-perspective view.



**Shift + Both Mouse Buttons** - Zooms the image. Optionally, the use of the "+" and "-" keys will zoom the image. Zooming in can also be done by using the **Zoom Window** function. To do this, press and hold the **Ctrl** key and click to drag a blue window. Release the keys and the display will zoom to that scale. The **Home** key will return the view to the full extents.



**Home** - This key resets display to default values.

## *6.11*

# **Custom Layout Options Dialog**

## Options Dialog - Overhead/Main View



Action	Select Mode
<b>Drawing Parameters</b>	
Mode	ABS
---	
Wall Length	0"
Wall Angle	0
Ortho	Off
Object Snap	On
Angle Snap	15.000    On
Snap	12"    Off
Pick Box	2
<b>Add Wall Parameters</b>	
Height	96"
Thickness	4.5"
<b>Position On Floor</b>	
Top	
Bottom	
Left	
Right	
<b>Placement Options</b>	
Place Mode	Align to Back
Rotation	0.0    UnLocked
<b>Move Increment</b>	
Objects	12"
Pan	12"
<b>Screen Shade</b>	
Shade	0
Gradient	Off
<b>Information</b>	

**Action** - Provides selection of what the cursor is used to control.

**Select Mode** - This allows the selection of entities.

**Create Single Wall** - This draws a single wall section between mouse clicks.

**Create Rect. Walls** - This begins a corner of a rectangular wall on first click and pulls a rectangle of 4 walls outward until the next click.

**Drawing Parameters** - When in **Select Mode**:

**Mode** - Select **ABS** (Absolute) or **INC** (Incremental).

**Wall Length** - Not available.

**Wall Angle** - Not available.

**Ortho** - Select On or Off.

**Object Snap** - Select On or Off.

**Angle Snap** - Enter degree dimension and select On or Off.

**Snap** - Enter increment dimension and select On or Off.

**Pick Box** - Enter relative size amount or use Slider Bar.

**Drawing Parameters** - When in **Create Single Wall Mode**:

**Mode** - Select **ABS** (Absolute) or **INC** (Incremental).

**Enter Start Point/Select End Point** - Select with mouse or enter dimension or observe dynamic data display.

**Wall Length** - Enter dimension or observe dynamic data display.

**Wall Angle** - Enter degree dimension or observe dynamic data display.

**Ortho** - Select On or Off.

**Object Snap** - Select On or Off.

**Angle Snap** - Enter degree dimension and select On or Off.

**Snap** - Enter increment dimension and select On or Off.

**Pick Box** - Enter relative size amount or use Slider Bar.

**Drawing Parameters** - When in **Create Rect. Wall** Mode:

**Mode** - Select **ABS** (Absolute) or **INC** (Incremental).

**Enter Start Point/Select End Point** - Select with mouse or enter dimension or observe dynamic data display.

**Wall Length** - Not available.

**Wall Angle** - Not available.

**Ortho** - Select On or Off.

**Object Snap** - Select On or Off.

**Angle Snap** - Enter degree dimension and select On or Off.

**Snap** - Enter increment dimension and select On or Off.

**Pick Box** - Enter relative size amount or use Slider Bar.

**Note:** Be sure to press **Enter** after inputting an entry.

**Add Wall Parameters** - These only change walls created after entering new values.

**Height** - Enter wall height dimension.

**Thickness** - Enter wall thickness dimension.

**Position On Floor** - This is the location of selected entity in the room.

**Top** - This is the dimension from TOP of entity to top wall.

**Bottom** - This is the dimension from BOTTOM of entity to bottom wall.

**Left** - This is the dimension from LEFT SIDE of entity to left wall.

**Right** - this is the dimension from RIGHT SIDE of entity to right wall.

**Note:** Labels "**Top**", "**Bottom**", "**Left**", "**Right**" are relative in terms of the orientation of the room on the screen

**Placement Options** - This determines how multiple objects are aligned when placed in the room.

**Place Mode** - Specifies how cabinets being inserted in the room interact with cabinets already placed. The following choices are available:

**Align To Back** - The back of the cabinet being placed aligns with the back of an existing cabinet, if it is touched during placement.

**Align To Front** - The front of the cabinet being placed aligns with the front of an existing cabinet, if it is touched during placement.

**Align To Center** - The centerline of the cabinet being placed aligns with the centerline of an existing cabinet, if it is touched during placement.

**Free Style** - The cabinet being placed is free to move about without regard to existing cabinets including the ability to mesh or merge with cabinets and walls.

**Rotation** - Enter degree dimension and select **Locked** or **Unlocked**.



**Move Increment** - This allows you to change the **Move Increment**, which is the distance that objects move in response to the **ARROW keys** on the keyboard.

**Objects** - This displays the increment that screen objects move.

**Pan** - This displays the increment that the screen moves while panning.

**Screen Shade** - This changes the display features.

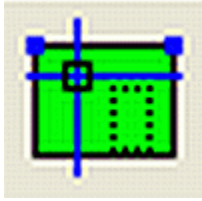
**Shade** - This adjusts the color of the background area. Enter relative amount or use Slider Bar.

**Gradient** - This provides a gradient (dark to light) option in the background display.

**Information** - This displays available information of entities touched by the cursor.

**Note:** The **Home** key resets the view, the "+" and "-" buttons to enlarge/shrink display. Use the **Reset** button to return image to original size.

## Options Dialog - Edit Wall



Action	Select Mode
<b>Drawing Parameters</b>	
Mode	ABS
---	
<b>Rotation</b>	
Object Snap	On
Pick Box	2
Snap	12" Off
<b>Wall Dimensions</b>	
Left	96"
Right	96"
Center	96"
Thickness	4.5"
<b>Move Increment</b>	
Objects	12"
Pan	12"
<b>Screen Shade</b>	
Shade	0
Gradient	Off
<b>Information</b>	

**Action** - This controls the functions and enables selection of entities in the display.

**Select Mode** - This allows the selection of entities.

**Create Circle** - This creates a circle shaped geometry.

**Create Rectangle** - This creates a rectangle shaped geometry.

**Create Three Point Arc** - This creates a three point arc geometry.

**Rotate Mode** - This provides the ability to rotate selected geometry.

**Cut Geometry** - When placed on the wall, this geometry shape is cut from the wall.

**Neutral Geometry** - Geometry previously selected to be **Cut** or **Add** is removed from wall.

**Add Geometry** - When placed on the wall, this geometry shape is added to the wall.

### Drawing Parameters - When in Select Mode:

**Mode** - Select **ABS** (Absolute) or **INC** (Incremental).

**Rotation** - Not Selectable

**Object Snap** - Select On or Off.

**Pick Box** - Enter relative size amount or use Slider Bar.

**Snap** - Enter increment dimension and select On or Off.

### Drawing Parameters - When in Create Circle mode:

**Mode** - Select **ABS** (Absolute) or **INC** (Incremental).

**Enter Center Point** - Enter X, Y coordinate or use mouse to select. This option then becomes:

**Enter Diameter** - Enter X, Y coordinate or use mouse to select.

**Rotation** - Not Selectable

**Object Snap** - Select On or Off.

**Pick Box** - Enter relative size amount or use Slider Bar.

**Snap** - Enter increment dimension and select On or Off.

**Drawing Parameters** - When in **Create Rectangle** mode:

**Mode** - Select **ABS (Absolute)** or **INC (Incremental)**.

**Enter Start Point** - Enter X, Y coordinate or use mouse to select. Option then becomes:

**Enter End Point** - Enter X, Y coordinate or use mouse to select.

**Rotation** - Not Selectable

**Object Snap** - Select On or Off.

**Pick Box** - Enter relative size amount or use Slider Bar.

**Snap** - Enter increment dimension and select On or Off.

**Drawing Parameters** - When in **Create Three Point Arc** mode:

**Mode** - Select **ABS (Absolute)** or **INC (Incremental)**.

**Enter Start Point** - Enter X, Y coordinate or use mouse to select. Option then becomes:

**Enter Second Point** - Enter X, Y coordinate or use mouse to select. Option then becomes:

**Enter End Point** - Enter X, Y coordinate or use mouse to select.

**Rotation** - Not Selectable

**Object Snap** - Select On or Off.

**Pick Box** - Enter relative size amount or use Slider Bar.

**Snap** - Enter increment dimension and select On or Off.

**Drawing Parameters** - When in **Rotate Mode**:

**Mode** - Select **ABS (Absolute)** or **INC (Incremental)**.

**Enter Rotation Point** - Enter X, Y coordinate or use mouse to select.

**Rotation** - Enter X, Y coordinate or use mouse to select.

**Object Snap** - Select On or Off.

**Pick Box** - Enter relative size amount or use Slider Bar.

**Snap** - Enter increment dimension and select On or Off.

**Drawing Parameters** - When in **Cut Geometry, Neutral Geometry** or **Add Geometry** mode, these displays are unused.

**Wall Dimensions** - This shows the dimension details of the displayed wall.

**Left** - Edits or displays the height of the left side of wall.

**Right** - Edits or displays the height of the right side of wall.

**Center** - Edits or displays the height of the center of the wall.

**Thickness** - Edits or displays the thickness of the wall.

**Move Increment** - This allows you to change the **Move Increment**, which is the distance that objects move in response to the **ARROW keys** on the keyboard.

**Objects** - This edits or displays the increment that screen objects move.

**Pan** - This edits or displays the increment that the screen moves while panning.

**Screen Shade** - This changes the display features.

**Shade** - This adjusts the color of the background area. Enter relative amount or use Slider Bar.

**Gradient** - This provides a gradient (dark to light) option in the background display.

**Information** - This displays available information of entities touched by the cursor.

## Options Dialog - Elevation/Wall View



Position On Wall	
Top	
Bottom	
Left	
Right	
Placement Options	
Place Mode	Align to Back
Wall View	Front
Move Increment	
Objects	12"
Pan	12"
Screen Shade	
Shade	0
Gradient	Off
Information	

**Position On Wall** - The data here is not available until an **Associated** item is selected.

**Top** - This is the distance from the TOP of the item to the top of the wall.

**Bottom** - This is the distance from the BOTTOM of the item to the bottom of the wall.

**Left** - This is the distance from the LEFT SIDE of the item to the left side of the wall.

**Right** - This is the distance from the RIGHT SIDE the item to the right side of the wall.

**Placement Options** - These options are for any items that are inserted.

**Place Mode** - Select one of the following options:

**Align to Back** - This aligns the back of all added cabinets to the one it touches.

**Align to Front** - This aligns the fronts of all added cabinets to the one it touches.

**Align to Center** - This aligns the centerline of any added cabinets to the one it touches.

**Free Style** - The cabinet can be placed anywhere; normally, halfway through the wall or meshed with another cabinet if that is desired.

**Rotation** - Enter degree dimension and select **Locked** or **Unlocked**.

**Move Increment** - This allows you to change the **Move Increment**, which is the distance that objects move in response to the **ARROW keys** on the keyboard.

**Objects** - This displays the increment that screen objects move.

**Pan** - This displays the increment that the screen moves while panning.

**Screen Shade** - This controls the appearance of the display.

**Shade** - This adjusts the color of the background area. Enter relative amount or use Slider Bar.

**Gradient** - This provides a gradient (dark to light) option in the background display.

**Information** - This displays any available information of entities touched by the cursor.

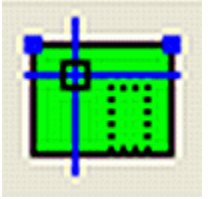
*6.12 to 6.13*

## **Custom Layout Icon Details**

## Custom Layout Icons



**Overhead/Main View** - This opens an area where walls defining one or more rooms are created or edited.



**Edit Wall** - This accesses an elevation view of the selected wall. Either or both upper corners can be raised or lowered, by highlighting the corner and using either the digital input or the **Shift** key and the mouse, or the **ARROW keys**. Geometry can be then be added, which then defines an area that can be cut from, or added to the wall.



**Elevation/Wall View** - This is the editor for items that are associated to the specific wall.



**Select Items To Install** - This allows insertion of a specific **Item**, or the following types of objects: **Door, Window, Water Pipe, Water Drain, Light Switch, Electrical Outlet, Cutout, Vent** and **Snap Marker**.



**Countertop Editor** - Select existing Countertop, and the Construct Countertop editor window will appear, where you can adjust materials and provide details like waterfalls, splashes and overhangs.



**Render View** - This provides options to create a rendered display of the current view.



**Custom Layout Parameters** - This area is used to define the default floor and wall coverings for **Custom Layout**. This is also **Sizable Utilities Properties** and **Room Colors** are adjusted.



**Edit Cabinet/Assembly** - This is used to modify an existing cabinet design, while in **Custom Layout** and then to optionally save it under a new name. **Edit Cabinet/Assembly** can also be used to combine cabinets and other items into Assemblies, which can be saved and used as a single entity.



**Associate/Disassociate Items** - Once Associated, the item displays with the wall and is hidden when the wall is hidden. The item then also displays in an elevation view of the wall. An item can be associated with up to three different walls. Disassociation of an item removes any references to the walls.



**Move in Wireframe** - This allows a currently selected cabinet, assembly or appliance to be returned to the Wireframe state, and can be used to improve display performance and allows the benefits of an initial installation.



**Resize/Equalize** - If a single cabinet is selected, this opens a dialog that allows you to resize it. If two or more adjacent cabinets are selected, or if a base and corresponding upper cabinet are selected, it makes them equal in width.



**Edit Options** - This provides a variety of editing options. These are: **Rotate Object**, **Texture Match**, **Scale Object**, **Edit Molding** and **Part Editor**.



**Show/Hide** - This opens a dialog where you select items to hide while working in this area. Computer performance is improved if complex items are hidden while working with the program.



**Grid Settings** - This opens a dialog that allows you to adjust parameters for the three-axis grid display.



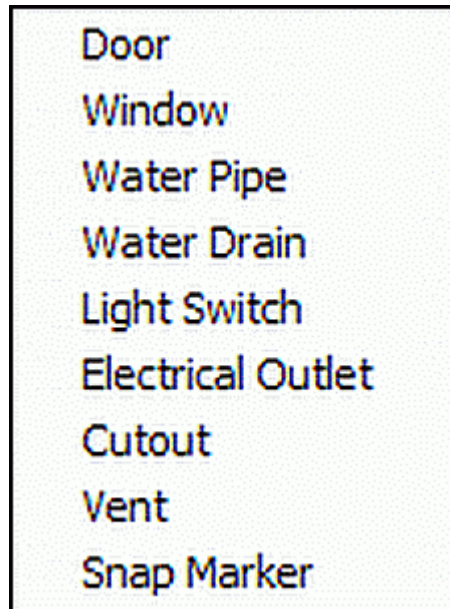
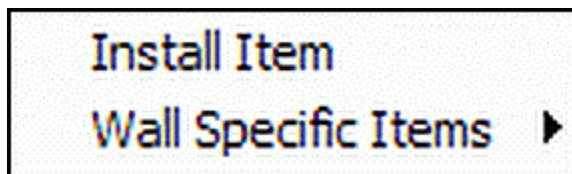
**Delete** - This deletes highlighted item.



**Save Image** - Press this to save the current image as a ".jpg" file.



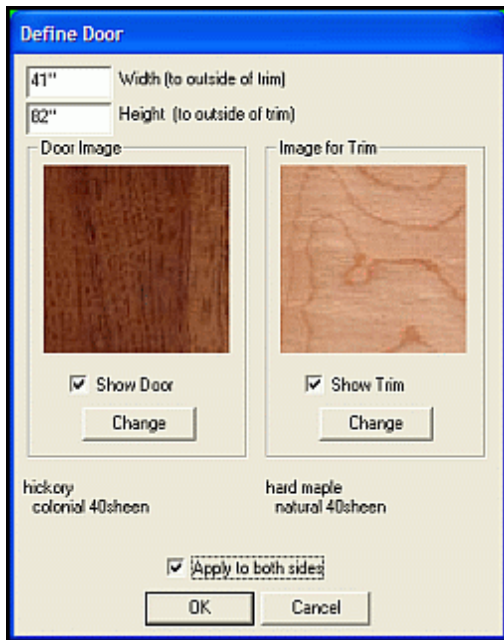
## Select Items to Install



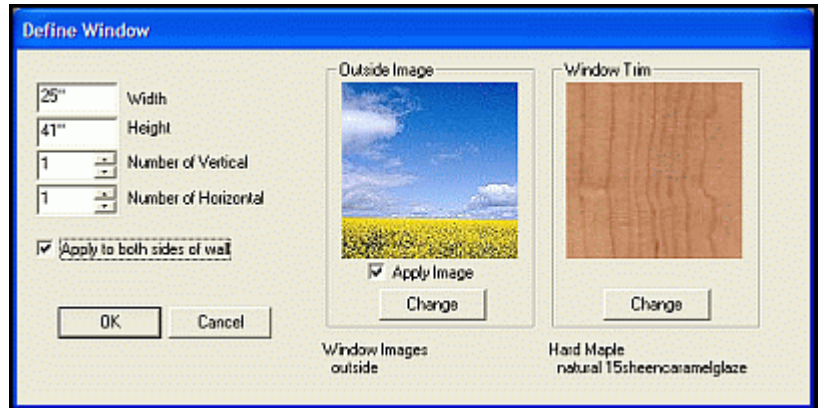
**Install Item** - The following Items can be installed into a Room, and optionally Associated with a wall or walls. **Cabinets, Assemblies, Appliances, Vendor Items, Display Objects, Light Fixtures** (these can only be installed in **Overhead/Main View**), **Moldings, Display Cubes, Display Panels, Display Boards, Doors/Drawers** and **Drawer Boxes**.

**Note:** See the section in this document titled "**Common Menu Operations - Place/Install Items**" for complete details regarding **Install Item**.

**Wall Specific Items** - You must have a wall selected and be in **Edit Wall** or **Elevation/Wall View** to access this option.



**Door** - This defines the dimensions and the texture of the desired **Wall Specific Door**, and if the door will be textured on both sides. You can then insert it on the selected wall.



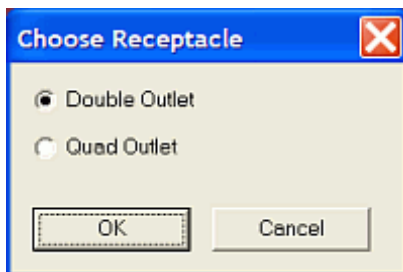
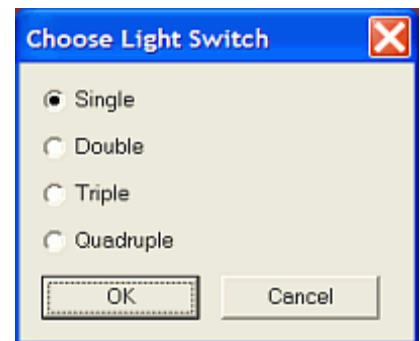
**Window** - This defines the dimensions and the amount of panes in the window, the glass and frame textures, as well as if you want it textured on both sides. You can then insert it on the selected wall.

**Note:** Clearance dimensions for **Wall Specific Doors** and **Windows** are found in **Settings/Preferences, Define Standard Dimensions**.

**Water Pipe** - Insert this Item where desired on the selected wall.

**Water Drain** - Insert this Item where desired on the selected wall.

**Light Switch** - Choose the applicable type, and insert as desired on the selected wall.



**Electrical Outlet** - Choose the applicable type, and then insert as desired on the selected wall.

**Cutout** - Insert this square feature where desired on the selected wall.

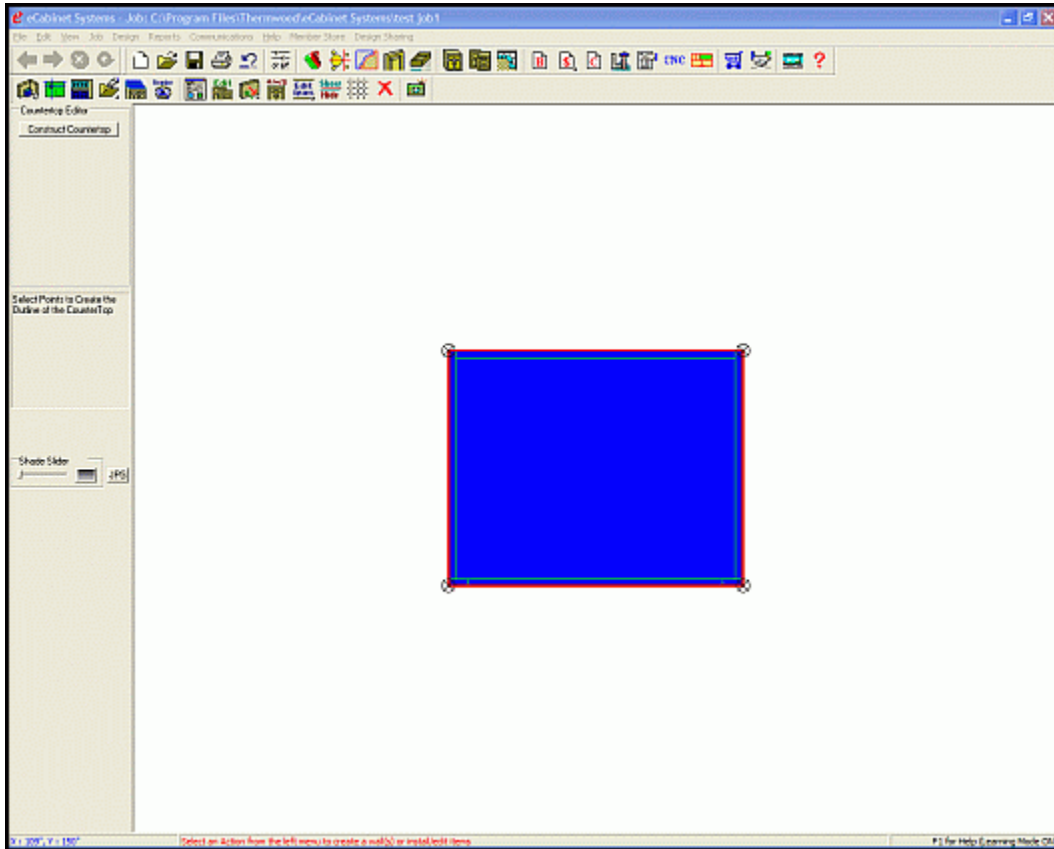
**Vent** - Insert this Item where desired on the selected wall.

**Snap Marker** - Insert this reference marker where desired on the selected wall.

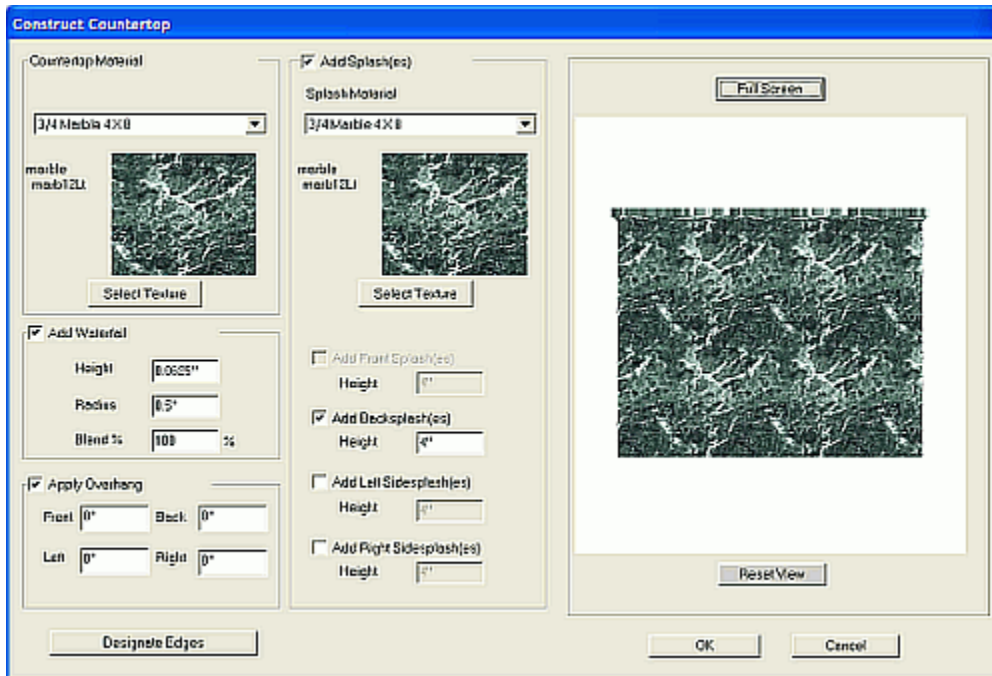
# Countertop Editor



**Countertop Editor**

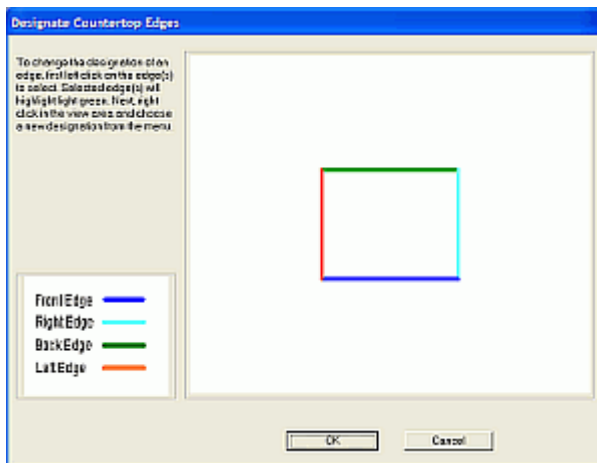


Select this feature and the **Construct Countertop** window will appear where you can adjust materials and provide details like waterfalls, splashes and overhangs. The illustration above shows a cabinet that has been selected, and is now in the **Construct Countertop** window. Notice the red lines and the 4 indicated nodes. By drawing the red lines to the desired nodes, you can create a countertop that will be the same shape as the outline.



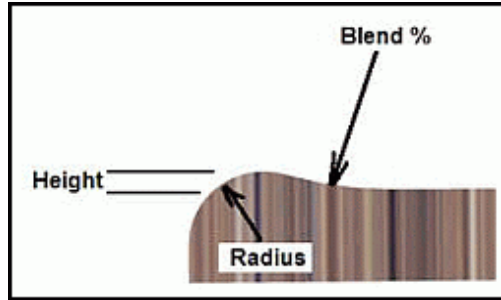
When you have completed the selection of nodes, you will immediately be sent to the **Countertop Editor**, as shown. Here you can select material for the countertop, the texture and options for optional backsplashes and overhangs. The **Countertop Editor** also has a **Full Screen** option where you can view and manipulate the countertop in 3D, using the standard *eCabinet Systems* view commands.

## Edge Assignments



If you have a complex shape or need to specify an edge other than the defaults, the **Designate Edges** dialog can be used to change the edges.

## Waterfall Options



**Height** - This is the height above the surface of the countertop at the apex of the waterfall.

**Radius** - This is the radius of the main rise of the waterfall edge. This must be less than the sum of the countertop material thickness added to the Height.

**Blend** - This is the percent of the main radius used to blend the main radius with the countertop surface. The higher the percentage, the more gentle the blend; the **Blend %** is normally over 100%.



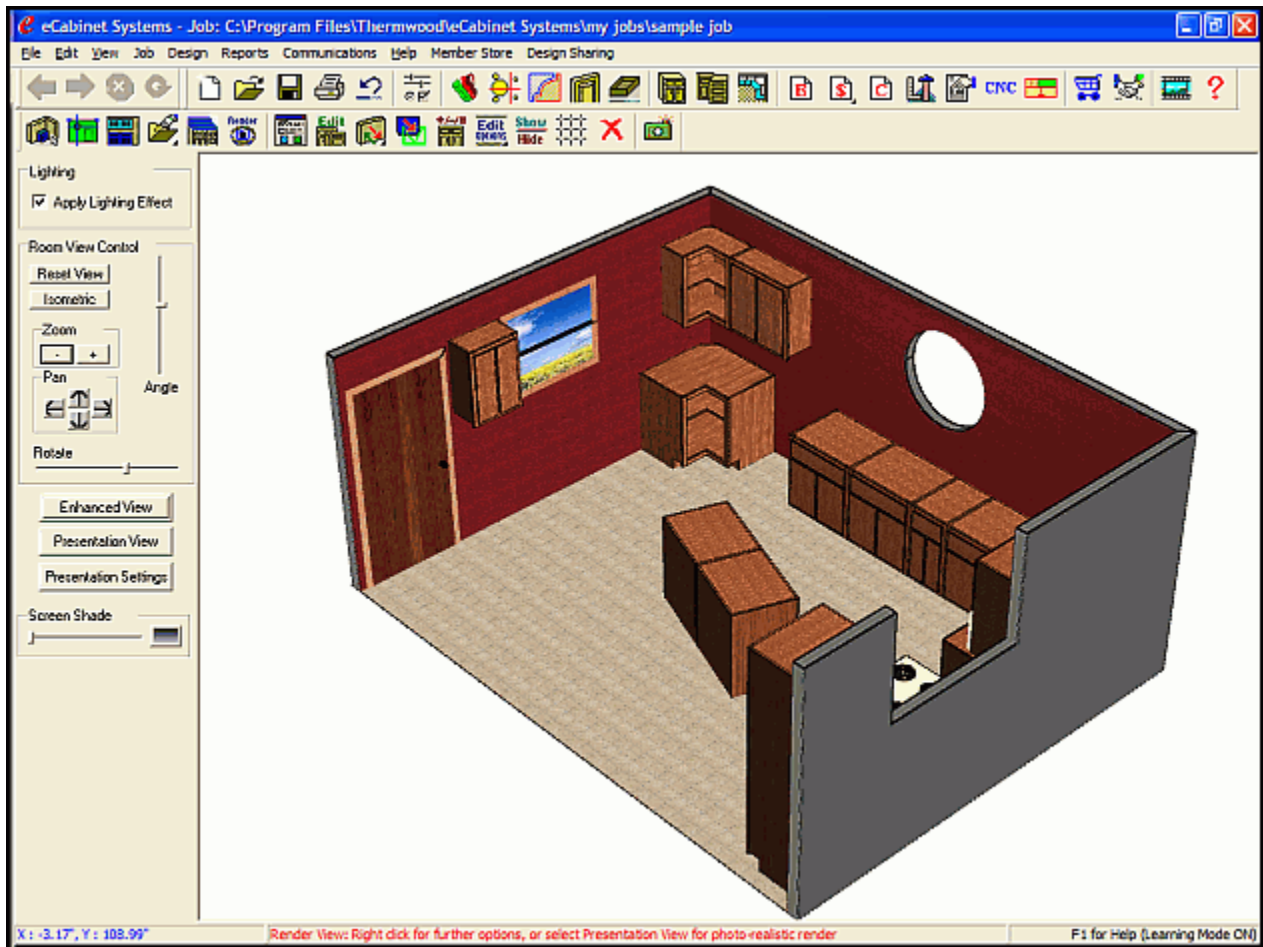
Here is an image showing the countertop applied to a sample cabinet.

**Note:** Additional other edge treatment, or sink cut outs, etc. can be added to the countertop by taking it into the **Part Editor** and modifying it. Even more complex countertop designs can be created by using a **Display Cube** to create a near unlimited range of shapes for countertops. See the section titled "**Custom Layout Details, Creating a Countertop and Sink Using a Display Cube**" for more information.

# Render View



**Render View**



This feature provides various options to create a rendered display of the current view.

**Lighting** - This option allows for a more realistic looking display.

**Apply Lighting Effect** - When checked, shadow effects are used on objects in the layout, creating a three dimensional appearance. When unchecked, objects appear with a bright, even, flat color, without shadow effects.

**Room View Control** - Settings for the room display.

**Reset View** - This returns display to default view.

**Isometric** - This changes view to Isometric.

**Zoom** - The "+" and "-" keys enlarge/shrink display

**Pan** - These four **ARROW** keys move the view in the display.

**Angle/Rotate sliders** - These control the orientation of the 3D view.

**Enhanced View** - When depressed, this button turns ON full level of detail. When OFF, the level set in the **Settings/Preferences** area is used. Full level of detail provides the best image quality but slower computer operation. A lower level of detail speeds execution but with reduced image quality.

**Note: Presentation View and Presentation Settings** are found in the next section

**Screen Shade** - Adjusts the color of the background area. Also provides a gradient (dark to light) option.

## Render View - Right Click Options



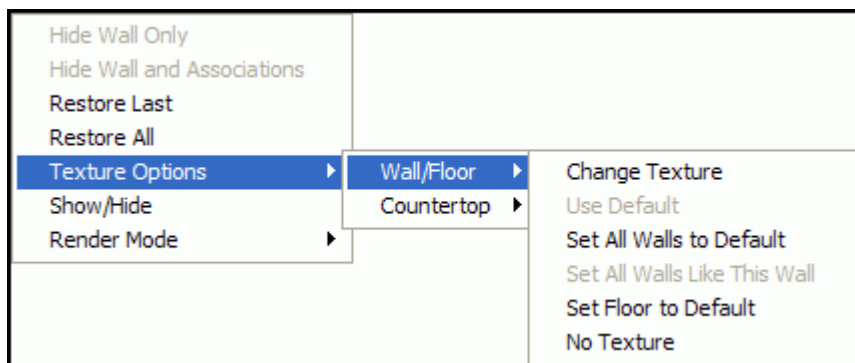
**Hide Wall Only** - This hides the wall when the mouse is passed over it and this option is selected. Items associated to this wall are not hidden.

**Hide Wall and Associations** - This hides the wall when the mouse is passed over it and this option is selected. Items associated to this wall are also hidden.

**Restore Last** - This restores the wall that was last hidden, along with the Items associated to this wall.

**Restore All** - This restores all the walls that are hidden, along with the Items associated to this wall.

**Texture Options** - This provides options to modify the textures associated with this room.



**Wall/Floor** - This allows adjustment for the walls and floor appearances.



**Change Texture** - This opens the illustrated dialog.



**Image** - This opens the **Select Image** window. See the section in this document titled "**Common Menu Operations - Select Image**" for complete details.

**Auto Tile** - The texture is automatically tiled to the wall or floor.

**Stretch** - This stretches the image to fill the entire wall.

**Manual Tile** - The texture is tiled, based on the Column and Row data provided.

**Use Default** - Places the current default texture on the selected wall. The default texture is found in **Custom Layout Parameters**.

**Set All Walls to Default** - Places the current default texture on all walls. The default texture is found in **Custom Layout Parameters**.

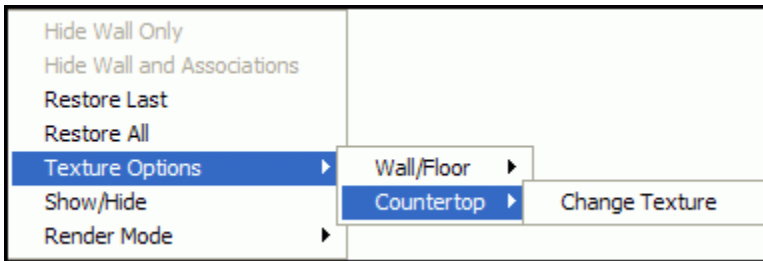
**Set All Walls Like This Wall** - Places the current wall texture on all walls.

**Set Floor to Default** - Places the current default texture on the floor. The default texture is found in **Custom Layout Parameters**.

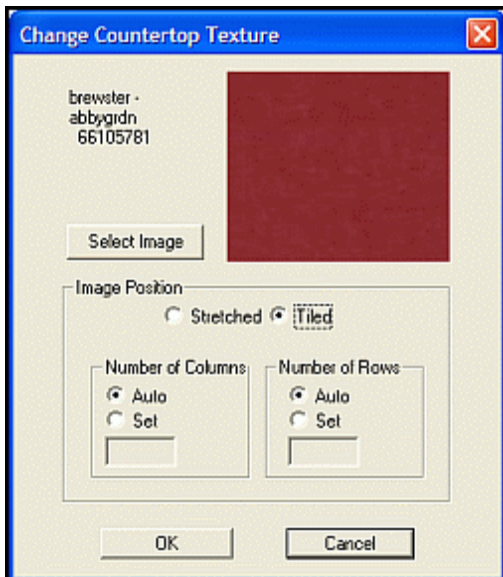
**No Texture** - Removes all texture information for the selected wall or floor.



**Note:** Once a **Texture** has been selected, holding the **Ctrl** key will make the cursor become a **Paint Roller**, whereby Left Clicking the **Paint Roller** over a surface will apply the currently selected texture there.



**Countertop** - This allows adjustment for the appearance for any Countertops.



**Change Countertop Texture** - Opens the dialog to modify the current texture that is available for countertops.

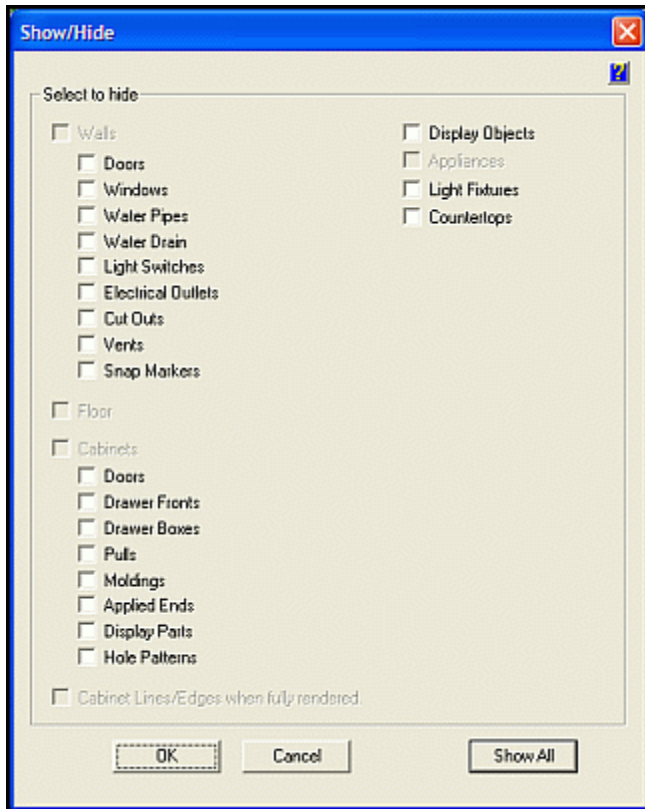
**Select Image** - This opens the **Select Image** window. See the section "**Common Menu Operations - Select Image**" for additional information.

**Stretched** - This stretches the image to fill the entire wall.

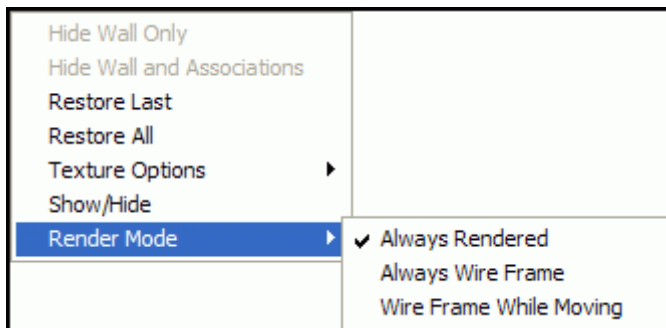
**Tiled** - The texture is tiled in the image.

**Auto** - The tile image is automatically placed

**Set** - The texture is tiled, based on the Column and Row data provided.



**Show/Hide** - This opens the **Show/Hide** dialog, as illustrated. This dialog is where you select items to hide while working in this area. Computer performance is improved if complex items are hidden while working with the program.



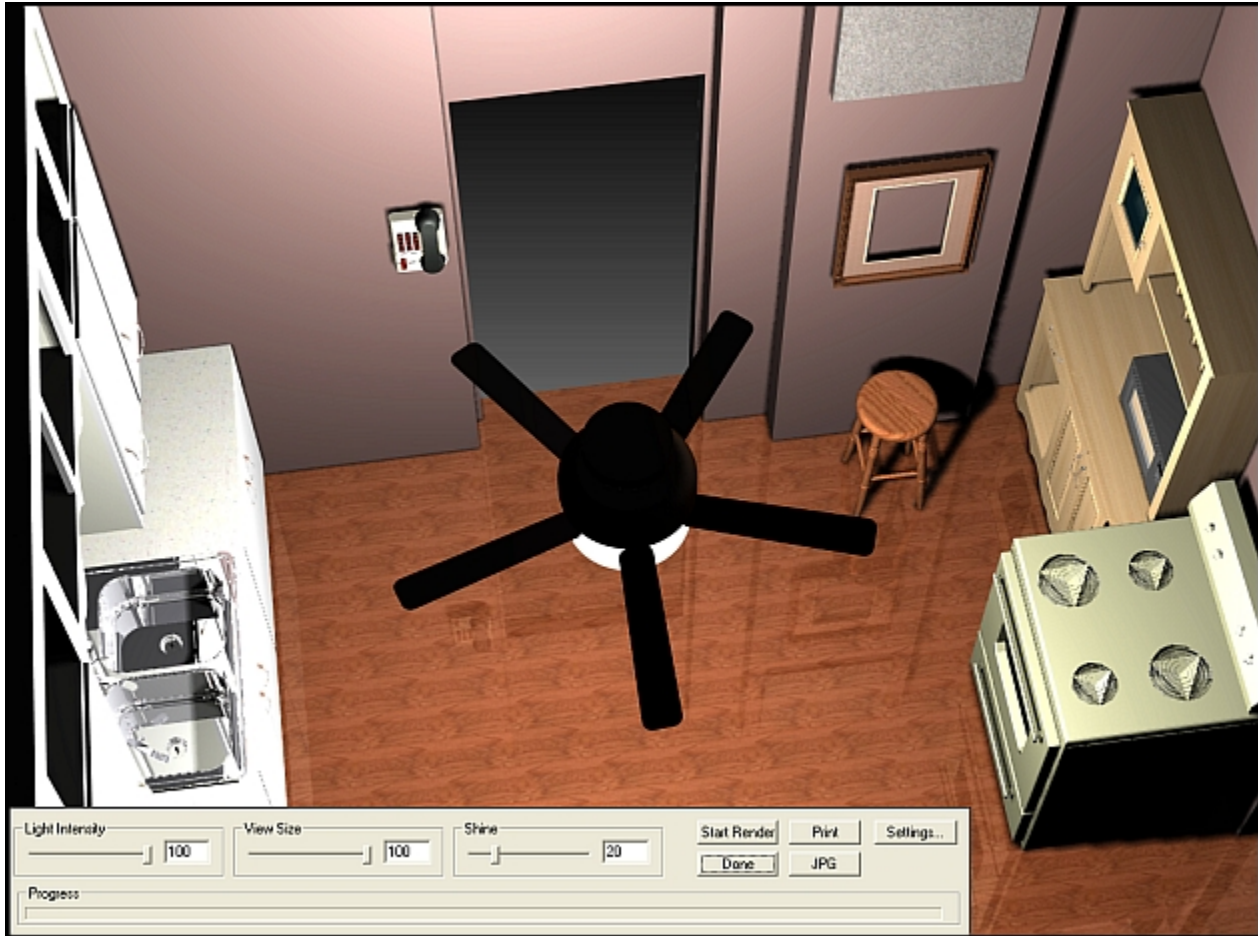
**Render Mode** - This determines if the room is rendered or displayed as a wireframe. Using a Wireframe view can greatly speed performance on slower computers.

**Always Rendered** - The image is always rendered, based on the **Level Of Detail** settings for **Custom Layout** as found in **Settings/Preferences**.

**Always Wireframe** - The image is always displayed as a Wireframe.

**Wireframe While Moving** - The image is displayed as a Wireframe only while being selected or while being moved.

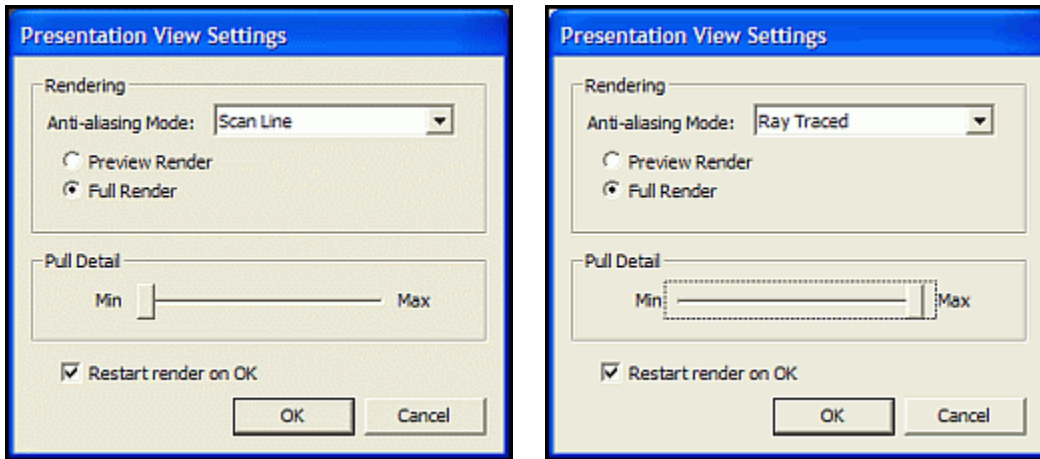
## Presentation View



**Presentation View** - This provides options to create a rendered display of the current view. Moving the mouse near the bottom of the image presents a (normally hidden) menu with the following options:



- Light Intensity slider** - This adjusts the light intensity from the light sources in the view.
- View Size slider** - This adjusts the size of the finished rendering, and provides a blue border if the image is smaller than the full screen
- Shine slider** - This adjusts amount of shine, or reflectivity, of the entire rendered view.
- Start Render** - This starts the rendering engine.
- Print** - This sends a copy of the display to the printer.



**Settings** - These enable the adjustment features of the rendering engine used in *eCabinet Systems*.

**Rendering** - The anti-aliasing mode can use one of two modes:

**Scan Line** - This type of rendering uses a "television" style (line-by-line) computation of light and shade details.

**Ray Traced** - This type of rendering computes the light path from the source, making a potentially more accurate rendering, but it requires much more processing power to accomplish.

**Note:** Both present almost photographic quality images and it is best to experiment with each when creating a final presentation. Depending on the rendered image, **Scan Line** may be faster, and work better on slower systems.

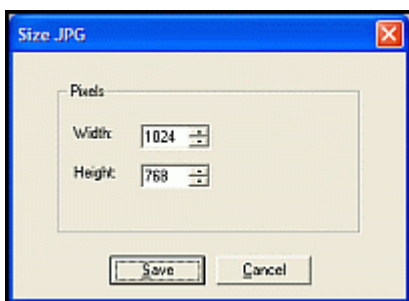
**Preview Render** - This provides a quick render of the view.

**Full Render** - This is a complete render of all items, for a fully detailed presentation view.

**Pull Detail slider** - This controls the amount of detail that the Hardware Pulls display. These objects usually have intricate details that are true to scale, and in a large display of cabinets that feature such pulls, calculating all of these can slow the system. Therefore, if the presentation does not feature close-up views of the pulls, moving the slider to **Min** will provide the fastest display possible.

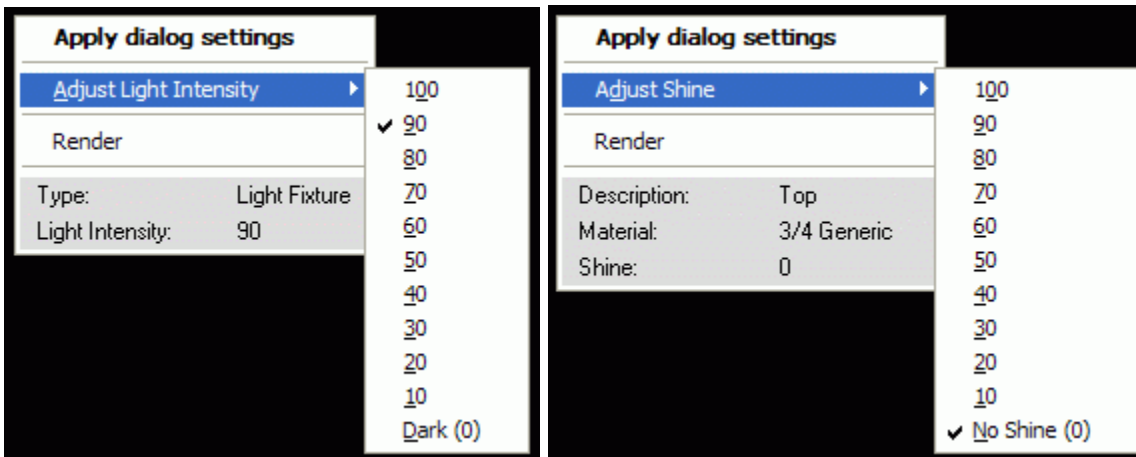
**Note:** The dialog on the right is what appears when you have already rendered the scene, and allows the scene to be immediately re-rendered if **Restart render on OK** is checked.

**Done** - This returns to main screen.



**JPG** - Opens a dialog to save an image of the file as a ".jpg".

## Presentation View - Right Click Options



**Apply Dialog Settings** - This applies the changes that have been made by the sliders in the main window.

**Adjust Shine** - This provides an option to change shine for individual items.

- or -

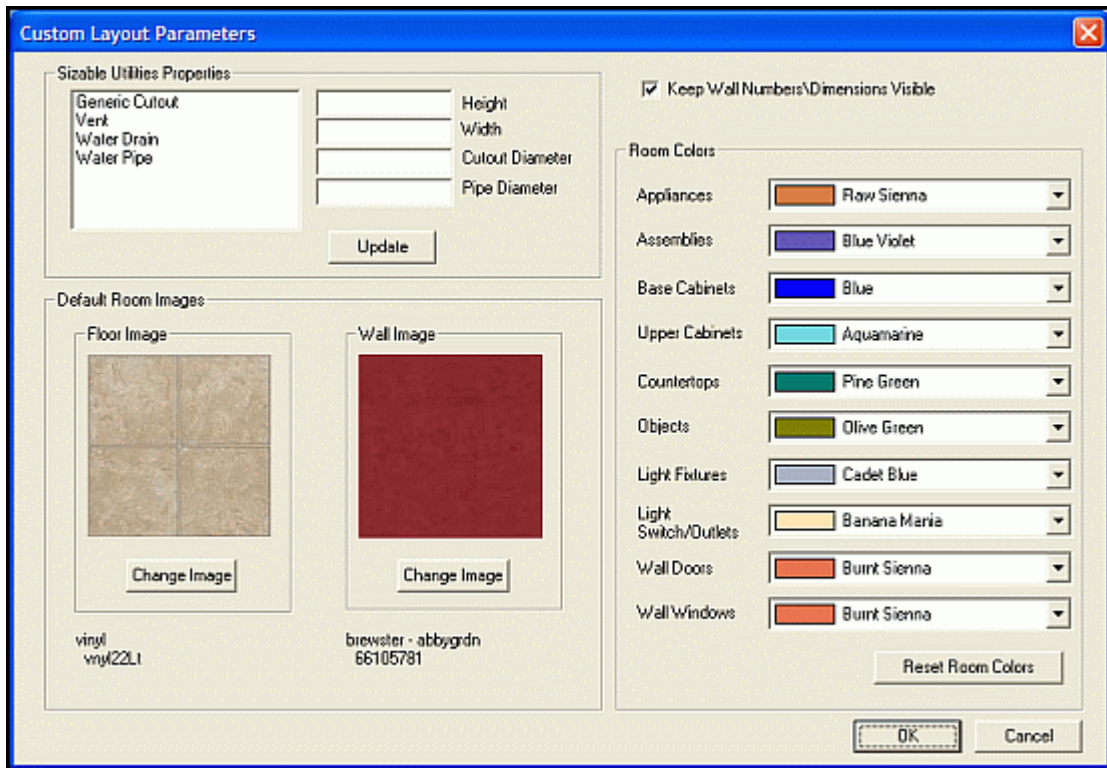
**Adjust Light Intensity** - If a **Light Fixture** is selected, this provides an option to change the individual light

**Render** - This starts the rendering engine.

# Custom Layout Parameters



**Custom Layout Parameters**



This area is used to define the default floor and wall coverings for **Custom Layout**. Also available for editing are the **Sizable Utilities Properties** and the **Room Colors**.

**Sizable Utilities Properties** - Allows the adjustment of the **Height**, **Width**, **Cutout Diameter** and **Pipe Diameter** (where applicable) of the following Utilities: **Generic Cutout**, **Vent**, **Water Drain** and **Water Pipe**.

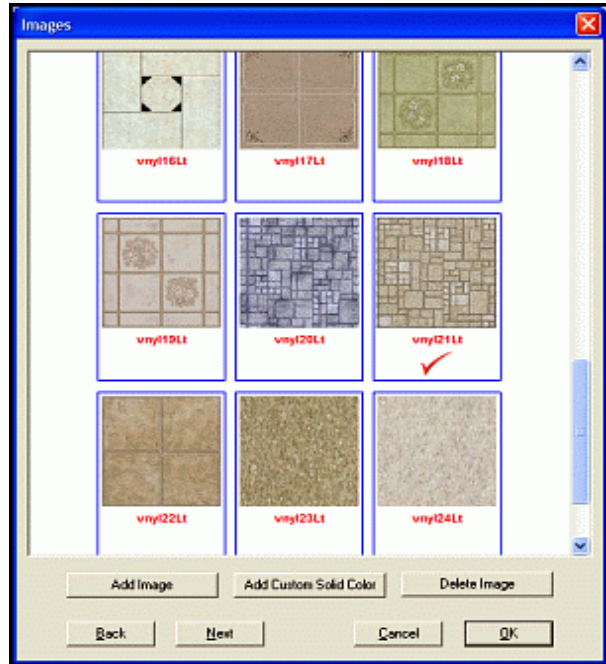
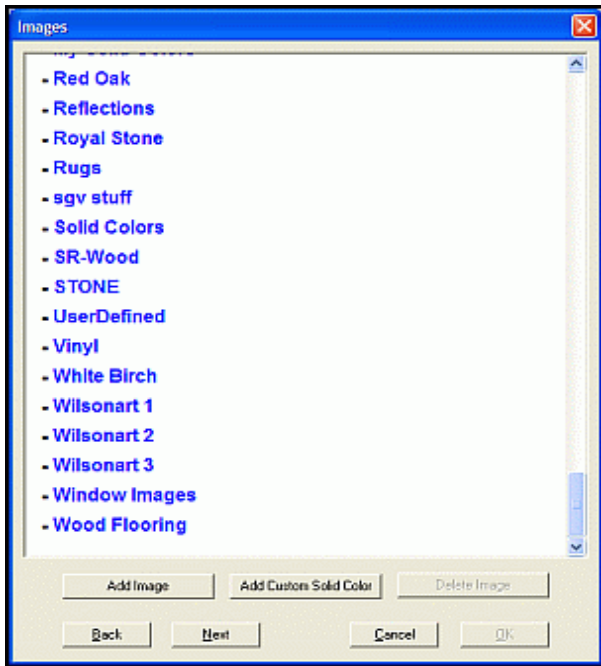
**Update** - This button updates the selected item for the room.

**Default Room Images** - This area is used to define the default floor and wall coverings. These selections are used for new walls, but do not affect existing walls.

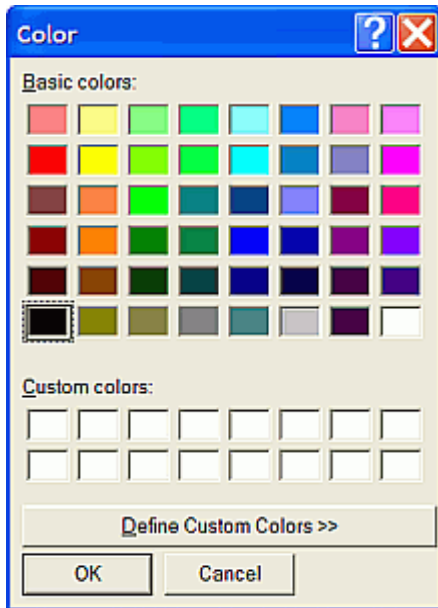
**Floor Image** - This shows the currently selected **Floor Image** texture.

**Wall Image** - This shows the currently selected **Wall Image** texture.

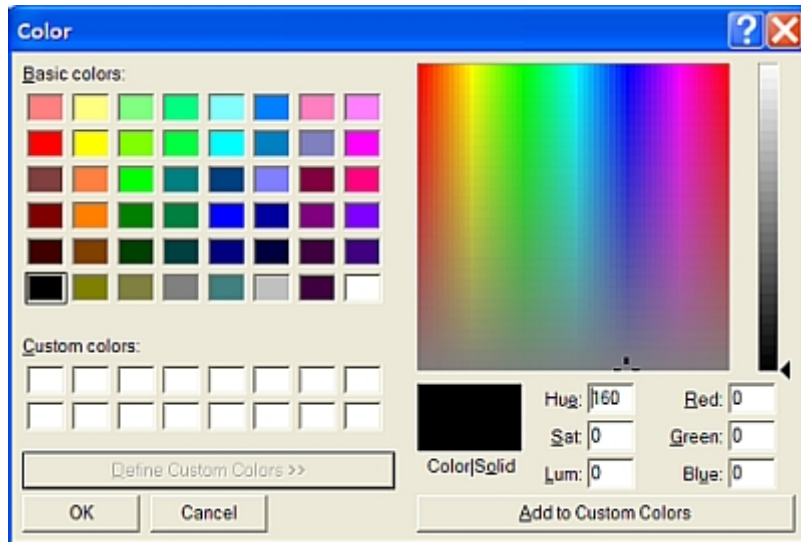
**Change Image** - This button is used change the images that are used to represent the textures of the walls and floors. These windows, as shown below (typically), will appear with the many choices of colors, patterns and textures.



**Add Image** - You can add any image to use in *eCabinet Systems*, as long as it is in either the ".jpg" or ".bmp" format. This enables a unique opportunity, with little extra effort to personalize a proposal, with the customer's specific patterns, outdoor scenes, or even paintings and photographs displayed for a true professional presentation. Place them in the *C:\Program Files\Thermwood\eCabinet Systems\Materials\ImportedImages\* subdirectory, and ensure that the image resolution is 300 DPI (Dots Per Inch).



**Add Custom Solid Color** - This displays the standard palette of colors to select.



**Define Custom Colors** - This adds the ability to create a color from every available color, value and hue, to provide a near unlimited amount of hues, and shades

**Delete Image** - This deletes the selected image.

**Keep Wall Numbers\Dimensions Visible** - This checkbox is cleared to hide all wall dimensions and wall ID numbers from the displays.

**Room Colors** - This allows the adjusting of colors for the following objects in the displayed room: **Appliances, Assemblies, Base Cabinets, Upper Cabinets, Countertops, Objects, Light Fixtures, Light Switch/Outlets, Wall Doors and Wall Windows.**

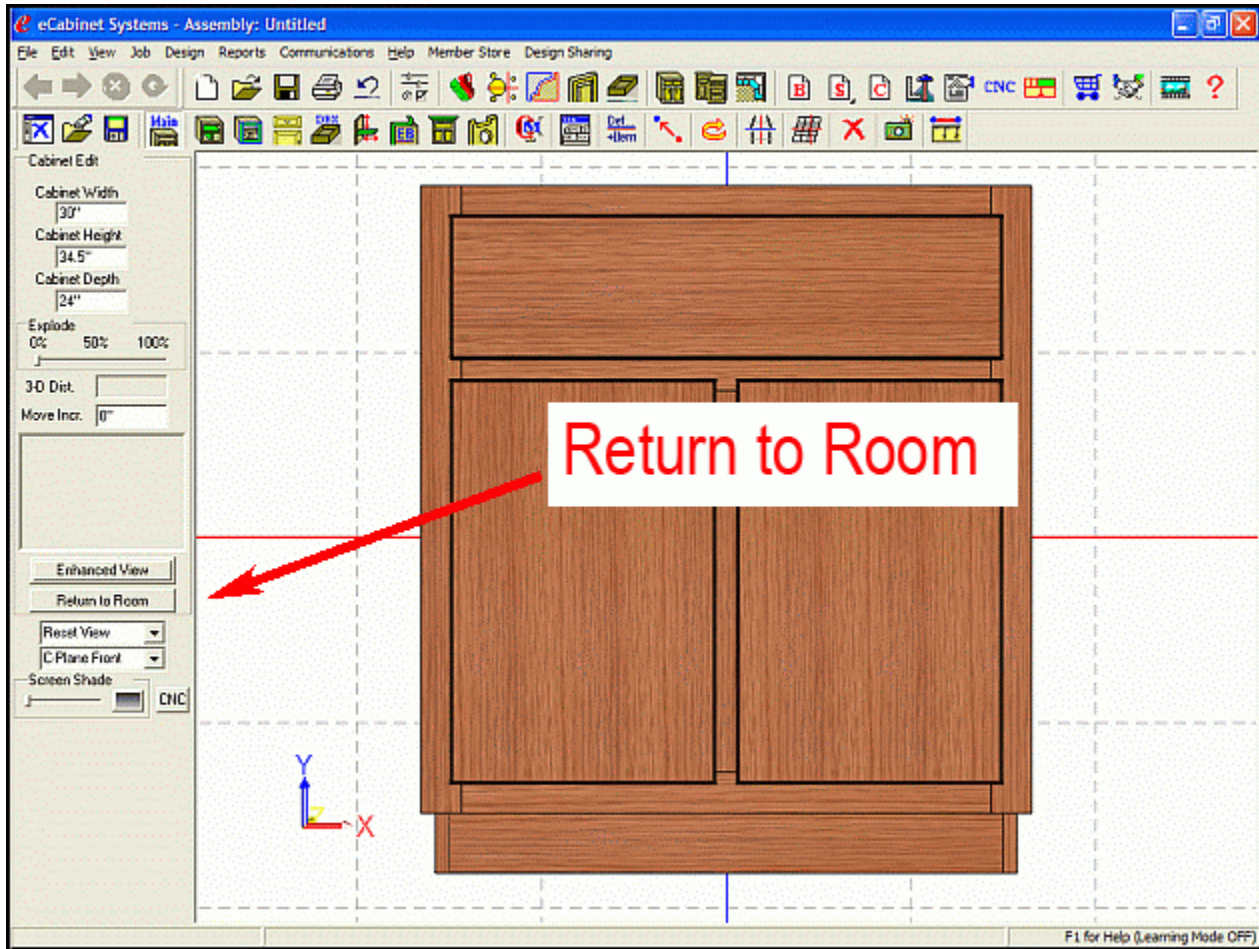
**Reset Room Colors** - This button returns the colors to their default values.



## Edit Cabinet/Assembly

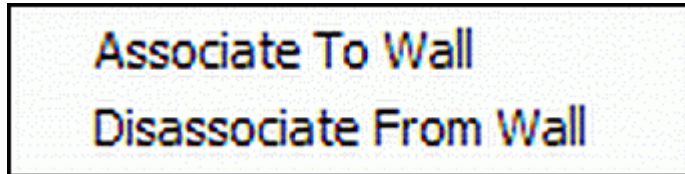


**Edit Cabinet/Assembly**



This feature is used to modify an existing cabinet design, while in **Custom Layout** and then to optionally save it under a new name. **Edit Cabinet/Assembly** can also be used to combine cabinets and other items into Assemblies, which can be saved and used as a single entity. With the exception of the **Return to Room** button (as shown in the illustration), this is identical to the existing **Cabinet/Assembly Editor**.

## Associate/Disassociate Items



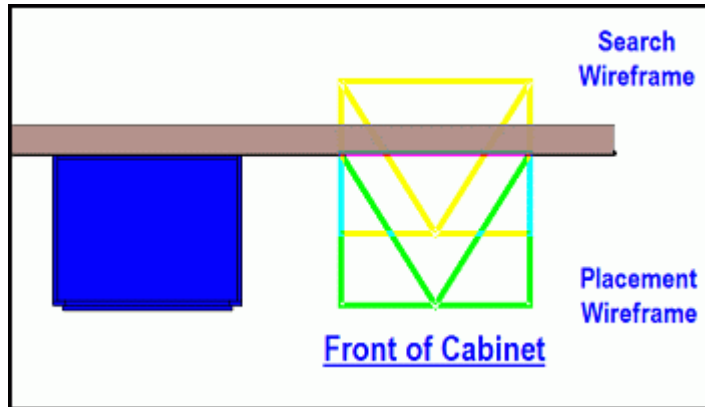
**Associate to Wall** - Select a wall and single (or multiple) items and click this, and then the items will be associated to this wall. The item then also displays in an elevation view of the wall. An item can be associated with up to three different walls.

**Disassociate to Wall** - Select a wall and then select single (or multiple) items and click this, and then those items will be no longer be associated to this wall.

## Move in Wireframe



**Move in Wireframe**



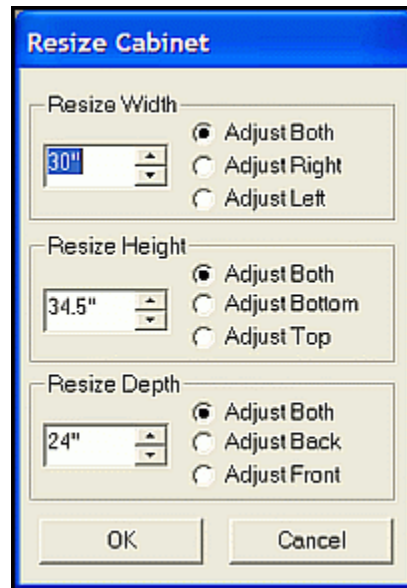
This function allows a currently selected cabinet, assembly or appliance to be returned to the Wireframe state. Remember, the **Search Wireframe** will be yellow, while the **Placement Wireframe** is green (these colors may appear slightly different, depending on the background colors that these wireframes may be hovering above).

This function can be used to improve display performance and allows all of the benefits of an initial placement. See the section in this document titled "**Common Menu Operations - Place Cabinets & Assemblies**" for complete details.

## Resize/Equalize



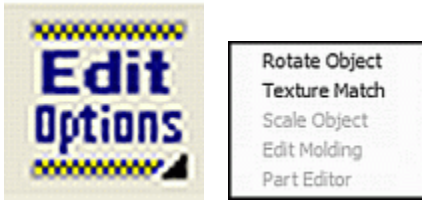
**Resize/Equalize**



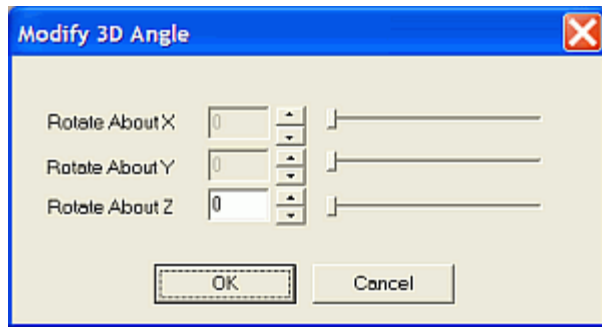
Section	Value	Adjust Both	Adjust Right	Adjust Left
Resize Width	30"	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resize Height	34.5"	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resize Depth	24"	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

If a single cabinet is selected, this opens the dialog shown above, that allows you to resize it. If two or more adjacent cabinets are selected, or if a base and corresponding upper cabinet are selected, it automatically makes them equal in width.

## Edit Options

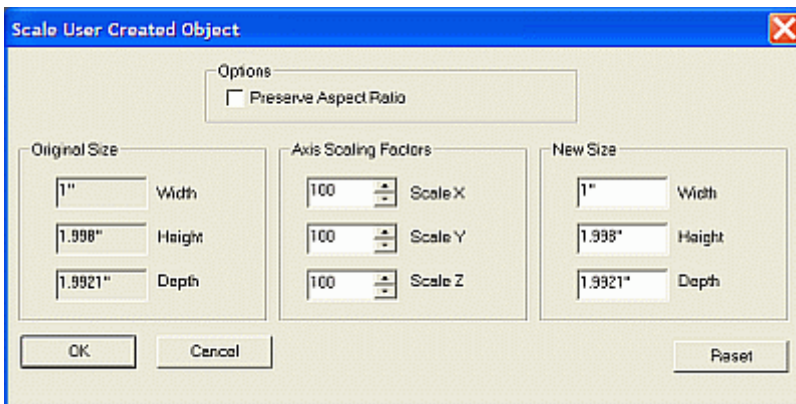


**Edit Options** - This provides an array of options to edit and manipulate displayed items.

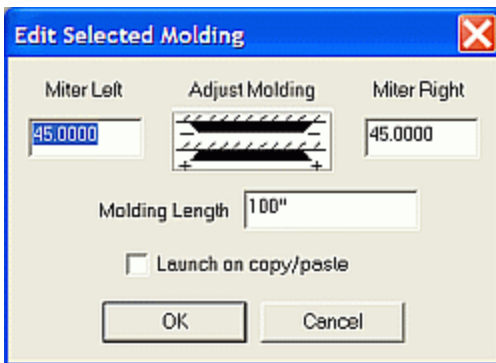


**Rotate Object** - This opens the dialog shown above, where you can precisely rotate the highlighted item. If a single item is highlighted it can rotate about all axes. If two or more items are highlighted, they can rotate only about their Z-axis.

**Texture Match** - Highlight the item and then select this, and then it will take on the texture of the next object that you select.



**Scale Object** - This opens a dialog where you can change the size of the **Display Object** or **Carving** that has been selected. This works only with ".hsf" and ".x\_t" files.



**Edit Molding** - This becomes active when a molding placed as a **Display Part** is highlighted. The above dialog appears which allows changes to the highlighted molding.

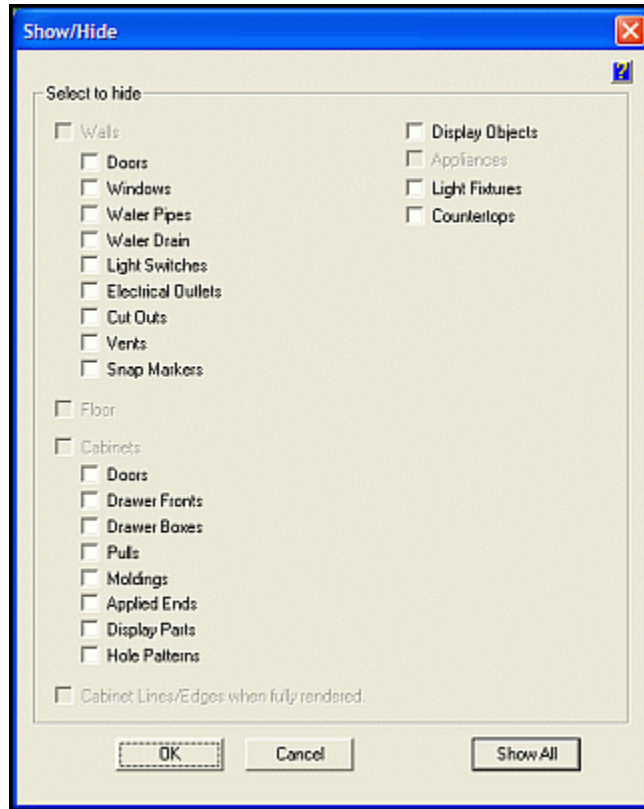
**Launch on copy/paste** - Moldings placed as **Display Parts** can be copied and pasted using standard Windows Cut and Paste commands. If this is checked, the **Edit Selected Molding** dialog will appear on each cut and paste operation.

**Part Editor** - This is a separate window that can be used to modify individual parts that are selected. Parts are modified by either cutting areas of the part away and/or cutting a profile on an edge of the part, or along a contour path on the part. See the section in this manual titled "**Part Editor Introduction**" for complete information on **Part Editor**.

# Show/Hide



Show/Hide

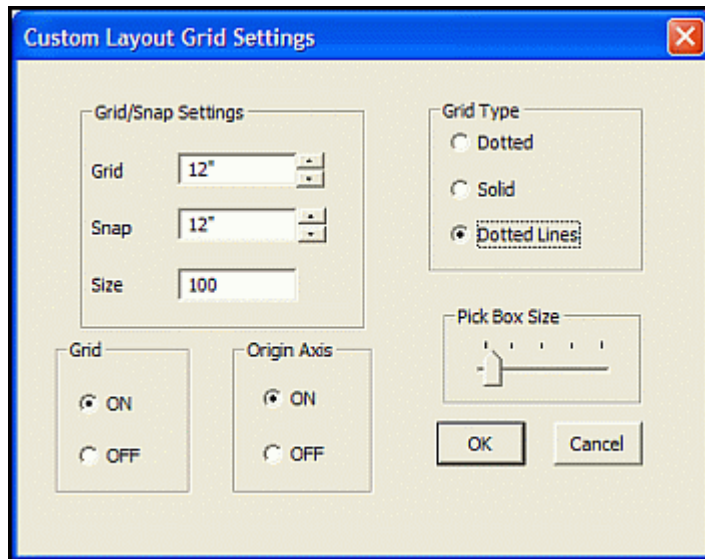


This function opens a dialog where you select items to hide while working in this area. Computer performance is improved if complex items are hidden while working with the program.

## Grid Settings



### Grid Settings



This function opens the **Custom Layout Grid Settings** dialog that allows you to adjust parameters for the three-axis grid display, as well as other display parameters.

**Grid/Snap Settings** - This area defines the increment for the background grid and the increment at which snap functions step.

**Grid** - This is the dimension between Grid squares.

**Snap** - This is the Snap spacing.

**Size** - This is the number of grid squares on this side of the axis.

**Grid** - These selections turn the grid ON or OFF.

**Origin Axis** - This turns the red Origin (0, 0) indicator ON or OFF.

**Grid Type** - This determines the appearance of the Grid.

**Dotted** - Only dots are shown at the intersections, defining the columns and rows.

**Solid** - The grid is made of solid horizontal and vertical lines, defining the columns and rows.

**Dotted Lines** - The grid is made of dotted horizontal and vertical lines, defining the columns and rows.

**Pick Box Size slider** - Slide this to the right to make the Pick Box larger.

## Delete



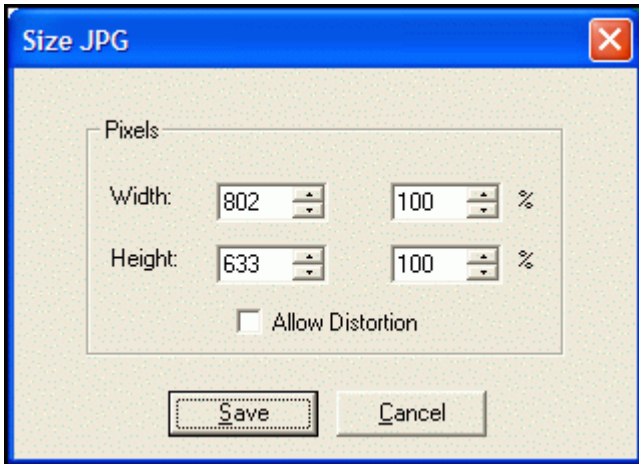
**Delete** - This deletes the highlighted item. This performs the same function as the **Delete** key, or the **Delete** option from the Right Click menu.



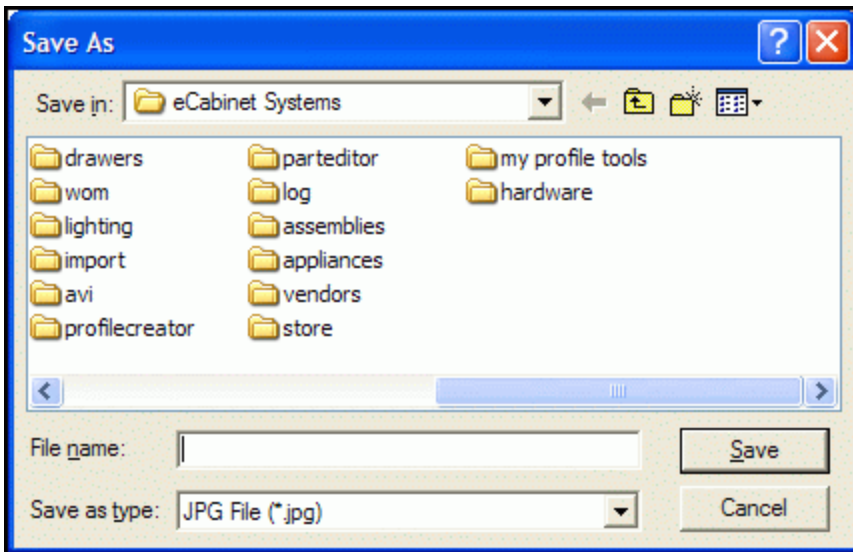
## Save Image



**Save Image**



Use this feature to save the current image as a ".jpg" file. The **Size JPG** dialog will appear with the **Width** and **Height** listed, in pixels. You can edit these numbers in their Data Entry Box, (to make the image larger or smaller), or use the **Percentage** Data Entry Boxes to adjust the size. The **Allow Distortion** checkbox can be checked to remove the aspect ratio constraint.

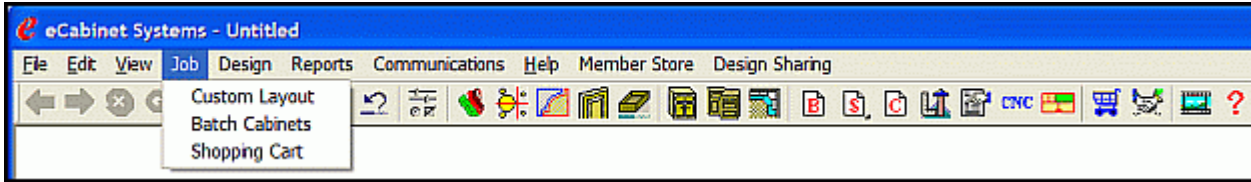


A **Save As** dialog will then appear, asking where to save the new file.

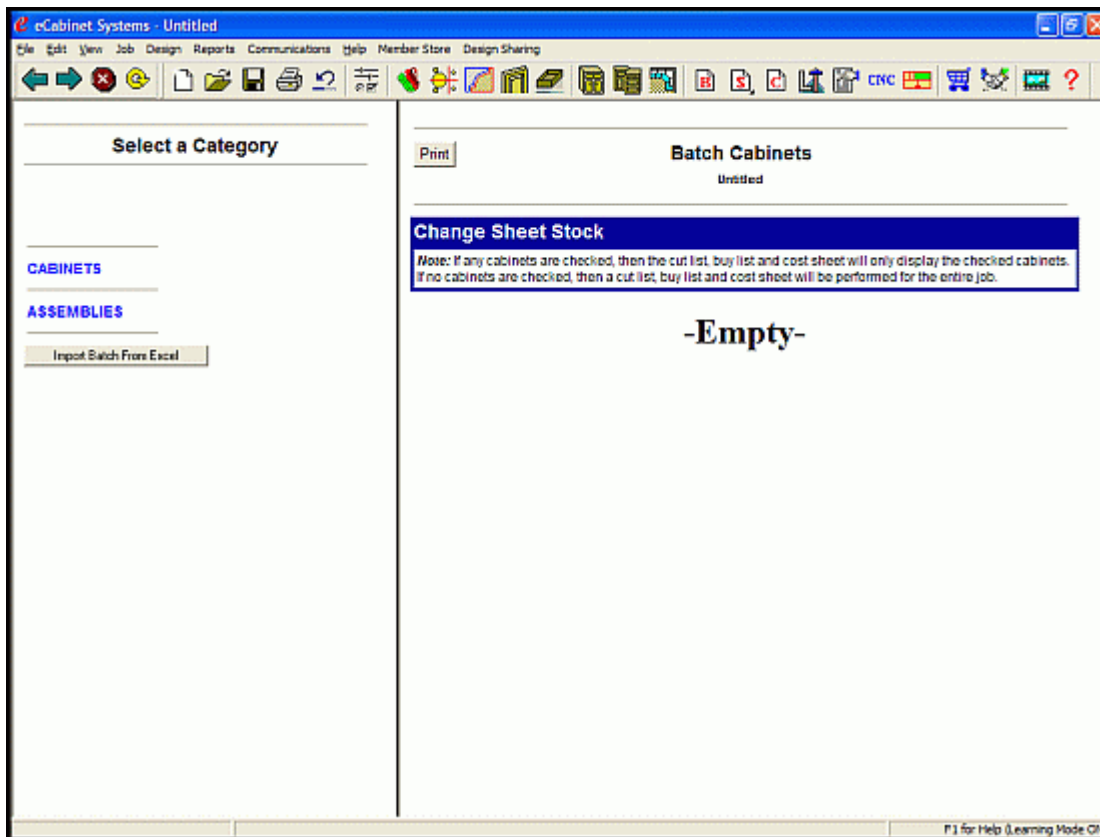
## **6.2**

### **Batch Cabinets**

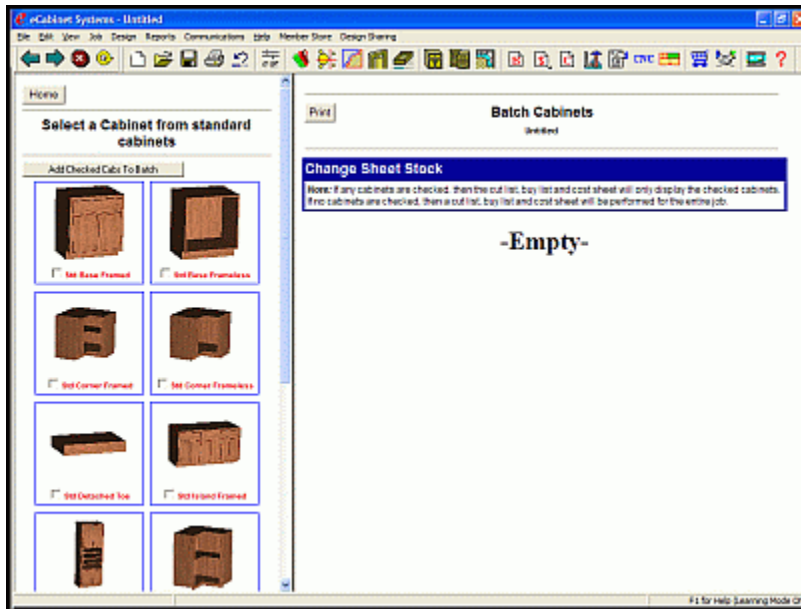
# Batch Cabinets Introduction



## Batch Cabinets



This feature enables Cabinets and Assemblies to be placed directly into a Job, without placing them in a **Custom Layout**.

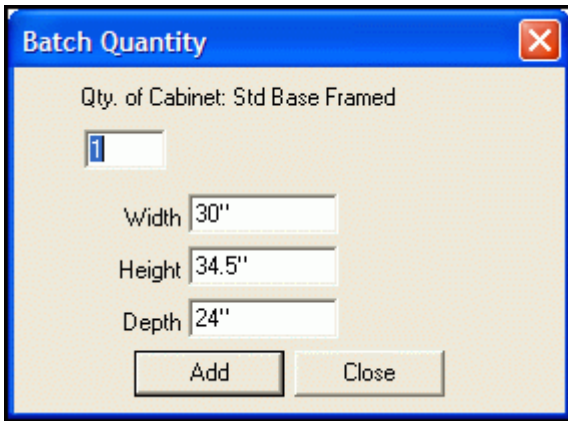


Select **Batch Cabinets** and under **Select a Category**, choose **CABINETS** or **ASSEMBLIES**, and choose the desired directory below **Select Directory**. Place a checkmark under each Cabinet or Assembly and then press the **Add Checked Assemblies To Batch** or the **Add Checked Cabs To Batch** button (as appropriate). You can also select the Items individually.

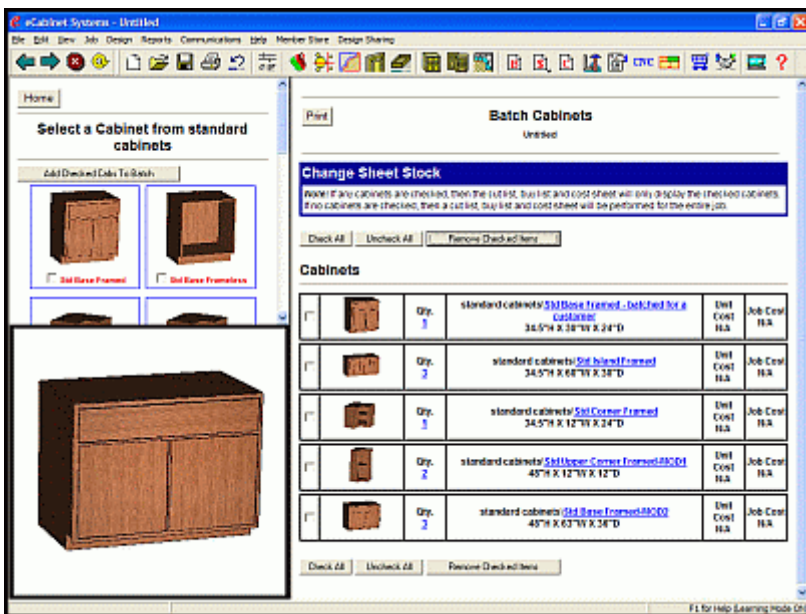
If desired, press the **Print** button to get a facsimile print of the Batch Cabinet page. If you are satisfied with the Batch, then select the **Nest Diagram** icon to produce the nest.

**Note:** If any cabinets are checked, then the cut list, buy list and cost sheet will only display the checked cabinets. If no cabinets are checked, then a cut list, buy list and cost sheet will be performed for the entire job.

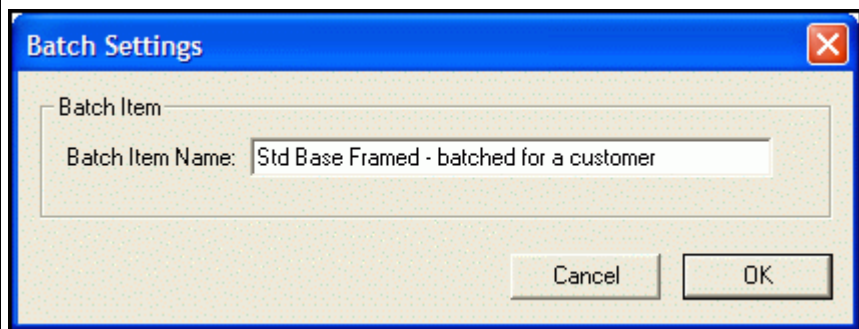
## Quantity and Sizing



If you select them individually, you can also adjust the standard sizes by entering the appropriate information in the dialog that appears. For each Item, choose the **Quantity** and the desired outside **Dimensions**.

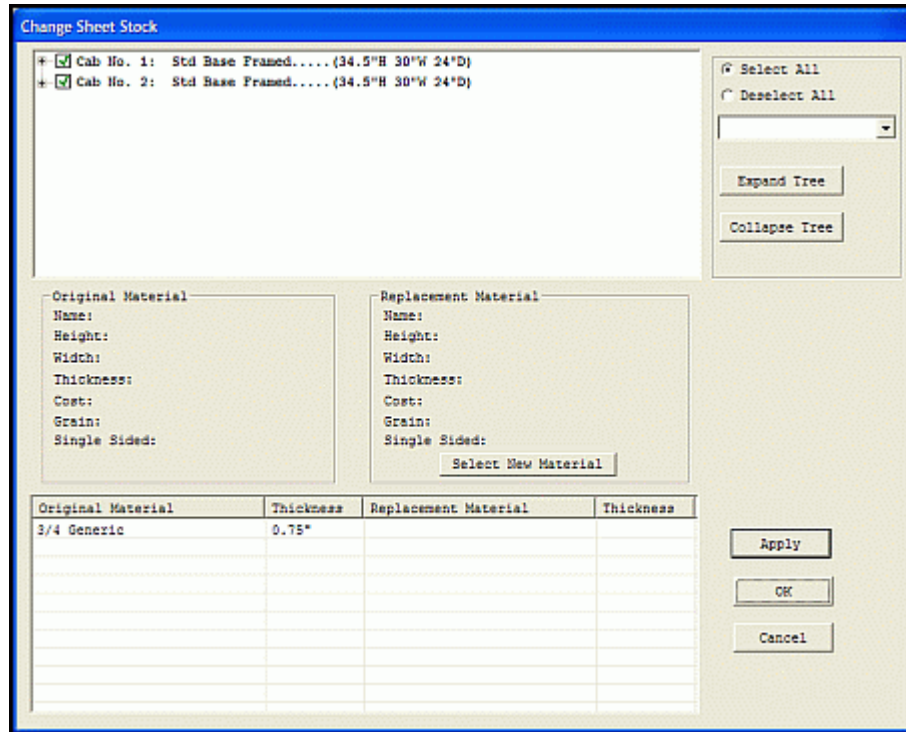


Hovering the mouse over the image will present an enlarged view at the left.



Clicking on the blue highlighted **Qty.** number will allow you to adjust the quantity in the **Batch**, and clicking on the blue highlighted Description will allow you to add to or change the name of the **Batch Item Name**.

## Changing the Sheet Stock



See the section in this document titled "Common Menu Operations - Changing Sheet Stock" for complete details.

## Add Data Using Microsoft Excel Spreadsheets

1	Name	Directory	Type	Quantity	Height	Width	Depth	New Name
2	Std Base Framed	Standard Cabinets	cabinet	1	34.5	22	24	22 Inch Wide Base Framed
3	Std Corner Framed	Standard Cabinets	cabinet	5	34.5	60	30	Special Wide Base Framed
4	Std Upper Framed	Standard Cabinets	cabinet	3	30	22	12	"/ This is just a normal unit
5	Std Upper Frameless	Standard Cabinets	cabinet	1	60	16	12	Special Tall Upper For Garage
6	Std Base Frameless	Standard Cabinets	cabinet	3	30	42	50	Special Deep Base Frameless - 50 Inch Deep
7								
8								
9								
10								
11								
12								
13								
14								
15								

A properly formatted Excel spreadsheet can be used to input cabinets and/or assemblies to the Batch. In the Excel file, provide the file name of the cabinet or assembly, the directory where the file is stored, the type ("cabinet" or "assembly"), the quantity of the cabinet or assembly you want and the height, width, & depth if you are loading a cabinet.

**Note:** Height, width and depth values are ignored for assemblies.

The required column headings and format for the data is as follows:

**Name** - This is the file name of the cabinet or assembly.

**Directory** - This is the directory where the file is stored.

**Type** - Use either the word "cabinet" or "assembly".

**Quantity** - This is the quantity of the cabinet or assembly desired.

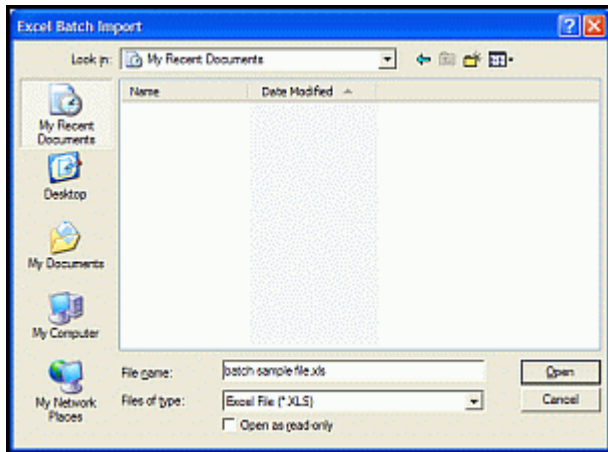
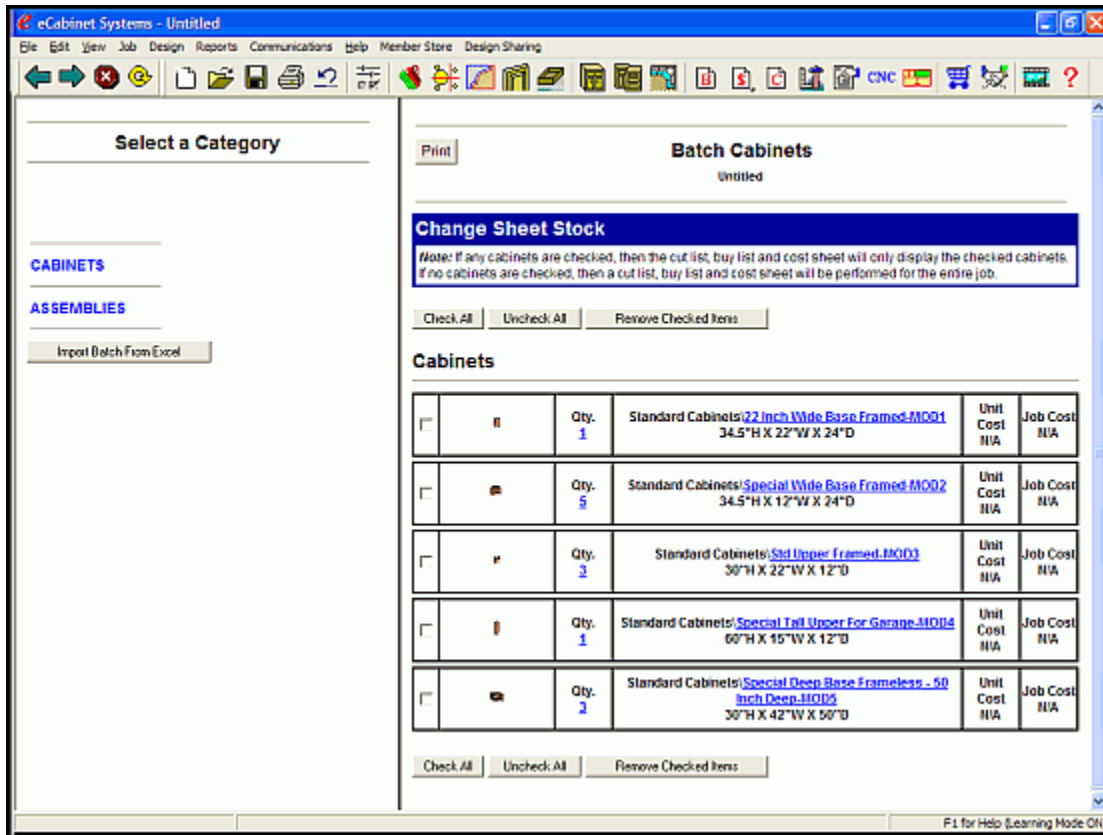
**Height** - This is the height of the cabinet (does not apply to assemblies).

**Width** - This is the width of the cabinet (does not apply to assemblies).

**Depth** - This is the depth of the cabinet (does not apply to assemblies).

**New Name** - This is an optional field for a new description of the cabinet

Also, notes or comments can be added to the right of the data, if it is prefaced with the "/" characters.



Press the **Import Batch from Excel** button, select your Excel file ("\*.xls"), and then press **Open**, and your file will be entered into the Batch.

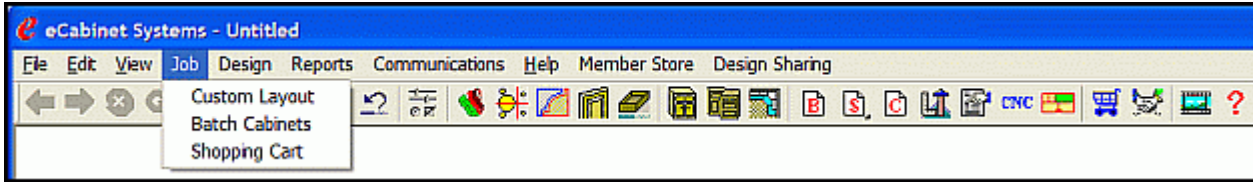




## **6.3**

# **Shopping Cart**

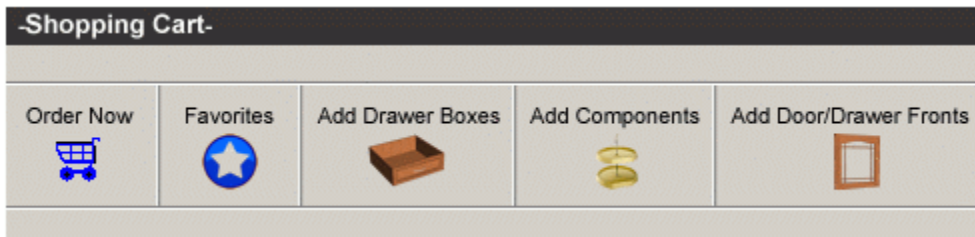
# Shopping Cart Introduction and Use



## Shopping Cart

The **Shopping Cart** is used to gather the items that you want to purchase. A **Shopping Cart** is associated with each Job, so if you have two Jobs, there is a separate **Shopping Cart** for each. Purchased items from **Batch Input** and **Custom Layout** are automatically placed in the **Shopping Cart**.

During the checkout process, you indicate where to ship the items and how you want to pay for them. You will only need to enter this information once, for once the information is entered, it is stored and will be filled out automatically for you on subsequent orders, with the exception of your credit card information. You have the choice to enter this every time, or to have that information stored on a highly secure server at Thermwood Corporation, for retrieval to be placed in your Order.



As shown above, three fundamentally different types of product can be added to the **Shopping Cart**. The **Add Drawer Box** selection and the **Add Door/Drawer Fronts** selections both refer to purchasing these items from Conestoga. These items are in addition to any doors and drawer fronts that are already on cabinets in the Job.

**Note:** When you add a door or drawer front to a cabinet, if you specify either **Purchase Finished** or **Purchase Unfinished**, the door in the correct size and specification is automatically added to the **Buy List** and subsequently to the **Shopping Cart**.

Each area includes a dialog area that allows you to define the specific items you wish to add. The third area, **Add Components**, allows you to select from thousands of items that can be purchased. These items include typical cabinet hardware and components as well as almost anything a cabinet shop might need. Selections include tooling, sandpaper, tape and other disposables, nuts, bolts screws and nails, a wide variety of hand tools, and literature.

The cost of any items added to the **Shopping Cart** is automatically added to the **Cost Sheet** for that Job. If you want a purchased item added to the cost for a Job, load the Job and then add the item to the **Shopping Cart** for that Job. You may also want to purchase many of these items separate from a cabinet Job. In this case, before loading anything in *eCabinet Systems*, go immediately to the **Shopping Cart**. Remember, as soon as you add an item to the **Shopping Cart**, a Job is created, (but the Job only has those **Shopping Cart** items in it. The **Buy List** and **Cut List** are both empty, but the **Cost Sheet** reflects the cost of the items in the **Shopping Cart**). At this point, you can save the contents of the **Shopping Cart** as an *eCabinet Systems* Job file. This can be quite useful if you purchase the same items on a regular basis, for you simply put the items in a **Shopping Cart** and save the Job. Then, any time you need the items, you can load the Job, go directly to the **Shopping Cart** and buy them.

You can search the entire database (both the part number field and the short description field) for the part using the **Search** button. If you know the manufacturer's part number, you can also search using that information.

**Note:** If a vendor logo is displayed, it means you are working within that vendor's database, and any **Search** command will only search that one vendor's database. If, on the other hand, there is no vendor logo as seen on the first screen, the Search command will search every vendor database in the system for the part number. Part numbers for hardware and cabinet supplies in the software start with a two-letter identifier, followed by a dash, and then the remainder of the number. These first two characters are the vendor identifier and are unique for each vendor; *AM-* for Amerock, *HF-* for Hafele, *BL-* for Blume, *WT-* for Wood Technologies, etc. However, when you search for a part, you should use the vendor number without the two-letter identifier, just as the vendor supplies it. You can access a descriptive page that describes the vendor through the **Help** menu at the top of the page. Select **About Vendors**, and then select the vendor of interest.

## Menu Structure

Product	Qty.	Specifies where items in the shopping cart originated				Description	Type of Product	Unit Desc.	Unit Cost	Job Cost
Hafele HF-10409600	19	Added Item (Units) 19	Custom Layout Cabinets 19	Batch Cabinets 0	Display Object 0	Zinc Handle Nickel Matt 128mm etc	Pull	Piece	2.40	45.60
Hafele HF-13445200	2	Added Item (Units) 2	Custom Layout Cabinets 2	Batch Cabinets 0	Display Object 0	Zinc Knob - Polished Chrome 31mm	Pull	Piece	1.18	2.36
Hafele HF-11705640	1	Added Item (Units) 1	Custom Layout Cabinets 1	Batch Cabinets 0	Display Object 0	Stainless Steel Handle Matt 320mm etc	Pull	Piece	15.53	15.53
Classic Brass CB-1049pu	1	Added Item (Units) 1	Custom Layout Cabinets 1	Batch Cabinets 0	Display Object 0	Knob polished nickel 1-1/4" Round	Pull	PIECE	6.53	6.53
Conestoga Conestoga Drawer Box	2	Added Item (Units) 2	Custom Layout Cabinets 0	Batch Cabinets 0	Display Object 0	Bottom Thickness = 0 1/4", Specie = Aspen, Bottom Reveal = 0.3750, Top Edge Profile = standard, Size = 12"W X 6"H X 24"D	Drawer Box		25.11	50.22
Conestoga CR-Crown-6-Red-	1	Added Item (Units) 1	Custom Layout Cabinets 61.2000	Batch Cabinets 0.0000	Display Object 0.0000	Crown 6 Red Oak	Molding	Piece	18.95	18.95

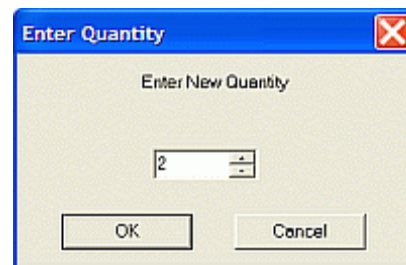
The layout of the **Shopping Cart** contains a huge amount of information. Understanding the layout and use of the **Shopping Cart** will make the entire purchasing process more comfortable. The first thing you will notice in the **Shopping Cart** is the name and image of each item, which also shows the vendor and part number. If you double click any image, it will take you directly to a full description, a larger image, pricing and any other information available for that part.

If the checkbox, **Automatically Include Buy List** is checked, all items you must purchase for the current Job are automatically added to the **Shopping Cart**. This list is dynamically maintained, so as you make changes to the Job, the **Shopping Cart** continuously and accurately reflects the items required. You can uncheck it at any time to remove these items from the **Shopping Cart**, leaving only items manually added. An area on each line shows where the items in the **Shopping Cart** originated.

If doors were added to the **Shopping Cart**, (using the **Add Door/Drawer Fronts**) they can be opened in the **Door/Drawer Front Designer** by double clicking on them, allowing you to examine all the details of the design. You can make changes; however, be advised that any changes are not automatically made to the door already in the **Shopping Cart**.

**Note:** Items can be added to or removed from the **Shopping Cart**, but they cannot be modified while in the Shopping Cart. If you want to change characteristics of something in the **Shopping Cart**, you can make the changes and then add the new design to the **Shopping Cart** as a new entry. Then, when you return, remove the old entry.

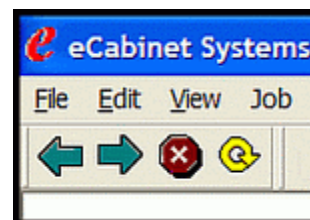
The next column is **Qty**, the total number of the items in the **Shopping Cart**. Notice that this is how many the software calculates that you need, and it is not necessarily how many you will buy, since when you move through the purchasing process, you will determine exactly how many you want. The next four columns tell you where the quantity actually came from. **Added Items** are those items you manually shopped for, and specifically added to the **Shopping Cart**. Press the **Remove** button to remove the entire item from the list. If you want to change quantity, click the number below **Added Item**, and a dialog will open allowing you to change the quantity:



The next three columns show how many of each item is needed for other areas of the software. **Custom Layout Cabinets** means that this is the quantity of the item needed to build cabinets installed in the **Custom Layout** area. These numbers are fixed and you cannot change them here, since this is the number of items needed for the cabinets you installed, and the only way to change it is to change the number of cabinets. (Again, you do not necessarily need to buy all of these, this is simply a listing of the requirements for this Job.) The next column, **Batch Cabinets** does the same thing for cabinets placed in the Job through the **Batch Cabinets** area. The final category is for **Display Objects**. In the **Custom Layout** area, you can select and position many items available from vendors. What determines whether you can display an object or not, is whether there is a three-dimensional image available for it. If there is, it can be placed in the **Custom Layout** as a **Display Object**, and the item shows up in the **Shopping Cart** in this column. You cannot change the number here, but again, this is not the quantity you will buy, it is the quantity you need.

The **Unit Description** column describes exactly what you will get for the **Unit Price**. It lets you know if you are buying a piece, a box of 100, a set of three, etc. Most items are available by the piece, but for some items (such as screws, fittings, etc.), the software determines how many Units you need for the Job. For example, if you have a Job that needs 260 KD/RTA fasteners, and they come in boxes of 200, it will indicate you need 2 Units (boxes). You may need to factor in the number of these items you have on hand and adjust the order quantity accordingly.

At the bottom of each page, you are shown the item numbers for this page, the total number of items, and an area to click to bring up the next page of items. The vendor database is presented to you in HTML format so the **Back** and **Forward** navigation icons work. See the illustration for the location of these controls:



## Doors and Drawer Fronts

This area is used to add doors and drawer fronts to the **Shopping Cart**. If you only want to purchase doors and drawer fronts for cabinets you have added to the Job, (either **Custom Layout** or **Batch Cabinets**) you do not need to add any additional doors or drawer fronts here, since doors and drawer fronts for cabinets in the Job are automatically added to the **Shopping Cart**.

**Note:** This is only true if you have checked **Automatically Include Buy List**, and you specified that the doors and drawer fronts are either **Purchased Finished** or **Purchased Unfinished** when you placed them on the cabinets.

When you press the **Add Door/Drawer Front** button, the **Door/Drawer Front Designer** opens. You can now select a door or drawer front design that you previously designed and saved, or you can develop and save a new design. Once the design is complete and saved, it is ready to be added to the **Shopping Cart**. Press the **Add to Cart** button to bring up a dialog that lists the quantity and sizes that you want to add to the **Shopping Cart**.

Qty.	H.S.	Width	Length

Step between fields using either the **Tab** or the **Enter** key, and **Shift + Tab** steps back one field. Once all the sizes of this design have been added, the list can be edited. To delete a line, highlight it by clicking on it, and then you can press the **Delete** button or use the **Delete** key. To change any field in the list, first highlight the line and then double click the field you want to change. The field will now highlight and then you can make the necessary changes. When the entire list is complete and correct, press the **OK** button, and this data will be added to the **Shopping Cart**.

## Drawer Boxes

This area allows you to define and add dovetail drawer boxes (available from Conestoga) to the **Shopping Cart**. If you print a **Cut List** for your Job, there is an area that provides you with the outside dimensions for the drawer boxes that you will need, and you can enter that information here. (When the parameters in the **Door/Drawer** dialog in **Construction Settings** were specified, information about the drawer boxes was saved, and this information is used to determine these sizes.)

Shown above is the **Construction Settings** dialog, where the drawer box size is determined. Drawer box size is set using a series of minimum dimensions. Since the drawer box is only available in certain incremental sizes, the software will assign the first available size for each dimension that meets the minimum requirements. The **Height**, **Width** and **Depth** of each drawer box needs to be entered in the drawer box dialog. Notice that drawer boxes are available only in certain increments, so you must determine which way to round the number for your application.

To determine the exact cost for any combination of features and options, just press the **Update Cost** button to calculate a cost for the drawer box as currently specified. When you are done just press the **Add** button, and the drawer or drawers (if you are buying more than one of this size), are now added to the **Shopping Cart**.



## Batch Input & Custom Layout Data

As you add cabinets and items to a Job, either using **Batch Input**, or by adding them to a **Custom Layout**, the system tracks the items that must be purchased for the Job in the **Buy List**. The list is dynamic and changes any time you change the Job. (You can print out or display a copy of this **Buy List** whenever you want.) A checkbox, labeled **Automatically Include Buy List**, determines if you want to add the items from the **Buy List** to the **Shopping Cart**. If it is checked, all the items needed for your **Custom Layout**, plus all the items needed for the cabinets added in **Batch Cabinets**, are automatically added to the **Shopping Cart**, along with any vendor items you may have added to the **Custom Layout**. If you uncheck it, only items that you have specifically added are in the **Shopping Cart**, and none of the items required for the **Custom Layout** or **Batch Cabinets** are included. Also, when you check **Automatically Include Buy List**, the **Shopping Cart** reflects the current Job. Finally, if you leave the **Shopping Cart** and make changes to the Job, when you return, all changes will be made, and displayed.

## Favorites

The **Favorites** button offers a shortcut to those items you purchase regularly, and it opens a listing of all of the items you have added to the **Favorites**. There are two ways to order from this list. You can select items, one at a time, and add them to the **Shopping Cart**. A quantity dialog will appear for each part where you can specify the quantity of that part you want to order. As an alternative, you can place a checkmark in front of every item you want to add to the **Shopping Cart** and select **Add Checked Items to Cart**. In this case, you will be offered a single quantity dialog where you can specify the quantity, and this same quantity of every item selected is added to the **Shopping Cart**.

# Placing an Order

eCabinet Systems - C:\Program Files\Thermwood\ecabinet Systems\MRK Data\MRKDocumentation3.esj

File Edit View Job Design Reports Communications Help Member Store Design Sharing

**eCabinet Systems**  
The Cabinet Cooperative

Buy Now

Product	Order Qty.	Specifies where items in the shopping cart originated			Description	Type of Product	Unit Desc.	Unit Cost	Job Cost
		Added Item (Units)	Custom Layout Cabinets	Batch Cabinets					
Classic Brass CB-1043jn Knot polished nickel 1.1/4" Round	1	0	1	0		Put	PIECE	6.53	6.53
Conestoga CR-Crown-6-Red-Oak Crown 6 Red Oak	1	0	61	0		Holding	Piece	18.95	18.95
Conestoga Conestoga Drawer Box Bottom Thickness = 0 1/4", Specio = Aspen, Bottom Inward = 0.3750, Top Edge Profile = standard, Size = 12"W X 6"H X 24"D	2	2	0	0		Drawer Box		25.11	50.22
Hafele HF-11705640 Stainless Steel Handle Matt 320mm ctc	1	0	1	0		Put	Piece	15.53	15.53
Hafele HF-13445200 Zinc Knob - Polished Chrome 31mm	2	0	2	0		Put	Piece	1.18	2.36
Hafele HF-10409000 Zinc Handle Nickel Matt 128mm ctc	18	0	18	0		Put	Piece	2.40	45.60
Wood Technology WT-3006.014.028 Knob BP	4	0	4	0		Put	Piece	1.46	5.84

Summary of Shipping Totals:  
Classic Brass 8.07

F1 for Help (Learning Made ON)

Here is the information reorganized into a **Buy Now** purchase order. Unlike the **Shopping Cart**, which showed the quantity of each item you need for the Job, the **Buy Now** purchase order shows the number of items you will actually buy as the **Order Qty.** The center columns provide details from the **Shopping Cart**, showing the quantity of each item required for various areas of the Job. Remember this is what is calculated that you need, but the **Order Qty** column is the actual amount of items that you are buying. For simplicity, this quantity is initially set equal to the total number of items you need for the Job, but you can change the quantity to your exact needs here.

Enter Quantity

Enter New Quantity

2

OK Cancel

To change quantity, click the number you want to change and the **Enter Quantity** dialog appears. Change the number and press **OK**. If you not want to buy any of a certain item, set the quantity to zero.

The bottom area of the page shows a summary of shipping costs for this order. Each vendor or source of product, ships directly to you, so there is normally a shipping cost associated with each. If no shipping cost is shown for a vendor, it means that shipping is included in their price.

The screenshot shows the eCabinet Systems software interface. At the top, there is a menu bar with options like File, Edit, View, Job, Design, Reports, Communications, Help, Member Store, and Design Sharing. Below the menu is a toolbar with various icons. The main area contains a table with columns for Item Name, Quantity, Added Item (Units), Custom Layout Cabinets, Batch Cabinets, Display Object, Description, Unit, and Price. Below the table, there is a 'Summary of Shipping Totals' section with a table listing vendors and their shipping costs. This is followed by an 'Additional Charges' section. A note states that shipping cost is NOT included for Conestoga and Jasper Lumber products. At the bottom, there is a 'Sub Total' table, a 'Select Shipping Method' dropdown menu (set to 'UPS - Ground'), a 'Submit Order' button, and an 'Account Number' field.

Item Name	Quantity	Added Item (Units)	Custom Layout Cabinets	Batch Cabinets	Display Object	Description	Unit	Price
Conestoga Conestoga Drawer Box	2	2	0	0	0	Bottom Thickness = 0.14", Specie = Aspen, Bottom Reveal = 0.3750, Top Edge Profile = standard, Size = 12"W X 6"H X 24"D	Drawer Box	25.11 50.22
Hafele HF-11705640	1	0	1	0	0	Stainless Steel Handle Max 120mm cnc	Part Piece	15.53 15.53
Hafele HF-11445200	2	0	2	0	0	Zinc Knob - Polished Chrome 31mm	Part Piece	1.18 2.36
Hafele HF-10409600	19	0	19	0	0	Zinc Handle Nickel Max 128mm cnc	Part Piece	2.40 45.60
Wood Technology WT-3006.014.028	4	0	4	0	0	Knob BP	Part Piece	1.46 5.84

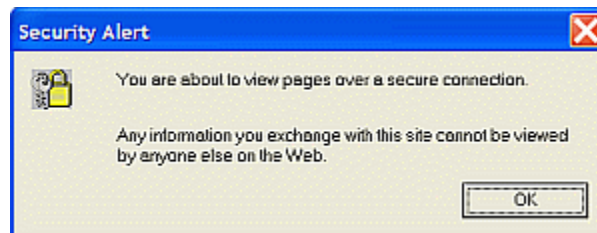
Summary of Shipping Totals:	
Classic Brass	9.07
Conestoga	unknown
Hafele	11.41
Wood Technology	9.07

Additional Charges:	
Conestoga Special Charge	3.95

(Shipping cost NOT included for Conestoga and Jasper Lumber products and will be quoted separately)

Sub Total	146.03
Shipping Sub Total	29.55
Taxes	0.00
Total	178.53
Account Number	T12387

Notice that some vendors do not show any shipping information. Doors and other large items have shipping charges calculated on a per order basis, depending on the overall order and shipping distance. In these cases, you will be contacted directly with shipping costs. Until shipping cost has been communicated to you, and you specifically agree, that portion of your order will not be processed. Other than that, the total purchases, shipping costs, any taxes and the total order cost are then detailed at the bottom, along with your account number. If this is all correct and you wish to proceed, press the **Submit Order** button.



You will then see a **Security Alert** screen that confirms that the transmissions will be fully encoded and secure. Press **OK**.

The screenshot shows a software window titled "eCabinet Systems - C:\Program Files\Thermwood\ecabinet Systems\MRK Data\MRKDocumentation3.esj". The window contains a menu bar with "File", "Edit", "View", "Job", "Design", "Reports", "Communications", "Help", "Member Store", and "Design Sharing". Below the menu is a toolbar with various icons. The main content area features the "eCabinet Systems" logo and the tagline "The Cabinet Cooperative". A section titled "Billing & Shipping Information" contains two forms. The first form, "Billing Information", includes fields for Company Name, Name on Credit Card (marked with a red asterisk), Contact Name, Email Address (marked with a red asterisk), Phone (marked with a red asterisk), Fax, Address 1 (marked with a red asterisk), Address 2, City (marked with a red asterisk), State (a dropdown menu marked with a red asterisk), Zip (marked with a red asterisk), County, and Country (marked with a red asterisk). The second form, "Shipping Information (if different from Billing)", includes fields for Company Name, Contact Name, Email Address, Phone, Fax, and Address 1. A status bar at the bottom right indicates "F1 for Help (Learning Mode ON)".

You are now presented with the **Billing and Shipping Information** form. You will only need to fill this out one time, and the information is then stored in your system, and will be automatically entered when you access this page again. The fields with a red asterisk must have an entry, and the name on the credit card and the billing address must match what is on file with your credit card company.

**Note:** Orders can not be shipped to a PO Box.

Fax: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

County: \_\_\_\_\_

Country: \_\_\_\_\_

---

**Payment Information**

Credit Card Type: American Express  
MasterCard  
Visa  
Use Card On File  
Phone In


(Fields below are **NOT** required if 'phone in' or 'use card on file' is selected!)

Credit Card Number: \_\_\_\_\_

Expiration Date: 01 | 2003


Card Verification #: \_\_\_\_\_

**Visa/MasterCard Example**



Card verification number

**American Express Example**



Card verification number

\*This is a three digit number on the back of a Visa/MasterCard located in the signature area. On an American Express this is a four digit number located on the front of the card.

F1 for Help (Learning Mode ON)

The final step is entering your payment method. Payment for purchases through *eCabinet Systems* is via credit or debit card. You can supply the information required here or, if you do not want to transmit your credit card information, you can submit the order and then call us with your credit card information. To do this simply select **Phone In** and submit the order.

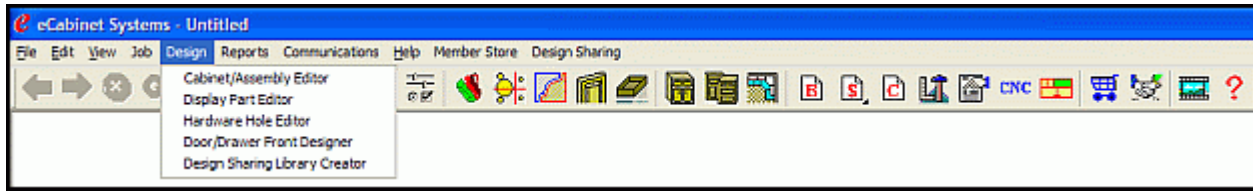
When you press **Submit Order**, you are presented with a final summary of the order, and if the information is correct, press the **Send Order Now** button at the bottom. Your order is then sent directly from your computer to the *eCabinet Systems* server via the Internet. If your default web browser is not open, the system will ask for permission to open the web browser. You will receive a receipt, which shows what we have from you in our files, as well as a telephone number to call if you have any questions. The receipt is a full document, much like the **Order Summary**, and is stored in the directory *C:\Program Files\Thermwood\eCabinet Systems\Purchase\_orders\Receipts\*, and can be accessed at any time using the **File-Receipt File** menu selection at the top of the page.

Remember, we are a cooperative in every sense of the word. We want to make you money as we try to make money, so if you have any problems at all, please let us know. If you made a mistake on the order or have any other problem, just give us a call and we will try to fix it. Standard commodity items like hardware are easy to fix. Products specifically built for you (like doors) can be a bit more difficult, depending on how far the vendors are into the building process.

***7.0***

## **Design Menu**

# Design Menu Introduction



The **Design Menu** contains the following submenus:

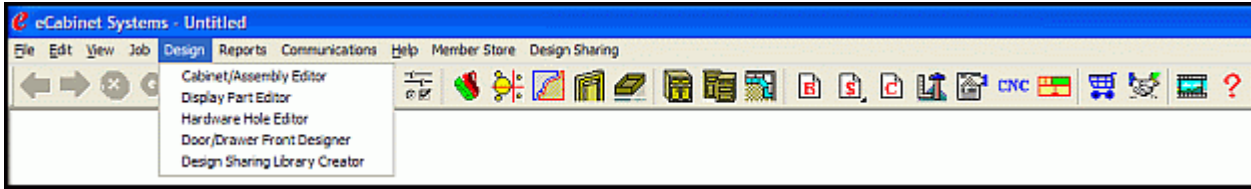
- Cabinet/Assembly Editor**
- Display Part Editor**
- Hardware Hole Editor**
- Door/Drawer Front Designer**
- Design Sharing Library Creator**

## *7.1*

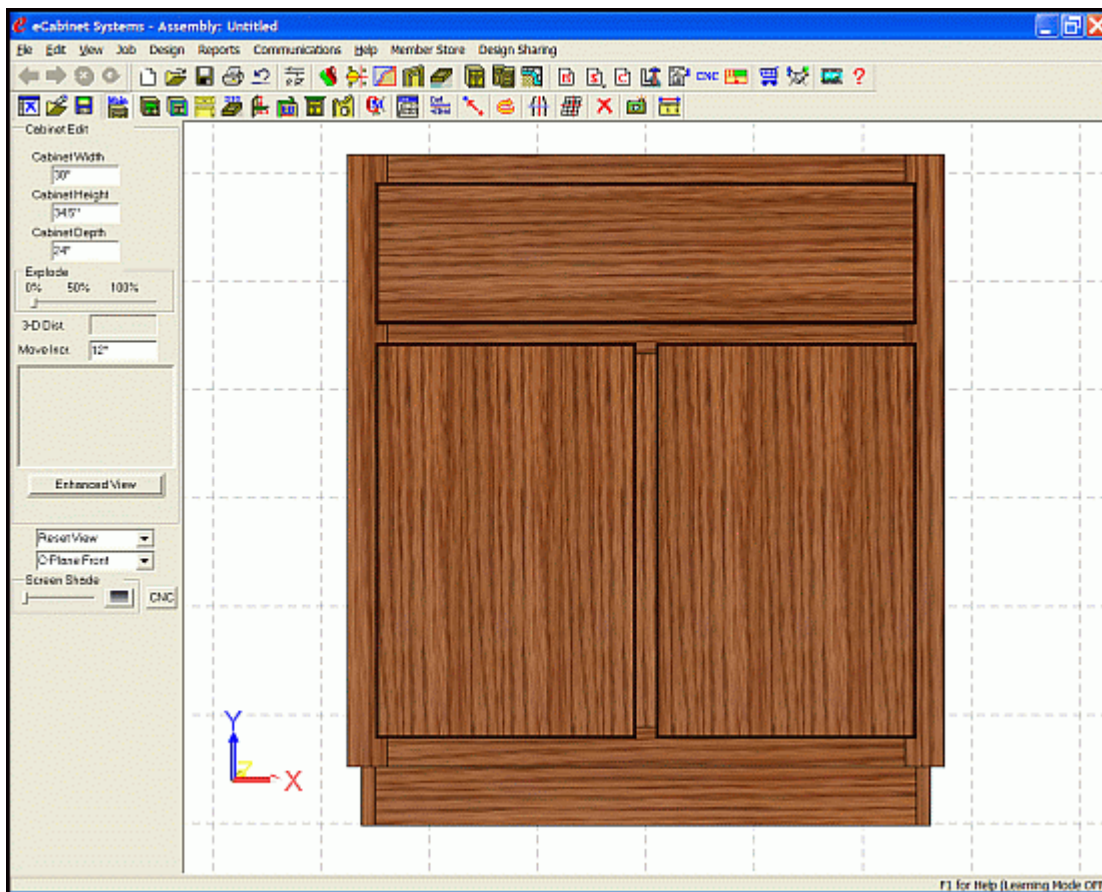
# **Cabinet/Assembly Editor**



## Cabinet/Assembly Editor Menu Structure



### Cabinet/Assembly Editor



The **Cabinet/Assembly Editor** has two purposes. First, it is used to modify an existing cabinet design and then, to save it under a new name. This approach saves substantial time in developing libraries. For example, if you need a line of cabinets that share common parameters, you can create a single cabinet with those parameters, save it, and then use it as the starting cabinet for developing the remainder of the library. In this way, the shared parameters need only be defined once.

Cabinets are modified by using a series of Editors, reached through toolbar icons or from Right Click menus and by changing parameters in the Construction Settings (reached through the **Construction Settings** icon or directly from each editor). More than one cabinet can be loaded into the **Cabinet/Assembly Editor** at the same time. When this occurs, you must highlight a specific cabinet to change size, settings or to work with an editor.

The **Cabinet/Assembly Editor** is also used to combine cabinets and other items into Assemblies, which can be saved and used as a single entity. Using this approach, it is possible to assemble a group of cabinets and other items (for example, an island cabinet assembly complete with countertop, sink and faucet as well as electrical outlets and a light fixture), save them as an assembly and then place them in the room as a single entity.

**Cabinet Edit** - These are the settings for the **Cabinet/Assembly Editor**.

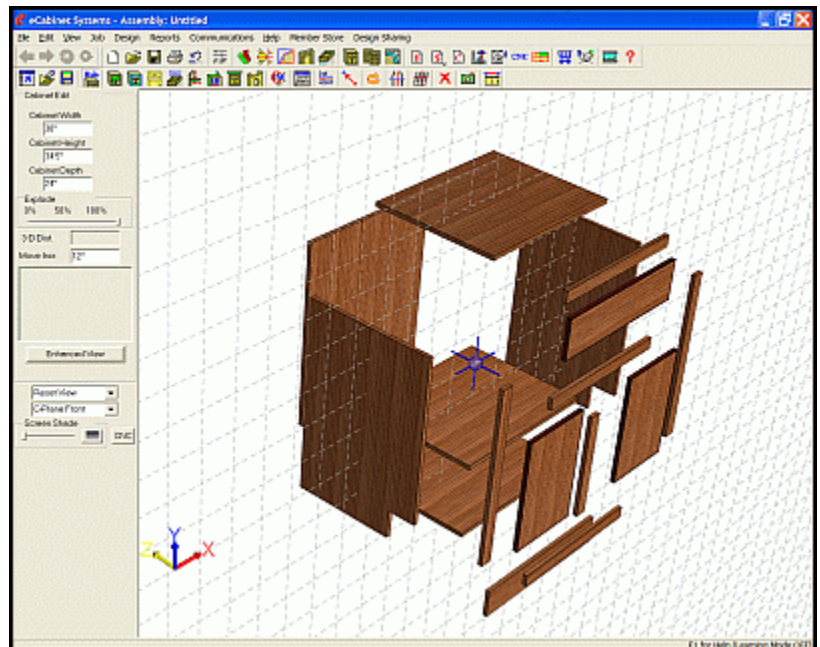
**Cabinet Width** - Set the width of the cabinet here.

**Cabinet Height** - Set the height of the cabinet here.

**Cabinet Depth** - Set the depth of the cabinet here. Notice that if you change cabinet depth, you may also need to change the default drawer box and/or drawer slides selected for this cabinet.

**Note:** For cabinets with a Detached Toe, this is the distance from the floor to the top of the cabinet and not the height of the cabinet box itself. The height as specified in **Toe Kick Construction Settings** is the distance from the floor to the bottom of the cabinet.

**Explode Slider** - This control moves the cabinet parts away from each other, and then back together, to show its component parts. This can also be done using the wheel on the mouse, or the **PgUp** and **PgDn** keys. See the illustration below for an example of an "Exploded Cabinet".



**3D Dist.** - This shows the three-dimensional diagonal distance between the two selected nodes.

**Move Incr.** - This is the distance the highlighted items move each time that an **ARROW** key is pressed. The geometric plane on which the item moves in response to the **ARROW** key input is defined by the **C-Plane Options**.

**Enhanced View** - When depressed, this button turns on the full level of detail. When off, the level set in the **Settings/Preferences** area is used. Full level of detail provides the best image quality but slower computer operation. A lower level of detail speeds execution, but with reduced image quality

**Reset View** - Selects the Front, Back, Right Side, Left Side, Top or Bottom views. This function is also available with the following **Keyboard keys**:

**Home** = Front View (Reset View)  
**End** = Back View  
**Left ARROW** = Left Side View  
**Down ARROW** = Bottom View  
**Right ARROW** = Right Side View  
**Top ARROW** = Top View.

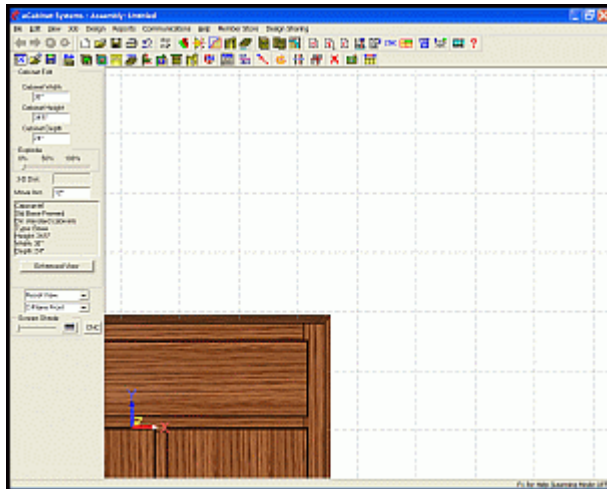
**C-Plane Options** - This sets the **C-Plane** (Cut Plane) of the view. The **C-Plane** orients the mouse or **ARROW** key movement in the (two dimensional) display onscreen, to the two appropriate three-dimensional axes available in *eCabinet Systems*. The **C-Plane** automatically changes when a standard view is selected.

**Screen Shade** - Adjusts the color of the background area, and it also, optionally, provides a gradient (dark to light) background.

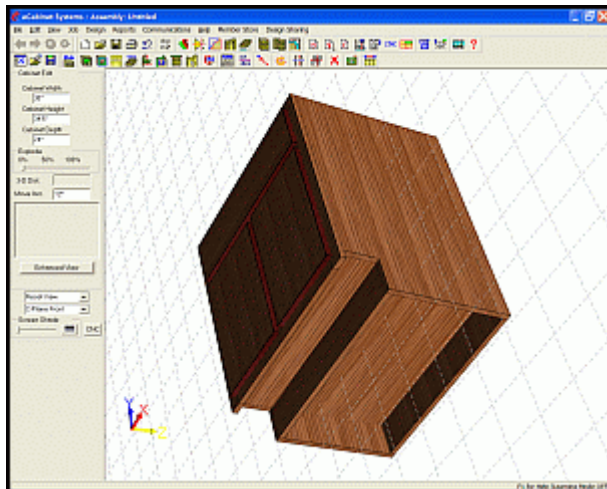
**CNC** - This opens a standard Windows dialog where you can provide a filename for the data that is created during the generation of CNC files for the item or items highlighted. If nothing is highlighted, CNC files are generated for the entire assembly. The file is saved as a ".twd" file, which can be entered into a Thermwood SuperControl for CNC machining.

# Cabinet/Assembly Editor Display Features

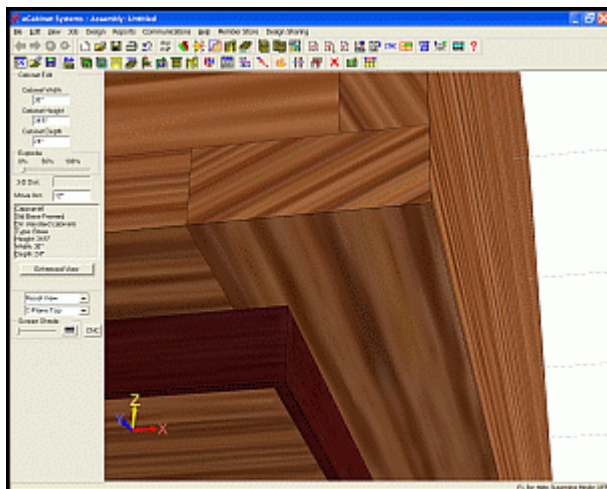
The following keystrokes will move, rotate or zoom the image in the workspace.



**Shift + Right Click** - This moves the display (pans object).



**Shift + Left Click** - This rotates the item.



**Shift + Both Mouse Buttons** - This zooms the image.

**Note:** A **Full Screen** view is accessed using the **F12** key.

## Cabinet/Assembly Editor Icons



**New** - This option clears the work area to begin a new cabinet or assembly.



**Load Item** - This permits the loading of a cabinet (or other item) into the Cabinet/Assembly Editor. The item will be placed over the **Insert Target**.



**Save** - This Saves the cabinet or assembly files to a new or to an existing location.



**Return to Main Screen** - This returns to the top screen in the Cabinet/Assembly Editor.



**Shelf/Partition Editor** - This opens an area used to add, delete and position partitions and shelves on the highlighted cabinet.



**Face Frame Editor** - This area is used to develop the Face Frame.



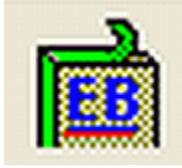
**Door/Drawer Editor** - This opens an editor where doors and drawers are designed, saved and added to the highlighted cabinet.



**Drawer Box Editor** - This opens an editor where drawer boxes are added directly to openings in the selected cabinet, without using a drawer front.



**Stretcher Editor** - This opens an editor where internal cabinet parts such as nailers, sleepers, braces etc. (For simplicity, all are called Stretchers here) are added and removed.



**Edgebanding Editor** - This opens a dialog where **Edgebanding** can be added to part edges on the selected cabinet.



**Molding Editor** - This opens an editor where **Moldings** can be added to the highlighted cabinet.



**Part Editor** - This opens an editor where cabinet parts can be modified.



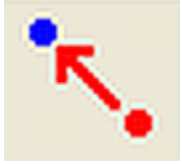
**Constraint Manager** - This opens an editor where it is defined how modifications made in the **Part Editor** react to changes in cabinet size.



**Construction Settings** - This opens an area where construction and joint parameters for specific parts (or the entire cabinet) can be modified.



**Define Defaults/Add Items** - This opens an area where you can define default items, such as hinges or hardware, which are automatically added when doors or drawers are added.



**Align Items** - This allows you to precisely position items with respect to each other.



**Rotate** - This opens a dialog that allows you to rotate the highlighted item with respect to the XYZ coordinate system.



**Perspective/Orthographic View** - Switches between a **Perspective View** and an **Orthographic View** (without perspective).



**Grid Settings** - This opens a dialog that allows you to adjust parameters for the three-axis grid display.



**Delete** - This deletes highlighted item. You may have to be in the respective editor to delete certain items.



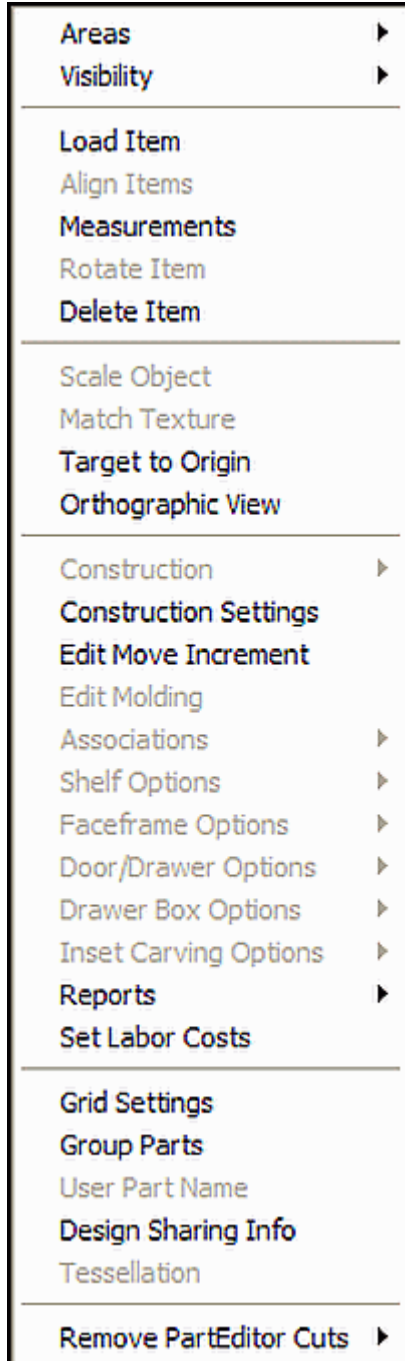
**Save Image** - Press this to save the current image as a ".jpg" file.



**Measurement Dialog** - This displays the distance between two nodes along each axis and on each plane.

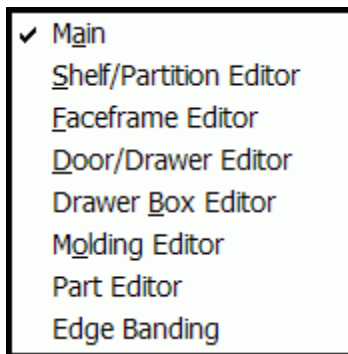
## Cabinet/Assembly Editor - Right Click Options

Text Location Keywords: [Set Labor Costs](#), [Group Parts](#), [User Part Name](#), [Design Sharing Info](#), [Tessellation](#)



**Important:** - Most of the Right Click Options are identical among the various Cabinet/Assembly Editor screens, so only relevant or new information will be placed in these sections.

**Note:** All available Right Click Options are described in this section, but not all may be available at all times. Also be aware some of the included illustrations may not show the exact function described, as the ability to select features depends on the specific design in process at any given time, as well as the area in the program that one is operating.



**Areas** - This provides confirmation and selection of the Editor choices.

**Main** - This returns to the top screen in the **Cabinet/Assembly Editor**.

**Shelf/Partition Editor** - This opens an editor where shelves and partitions are added and modified.

**Face Frame Editor** - This opens an editor where face frames are defined and managed.

**Door/Drawer Editor** - This opens an editor where doors and drawers are defined and managed.

**Drawer Box Editor** - This opens an editor where drawer boxes are defined and managed.

**Molding Editor** - This opens an editor where moldings are defined and managed.

**Part Editor** - This opens an editor where cabinet parts can be modified.

**Edgebanding** - This opens an editor where edgebanding options can be modified.



- Hide Part
  - Hide Selected
  - Hide All
  - Transparent Part
  - Transparent All
  - Wireframe Part
  - Wireframe Selected
  - Wireframe All
  - Restore Last Part
  - Restore All
- 
- ✓ Show Lines
  - Show Hole Patterns
  - Show Item Frames
  - ✓ Show Carvings
  - HideTarget
  - Hide Axis Designator

**Visibility** - This provides confirmation and selection of the **Visibility** options.

**Hide Part** - This hides the part you just selected.

**Hide Selected** - This hides all the parts that are selected.

**Hide All** - This hides all parts.

**Note:** The "**H**" key will also hide the part (or parts) if they are highlighted.

**Transparent Part** - This turns the part that you hover over or select transparent.

**Transparent All** - This turns all parts transparent.

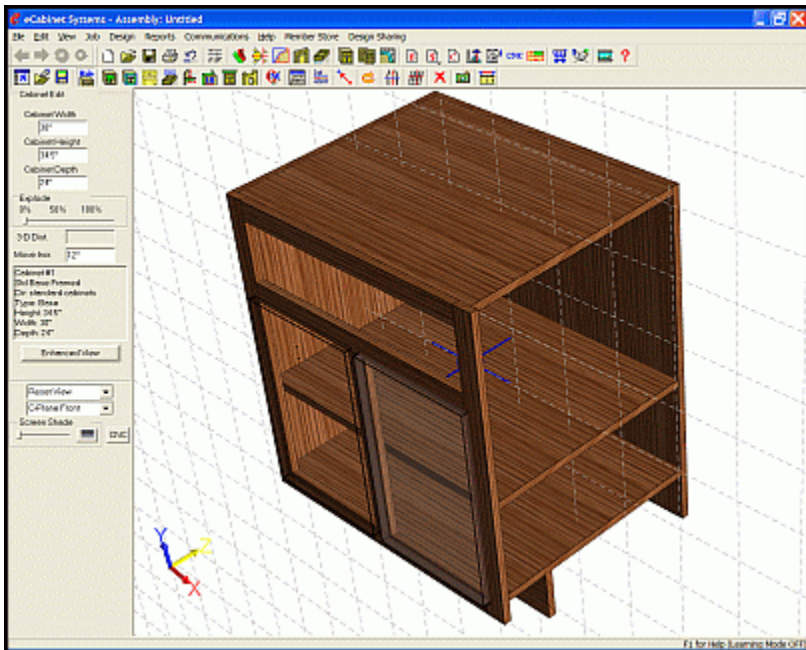
**Wireframe Part** - This turns the part you hover over or select into a wireframe representation.

**Wireframe Selected** - This turns the parts that are selected into wireframe representations.

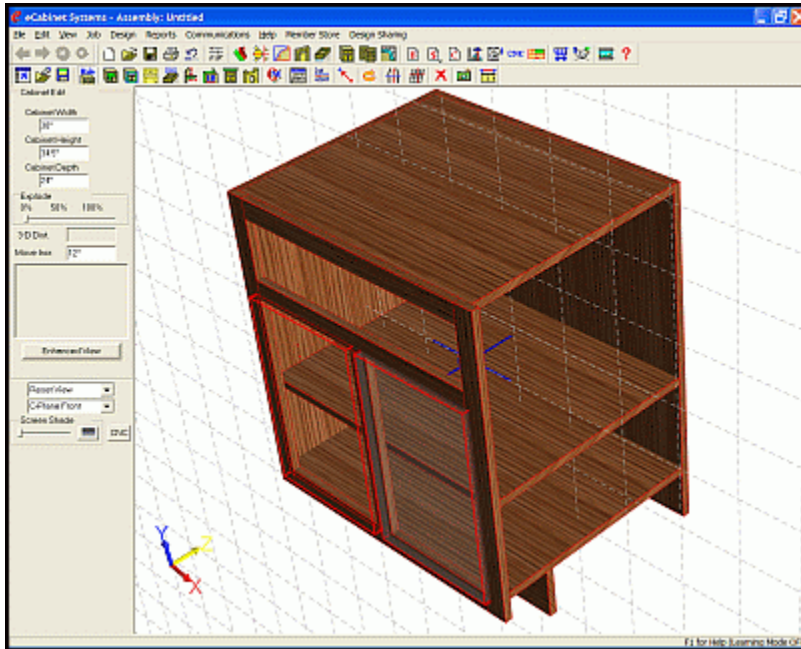
**Wireframe All** - This turns all parts into wireframe representations.

**Restore Last Part** - This returns last part modified into normal display state.

**Restore All** - This returns all parts to their normal display states.



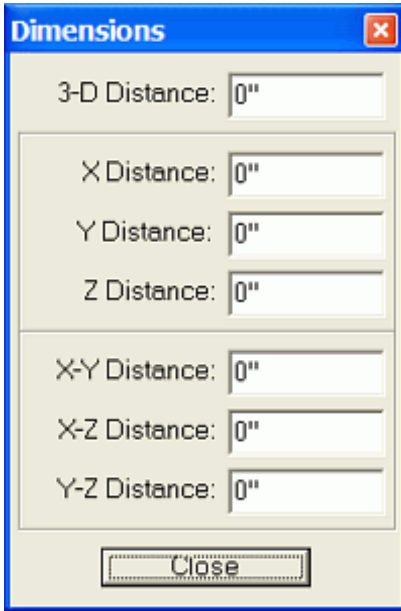
In the example above, the side panel has been hidden (it no longer appears), the right door has been made transparent and the left door has been made into a wireframe.



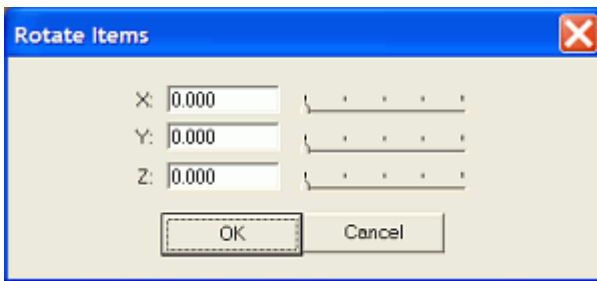
- Show Lines** - This highlights the edges of all parts in the cabinet. The color of the highlights can be changed in **Settings/Preferences, Line Settings**. Red lines are shown in the illustration above.
- Show Hole Patterns** - This will display any hardware holes in place at this time. Hardware holes are developed in the **Hardware Hole Editor** and associated with hardware. When the hardware is used on a cabinet, the holes are added to the appropriate cabinet parts.
- Show Item Frames** - This shows the frame that defines the outer limits of **Display Parts**.
- Show Carvings** - This shows any Carvings that have been applied.
- Hide Target** - This hides the **Insert Target**, which specifies where items are located when loaded or pasted into the **Cabinet/Assembly Editor**.
- Hide Axis Designator** - This hides the three-dimensional axis indicator that is located at the lower left of the screen.

**Load Item** - The item will be placed over the **Insert Target** ball. Notice that once items are loaded, they can be copied and pasted using standard Windows commands (**Ctrl + C** and **Ctrl + V**).

**Align Items** - This allows you to precisely position items with respect to each other. Highlight the two items, select a node on the first (fixed) item, then select a node on the second (move) item. Then select **Align Items** to access a dialog where you define the relative position.

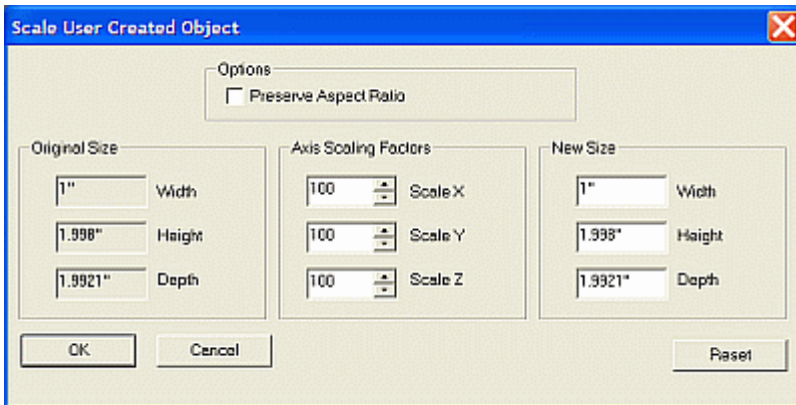


**Measurements** - This opens the **Dimensions** dialog box, which displays the single axis and diagonal distances between the highlighted node and any other node you pause over.



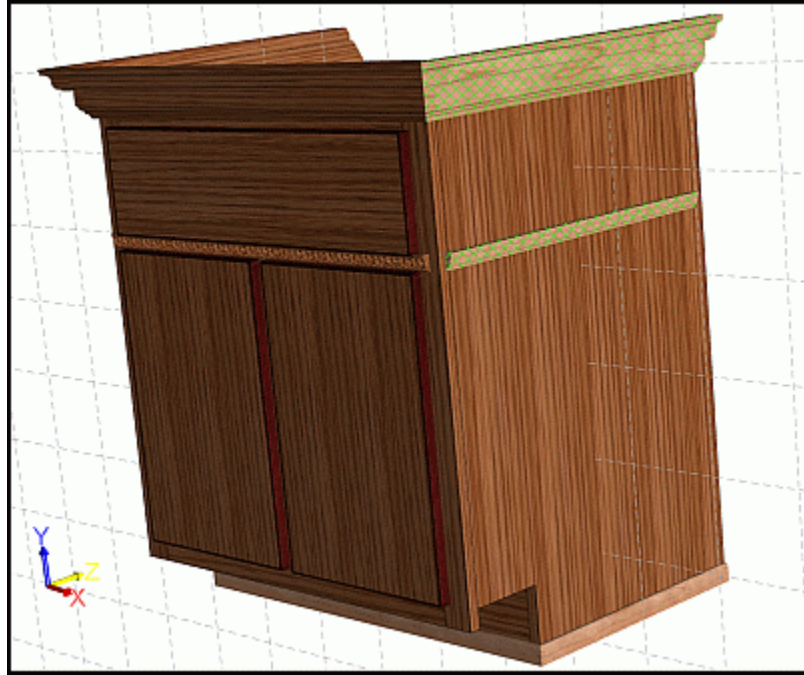
**Rotate Item** - This opens this dialog, where you can rotate the item that is currently highlighted within the workspace. The entire workspace is rotated by holding **Shift + Left Click**.

**Delete Item** - This deletes the selected item.



**Scale Object** - This opens the **Scale User Created Object** dialog where you can change the size of the **Display Object** or carving that has been selected. This works with ".hsf" and ".x\_t" files.

**Match Texture** - This is used to change the texture of moldings or display items, to match an existing texture. Highlight the items, then Right Click a highlighted item and select **Match Texture**. The texture of all highlighted items will change to the next texture you select. In the illustration below, the two upper moldings' left and front sides have had the **Match Texture** applied, and the right side moldings have been selected in preparation for it. The lower molding is shown unchanged.

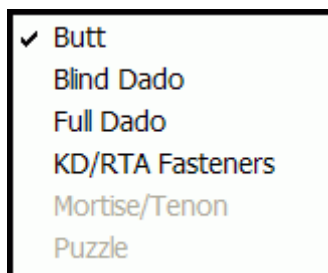


**Target to Origin** - This returns the **Insert Target** to the origin. The **Insert Target** determines where items are located when either loaded or pasted.

**Orthographic View** - This changes the display so it appears in a flat, **Orthographic** view, eliminating the effects of perspective.



**Construction** - This sets the joint construction parameters for the **Top, Bottom, Left, Right, Back and Front** sides. Additional information regarding the settings for these joints can be found in the appropriate **Construction Parameters** section of the specific part.



**Butt** - This changes the joint to a Butt construction where the edge of one part butts into the face of the second.

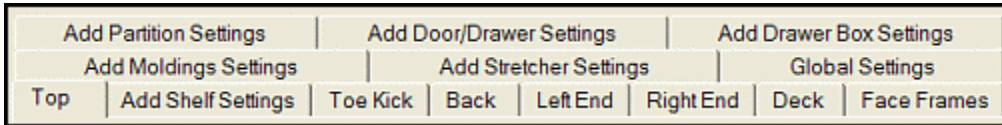
**Blind Dado** - This changes this joint to Blind Dado construction.

**Full Dado** - This changes this joint to Full Dado construction.

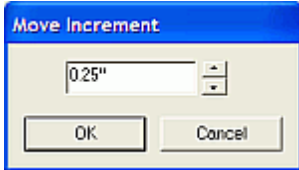
**KD/RTA Fasteners** - This change this joint to KD/RTA construction.

**Mortise/Tenon** - This is used with a Board Stock Face Frame only.

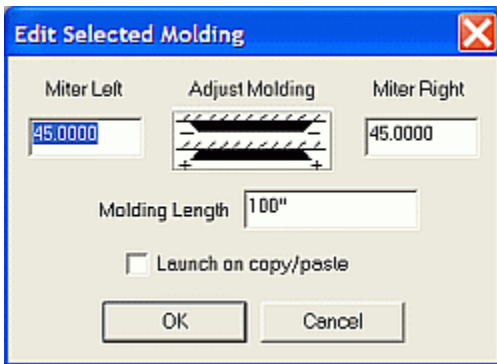
**Puzzle** - This is used with a Sheet Stock Face Frame only.



**Construction Settings** - The illustration above shows the available tabs in the **Construction Settings** window. For information on the parameters available, see the individual pages on **Construction Settings** for each of the tabs listed.



**Edit Move Increment** - This brings up the dialog that allows you to change the **Move Increment**, which is the distance things move. To move a **Display Object**, it must be highlighted, and then you must hold the **Ctrl** key. It can then be moved by using the **ARROW keys** or the right mouse button.



**Edit Molding** - This becomes active when a molding placed as a **Display Part** is highlighted. This opens a dialog that allows changes to the highlighted molding. Notice that this does not work with moldings inserted with the **Molding Editor**.

**Launch on copy/paste** - Moldings placed as **Display Parts** can be copied and pasted using standard Windows' Cut and Paste commands. If this is checked, the **Edit Selected Molding** dialog will appear on each cut and paste operation.

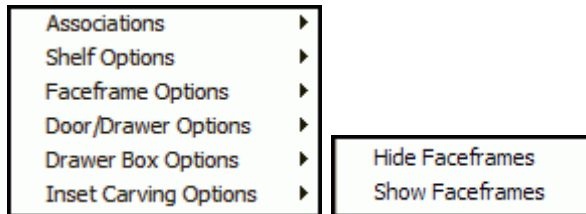
## Associations



**Associate to Cabinet** - This is used to make an individual component part of a cabinet. Highlight the part and the cabinet, then Right Click the highlighted part and select **Associate to Cabinet**.

**Disassociate from Cabinet** - This is used to make an individual component, currently part of a cabinet, into an independent part not associated with that cabinet. Highlight the part, then Right Click the highlighted part and select **Disassociate from Cabinet**.

## Shelf Options



**Hide Face Frames** - This hides face frame outline while in the **Shelf /Partition Editor**.

**Show Face Frames** - This shows face frame outline while in the **Shelf /Partition Editor**.

## Face Frame Options



**Toggle Overlap** - This changes the overlap on a corner of the face frame by Right Clicking on the corner and selecting **Toggle Overlap**. Notice in the illustration how the upper Face Frame part has been toggled on only one side.

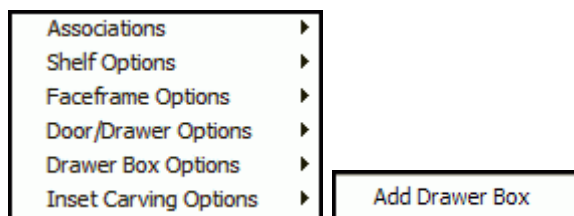
## Door/Drawer Options



**Hide Drawer Boxes** - Check to hide drawer boxes while working in this area.

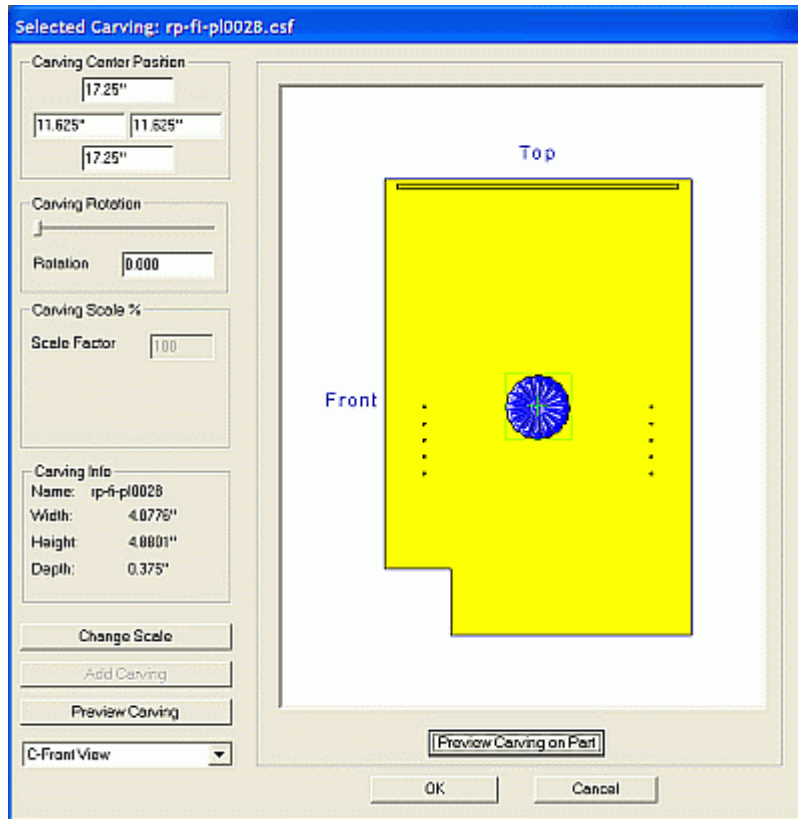
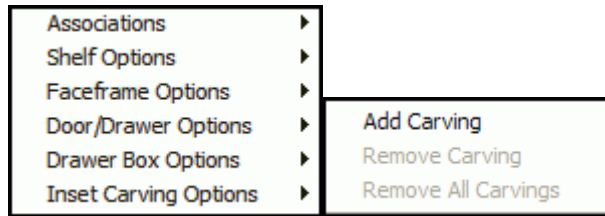
**Show Drawer Boxes** - Check to show drawer boxes while working in this area.

## Drawer Box Options



**Add Drawer Box** - This opens the **Add Drawer Box** window.

## Inset Carving Options



**Add Carving** - This provides the ability to add **Carvings** to cabinet parts. Selecting this opens the window shown, where you can add a carving. The illustration shows a **Carving** applied to the left side of the cabinet.

**New Carving Insert Position** - This shows the dimensions from edges where the center of the **Carving** will be. The center of the part is the default position.

**Carving Rotation Settings** - This gives the ability to rotate the **Carving** on the part.

**Carving Scale %** - This provides the ability to scale the entire **Carving** on the part.

**Carving Info** - This provides information on the **Carving**.

**Change Scale** - After a **Carving** is placed on a part, you can change the X, Y and Z-axis of the specific carving, and optionally change its aspect ratio.

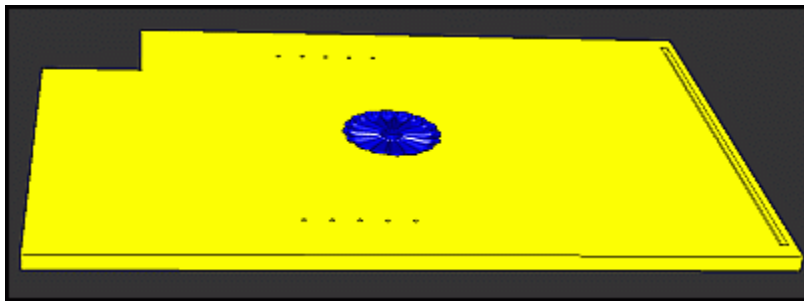


**Preview Carving** - This shows a new window where you may preview the **Carving**. The standard mouse controls work to zoom and view the **Carving**.

**Exit** - This exits the **Preview Carving** mode

**JPG** - This provides an option to save a ".jpg" file of the **Carving**.

**C-View** - This shows which side the **Carving** will be placed.



**Preview Carving on Part** - This opens a window where you may preview the **Carving** on the actual part. The standard mouse controls work to zoom and view the part.

**Screen Shade** - This allows you to change the background color from white to black.

**View Options** - This provides selection of either the front or the rear **C-Plane** view.

**Reset View** - This resets the view to the default view.

**Exit** - This exits the **Preview Carving** mode.

**JPG** - This provides an option to save a ".jpg" file of the **Carving** on the part.

**Remove Carving** - This removes the selected **Carving**.

**Remove All Carvings** - This removes all **Carvings**.



## Reports

C <u>u</u> t List	C
B <u>y</u> List	B
C <u>o</u> st S <u>h</u> ee <u>t</u>	S
D <u>r</u> awings	▶

**Cut List** - This creates a list of machined components required for the Job.

If accessed from the **Cabinet/Assembly Editor**, it is for the current cabinet. If accessed from **Custom Layout**, it is for highlighted items. If nothing is highlighted, then it is for the entire Job.

**Buy List** - Creates a list of everything that must be purchased for this Job. #

If accessed from the **Cabinet/Assembly Editor**, it is for the current cabinet. If accessed from **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job.

**Cost Sheet** - This creates a cost estimate for the Job, based on material cost and specified markups, or based on material cost and labor cost for each cabinet or assembly.

If accessed from the **Cabinet/Assembly Editor**, it is for the current cabinet or assembly. If accessed from **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job. It is based on Estimated Yield unless the Job has been nested, then it is based on Actual Yield.

**Drawings (Line Drawing Editor)** - This opens an area where engineering drawings for this Job are arranged and dimensioned. Drawings are sent to this area from within the **Cabinet/Assembly Editor** or from **Custom Layout**.

**Add Cabinet** - This sends highlighted item to the **Line Drawing Editor**.

	Rate	Hours
<input type="checkbox"/> Shop Hours	\$0.00/Hr	
<input type="checkbox"/> Machining	\$0.00/Hr	
<input type="checkbox"/> Assembly	\$0.00/Hr	
<input type="checkbox"/> Finishing	\$0.00/Hr	
<input type="checkbox"/> Installation	\$0.00/Hr	
<input type="checkbox"/> Misc 1	\$0.00/Hr	
<input type="checkbox"/> Misc 2	\$0.00/Hr	

Calculate Total    \$0.00 Total    OK    Cancel

**Set Labor Costs** - This opens a dialog where you can assign labor hours to the cabinet. Settings for the labor rate (\$ per hour) are found in **Settings/Preferences, Define Cost**.

**Shop Hours** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Machining** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Assembly** - This is a checkbox to select, and to add data to entry window for the amount of hours.

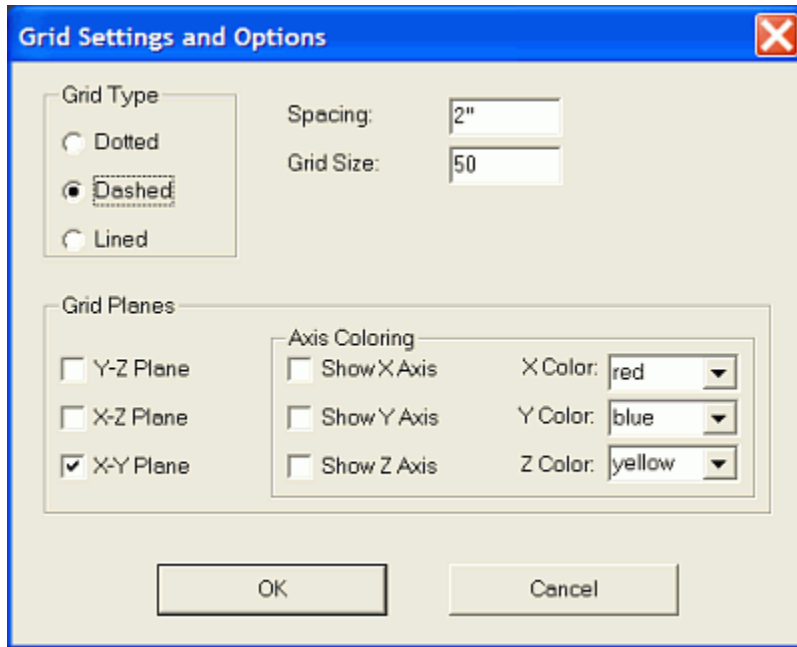
**Finishing** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Installation** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 1** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 2** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Calculate Total** - This totals the selected hours.



## Grid Settings and Options

**Grid Type** - This determines the appearance of the Grid.

**Dotted** - Only dots are shown at the intersections, defining the columns and rows.

**Solid Line** - The Grid is made of solid horizontal and vertical lines, defining the columns and rows.

**Dotted Line** - The Grid is made of dotted horizontal and vertical lines, defining the columns and rows.

**Spacing Setting** - This is the dimension between Grid squares.

**Grid Size Setting** - This is the number of Grid squares on this side of the axis.

**Grid Planes** - This area defines which grid planes are turned on and the appearance of the X, Y and Z-axes.

**Y-Z Planes**

**X-Z Planes**

**X-Y Planes**

**Axis Coloring** - This is the visibility and color choice of the axis lines.

**Show X-axis**

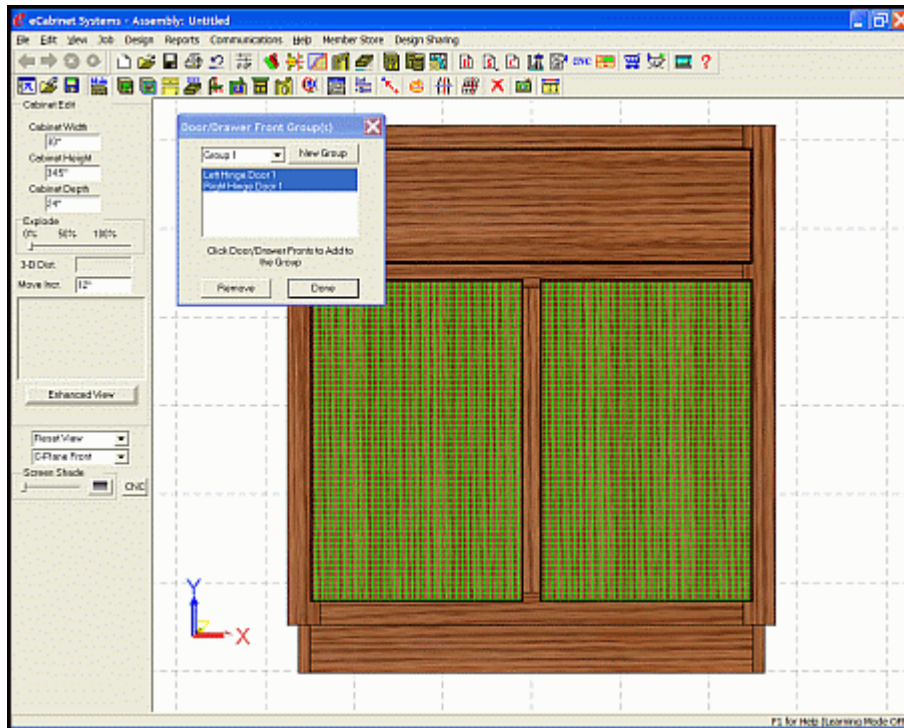
**Show Y-axis**

**Show Z-axis**

**X Color selection** - Black, Blue, Magenta, Red or Yellow.

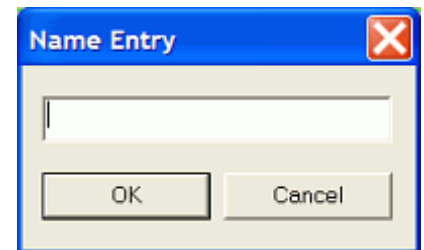
**Y Color selection** - Black, Blue, Magenta, Red or Yellow.

**Z Color selection** - Black, Blue, Magenta, Red or Yellow.



**Group Parts** - This opens a dialog that allows you to group slab doors and drawer fronts so that they are nested together, preserving the grain structure over multiple parts.

**User Part Name** - This opens the **Name Entry** dialog box (illustrated above) where you can type a unique name for the selected part.



**Design Sharing Info** - This will allow you to confirm that your cabinets and/or assemblies are properly configured into libraries. These are combined into a single file that you can send to Thermwood where they can be offered for sale on the Internet. See the section titled "**Design Sharing**" elsewhere in this manual for more information.

**Tessellation** - This slider bar adjusts the smoothness of the display of parts with **Part Editor** cuts on them. Smoother views can be displayed by sliding the slider to the right, but with the possible disadvantage of slower graphics performance.

**Note:** **Tessellation** is only a display function and does NOT affect the cabinet data or the **CNC Output**; it is only provided to adjust the detail settings on those parts that may have complex and intricate curves.

**Remove Part Editor Cuts** - This provides the ability to restore parts that have been modified with the **Part Editor**.

**From Selected Part**  
**From Entire Cabinet**



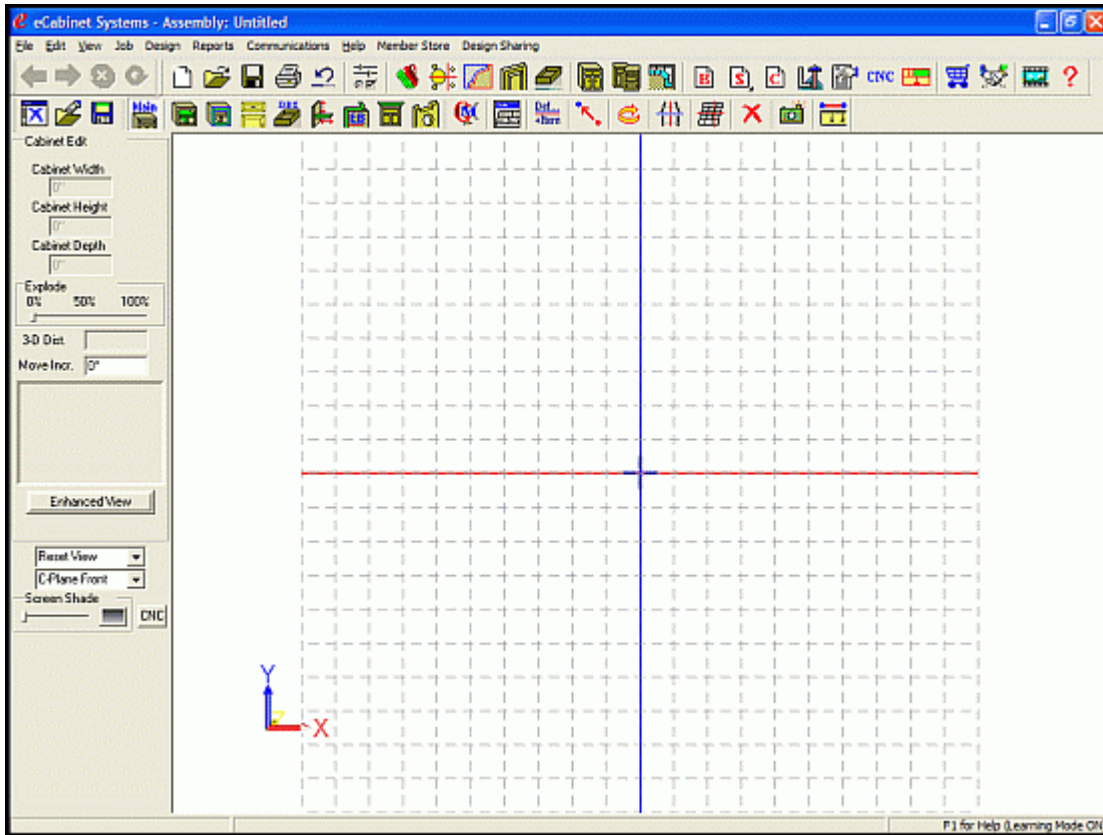
*7.11 to 7.19*

## **Cabinet/Assembly Editor Icon Details**

# New



**New**

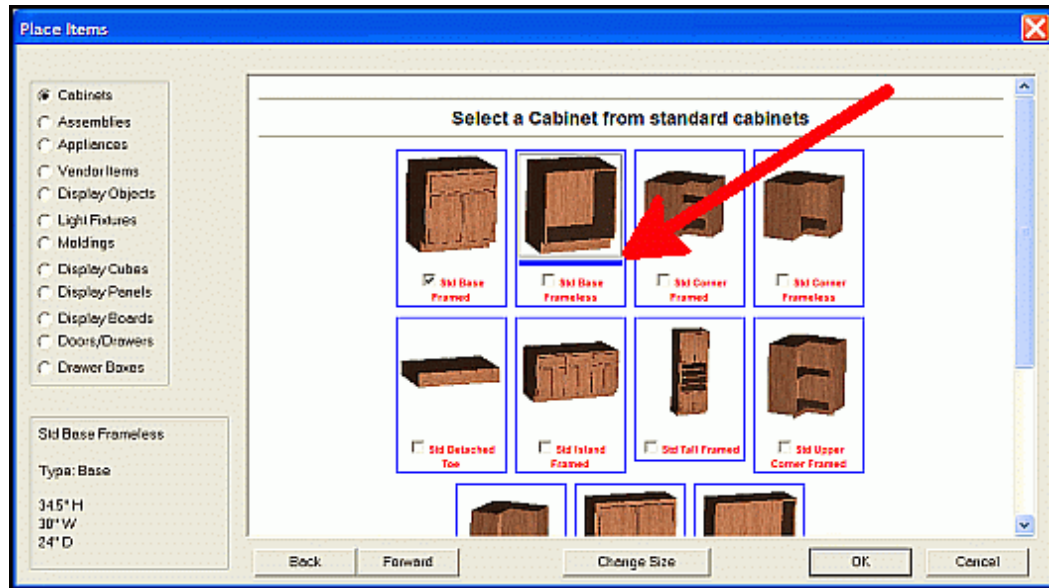


This option clears the work area to begin a new cabinet or assembly. You will be presented with a dialog to confirm that you want to clear the workspace and start over.

## Load Item



**Load Item**



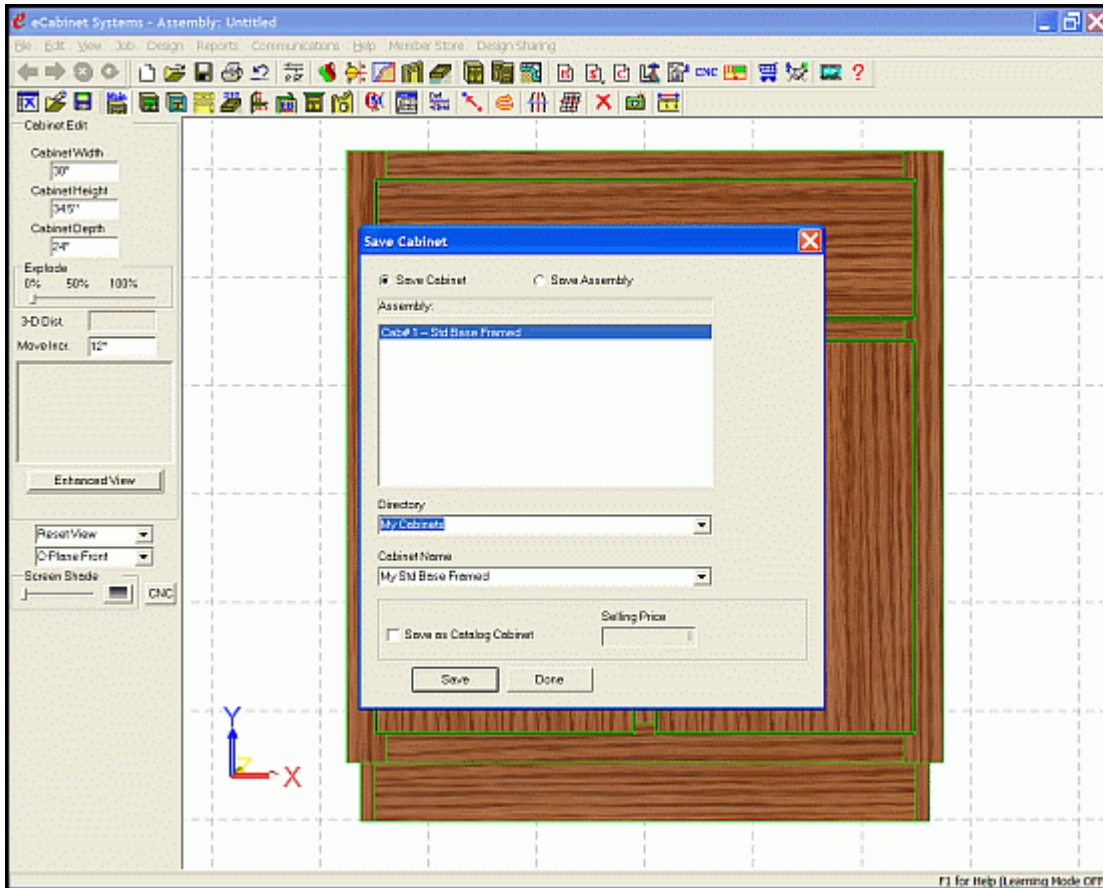
Information regarding **Load Item** can be found in the section of this manual called "**Common Menu Operations, Place Cabinets and Assemblies**". (In the illustration, the red arrow points to the blue bar, which indicates that this item has been selected to load.)



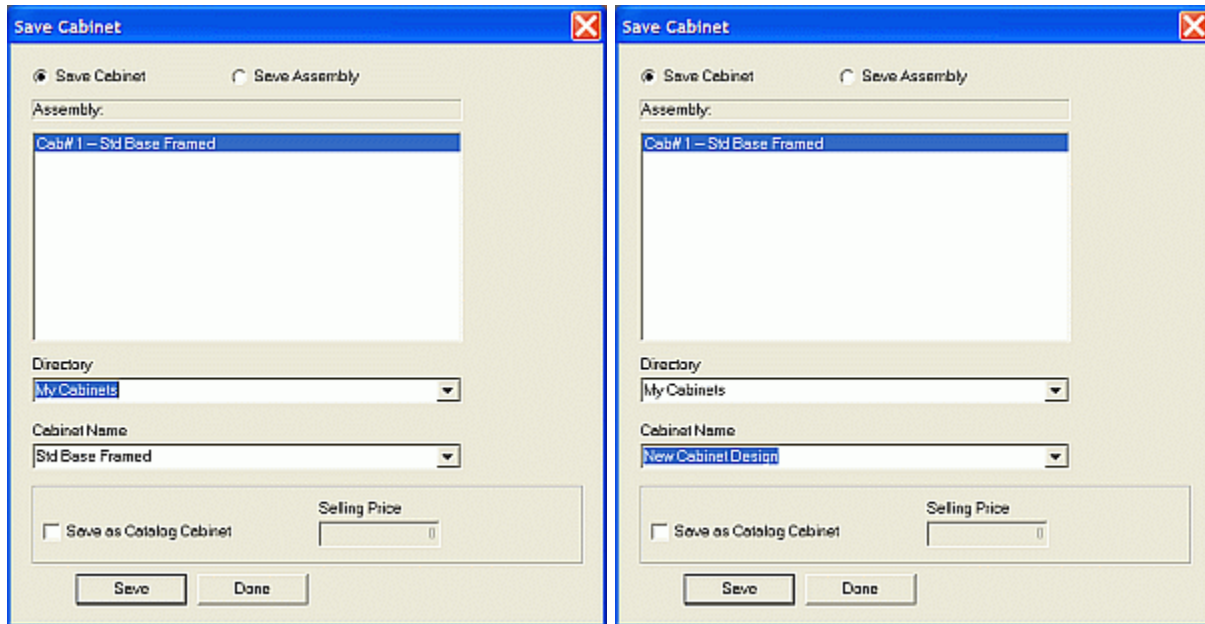
# Save



**Save**



To **Save** a cabinet or assembly, clicking the **Save** icon will open the **Save Cabinet** (or **Save Assembly** if an Assembly) window as shown. Since it is not possible to save or otherwise change the Standard Cabinets, a new directory (also called a folder) needs to be created.



First, place the cursor in the **Directory** field and highlight the existing data. Type your desired directory name and then do the same with the **Cabinet Name** field and then click **Save**. For an existing directory, use the pull-down menu to select the desired directory and type the new file name in **Cabinet Name**, and it will be saved in the specified directory.



**Note:** If there is a cabinet already with that name, you will get the above error message.

Assemblies will list the individual cabinets in the window and you can choose to save them as individual Cabinets or as the entire Assembly.

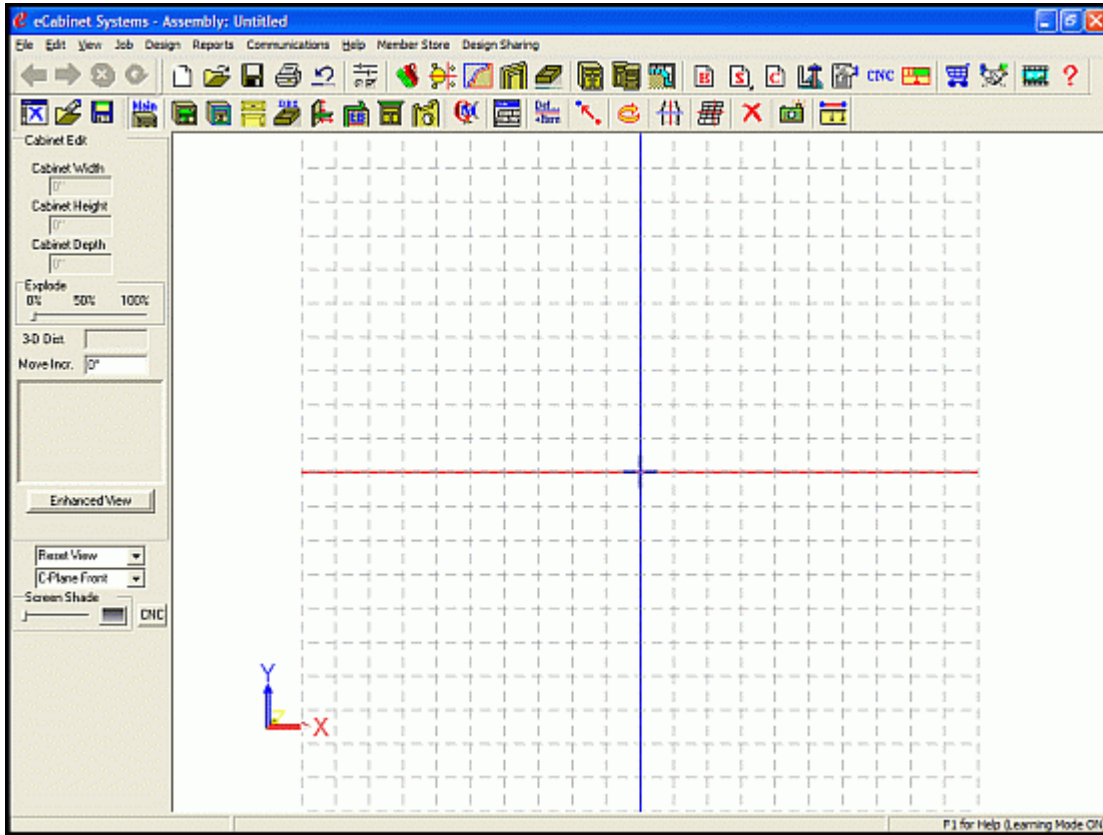
## Catalog Cabinets

A **Catalog Cabinet** is a designation intended for shops that build a standard line of products, and then combine these standard cabinets into specific jobs. You can place a **Catalog Cabinet** designation and a fixed selling price on any cabinet when it is saved. This indicates that the cabinet is a standard product, sold at a fixed price and cannot be modified or have its size changed when used in a **Custom Layout** or **Batch Cabinet Job**. **Catalog Cabinets** can be saved in any user directory, and have the copyright symbol (©) in front of the name.

# Main Screen



**Main Screen**

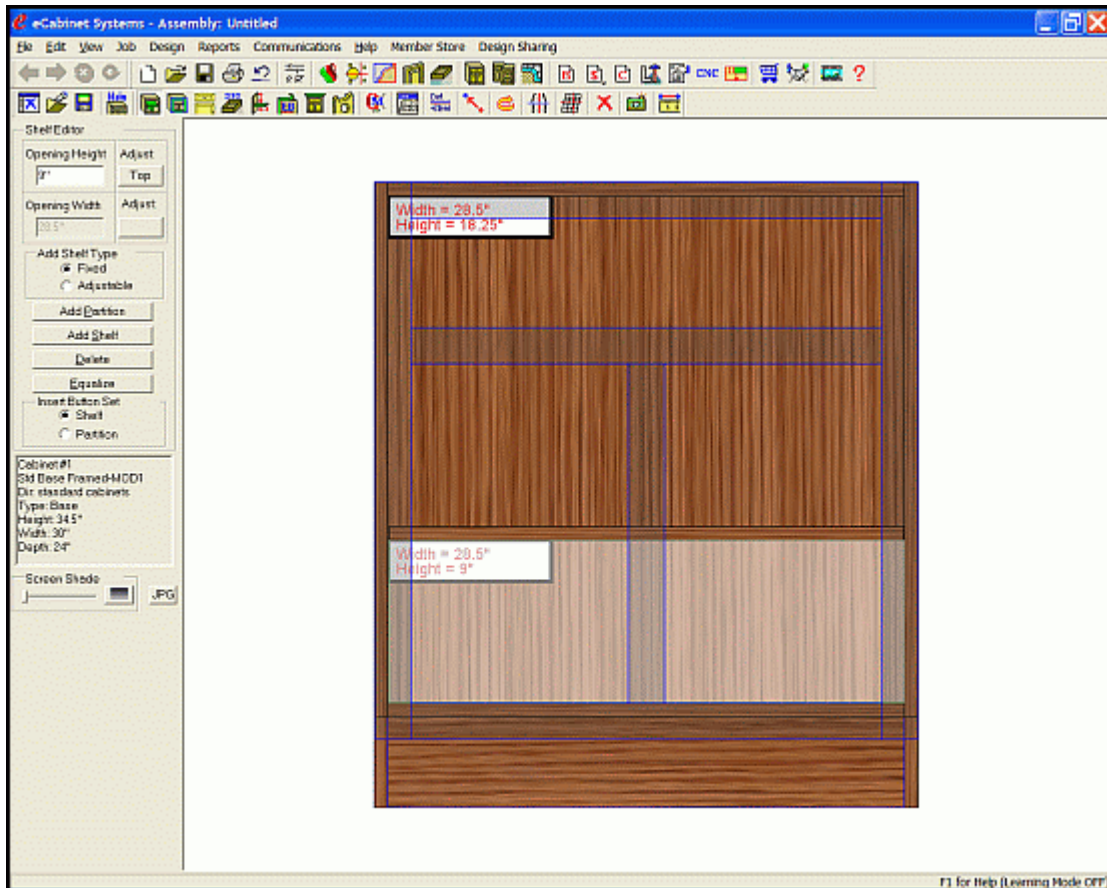


This will return you from any operation back to the main **Cabinet/Assembly Editor** workspace.

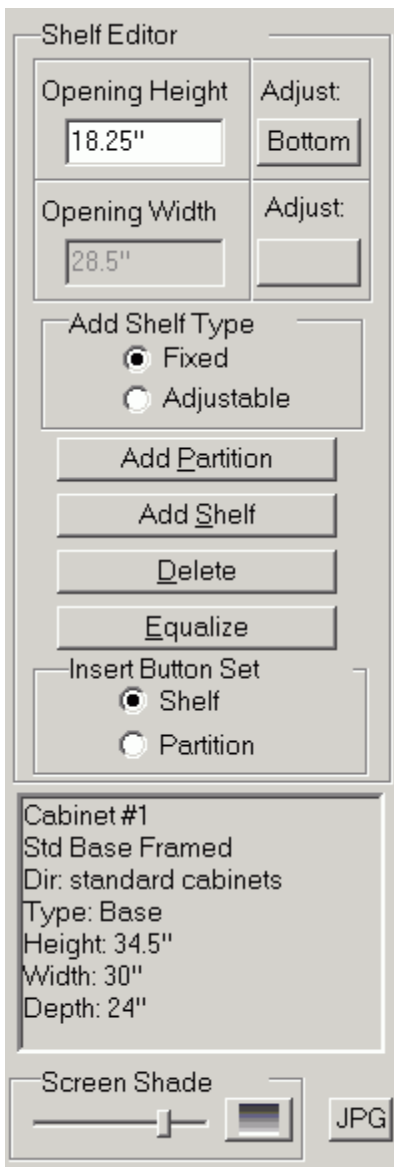
# Shelf/Partition Editor Menu Structure



**Shelf/Partition Editor**



There are two types of shelves, fixed and adjustable. Fixed shelves are joined to the cabinet ends using one of the standard joints. Adjustable shelves are smaller than the opening and are generally supported by some type of shelf pin or clip. There is normally a series of holes drilled into the cabinet ends to hold these clips. Partitions are fixed only and must mount into either a fixed shelf or a fixed part of the cabinet. To highlight more than one opening, hold the **Ctrl** key as you click each area.



**Opening Height/Adjust** - This is the height of the selected opening, and the **Adjust** button determines the direction where any changes are applied. **Top** adjusts the shelf that is above the opening, **Bottom** adjusts the shelf that is below the opening and **Both** adjusts the dimension equally.

**Opening Width/Adjust** - This is the width of the selected opening, and the **Adjust** button determines the direction where any changes are applied. **Right** adjusts the partition to the right the opening, **Left** adjusts the partition that is to the left of the opening and **Both** adjusts the dimension equally.

**Add Shelf Type** - This determines the type of shelf that is added.

**Fixed** - If selected, a shelf that is added is fixed and uses the fixed shelf parameters from the **Add Shelf** area in **Construction Settings**.

**Adjustable** - If selected, a shelf that is added is adjustable and uses the adjustable shelf parameters from the **Add Shelf** area in **Construction Settings**.

**Add Partition** - To add a partition, highlight an area and press this button. A partition as defined by the current Construction Settings is placed in the center of the highlighted area. Click to highlight an area. Hold the **Ctrl** key to highlight multiple areas.

**Add Shelf** - To add a shelf, highlight an area and press this button. A shelf, either fixed or adjustable as selected above, is placed in the center of the highlighted area using parameters as defined by the current **Construction Settings**. Click in the area of the cabinet you want to add the shelf image to highlight that area. Hold the **Ctrl** key to highlight multiple areas, and drag with the Left mouse button clicked to move this selection.

**Delete** - This allows you to Delete the item or items currently highlighted.

**Equalize** - This makes the space between shelves in the highlighted areas equal. The "=" key can also be used.

**Insert Button Set** - This selects whether the **Insert** key (when used in this editor) will place a **Shelf** or a **Partition**.

**Screen Shade** - This controls how the screen background color changes from white to black.

**JPG** - This opens a dialog that allows you to capture the current image and save it as a ".jpg" file.

## Adding a Drawer Stretcher

A Stretcher between drawers is actually a shelf with the back inset forward. The front can also be inset to shift the stretcher toward the back. These are not created or modified with the **Stretcher Editor**. Select the shelf, and then **Construction Settings**, and at **Shelf Inset Settings**, select the desired **Back Inset** amount. (Ensure the button is set for **Fixed Shelf**.) Then highlight the opening in the cabinet where you want to place the stretcher and press **Add Shelf**. Upon completion, confirm that the width of the new shelf is correct.

## Shelf/Partition Editor - Right Click Options

Areas	▶
Visibility	▶
<hr/>	
Load Item	
Align Items	
Measurements	
Rotate Item	
Delete Item	
<hr/>	
Scale Object	
Match Texture	
Target to Origin	
Orthographic View	
<hr/>	
Construction	▶
Construction Settings	
Edit Move Increment	
Edit Molding	
Associations	▶
Shelf Options	▶
Faceframe Options	▶
Door/Drawer Options	▶
Drawer Box Options	▶
Inset Carving Options	▶
Reports	▶
Set Labor Costs	
<hr/>	
Grid Settings	
Group Parts	
User Part Name	
Design Sharing Info	
<hr/>	
Remove PartEditor Cuts	▶

**Note:** Most of the Right Click Options are identical among the various **Cabinet/Assembly Editor** screens, so only specific information regarding this specific feature will be placed in these sections.

**Areas** - Provides confirmation and selection of the Editor choices

**Shelf/Partition Editor** - When in this section, there will be a check mark here.

Hide Part	
Hide Selected	
Hide All	
Transparent Part	
Transparent All	
Wireframe Part	
Wireframe Selected	
Wireframe All	
Restore Last Part	
Restore All	
<hr/>	
✓ Show Lines	
Show Hole Patterns	
Show Item Frames	
✓ Show Carvings	
HideTarget	
Hide Axis Designator	

**Visibility** - Returns to the top screen in the **Cabinet/Assembly Editor**.

**Hide Part** - Hide the part you just selected.

**Hide Selected** - Hides all the parts that are selected.

**Hide All** - Hides all parts.

**Transparent Part** - Turns the part that you just selected transparent.

**Transparent All** - Turns all parts transparent.

**Wireframe Part** - Turns the part you just selected into a wireframe representation.

**Wireframe Selected** - Turns the parts that are selected into wireframe representations.

**Wireframe All** - Turns all parts into wireframe representations.

**Restore Last Part** - Returns last part modified into normal display state.

**Restore All** - Returns all parts to their normal display states.

**Show Lines** - Highlights the edges of all parts in the cabinet.

**Show Hole Patterns** - Display hardware holes in place at this time.

**Show Item Frames** - Shows the frame that defines the outer limits of **Display Parts**.

**Show Carvings** - Shows any Carvings that have been applied.

**Hide Target** - Hides the **Insert Target**.

**Hide Axis Designator** - Hides the three-dimensional axis indicator.

**Delete Item** - This deletes selected item.

**Construction Settings** - See individual pages on **Construction Settings** for each displayed tab that is mentioned in the following sections.

## Shelf Options

**Hide Face Frames** - Hides face frame outline while in the **Shelf/Partition Editor**.

**Show Face Frames** - Shows face frame outline while in the **Shelf/Partition Editor**.

	Rate	Hours
<input type="checkbox"/> Shop Hours	\$0.00/Hr	
<input type="checkbox"/> Machining	\$0.00/Hr	
<input type="checkbox"/> Assembly	\$0.00/Hr	
<input type="checkbox"/> Finishing	\$0.00/Hr	
<input type="checkbox"/> Installation	\$0.00/Hr	
<input type="checkbox"/> Misc 1	\$0.00/Hr	
<input type="checkbox"/> Misc 2	\$0.00/Hr	

Buttons: Calculate Total, \$0.00 Total, OK, Cancel

**Set Labor Costs** - This opens a dialog box where you can assign labor hours to the cabinet. Settings for the labor rate (\$ per hour) are found in Settings/Preferences-Define Cost.

**Shop Hours** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Machining** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Assembly** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Finishing** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Installation** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 1** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 2** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Calculate Total** - This totals the selected hours.

**Design Sharing Info** - This will allow you to confirm that your cabinets and/or assemblies are properly configured into libraries. These are combined into a single file that you can copy to a CD and send to Thermwood, where they will be offered for sale on the Internet.

**Remove Part Editor Cuts** - Provides the ability to restore parts that have been modified with Part Editor.

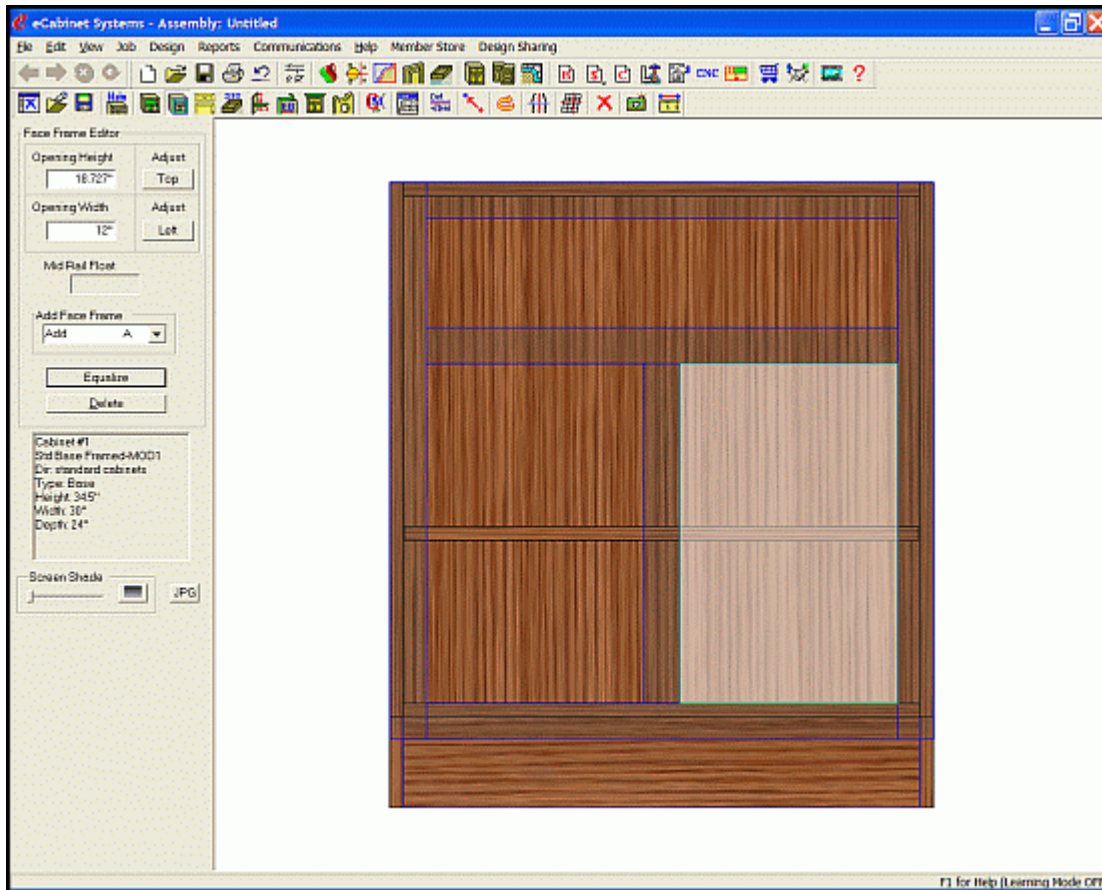
**From Selected Part**  
**From Entire Cabinet**



## Face Frame Editor Menu Structure

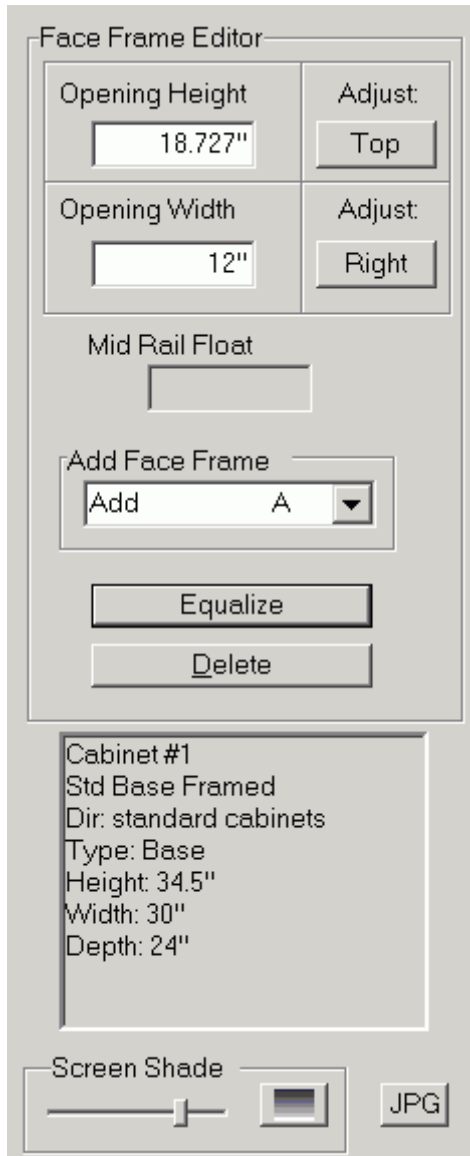


**Face Frame Editor**



The **Face Frame Editor** is used to add, delete and position face frame members. In this editor, the Face Frame members are displayed semi-transparent so you can see what is behind them. These components can be moved, after selecting and highlighting them, by pressing **Shift + Left Click**.

**Note:** Top and Bottom Rails and Left and Right Stiles are controlled by parameters in **Construction Settings** and are not controlled in the **Face Frame Editor**.



**Opening Height/Adjust** - This is the height of the selected opening, and the **Adjust** button determines the direction where any changes are applied. **Top** adjusts the space at the top of opening, **Bottom** adjusts the space at the bottom of the opening and **Both** adjusts the dimension equally.

**Opening Width/Adjust** - This is the width of the selected opening, and the **Adjust** button determines the direction where any changes are applied. **Right** adjusts the space to the right the opening, **Left** adjusts the space that is to the left of the opening and **Both** adjusts the dimension equally.

**Mid Rail Float** - This is the distance from the top edge of a mid rail to a fixed shelf that is above and behind it. The shelf must not have a front inset.

**Add Face Frame** - This is the selection that can add a Face Frame component at the specific location indicated.

**Top Rail**  
**Bottom Rail**  
**Right Stile**  
**Left Stile**  
**Mid Rail**  
**Mid Stile**

**Equalize** - This makes the space between shelves in the highlighted areas equal.

**Delete** - This Deletes the item or items currently highlighted.

**Screen Shade** - This controls how the screen background color changes from white to black.

**JPG** - This opens a dialog that allows you to capture the current image and save it as a ".jpg" file.

### Adjust Float for Rail to Shelf & Stile to Partition

Add a Mid Rail or Mid Stile if needed, and then highlight it by Left Clicking it. Press **Shift + Left Click** and use the mouse to move it over the shelf. The **Mid Rail Float** display will now activate. Adjust the float using the arrows or input the desired float, and then press **Enter**.

## Face Frame Editor - Right Click Options

Areas	▶
Visibility	▶
Load Item	
Align Items	
Measurements	
Rotate Item	
Delete Item	
Scale Object	
Match Texture	
Target to Origin	
Orthographic View	
Construction	▶
Construction Settings	
Edit Move Increment	
Edit Molding	
Associations	▶
Shelf Options	▶
Faceframe Options	▶
Door/Drawer Options	▶
Drawer Box Options	▶
Inset Carving Options	▶
Reports	▶
Set Labor Costs	
Grid Settings	
Group Parts	
User Part Name	
Design Sharing Info	
Remove PartEditor Cuts	▶

**Note:** Most of the Right Click Options are identical among the various **Cabinet/Assembly Editor** screens, so only specific information regarding this specific feature will be placed in these sections.

**Areas** - This provides confirmation and confirms the selection of the Editor choices.

**Face Frame Editor** - When in this section, there will be a check mark here.

Hide Part
Hide Selected
Hide All
Transparent Part
Transparent All
Wireframe Part
Wireframe Selected
Wireframe All
Restore Last Part
Restore All
✓ Show Lines
Show Hole Patterns
Show Item Frames
✓ Show Carvings
HideTarget
Hide Axis Designator

**Visibility** - This returns to the top screen in the **Cabinet/Assembly Editor**.

**Hide Part** - Hide the part you just selected.

**Hide Selected** - Hides all the parts that are selected.

**Hide All** - Hides all parts.

**Transparent Part** - Turns the part that you just selected transparent.

**Transparent All** - Turns all parts transparent.

**Wireframe Part** - Turns the part you just selected into a wireframe representation.

**Wireframe Selected** - Turns the parts that are selected into wireframe representations.

**Wireframe All** - Turns all parts into wireframe representations.

**Restore Last Part** - Returns last part modified into normal display state.

**Restore All** - Returns all parts to their normal display states.

**Show Lines** - Highlights the edges of all parts in the cabinet.

**Show Hole Patterns** - Display hardware holes in place at this time.

**Show Item Frames** - Shows the frame that defines the outer limits of **Display Parts**.

**Show Carvings** - Shows any Carvings that have been applied.

**Hide Target** - Hides the **Insert Target**.

**Hide Axis Designator** - Hides the three-dimensional axis indicator.

**Delete Item** - This deletes selected item.

**Construction Settings** - See "Construction Settings - Face Frames" elsewhere in this manual.



**Face Frame Options** - The option here is **Toggle Overlap**, which changes the nearest joint direction. Changes the overlap on a corner of the face frame by Right Clicking on the corner and selecting **Toggle Overlap**. If the rail butted against the stile, now the stile will butt against the rail and vice-versa. Notice in the illustration above, how the upper Face Frame part has been toggled on only one side.

	Rate	Hours
<input type="checkbox"/> Shop Hours	\$0.00/Hr	
<input type="checkbox"/> Machining	\$0.00/Hr	
<input type="checkbox"/> Assembly	\$0.00/Hr	
<input type="checkbox"/> Finishing	\$0.00/Hr	
<input type="checkbox"/> Installation	\$0.00/Hr	
<input type="checkbox"/> Misc 1	\$0.00/Hr	
<input type="checkbox"/> Misc 2	\$0.00/Hr	

Calculate Total    \$0.00 Total    OK    Cancel

**Set Labor Costs** - This opens a dialog where you can assign labor hours to the cabinet. Settings for the labor rate (\$ per hour) are found in **Settings/Preferences-Define Cost**.

**Shop Hours** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Machining** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Assembly** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Finishing** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Installation** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 1** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 2** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Calculate Total** - This totals the selected hours.

**Design Sharing Info** - This will allow you to confirm that your cabinets and/or assemblies are properly configured into libraries. These are combined into a single file that you copy to a CD and send to Thermwood where they will be offered for sale on the Internet.

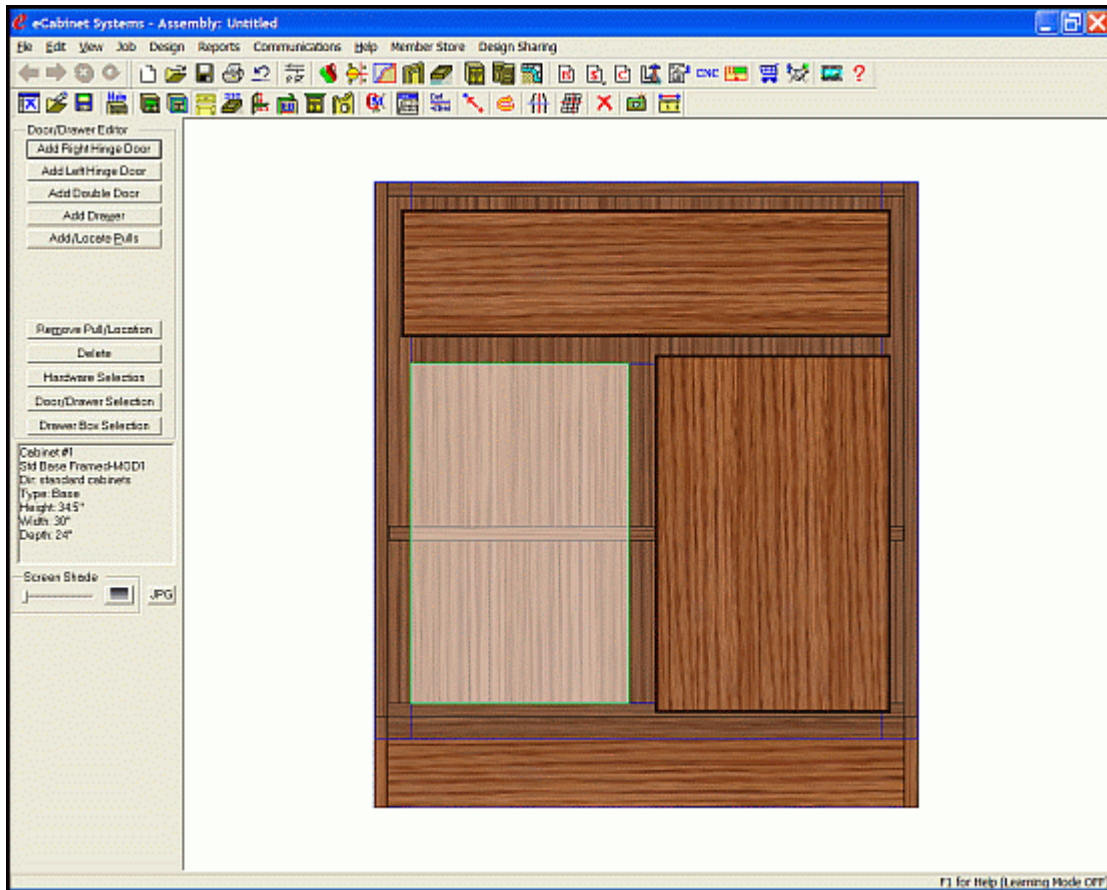
**Remove Part Editor Cuts** - Provides the ability to restore parts that have been modified with Part Editor.

**From Selected Part**  
**From Entire Cabinet**

## Door/Drawer Editor Menu Structure

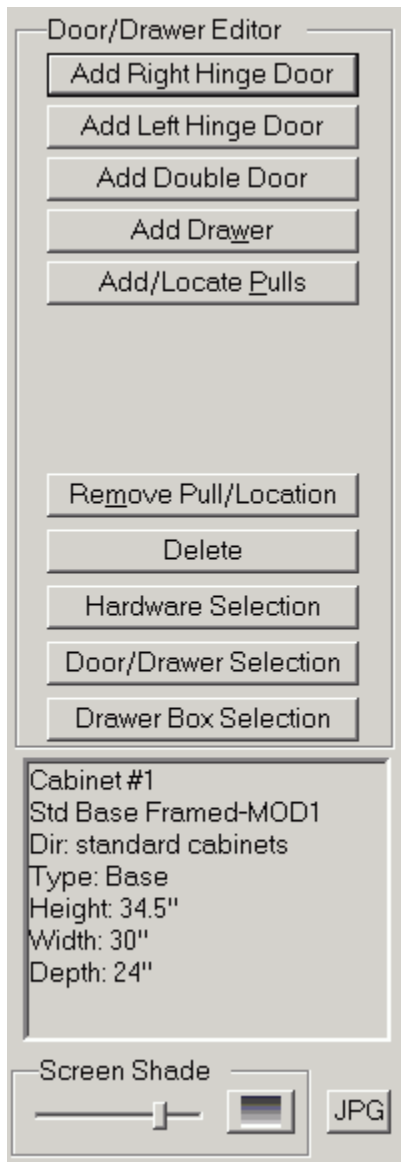


**Door/Drawer Editor**



This area is used to add and remove doors and drawers. It functions using existing door and drawer front designs. New designs can be developed in the **Door/Drawer Front Designer** (which is accessed through the icon in the toolbar or the **Modify Door/Drawers** button below). To place multiple doors (or drawers) each with different settings, place the first, change settings and then place the next, etc. until all are placed. Notice in the above image, the left door has been removed, and is highlighted, ready for a new door to be added.

**Note:** Placement details such as overlap/reveal, gaps, hinge placement, etc. are set in the **Add Door/Drawer** page of **Construction Settings**. For details on these settings see the section titled "**Construction Settings - Door/Drawer**" elsewhere in this manual. When a new door or drawer is added, these current settings are used unless specific changes are made here, during placement (These changes only affect the door being placed and do not affect those in **Construction Settings**).



**Add Right Hinge Door** - To add a door hinged on the right, highlight an area and press this button. A dialog appears where you can modify the **Add Door** settings. To add the door without modifying the settings, hold the **Shift** key and select this button.

**Add Left Hinge Door** - To add a door hinged on the left, highlight an area and press this button. A dialog appears where you can modify the **Add Door** settings. To add the door without modifying the settings, hold the **Shift** key and select this button.

**Add Double Door** - To add a double door, highlight an area and press this button. A dialog appears where you can modify the **Add Door** settings. To add the door without modifying the settings, hold the **Shift** key and select this button.

**Add Drawer** - To add one or more drawers, highlight an area and press this button. A dialog appears where you can modify the **Add Drawer** settings. To add the door without modifying the settings, hold the **Shift** key and select this button.

**Add/Locate Pulls** - Before using this area, make sure a default pull is selected for the door and drawer front. (Use the **Hardware Selection** button.) Highlight the door or drawer fronts on which you want to place the pulls (by clicking them; hold the **Ctrl** key to select multiple items). Then press this button, which opens a dialog (a sample of which is shown above) where pull location is defined and the current default pulls can be added.

**Note:** If you plan to add pulls in **Custom Layout**, you must first define the pull location here.

**Remove Pull/Location** - Removes pulls and/or defined pull locations from the doors/drawers currently highlighted.

**Delete** - This enables you to Delete the item or items currently highlighted.

**Hardware Selection** - Opens an area where hardware is selected and designated as default hardware for this cabinet. Two default Hinges and Hinge Mounts are automatically added for each door. One default Slide (or pair of slides if sold in pairs) and one slide mount (or pair) is automatically added for each drawer. (Additional information is detailed in section titled "**Door/Drawer Hardware Selection**", found elsewhere in this manual.)

**Door/Drawer Selection** - Opens the **Door/Drawer Front Designer** where existing door and drawer front designs are selected, can be modified and saved, and can be designated as the default designs for this cabinet. Whenever a door or drawer front is added to the cabinet, the default design at that time is used.

**Drawer Box Selection** - Opens the **Drawer Box Designer** where you can load a drawer box, modify it, save it under a new name and designate it as the default, which will then be used when a drawer box is added.

**Screen Shade** - This controls the screen background transition color from white to black.

**JPG** - This opens a dialog that allows you to capture the current image and save it as a ".jpg" file.



## Add Door Dialog

**Door/Drawer Quantity** - This is the number of VERTICALLY placed doors or drawers you wish to add to the opening. Only doors or drawers of equal height that fill the entire opening can be added.

**Door/Drawer Height** - This is automatically calculated to exactly fit the number of doors or drawers you specified, while maintaining the required gaps and overlaps/reveals. If you want a door or drawer shorter than the opening, input a smaller dimension in the **Door/Drawer Height** dimension box. This will leave a gap on either the top or bottom of the Door/Drawer, depending on whether **Adjust Top** or **Adjust Bottom** is selected.

**Reset** - This recalculates the height to completely fill the opening.

**Adjust Top / Adjust Bottom** - These indicate where the gap will be. **Adjust Top** puts the drawer box at the bottom of the opening, with the gap at the top of the drawer box. **Adjust Bottom** places the drawer box at the top of the opening, with the gap at the bottom.

**Door/Drawer Inset** - This is the distance the Door/Drawer is Inset (recessed) from the cabinet front or Face Frame.

**Note:** **Overlap** or **Reveal** dimensions change to **Gap** dimensions if a **Door Inset** is specified.

**Door to Drawer Gap** - This specifies the desired gap for **Top**, **Bottom**, **Left** and **Right** between any Doors and Drawers.

**Door to Door Gap** - This specifies the desired gap for **Top**, **Bottom**, **Left** and **Right** between any adjacent Doors.

### Top Overlap

**Frameless cabinets** - This is the **Reveal** on the top of the **Door/Drawer**.

**Face Frame cabinets** - This is the amount that the **Door/Drawer** overlaps the Face Frame on top. If **Inset** has been specified, this is the gap on the top of the **Door/Drawer**.

## Left Overlap

**Frameless cabinets** - This is the **Reveal** on the left of the **Door/Drawer**.

**Face Frame cabinets** - This is the amount that the **Door/Drawer** overlaps the Face Frame on the left.

If **Inset** has been specified, this is the gap on the left side of the **Door/Drawer**.

## Right Overlap

**Frameless cabinets** - This is the **Reveal** on the right of the **Door/Drawer**.

**Face Frame cabinets** - Thus us the amount that the **Door/Drawer** overlaps the Face Frame on the right.

If **Inset** has been specified, this is the gap on the right side of the **Door/Drawer**.

## Bottom Overlap

**Frameless cabinets** - This is the **Reveal** on the bottom of the **Door/Drawer**.

**Face Frame cabinets** - This is the amount that the **Door/Drawer** overlaps Face Frame on the bottom.

If **Inset** has been specified, this is the gap on the bottom side of the **Door/Drawer**.

**Slab Grain Direction** - The grain, if it is specified in the material, is oriented by default in what would be considered the strongest orientation for the part specified. If the **Slab Grain Direction** is changed, the component is rotated in the Nest Diagram to produce the specified grain direction.

**Hinge Center to Top** - This is the distance from the center of the top of the hinge to the top edge of the door.

**Hinge Center to Bottom** - This is the distance from the center of the bottom of the hinge to the bottom edge of the door.

**Max. Distance Between Hinges** - This is the maximum distance between hinges. When this center-to-center hinge spacing is reached, another hinge will be automatically be placed between these two.

**Double Door Gap** - This specifies the gap between double doors.

## Add Drawer Dialog

**Add Drawer Box** - This will add the current **Default Drawer Box** along with the **Drawer Front**.

**Minimum Back Inset** - This is the minimum distance from the inside back of the cabinet to the back of the drawer box.

**Minimum Top Inset** - This is the minimum distance from the top of the drawer box opening to the top of the drawer box.

**Bottom Inset** - This is distance from the bottom of the drawer box opening to the bottom of the drawer box.

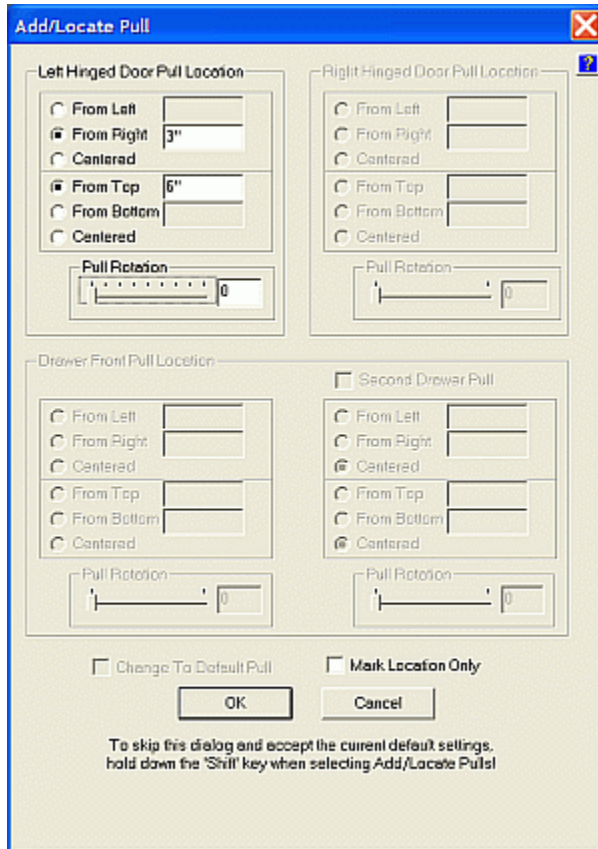
**Right Inset** - This is distance from the drawer box opening to the right side of the drawer box.

**Left Inset** - This is distance from the drawer box opening to the left side of the drawer box.

**Min. Height Inc., Min. Width Inc., Min. Depth Inc.** - To make drawer boxes in standard sized (even 1/32, 1/16 or 1/8 inch increments), this area allows you to specify the **Increment** you want the drawer boxes built in. When **Increments** are specified, the system will always round down the size of the drawer box to the next increment. Because of this, any **Insets** specified are now minimum **Insets** and the actual **Inset** may be slightly larger when a dimension is rounded down.

**Slide Distance From Bottom** - This specifies how high from the bottom edge of the drawer side the drawer slide is located. This is also the zero point for the mounting hole pattern for the slide.

## Add/Locate Pull Dialog



**Pulls** are placed on doors and drawer fronts by first selecting a **Pull** as the default and then defining its location on the door or drawer front.

**Note:** Pull locations and orientation can be defined without adding a pull. In this case, the defined location is used whenever a pull is added either in the **Cabinet/Assembly Editor** or **Custom Layout**. Because displaying complex pulls can slow computer performance, you can define pull locations and then add the pulls after the layout is complete. (You can also hide the pulls while working in **Custom Layout**.)

The defined distances from **Top**, **Bottom**, **Left** and **Right** are to the center of the pull, and these distances remain unchanged as door and drawer front size changes.

### Add Multiple Doors/Drawer Fronts to a Single Opening

Highlight an opening where you want the doors/drawers placed, and then press the appropriate button (**Add Right Hinge Door**, **Add Left Hinge Door**, **Add Double Door**, **Add Drawer**). If you want multiple doors/drawers of equal height, they can be added all at one time by inputting the number of doors/drawers in the **Quantity** box at the top and pressing **Enter**. If you want multiple doors/drawers of unequal height, you will need to place them individually:

Set **Quantity** to 1. Input the **Height** of the door or drawer front. Select either **Adjust Top** or **Adjust Bottom**, and any other desired settings as needed, and press **OK**. Repeat for each additional Door/Drawer Front.

## Door/Drawer Editor - Right Click Options

Areas	▶
Visibility	▶
Load Item	
Align Items	
Measurements	
Rotate Item	
Delete Item	
Scale Object	
Match Texture	
Target to Origin	
Orthographic View	
Construction	▶
Construction Settings	
Edit Move Increment	
Edit Molding	
Associations	▶
Shelf Options	▶
Faceframe Options	▶
Door/Drawer Options	▶
Drawer Box Options	▶
Inset Carving Options	▶
Reports	▶
Set Labor Costs	
Grid Settings	
Group Parts	
User Part Name	
Design Sharing Info	
Remove PartEditor Cuts	▶

**Note:** Most of the Right Click Options are identical among the various **Cabinet/Assembly Editor** screens, so only specific information regarding this specific feature will be placed in these sections.

**Areas** - This provides confirmation and selection of the Editor choices.

**Door/Drawer Editor** - When in this section, there will be a check mark here.

Hide Part
Hide Selected
Hide All
Transparent Part
Transparent All
Wireframe Part
Wireframe Selected
Wireframe All
Restore Last Part
Restore All
✓ Show Lines
Show Hole Patterns
Show Item Frames
✓ Show Carvings
HideTarget
Hide Axis Designator

**Visibility** - This returns to the top screen in the **Cabinet/Assembly Editor**.

**Hide Part** - Hide the part you just selected.

**Hide Selected** - Hides all the parts that are selected.

**Hide All** - Hides all parts.

**Transparent Part** - Turns the part that you just selected transparent.

**Transparent All** - Turns all parts transparent.

**Wireframe Part** - Turns the part you just selected into a wireframe representation.

**Wireframe Selected** - Turns the parts that are selected into wireframe representations.

**Wireframe All** - Turns all parts into wireframe representations.

**Restore Last Part** - Returns last part modified into normal display state.

**Restore All** - Returns all parts to their normal display states.

**Show Lines** - Highlights the edges of all parts in the cabinet.

**Show Hole Patterns** - Display hardware holes in place at this time.

**Show Item Frames** - Shows the frame that defines the outer limits of

### Display Parts.

**Show Carvings** - Shows any Carvings that have been applied.

**Hide Target** - Hides the **Insert Target**.

**Hide Axis Designator** - Hides the three-dimensional axis indicator.

**Delete Item** - This deletes selected item.

**Construction Settings** - See the section titled "**Construction Settings - Doors/Drawer**" for details.

## Door/Drawer Options

**Hide Drawer Boxes** - Check to hide drawer boxes while working in this area.

**Show Drawer Boxes** - Check to show drawer boxes while working in this area.

	Rate	Hours
<input type="checkbox"/> Shop Hours	\$0.00/Hr	<input type="text"/>
<input type="checkbox"/> Machining	\$0.00/Hr	<input type="text"/>
<input type="checkbox"/> Assembly	\$0.00/Hr	<input type="text"/>
<input type="checkbox"/> Finishing	\$0.00/Hr	<input type="text"/>
<input type="checkbox"/> Installation	\$0.00/Hr	<input type="text"/>
<input type="checkbox"/> Misc 1	\$0.00/Hr	<input type="text"/>
<input type="checkbox"/> Misc 2	\$0.00/Hr	<input type="text"/>

Calculate Total    \$0.00 Total    OK    Cancel

**Set Labor Costs** - This opens a dialog where you can assign labor hours to the cabinet. Settings for the labor rate (\$ per hour) are found in **Settings/Preferences-Define Cost**.

**Shop Hours** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Machining** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Assembly** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Finishing** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Installation** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 1** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 2** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Calculate Total** - This totals the selected hours.

**Design Sharing Info** - This will allow you to confirm that your cabinets and/or assemblies are properly configured into libraries. These are then combined into a single file that you copy to a CD and send to Thermwood, where they will be offered for sale on the Internet.

**Remove Part Editor Cuts** - Provides the ability to restore parts that have been modified with Part Editor.

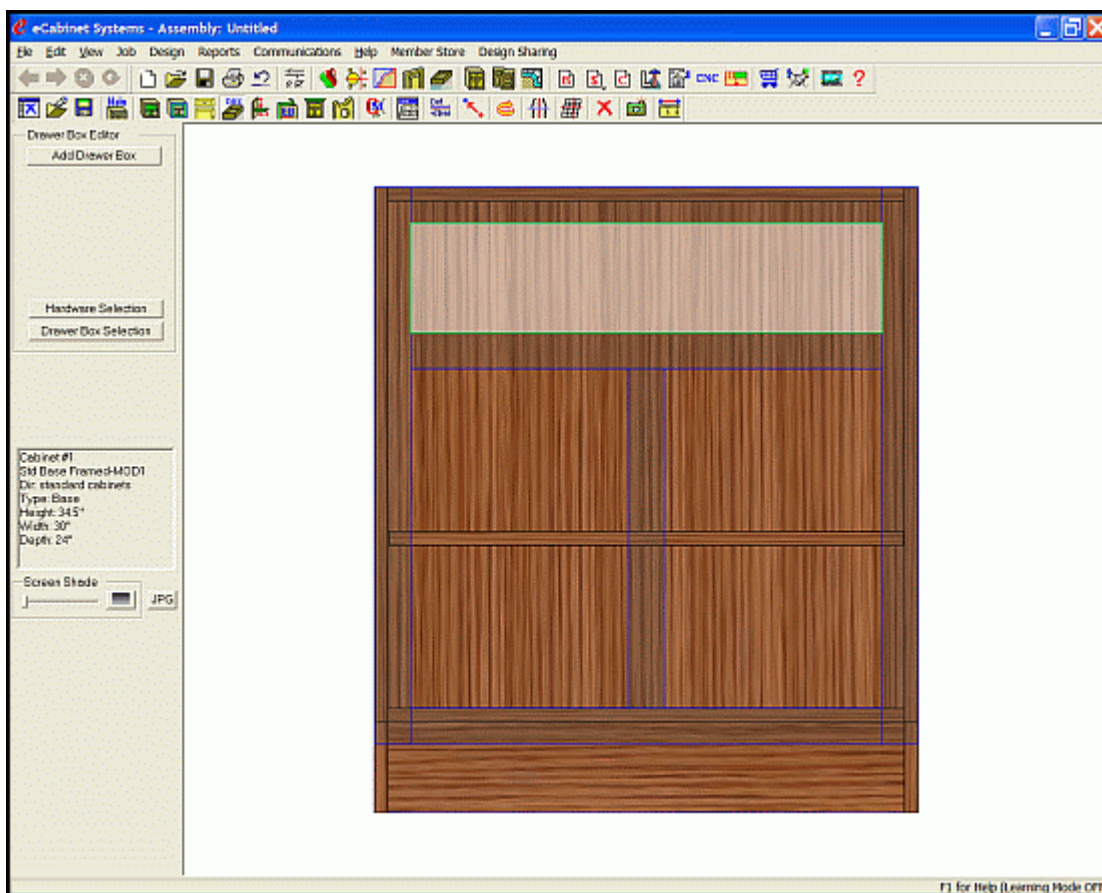
From Selected Part

From Entire Cabinet

## Drawer Box Editor Menu Structure



### Drawer Box Editor



This opens an editor where drawer boxes are added directly to openings in the selected cabinet, without a drawer front. To add a drawer front/drawer box combination, use the **Door/Drawer Editor**.

**Add Drawer Box** - Highlight the area you want to apply the drawer box. Unless you have already defined a default drawer box, this will open the **Drawer Box Designer** where you can select and existing design or create a new one. This will apply a drawer box without a drawer front.

**Drawer Box Quantity** - This is how many identical drawer boxes are to be placed VERTICALLY in the selected opening.

**Note:** You cannot leave a gap when installing multiple drawers.

**Drawer Box Height** - This must, obviously, be less than the opening you are installing the drawer box into.

**Adjust Top** and **Adjust Bottom** - These indicate where the gap will be. **Adjust Top** puts the drawer box at the bottom of the opening, with the gap at the top of the drawer box. **Adjust Bottom** places the drawer box at the top of the opening, with the gap at the bottom.

**Insets (Back, Top, Bottom, Front, Right, Left)** - These specify the clearances from the cabinet to the drawer box.

**Min. Height Increment, Min. Width Increment Min. Depth Increment** - To make drawer boxes in standard sized (even 1/32, 1/16 or 1/8 inch increments), this area allows you to specify the **Increment** you want the drawer boxes built in. When **Increments** are specified, the system will always round down the size of the drawer box to the next increment. Because of this, any **Insets** specified are now minimum **Insets** and the actual **Inset** may be slightly larger when a dimension is rounded down.



**Slide Distance From Bottom** - This specifies how high from the bottom edge of the drawer side the drawer slide is located. This is also the zero point for the mounting hole pattern for the slide.

**Drawer Box to Drawer Box Gap** - This is used whenever more than one drawer box is added to an opening.

**Hardware Selection** - Opens an area where hardware is selected and designated as default hardware for this cabinet. One default slide (or pair of slides if sold in pairs) and one slide mount (or pair) is automatically added for each drawer. (Additional information is detailed in section titled "**Door/Drawer Hardware Selection**", found elsewhere in this manual.)

**Drawer Box Selection** - This opens the **Drawer Box Designer** where you can select an existing design or create a new one. (Additional information is detailed in section titled "**Drawer Box Designer**", found elsewhere in this manual.)

**Screen Shade** - This controls how the screen background color can be adjusted from white to black.

**JPG** - This opens a dialog that allows you to capture the current image and save it as a ".jpg" file.

### **Add a Drawer Box Without a Drawer Front**

Highlight an opening where you want the drawer box placed, then press the **Drawer Box Selection** button and select an existing drawer box. If this is an acceptable design, press **Set Default**, and select the **Construction Settings** details as needed. Select **Close** and then press **Add Drawer Box**.

### **Add Multiple Drawer Boxes (No Drawer Fronts) to a Single Opening**

Highlight an opening where you want the drawer boxes placed, then press the **Drawer Box Selection** button and select an existing drawer box. If this is an acceptable design, press **Set Default**, and select the **Construction Settings** details as needed. Select **Close** and then press **Add Drawer Box**.

If you want multiple drawer boxes of equal height, they can be added at one time by inputting the number of drawers in the **Quantity** box at the top and then by pressing **Enter**. If you want multiple drawer boxes of unequal height, you will need to place them individually:

Set **Quantity** to 1. Input the **Height** of the drawer box. Select either **Adjust Top** or **Adjust Bottom**, and any other desired settings as needed, and press **OK**. Repeat for each additional Drawer Box.

## Drawer Box Editor - Right Click Options

Areas	▶
Visibility	▶
<hr/>	
Load Item	
Align Items	
Measurements	
Rotate Item	
Delete Item	
<hr/>	
Scale Object	
Match Texture	
Target to Origin	
Orthographic View	
<hr/>	
Construction	▶
Construction Settings	
Edit Move Increment	
Edit Molding	
Associations	▶
Shelf Options	▶
Faceframe Options	▶
Door/Drawer Options	▶
Drawer Box Options	▶
Inset Carving Options	▶
Reports	▶
Set Labor Costs	
<hr/>	
Grid Settings	
Group Parts	
User Part Name	
Design Sharing Info	
<hr/>	
Remove PartEditor Cuts	▶

**Note:** Most of the Right Click Options are identical among the various **Cabinet/Assembly Editor** screens, so only specific information regarding this specific feature will be placed in these sections.

**Areas** - This provides confirmation and selection of the Editor choices.

**Drawer Box Editor** - When in this section, there will be a check mark here.

Hide Part	
Hide Selected	
Hide All	
Transparent Part	
Transparent All	
Wireframe Part	
Wireframe Selected	
Wireframe All	
Restore Last Part	
Restore All	
<hr/>	
✓ Show Lines	
Show Hole Patterns	
Show Item Frames	
✓ Show Carvings	
HideTarget	
Hide Axis Designator	

**Visibility** - This returns to the top screen in the **Cabinet/Assembly Editor**.

**Hide Part** - Hide the part you just selected.

**Hide Selected** - Hides all the parts that are selected.

**Hide All** - Hides all parts.

**Transparent Part** - Turns the part that you just selected transparent.

**Transparent All** - Turns all parts transparent.

**Wireframe Part** - Turns the part you just selected into a wireframe representation.

**Wireframe Selected** - Turns the parts that are selected into wireframe representations.

**Wireframe All** - Turns all parts into wireframe representations.

**Restore Last Part** - Returns last part modified into normal display state.

**Restore All** - Returns all parts to their normal display states.

**Show Lines** - Highlights the edges of all parts in the cabinet.

**Show Hole Patterns** - Display hardware holes in place at this time.

**Show Item Frames** - Shows the frame that defines the outer limits of **Display Parts**.

**Show Carvings** - Shows any Carvings that have been applied.

**Hide Target** - Hides the **Insert Target**.

**Hide Axis Designator** - Hides the three-dimensional axis indicator

**Delete Item** - This deletes selected item.

		Hours
<input type="checkbox"/> Shop Hours	\$0.00/Hr	
<input type="checkbox"/> Machining	\$0.00/Hr	
<input type="checkbox"/> Assembly	\$0.00/Hr	
<input type="checkbox"/> Finishing	\$0.00/Hr	
<input type="checkbox"/> Installation	\$0.00/Hr	
<input type="checkbox"/> Misc 1	\$0.00/Hr	
<input type="checkbox"/> Misc 2	\$0.00/Hr	

Calculate Total    \$0.00 Total    OK    Cancel

**Set Labor Costs** - This opens a dialog where you can assign labor hours to the cabinet. Settings for the labor rate (\$ per hour) are found in **Settings/Preferences-Define Cost**.

**Shop Hours** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Machining** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Assembly** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Finishing** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Installation** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 1** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 2** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Calculate Total** - This totals the selected hours.

**Design Sharing Info** - This will allow you to confirm that your cabinets and/or assemblies are properly configured into libraries. These are combined into a single file that you can copy to a CD and send to Thermwood, where they will be offered for sale on the Internet.

**Remove Part Editor Cuts** - Provides the ability to restore parts that have been modified with Part Editor.

**From Selected Part**  
**From Entire Cabinet**

## Door/Drawer Hardware Selection

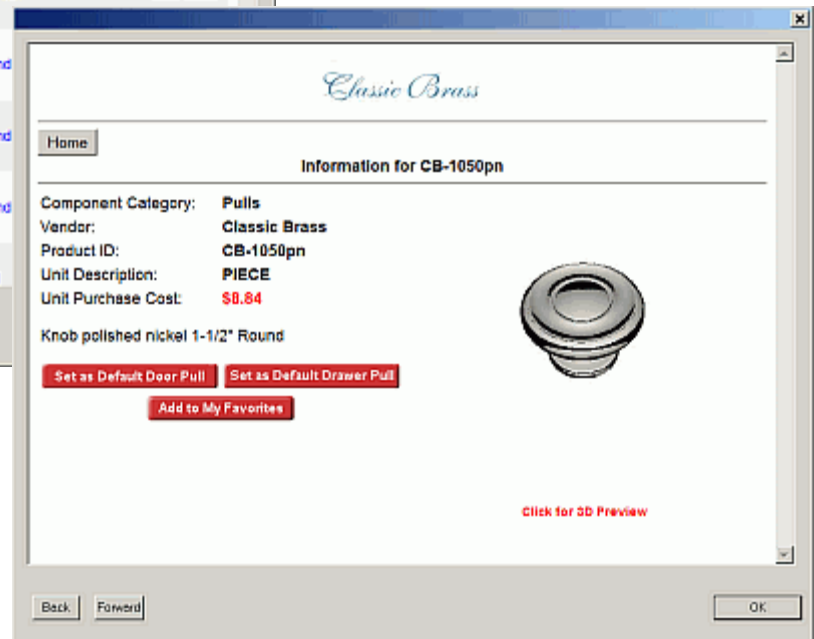
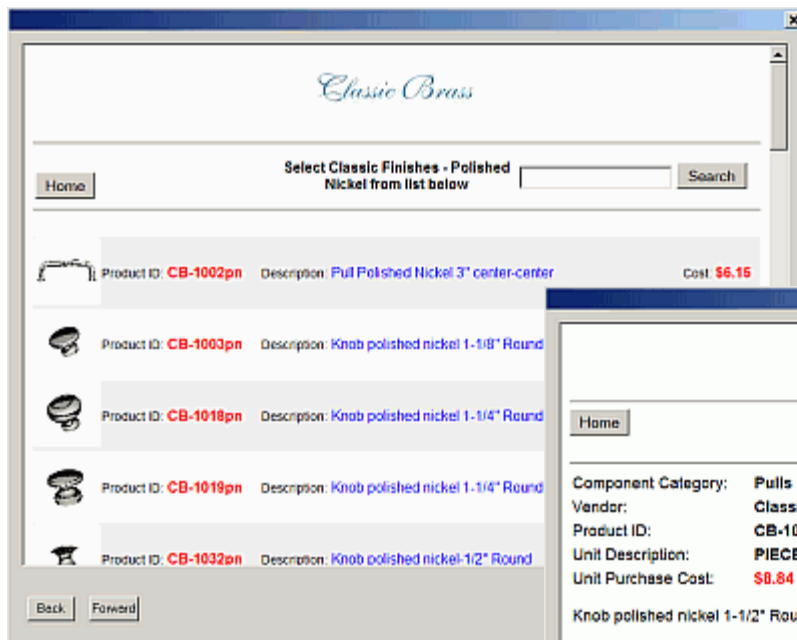
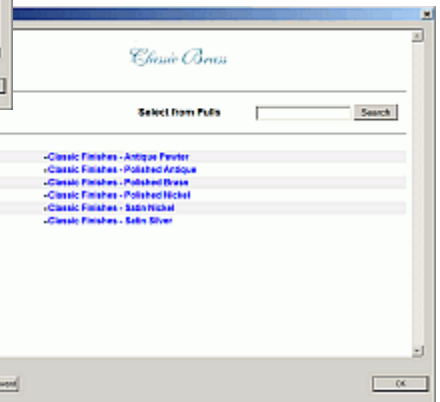
This is where the Hardware is selected and designated as default hardware for this cabinet. Two default Hinges and Hinge Mounts are automatically added for each door. One default Slide (or pair of slides if sold in pairs) and one slide mount (or pair) is automatically added for each drawer. A typical procedure (for a Pull) is shown below:



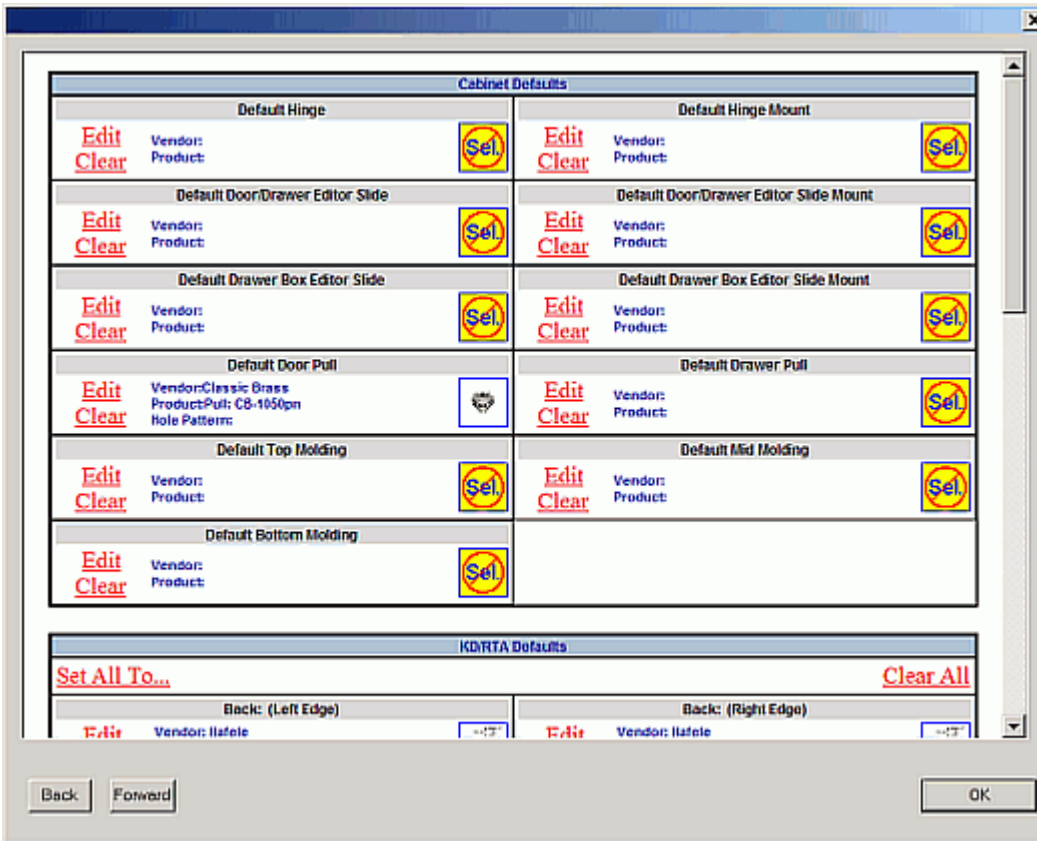
First select the type of part desired.



Then select the vendor.

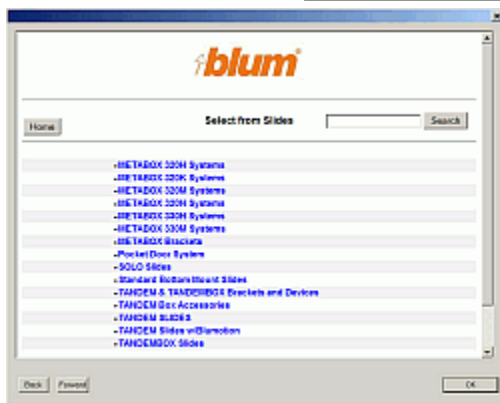
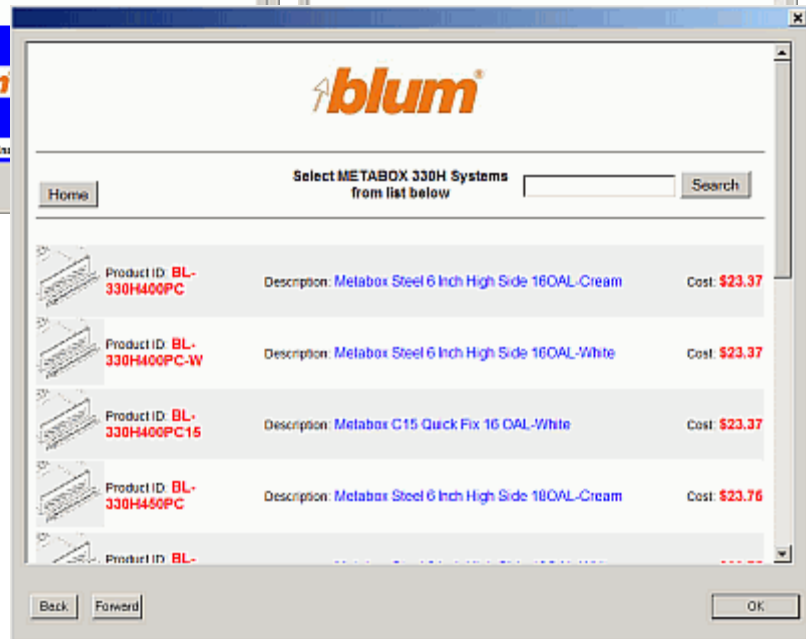


Then select the item.



Confirm the selected part, and then, set it as the default.

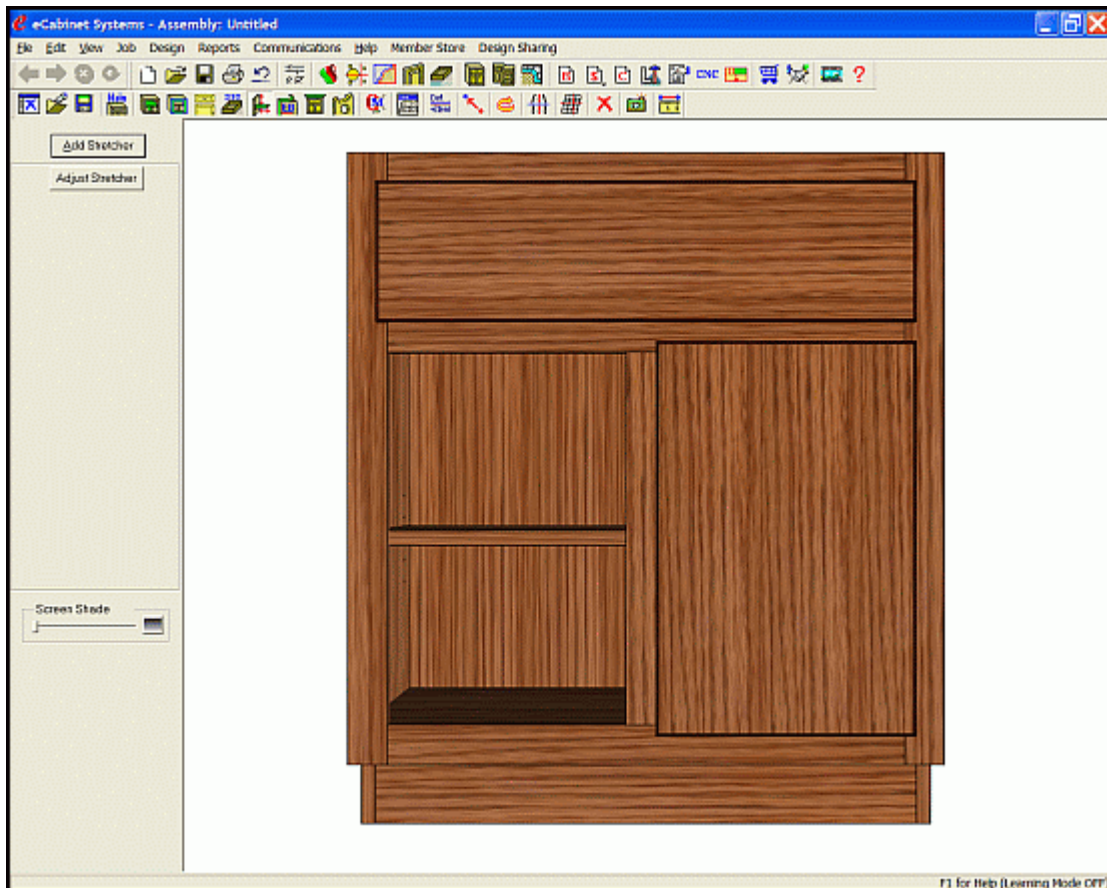
Now, a typical slide selection is shown:



## Stretcher Editor Menu Structure

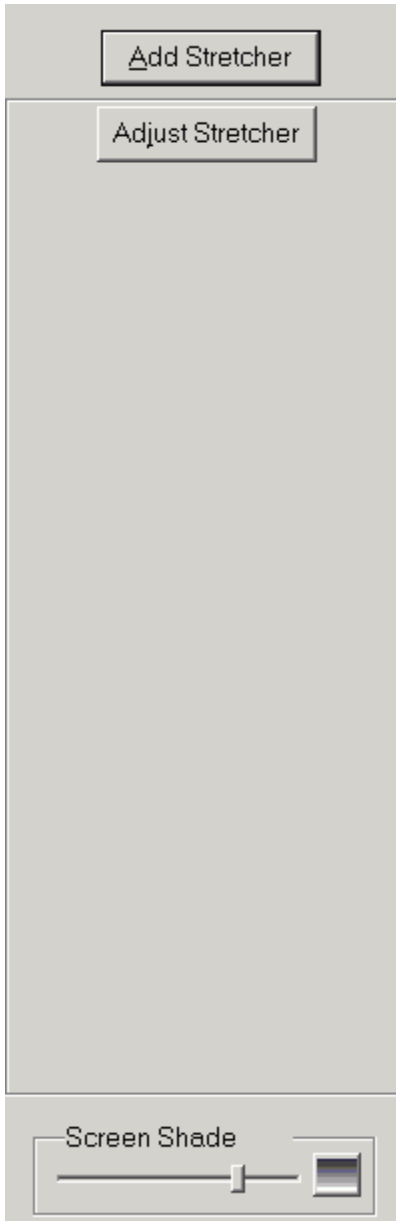


**Stretcher Editor**

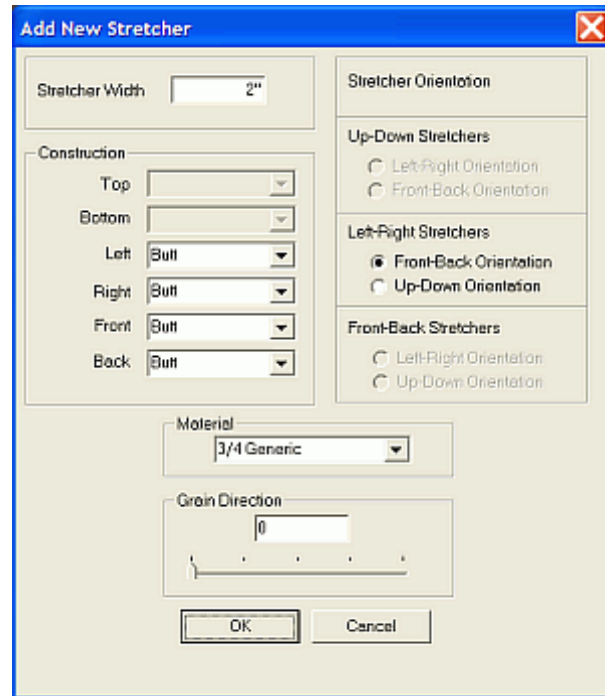
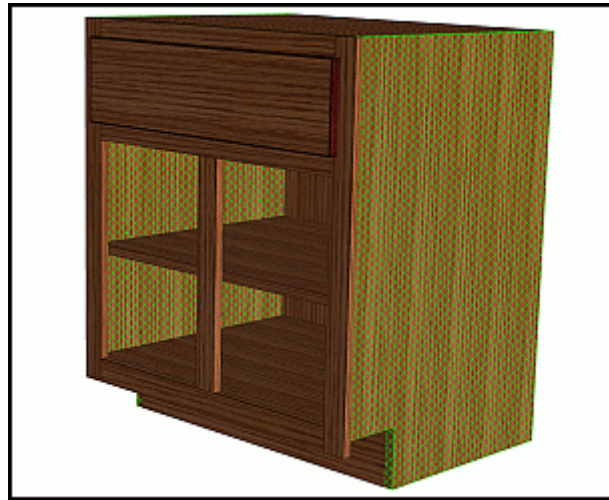


This opens an editor where internal cabinet parts such as nailers, sleepers, braces etc. are added modified and removed. In *eCabinet Systems*, we will call all of these "**Stretchers**" regardless of their ultimate purpose. Stretchers are made from sheet stock, and are nested along with other components made from the same material. Stretchers can be positioned in a base or upper cabinet horizontally, from side to side, vertically, from top to deck or horizontally, from front to back. A stretcher can also connect to any other fixed cabinet part such as fixed shelves, partitions or other stretchers, and they can be given any joint construction with the parts they contact. The left door has been removed from the above cabinet for illustrative purposes.

**Note:** See the section "**Corner Cabinet Details**" for information on limitations of **Stretchers** with corner cabinets. For Corner Cabinets, stretchers are limited to Nailers located against the cabinet back or Sleepers located under the deck.



**Add Stretcher** - This selects two opposite-sided parts where you want to place the stretcher, and then press the **Add Stretcher** button.



The **Add New Stretcher** dialog box will appear. Select the options and press **OK**. The new Stretcher will appear in the center of the two parts; it is highlighted in the illustration.

**Stretcher Width** - When combined with the **Material** (which defines the thickness), this now provides the physical dimensions of the stretcher.

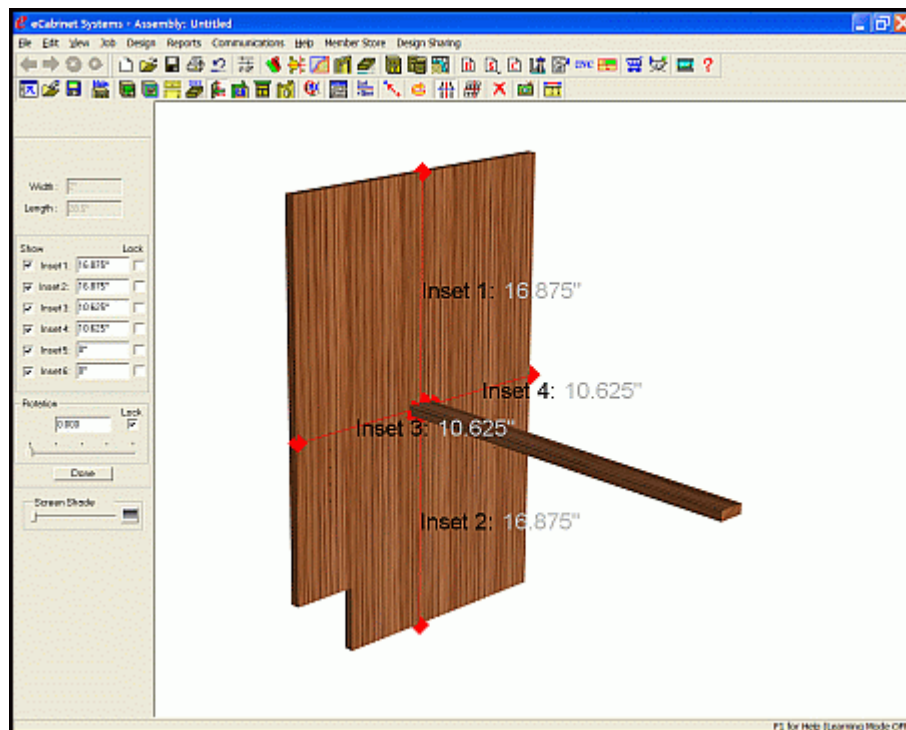
**Construction** - This area allows you specify the type of joint between the stretcher and other components.

**Note:** As long as the stretcher is perpendicular to and not positioned at an angle with another component and is also against that component, any available joinery can be specified. The joinery specified refers to directions as seen from the cabinet itself. Therefore, if you set **Top** to **Blind Dado**, a horizontal stretcher whose top edge contacts the cabinet top is given a blind dado along that edge. However, another stretcher that is positioned vertically from the top to the deck will find the top end has a blind dado joint.

**Stretcher Orientation** - This area defines initial orientation of the stretcher, and then its orientation inside the Cabinet. The options are: **Up-Down Stretchers**, **Left-Right Stretchers**, **Front-Back Stretchers**.

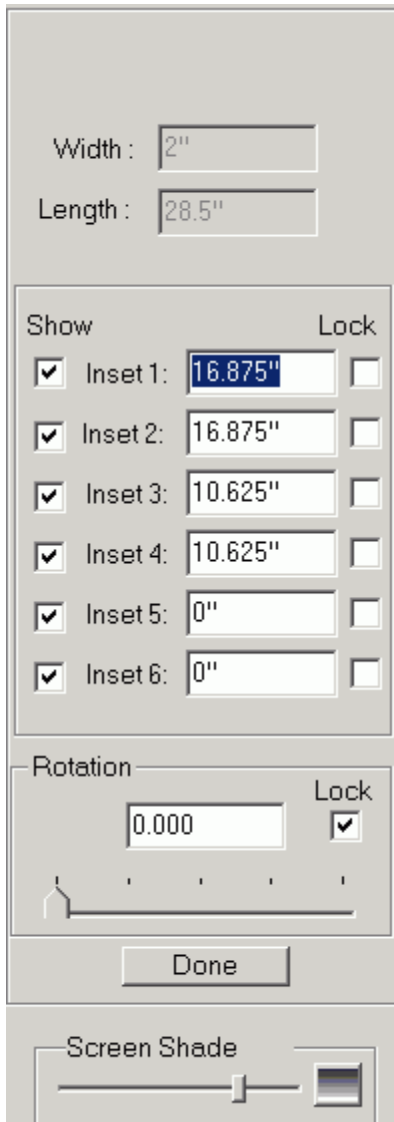
**Material** - This specifies the material of this Stretcher.

**Grain Direction** - This specifies the grain direction. The default is parallel with the longest side.



**Adjust Stretcher** - This takes you to the **Stretcher Editor** main window. More than likely, you will want to move the stretcher, so select the Stretcher and press the **Adjust Stretcher** button. The **Stretcher Editor** will appear, and will show the selected Stretcher, before any changes are made.





**Width** - This shows the width of the selected stretcher.

**Length** - This shows the length of the selected stretcher.

**Show** - Uncheck this to hide the dimension text and information for the specific Inset.

**Inset dimension** - Type the location dimension for the appropriate inset, to move the stretcher as desired.

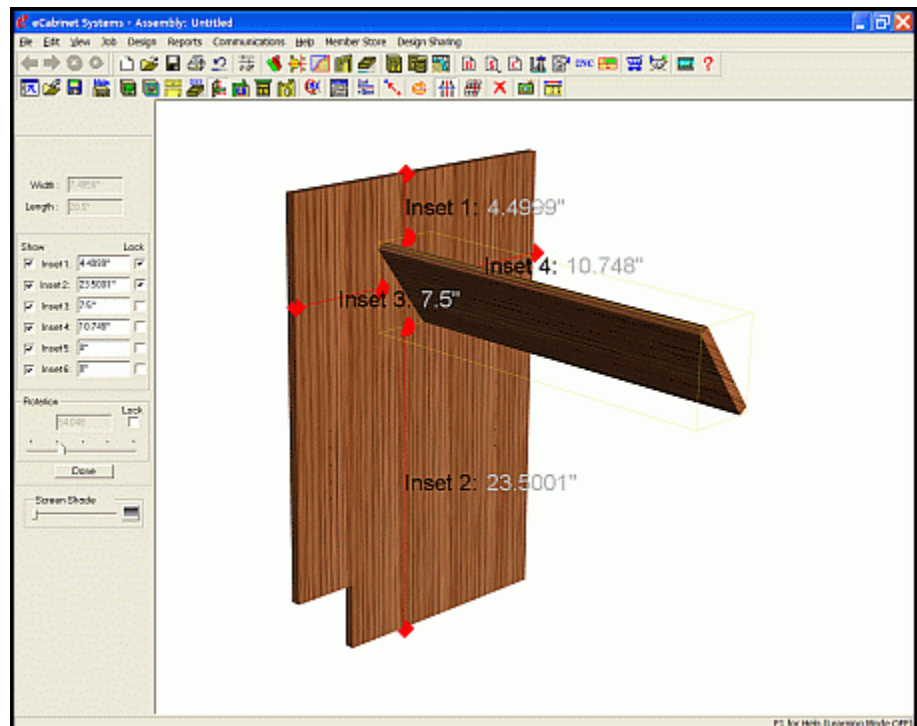
**Lock** - Selecting this prevents the inset from moving. Thus, if you lock one side of a stretcher, and change the dimension on the other side, you can grow or shrink the stretcher.

**Rotation box/Slider** - Use these controls to rotate the stretcher. The illustration below shows the above stretcher with one dimension locked, the other moved, and it having been rotated. Also, note the yellow box around it. This is the Boundary Marker. It will always show when a Stretcher is rotated.

**Done** - Returns back to the **Stretcher Editor**.

**Screen Shade** - This controls the transition of the screen background color, from white to black.

The completed operation of the **Stretcher Editor** is shown, after moving, widening and rotating the stretcher in the illustration below.



## Adding a Back Nailer to a Cabinet

Nailers are stretchers that are placed against the back of the cabinet. Highlight the desired cabinet if there is more than one cabinet loaded. Start the **Stretcher Editor** and insert a horizontal Stretcher. Use **Adjust Stretcher** to move **Inset 4** so that the stretcher is now placed against the back panel. Lock **Inset 4**, and adjust **Inset 1** as needed to place Nailer in the proper place. Repeat as needed.

## Adding a Drawer Stretcher

A stretcher between drawers is actually a shelf with the back inset forward. The front can also be inset to shift the stretcher toward the back. These are not created or modified with the **Stretcher Editor**, but since they are considered stretchers, this is included here as well. Select the shelf, and then **Construction Settings**, and at **Shelf Inset Settings**, select the desired **Back Inset** amount. (Ensure the button is set for **Fixed Shelf**.) Then highlight the opening in the cabinet where you want to place the stretcher and press **Add Shelf**. After completion, confirm the width of the new shelf is correct.

## Stretcher Editor - Right Click Options

Areas	▶
Visibility	▶
Load Item	
Align Items	
Measurements	
Rotate Item	
Delete Item	
Scale Object	
Match Texture	
Target to Origin	
Orthographic View	
Construction	▶
Construction Settings	
Edit Move Increment	
Edit Molding	
Associations	▶
Shelf Options	▶
Faceframe Options	▶
Door/Drawer Options	▶
Drawer Box Options	▶
Inset Carving Options	▶
Reports	▶
Set Labor Costs	
Grid Settings	
Group Parts	
User Part Name	
Design Sharing Info	
Remove PartEditor Cuts	▶

**Note:** Most of the Right Click Options are identical among the various **Cabinet/Assembly Editor** screens, so only specific information regarding this specific feature will be placed in these sections.

**Areas** - This provides confirmation and selection of the Editor choices.

**Stretcher Editor** - When in this section, there will be a checkmark here.

Hide Part
Hide Selected
Hide All
Transparent Part
Transparent All
Wireframe Part
Wireframe Selected
Wireframe All
Restore Last Part
Restore All
✓ Show Lines
Show Hole Patterns
Show Item Frames
✓ Show Carvings
HideTarget
Hide Axis Designator

**Visibility** - This returns to the top screen in the **Cabinet/Assembly Editor**.

**Hide Part** - Hide the part you just selected.

**Hide Selected** - Hides all the parts that are selected.

**Hide All** - Hides all parts.

**Transparent Part** - Turns the part that you just selected transparent.

**Transparent All** - Turns all parts transparent.

**Wireframe Part** - Turns the part you just selected into a wireframe representation.

**Wireframe Selected** - Turns the parts that are selected into wireframe representations.

**Wireframe All** - Turns all parts into wireframe representations.

**Restore Last Part** - Returns last part modified into normal display state.

**Restore All** - Returns all parts to their normal display states.

**Show Lines** - Highlights the edges of all parts in the cabinet.

**Show Hole Patterns** - Display hardware holes in place at this time.

**Show Item Frames** - Shows the frame that defines the outer limits of **Display Parts**.

**Show Carvings** - Shows any Carvings that have been applied.

**Hide Target** - Hides the **Insert Target**.

**Hide Axis Designator** - Hides the three-dimensional axis indicator

**Delete Item** - This deletes the selected item.

**Construction Settings** - See individual pages on **Construction Settings** for each displayed tab that is mentioned in the following sections.

	Rate	Hours
<input type="checkbox"/> Shop Hours	\$0.00/Hr	
<input type="checkbox"/> Machining	\$0.00/Hr	
<input type="checkbox"/> Assembly	\$0.00/Hr	
<input type="checkbox"/> Finishing	\$0.00/Hr	
<input type="checkbox"/> Installation	\$0.00/Hr	
<input type="checkbox"/> Misc 1	\$0.00/Hr	
<input type="checkbox"/> Misc 2	\$0.00/Hr	

Calculate Total    \$0.00 Total    OK    Cancel

**Set Labor Costs** - This opens a dialog where you can assign labor hours to the cabinet. Settings for the labor rate (\$ per hour) are found in **Settings/Preferences-Define Cost**.

**Shop Hours** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Machining** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Assembly** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Finishing** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Installation** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 1** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 2** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Calculate Total** - This totals the selected hours.

**Design Sharing Info** - This will allow you to confirm that your cabinets and/or assemblies are properly configured into libraries. These are combined into a single file that you can copy to a CD and send to Thermwood, where they will be offered for sale on the Internet.

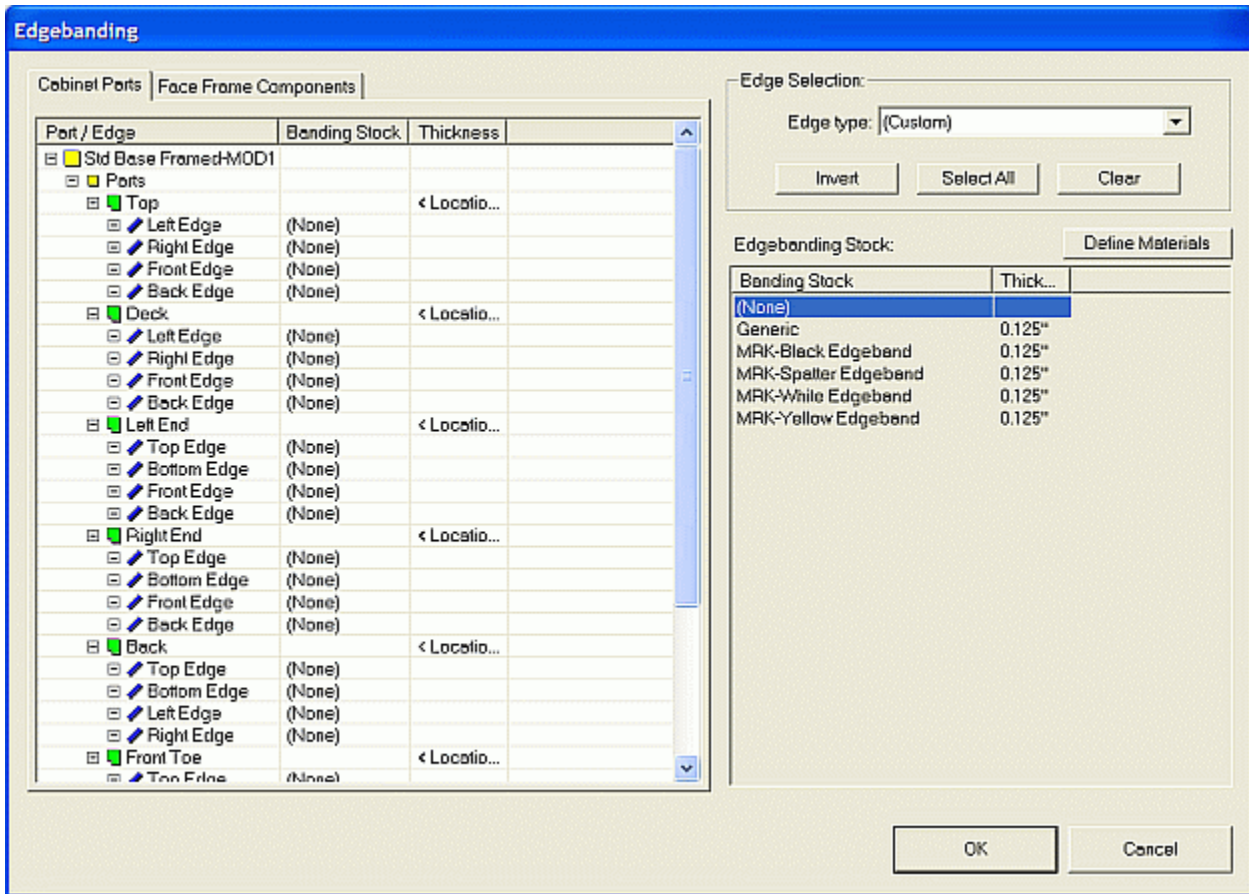
**Remove Part Editor Cuts** - Provides the ability to restore parts that have been modified with Part Editor.

**From Selected Part**  
**From Entire Cabinet**

# Edgebanding Editor Menu Structure



**Edgebanding Editor**



The **Edgebanding Editor** makes it possible to apply Edgebanding material to one or more edges of cabinet parts. This applies to all the basic cabinet parts as well as partitions and shelves. When added to a part, part size is reduced to allow for the thickness of the edge band and the edge band is shown in the cabinet display.

**Note:** The Edgebanding on slab doors and drawer fronts is defined in the **Door/Drawer Editor** when the slab door or drawer is defined.



This illustration shows a detail view of applied Edgebanding.

**Cabinet Parts** - This is a listing of cabinet components, and all the edges that can be Edgebanded.

**Face Frame Components** - This is a listing of the Face Frame components that can be Edgebanded.

**Edge Selection** - This enables a global setting of certain edges.

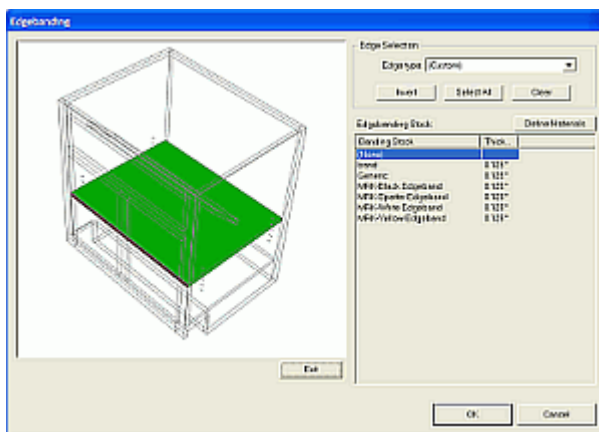
**Invert** - This selects the opposite edges of what is selected.

**Select All** - This selects all edges.

**Clear** - This clears all selected edges.

**Edgebanding Stock** - This lists the available defined stock of Edgebanding material.

**Define Materials** - This opens up the **My Materials** selection window, to add or change Edgebanding materials.



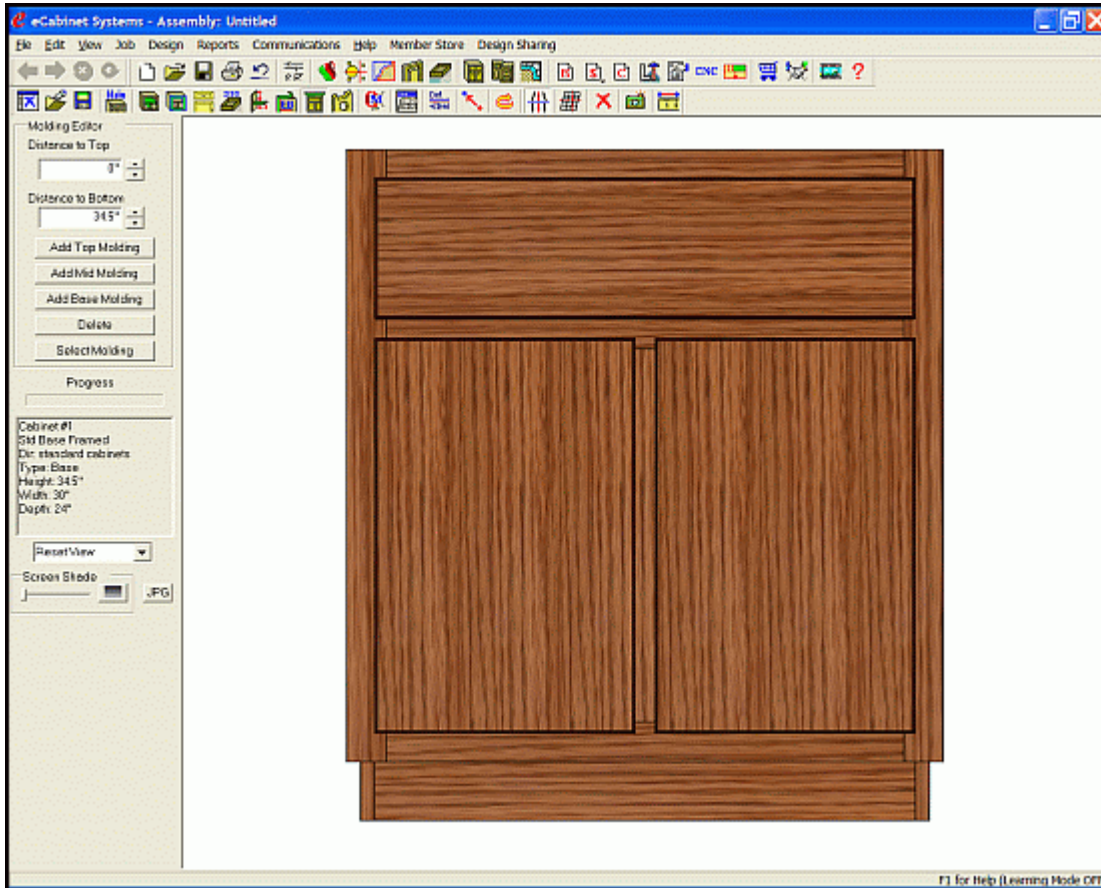
Also, the **Location** marker (in the **Thickness** column) when clicked, brings up a line drawing of the item. This enables an easy way to identify its location. The line drawing can be manipulated independently, using the standard *eCabinet Systems* mouse/key combinations.

**Note:** You cannot place Edgebanding on any edge that has joinery, such as dado or blind dado. Also, for cabinet ends, the Toe Kick notch is not banded. You also cannot place edge banding on any edge that is cut or modified in **Part Editor**.

## Molding Editor Menu Structure

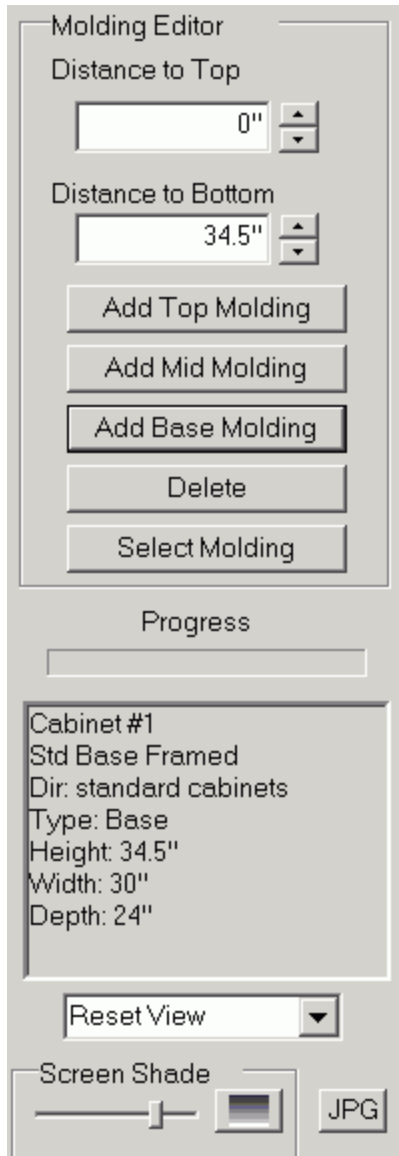


**Molding Editor**



This opens an editor where moldings are added to the highlighted cabinet. A **Top**, **Mid** or **Base Molding** can be added, at whatever vertical position is desired. When finished, you can use **Match Texture** to change the surface finish of the moldings. These moldings will automatically resize when the cabinet size changes.

**Note:** To add moldings to an Assembly, they must be placed as **Display Parts**. Also, moldings can be added as **Display Objects** in **Custom Layout**. These moldings will not automatically resize.



**Distance to Top/Bottom** - This is the location of where this Molding will be placed on the cabinet. Either of the distance measurements can be used for any Molding. As the top distance is increased, the bottom distance decreases.

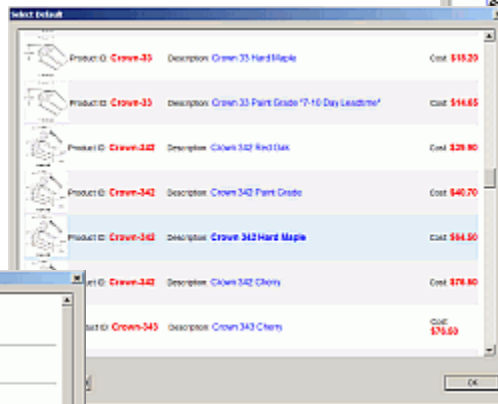
**Add Top Molding** - This inserts the **Top Molding** at the dimensions shown.

**Add Mid Molding** - This inserts the **Mid Molding** at the dimensions shown.

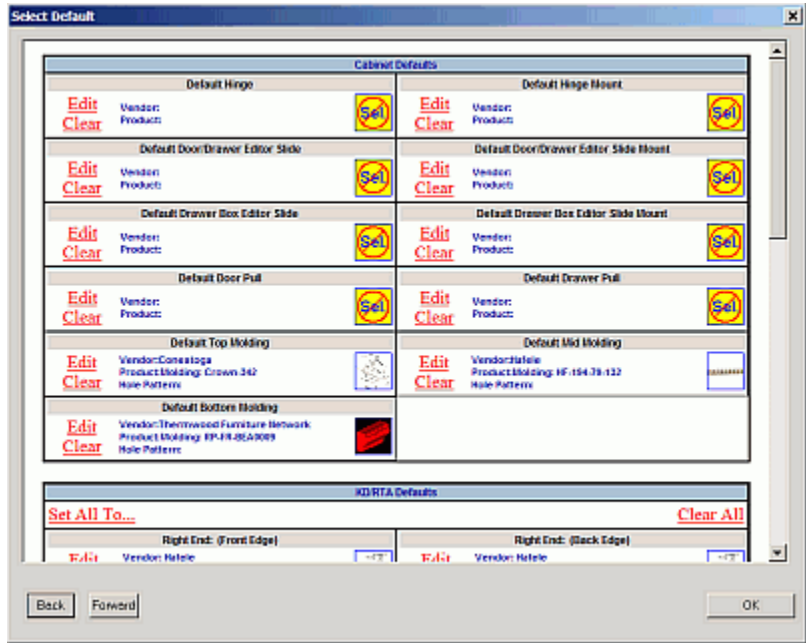
**Add Base Molding** - This inserts the **Base Molding** at the dimensions shown.

**Delete** - Select the molding segment, and click this to delete it.

**Select Molding** - To add moldings, you must first select them. Select Vendor, Category and the style of the molding, and then select the appropriate Default position of this molding. The illustrations below show the selection of typical default moldings.







Set the desired Molding as the appropriate Default for **Top**, **Mid**, and/or **Base**.

**View Select** - Thus selects direction orientation of display.

**Screen Shade** - This controls how the screen background color can be adjusted from white to black.

**JPG** - This opens a dialog that allows you to capture the current image and save it as a ".jpg" file.

## Molding Editor - Right Click Options

Areas	▶
Visibility	▶
Load Item	
Align Items	
Measurements	
Rotate Item	
Delete Item	
Scale Object	
Match Texture	
Target to Origin	
Orthographic View	
Construction	▶
Construction Settings	
Edit Move Increment	
Edit Molding	
Associations	▶
Shelf Options	▶
Faceframe Options	▶
Door/Drawer Options	▶
Drawer Box Options	▶
Inset Carving Options	▶
Reports	▶
Set Labor Costs	
Grid Settings	
Group Parts	
User Part Name	
Design Sharing Info	
Remove PartEditor Cuts	▶

**Note:** Most of the Right Click Options are identical among the various **Cabinet/Assembly Editor** screens, so only specific information regarding this specific feature will be placed in these sections.

**Areas** - This provides confirmation and selection of the Editor choices.

**Molding Editor** - When in this section, there will be a check mark here.

Hide Part
Hide Selected
Hide All
Transparent Part
Transparent All
Wireframe Part
Wireframe Selected
Wireframe All
Restore Last Part
Restore All
✓ Show Lines
Show Hole Patterns
Show Item Frames
✓ Show Carvings
HideTarget
Hide Axis Designator

**Visibility** - This returns to the top screen in the **Cabinet/Assembly Editor**.

**Hide Part** - Hide the part you just selected.

**Hide Selected** - Hides all the parts that are selected.

**Hide All** - Hides all parts.

**Transparent Part** - Turns the part that you just selected transparent.

**Transparent All** - Turns all parts transparent.

**Wireframe Part** - Turns the part you just selected into a wireframe representation.

**Wireframe Selected** - Turns the parts that are selected into wireframe representations.

**Wireframe All** - Turns all parts into wireframe representations.

**Restore Last Part** - Returns last part modified into normal display state.

**Restore All** - Returns all parts to their normal display states.

**Show Lines** - Highlights the edges of all parts in the cabinet.

**Show Hole Patterns** - Display hardware holes in place at this time.

**Show Item Frames** - Shows the frame that defines the outer limits of **Display Parts**.

**Show Carvings** - Shows any Carvings that have been applied.

**Hide Target** - Hides the **Insert Target**.

**Hide Axis Designator** - Hides the three-dimensional axis indicator

**Delete Item** - This deletes selected item.

**Construction Settings** - See individual pages on **Construction Settings** for each displayed tab that is mentioned in the following sections.

	Rate	Hours
<input type="checkbox"/> Shop Hours	\$0.00/Hr	
<input type="checkbox"/> Machining	\$0.00/Hr	
<input type="checkbox"/> Assembly	\$0.00/Hr	
<input type="checkbox"/> Finishing	\$0.00/Hr	
<input type="checkbox"/> Installation	\$0.00/Hr	
<input type="checkbox"/> Misc 1	\$0.00/Hr	
<input type="checkbox"/> Misc 2	\$0.00/Hr	

Calculate Total    \$0.00 Total    OK    Cancel

**Set Labor Costs** - This opens a dialog where you can assign labor hours to the cabinet. Settings for the labor rate (\$ per hour) are found in **Settings/Preferences-Define Cost**.

**Shop Hours** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Machining** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Assembly** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Finishing** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Installation** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 1** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Misc 2** - This is a checkbox to select, and to add data to entry window for the amount of hours.

**Calculate Total** - This totals the selected hours.

**Design Sharing Info** - This will allow you to confirm that your cabinets and/or assemblies are properly configured into libraries. These are combined into a single file that you can copy to a CD and send to Thermwood where they will be offered for sale on the Internet.

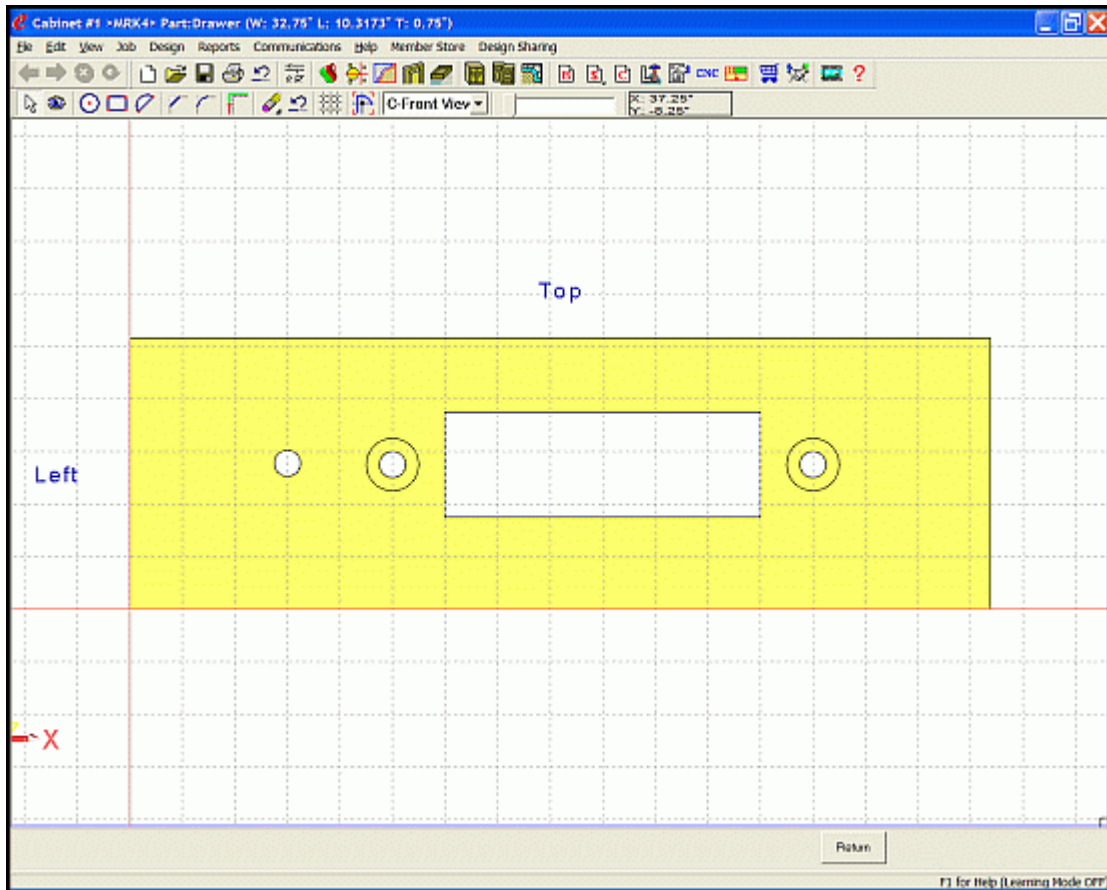
**Remove Part Editor Cuts** - Provides the ability to restore parts that have been modified with Part Editor.

**From Selected Part**  
**From Entire Cabinet**

## Part Editor Introduction



**Part Editor**



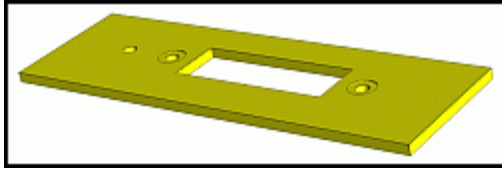
The **Part Editor** is a separate window that can be used to modify individual parts that are selected and then automatically imported from the **Cabinet/Assembly Editor**. Parts are modified by either cutting areas of the part away and/or cutting a profile on an edge of the part, or along a contour path (which you create) on the part, to create a unique design, which is then automatically sent back to the **Cabinet/Assembly Editor**.

Predefined functions for **Chamfer**, **Fillet**, **Circle**, **Rectangle**, **Line** and **Arcs** ensure you can modify and enhance any part of your cabinet to your designs. The workspace can be panned left, right, up, and down using the **ARROW keys**. To zoom the display, pull a blue rectangle by holding the **Ctrl** key and moving the mouse. Return to original view with the **Home** key.

## Part Editor Icons



**Select** - This selects the part or item to be modified.



**Review Mode** - In this "3D" mode, the part can be moved and rotated, using the standard *eCabinet Systems* mouse/keyboard controls. Selecting any other icon reverts back to the normal working mode.



**Circle** - Places a circle geometry on the surface of the part. This geometry is highlighted by selecting the **Select Mode** icon and clicking on it. Then, Right Click and select **Cut/Pocket Using Geometric Shapes**. Cuts can either be partially through the part, creating a pocket, or all the way through.



**Rectangle** - Places a rectangle geometry on the surface of the part. This geometry is highlighted by selecting the **Select Mode** icon and clicking on it. Then, Right Click and select **Cut/Pocket Using Geometric Shapes**. Cuts can either be partially through the part, creating a pocket, or all the way through.



**Filled Arc** - Places a filled arc geometry on the surface of the part. This geometry is highlighted by selecting the **Select Mode** icon and clicking on it. Then, Right Click and select **Cut/Pocket Using Geometric Shapes**. Cuts can either be partially through the part, creating a pocket, or all the way through.



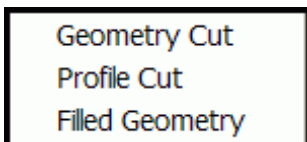
**Chamfer** - This is used to place a chamfer on any two edges of the part or edges of a cutout on the part. Check either **1-Distance** or **2-Distance** to define the chamfer.



**Fillet** - This is used to place a fillet on any two edges of the part or edges of a cut out on the part.



**Profile Edge** - This opens a mode where a profile is placed along a contour path or along a part edge. Select this, and then select **Single**, **Partial** or **Chain** cut path, then select the path and tool.



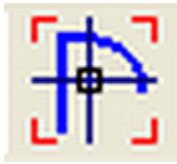
**Delete** - This opens a mode that deletes any **Geometry Cut**, **Profile Cut**, or **Filled Geometry** (cutouts, fillets or chamfers) that are selected.



**Undo** - Press this or **Ctrl +Z** to Undo the last delete.



**Grid Settings** - This brings up a dialog where the background grid is defined.



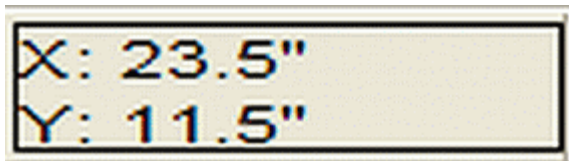
**Contour Mode** - This is used to develop a contour on the surface of the part. There are two basic types of contours that can be made. A closed contour can be used to cut a pocket or cut through the part. An open contour can be used to guide a profile tool to cut a profile into the part.



**C-View Selection** - This determines if display shows the front or the back of the part.

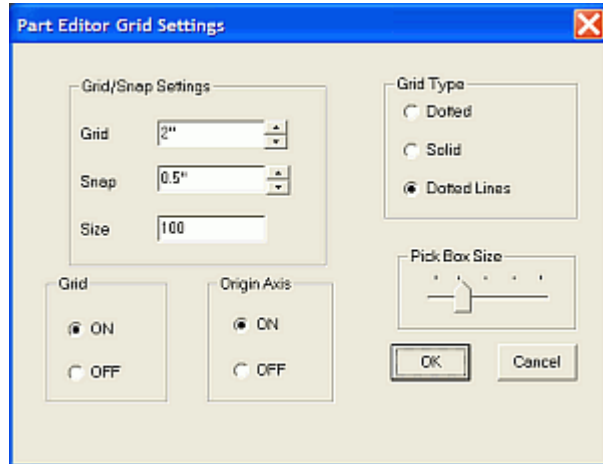
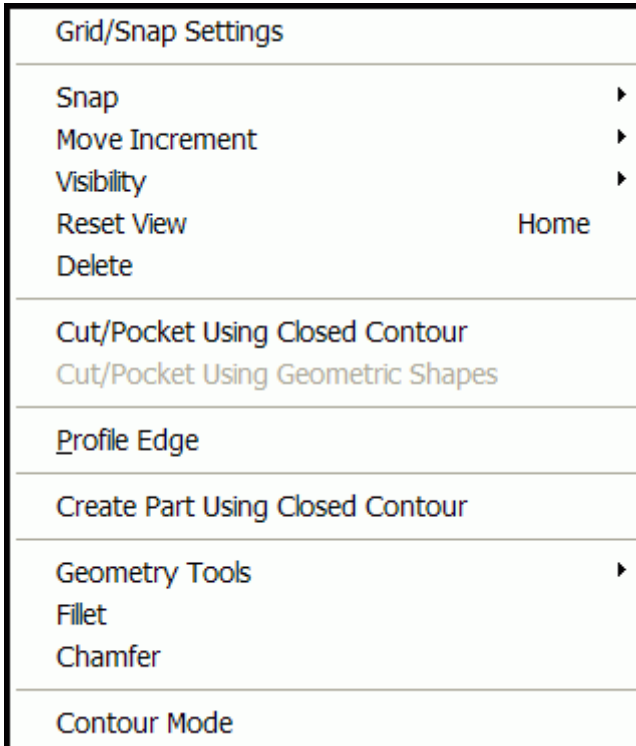


**Display Slider** - This controls the screen background color adjustment from white to black.



**Coordinate Display** - This shows the current location of the cursor.

## Part Editor - Right Click Options



**Part Editor Grid Settings** - This opens the dialog where the **Grid** and **Snap** settings can be made.

### Grid/Snap Settings

**Grid** - This sets the Grid spacing.

**Snap** - This sets the Snap spacing.

**Size** - This sets the drawing area size.

### Grid Type

**Dotted** - Only dots are shown at the intersections.

**Solid Line** - The Grid is made of solid horizontal and vertical lines.

**Dotted Line** - The Grid is made of dotted horizontal and vertical lines.

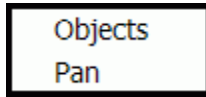
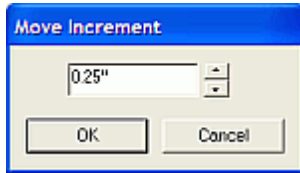
**Grid** - This turns Grid ON or OFF.

**Origin Axis** - This turns Origin Axis ON or OFF.

**Pick Box Size slider** - This controls size of Pick Box.

- ✓ Grid Snap F9
- ✓ Object Snap F3

**Snap** - Enables the appropriate **Snap** function, as based on the appropriate checkmark. **Grid Snap** fixes the cursor to move only to points on the set increment, while **Object Snap** allows the cursor to "jump" to objects that are inside the Pick Box. Also, the indicated Function Key will toggle this setting.



**Move Increment** - This opens the dialog for the increment setting for moving objects, or for the displayed Objects or for screen Panning.



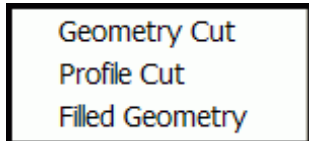
**Visibility** - This changes view from **Solid** to **Wireframe** and enables or disables the **Axis Designator**.

**Wireframe** - A checkmark here indicates that the view will be a wireframe.

**Solid** - A checkmark here indicates that the view will be a solid model

**Axis Designator** - A checkmark here indicates that the Axis Designator will be in the view.

**Reset View** - This will reset the view to the original display setting. Pan is enabled with the **ARROW** keys. Zoom is controlled using "+" and "-", or hold **Ctrl** and pull a zoom rectangle. Also, the **Home** key will **Reset View**.



**Delete** - This opens a mode that deletes any **Geometry, Profile Cuts, Filled Geometry** (cutouts, fillets or chamfers) that are selected. Press **Esc** to exit the **Delete** mode. Several **Delete** modes are available:

**Single Delete** - This will delete any single entity that you click.

**Inside Window** - This will open a mode where you can pull a red rectangle window, using the mouse. Any entity that is completely within the window is deleted. An entity that touches or crosses the window frame is not deleted. The entity must be completely inside the window to be deleted using this mode.

**Inside Intersect Window** - This also opens a mode where you can pull a window; however, in this mode, any entity that has any part of it inside or touching the window is deleted.

**All Entities** - This does just what it says, it deletes everything.

**Cut/Pocket Using Closed Contour** - This uses closed geometry created with the contour tool to cut a pocket or hole. Create the closed contour then select this to open the dialog. Use "**Cut/Pocket Using Geometric Shapes**" to cut or pocket geometry created with the geometry tools.

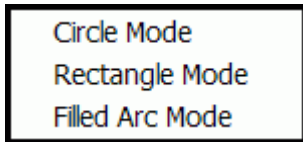
**Cut/Pocket Using Geometric Shapes** - This uses geometry created with the Circle, Rectangle and Arc tools to cut a hole or pocket. Switch to the Select Mode, highlight the geometry and then select this to open the dialog. Use "**Cut/Pocket Using Closed Contour**" to cut or pocket closed geometry created with the Contour tool.





**Profile Edge** - This opens a mode where a profile (**Cutpath**) is placed along a contour path or along a part edge. Select this, and then select **Single**, **Partial** or **Chain** Cutpath at the bottom of the display, then select the desired cut path and the appropriate tool. See details in the next section.

**Create Part Using Closed Contour** - This removes any material outside the selected geometry. It will not, however, add material beyond what already exists.



**Geometry Tools** - These are used to place a **Circle**, **Rectangle** or **Filled Arc** geometry on the surface of the part. This geometry is highlighted by selecting the **Select Mode** icon and clicking on it. Then, Right Click and select **Cut/Pocket Using Geometric Shapes**. Cuts can either be partially through the part, creating a pocket, or cut all the way through

**Fillet** - This places a Fillet at the intersection of two lines. Select this and then select the two lines to perform the operation. Notice that lines are extended or trimmed as needed.

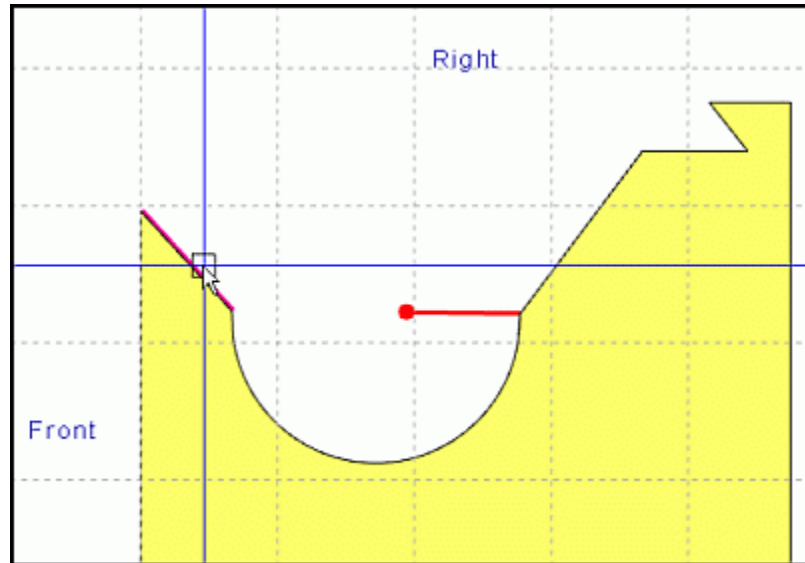
**Chamfer** - This places a Chamfer at the intersection of two lines. Select this and then select the two lines to perform the operation. Notice that the lines are extended or trimmed as needed.

**Contour Mode** - This is used to develop a contour on the surface of the part. There are two basic types of contours that can be made:

**Closed Contour** - This can be used to cut a pocket or cut through the part.

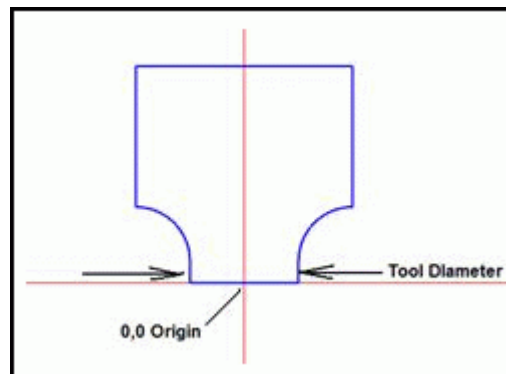
**Open Contour** - This can be used to guide a profile tool to cut a profile into the part.

## Part Editor - Profile Edge



Use the **Profile Edge** feature to make a routed type edge along the edge of the part, or along a Contour Path. Click the **Profile Edge** icon, and see the choices at the bottom of the screen.

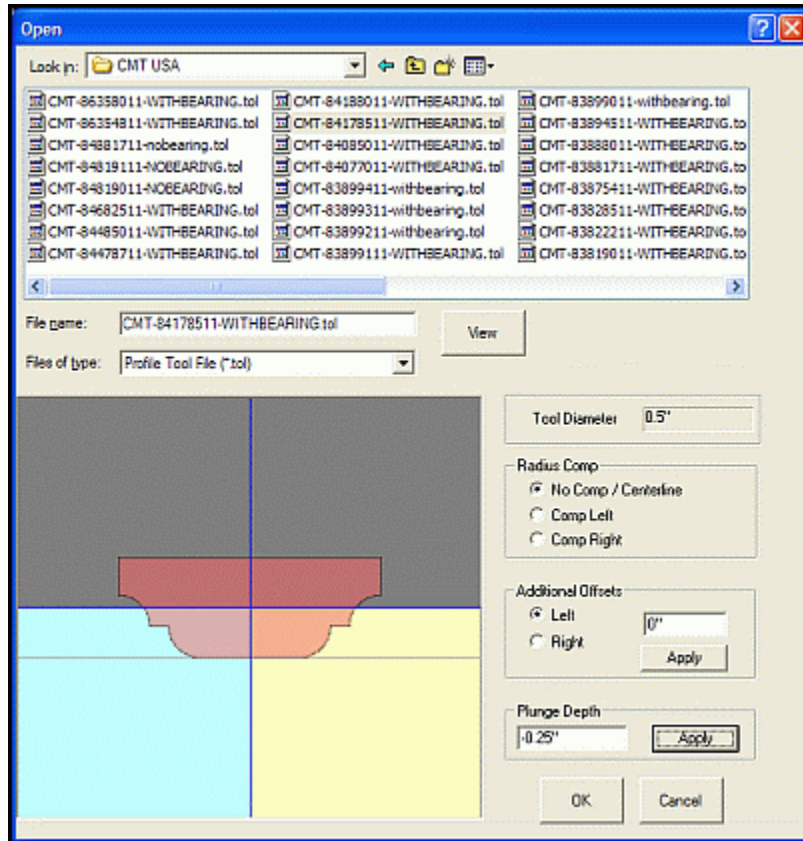
**Single** selects an edge or entity. **Partial** (which is actually a Partial Chain) is two or more connected edges and **Chain** selects all edges or entities that are connected. Click the edge where you want the profile to start, nearest the end where you want the cut to begin from. A symbol now appears to define the cut. The direction of cut is along the red line towards the red dot, and the profile is placed as if you were standing at the start point and facing the direction of the cut. Click near the end of the edge where you want the chain to end, and click next to select the **Tool**.



**Note:** The tool diameter is the smallest diameter of the profile cutting face of the tool as shown.

A tool created and saved in the **Shape Manager** can be applied to one or more edges of the part, including inside edges of a pocket or cut-out. The tool can also be applied to a contour line placed on the part.

## Part Editor - Tool Selection

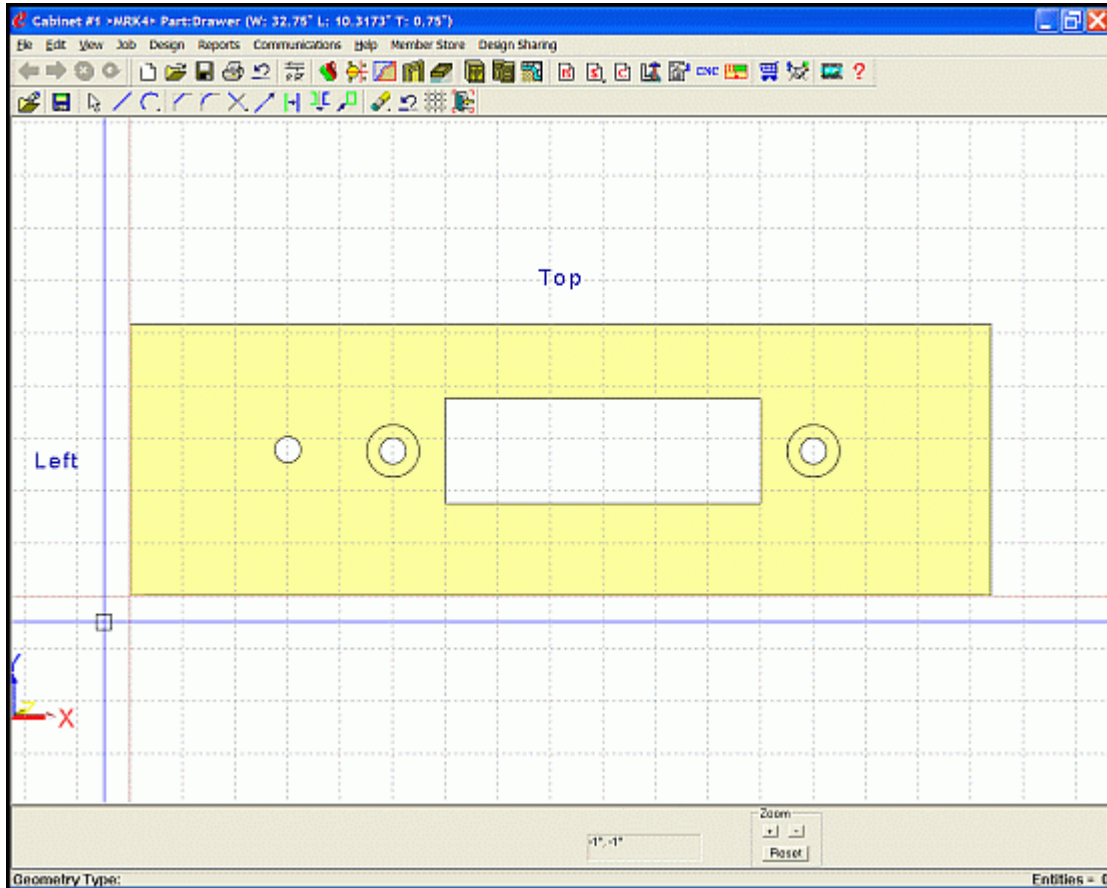


Tools will have a ".tol" extension. Input **Plunge Depth** (remember that negative dimensions are down, into the part) and press **Apply**, to see how the tool will be placed into the part during machining. **Radius Compensation** is used to offset the diameter of the tool so the profile face of the tool aligns with the edge of the part. If **No Comp/Centerline** is selected, the system will place the centerline of the tool along the edge or contour, cutting away all the material that contacts the tool.

The direction for compensation is determined by standing behind the tool facing the direction of cut. If the part is to the right, it is **Comp Left**, if the part is to the left it is **Comp Right**, and then, the system will offset the tool by half the diameter in a direction away from the part. The system will offset the tool by half the diameter in a direction away from the part. This is important if the part is to be cut using a profile tool on a CNC router, because over time, the tool diameter will change as the tool is sharpened. The program can be adjusted for this new diameter at the CNC control using tool radius compensation by simply specifying the new diameter of the tool. This eliminates the need to create a new program each time the tool diameter changes.

The **Additional Offsets** settings are used to move or adjust the position of the tool with respect to the part. **Plunge Depth** specifies how far from the surface of the part the bottom of the tool is located.

## Part Editor - Contour Mode Introduction



While working in the **Contour Mode**, an area to the lower left offers step-by-step guidance for each function. There is also a place to type X, Y positions manually. The **Zoom** controls allow you to zoom in and out by using either the "+" and "-" buttons on the display or using the "+" and "-" keys on the keyboard. In addition, you can hold the **Ctrl** key and pull a blue rectangle over the area you want to zoom to. The **ARROW keys** manipulate the screen panning.

## Part Editor - Contour Mode Icons



**Load Geometry** - Geometry can be loaded here. DXF and Parasolid (".x\_t") files are supported.



**Save Geometry** - Geometry that has been created can be saved in Parasolid ".x\_t" file format.



**Select Entities** - Select single entities, partial chain, chain or all entities.



**Line Mode** - Select this mode to create straight lines. Create a line by defining the start and end points.



Three Point Arc  
Circle

**Circle/Arc Mode** - Use this to create a full circle or a three point arc.



**Chamfer** - Places a Chamfer at the intersection of two lines. Select this then select the two lines and they will be chamfered; however, they may be extended or trimmed as needed.



**Fillet** - Places a Fillet at the intersection of two lines. Select this, and then select the two lines. Notice that lines are extended or trimmed as needed.



**Trim** - This Trims one or two lines at their intersection.



**Extend** - This enables the ability to Extend a line or arc by a fixed distance. Select this, input the Extend increment, and click the end of the line or arc you want extended.



**Offset** - Offset a line, arc, circle a fixed distance or create an offset duplicate of a line, arc, circle at a fixed distance. Select this, and then set the Offset parameters and click the entity you want to Offset.



**Mirror** - Mirror a number of selected entities about X, Y-axes or a given line.



**Move/Copy** - Move or Copy existing geometry. Press **Esc** to enter the select mode. The entity must be selected BEFORE the **Move** command is initiated. Define two points, and then the entity will move a distance that is the same as the relative distance between the two points.



Single  
Inside Window  
Inside Intersect Window  
All Entities

**Delete** - This opens a mode that deletes any single item, inside a selection window, inside and crossing a window, or everything. Press **Esc** to exit the **Delete** mode.



**Undo** - Select this to undo the last action. There is only one level of **Undo**.

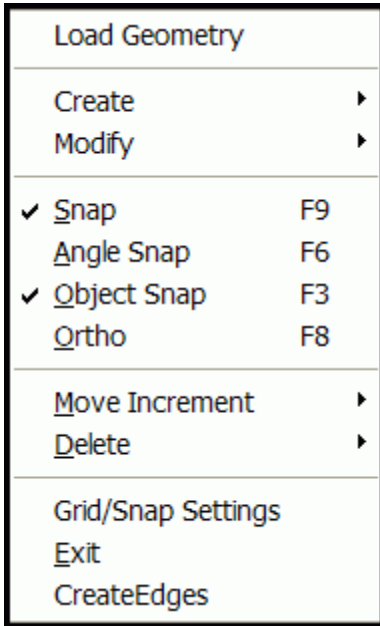


**Grid Settings** - This brings up a dialog where the background grid is defined.

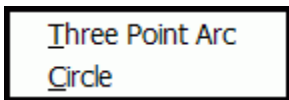
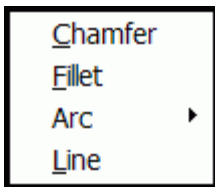


**Exit Contour** - Closes the contour area and return to the main **Part Editor**.

## Part Editor - Contour Mode - Right Click Options



**Load Geometry** - Geometry can be loaded here. DXF and Parasolid (".x\_t") type files supported.



**Create** - Select this to Create a **Chamfer**, **Fillet**, **Arc** (two types) or a **Line**.

**Chamfer** - This places a chamfer at the intersection of two lines. Select this, and then select the two lines. Notice that lines are extended or trimmed as needed.

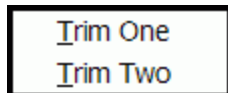
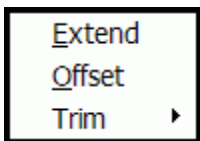
**Fillet** - This places a fillet at the intersection of two lines. Select this, and then select the two lines. Notice that lines are extended or trimmed as needed.

**Arc** - Use this to create a full **Circle** or a **Three Point Arc**.

**Three Point Arc** - Use this to create a three point arc.

**Circle** - Use this to create a full circle.

**Line Mode** - Select this mode to create straight lines. Create a line by defining the start and end points.



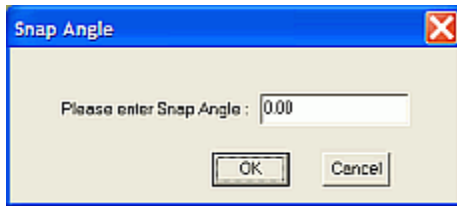
**Modify** - **Extend**, **Offset** or **Trim** (two types) the selection.

**Extend** - This will extend a line or arc by a fixed distance. Select this, input the extend increment and click the end of the line or arc you want extended.

**Offset** - This will offset a line, arc, circle a fixed distance or create an offset duplicate of a line, arc, circle at a fixed distance. Select this, then set the offset parameters and click the entity you want to offset. Offset straight lines are the same length as the original. Offset arcs have the same included angle as the original, as seen from the right.

**Trim** - This trims **One** or **Two** lines at their intersection.

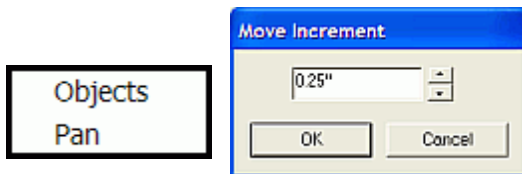
**Snap** - This will toggle Snap ON and OFF.



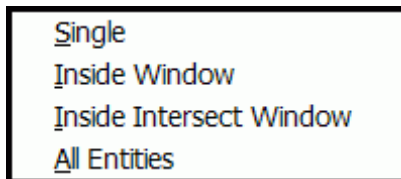
**Angle Snap** - This will turn ON and OFF a function that snaps a line in fixed angular increments. Toggling **Angle Snap** ON opens a dialog where the **Snap Angle** is set.

**Object Snap** - This turns **Object Snap** ON/OFF. When ON, the position snaps to any object inside the Pick Box, when the left mouse button is clicked.

**Ortho** - When checked and active, **Ortho** restricts drawn lines to vertical or horizontal. When unchecked, lines can be drawn at any angle.



**Move Increment** - This selects either **Objects** or the **Pan** increment, and opens the dialog shown.



**Delete** - This enters a mode where you can delete existing geometry as based on your selections.

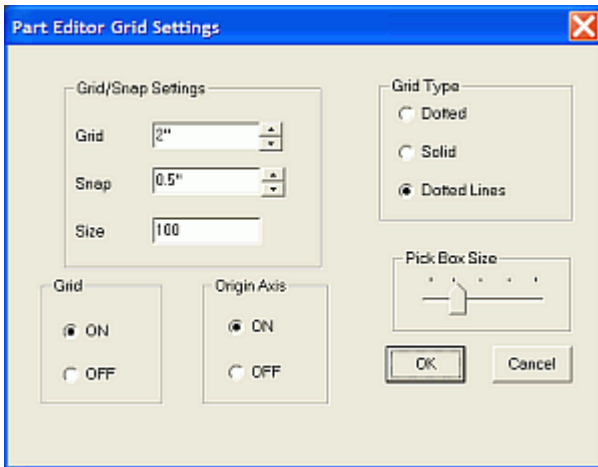
**Single** - Select this to enter a mode that deletes any item you click. Press **Esc** to exit the mode.

**Inside Window** - Select this to enter a mode where you can draw a rectangle that deletes any items that are completely inside the rectangle.

**Inside Intersect Window** - Select this to enter a mode where you can draw a rectangle that deletes any items that have any portion of them inside the rectangle.

**All Entities** - Select this to delete all geometry.





**Grid/Snap Settings** - This opens the dialog where the **Grid** and Snap settings can be made.

### Grid/Snap Settings

**Grid** - This sets the Grid spacing.

**Snap** - This sets the Snap spacing.

**Size** - This sets the drawing area size.

### Grid Type

**Dotted** - Only dots are shown at the intersections.

**Solid Line** - The Grid is made of solid horizontal and vertical lines.

**Dotted Line** - The Grid is made of dotted horizontal and vertical lines.

**Grid** - This turns Grid ON or OFF.

**Origin Axis** - This turns Origin Axis ON or OFF.

**Pick Box Size slider** - This controls size of Pick Box.

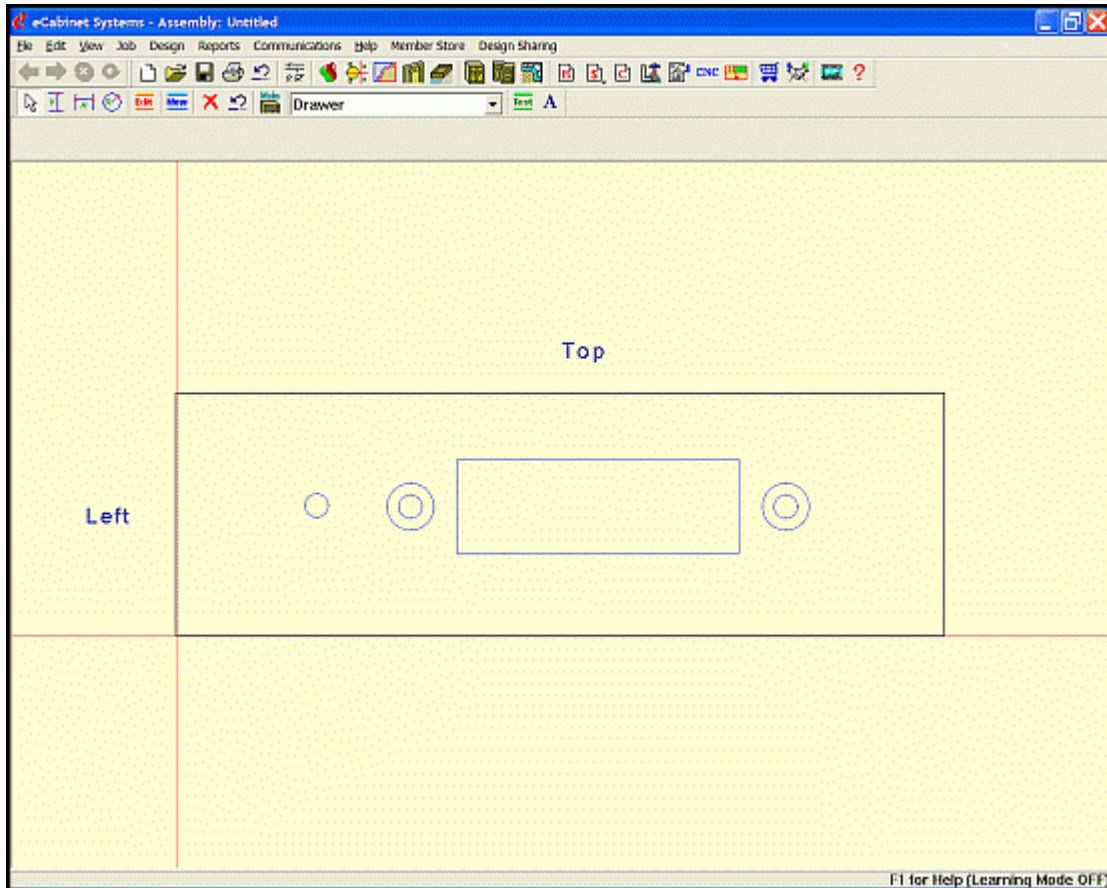
**Exit** - This Exits **Contour Mode**.

**Create Edges** - This selection creates a selectable edge on the part.

# Constraint Manager Introduction



**Constraint Manager**



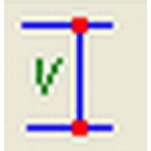
This selection opens an editor where you define how modifications made in the **Part Editor** react to changes in cabinet size. When you modify a part in the **Part Editor**, the modified configuration of the part remains valid, as long as the part size does not change. When part size changes, there are multiple ways that the **Part Editor** modifications can react. The **Constraint Manager** allows you to define how you want the part modifications to act, as the cabinet size changes.

It uses **Nodes** to dimension entities from. There are 3 types of Nodes, and hitting the “**M**” key will show the constraint nodes that are available for selection. The hollow blue ones are **Corner Nodes**, the solid blue ones are **Circular Quadrant** nodes and the red ones are **Raw Point** nodes. Raw points indicate the original outlines of this part. Nodes can be constrained either horizontally or vertically, and it is also possible to constrain the diameter of a circle or arc.

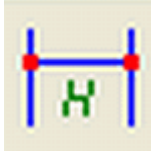
## Constraint Manager Icons



**Select** - This is used to select a new mode or to select geometry, cutpaths or menu items.



**Vertical Constraint** - This area defines how the vertical distance between two nodes reacts to a change in part size. This can be a fixed number or a formula using "W" for part width and "H" for part height.



**Horizontal Constraint** - This area defines how the horizontal distance between two nodes reacts to a change in part size. This can be a fixed number or a formula using "W" for part width and "H" for part height.



**Radius Constraint** - This area defines how the radius of a circle or arc reacts to a change in part size. This can be a fixed number or a formula using "W" for part width and "H" for part height.



**Edit Constraint** - This mode allows you to edit existing constraints. Left click the constraint and type. The new constraint can be a fixed number or a formula using "W" for part width and "H" for part height.



**Move Constraint** - This mode is used to move the display location for an existing Constraint. Left click the constraint, move it to a new location and then left click to anchor it.



**Delete Constraint** - When in this mode, any Constraint that you left click will be removed.



**Undo** - Click this button to undo a delete or edit. Only one level of undo is available. Optionally, use **Ctrl + Z** to **Undo**.



**Return to Main** - Return to Cabinet/Assembly Editor



**Edited Part List** - This lists parts with Part Editor edits that can be Constrained.



**Test** - This opens a dialog where you can see how changes in cabinet size affect the constrained part. Be aware that the changes in cabinet size here are for testing only and do not affect the actual size of the cabinet.



**Font** - This changes the Font of the displayed text.

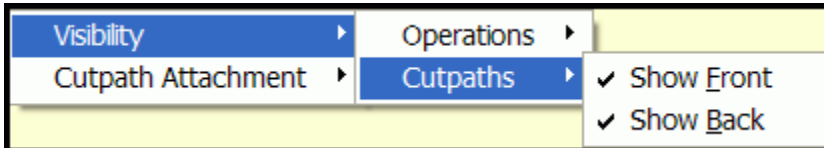
## Constraint Manager - Right Click Options



### Visibility - Operations

**Front Ops** - This displays or hides the front operations on the part.

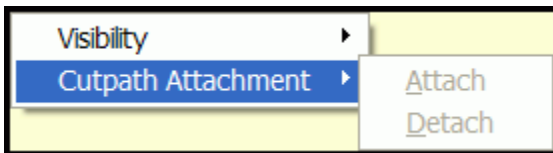
**Back Ops** - This displays or hides the back operations on the part.



### Visibility - Cutpaths

**Show Front** - This shows or hides all front cutpaths, if they exist.

**Show Back** - This shows or hides all back cutpaths, if they exist.



### Cutpath Attachment

**Attach** - If you Right Clicked on a profile Cutpath, it will become attached to any geometry that it may lie on. Once a Cutpath is attached to a geometry, it will assume the constraints of that geometry.

**Detach** - If you Right Clicked on a profile Cutpath, it will detach from any attached geometry.

## Construction Settings/Parameters - Common Menu Use

Most of the **Construction Settings** menus have the following items in common:

### Construction

**Butt Joint** - This indicates that the members simply butt against each other. Pocket screws or other fasteners are then used to connect the members together.

**Mortise/Tenon** - This indicates that tenons are machined on the ends of certain members. These tenons then fit into matching mortise holes machined into other members.

**Puzzle Joint** - This joint, which looks like the interlocking ends on the parts in a jigsaw puzzle, can be machined directly in the nest. Without needing clamps, fixtures or screws, the face frame assembly is fast, accurate, square and extremely strong.

**Note:** When **Mortise/Tenon** is selected, face frame members with tenon ends are dimensioned long enough to allow for machining of the tenons. These longer dimensions will show up on the cut lists as well as in any CNC programs created.

### Material

This identifies the material that this part is made from. This material comes from the **Define Stock Materials** area. Should the thickness parameter change, all materials will be de-selected and you will need to select new materials of the proper thickness. If you attempt to exit the screen using the **OK** button before you select all materials, an error will occur. If you press **Cancel**, you will exit the screen without the changes taking effect.

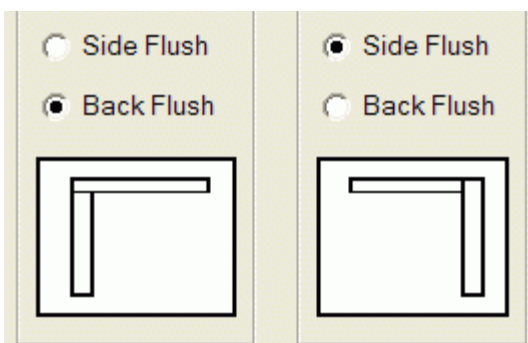
### Grain Direction Angle

The grain, if it is specified in the material, is oriented by default in what would be considered the strongest orientation for the part specified. When the **Grain Direction Angle** is changed, the component is rotated in the Nest Diagram to produce the specified grain direction.

### Insets

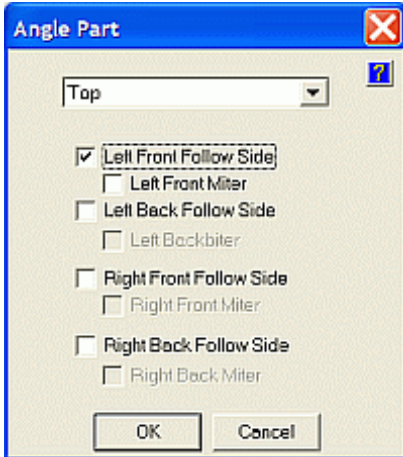
These define a distance (positive or negative) where the part is offset from its default position.

### Flush



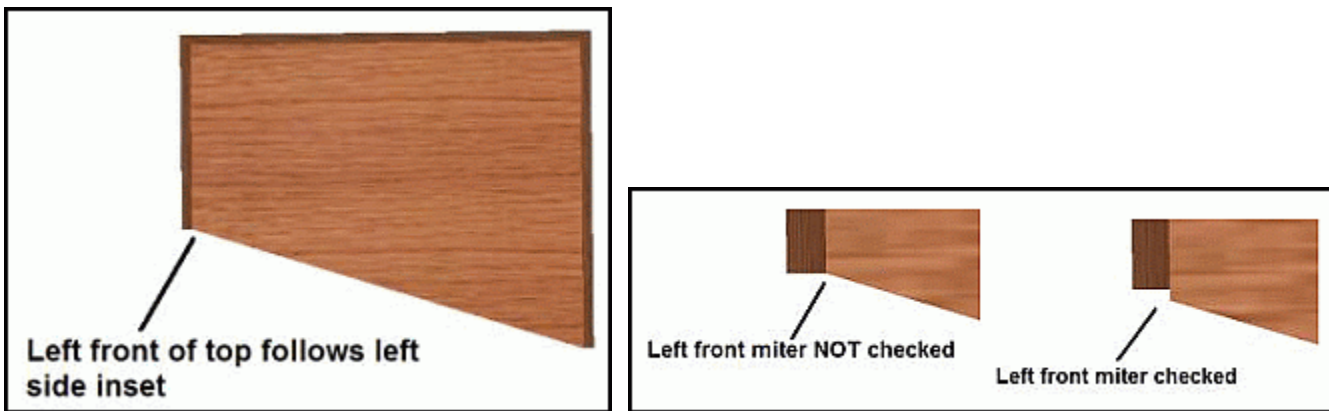
This shows where the part will be placed relative to its adjacent part. Specific details will be mentioned where applicable.

## Angle Part



This is used to define how certain horizontal components such as the top, shelves and deck react when the right or left side of a cabinet has a front or back inset. The angle characteristics of each component can be defined independently. Select the component from the pull down list at the top of the selection box.

As an example, if there is already an inset on the front of the left side, and the **Left Front Follow Side** box is checked for a top panel, then this causes the left front corner of the top panel to be Inset. This produces the equivalent of an angled front for the cabinet.



Checking **Left Front Miter** angles the front of the component to the outside front corner of the cabinet end. If not checked, the component will angle to the inside front corner of the cabinet end. The remaining selections perform the same functions for the left back, right front and right back of the component. Until the **Angle Part** operation is performed on ALL OF the horizontal parts, the parts that have not been Angled will appear to protrude through the vertical members, and will not be correctly fabricated.

**Note:** These settings angle the various horizontal components but will not affect a face frame on the cabinet. Therefore, do not use **Angle Part** on the front of a cabinet with Face Frames!

## Dado Settings

Dado Settings		
Depth	Depth Clearance	Fit Clearance
<input type="text"/>	<input type="text"/>	<input type="text"/>
NOTE: The values only apply to dados CREATED BY THIS PART!		

**Depth** - This determines how deep the dado slot is. For a full dado, the edge that fits into the slot is also adjusted to be correspondingly longer. For the blind dado, this also is the length of the tenon that fits into the dado slot.

**Depth Clearance** - This only applies to blind dado. It makes the dado slot deeper than the tenon by this amount. This makes assembly more consistent, and makes certain that the ledge of the blind dado determines the final fit, and not the tenon (or adhesive or debris) that is bottoming out in the dado slot.

**Fit Clearance** - This is the amount that the dado slot is larger than the nominal thickness of the tenon that fits into it. Generally, 0.010" to 0.020" clearance results in joints that are strong and easy to assemble.

**Inset** - This is the distance from the edge of the part to the beginning of the tenon. Input the Inset dimension for each of the joints. Notice that this dimension is for the top of the tenon. Since the blind dado tenon will normally be machined using a router bit, there will be a radius at the bottom or root of the tenon. The blind dado slot is machined longer than the length specified for the tenon by the diameter of the bit plus 10%. This allows for the radius at the bottom of the tenon.



## Blind Dado Tenon Settings

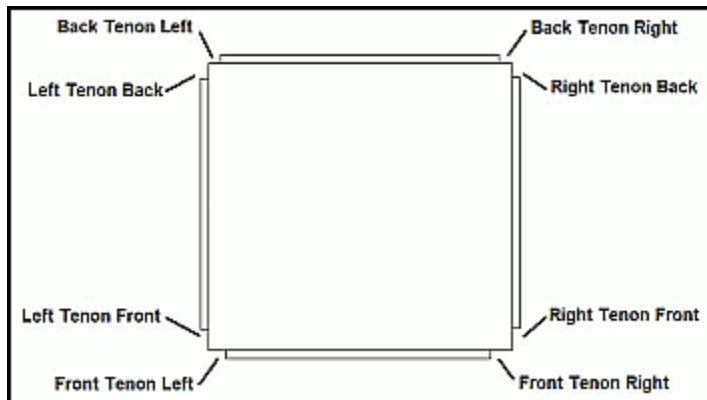
BlindDado Tenon Settings

Thickness (% of Material)   Tenon Bottom Side  
 Tenon Top Side

Placement

Front Tenon Left <input type="text" value="1"/>	Front Tenon Right <input type="text" value="1"/>
Back Tenon Left <input type="text" value="1"/>	Back Tenon Right <input type="text" value="1"/>
Left Tenon Front <input type="text" value="1"/>	Left Tenon Back <input type="text" value="1"/>
Right Tenon Front <input type="text" value="1"/>	Right Tenon Back <input type="text" value="1"/>

The **Thickness (% of Material)** defines the thickness of the tenon, relative to the original material. **Tenon Bottom/Top Side** (also **Tenon Left/Right Side** and **Tenon Back/Front Side**) determines on which side of the material the tenon is machined from. **Placement** will define the location of where the tenon will begin and end. The location names will change based on the part and its orientation.



**Note:** The names of the different tenon insets are keyed so that the tenon is named first and then the location of the inset for that tenon is called out. For example, **Top Tenon** refers to the tenon along the top of the panel, and **Top Tenon Back** refers to the back inset of the top tenon. Also, just because insets are defined for a tenon does not necessarily mean that the tenon will be present on every part. Top tenons, for example, are only present when the cabinet is **Top Flush**. The top tenon then inserts into a dado cut into the top. If the cabinet is **Side Flush**, the edge of the end panel is flush with the outside surface of the top, and no tenon is present.

## KD/RTA Settings

KD/RTA Placement						
<b>Right Edge</b>						
Front Inset	Back Inset	Max Dist. Between	All	<input checked="" type="radio"/> Bottom	Vendor: Hafele	
2"	2"	12"	Select KD/RTA	<input type="radio"/> Top	Model: HF-26310705	
<b>Left Edge</b>						
Front Inset	Back Inset	Max Dist. Between	All	<input checked="" type="radio"/> Bottom	Vendor: Hafele	
2"	2"	12"	Select KD/RTA	<input type="radio"/> Top	Model: HF-26310705	
<b>Front Edge</b>						
Left Inset	Right Inset	Max Dist. Between	All	<input checked="" type="radio"/> Bottom	Vendor: Hafele	
2"	2"	12"	Select KD/RTA	<input type="radio"/> Top	Model: HF-26310705	
<b>Back Edge</b>						
Left Inset	Right Inset	Max Dist. Between	All	<input checked="" type="radio"/> Bottom	Vendor: Hafele	
2"	2"	12"	Select KD/RTA	<input type="radio"/> Top	Model: HF-26310705	

**Inset** - This is the distance from the respective corner edge, to the centerline of the KD/RTA fastener.

**Max. Distance Between** - KD/RTA fasteners will be auto inserted, as defined by the length of the part, above the inset distances and this distance. For the above settings, a 30" edge would have 3 KD/RTA fasteners, while a 31" edge would have 4 fasteners.

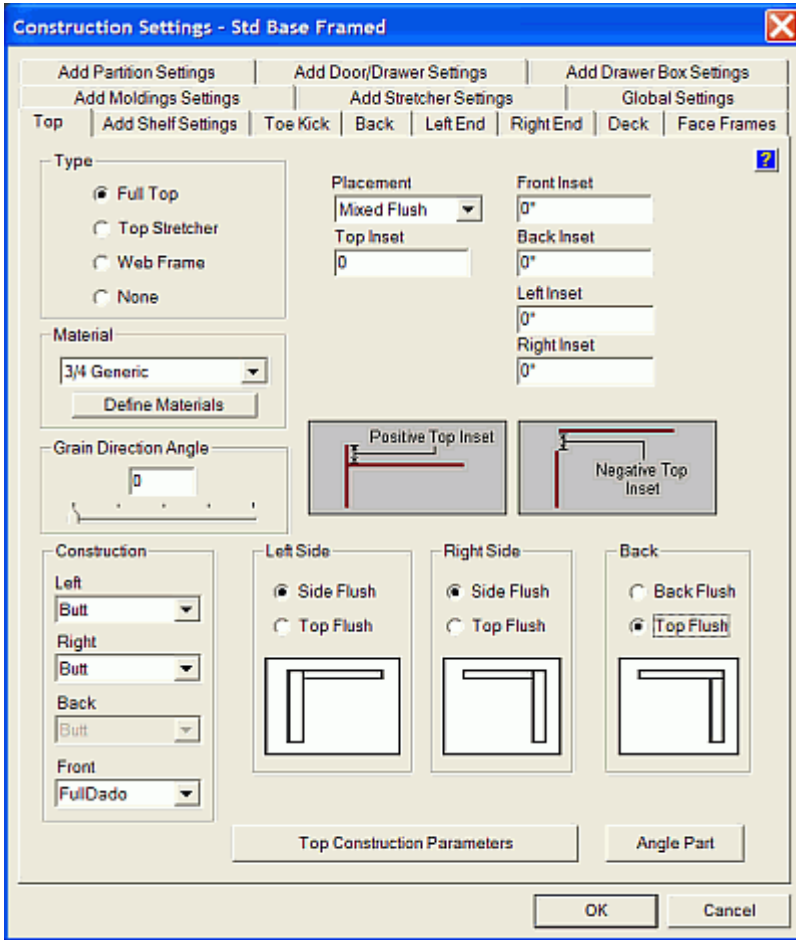
**All** - This button opens a dialog (one for **Cabinets**, one for **Drawer Boxes**) where you can select the placement of the KD/RTA fastener:

Apply KD/RTA To All Edges	
<input checked="" type="radio"/>	Apply This KD/RTA Fitting to all edges of this part only
<input type="radio"/>	Apply This KD/RTA Fitting to all edges of all parts of this drawer box
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

**Select KD/RTA** - This specifies the fastener. The default KD/RTA fastener is the Hafele HF-26310705. Be advised that the mating pins will need to be added separately, based on style desired.

**Bottom** or **Top** - This specifies where the face of the KD/RTA fastener is located.

# Construction Settings - Top



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

## Type



**Full Top** - This is a complete solid top panel.

**Top Stretcher** - This is an open top with horizontal supports on the front and rear.

**Web Frame** - This has the supports on the left and right sides.

**None** - This has no top panel at all.

A **Top Stretcher** also provides dimension boxes to define the front to back width of each stretcher. To omit one of the stretchers, set its width to zero. The **Front Inset** controls how far the front edge of the front stretcher is from the front of the cabinet, and the **Back Inset** controls how far the back edge of the back stretcher is from the back of the cabinet.

The **Web Frame** parameters are the same as the **Top Stretcher**, except that the top parts go from front to back rather than side to side. The following illustrations show the various selections for the **Top** panel and the options available for them.

Type		
<input checked="" type="radio"/> Full Top	Placement	Front Inset
<input type="radio"/> Top Stretcher	Side Flush	0"
<input type="radio"/> Web Frame	Top Inset	Back Inset
<input type="radio"/> None	0"	0"
Material		Left Inset
3/4 Generic		0"
Define Materials		Right Inset
		0"

Type		
<input type="radio"/> Full Top	Placement	Front Inset
<input checked="" type="radio"/> Top Stretcher	Side Flush	0"
<input type="radio"/> Web Frame	Top Inset	Back Inset
<input type="radio"/> None	0"	0"
Material	Front Stretcher Width	Left Inset
3/4 Generic	0"	0"
Define Materials	Back Stretcher Width	Right Inset
	0"	0"

Type		
<input type="radio"/> Full Top	Placement	Front Inset
<input type="radio"/> Top Stretcher	Side Flush	0"
<input checked="" type="radio"/> Web Frame	Top Inset	Back Inset
<input type="radio"/> None	0"	0"
Material	Left Web Frame	Left Inset
3/4 Generic	0"	0"
Define Materials	Right Web Frame	Right Inset
	0"	0"

## Placement

**Side Flush** - This means that the sides extend over the top, and also that the back extends over the top.

**Top Flush** - This means the top extends over the edge of both sides and the back.

**Mixed Flush** - This means you can specify each edge independently, and they can be different from each other. You can select the **Left Side**, **Right Side** and **Back**. When **Mixed Flush** is selected, the lower selection area becomes active. Select either **Side Flush** or **Top Flush** for each joint, and the display will graphically show the joint selected.

## Insets

**Top Inset** defines the amount that the top is inset from the top edge of the cabinet. You can only define a **Top Inset** if the top is set to **Side Flush**. Otherwise, the edges of the cabinet would prevent the top from moving downward.

The remaining inset numbers define how much the edge of the top is inset from the edge of the cabinet. The **Inset** drawings are reminders to show the difference between positive and negative dimensioning and the result in any **Inset**.

**Note:** Insets change the part from the size or position it would normally be, and they remain at the inset dimension regardless of other changes. For example, a top with an inset of two inches is located two inches below the actual top edge of the cabinet. If you now change the height of the cabinet, the top is still two inches below the top of the cabinet. Also, a negative inset makes a part bigger, or moves it away from the centerline.

**Construction** - The type of joinery used in the possible orientations of the Top stretchers.

**Material** - This is what this part is made from

**Grain Direction** - This indicates which direction the grain will run.

**Angle Part** - This is used to define how certain horizontal components react when a side of a cabinet has an inset.

## Top Construction Parameters

**Top Construction Parameters**

Dado Settings

Depth: 0.375"    Depth Clearance: 0.01"    Fit Clearance: 0.01"    PartType: Top

NOTE: The values only apply to dados CREATED BY THIS PART

Blind Dado Tenon Settings

Thickness (% of Material): 50.000

Tenon Bottom Side  
 Tenon Top Side

Placement

Front Tenon Left	Front Tenon Right
1"	1"
Back Tenon Left	Back Tenon Right
1"	1"
Left Tenon Front	Left Tenon Back
1"	1"
Right Tenon Front	Right Tenon Back
1"	1"

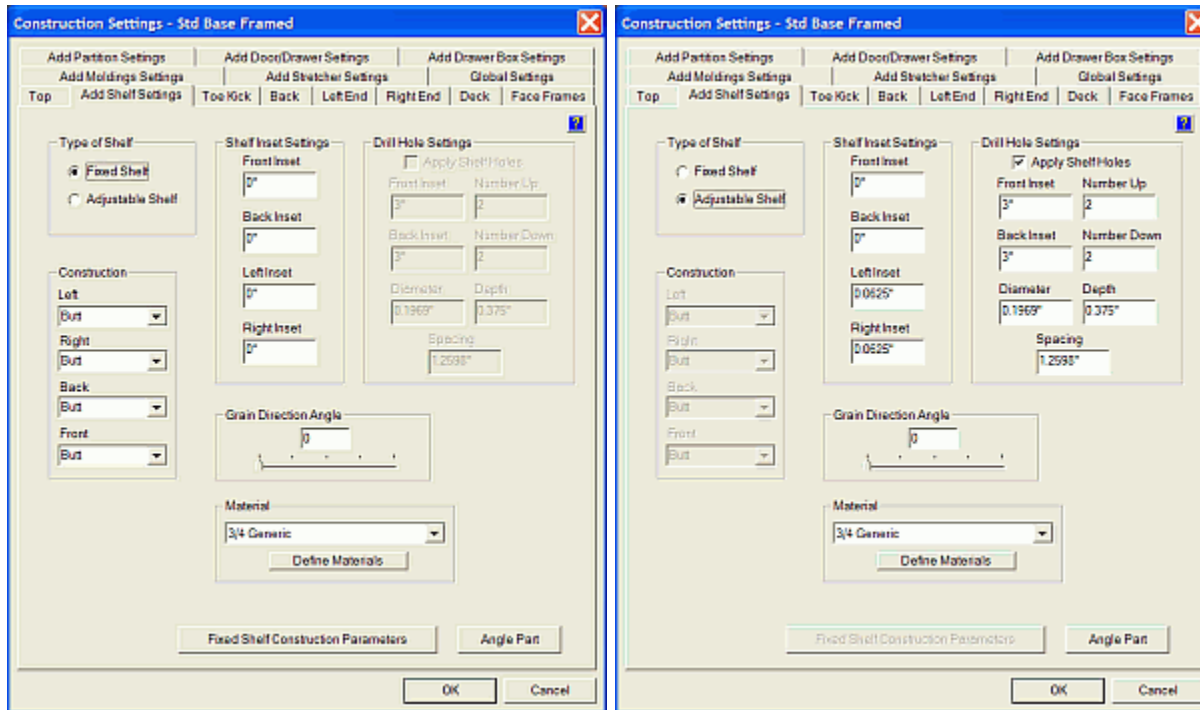
KD/RTA Placement:

Edge	Front Inset	Back Inset	Max Dist Between	All	Bottom	Top	Vendor	Model
Right Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Left Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Front Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Back Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705

Buttons: OK, Cancel, Apply

The **Top Construction Parameters** screen is where the specific information for the Dado settings and KD/RTA fastener details and mounting is found.

## Construction Settings - Shelf



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

Notice the illustrated differences between a **Fixed Shelf** (in the **Construction Parameters** and **Joint** details) and an **Adjustable Shelf** (in the specifications for shelf support holes). When **Fixed Shelf** is selected, the **Construction Parameters** area is active. When **Adjustable Shelf** is selected, the **Construction Parameters** area is not active, since there are no fixed joints on an adjustable shelf.

**Shelf Inset Settings** - This defines the distance that the shelf is inset from the front, back, left and right sides.

**Front Inset** - This defines the distance that the partition is inset from the front.

**Back Inset** - This defines the distance that the partition is inset from the back.

**Top Inset** - This defines the distance that the partition is inset from top of the cabinet.

**Bottom Inset** - This defines the distance that the partition is inset from the bottom of the cabinet.

**Note:** With these settings, it is possible to create a partition with no possible method to attach it to the cabinet!

**Drill Hole Settings** - These are used to define the hole pattern associated with each adjustable shelf.

**Apply Shelf Holes** - Normally you want a single set of holes, and then several shelves that can be mounted on any of the holes. Adding more than one adjustable shelf adds hole patterns for each shelf. To prevent this, first specify the entire hole pattern for the first shelf (making sure it is positioned properly), then, uncheck **Apply Shelf Holes**, and add the remaining shelves.

**Note:** Shelf holes are assumed to be located on the sides of the cabinet with four separate hole patterns associated with each shelf, one in each corner.

**Front Inset** and **Back Inset** - These define how far the center of each vertical hole pattern is offset from the front and back of the case.

**Number Up** and **Number Down** - These define how many adjustment holes are above the current shelf position and how many are below the current shelf position.

**Diameter** - This defines the diameter of the shelf hole.

**Depth** - This defines the depth of the hole.

**Spacing** - This defines the distance from the center of one hole to the center of the next.

**Note:** To change settings of an existing shelf, highlight the shelf and adjust the settings to reflect the shelf you want. Changes to any shelf settings do not modify existing shelves unless the have been highlighted. It also defines characteristics of new shelves that are added.

**Construction** - The type of joinery that is available.

**Grain Direction Angle** - This indicates which direction the grain will run.

**Material** - This is what this part is made from.

**Angle Part** - This is used to define how certain horizontal components react when a side of a cabinet has an inset.



## Fixed Shelf Construction Parameters

**Fixed Shelf Construction Parameters**

Dado Settings  
Depth: 0.375'    Depth Clearance: 0.01"    Fit Clearance: 0.01"    PartType: Fixed Shelf

NOTE: The values only apply to dados CREATED BY THIS PART!

BlindDado Tenon Settings  
Thickness (% of Material): 50.000  
 Tenon Bottom Side  
 Tenon Top Side

Placement

Front Tenon Left	Front Tenon Right
1"	1"
Back Tenon Left	Back Tenon Right
1"	1"
Left Tenon Front	Left Tenon Back
1"	1"
Right Tenon Front	Right Tenon Back
1"	1"

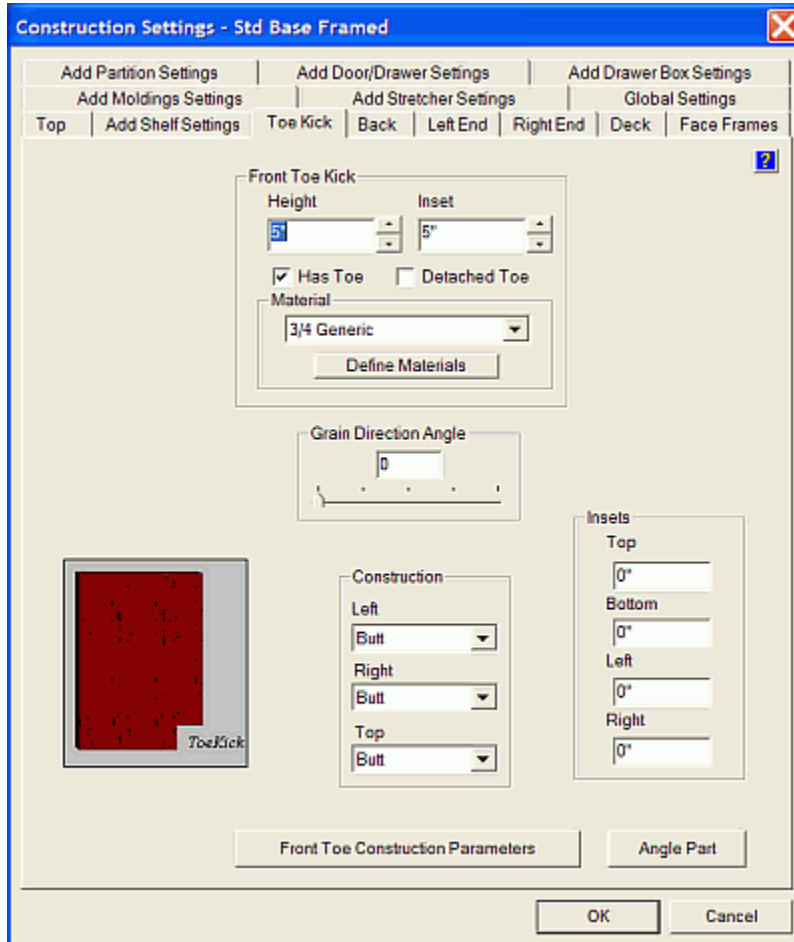
KD/RTA Placement

Edge	Front Inset	Back Inset	Max Dist Between	All	Bottom	Top	Vendor	Model
Right Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Left Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Front Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Back Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705

OK    Cancel    Apply

The **Fixed Shelf Construction Parameter** screen is shown as an example. This is where the specific information for the Dado settings and KD/RTA fastener details and mounting is found.

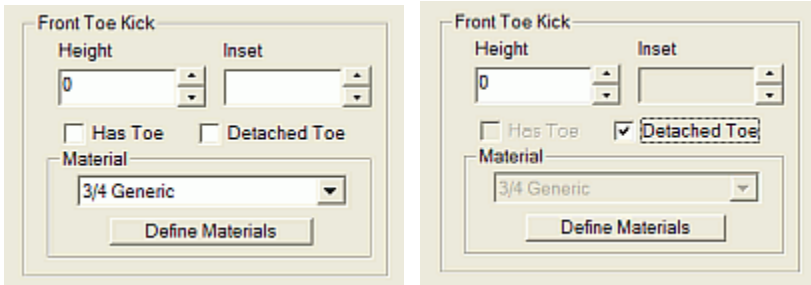
## Construction Settings - Toe Kick



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

A **Toe Kick** is an optional recess on the bottom of the cabinet to provide clearance for the customer's feet, allowing them to get close to the cabinet comfortably.

## Front Toe Kick



**Height** and **Inset** - These determine where the toe kick panel is located. **Height** also determines the location of the cabinet deck. (As you change the **Height**, the deck moves up and down to accommodate the height of the toe kick.)

**Note:** Unchecking **Has Toe** but providing a distance dimension in **Height** and **Inset**, will cause the cabinet ends to be notched for a toe kick, but no toe kick panel will be installed. (This is common where a single toe kick panel is used across a series of cabinets.) Also entering zero (0) **Inset** brings the **Toe Kick** flush to the front of the cabinet.

**Has Toe** - This checkbox determines if the front toe plate exists. If checked, a toe kick panel is placed between the cabinet ends and under the deck. All other construction will be identical.

**Detached Toe** - This configures the cabinet for a separate **Toe Base**. The cabinet height is reduced by the height of the **Toe Kick** dimensions, while the cabinet dimensions remain the same.



Checking **Detached Toe** requires an input for **Height**. This specifies the height of the detached toe base you plan to use, and therefore the cabinet box itself is shortened by that amount. Thus, when the cabinet is placed on the detached toe base, the top of the cabinet will be at the specified total height. For example, a cabinet height of 34.5 inches, with the detached toe height of 5 inches will set the cabinet box itself at 29.5 inches high - even though the cabinet height specified is 34.5 inches. Additionally, when this cabinet is then placed in a **Custom Layout**, it is located this specified height (34.5 inches) above the floor, so it can mate with the detached toe base.

**Material** - This is what this part is made from.

**Grain Direction Angle** - This indicates which direction the grain will run.

**Construction** - The type of joinery that is available for the Left, Right and Top sides.

**Insets** - This is the distance the toe kick panel is set back from the front edge of the case.

**Top** - This is the distance that the top edge of the toe is below the Toe Kick height of the cabinet.

**Bottom** - This is the distance that the bottom edge of the toe is above bottom edge of the cabinet.

**Left** - This is the distance that the left edge of the toe is away from the left end of the cabinet.

**Right** - This is the distance that the right edge of the toe is away from the right end of the cabinet.

**Angle Part** - This is used to define how certain horizontal components react when a side of a cabinet has an inset.

## Front Toe Construction Parameters

**Front Toe Construction Parameters**

Dado Settings  
 Depth: 0.375"    Depth Clearance: 0.01"    Fit Clearance: 0.01"    Part Type: Front Toe

NOTE: The values only apply to dados CREATED BY THIS PART

Blind Dado Tenon Settings  
 Thickness (% of Material): 50.000     Tenon Front Side  
 Tenon Back Side

Placement

Bottom Tenon Left	Bottom Tenon Right
1"	1"
Top Tenon Left	Top Tenon Right
1"	1"
Left Tenon Bottom	Left Tenon Top
0.5"	0.5"
Right Tenon Bottom	Right Tenon Top
0.5"	0.5"

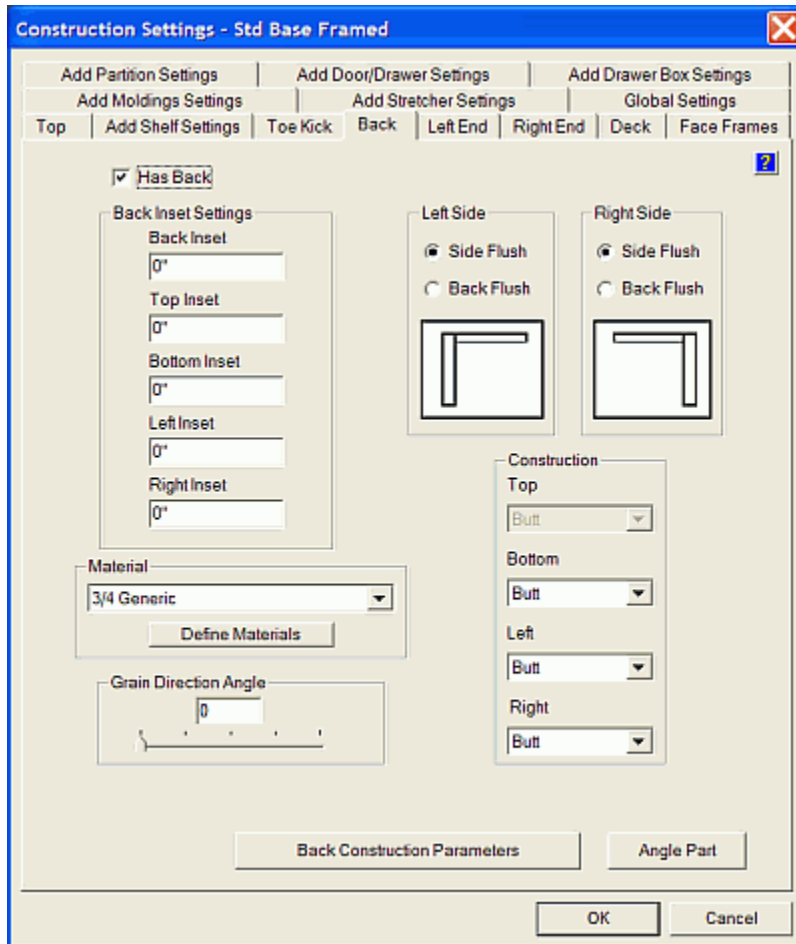
KD/RTA Placement

Edge	Bottom Inset	Top Inset	Max Dist Between	Select KD/RTA	Back	Front	Vendor	Model
Right Edge	1"	1"	12"	All	<input checked="" type="radio"/>	<input type="radio"/>	Vendor: Hafele	Model: HF-26310705
Left Edge	1"	1"	12"	All	<input checked="" type="radio"/>	<input type="radio"/>	Vendor: Hafele	Model: HF-26310705
Bottom Edge	2"	2"	12"	All	<input checked="" type="radio"/>	<input type="radio"/>	Vendor: Hafele	Model: HF-26310705
Top Edge	2"	2"	12"	All	<input checked="" type="radio"/>	<input type="radio"/>	Vendor: Hafele	Model: HF-26310705

Buttons: OK, Cancel, Apply

**Front Toe (Toe Kick) Construction Parameters** screen. This is where the specific information for or the Dado settings and KD/RTA fastener details and mounting is found.

## Construction Settings - Back



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

In the standard cabinets, the back material is the same material as the sides, top and deck, and runs from the top to the floor. As these "seed" cabinets can be considered as oversimplified designs, it is expected that they will be changed to suit many different preferences. Some shops will want a thinner back material. However, with a CNC and blind dado construction, a thicker back makes for a rigid cabinet, and the slightly higher cost of this material is partially offset by the efficiency of having to process only one material.

Many cabinetmakers also like to end the back panel at the level of the deck. To accomplish this, set the overlap between the deck and the back to **Deck Flush**, and the back will end against the deck. Also, if you change joint construction to **Full Dado**, Inset the back and change the top to **Back Flush**, the back can then be slid into the slot from the top. Then it can be then pin nailed to the edge of the top. This is valuable if you plan to spray finish the interior; as this will eliminate blow back because of the installed back panel. The back can then be finished separately and then assembled after it is dry.

**Has Back** - It is possible to construct a cabinet without a back panel by leaving this unchecked.

### **Back Inset Settings**

**Back Inset** - This can only be used when **Side Flush** is specified for both sides.

**Top Inset** - This is the distance that the top edge of the back is positioned below the top.

**Bottom Inset** - This works the same way, just from the bottom.

**Left Inset** - This the distance that the left side of the back is away from the left side of the cabinet.

**Right Inset** - This the distance that the right side of the back is away from the right side of the cabinet.

**Material** - This is what this part is made from.

**Grain Direction Angle** - This indicates which direction the grain will run.

**Left Side** - These define how the left side overlaps the back panel.

**Side Flush** - With this, the left side panel of the cabinet extends past the back panel.

**Back Flush** - With this, the back panel of the cabinet extends past left side panel.

**Right Side** - These define how the right side overlaps the back panel.

**Side Flush** - With this, the right side panel of the cabinet extends past the back panel.

**Back Flush** - With this, the back panel of the cabinet extends past right side panel.

**Construction** - The type of joinery that is available. Some may not be selectable due to similar settings on the mating parts.

**Angle Part** - This is used to define how certain horizontal components react when a side of a cabinet has an inset.

## Back Construction Parameters

**Back Construction Parameters**

Dado Settings  
Depth: 0.375'    Depth Clearance: 0.01"    Fit Clearance: 0.01"    PartType: Back

NOTE: The values only apply to dados CREATED BY THIS PART!

BlindDado Tenon Settings  
Thickness (% of Material): 50.000  
 Tenon Front Side  
 Tenon Back Side

Placement

Left Tenon Bottom	1"	Left Tenon Top	1"
Right Tenon Bottom	1"	Right Tenon Top	1"
Bottom Tenon Left	1"	Bottom Tenon Right	1"
Top Tenon Left	1"	Top Tenon Right	1"

KD/RTA Placement

Top Edge			
Left Inset	Right Inset	Max Dist Between	All
2"	2"	12"	Select KD/RTA
<input checked="" type="radio"/> Front: Vendor: Hafele Model: HF-26310705 <input type="radio"/> Back			

Bottom Edge			
Left Inset	Right Inset	Max Dist Between	All
2"	2"	12"	Select KD/RTA
<input checked="" type="radio"/> Front: Vendor: Hafele Model: HF-26310705 <input type="radio"/> Back			

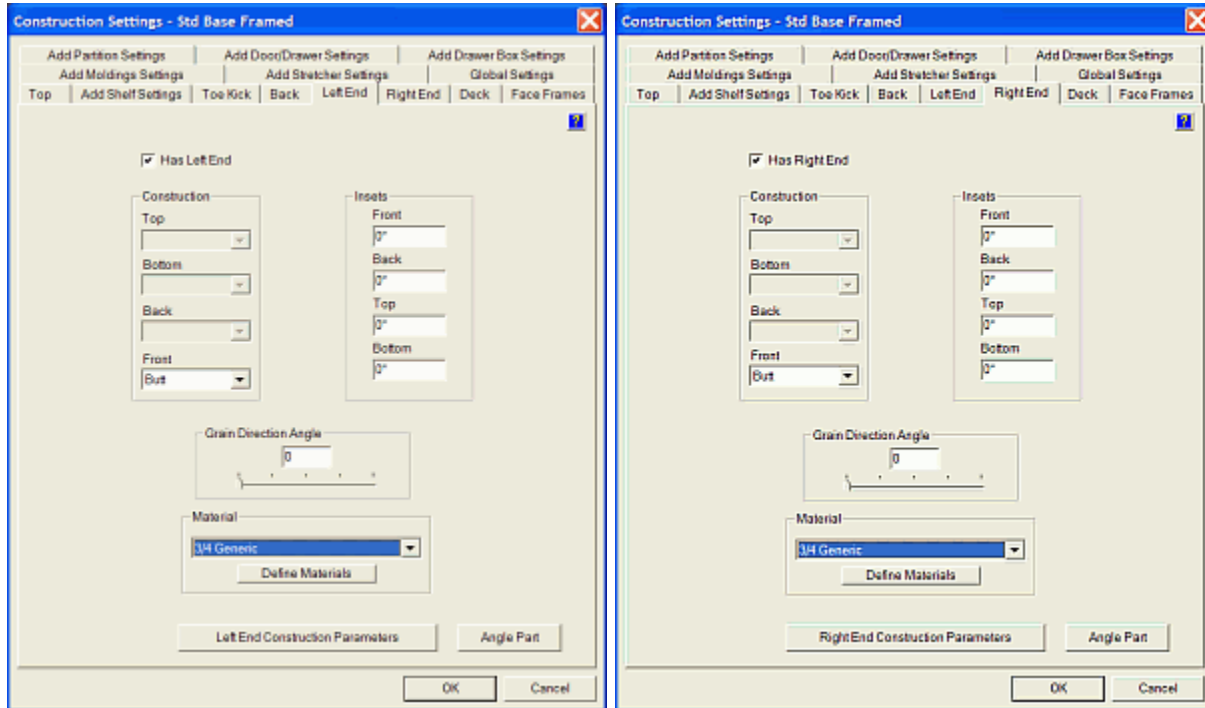
Left Edge			
Bottom Inset	Top Inset	Max Dist Between	All
2"	2"	12"	Select KD/RTA
<input checked="" type="radio"/> Front: Vendor: Hafele Model: HF-26310705 <input type="radio"/> Back			

Right Edge			
Bottom Inset	Top Inset	Max Dist Between	All
2"	2"	12"	Select KD/RTA
<input checked="" type="radio"/> Front: Vendor: Hafele Model: HF-26310705 <input type="radio"/> Back			

OK    Cancel    Apply

**Back Construction Parameters** - This is where the specific information for the Dado settings and KD/RTA fastener details and mounting is found.

## Construction Settings - Left & Right End



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

**Has End** - It is possible to construct a cabinet without a side panel by leaving this unchecked. Either the left or right, or both ends can be deleted in this manner. The widths and insets of these supports are also defined here, as are material and grain directions. Be advised that grain direction will affect the nesting layout.

**Construction** - The type of joinery that is available. Some may not be selectable due to similar settings on the mating parts.

**Insets** - This defines the optional distance that the ends can be recessed (or with negative numbers, can extend beyond).

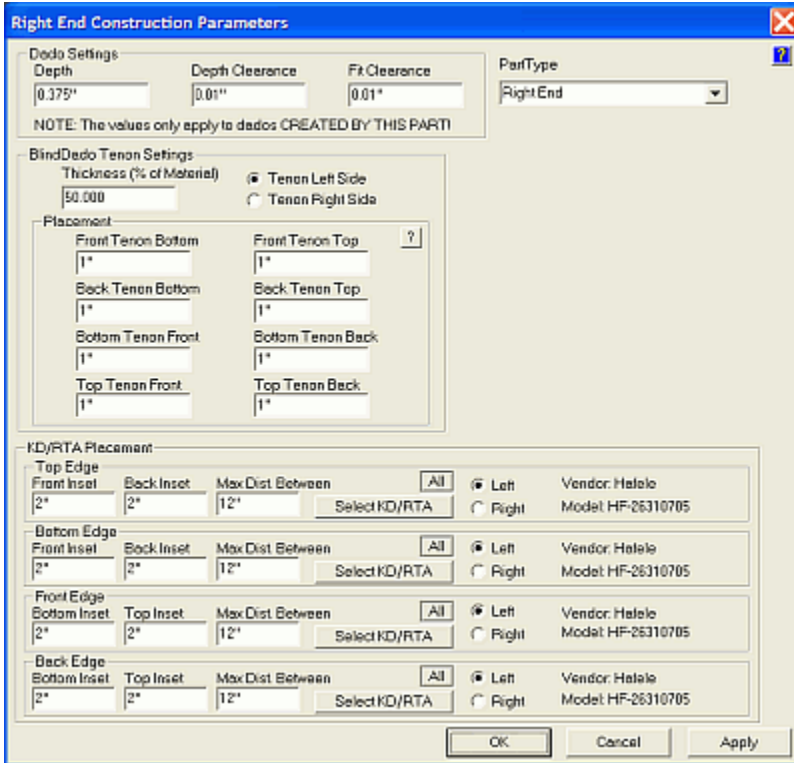
**Grain Direction Angle** - This indicates which direction the grain will run.

**Material** - This is what this part is made from.

**Angle Part** - This is used to define how certain horizontal components react when a side of a cabinet has an inset.

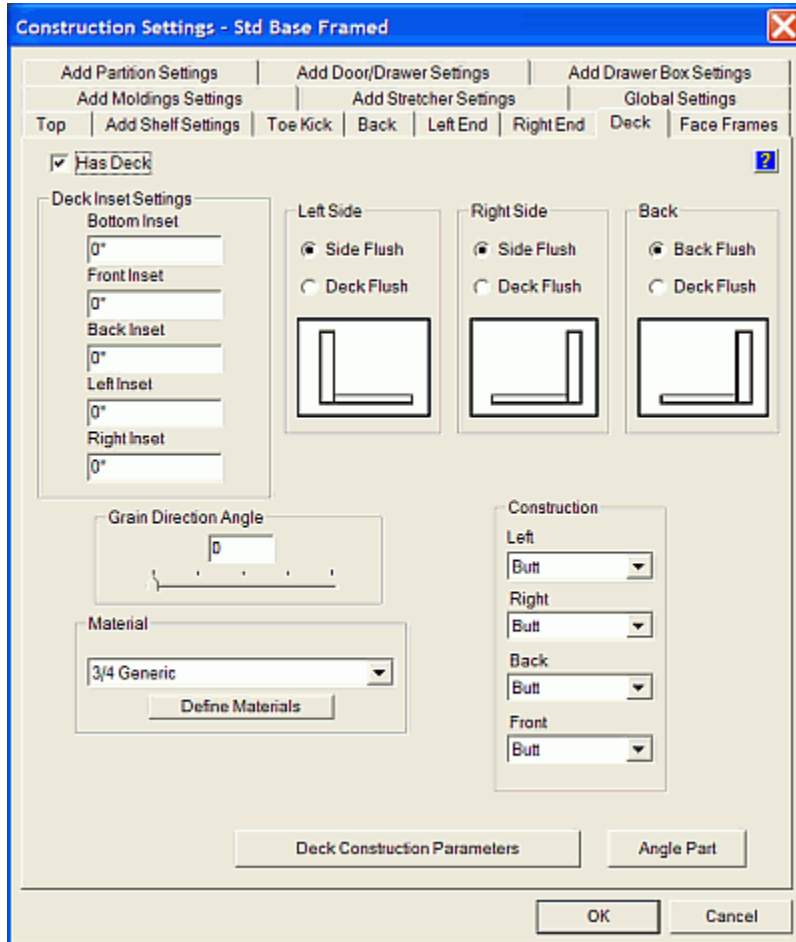


## Left & Right Construction Parameters



**End Construction Parameters** screen (right end screen is shown). This is where the specific information for the Dado settings and KD/RTA fastener details and mounting is found.

## Construction Settings - Deck



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

**Has Deck** - It is possible to construct a cabinet without a deck panel by leaving this unchecked.

**Note:** Deck settings are slightly different for a cabinet with a toe kick versus one that does not have a toe kick. **Left Side**, **Right Side** and **Back** can be either **Side Flush** or **Deck Flush** for a cabinet without a toe kick. Cabinets with a toe kick must be **Side Flush** (since the deck is located at or above the top of the toe kick cutout on the cabinet sides). Setting the overlap to **Deck Flush** will not allow a toe kick.

## Deck Inset Settings

**Bottom Inset** - This defines the distance above the normal position that the deck is located.

**Front Inset** - This defines the distance that the front edge of the deck is located back from the front of the cabinet case.

**Back Inset** - This is the distance that the back edge of the deck is in front of the back of the cabinet.

**Note:** Normal deck position for a cabinet without a toe kick is at the bottom. For a cabinet with a toe kick, the normal deck position is at the top of the toe kick cutout. Indirectly, it is possible to have a toe kick with **Deck Flush**, by inseting the cabinet end at the bottom, and then by adding a negative inset to the deck.

**Construction** - The type of joinery that is available.

**Material** - This is what this part is made from.

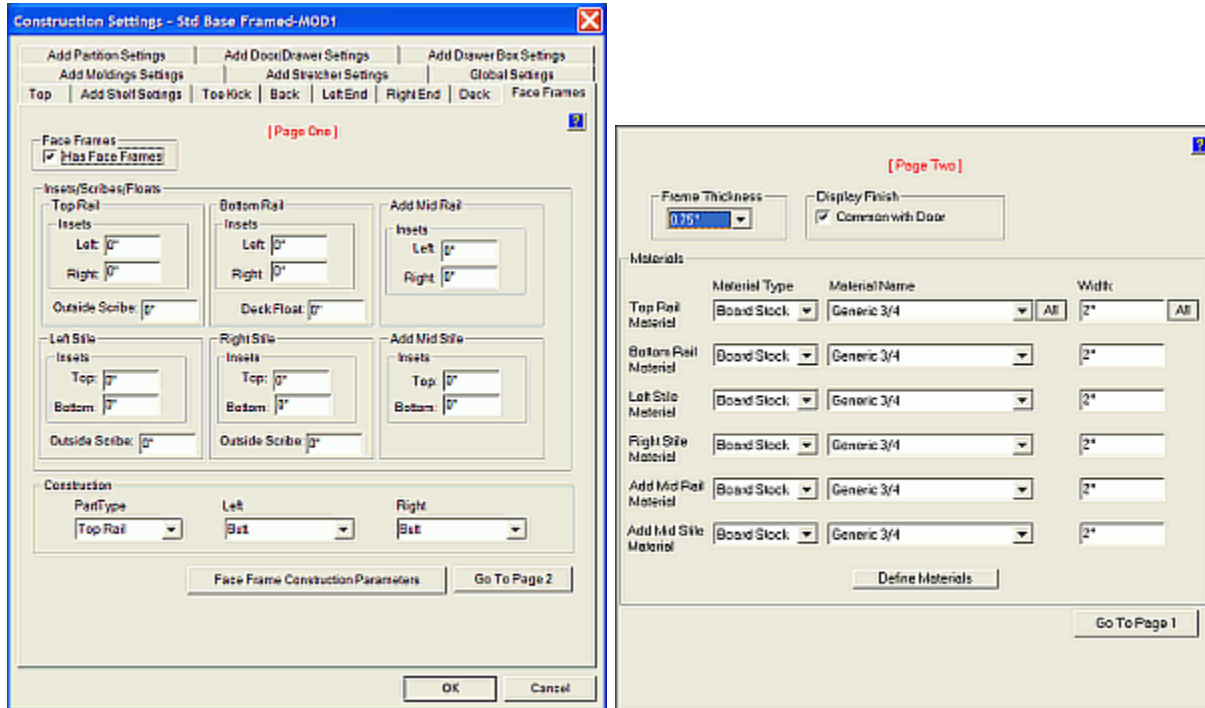
**Grain Direction** - This indicates which direction the grain will run.

**Angle Part** - This is used to define how certain horizontal components react when a side of a cabinet has an inset.

## Deck Construction Parameters

**Deck Construction Parameters** - This is where the specific information for gaps and clearances are made, as well as the KD/RTA fastener details.

## Construction Settings - Face Frames



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

**Has Face Frames** - This makes it possible to construct a cabinet without Face Frames by leaving this unchecked. Switching from **Frameless** to **Has Face Frame** will cause face frame members to be added to all existing fixed shelves and partitions.

**Important:** - Inset dimensions specified for these items will prevent a Face Frame component from being attached. Additionally, there will be no joinery specified for attaching the face frame to the cabinet box in this instance. The default will be a Butt Joint, which means that the face frame simply butts against the cabinet. Screws, nails or other fasteners will be required to attach the face frame to the cabinet. To get Blind Dado, Full Dado or KD/RTA assembly, the appropriate mating parts on the cabinet will need to have this construction setting applied, and a slot/hole will then be automatically machined into the back of the face frame.

## Insets/Scribes/Floats

**Inset - (Left or Right; Top or Bottom)** This changes the length of the specified part. A positive number insets it (makes it shorter). A negative **Inset** makes it longer.

**Outside Scribe** - This is the distance the face frame extends past the outside the edge of the cabinet. A negative **Outside Scribe** will move the component toward the inside of the cabinet.

**Deck Float** - This refers to the distance that the top edge of the bottom rail is above the top surface of the deck.

**Construction** - Select the desired Construction method for the appropriate Left side and Right side of part. The available choices are **Butt Joint**, **Mortise/Tenon** or **Puzzle**.

**Frame Thickness** - This specifies the thickness of the Face Frame components. To change the thickness, all **Mid Rails** and **Mid Stiles** need to be selected.

**Note:** All Face Frame components must be the same thickness.

## Display Finish

**Common Finish with Door** - This indicates that the finish selected for the cabinet door will also be displayed on the face frame.

## Materials

**Material Type** - Choose from **Board Stock** or **Sheet Stock**.

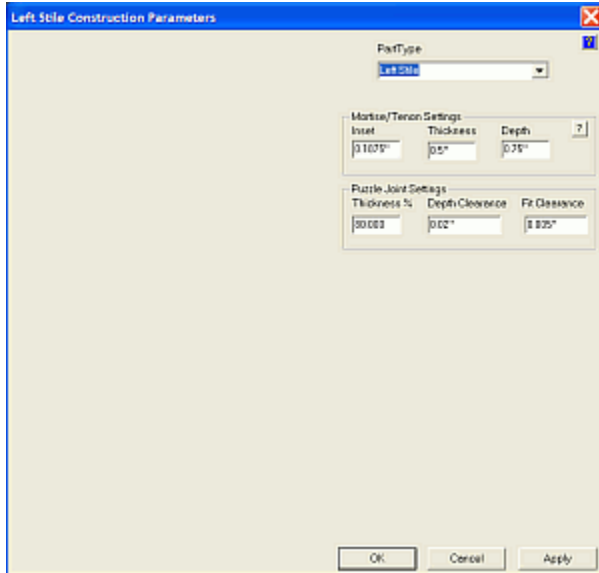
**Note:** Face Frames can be made of either **Board Stock** or **Sheet Stock**. **Board Stock** for Face Frame components can use either Butt joints or Mortise and Tenon joints. However, while *eCabinet Systems* will detail the component dimensions in the **Cut List**, it will not provide **CNC Output** data for **Board Stock** parts. **Sheet Stock**, in addition to providing **Cut List** data, will also nest the Face Frame parts, and will provide complete **CNC Output** data. **Sheet Stock** also allows for Puzzle Joints.

**Material Name** - There is only a single thickness for all face frame components. Thus, if **Frame Thickness** is set to a half inch, only the appropriate material that is a half-inch thick will be available for selection in the **Material Name** selection area.

**Width** - Here the individual width of the Face Frame components can be specified.

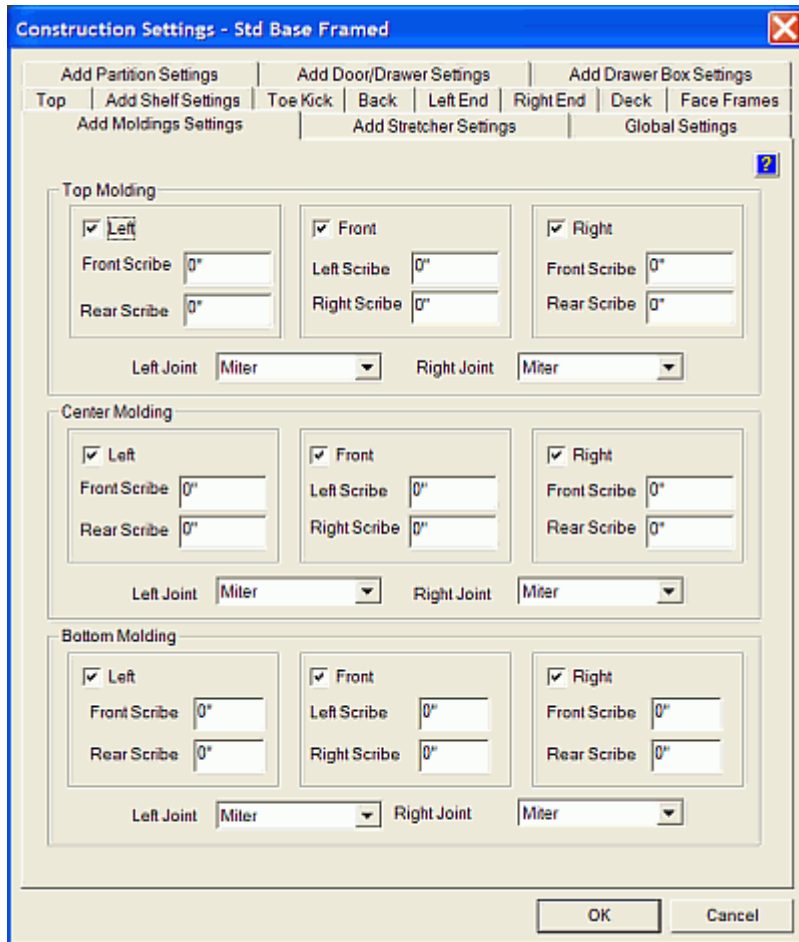
**Define Materials** - This opens the **My Materials** window. See the section in this manual called "**Define Stock Materials Introduction**" for additional information.

## Face Frame Construction Parameters



The **Face Frame Construction Parameters** screen. This is where the specific information for gaps and clearances are made. There are 4 screens, 2 for the rails and 2 for the styles.

## Construction Settings - Moldings



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

Three types of moldings can be placed, **Top**, **Mid** and **Base** and a separate setting area is provided for each.

**Left** - If checked, a molding is placed only on the cabinet left.

**Front** - If checked, a molding is placed only on the cabinet front.

**Right** - If checked, a molding is placed only on the cabinet right.

**Left, Front and Right** - If all three are checked, the molding goes across the front and along both sides of the cabinet.

**Left Joint** - This defines the type of joint between the front molding and the left side molding.

**Right Joint** - This defines the same on the right.

**Miter** - This indicates that each molding is mitered to meet at the front corner of the cabinet.

**Overlap** - This means that the molding overlaps by the distance specified in the **Scribe** setting.

**Note:** If a positive **Scribe** is set for each of two moldings that meet at a common corner, they will mesh in the display and each will be made the overall length required to achieve the **Scribe** settings. In this case, the user must develop the joinery between moldings.

## Construction Settings - Stretcher

**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

**Stretcher Width** - This is how wide the stretcher is.

**Construction** - The type of joinery that is available for the appropriate orientation.

**Stretcher Orientation** - This makes it possible to insert stretchers mounted front to back, left to right, or top to bottom. Individual **Construction Parameters** are provided for each orientation.

**Material** - This is what this part is made from.

**Grain Direction** - This indicates which direction the grain will run.



## Stretcher Construction Parameters

**Up Down Stretcher Construction Parameters**

Dado Settings  
Depth: 0.375'    Depth Clearance: 0.01"    Fit Clearance: 0.01"    PartType: Up Down Stretcher  
NOTE: The values only apply to dados CREATED BY THIS PART!

Blind Dado Tenon Settings  
Thickness (% of Material): 50.000  
 Tenon Back Side  
 Tenon Front Side

Placement

Left Tenon Bottom	1"	Left Tenon Top	1"
Right Tenon Bottom	1"	Right Tenon Top	1"
Bottom Tenon Left	1"	Bottom Tenon Right	1"
Top Tenon Left	1"	Top Tenon Right	1"

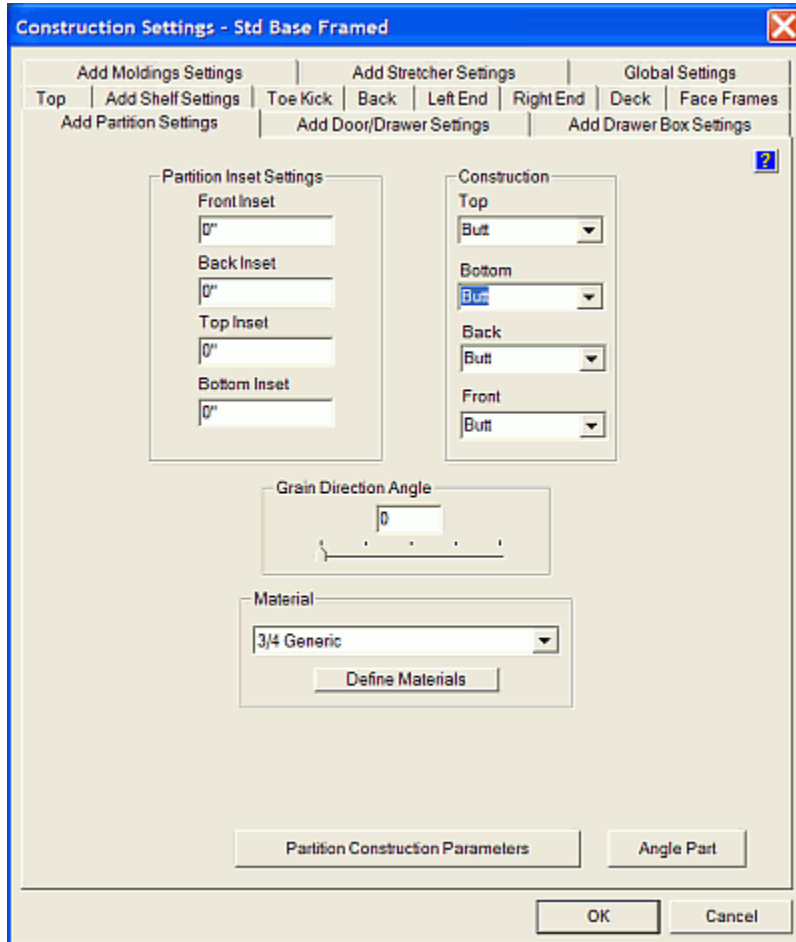
KD/RTA Placement

Edge	Left Inset	Right Inset	Max Dist Between	All	Back	Front	Vendor	Model
Top Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Bottom Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Left Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705
Right Edge	2"	2"	12"	Select KD/RTA	<input checked="" type="radio"/>	<input type="radio"/>	Hafele	HF-26310705

OK    Cancel    Apply

This is one of a typical screen for any of the 3 stretcher possibilities: **Up-Down**, **Left-Right**, or **Front-Back**. This is where the specific information for the Dado settings and KD/RTA fastener details and mounting is found.

## Construction Settings - Partitions



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

**Partition Inset Settings** - This defines the distance that the partition is inset from the front, back, top and bottom sides.

**Front Inset** - This defines the distance that the partition is inset from the front.

**Back Inset** - This defines the distance that the partition is inset from the back.

**Top Inset** - This defines the distance that the partition is inset from top of the cabinet.

**Bottom Inset** - This defines the distance that the partition is inset from the bottom of the cabinet.

**Note:** With these settings, it is possible to create a partition with no possible method to attach it to the cabinet!

**Construction** - The options are **Butt**, **Blind Dado**, **Full Dado** and **KD/RTA**.

**Top** - This is the joinery location where the top of partition touches the top cabinet component.

**Bottom** - This is the joinery location where the bottom of partition touches the bottom cabinet component.

**Back** - This is the joinery location where the back of partition touches the back cabinet component.

**Front** - This is the joinery location where the top of partition touches the front cabinet component.

**Grain Direction Angle** - This indicates which direction the grain will run.

**Material** - This is what this part is made from

**Angle Part** - This is used to define how certain horizontal components react when a side of a cabinet has an inset.

**Note:** To change settings for an existing partition, highlight the existing partition and adjust the **Add Partition Settings**. The **Add Partition Settings** do not modify existing partitions unless the have been highlighted, and it also defines the characteristics of any new partitions that are added.

## Partition Construction Parameters

Dado Settings			PartType
Depth	Depth Clearance	Fit Clearance	Partition
0.375'	0.01"	0.01"	

NOTE: The values only apply to dados CREATED BY THIS PART

Blind Dado Tenon Settings	
Thickness (% of Material)	<input type="radio"/> Tenon Left Side <input checked="" type="radio"/> Tenon Right Side
50.000	

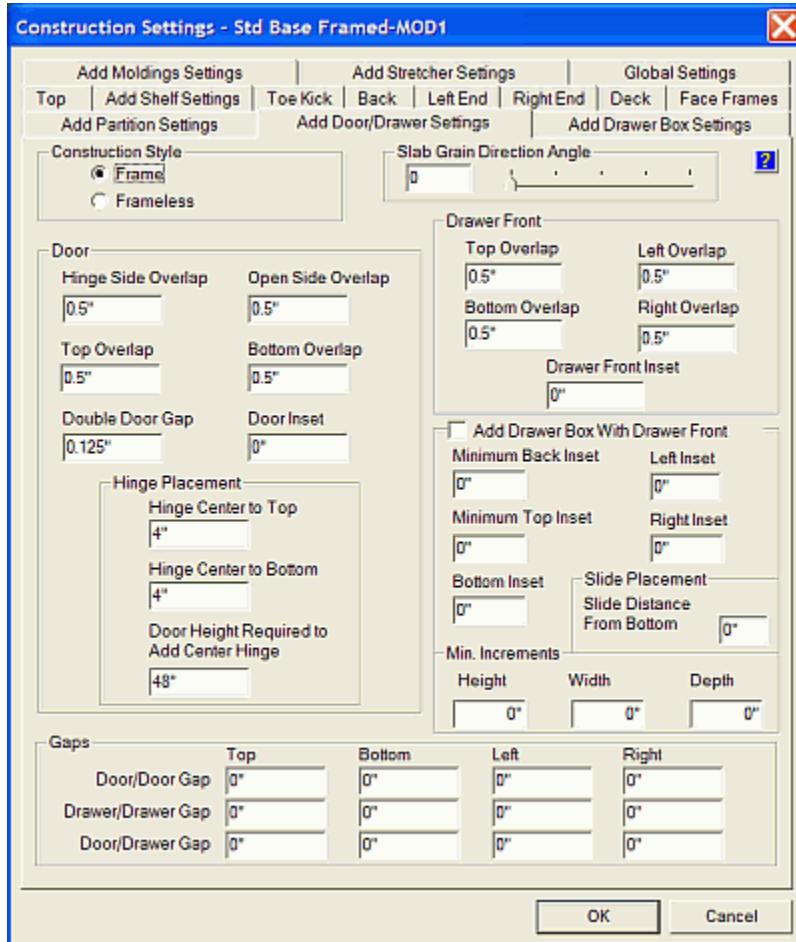
Placement	
Front Tenon Bottom	Front Tenon Top
1"	1"
Back Tenon Bottom	Back Tenon Top
1"	1"
Bottom Tenon Front	Bottom Tenon Back
1"	1"
Top Tenon Front	Top Tenon Back
1"	1"

KD/RTA Placement			
Top Edge			
Front Inset	Back Inset	Max Dist Between	All
2"	2"	12"	Select KD/RTA
		<input checked="" type="radio"/> Left <input type="radio"/> Right	
		Vendor: Hafele Model: HF-26310705	
Bottom Edge			
Front Inset	Back Inset	Max Dist Between	All
2"	2"	12"	Select KD/RTA
		<input checked="" type="radio"/> Left <input type="radio"/> Right	
		Vendor: Hafele Model: HF-26310705	
Front Edge			
Bottom Inset	Top Inset	Max Dist Between	All
2"	2"	12"	Select KD/RTA
		<input checked="" type="radio"/> Left <input type="radio"/> Right	
		Vendor: Hafele Model: HF-26310705	
Back Edge			
Bottom Inset	Top Inset	Max Dist Between	All
2"	2"	12"	Select KD/RTA
		<input checked="" type="radio"/> Left <input type="radio"/> Right	
		Vendor: Hafele Model: HF-26310705	

Buttons: OK, Cancel, Apply

This is the **Partition Construction Parameters** screen. Here, specific information for the Dado settings and KD/RTA fastener details and mounting is found.

## Construction Settings - Door/Drawer



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

**Construction Style** - There are two sets of **Door/Drawer Construction Settings**, one for framed cabinets and one for frameless. A selection at the top left determines which is active. The different settings have parameters that are generally different for frame cabinets versus frameless, and this eliminates the need to change all settings if a cabinet is changed from framed to frameless. The Dialog windows are identical, however.

**Note:** The settings defined here determine the parameters that will be used when a door or drawer is added using the **Door/Drawer Editor**. Changing these settings does not affect existing doors on a cabinet unless the doors were highlighted prior to opening this dialog.

**Slab Grain Direction Angle** - This determines which direction the grain will run. Be advised that the grain direction changes can have a great impact on the Nesting process.

## Door

### Hinge Side Overlap

**Frameless cabinets** - This is the **Reveal** on the hinge side of the door.

**Face Frame cabinets** - This is the amount that the door overlaps the Face Frame on the hinge side.

If **Inset** has been specified, this is the gap on the hinge side of the door.

### Top Overlap

**Frameless cabinets** - This is the **Reveal** on the top side of the door.

**Face Frame cabinets** - This is the amount that the door overlaps the Face Frame on the top side.

If **Inset** has been specified, this is the gap on the top side of the door.

**Double Door Gap** - This is the gap between the double doors.

### Open Side Overlap

**Frameless cabinets** - This is the **Reveal** on the open side of the door.

**Face Frame cabinets** - This is the amount that the door overlaps the Face Frame on the open side.

If **Inset** has been specified, this is the gap on the open side of the door.

### Bottom Overlap

**Frameless cabinets** - This is the **Reveal** on the bottom side of the door.

**Face Frame cabinets** - This is the amount that the door overlaps the Face Frame on the bottom side.

If **Inset** has been specified, this is the gap on the bottom side of the door.

**Door Inset** - This is the distance the door is Inset (recessed) from the cabinet front or Face Frame.

**Note:** **Overlap** or **Reveal** dimensions change to **Gap** dimensions if a **Door Inset** is specified.

### Hinge Placement

**Center to Top** - This is the distance from the center of the top of the hinge to the top edge of the door.

**Hinge Center to Bottom** - This is the distance from the center of the bottom of the hinge to the bottom edge of the door.

**Max. Distance Between Hinges** - This is the maximum distance between hinges. When this center-to-center hinge spacing is reached, another hinge will be automatically be placed between these two.

## **Drawer Front**

### **Top Overlap**

**Frameless cabinets** - This is the **Reveal** on the top of the **Door/Drawer**.

**Face Frame cabinets** - This is the amount that the **Door/Drawer** overlaps the Face Frame on top.

If **Inset** has been specified, this is the gap on the top of the **Door/Drawer**.

### **Left Overlap**

**Frameless cabinets** - This is the **Reveal** on the left of the **Door/Drawer**.

**Face Frame cabinets** - This is the amount that the **Door/Drawer** overlaps the Face Frame on the left.

If **Inset** has been specified, this is the gap on the left side of the **Door/Drawer**.

### **Right Overlap**

**Frameless cabinets** - This is the **Reveal** on the right of the **Door/Drawer**.

**Face Frame cabinets** - This is the amount that the **Door/Drawer** overlaps the Face Frame on the right.

If **Inset** has been specified, this is the gap on the right side of the **Door/Drawer**.

### **Bottom Overlap**

**Frameless cabinets** - This is the **Reveal** on the bottom of the **Door/Drawer**.

**Face Frame cabinets** - This is the amount that the **Door/Drawer** overlaps the Face Frame on the bottom.

If **Inset** has been specified, this is the gap on the bottom side of the **Door/Drawer**.

**Drawer Front Inset** - This is the distance the Drawer Front is Inset (recessed) from the cabinet front or Face Frame.

**Note:** **Overlap** or **Reveal** dimensions change to **Gap** dimensions if a **Door Inset** is specified.

## **Add Drawer Box**

If checked, a drawer box will be added to the drawer front. The parameters in this area determine how to size the box based on the opening selected. The box will be sized by the minimum increments to obey the entered inset values.

**Add Drawer Box With Drawer Front** - This will add the current Default Drawer Box along with the Drawer Front.

**Minimum Back Inset** - This is the minimum distance from the inside back of the cabinet to the back of the drawer box.

**Minimum Top Inset** - This is the minimum distance from the top of the drawer box opening to the top of the drawer box.

**Bottom Inset** - This is distance from the bottom of the drawer box opening to the bottom of the drawer box.

**Left Inset** - This is distance from the drawer box opening to the left side of the drawer box.

**Right Inset** - This is distance from the drawer box opening to the right side of the drawer box.

**Note:** All of these inset values determine the drawer box size. If the **Min. Increments** are set to zero, the Inset values will be obeyed exactly.

## Slide Placement

**Slide Distance From Bottom** - This specifies how high from the bottom edge of the drawer side the drawer slide is located. This is also the zero point for the mounting hole pattern for the slide.

## Min. Increments

**Height, Width, Depth** - To make drawer boxes in standard sized (even 1/32, 1/16 or 1/8 inch increments), this area allows you to specify the **Increment** you want the drawer boxes built in. When **Increments** are specified, the system will always round down the size of the drawer box to the next increment. Because of this, any **Insets** specified are now minimum **Insets** and the actual **Inset** may be slightly larger when a dimension is rounded down.

## Gaps

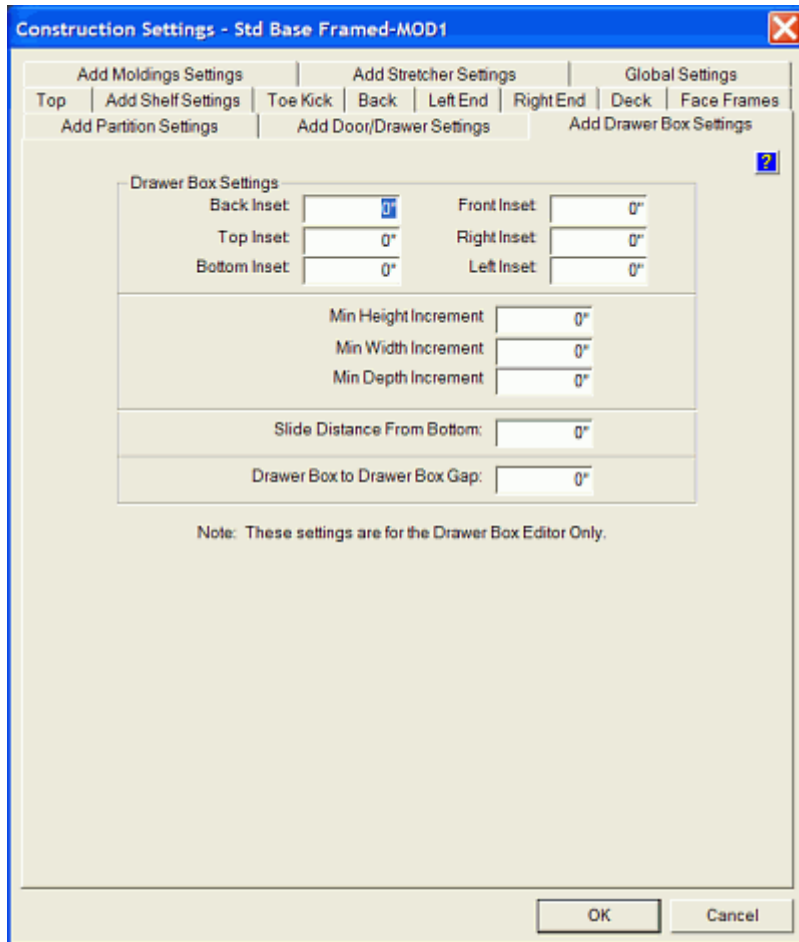
**Door to Door Gap** - This specifies the desired gap for **Top, Bottom, Left, Right** between any adjacent Doors.

**Drawer to Drawer Gap** - This specifies the desired gap for **Top, Bottom, Left, Right** between adjacent Drawers.

**Door to Drawer Gap** - This specifies the desired gap for **Top, Bottom, Left, Right** between any Doors and Drawers.



## Construction Settings - Drawer Box Editor



Construction Settings - Std Base Framed-MOD1

Add Moldings Settings | Add Stretcher Settings | Global Settings

Top | Add Shelf Settings | Toe Kick | Back | Left End | Right End | Deck | Face Frames

Add Partition Settings | Add Door/Drawer Settings | Add Drawer Box Settings

Drawer Box Settings

Back Inset:  Front Inset:

Top Inset:  Right Inset:

Bottom Inset:  Left Inset:

Min Height Increment:

Min Width Increment:

Min Depth Increment:

Slide Distance From Bottom:

Drawer Box to Drawer Box Gap:

Note: These settings are for the Drawer Box Editor Only.

OK Cancel

**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

### Drawer Box Settings

**Insets (Back, Top, Bottom, Front, Right, Left)** - These specify the clearances from the cabinet to the drawer box.

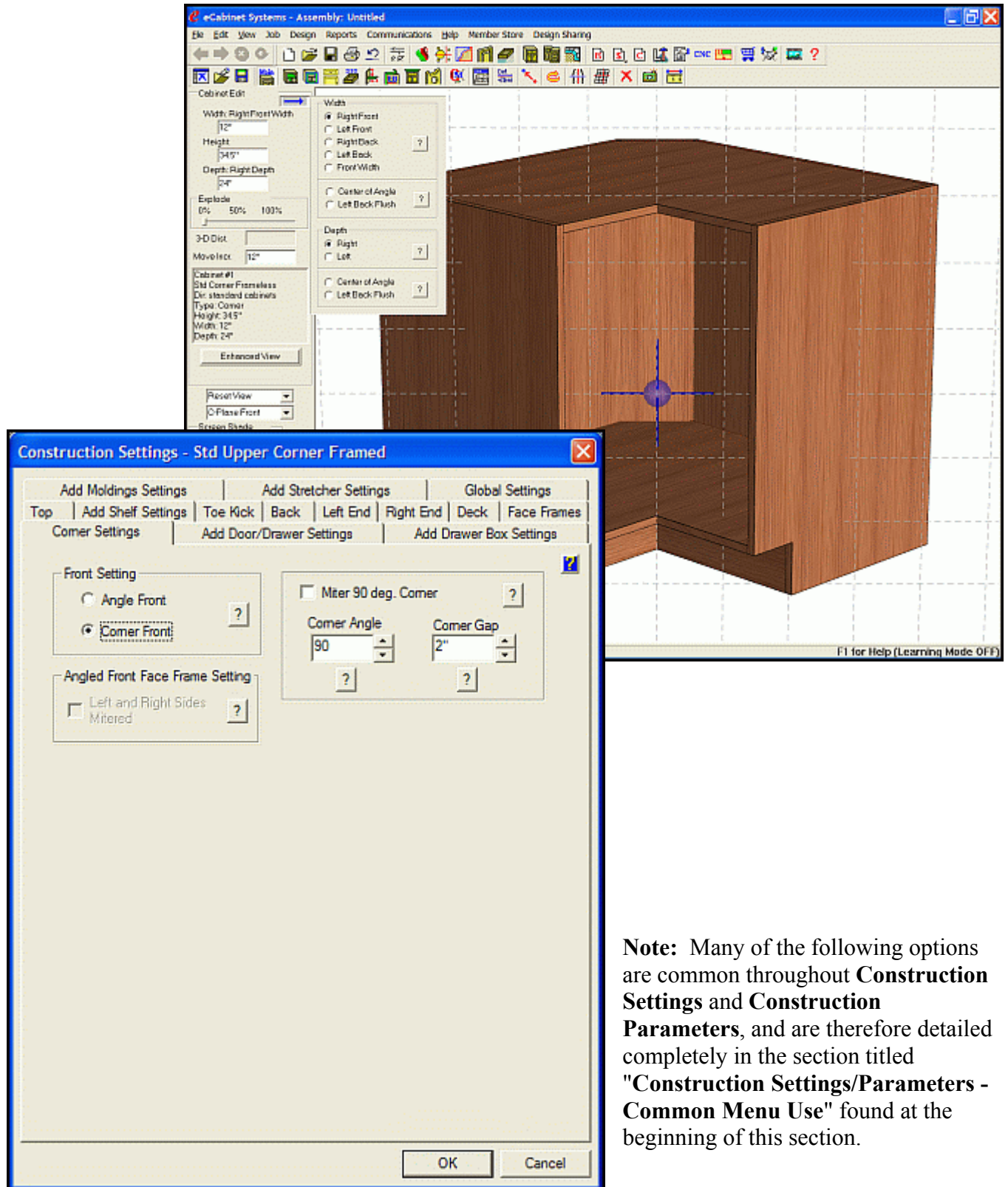
**Min. Height Increment, Min. Width Increment Min. Depth Increment** - To make drawer boxes in standard sized (even 1/32, 1/16 or 1/8 inch increments), this area allows you to specify the **Increment** you want the drawer boxes built in. When **Increments** are specified, the system will always round down the size of the drawer box to the next increment. Because of this, any **Insets** specified are now minimum **Insets** and the actual **Inset** may be slightly larger when a dimension is rounded down.

**Slide Distance From Bottom** - This specifies how high from the bottom edge of the drawer side the drawer slide is located. This is also the zero point for the mounting hole pattern for the slide.

**Drawer Box to Drawer Box Gap** - This is used whenever more than one drawer box is added to an opening.

Remember, this **Construction Settings** area is for the **Drawer Box Editor** only!

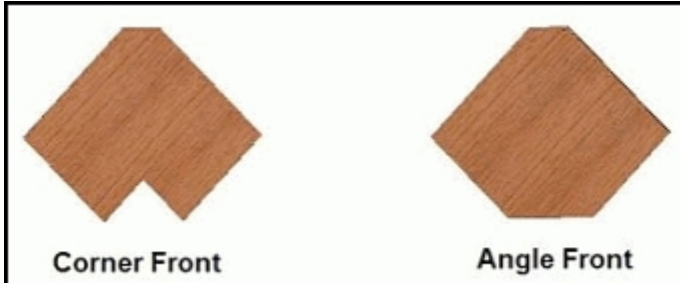
## Construction Settings - Corner Cabinets



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

**Corner Cabinets** have some special dimension settings, as can be seen above. The tab to access the **Corner Cabinet Construction Settings** is only available if a corner cabinet is loaded in the **Cabinet/Assembly Editor**.

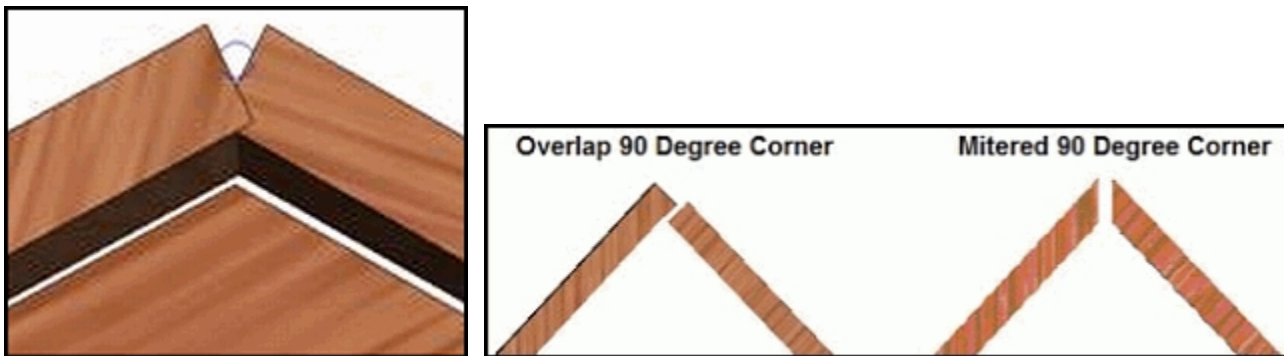
**Important:** - The three back panels are not fabricated with miters, and therefore, the actual miter is not displayed in the software. However, the parts are made large enough to accommodate a manually applied, and then are shown meshed for display purposes. You must realize that the proper miter angle must be cut on the part for them to assemble properly.



**Front Setting** - This determines the type of front, as shown in this illustration. The choice is **Corner Front** or **Angle Front**.

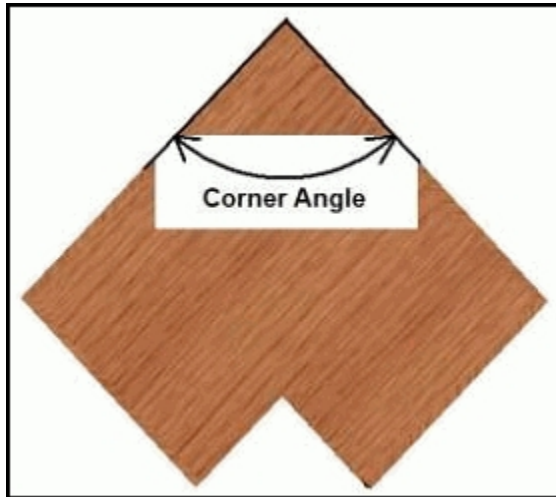


**Angled Front Face Frame Settings** - **Left and Right Sides Mitered** determines whether the left and right stiles of the face frame are mitered parallel to the cabinet sides, as shown in this illustration.

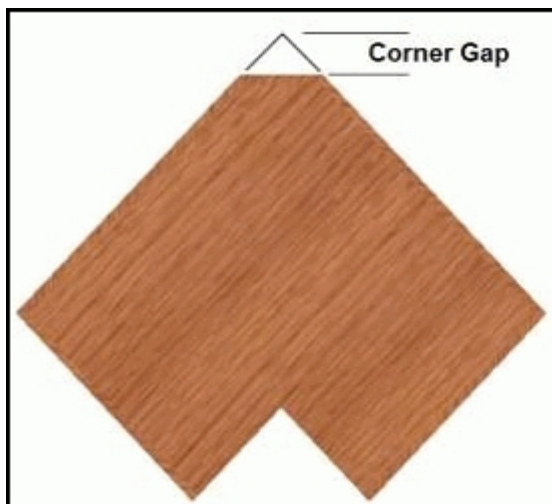


**Miter 90 Degree Corner** - This defines the way the two back panels of a 90 degree corner cabinet mate with each other. A 90-degree cabinet is the only angle at which this option exists. Otherwise, the back corner is always mitered. If you select **Overlap**, one back panel is cut shorter than the other, providing the overlap. This can be machined with only 90-degree vertical cuts. If you select **Mitered**, both panels are made long enough for the miter cut, however, the back edge of both panels must be mitered at the correct angle before the panels fit together at the back.

Notice that the actual miter is not displayed, but the individual components are made long enough so that the miter can be cut on each. For display purposes, they are meshed, as shown in the illustration.

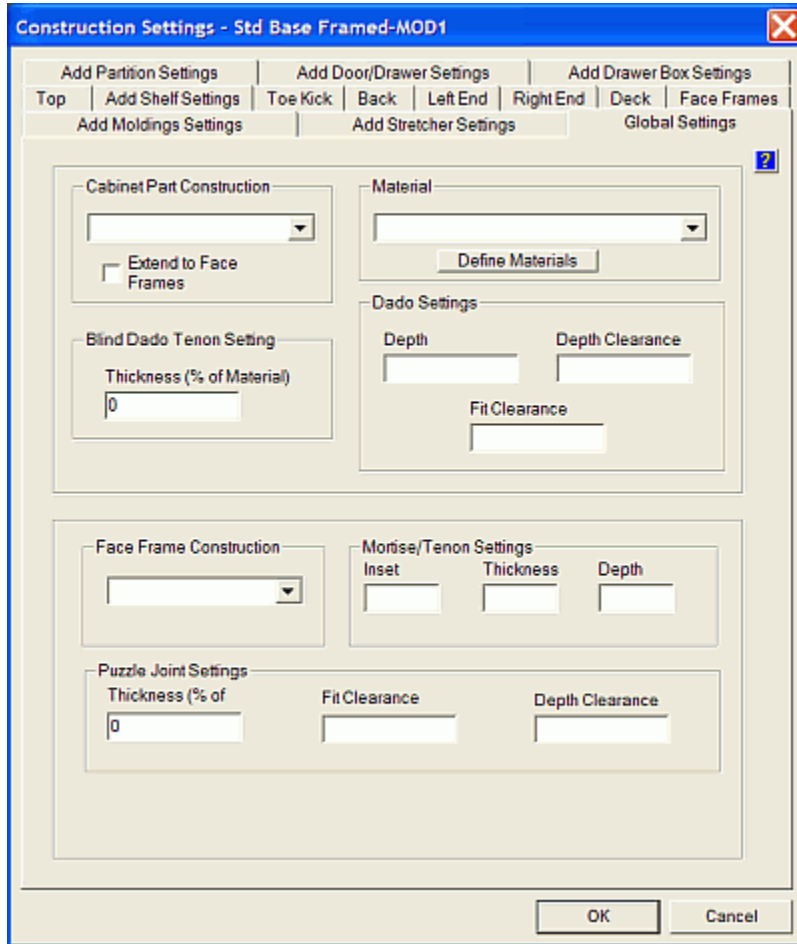


**Corner Angle** - This is the angle that the cabinet makes with the wall. Angles from 90 to 179 degrees are possible.



**Corner Gap** - The distance from the center of the cabinet what would be the intersection of the side panels. A 0 (zero) setting has no Center Back panel, and intersecting Side panels.

## Construction Settings - Global



**Note:** Many of the following options are common throughout **Construction Settings** and **Construction Parameters**, and are therefore detailed completely in the section titled "**Construction Settings/Parameters - Common Menu Use**" found at the beginning of this section.

**Cabinet Part Construction, Material, Dado Settings and Blind Dado Tenon, Face Frame Construction**, as well as some **Joinery** settings can all be changed globally. To change all the parameters for the entire cabinet, select the settings you want to change and press **OK**. Global settings that are left blank will not be affected when the **OK** button is pressed.

When selecting **Material**, be advised that this changes all materials. If a few parts of a cabinet still require a different material, change the entire cabinet to the new material and then individually change the parts that are different.

**Note:** The individual **Construction Settings** pages also have **Dado Settings**, which are for that part only, and overrule any Global Settings.

## Define Defaults/Add Items

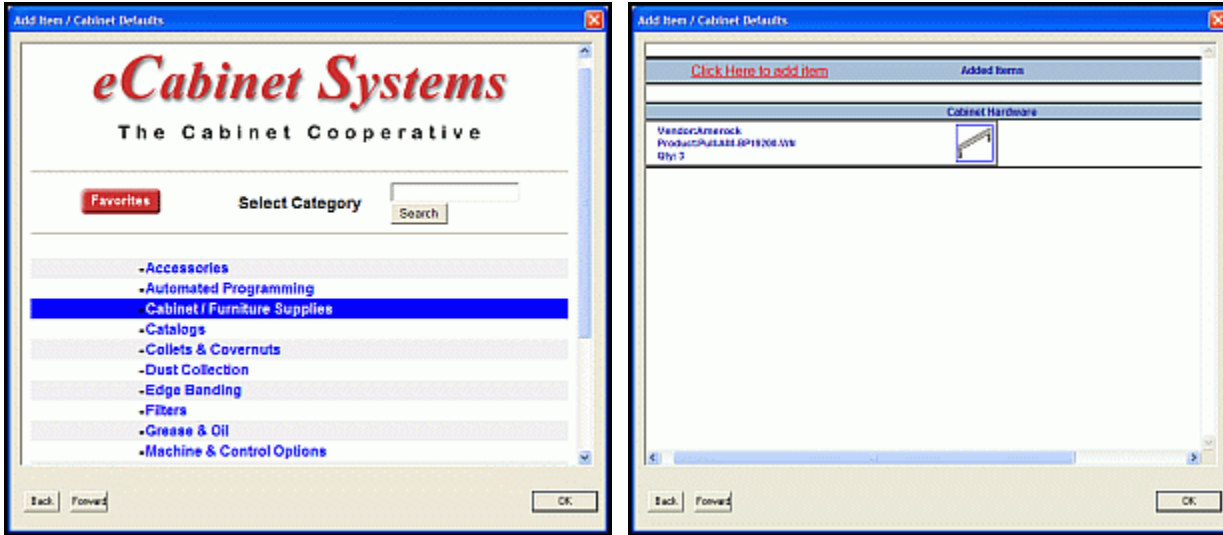


### Define Defaults/Add Items

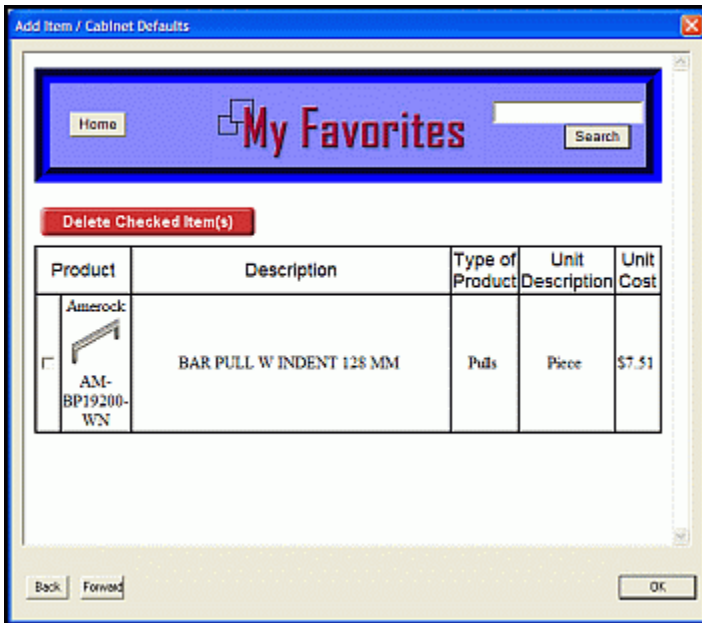


This opens an area where you can define default items, such as hinges or hardware, which then are automatically added when doors or drawers are added. You can also add purchased items from the vendor area to the highlighted cabinet, which then appear in the **Buy List** anytime that cabinet is used in a Job.

## Assigning Purchased Items to a Cabinet

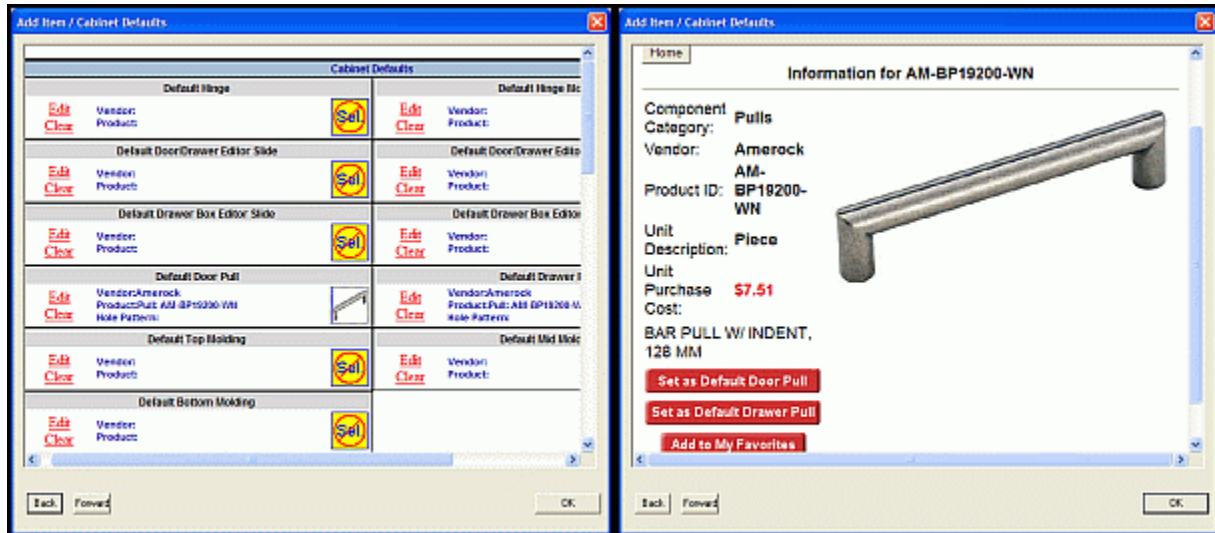


Select **Go to Cabinet Items** to display a list of items that can be purchased through the program that are currently assigned to this cabinet. The image above is a typical sample. Select **Click Here to Add Item** and select a vendor and product. Input the quantity of this item to assign to the cabinet and click **Add**. You will be presented with a dialog where you can add the required **Quantity** to this cabinet.



If you would like to store this item so you can retrieve it quickly in the future, press **Add To My Favorites** and then **OK**. Press the **Favorites** button at any time to see your list. The image above is a typical sample.

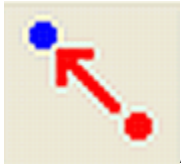
## Assigning Hardware to a Cabinet



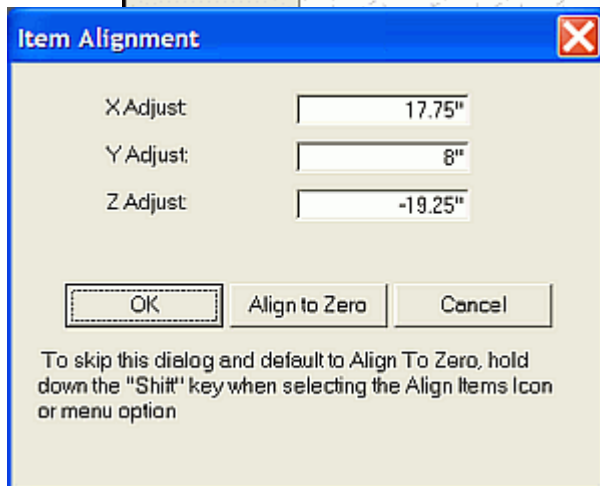
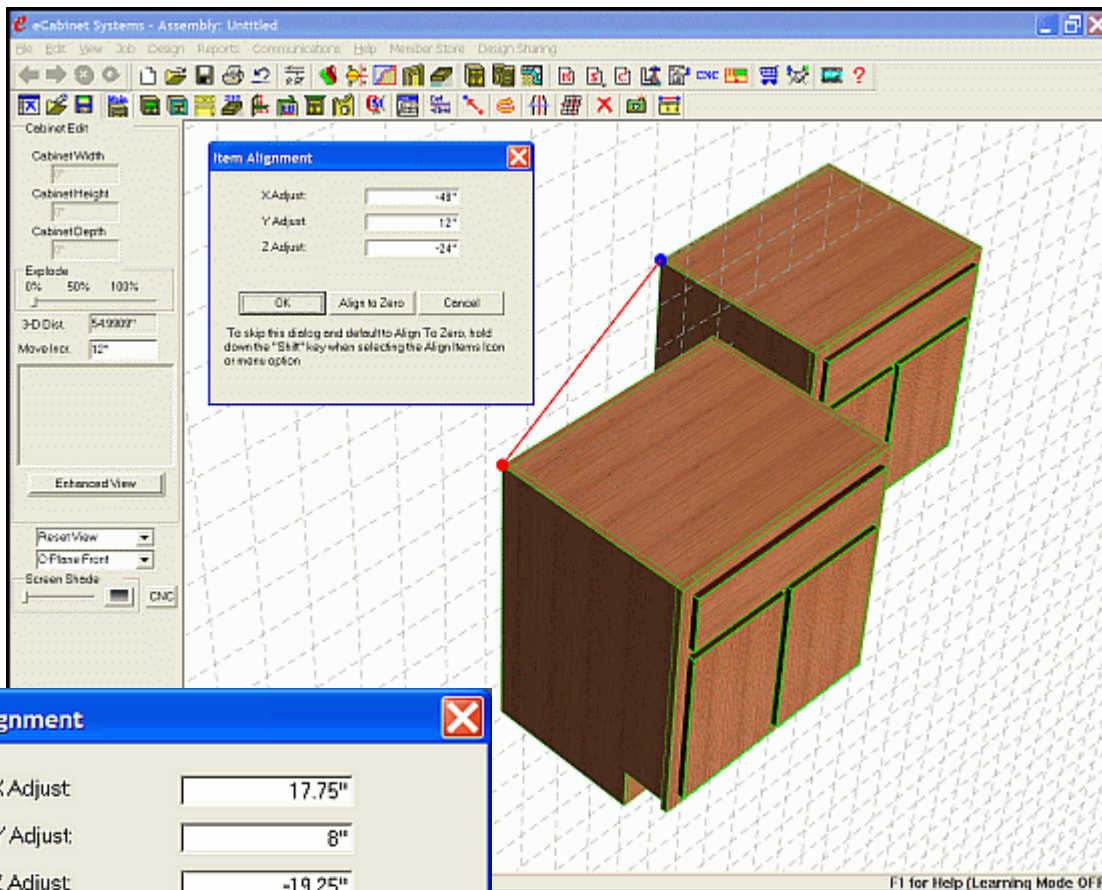
Select **Go to Cabinet Defaults** to display a list of hardware currently assigned to this cabinet. Hardware specified here will appear on the **Buy List** whenever this cabinet is used in a Job. The image above is a typical sample.



## Align Items



### Align Items



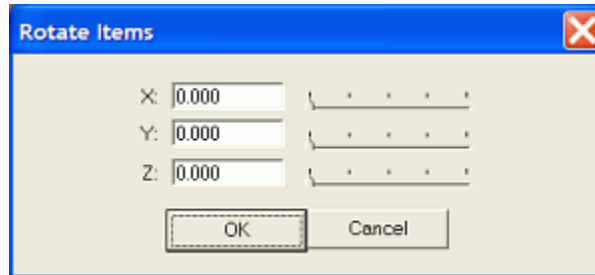
This option allows you to precisely position items with respect to each other. Highlight the two items, select a node on the first (fixed) item and then select a node on the second (move) item. Then, select **Align Items** to access a dialog where you define the relative position.

The dialog displays the X, Y and Z distances separating the two nodes. Highlight all items that will be involved in the move. Move the cursor over the item you want to remain fixed and then display the desired blue node (anchor point) and Left Click it. Remember that pressing the "M" key will show all available nodes. Move the cursor over the item you want to move, and get the desired red node and Left Click to anchor it. Click the **Align Items** icon or Right Click and select **Align Items** to display the **Item Alignment** dialog (shown above), which displays the current separation of the two nodes. Type in the distances you would like the nodes separated by and press **OK**, and the second item will move to that position. Or, if you want the nodes moved together with zero distance on all axes, simply press the **Align to Zero** button.

# Rotate



**Rotate**

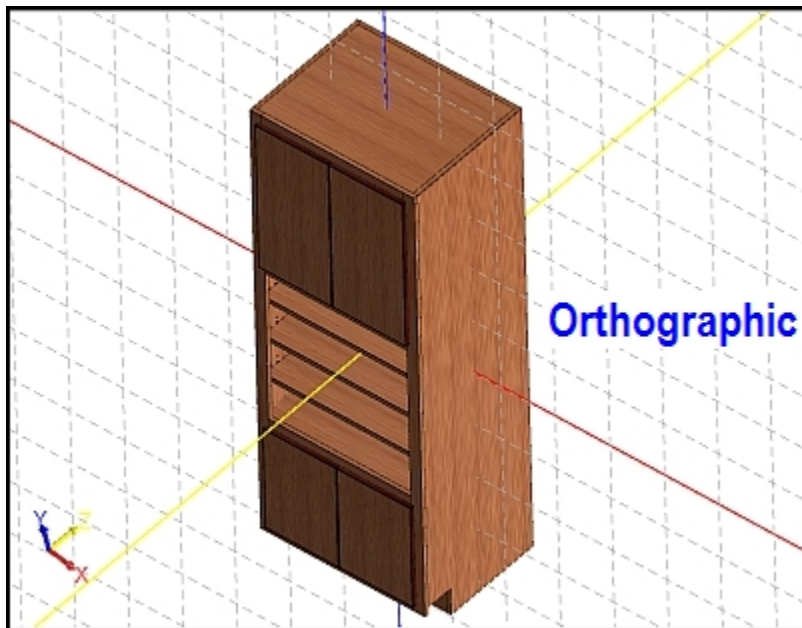
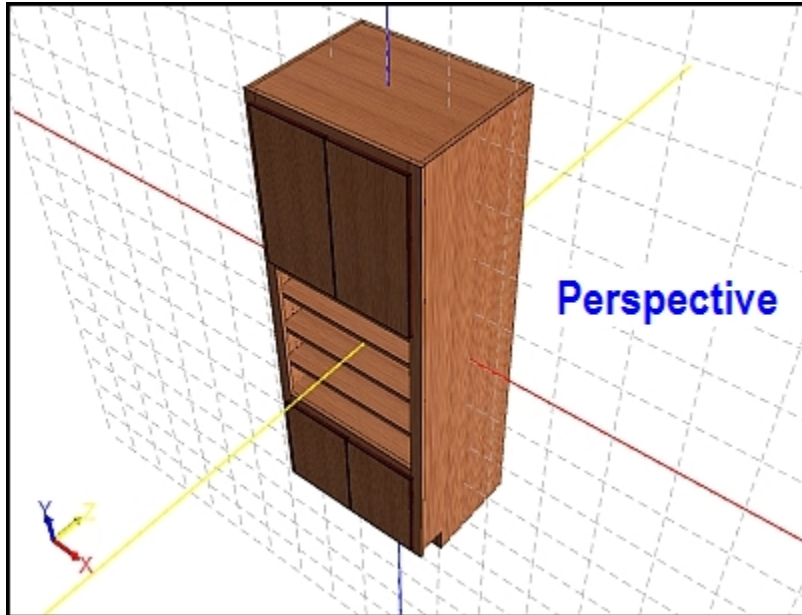


This dialog allows you to rotate the highlighted item with respect to the XYZ coordinate system. The dialog will appear when you select an item to rotate.

## Perspective/Orthographic View



### Perspective/Orthographic View

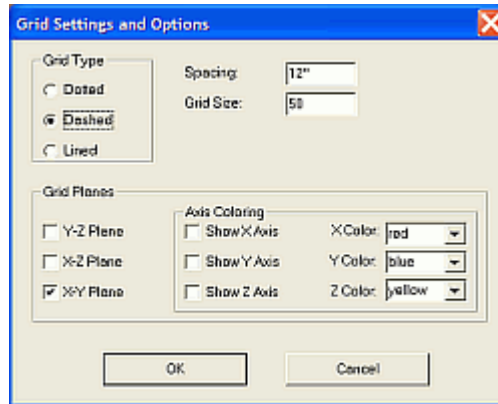


This switches between a Perspective View and an Orthographic View (without perspective).

## Grid Settings



**Grid Settings**



This opens the dialog, which allows you to adjust parameters for the three-axis grid display.

**Grid Type** - Determines the appearance of the Grid.

**Dotted** - Only dots are shown at the intersections.

**Solid Line** - The Grid is made of solid lines.

**Dotted Line** - The Grid is made of dotted lines.

**Spacing Setting** - This sets the dimension between the Grid squares.

**Grid Size Setting** - This is the number of Grid squares on the positive side of the axis.

**Grid Planes** - This defines which grid planes are turned on and the appearance of the X, Y and Z-axes.

**Y-Z Planes**

**X-Z Planes**

**X-Y Planes**

**Axis Coloring** - This sets the visibility and color choice of the axis lines.

**Show X-axis**

**Show Y-axis**

**Show Z-axis**

**X Color selection** - The available colors are: **Black, Blue, Magenta, Red** or **Yellow**.

**Y Color selection** - The available colors are: **Black, Blue, Magenta, Red** or **Yellow**.

**Z Color selection** - The available colors are: **Black, Blue, Magenta, Red** or **Yellow**.

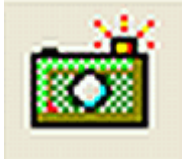
## Delete



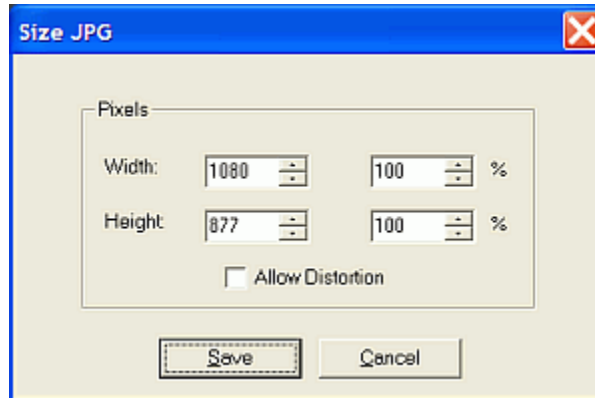
**Delete**

This operation deletes highlighted item. Be advised that you may have to be in the respective editor to delete certain items.

# Save Image



**Save Image**

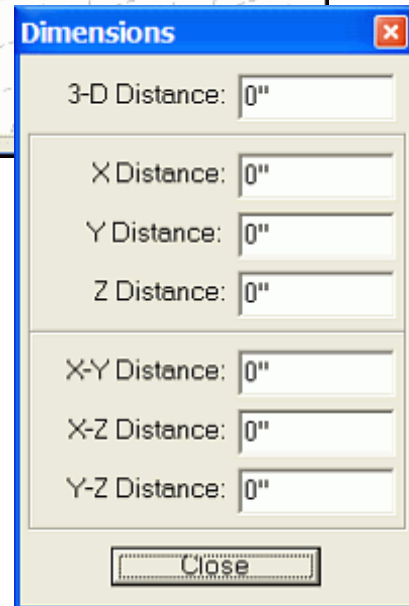
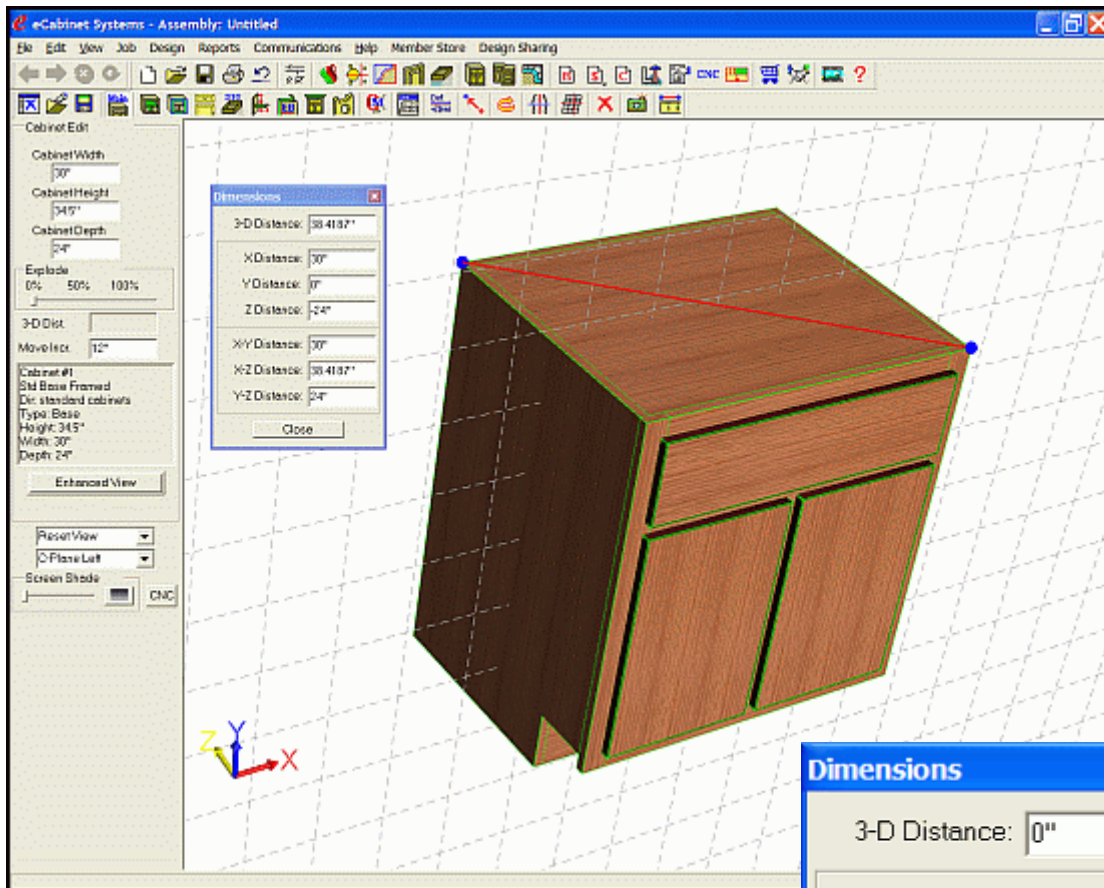


This opens open a dialog so to save current image as a ".jpg" file. The dialog shown will appear. Be sure to select **Enhanced View** for the best image quality before capturing the image.

# Measurement Dialog



## Measurement Dialog



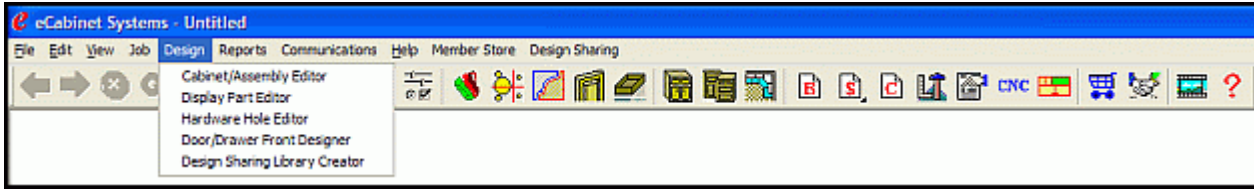
Highlight the entire cabinet, then select this to display the distance between two nodes along each axis and on each plane. Use the displayed **Dimensions** dialog box to display the single axis and diagonal distances between the highlighted node and any other node you pause over.

## 7.2

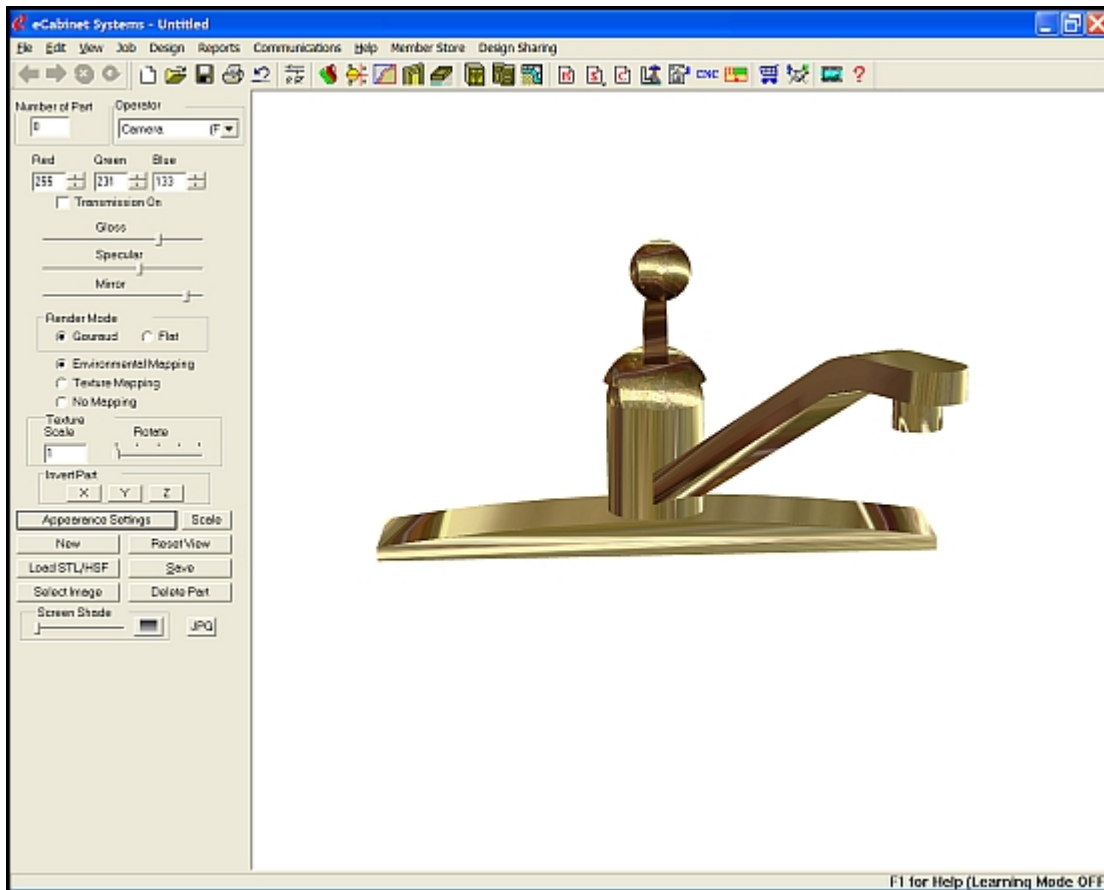
# Display Part Editor



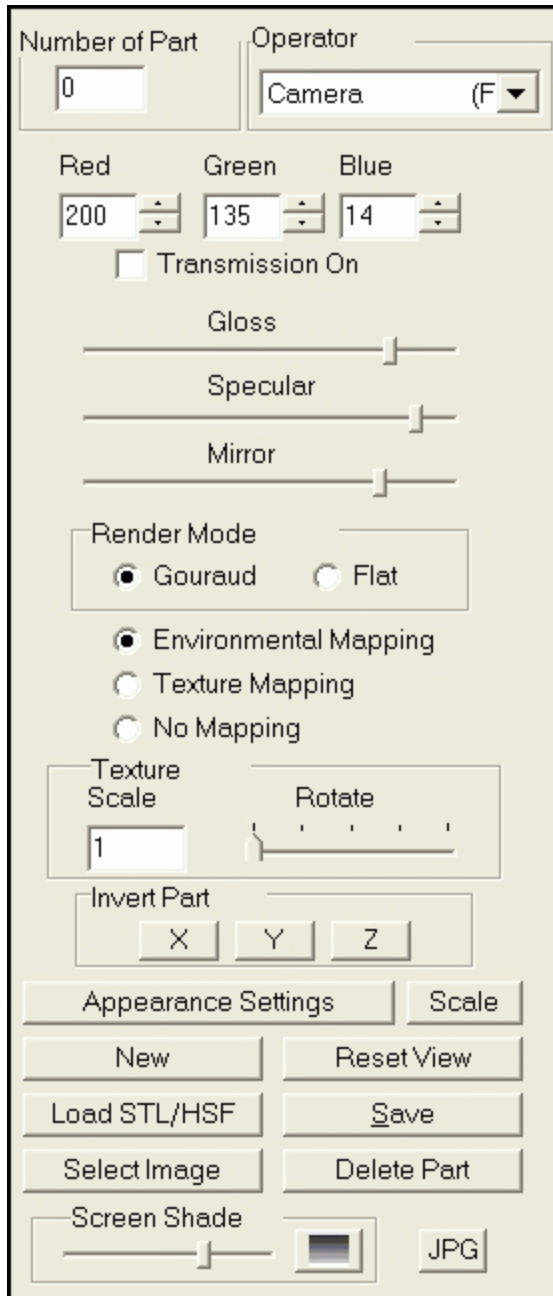
# Display Part Editor Menu Structure



**Display Part Editor**



This is where the 3D ".stl" files are given color, reflections and texture. They can also be saved, so that they can be used later in the **Cabinet/Assembly Editor**, or in **Custom Layout**.



**Number of Part** - This indicates the object currently selected when more than one object is displayed together. Select the object by Right Clicking it.

**Operator** - The Operator determines how movement occurs.

**Camera** - This moves the viewing position so it appears that all parts move and rotate together.

**Rotate Part** - This rotates only the selected part leaving all others in their original position.

**Move Part X & Y** - This moves the selected part in the X and Y plane.

**Move Part Z** - This moves the selected part in the Z-axis. Parts are moved using the Right mouse button.

**Red/Green/Blue** - This sets the amount of the specific color in the part color, from none at 0, to full saturation at 255. The final color is a blend of red, blue and green.

**Transmission On** - This makes the object transparent, and then this allows the color to affect the appearance. A White color results in a perfectly clear glass look. Darker colors result in less transparency.

**Gloss/Specular/Mirror** sliders

**Gloss** - This controls how much light is reflected by the color surface. At full gloss, the object is as shiny as possible without reflecting its surroundings. For even shinier surfaces, use an image as the environment, so the surface begins to reflect its environment.

**Specular** - This adjusts the intensity of the color of the object.

**Mirror** - This adjusts the brightness of the reflection in **Environmental Mapping**.

**Render Mode options** - There are two different methods of rendering an object, **Flat** and **Gouraud**. Each gives the object a slightly different appearance. For any particular object, try both modes and select the one that offers the most realistic appearance.

**Gouraud** - This renders display of the object using a Gouraud algorithm.

**Flat** - This renders display of the object using a flat algorithm.

**Environmental Mapping** - This reflects the image selected, (using the **Select Image** button below), from the surface of the object, resulting in a shiny appearing surface. The more contrast in the image, the shinier the surface appears.

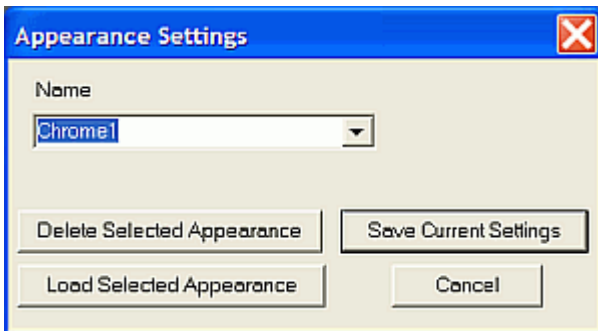
**Texture Mapping** - Select this to map the image selected, (using the **Select Image** button below), onto the surface of the object. The **Texture Scale** and **Rotate** controls below are used to adjust the scale and angle at which the image is mapped.

**No Mapping** - This indicates that the object does not interact with an image. This type of object is a plain, solid untextured color. (Most plastic parts would be this kind of object.) With **No Mapping** selected, only the **Color** settings determine the color of the object, while the **Gloss** slide control determines how glossy or shiny the object is; how much light is reflected, but the object is not glossy or shiny enough to begin reflecting its environment. The **Specular** slide control determines how strong or intense the color of the object is.

**Texture Scale** - This area is used to adjust how the selected image is mapped to the part, if **Texture Mapping** is selected.

**Rotate slider** - This controls the angle at which the image is applied to the part surface. Changing the **Rotate slider** rotates the image with respect to the part.

**Invert Part options** - Different CAD systems at times operate in X, Y, Z coordinate systems that are oriented differently than the X, Y, Z coordinate system in *eCabinet Systems*. The **Invert Part** controls are used to re-orient parts that were saved in a different coordinate system orientation.

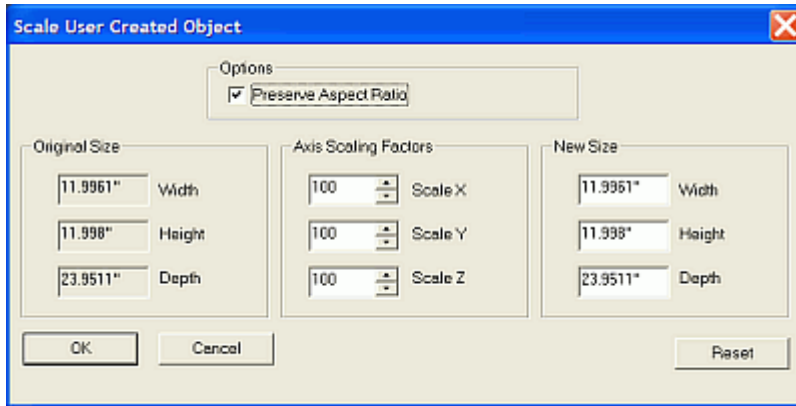


**Appearance Settings** - This accesses a dialog where these settings can be saved for future use or retrieved for use on this object at a later time.

**New** - This discards the current object and clears the workspace for a new object.

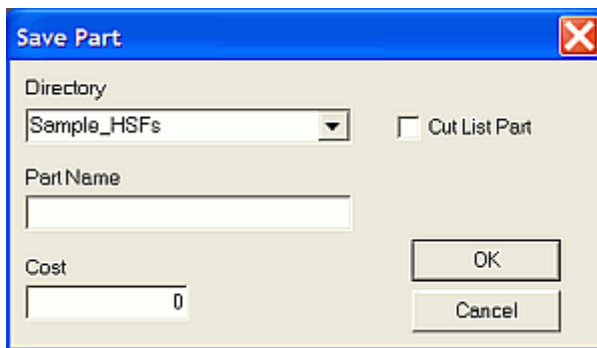
**Load STL/HSF** - This opens a standard Windows dialog, and enables the loading of a new object. It must be in either ".stl" or ".hsf" file format. If an object already exists in the workspace, it remains while the new object is loaded, so multiple ".stl" or ".hsf" files can be combined into more complex objects (a single ".hsf" file can also contain multiple parts).

**Select Image** - This opens the standard *eCabinet Systems* dialog that allows you to select an image to either map to the surface, or to reflect from the surface, of the currently selected **Display Part**.



**Scale** - This allows scaling of the object, in any (or all) of the 3 dimensions, either by scale or by actual dimensions. Aspect ratio can also be preserved.

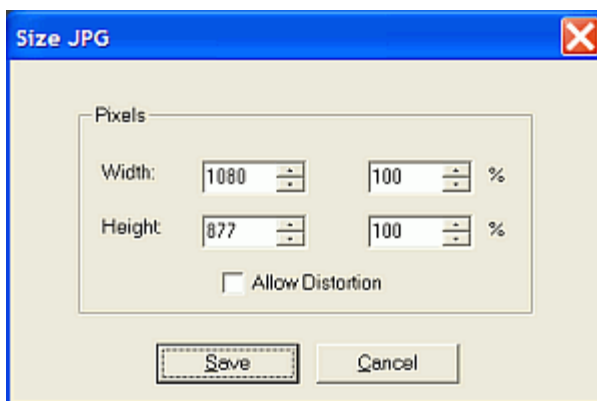
**Reset View** - This resets view to a standard orientation.



**Save** - This saves the current object or objects displayed as a single ".hsf" file that can be accessed and used in the **Cabinet/Assembly Editor** or in **Custom Layout**. Input the directory and part name where you want the part to be saved. If the part is something you will need to produce as part of the Job, you can check the **Cut List Part** box, and then the part will then appear in the **Cut List** for any Job in which it is used. If the part is included in the **Cut List**, the amount input in the **Cost** box will be added to the **Material Cost**.

**Delete Part** - This will delete the selected part. This will not delete the **Anchor Part** (part 0) unless there are no other parts on the display.

**Screen Shade** - This controls the graduation on the screen background color, from white to black.



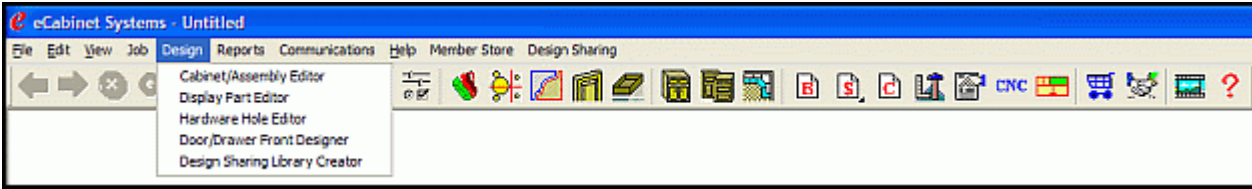
**JPG** - This opens a dialog that allows you to capture the current image and save it as a ".jpg" file.



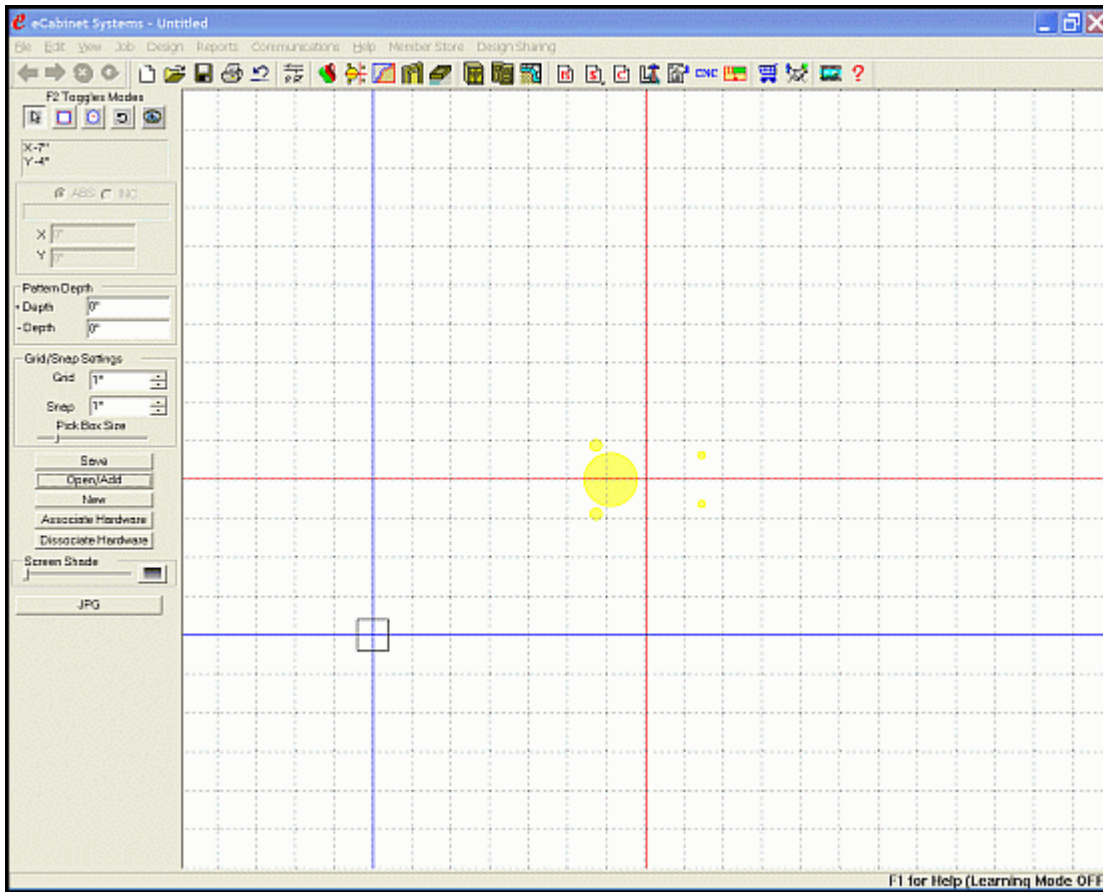
## 7.3

# Hardware Hole Editor

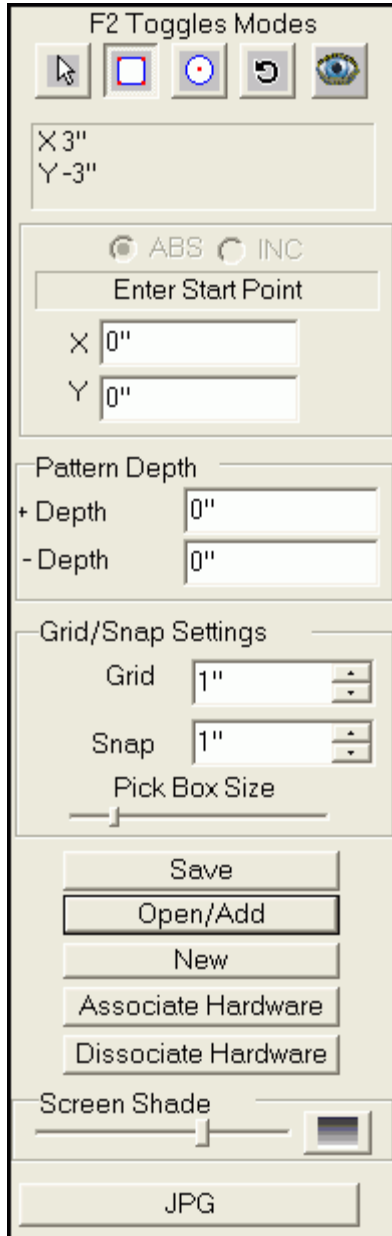
# Hardware Hole Editor Menu Structure



**Hardware Hole Editor**



This is where the holes and the machining patterns associated with specific hardware is created and saved.



**Modes** - In addition to the buttons, the **F2** key can be used to toggle between the current **Mode** and the **Select/Move Mode**.

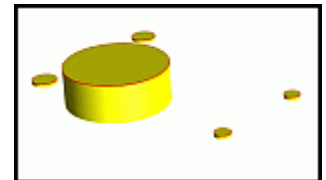
**Select/Move** - This enables you to Select, Highlight and Move hole geometry after it has been placed on the screen.

**Rectangle** - This is used to define rectangular holes. Be sure to set the depth before creating a rectangular hole.

**Circle** - This is used to define circular holes. Be sure to set the hole depth before creating circular holes.

**Rotate** - This is used to rotate rectangular holes after they are defined and placed.

**View** - This enables a "3D" view of the hole pattern. Use Left Click and drag to rotate, Right Click and drag to move, and hold both mouse buttons and drag to zoom. Here is a small sample image:



**Coordinate Entry** - Allows a manual entry of coordinates, from the above **Modes**, in either **Absolute** or **Incremental** mode.

### Pattern Depth

**+Depth** - This is the machining depth from the plane being defined (normally the surface of the material on which the hardware is mounted), upward away from the material, and toward the viewer.

**-Depth** - This is the machining depth from the plane being defined (normally the surface of the material on which the hardware is mounted), downward into the material, and away from the viewer.

**Grid/Snap Settings** - This area is used to set **Grid** and **Snap** dimensions. The **Grid** is turned ON and OFF and the type of background grid is selected from the Right Click menu.

**Grid** - This defines the spacing of the background grid, which is used to help visualize dimensions. Be sure to press **Enter** after typing a dimension.

**Snap** - This defines the increments at which snap occurs. This can be the same as, or different from, the grid spacing. Be sure to press **Enter** after typing a dimension.

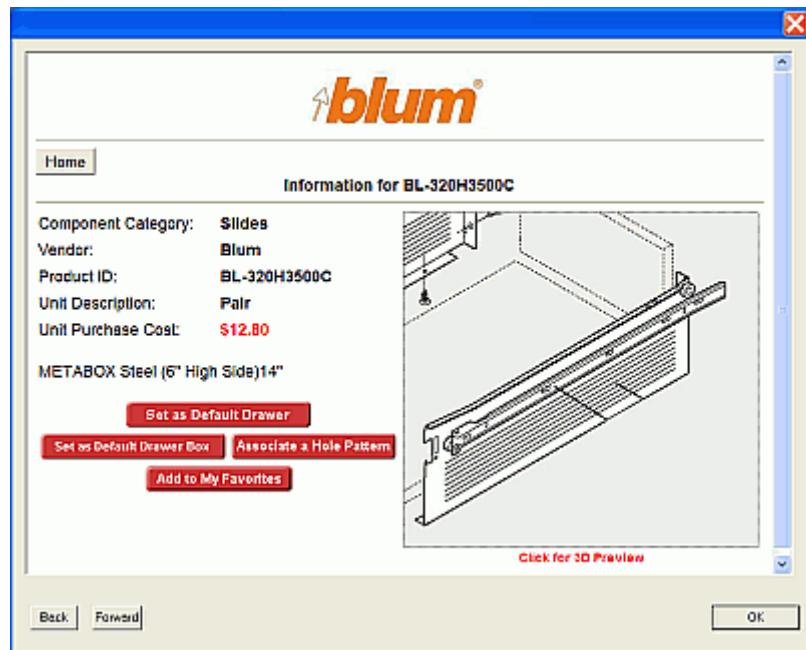
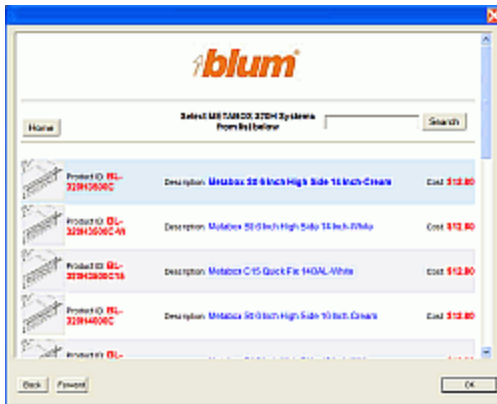
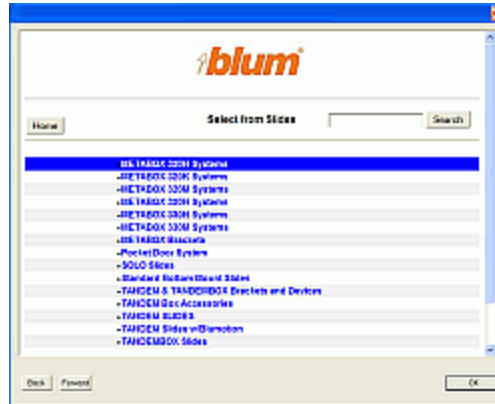
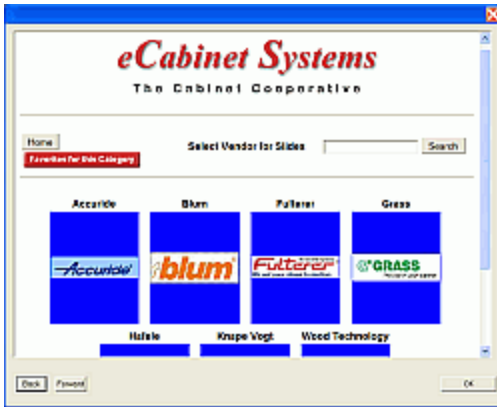
**Pick Box Size Slider** - This defines the size of the box used to pick points or lines.

**Save** - This opens up a standard Windows dialog to allow the saving of the current hole pattern.

**Open/Add** - This opens a standard Windows dialog to enable the selection of an existing hole pattern and display it, or to add it to the current pattern displayed.

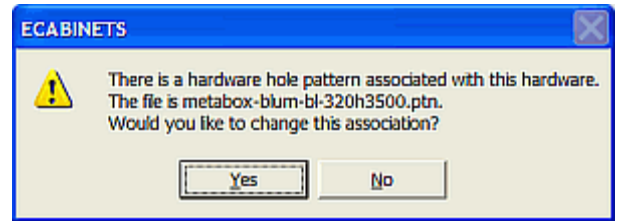
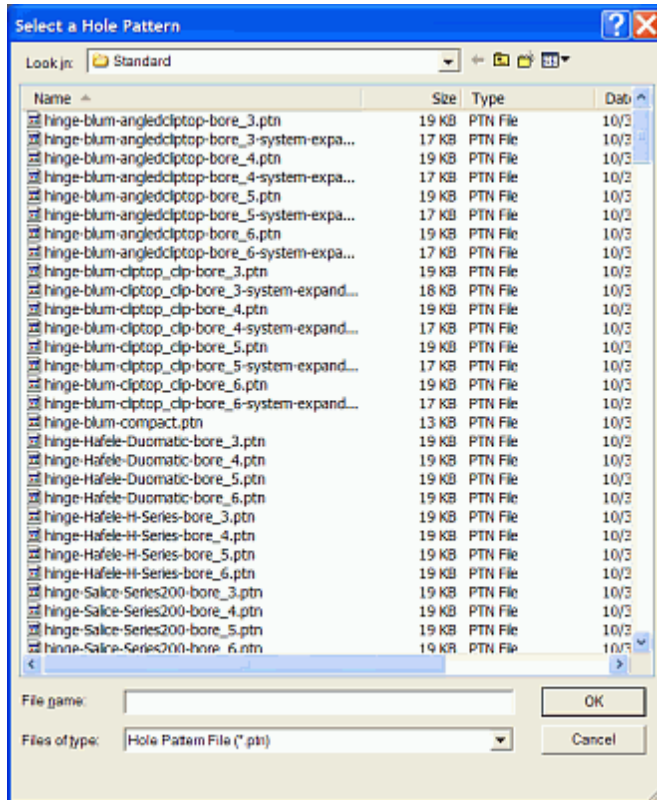
**New** - This will clear the currently displayed hole geometry and prepare to create a new pattern.



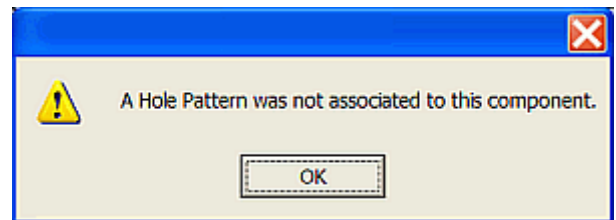


**Associate Hardware** - This Associates a hardware item to this hole pattern, if it does not already have one. Select the item as shown above, and then at the final screen, click "**Associate a Hole Pattern**".

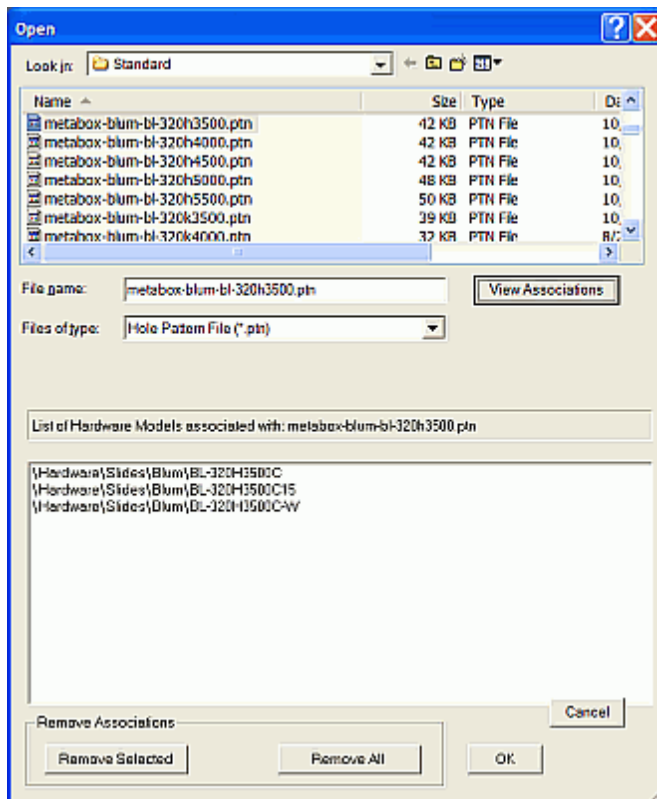
If there is already a pattern associated, you will see this dialog box.



If there is no association, you will see this information, and you can type the filename of the **Hole Pattern**, and it will then be associated with the part you have selected.



If you do not select an association, you will get the message shown above.

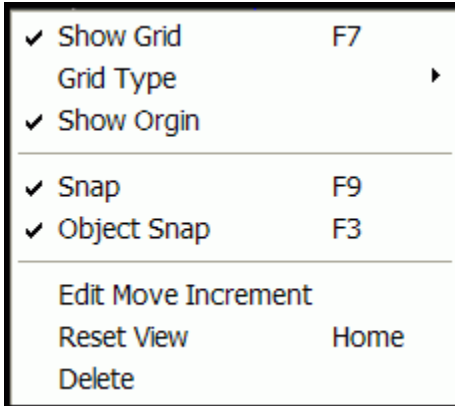


**Dissociate Hardware** - Disassociates a hardware item to this hole pattern. The dialog shown here will appear where you can **View Associations** and optionally **Remove Selected Associations**.

**Screen Shade** - This controls the screen background color from white to black.

**JPG** - This opens a dialog that allows you to capture the current image and save it as a ".jpg" file.

## Hardware Hole Editor - Right Click Options



**Show Grid** - When checked and active, a background grid is displayed.



**Grid Type** - This selects the type of background grid to display.

**Dotted** - Only dots are shown at the intersections, defining the columns and rows.

**Solid Lines** - The grid is made of solid horizontal and vertical lines, defining the columns and rows.

**Dotted Lines** - The grid is made of dotted horizontal and vertical lines, defining the columns and rows.

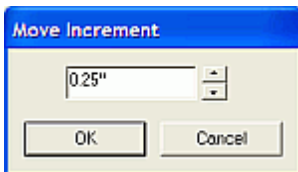
**Note:** The size of the grid is controlled through the **Grid/Snap Settings** area on the left side of the screen.

**Show Origin** - When checked and active, turns on the red origin lines. The point where these lines cross is 0, 0 (Absolute).

**Snap** - When checked, the cursor movement is in discrete intervals.

**Note:** The size of the **Snap** interval is controlled through the **Grid/Snap Settings** area on the left side of the screen.

**Object Snap** - When checked and active, position snaps to a blue point, red arrow or nearest line, if one of these are inside the pick box when selecting a point.



**Edit Move Increment** - This brings up a dialog that allows you to change the **Move Increment**, which is the distance things move in response to the **ARROW keys** on the keyboard.

**Note:** To move a **Display Object**, it must be highlighted, and you must hold the **Ctrl** key. It can then be moved using the **ARROW key** or the right mouse button.

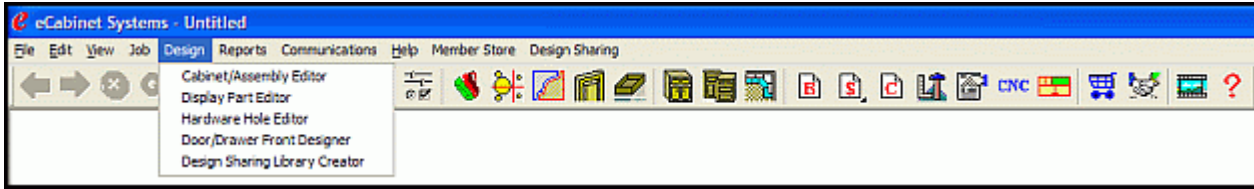
**Reset View** - This resets the view to the original orientation. The **Home** key performs the same function.

**Delete** - This deletes the item or items currently highlighted.

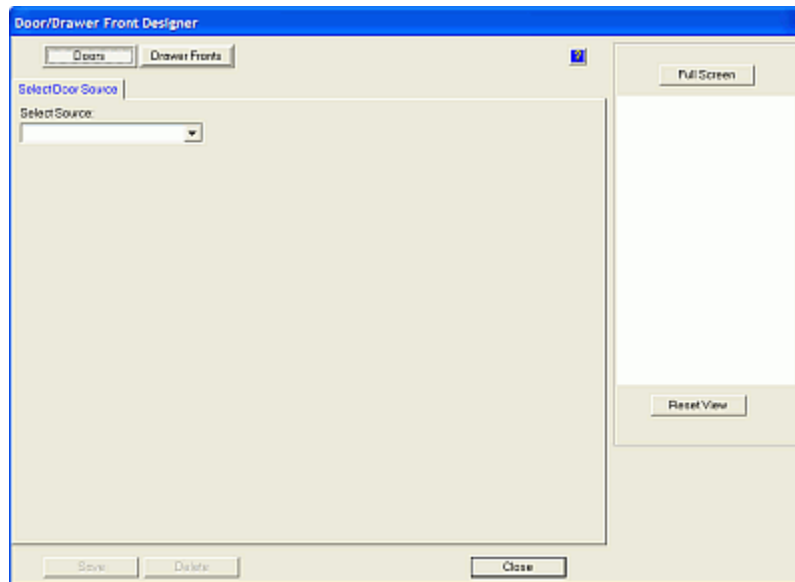
**7.4**

**Door/Drawer Front Designer**

## Door/Drawer Front Designer Menu Structure

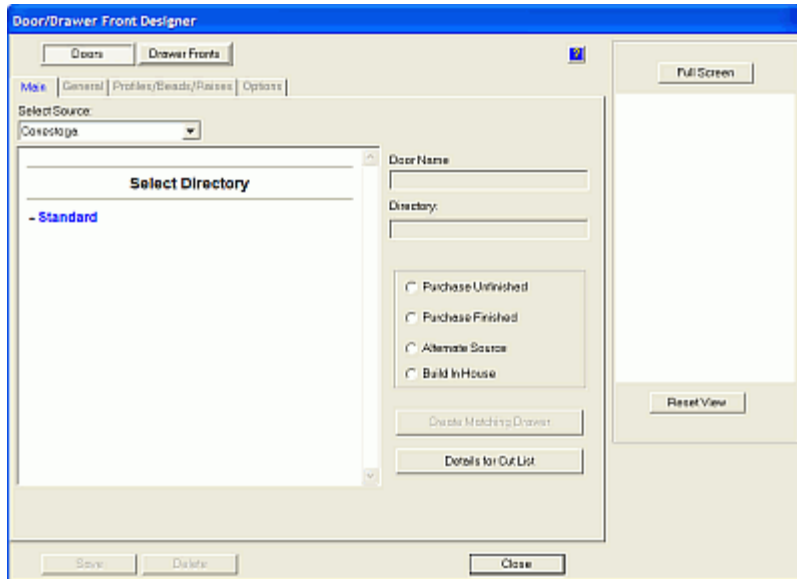


### Door/Drawer Front Designer



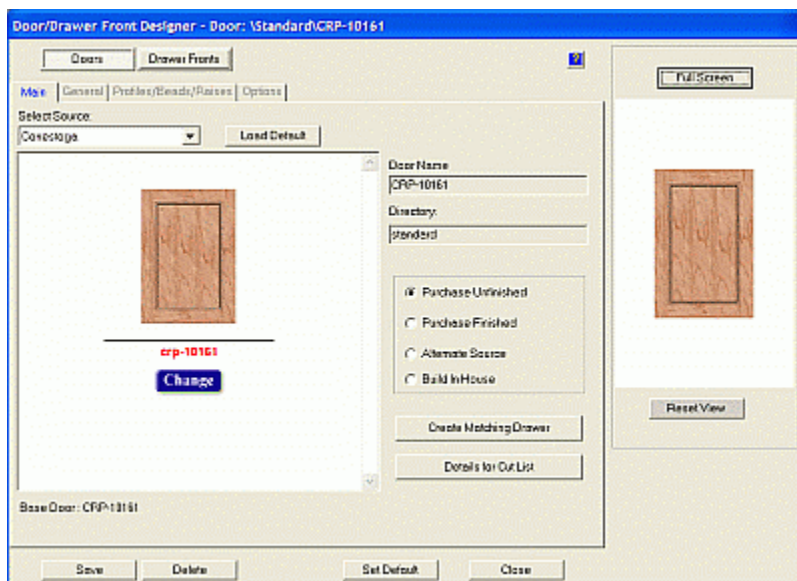
This is where door and drawer fronts are designed and saved. From within the **Door/Drawer Front Designer** you do two things; configure and save door and drawer front designs and specify which design should be used when a door or drawer front is placed on a cabinet. The design you specify is the **Default**. This default door specification is part of the cabinet, and is saved when the cabinet design is saved. When you reload a cabinet, the **Default** Door/Drawer Front for that cabinet is reestablished. If you add another door to the cabinet, it will be that same **Default** door.

## Doors



Begin by using **Select Source**, and then proceed with the relevant options. If you select **Purchased Finished**, the cost of a finished door/drawer front as purchased is added to the material cost, and selecting **Purchased Unfinished** adds the cost of an unfinished door/drawer front each time a door is added. If you select **Alternate Source**, the door/drawer front is added to the **Cut List** each time you add it, and the **Alternate Source Door Cost** defined in **Settings/Preferences** is used to add its cost to the material cost for the cabinet. If **Build in House** is selected, the cost is determined by the material used, and a listing of these materials is provided in the **Cut List**.

**Note:** The door/drawer front cost added to the cabinet cost is the cost to purchase the door. There is a place in the **Define Costs** area of **Settings/Preferences** where you can add to the basic purchase price of the door/drawer fronts.



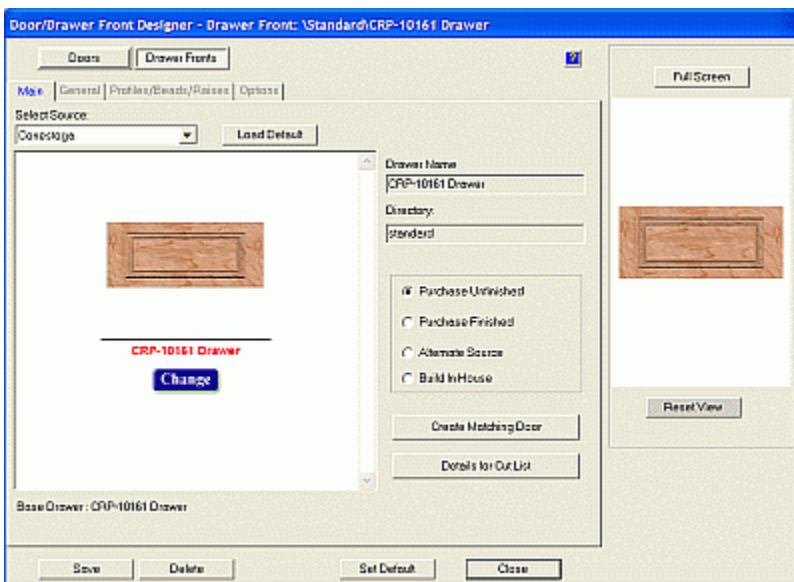
The blue **Change** button can be pressed to go back and reselect the choice of doors.

The Door/Drawer Front images, shown above in the window on the right, can be moved, rotated and zoomed using the **Shift** key and the mouse. The **Full Screen** button switches to a full screen view where it can also be rotated, moved and zoomed, as shown in the illustration below.



**IMPORTANT** - If you want to keep your finished Door designs, be sure to save the design before pressing Set Default.

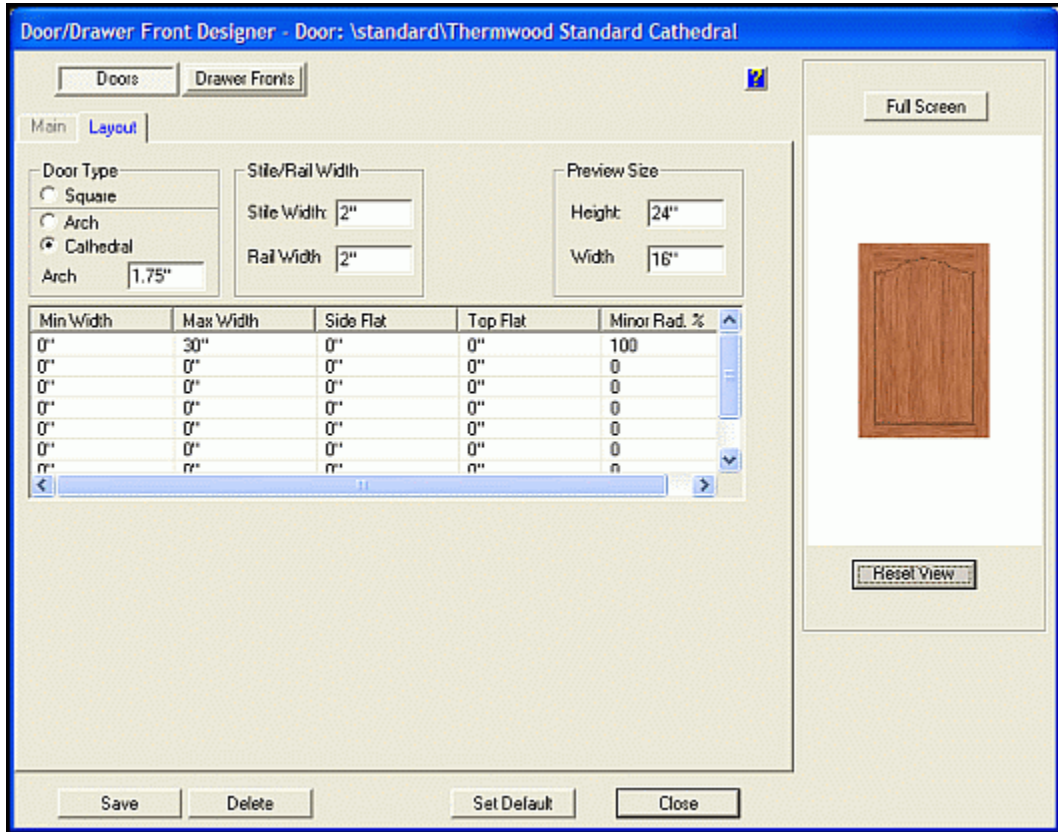
## Drawer Fronts



The Drawer Front images, shown above in the window on the right, can be moved, rotated and zoomed using the **Shift** key and the mouse. The **Full Screen** button switches to a full screen view where it can also be rotated, moved and zoomed.

**IMPORTANT** - If you want to keep your finished Drawer Front designs, be sure to save the design before pressing Set Default.

# Door/Drawer Front Designer Layout Tab



MDF and Thermwood doors have a **Layout Tab**, where you can create Arch (right) and Cathedral (left) doors:





Set the **Style** and **Rail** width, and the final **Height** and **Width** of the door. An Arch door has a center arch and optional side flats. A Cathedral door has a center arch with two reverse arches, one on each side. The radius of each reverse arch is expressed as a percentage of the radius of the center arch. All three arches are adjusted to meet this ratio requirement, while achieving the arch height specified.

**Note:** Set the dimension entries in order, starting with the narrowest, and ending with the widest.

**Door Type**

 Square  
 Arch  
 Cathedral  
 Arch:


**Stile/Rail Width**

 Stile Width:   
 Rail Width:

**Preview Size**

 Height:   
 Width:

Min Width	Max Width	Side Flat
0"	15"	0"
15.1"	22"	1"
22.1"	30"	3.5"
30.1"	42"	6"
0"	0"	0"
0"	0"	0"
0"	0"	0"
0"	0"	0"



**Door Type**

 Square  
 Arch  
 Cathedral  
 Arch:

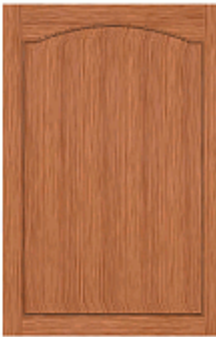
**Stile/Rail Width**

 Stile Width:   
 Rail Width:

**Preview Size**

 Height:   
 Width:

Min Width	Max Width	Side Flat
0"	15"	0"
15.1"	22"	1"
22.1"	30"	3.5"
30.1"	42"	6"
0"	0"	0"
0"	0"	0"
0"	0"	0"
0"	0"	0"



**Door Type**

 Square  
 Arch  
 Cathedral  
 Arch:


**Stile/Rail Width**

 Stile Width:   
 Rail Width:

**Preview Size**

 Height:   
 Width:

Min Width	Max Width	Side Flat
0"	15"	0"
15.1"	22"	1"
22.1"	30"	3.5"
30.1"	42"	6"
0"	0"	0"
0"	0"	0"
0"	0"	0"
0"	0"	0"



**Door Type**

 Square  
 Arch  
 Cathedral  
 Arch:


**Stile/Rail Width**

 Stile Width:   
 Rail Width:

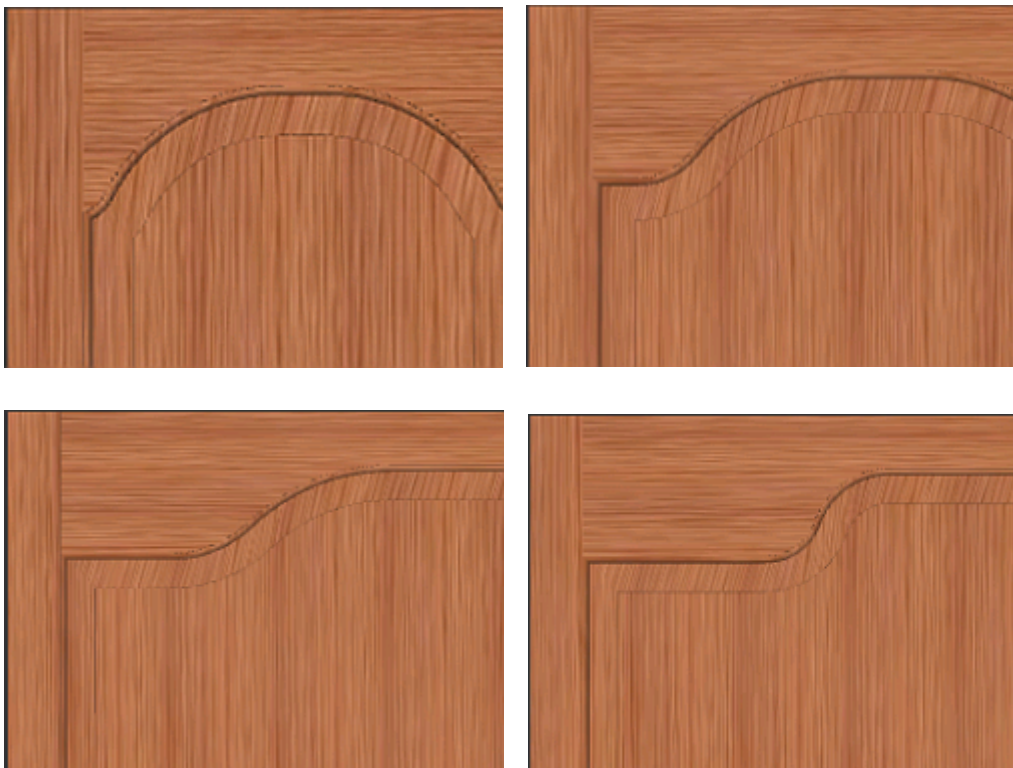
**Preview Size**

 Height:   
 Width:

Min Width	Max Width	Side Flat
0"	15"	0"
15.1"	22"	1"
22.1"	30"	3.5"
30.1"	42"	6"
0"	0"	0"
0"	0"	0"
0"	0"	0"
0"	0"	0"



<b>Door Type</b> <input type="radio"/> Square <input type="radio"/> Arch <input checked="" type="radio"/> Cathedral Arch <input type="text" value="3"/>		<b>Stile/Rail Width</b> Stile Width: <input type="text" value="2"/> Rail Width <input type="text" value="2"/>		<b>Preview Size</b> Height: <input type="text" value="30"/> Width <input type="text" value="14"/>	
Min Width	Max Width	Side Flat	Top Flat	Minor Rad. %	
0"	30"	0"	1"	20	
15.1"	22"	1"	2"	40	
22.1"	30"	3.5"	4"	60	
30.1"	42"	6"	6"	80	
0"	0"	0"	0"	0	
0"	0"	0"	0"	0	
0"	0"	0"	0"	0	
0"	0"	0"	0"	0	



To allow a variety of door sizes and a consistent look, you can set up the table to provide a range of width options. Be aware that the **Min Width** selection, after any **Max Width** selection, must be incrementally larger, as shown above (the two dimensions must not be the same). The same applies for a Cathedral door (with the same width settings as above).

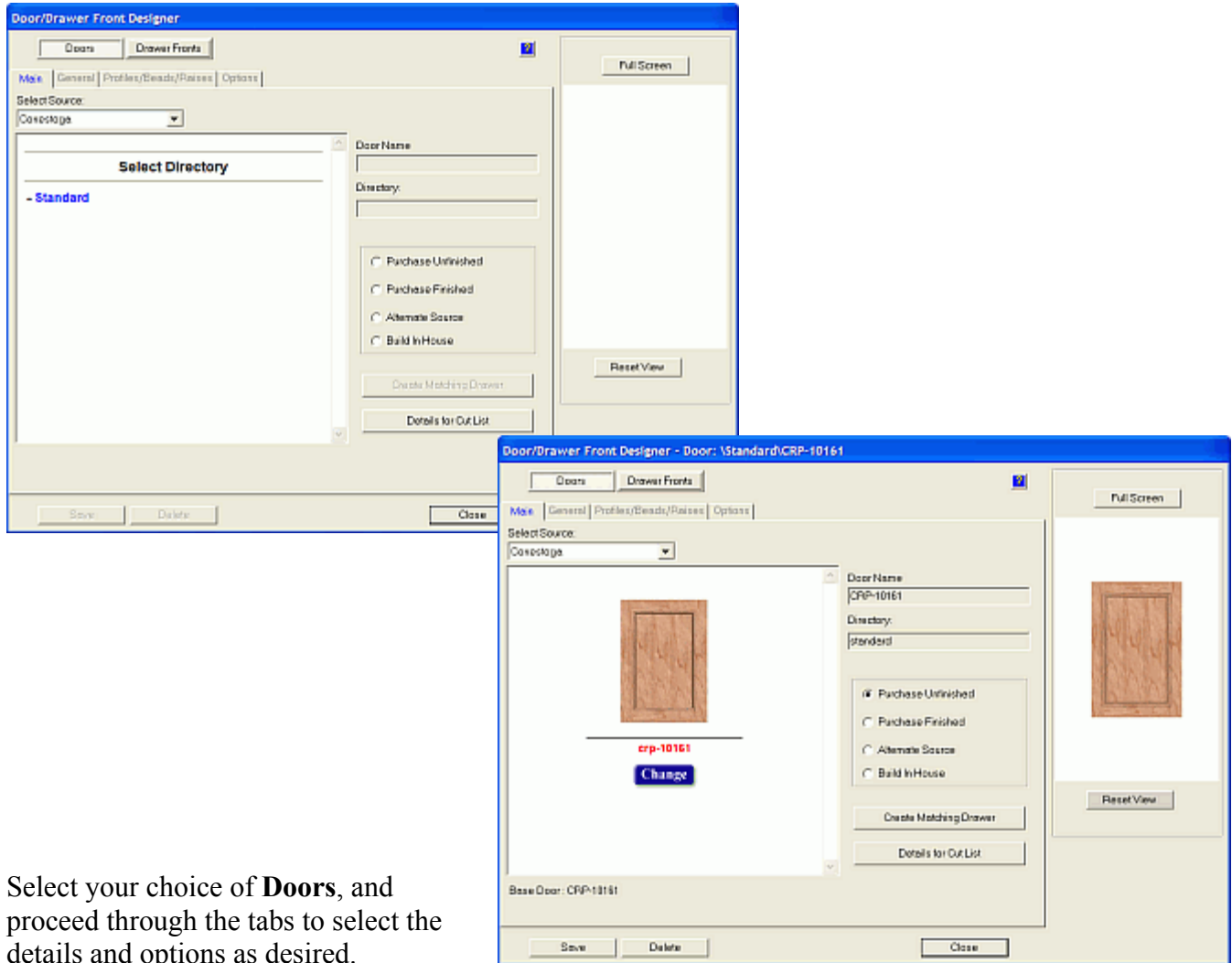
The dimension table defines the side flats for an Arch door and a somewhat more complex table defines the **Side Flats**, **Center Flat** and the **Minor Radius** for a Cathedral door. **Arch Height** is the height of the arch in either Arch or the Cathedral type doors. **Door Name** contains the name for the current door design. The dimension table for the Arch door is used to specify a **Side Flat** dimension for different width doors. For example, you might specify a one-inch flat for doors from twelve to fifteen inches, a one and an eighth inch flat for doors over fifteen up to seventeen and an inch and a quarter for doors over seventeen.

The dimension box for Cathedral doors contains two additional fields. **Top Flat** specifies a flat area at the top of the curved arch, while **Minor Rad %** specifies the radius joining the side flats to the main arch as a percent of the radius of the main arch. If this radius is set to zero, the Cathedral door becomes the same as an Arch door. This is useful if you want an Arch door with a top flat.

These settings allow the development of almost any Arch and Cathedral geometry. You may need to experiment with the settings to develop a full understanding of how they interact and function. To create a new door, input the name of the new door in the **Door Name** box and press **Reset View**. A dialog will tell you that this door is not currently saved and will ask if you want to create a new door with the new name. Press **OK** and the new door is created and saved. If you were displaying another door, all the settings for that door will be used on the new door. If you want to start with blank settings, press the **Clear** button. At this point, you can input the new door name and input the appropriate settings for the new door design. Once complete, be sure to **Save** the design before closing the dialog.

**Note:** The **Drawer Fronts** have the same options, with the exception that there are no **Arch** or **Cathedral** selections.

# Conestoga Doors



Select your choice of **Doors**, and proceed through the tabs to select the details and options as desired.

**Purchased Finished** - This adds the complete door to the **Buy List** and **Master Purchase Order**.

**Purchased Unfinished** - This adds an unfinished door to the **Buy List** and **Master Purchase Order**.

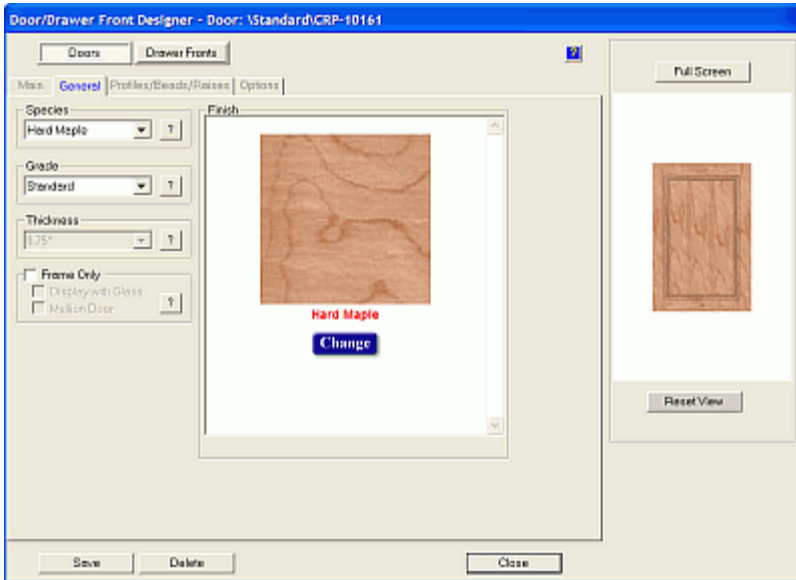
**Alternate Source** - The doors will be indicated on the **Buy List**, but the **Master Purchase Order** will not show them.

**Build In House** - The information to build the doors will be included in the **CNC Output** data.

**Create Matching Drawer** - This automatically selects matching drawer front, if one is available.

**Details for Cut List** - This details additional parameters needed to construct this door in house.

The blue **Change** button can be pressed to go back and reselect the choice of doors.



**General** - This Tab provides an area to change basic parameters of the wood selection.

**Species** - This identifies the type of wood to be used.

**Grade** - Standard or Premium.

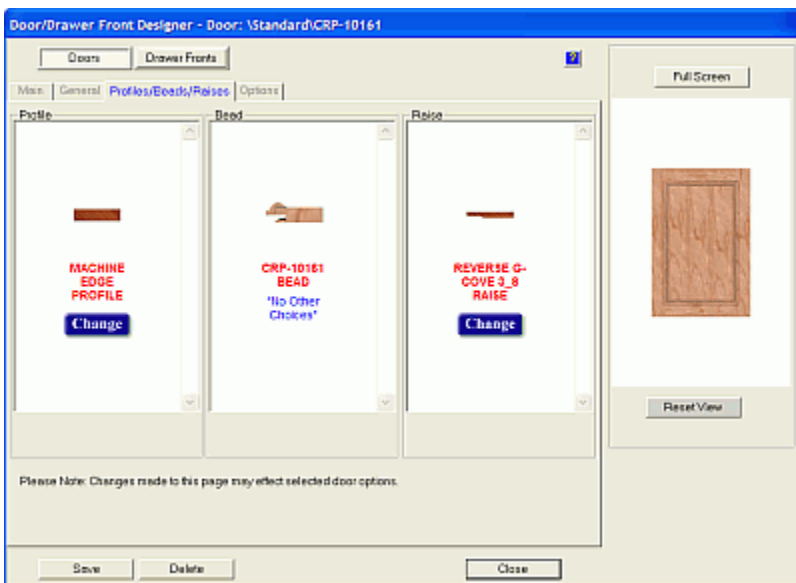
**Finish Options** - Select desired Finish texture.

**Thickness** - This is the required thickness of door.

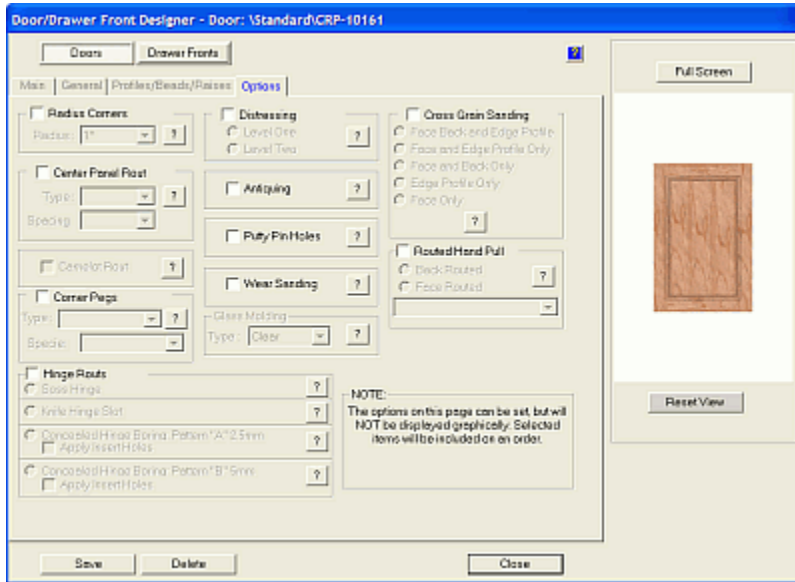
**Frame Options** - Glass insert and/or mullions. If selected, you will then have the following options.

**Display With Glass** - This adds a **Glass Molding** choice option.

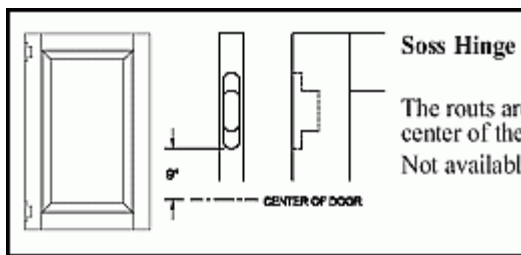
**Mullion Door** - The **Mullion Options** tab will appear, with a variety of options. Additional information on these options are detailed at the end of this section.



**Profile/Beads/Raises** - This Tab shows details of the component parts of the door, as they will be supplied, or as designed to be made in house.



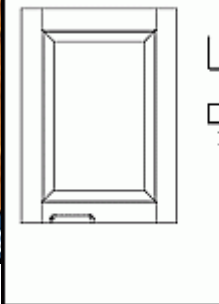
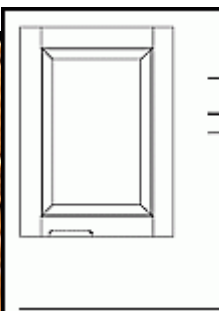
**Options** - This Tab shows any available additional options that may be available for this door. A variety of options are available, including the ability to create non-symmetrical left and right hand doors, a variety of mullion styles and placements, as well as hand pulls, hinge mounts, etc. Some representative samples are shown below.



**This Door Is Handed:**

This allows you to make a distinct left or right mullion configuration on a door. When a door is then added to a cabinet, as a left-hinged or right-hinged door, it will mirror the pattern horizontally if it does not match the handedness set for the door.

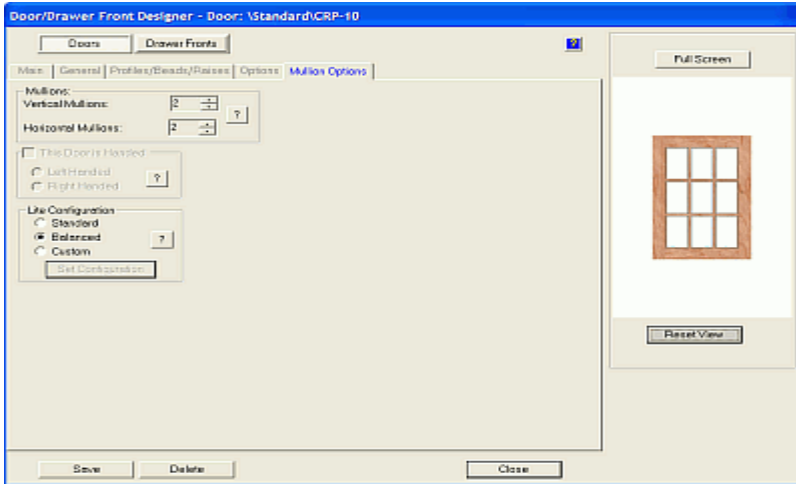
Example: If a door ('A') was set as a "Left Handed" Mullion door and then placed on a cabinet as a "Left Hinged" door it would go on as it appears below left ('A'). However, if this same door is added to a cabinet as a "Right Hinged" door then it will mirror the mullion pattern horizontally and result in the door to the right ('B')



**Face Routed Hand Pull**

Specify location: top or bottom and left, right or centered. Rout is 4-1/2" wide and 1/2" deep. When specifying left or right, hand pull will start 3" in from edge of door. Hand pull is centered on doors less than 10" wide.

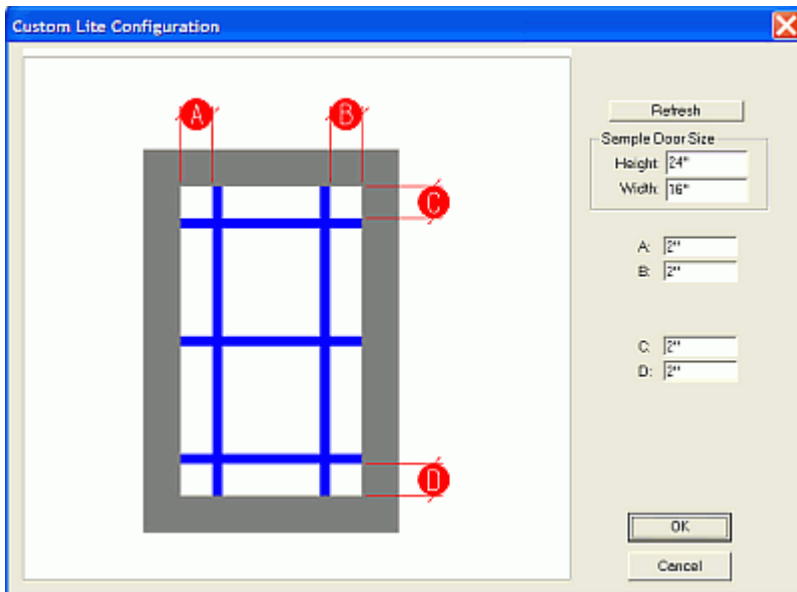
Available with all edge profiles without Rabbet except Bullnose, CFP, E-2, FP, J-2, L-253, L-686, LC-Inset, O and Sophisticate.



**Mullion Options** - This Tab enables you to select information about the mullions and their location.

**9 Lite Offset** and **Standard** selections enable preset mullion options as seen here on the right:

Selecting **Custom** will get you the screen shown below, where you can create a great variety of mullion styles.



**Lite Configurations:**

**9 Lite Offset Configuration:**

Conestoga's 9 Lite Offset configuration has constant 2" X 2" openings in the corners.



**Standard Configuration:**

Standard Lite configuration will keep an equal distance between vertical/horizontal mullions.

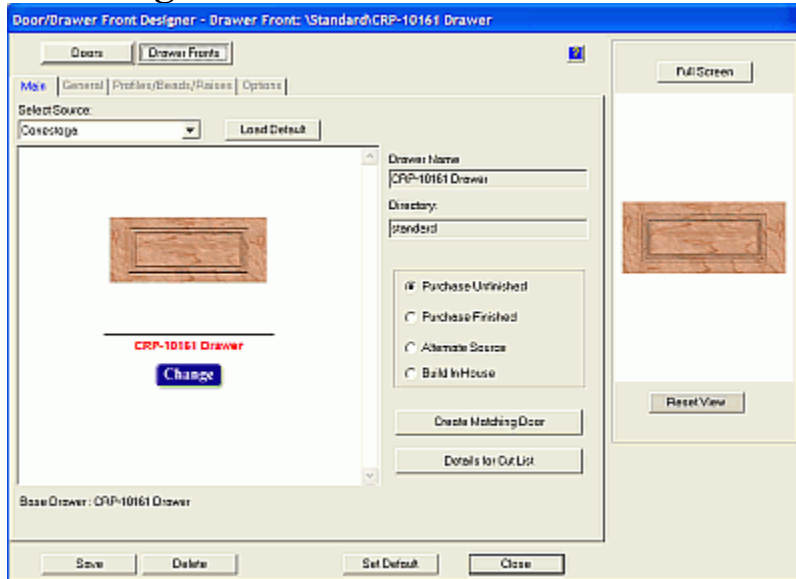


**Custom Configuration:**

Custom configuration allows custom settings for the corner lite height and width values.



## Conestoga Drawer Fronts



Select your choice of **Drawer Fronts**, and proceed through the tabs to select the details and options as desired. The blue **Change** button can be pressed to go back and reselect the choice of drawer fronts.

**Purchased Finished** - This adds the complete drawer front to the **Buy List** and **Master Purchase Order**.

**Purchased Unfinished** - This adds an unfinished drawer front to the **Buy List** and **Master Purchase Order**.

**Alternate Source** - The drawer fronts will be indicated on the **Buy List**, but the **Master Purchase Order** will not show them.

**Build In House** - Select this and the information to build the drawer fronts will be included in the **CNC Output** data.

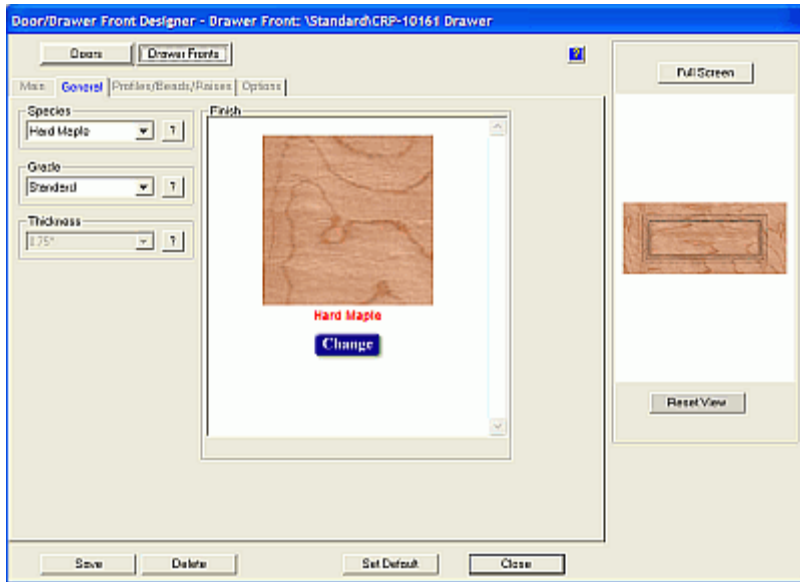
**Details for Cut List** - Provides details on the necessary construction information.

**Create Matching Door** - This automatically selects matching door, if one is available.

**Details for Cut List** - This provides the details additional parameters needed to construct drawer front in house.

**Main Tab** - This shows the drawer front as a completed object.





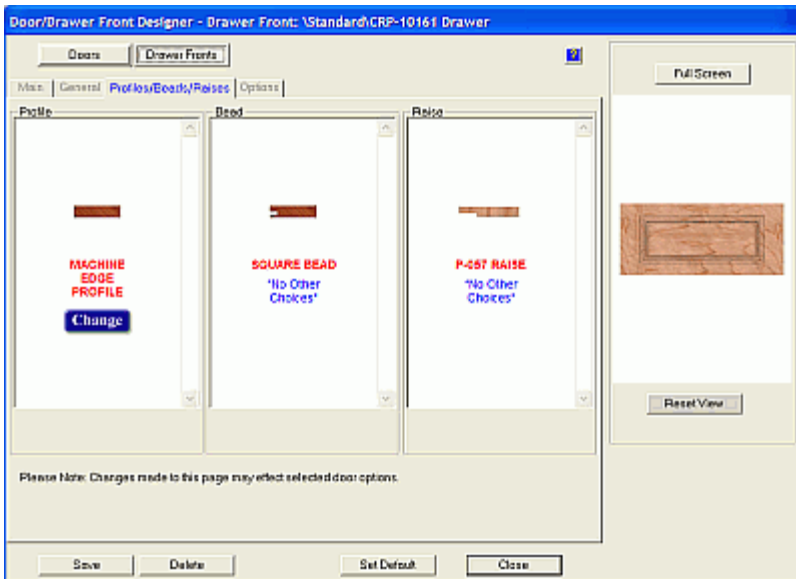
**General** - This Tab provides an area to change basic parameters of the wood selection.

**Species** - This identifies the type of wood to be used.

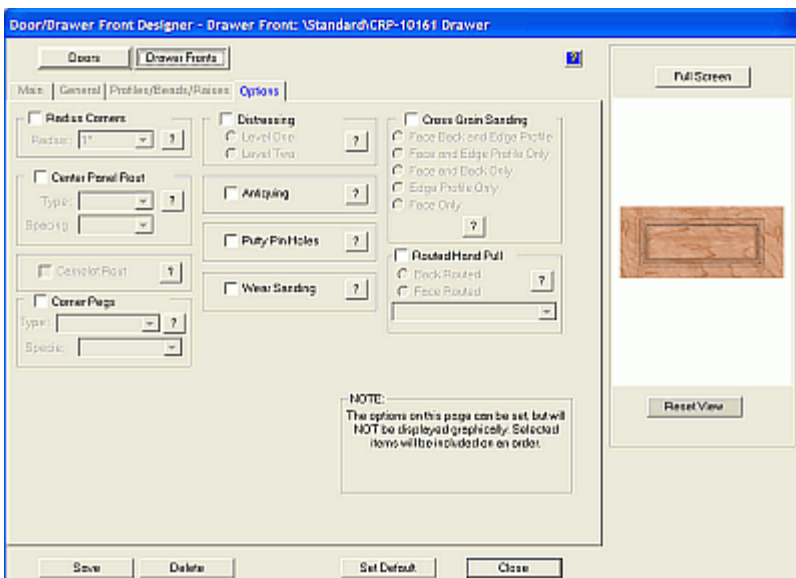
**Grade** - Standard or Premium.

**Finish Options** - Select desired Finish texture.

**Thickness** - This is the required thickness of drawer front.

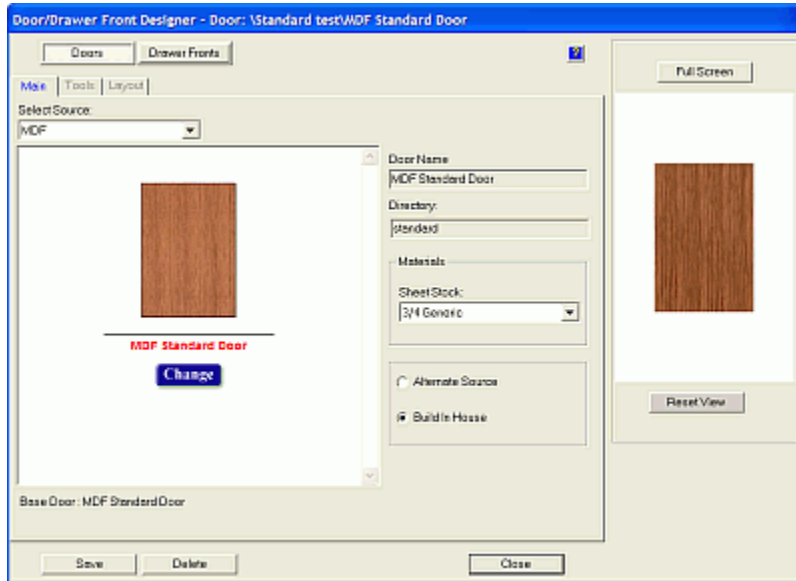


**Profile/Beads/Raises** - This Tab shows details of the component parts of the drawer front, as they will be supplied, or as designed to be made in house.



**Options** - This Tab shows any available additional options that may be available for this drawer front.

# MDF Doors



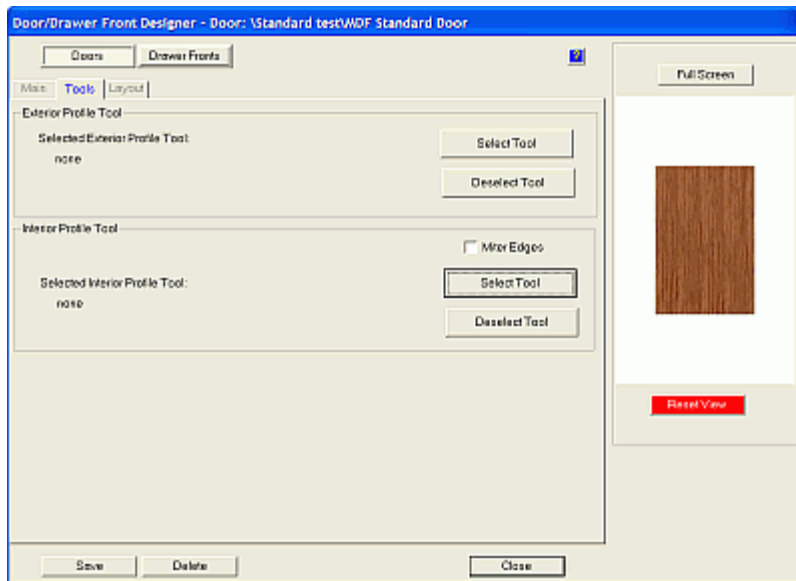
**Main Tab** - This Tab shows the door as a completed object.

**Materials** - Here, you can select the MDF Sheet Stock.

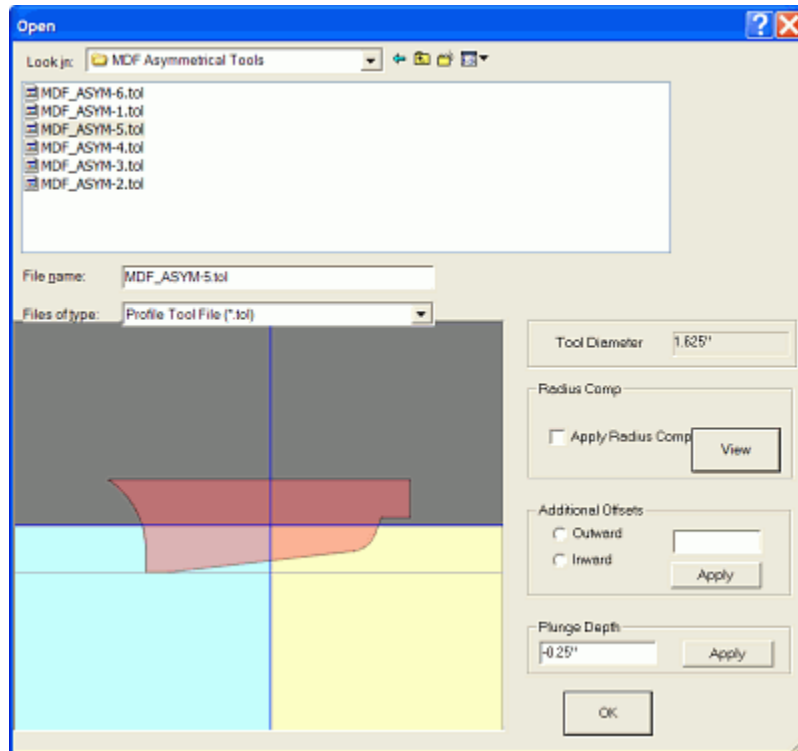
**Alternate Source** - The doors will be indicated on the **Buy List**, but the **Master Purchase Order** will not show them.

**Build In House** - Information to build the doors will be included in the **CNC Output** data.

The blue **Change** button can be pressed to go back and reselect the choice of doors.



**Tools** - This Tab allows you to change the selected tool shape and depth, which will create the shape desired on the door. Select both an **Interior Profile Tool** and an **Exterior Profile Tool**.



The above illustration shows a typical **Select Tool** window. Tools that are already available are saved as ".tol" files and they can be found in the *C:\Program Files\Thermwood\eCabinet Systems\My Profile Tools\MDF Asymmetrical Tools\* subdirectory.

**Tool Diameter** - This is the diameter specified when the tool profile was created. (The profile will be shifted away from the center of the part by half of that diameter.)

**Apply Radius Comp** - When checked, this will shift the tool at the machine, to allow for any difference between the actual diameter of the tool used and the **Tool Diameter** specified above. Press **View**, to see in the illustration, how the tool will be placed into the part during machining.

**Additional Offsets** - These are used to shift the tool either toward or away from the part, by an additional distance, if desired. Press **Apply**, to see in the illustration, how the tool will be placed into the part during machining.

**Plunge Depth** - Most tools are designed with the zero point at the center bottom of the tool profile, so plunge depth is a negative number for cuts that go into the part. Press **Apply**, to see in the illustration, how the tool will be placed into the part during machining.

For the **Interior Tools** there is also the **Miter Edges** checkbox. If the door/drawer front is to be machined using a profile tool, leave the box unchecked. Therefore the inside corners will be rounded. If the center cut is to be modeled, check the box and then the inside corners will be squared off.

**Note:** When using an asymmetrical tool, the profile must be modeled, so the box must be checked!

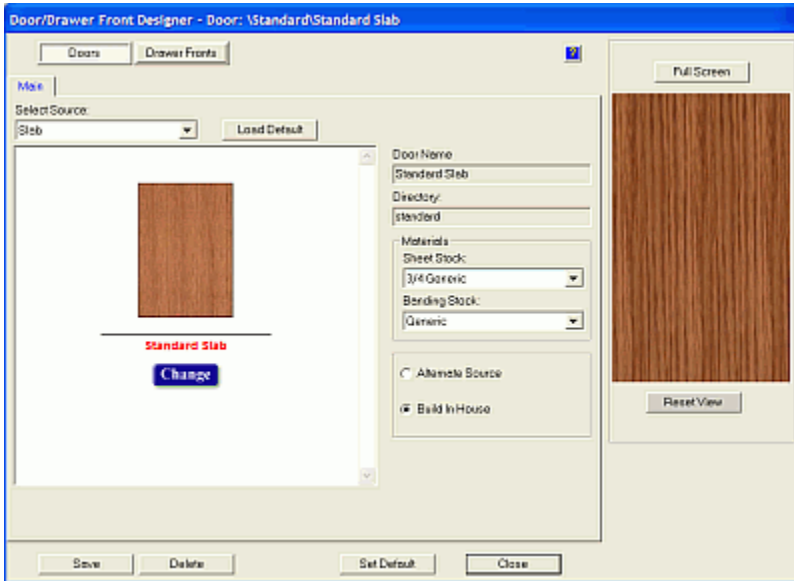
When the tool selection choices have been completed, you will note that the **Reset View** button has turned Red. This indicates that the details of the door have changed. Click that button and you will see the door with the changes applied. The Door/Drawer Front image, shown above in the window on the right, can be moved, rotated and zoomed using the **Shift** key and the mouse. The **Full Screen** button switches to a full screen view where it can also be rotated, moved and zoomed.

**Layout** - This Tab provides additional options on the configuration of the MDF door. Additional information is detailed in section titled "**Door/Drawer Front Designer Layout Tab**", found elsewhere in this manual.

## MDF Drawer Fronts

The selection choices are identical to the **Doors** button.

## Slab Doors



### Materials

**Sheet Stock** - Select the desired material here.

**Banding Stock** - Select the desired material here.

**Alternate Source** - The doors will be indicated on the **Buy List**, but the **Master Purchase Order** will not show them.

**Build In House** - Information to build the doors will be included in the **CNC Output** data. These doors will be nested.

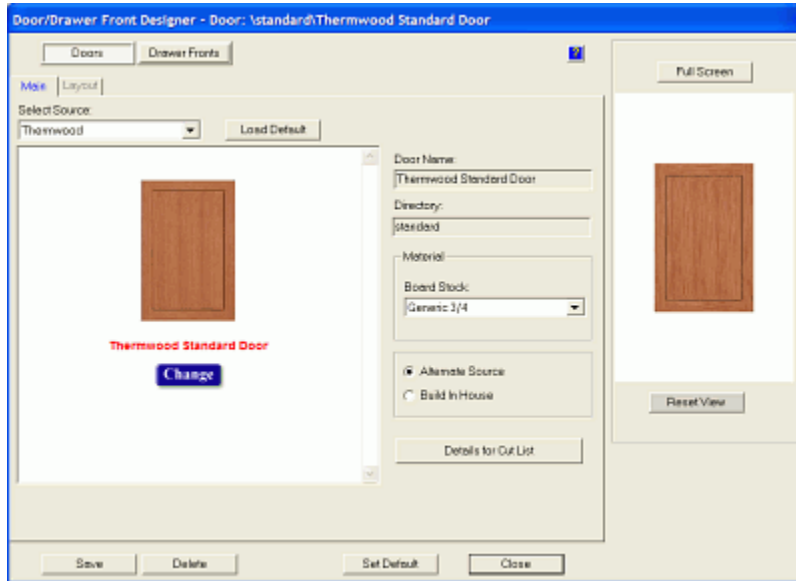
The blue **Change** button can be pressed to go back and reselect the choice of doors.

**Note: All Slab doors require Edgebanding.** The core of the **Slab** doors and drawer fronts will be reduced in size, to allow for the thickness of the Edgebanding. If you do not want the door size reduced for Edgebanding, specify an Edgebanding material that has a zero thickness.

### Slab Drawer Fronts

The selection choices are identical to the **Door Button**.

# Thermwood Doors



## The Thermwood 5 Piece (Raised Panel) Door:

**Materials** - Select desired Board Stock.

**Alternate Source** - When this is selected, the doors will be indicated on the **Buy List**, but the Master Purchase Order will not show them.

**Build In House** - When this is selected, the information to build the doors will be included in the CNC Output data.

**Details for Cut List** - This provides an area to select the necessary construction settings. For additional information, see the **Five Piece Door User Manual**.

**Note:** Be aware that the settings that display in the **Sizing Details for Cut List** fields are general defaults and must be confirmed to your application.

The blue **Change** button can be pressed to go back and reselect the choice of doors. The Door/Drawer Front image, shown above in the window on the right, can be moved, rotated and zoomed using the **Shift** key and the mouse. The **Full Screen** button switches to a full screen view where it can also be rotated, moved and zoomed.

**Main** - This Tab shows the door as a completed object.

**Layout** - This Tab provides additional options on the configuration of the Thermwood door. Additional information is detailed in section titled "**Door/Drawer Front Designer - Layout Tab**", found elsewhere in this manual.

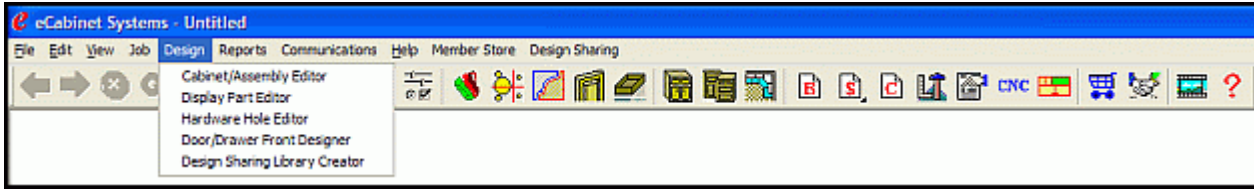


## **7.5**

# **Design Sharing Library Creator**



# Design Sharing Library Creator Introduction



## Design Sharing Library Creator

A screenshot of the "eCabinet Systems Design Sharing Submission Form" dialog box. The title bar reads "eCabinet Systems Design Sharing". The form contains the following fields and options:

- Library Name:** A text input field with a note below it: "Note: Library Name must contain your name or company name".
- Developer:** A text input field.
- Search Words Primary (check all that apply):** A list of checkboxes including: Closet System, Decorative, Frame Cabinet, Frameless Cabinet, Furniture, Library, Miscellaneous Woodwork, Wall System, and Other.
- Search Words Secondary (check all that apply):** A list of checkboxes including: Accents & Wall Decor, Antique Reproduction, Bath, Bedroom, Business Office, Casual Dining, Commercial, Entertainment Center, Fireplace Mantle, Garage, Gifts, Home Office, Industrial, Institutional, Library, Living Room, Medical, Modern, Religious, Shaker, and Traditional.
- Cancel** button at the bottom right.

Once you have become proficient with cabinet and furniture design, and have created your own libraries of designs, you have an opportunity to sell these designs to other Members through a program called **Design Sharing**. The **Design Sharing Library Creator** icon (alternatively, go to the **Design** menu and click **Design Sharing Library Creator**) will begin the process of making your own designs available on the Internet. Follow the directions presented and then click the **Validate Info** button. The software then checks the data, and if it is OK, it combines all these elements into a single file, which is then automatically sent to Thermwood Corporation for approval.

Any revenue from the sale of these designs is split equally between you and us. In addition, if any items are purchased through *eCabinet Systems* from your designs, you receive 10% of the margin generated by these sales. There is no cost to submit designs to Thermwood. The library remains available to others indefinitely unless you request that it be removed, or there are no sales of the library for a continuous 24 month period. Also, those that buy your library can rate it, and can also write a review. Both the rating and reviews are then made available to prospective new buyers.

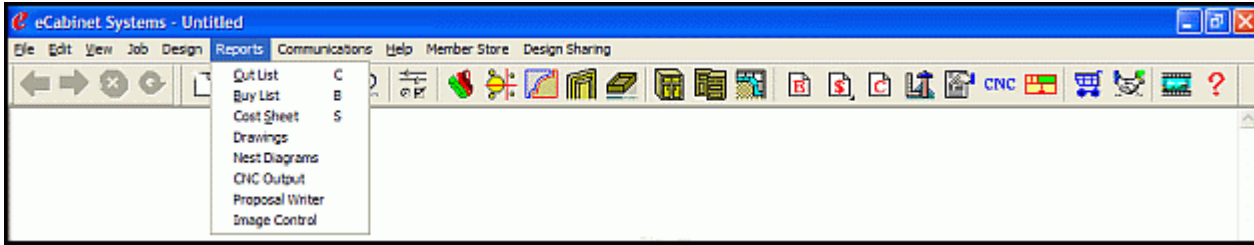
There are several requirements for designs. First, the design must originate from the Standard Cabinets directory (from a "seed" cabinet). You cannot modify a design developed by others and submit it as your own. When a design is submitted, it is tagged with the name of the developer. This tag remains with the file, regardless of how much it is modified. Once a file is tagged, it cannot be changed. It remains the design of the original developer. This is another reason why you must begin with cabinets from the Standard Cabinets directory; to be sure that the original cabinets you are working with have not already been tagged for someone else. You are free to set a price on your offering, however, there is a minimum price, which is either \$10 for the entire design or \$1 per cabinet or assembly, whichever is greater. Beyond that, you are free to set whatever price you choose.



***8.0***

## **Reports Menu**

# Reports Menu Introduction



The **Reports Menu** contains the following submenus:

**Cut List**

**Buy List**

**Cost Sheet**, which include the **Cost Listing** and **Selling Price** reports.

**Drawings**, also known as the **Line Drawing Editor**.

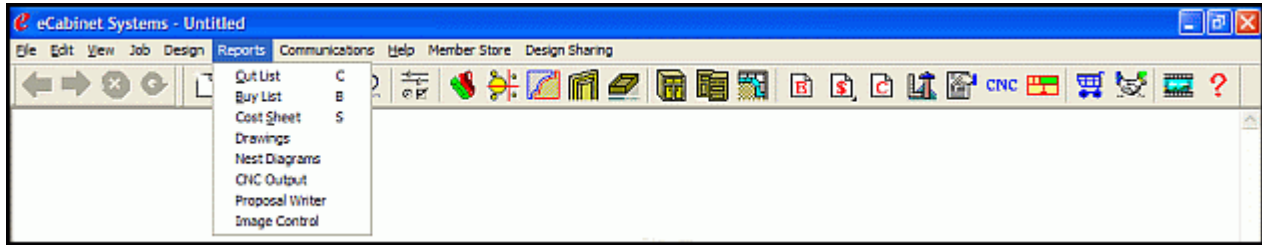
**Nest Diagrams**

**CNC Output**

**Proposal Writer**

**Image Control**

# Cut List



**Cut List**

Cut List  
Cabinet: *standard cabinets/ Std Base Framed* 34.5"H X 30"W X 24"D (Base)  
generated by eCabinet Systems  
Thursday, August 30, 2007 14:59:54

[Export Cutlist To Excel](#)

Sheet Stock Summary (Qty. Based on 68.00% estimated yield)

Qty.	Material	Total Calc. Area (Inch <sup>2</sup> )	Length	Width	Thickness
2	3/4 Generic	5328.7788*	96"	48"	0.75"

Board Stock Summary

Qty.	Material	Linear Inches (including Saw Blade Kerf)	Stick Length	Width	Thickness
2	Generic 3/4	158.977*	96"	2"	0.75"

**Total Board Feet Per Material**

Generic 3/4	Total: 2.208 bd. ft.
-------------	----------------------

Banding Stock Summary

Qty.	Material	Linear Feet	Length	Width	Thickness
1	Generic	16.58'	500"	1"	0.125"

Sheet Component Listing

Qty.	Component	Material	Height	Width
(Assembly Cab. No.1) <i>standard cabinets/ Std Base Framed</i> 34.5"H X 30"W X 24"D (Base)				
1	Shelf	3/4 Generic	28.375"	22.5"
1	Left Hinge Door	3/4 Generic	19.477"	12.75"
	Left Banding: Generic			
	Right Banding: Generic			
	Top Banding: Generic			
	Bottom Banding: Generic			

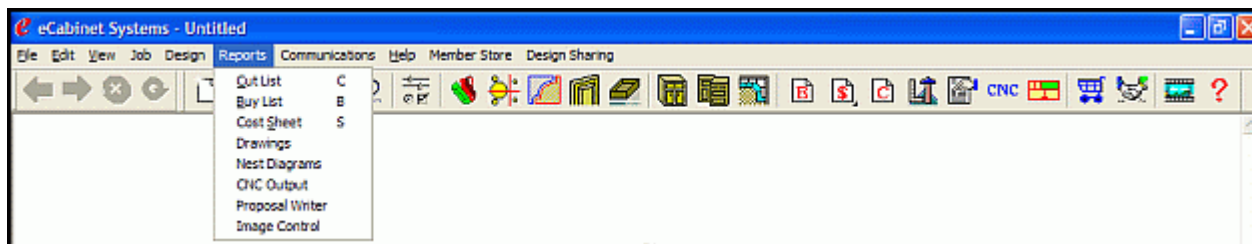
The **Cut List** creates a list of machined components required for the Job. If accessed from the **Cabinet/Assembly Editor**, it is for the current cabinet. If accessed from **Custom Layout**, it is for highlighted items. If nothing is highlighted, then it is for the entire Job.

The **Cut List** provides a list of the total amount of each material required for this Job. For Sheet Stock, it includes a description of the material, sheet size and total number of sheets required. It also includes a list of face frame materials required, including the total length of each type of material. The total finished length of all components added together is also shown. A detail listing of components required for the Job is presented, and is sorted by material type, and also shows a listing for every unique component in the Job.

For cabinet components, it lists each unique part, the quantity required and the shop drawing associated with it. The **Cut List** also contains a listing of the doors and drawer fronts required including outside dimensions. Finally, the **Cut List** includes a listing of the outside dimensions of the drawer boxes required for the Job.

**Note:** The length dimension is the length required with the presumption that the components are simply butted together. If the construction method includes mortise and tenon joints, the additional length required for the tenons must be added to the appropriate components.

# Create Buy List



Buy List  
 Job: C:\Program Files\Thermwood\ECabinet Systems\MRK Data\MRK-Kitchen.oxj  
 generated by eCabinet Systems  
 Thursday, August 30, 2007 15:07:06

Current Buy List

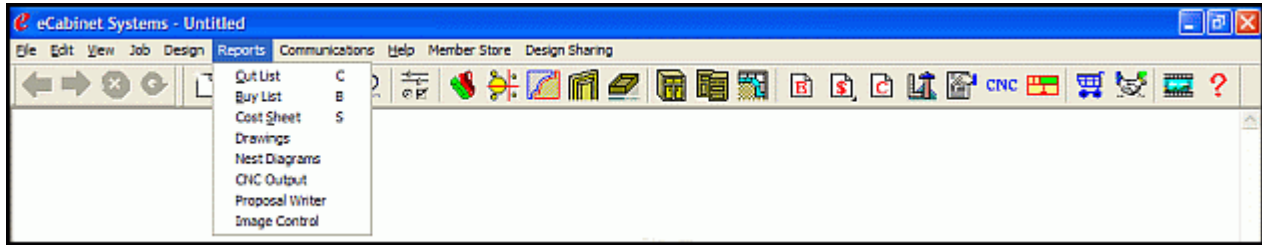
Qty.	Qty. Req.	Model	Description	Product	Unit Desc.	Unit Cost	Job Cost	Vendor
19	19	HF-10409600	Zinc Handle Nickel Mat 128mm etc Custom Layout Cabinet Qty: 19	Part	Piece	2.40	45.60	Hafle
			[ Cabinet No. 1 Qty: 1] w/c MRK-Kitchen Enclosed Qty: 2					
			[ Cabinet No. 2 Qty: 1] w/c MRK-Kitchen Base Qty: 2					
			[ Cabinet No. 3 Qty: 1] w/c MRK-Kitchen Base Qty: 2					
			[ Cabinet No. 4 Qty: 1] w/c MRK-Kitchen Base Qty: 2					
			[ Cabinet No. 5 Qty: 1] w/c MRK-Kitchen DM Upper Qty: 4					
			[ Cabinet No. 7 Qty: 1] w/c MRK-Kitchen Sgl Upper-MDDI Qty: 2					
			[ Cabinet No. 8 Qty: 1] w/c MRK-Kitchen DM Upper-No Dns-MDDI Qty: 2					
			[ Assm. No 1 - Cabinet No. 1 Qty: 1] w/c MRK-Kitchen Tail BoxQty Qty: 3					
1	1	CB-1049yn	Knob polished nickel 1-1/4" Round Custom Layout Cabinet Qty: 1	Part	PIECE	6.53	6.53	Classic Brass
			[ Assm. No 1 - Cabinet No. 2 Qty: 1] w/c MRK-Kitchen Tail Top Qty: 1					
1	1	CB-Crowns-6-Red-Oak	Crown 6 Red Oak Custom Layout Cabinet Length: 61.2"	Molding	Piece	18.95	18.95	Corsetaga
			Total Length: 61.2"					
4	4	WT-3006 034-028	Knob BP Custom Layout Display Part Qty: 4	Part	Piece	1.48	5.84	Wood Technology
<b>Total</b>							<b>76.92</b>	

The **Buy List** creates a list of everything that must be purchased for this Job. If accessed from the **Cabinet/Assembly Editor**, it is for the current cabinet. If accessed from **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job.

The **Buy List** report shows the part number, description and quantity of each component required for this Job, as well as part type and vendor. It also shows the **Unit Cost** of the component, if purchased through **eCabinet Systems**, and the **Job Cost** for the quantity required for the Job.

The **Buy List** is simply a list of the items you must buy, but to actually order these items, you must add them to the **Shopping Cart** and then purchase the items in the **Shopping Cart**. There is a check box in the **Shopping Cart** area that, when checked, automatically includes the entire **Buy List**. However, just because the entire **Buy List** is in the **Shopping Cart** does not mean that everything must be purchased, for during the buying process you can pick and choose what you want to purchase.

# Cost Sheet, Cost Listing & Selling Price



Cost Sheet  
Cost Listing  
Selling Price

## Cost Sheet, Cost Listing & Selling Price

Material & Markups		Cost
<b>Sheet Stock</b>		
Total Area	5328.7788"	
Total Cost @ 68.00% estimated yield	\$59.52	
Percent Markup 10.00%	\$5.95	
Fixed Markup	\$0.00	
<b>Total Cost With Markups</b>		<b>\$65.47</b>
<b>Banding Stock</b>		
Total Linear Feet	16.58'	
Total Cost @ 100.00% estimated yield	\$3.81	
Percent Markup 5.00%	\$0.19	
Fixed Markup	\$0.00	
<b>Total Cost With Markups</b>		<b>\$4.00</b>
<b>Board Stock</b>		
Total Length (including Saw Blade Kerf)	158.977"	
Total Board Feet	2.208 bd. ft.	
Total Cost @ 70.00% estimated yield	\$12.62	
Percent Markup 10.00%	\$1.26	
Fixed Markup	\$0.00	
<b>Total Cost With Markups</b>		<b>\$13.88</b>

The **Cost Sheet** report lists the quantity and cost of the materials needed to build the Job, plus the markups specified in the **Define Markup Prices** section of **Settings/Preferences**. Various cost markups, calculated profit and selling price are shown. This report can be generated from several areas and the result varies depending on the area where the report was created.

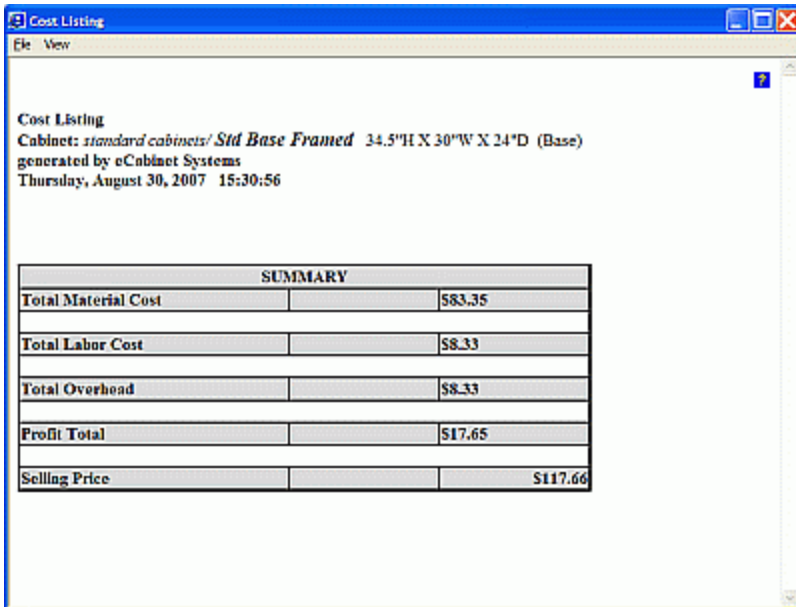
If the **Cost Sheet** is created while in the **Cabinet/Assembly Editor**, the resulting report is for the cabinet currently displayed. In calculating sheet material cost, the **Estimated Yield** for the material as specified in the **Define Stock Materials** section of **Settings/Preferences** is used.

If the **Cost Sheet** is created with one or more cabinets highlighted in **Custom Layout**, the resulting report is for the highlighted items only. In calculating sheet material cost, the **Estimated Yield** for the material as specified in the **Define Stock Materials** section of **Settings/Preferences** is used.

If the **Cost Sheet** is created with nothing highlighted in **Custom Layout**, or from any other area, the resulting report is for the entire Job. In calculating sheet material cost, the **Estimated Yield** for the material as specified in the **Define Stock Materials** section of **Settings/Preferences** is used provided the Job has not been previously nested. If the Job has been nested and no changes made since the nesting process, the actual yield for this Job is used. The yield used for the report is clearly shown on the report.



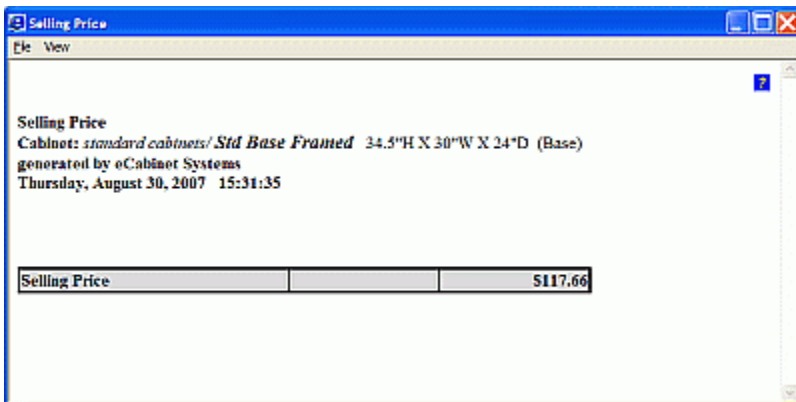
Material requirements in this report are determined by dividing the total area required by the yield, either the **Estimated Yield** specified in the **Define Markup Prices** or the actual yield if the nesting process has been completed.



Cost Listing  
 Cabinet: *standard cabinets/ Std Base Framed* 34.5"H X 30"W X 24"D (Base)  
 generated by eCabinet Systems  
 Thursday, August 30, 2007 15:30:56

SUMMARY		
Total Material Cost		\$83.35
Total Labor Cost		\$8.33
Total Overhead		\$8.33
Profit Total		\$17.65
Selling Price		\$117.66

This is a sample illustration of a **Cost Listing**. This lists **Total Material Cost**, **Total Labor Cost**, **Total Overhead**, **Profit Total** and **Selling Price** of the Job.



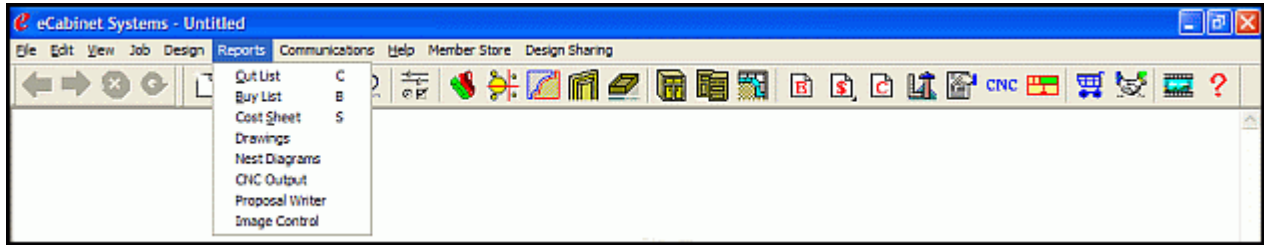
Selling Price  
 Cabinet: *standard cabinets/ Std Base Framed* 34.5"H X 30"W X 24"D (Base)  
 generated by eCabinet Systems  
 Thursday, August 30, 2007 15:31:35

Selling Price		\$117.66
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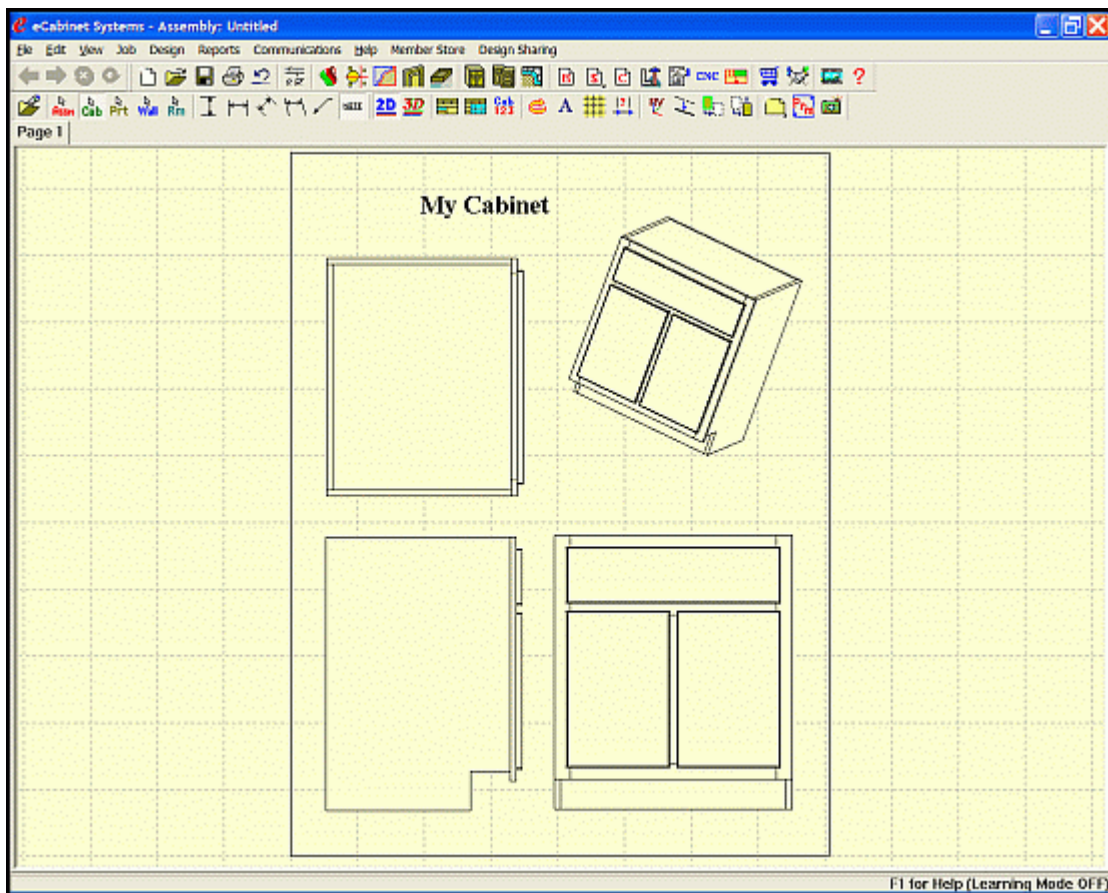
Sample illustration of a **Selling Price** Report, which just displays the **Selling Price** of the Job.

These reports create a cost estimate for the Job, based on material cost and specified markups, or based on material cost and labor cost for each cabinet or assembly. If accessed from the **Cabinet/Assembly Editor**, it is for the current cabinet or assembly. If accessed from **Custom Layout**, it is for highlighted items. If nothing is highlighted, it is for the entire Job. It is based on **Estimated Yield**, unless the Job has been nested, then it is based on **Actual Yield**.

# Line Drawing Editor Introduction



## Line Drawing Editor



Also known as "Drawings", the **Line Drawing Editor** opens into an area where engineering drawings for this Job are arranged and dimensioned. Drawings are sent to this area from within the **Cabinet/Assembly Editor** and/or **Custom Layout**.

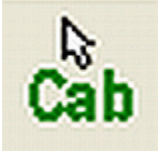
## Line Drawing Editor Toolbar Icons



**Load DXF** - this opens a dialog to select a DXF file to load. During the load process, nodes are added, based on the settings in **Drafting Parameters**.



**Select Assembly Mode** - With this, the selected item can be moved, rotated, copied and pasted. Press **Esc** to deselect.



**Select Cabinet Mode** - This selects complete cabinets on the drawing. The selected item can be moved, rotated, copied and pasted. Press **Esc** to deselect.



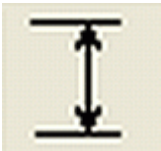
**Select Cabinet Part Mode** - This selects an individual part from the cabinet. The selected part can be copied and pasted to a new location where it can be moved and rotated. Press **Esc** to deselect.



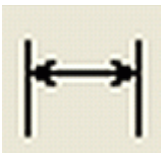
**Select Wall Mode** - This selects a wall, and all items associated with the wall. The selected wall can be copied and pasted, moved and rotated. Press **Esc** to deselect.



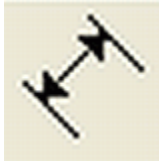
**Select Room Mode** - This selects an entire room and all items in the room. The room can be moved, rotated, copied and pasted. Press **Esc** to deselect.



**Set Vertical Dimensioning** - Use this for creating vertical dimensions. Select two nodes. The vertical (Y-axis) dimension between the nodes is created using horizontal extension lines and a vertical dimension line.



**Set Horizontal Dimensioning** - Use this for creating horizontal dimensions. Select two nodes. The horizontal (X-axis) dimension between the nodes is created using vertical extension lines and a horizontal dimension line.



**Set Aligned Dimensioning** - This is used for creating 2D diagonal dimensions. Select two nodes, and the diagonal (X-Y) dimension between the nodes is created, using extension lines that are perpendicular to the diagonal, and a dimension line that is parallel.



**Set Free Form Dimensioning** - This style is used for creating 2D diagonal dimensions, with non-perpendicular extension lines. Select two nodes, and the diagonal (X-Y) dimension between the nodes is created, using extension lines that are freely positioned and a dimension line that is parallel.



**Insert Leader** - This will insert a leader line, with an arrow and text when selected, click to anchor the arrow, click to anchor the tail and then type the text. To move after placement, hold **Shift** and Left Click the text. Then, while holding **Shift**, move text with the Left Mouse Button and then move the entire leader with the Right Mouse Button. To edit text, while holding **Shift**, left click text then backspace or type.



**Insert Note** - To insert note, click the drawing and type the note. Move the note by left clicking to highlight it, and then while holding **Shift**, use the Right Mouse Button to move. To edit note, while holding **Shift**, Left Click the text, then use the **Backspace Key** or type additional text.



**Set 2D Measurement** - These dimensions are measured in the 2D display plane (All Z-axis diagonals are ignored). For use with 2D drawings only. Dimensions created in 2D have **BLUE LINES**.



**Set 3D Measurement** - These dimensions are measured in full 3D. This is for use with 3D isometric drawings only, because on occasion, Z-axis diagonals can make 3D measurements in 2D drawings appear incorrect. Dimensions created in 3D have **RED LINES**.



**Insert Table** ✖

---

Table Size

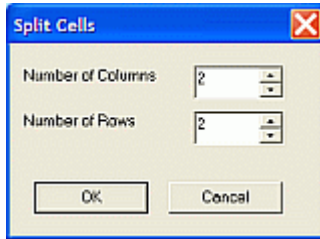
Number of Columns:

Number of Rows:

Column Width:

Row Height:

**Insert Table** - This brings up this dialog, which is used to define the cells of a table, and then places it on the drawing, where text and data can be added.



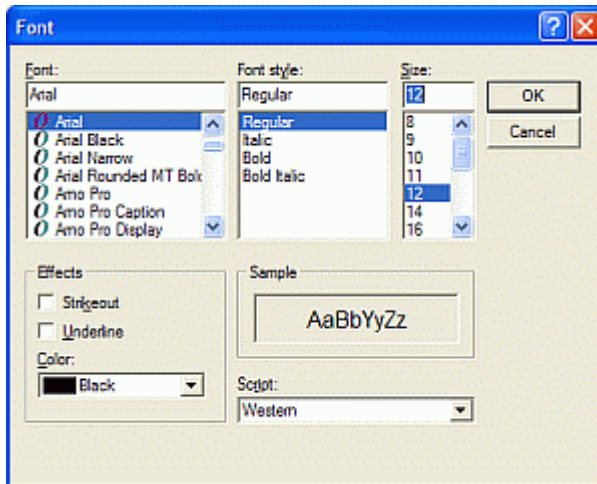
**Split Cell** - This brings up this dialog to subdivide the highlighted table cell into two or more cells.



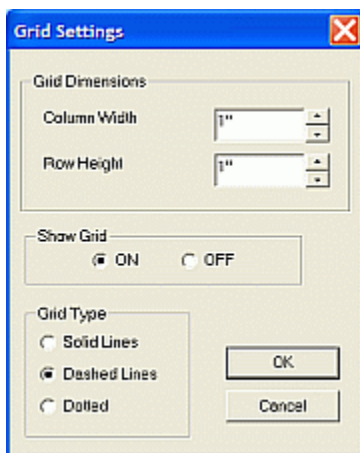
**Add Cabinet Numbers** - This places cabinet numbers on any cabinets currently on the drawing page. Once placed, the number text can then be moved and adjusted as needed.



**Rotate Item** - Opens a dialog where you can rotate the item that is currently highlighted within the workspace. The entire workspace is rotated with **Shift + Left Click**.



**Font Control** - This brings up the dialog to define the text font.



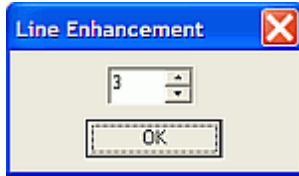
**Grid Settings** - This brings up a dialog where the grid settings can be adjusted.



**Edit Move Increment** - This brings up a dialog that allows you to change the distance things move in response to the **ARROW keys** on the keyboard. To move a display object, it must be highlighted, and you must also hold the **Ctrl** key.



**Reset View** - This returns the highlighted item to its original orientation.



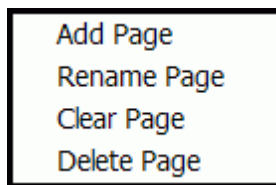
**Line Enhance** - This opens a dialog to adjust line intensity and eliminate interior line bleed through. There is a separate setting for each drawing page. Adjust the number up or down to achieve the desired effect.



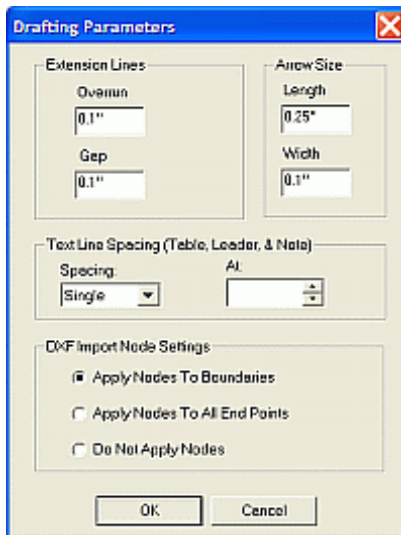
**Hide** - This hides the highlighted item so that items below it can be selected.



**Restore** - This restores all hidden items.



**Pages** - Pages can be added, deleted, renamed or cleared with this menu selection.

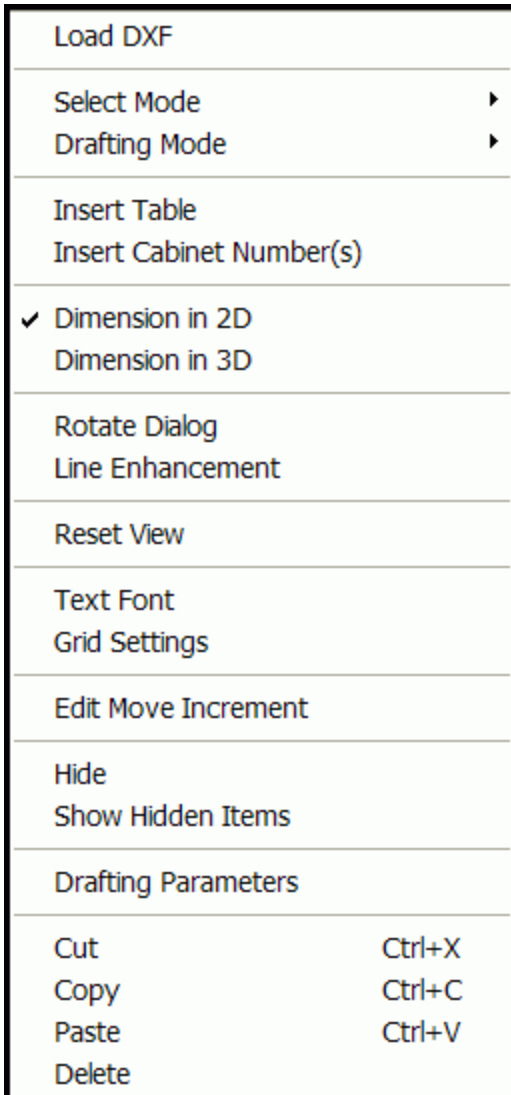


**Drafting Parameters** - This brings up the dialog, which enables the adjustment of the **Text** and **Extension Line** parameters.

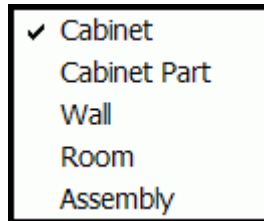


**Save Image** - Provides option to allow saving of an image (in ".jpg" format) of what is displayed on the screen.

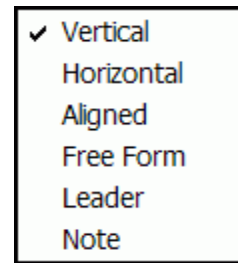
## Line Drawing Editor - Right Click Options



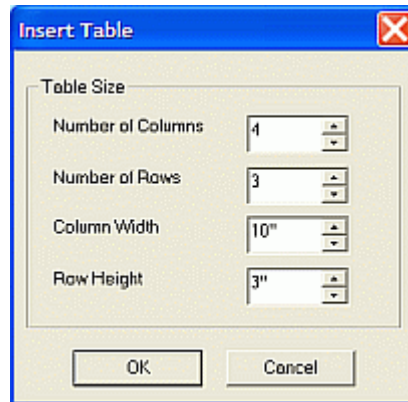
**Load DXF** - Opens a standard Windows dialog to select a DXF file to load. During the load process, nodes are added, as based on the settings in **Drafting Parameters**.



**Select Mode** - This provides confirmation, and allows selection of what display mode you are in.



**Drafting Mode** - This provides confirmation and allows selection of the desired dimensioning mode.

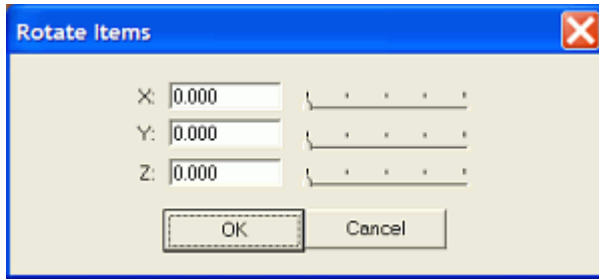


**Insert Table** - This brings up a dialog used to define the cells of a Table, and then places the defined Table on the drawing. Use **Shift + Right Click** to move the Table on the screen.

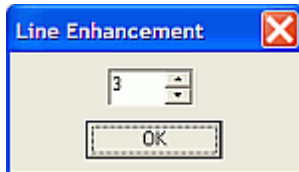
**Insert Cabinet Numbers** - This places cabinet numbers on any cabinets currently on the drawing page. Once placed, the number text can be moved and adjusted as needed.

**Dimension in 2D** - These dimensions are measured in the 2D display plane (Z-axis diagonals are ignored). For use with 2D drawings. Dimensions created in 2D have BLUE LINES.

**Dimension in 3D** - These dimensions are measured in full 3D. For use with 3D isometric drawings. Be aware that some Z-axis diagonals can make 3D measurements in 2D drawings appear incorrect. Dimensions created in 3D have RED LINES.

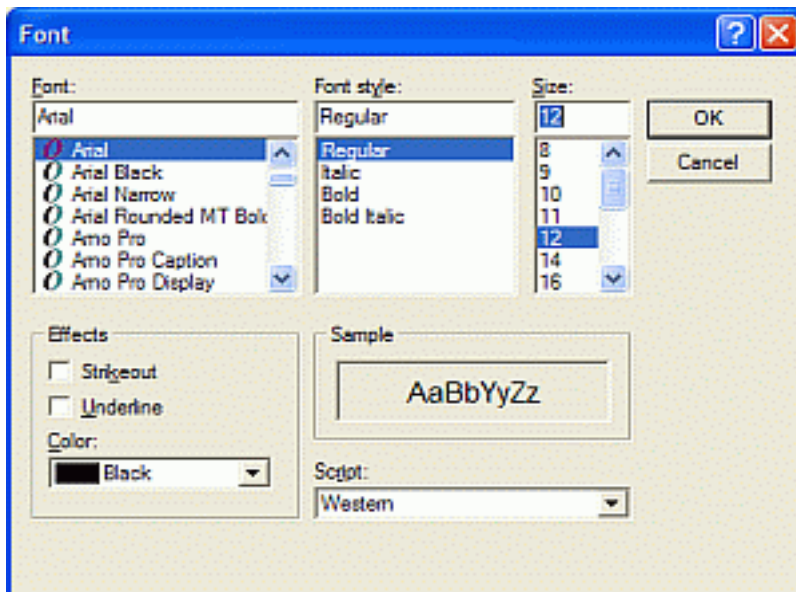


**Rotate Item** - This opens a dialog where you can rotate the currently highlighted item that is within the workspace. The entire workspace is rotated with **Shift + Left Click**.

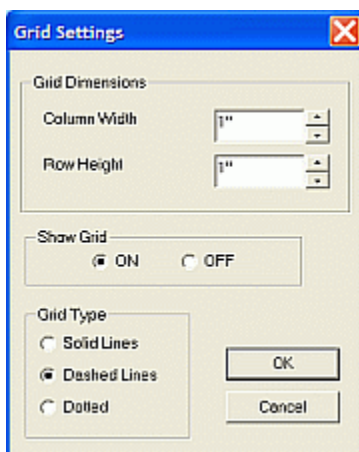


**Line Enhance** - This opens a control used to adjust line intensity and eliminate interior line bleed through. There is a separate setting for each drawing page. Adjust the number up or down to achieve the desired effect.

**Reset View** - This returns the highlighted item to its original orientation.

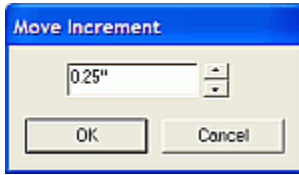


**Text Font** - This command brings up a standard Windows dialog, to enable the adjusting of the **Text Font**.



**Grid Settings** - This shows a dialog where the grid settings can be adjusted.

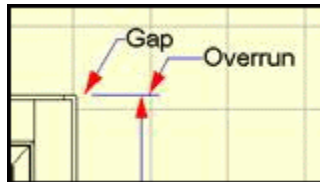
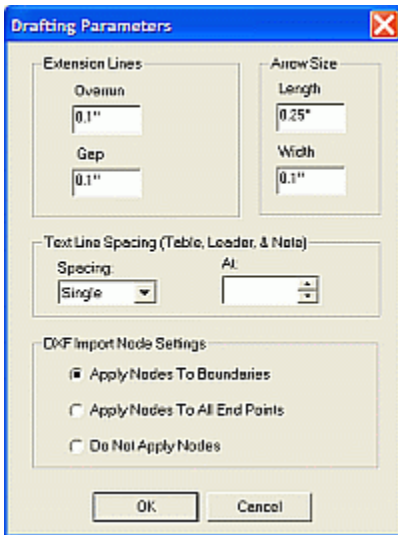




**Edit Move Increment** - This brings up a dialog that allows you to change the distance things move in response to the **ARROW keys** on the keyboard. To move a display object, it must be highlighted, and you then must hold the **Ctrl** key.

**Hide** - This hides the highlighted item so that items below it can be selected.

**Show Hidden Items** - This restores all hidden items.



**Drafting Parameters** - Text and extension line parameters may be adjusted in this dialog. The illustration above shows the definitions of the **Gap** and the **Overrun**.

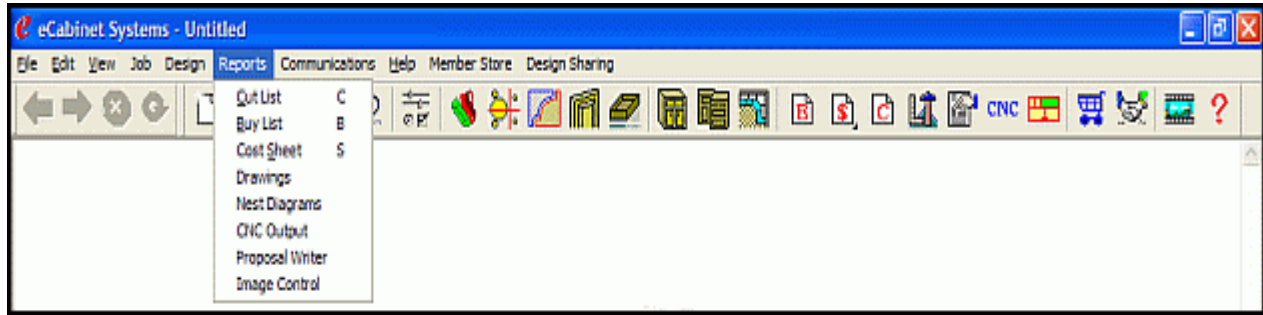
**Cut** - This removes highlighted item and places it on the Windows Clipboard, where it can then be pasted elsewhere. Optionally, use **Ctrl + X**.

**Copy** - This copies the highlighted item and places it on the Windows Clipboard, where it can then be pasted elsewhere. Optionally, use **Ctrl + C**.

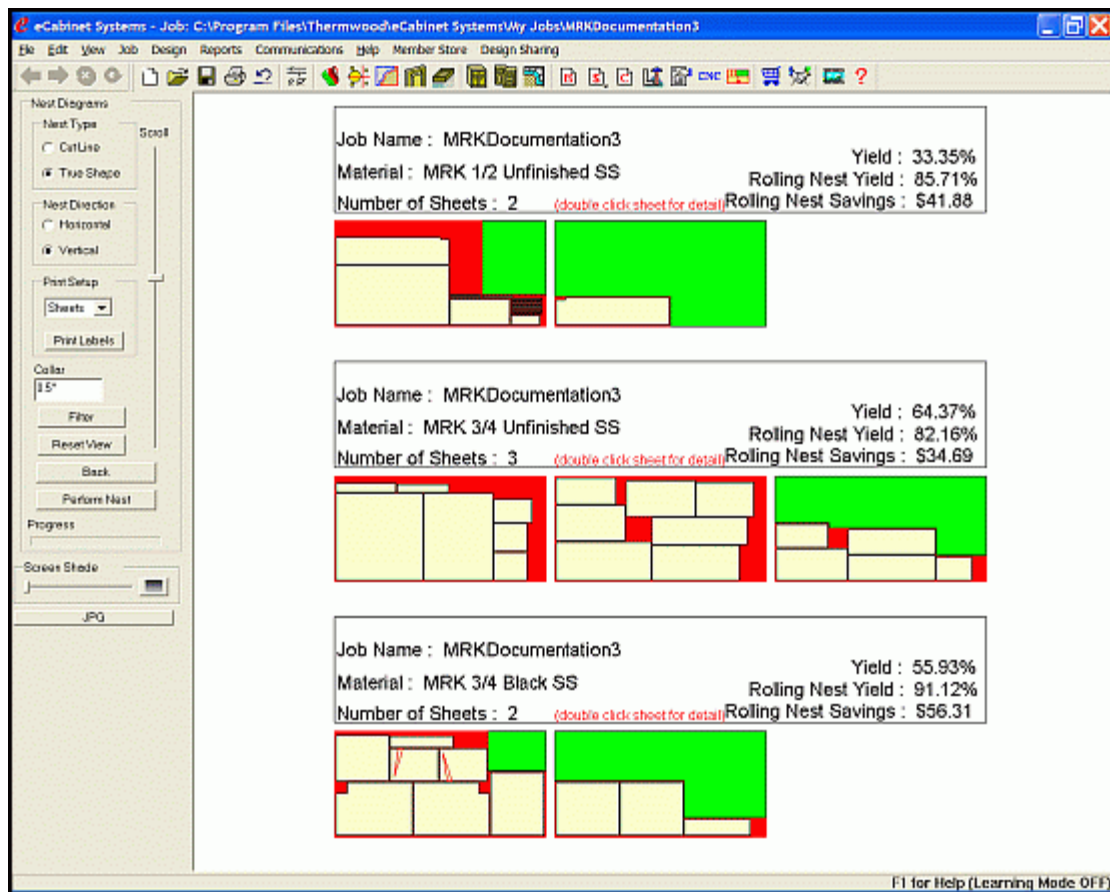
**Paste** - This copies last item placed into Windows Clipboard to your file. Optionally, use **Ctrl + V**.

**Delete** - This deletes selected item.

# Nest Diagrams Menu Structure



## Nest Diagrams



Nesting is how the parts to make a project are arranged and ordered on the raw material to make the most efficient use of that material. There are two factors that affect nesting, and each has two options. **Nest Type** defines the path of the cuts, and the resulting tooling required to cut the parts.

The options here are:

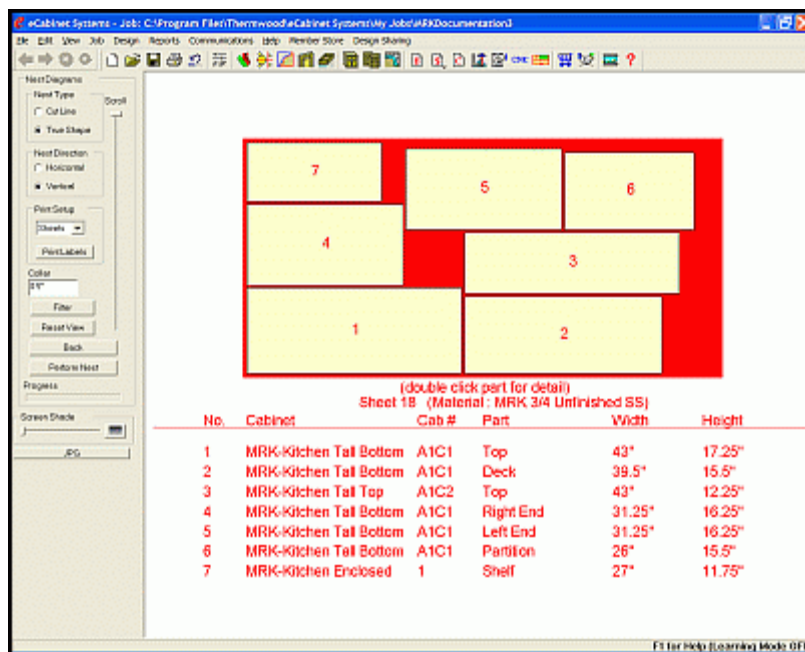
**Cut Line** - This nests the parts along straight rip lines, so they can be processed on a panel or table saw.

**True Shape** - This nest can generally only be processed on a CNC router, since the parts are randomly nested, and quite possibly even interlocked.

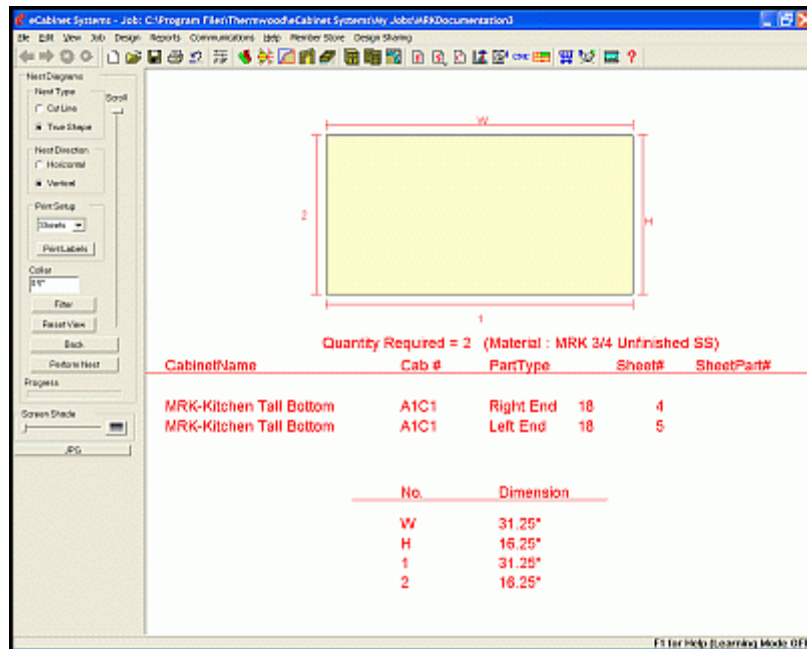
The **Nest Direction** selection defines the direction of the cut relative to the material length. These options are:

**Vertical** - The cut lines in the nest will be along the X, or longest axis of the sheet.

**Horizontal** - The cut lines in the nest will be along the Y, or shortest dimension of the sheet.



Make the appropriate selections and then click **Perform Nest** to generate the nest for the Job. Remember that Yield can be dramatically affected by small changes in cabinet depth as well as the diameter of the router bit or saw used to separate parts. Since there are many variables involved in a computer generated nest (beyond what are user selectable), it may be necessary to experiment with various settings and options to get the best nest.



After the nest is generated, double click any sheet for a more detailed view, and then double click on any part (in that view) for the details of that part. The sheets are shown three across and are color-coded as follows:

**Tan** parts are the required pieces for the Job.

**Green** areas represent material larger than 18 by 18 inch, which **Rolling Nest** can use for future Jobs.

**Red** areas are scrap.

**Blue** lines define operations required on the front face of the sheet.

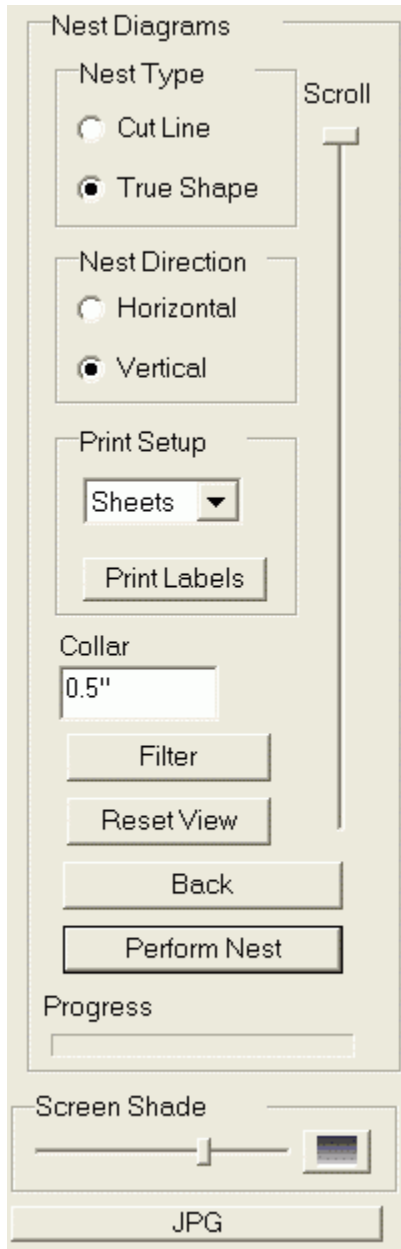
**Green** lines define operation required on the back side of the part.

**Note:** The **Minimum Size** dimensions (shown in **Green**) can be adjusted at the CNC router that is using **Rolling Nest**.

Nests are grouped by material type. A header shows the **Job Name**, **Material**, total **Number of Sheets** and **Yield** for each material. In addition, the yield available from the **Rolling Nest** operating with any **Minimum Size** dimension parts is shown, as well as the material savings possible for this Job due to improved yield, if using a CNC router. Double click any part on the sheet, and a shop drawing for the part is displayed. Press and hold the left mouse button to move the view around, and press and hold both mouse buttons to zoom.

**Note:** The saw blade kerf used in these diagrams is set in the **Settings/Preferences, Define Standard Dimensions** window.

Occasionally, some parts in a Job are too large to fit the sheet material they are to be cut from. Should this occur, the nesting process would nest those components it can, but will provide a warning, listing those components it was unable to nest.



### Nest Type

**Cut Line** - This type of nest aligns the parts along straight rip lines, so they can be processed on a panel or table saw. If nest direction is set to **Vertical**, cut lines will be along the X, or longest axis of the sheet. If the nest direction is set to **Horizontal**, cut lines will be along the Y, or shortest dimension of the sheet.

**True Shape** - This nest can generally only be processed on a CNC router. Parts are randomly nested and possibly interlocked, since they do not require straight line cuts for a saw. Yield can be dramatically affected by small changes in cabinet depth, as well as the diameter of the router bit or saw used to separate parts.

### Nest Direction

**Horizontal** and **Vertical** nest directions determine how *eCabinet Systems* creates the nest. These settings allow you to experiment with different types of nests in an effort to improve yield.

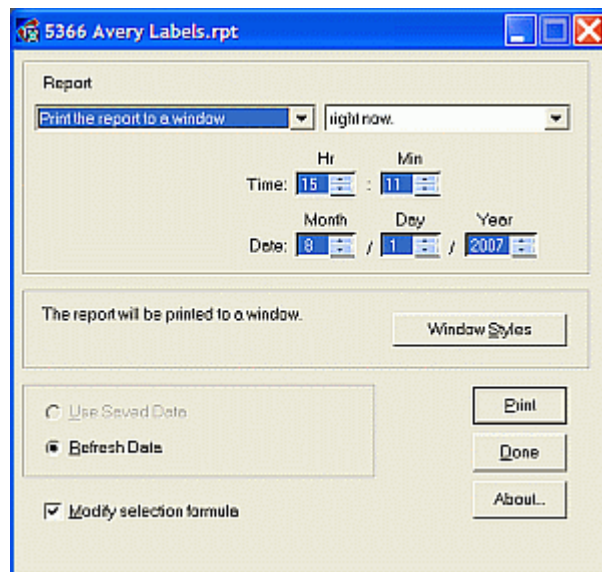
### Print Setup

**View** - If selected, the current screen view is printed.

**Sheets** - If selected, all the detail nests for the Job (with dimensions) will be printed.

**Job** - If selected, every view for this Job, including the initial listing, a detail view of each nest and a shop drawing for each part will be printed.

**Print Labels** - This button opens a window (shown at right) where you can format and print labels for each part in the nests.



**Scroll** - This provides a way to pan the screen to see the entire nest, on large Jobs.

**Collar** - This is a band around the entire edge of the sheet into which parts will not be nested. The Collar can be used to allow for slightly off-sized sheets or a small amount of edge damage.

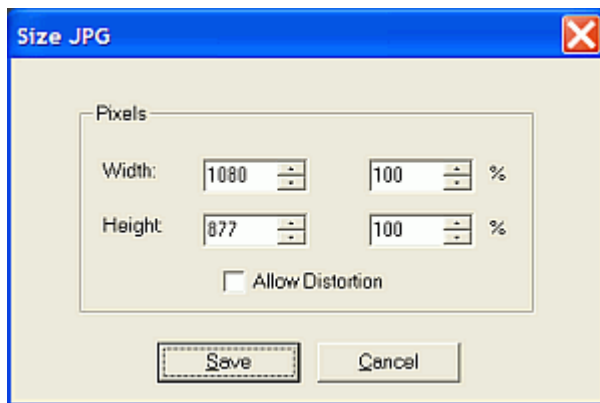
**Reset View** - This resets view to original display.

**Back** - This button returns to the previous view.

**Perform Nest** - Pushing this button to generate and display the resulting nests.

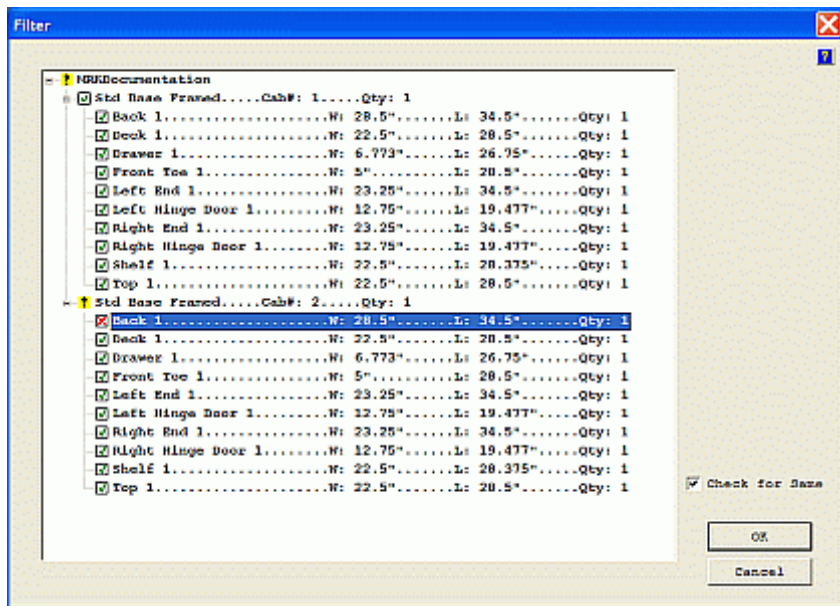
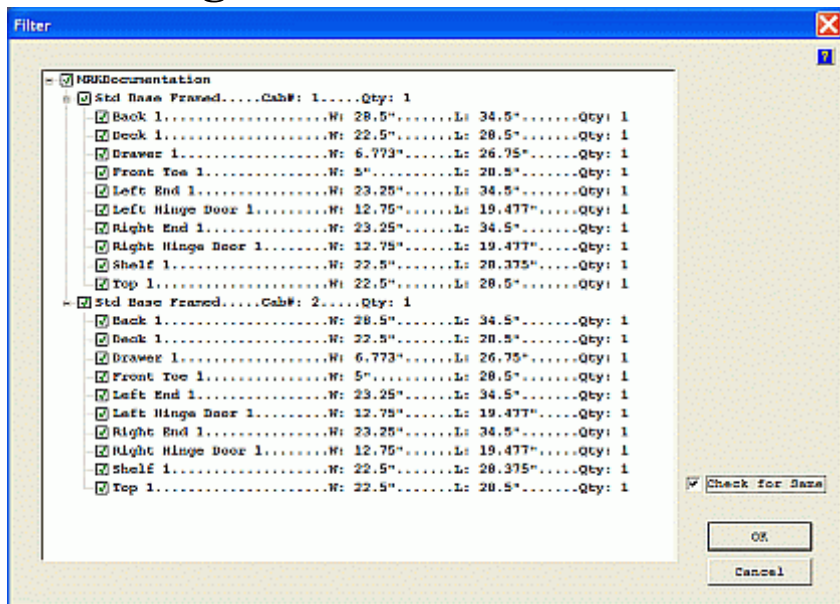
**Progress** - This shows the status of the various operations, and their progress, while calculating the nests.

**Screen Shade** - This controls the display of the screen background color, from white to black.



**JPG** - This opens a dialog that allows you to capture the current image and save it as a ".jpg" file.

## Nest Diagrams - Filter

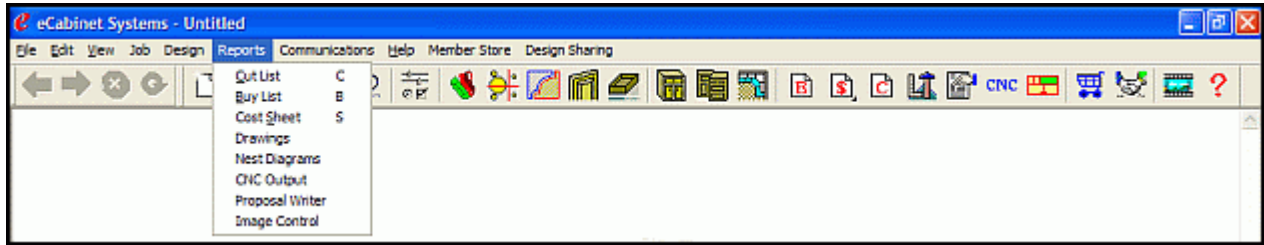


The **Nest Filter** is used to modify which cabinets and/or parts are placed in the nest. Parts added or removed from the nest using the **Nest Filter** do not change the Job, nor are their costs reflected in the Job cost area.

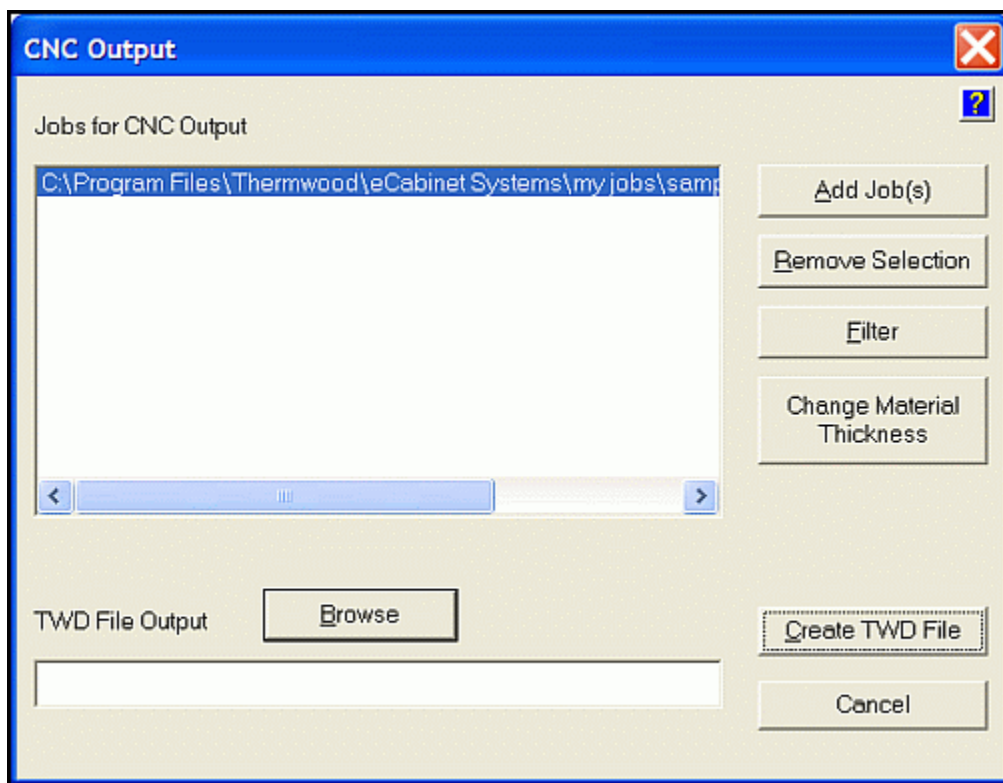
Double click the cabinet name to display a list of its parts. The current Job is shown in the **Filter** window. To expand the Job and show the individual cabinets, either double click the Job name or click the "+" sign directly in front of the Job name. The green check mark in front of the cabinet name indicates that this item is included in the nest. To remove a cabinet from the nest, click the green check mark. It will turn to a red "X", indicating that the item will not be included in the nest. The yellow exclamation symbol in front of the Job indicates that not all the parts required for the Job are included in the nest. In addition to including or excluding the cabinet or part from the nest, the quantity of the item included in the nest can be adjusted. At the end of each line, a quantity for that item is shown. This quantity is changed by Right Clicking the line and entering the new quantity.

**Note:** The **Nest Filter** only affects the nest that is processed immediately after setting the filter. If you leave the nest area and return, all filter settings are reset. Also, parts added or removed from the nest using the **Nest Filter** do not change the Job, nor are their costs reflected in the Job cost.

# CNC Output



## CNC Output



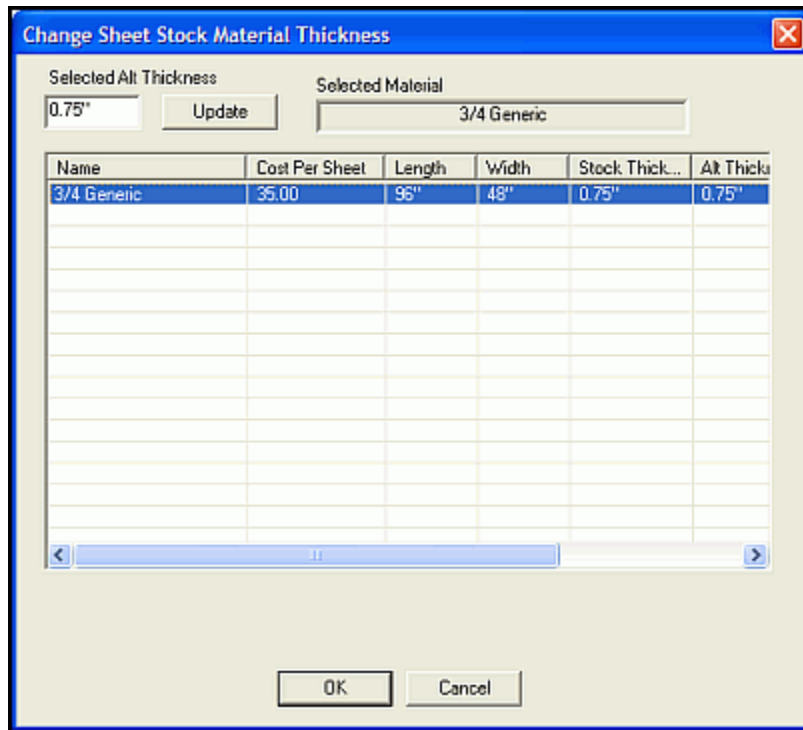
This is where the CNC files needed to machine all components required for the Job are created. These files run on Thermwood CNC routers that are equipped with the SuperControl interface.

**Note:** **CNC Output** does not generate standard CNC code, but instead generates a file in a format that the Thermwood SuperControl can read, and then the SuperControl system performs all the calculations and machine move data necessary to make the parts.



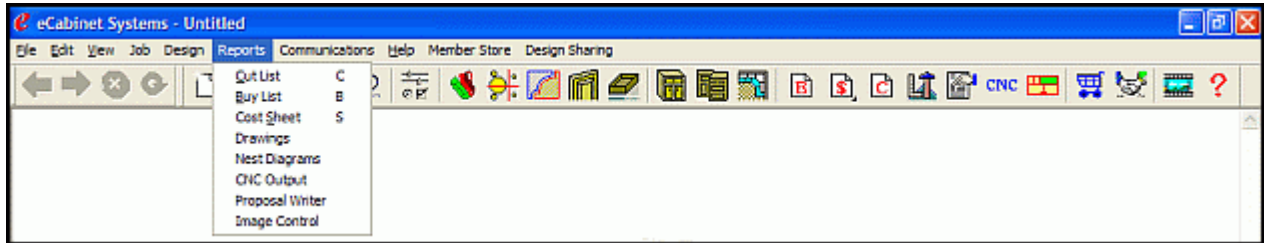
Once at the CNC machine, if the SuperControl "sees" that some of your *eCabinet Systems* parts have edge profiles, it will ask if you have a custom tool that matches the profile. If you do, it uses it, but if you do not, it automatically creates a modeling program (using a ball nose and flat bottom tool) to accurately model the profile. One advantage to creating the actual CNC programs in the SuperControl is that you can send the same *eCabinet Systems* CNC output file to any Thermwood CNC router, and you will always get the same parts, even if the machines are configured quite differently.

Select the Job that you want to send to the CNC machine, by using the **Add Job** button. Multiple Jobs can be selected, and if a Job is added unintentionally, it can be removed from the list with the **Remove Selection** button. The **Filter** button opens the **Nest Filter** dialog, so you can choose what parts you want to output.



**Change Material Thickness** allows for a substitution of the selected Sheet Stock. Select the material to change and input the new thickness, and click OK.

# Proposal Writer



**Proposal Writer** - This area is where you can create a professional retail sales proposal for the Job. The **Proposal Writer** is intended to supply you with a basic proposal structure and support text for retail presentation of the Job. There are three formats for the proposal:

**Formal** - This will create a formal business proposal written in the third person of the type common in business to business transactions.

**Informal** - This creates a proposal written in the first person that is similar to a conversation between two people.

**Short** - This creates a proposal containing only the facts presented in the fewest words possible.

## Using the Proposal Writer

Enter the name and address of the customer and the address where the job will be installed, and the date of the proposal in the appropriate spaces. On page 2, input the number of days you want to leave the quotation open. A series of checkboxes follow, where you specify what you want to show. If you check the box in front of Total Cabinets, a line will be placed in the proposal stating the total number of cabinets in the job (this number is automatically calculated from the job information.)

**Note:** Any box that is checked will cause a line to be added. There will be no line for a box left unchecked.

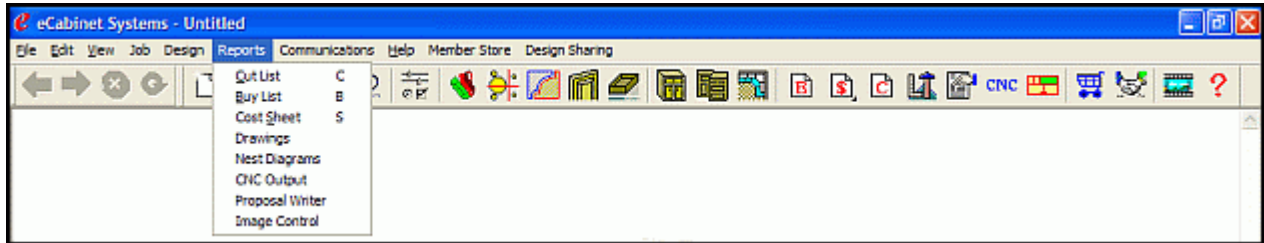
At the bottom of the page are two freeform input boxes where you can input information about the finish and the countertops.

On page 3 and 4, select comments you may want to add concerning what is and what is not part of the quotation. Placing a checkmark in any comment box adds a comment about the area, and you can then decide whether the area is included in the quote. When you check the Yes or No box, the actual comment that will be added to the proposal is shown. Page 5 contains information about the price and sales terms. The **Total Job Price** box contains the selling price for the job from the **Dynamic Costing System**. Then, you can add an amount for any taxes that must be charged. The **Total Selling Price** is the **Total Job Price** plus taxes. Under this box are a series of boxes where the payment schedule can be entered. Each box on the left side is for a percentage of the total. Each corresponding box to the right is for the terms under which that amount is to be paid. Select the percentage of the total you wish to collect and then type the conditions under which that amount must be paid. For example, if you want 30% upon delivery of materials, select 30% from the percentages available to the left. The next column will then show how much that 30% represents in an actual payment. Next, type in a statement like "Upon delivery of materials". If the total percentages selected are less than 100%, the remaining percent is shown on the bottom line. Under **Terms** is a freeform area where you can add any additional information about the payments, discounts, etc.

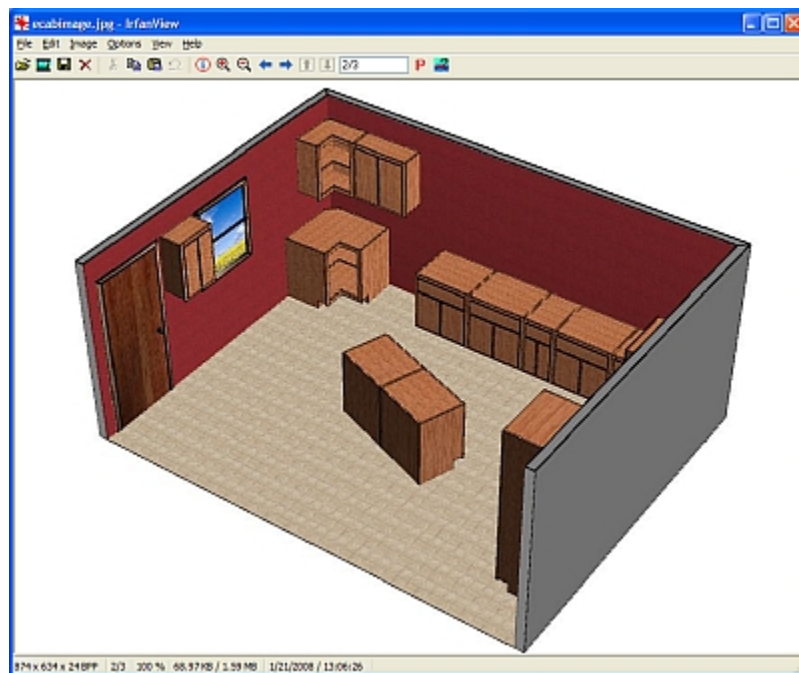
Next, you can add a page of general information on the various woods used in the kitchen you propose. These descriptions have been furnished, courtesy of *Wood and Wood Products* magazine through their "Wood of the Month" program for use by members of *eCabinet Systems*. Simply click and highlight of all the woods you want added to the proposal. On the final page, you can provide a description of your company. The description is stored in a file, which you can edit. We have included several business descriptions for different types of business that you can use as a template for creating your own business description. The **Load** button allows you to review these files to select the one you would like to use. You can then modify the file to properly reflect your particular company. The basic proposal is now complete. Press **OK** and the proposal will be generated.

The proposal can be modified within *eCabinet Systems*. Common text formatting tools are available in the upper left, and you can save the proposal in the rich text ".rtf" format. This saved document can then be imported into most word processing software where it can be enhanced with additional features such as borders and images.

# Image Control



## Image Control



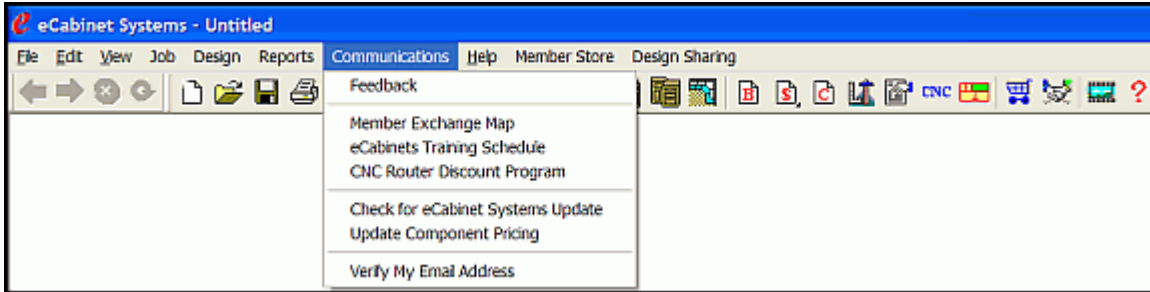
This is a separate program to manage graphic images. There are many options available for viewing, editing and printing with this program. For more information regarding this program, see the website for this program at: [www.irfanview.com](http://www.irfanview.com).



*9.0*

## **Communications Menu**

## Communications Menu Introduction



**Feedback** - This software is written by programmers and software engineers for use by cabinetmakers and woodworkers. For it to be a truly useful tool, both groups must work together. This area offers a way for those who use the software to communicate with those who write the code. Working together, we can make this a truly useful tool. Use this area to tell us about things that are not working the way you want and things you like to see added. Much of the development to date is due to this feedback and user feedback will play a central role in the future direction of the program.

**Member Exchange Map** - This shows an Internet based list of *eCabinet Systems* members.

**eCabinet Systems Training Schedule** - This shows an Internet based listing of training classes offered by Thermwood Corporation for *eCabinet Systems*.

**CNC Router Discount Program** - This shows an Internet based page of details on discounts for Thermwood CNC Routers.

**Check for eCabinet Systems Update** - Queries the *eCabinet Systems* web site to see if any program updates are available, and optionally updates the software for you.

**Update Component Pricing** - Queries the *eCabinet Systems* web site to see if any changes have been made to the pricing of the hardware and other components and if required, it updates them automatically.

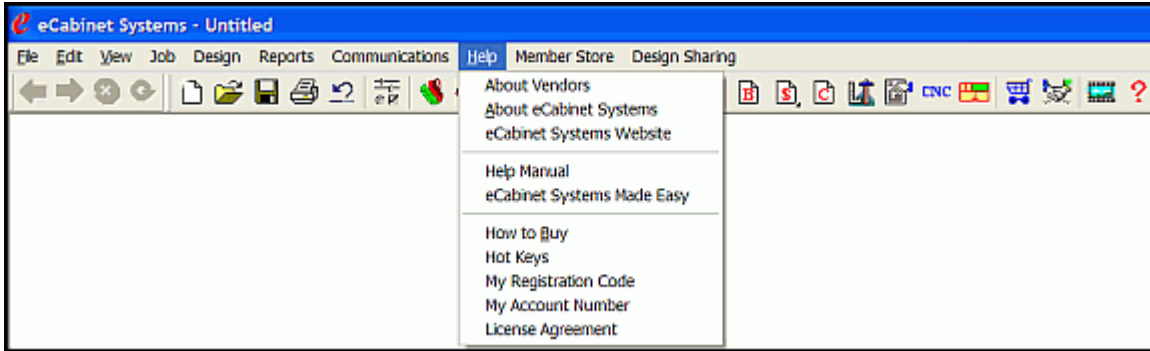
**Verify My Email Address** - This confirms that you are the registered user by sending an email to your address. It also allows you to change your email address.

*10.0*

## **Help Menu**



# Help Menu Introduction



**About Vendors** - This is an area where information about the *eCabinet Systems* program vendors can be found.

**About eCabinet Systems** - Opens the initial screen, showing version number and build information of your copy of *eCabinet Systems*.

**eCabinet Systems Website** - Launches your default Internet browser, and then goes to the *eCabinet Systems* home page.

**Help Manual** - This displays the help manual for *eCabinet Systems*.

**eCabinet Systems Made Easy** - A tutorial in how to use *eCabinet Systems*.

**How to Buy** - This details how to purchase items through the *eCabinet Systems Member Store*.

**Hotkeys** - This opens a window that details the function of all available *eCabinet Systems* Hotkeys.

**My Registration Code** - This displays the registration data that is associated to this version of *eCabinet Systems*.

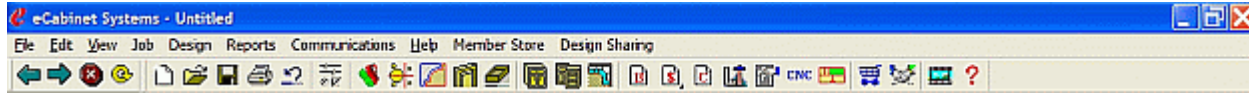
**My Account Number** - The account number for the *eCabinet Systems Member Store*, for the individual to whom this program is licensed to.

**License Agreement** - Contains the information about user responsibilities and terms of use associated with using *eCabinet Systems*.

## *11.0*

### **Member Store Menu**

# Member Store Introduction



**Member Store** - This opens the Internet based *eCabinet Systems Member Store*, where it is possible to buy the various materials and items (handles, hinges, pulls, etc.), used in the *eCabinet Systems* software as well as tooling, hand tools and woodworking machines.

You can also find the Thermwood Carving Library for **Applied** and **Inset Carvings**, as well as the **Thermwood/Valspar Furniture Finishes** here.



*12.0*

## **Design Sharing Menu**

# Design Sharing Introduction



**Design Sharing** - This opens up the built-in Internet browser, where you can then review and purchase libraries containing design files that have been created by other *eCabinet Systems* Members, and have been tested and approved by Thermwood Corporation.

The purchase price is determined by the developer of the library and is shared equally between *eCabinet Systems* and the posting Member. In addition, should you purchase any items from *eCabinet Systems* using the shared designs, we will share a portion of the margin on these sales with the Member that created the design.

These designs are converted into assembly files that can be used within *eCabinet Systems*. We have created CNC programs for each of these components that can be rented by anyone with a Thermwood CNC router (the rental fee of these programs is used to compensate the professional designers). For those who do not have a Thermwood CNC router, there are shops on our website that will make these parts for you under the Thermwood **Production Sharing** program.

**Note:** Each library is tagged with a unique ID that identifies both the developer and the purchaser. This ID is part of every cabinet and assembly that originated from this library regardless of how much it is modified, and is how we protect the work of the developer from being improperly distributed. In any communications, we can determine if someone is improperly using a file from a design library, in which case both the user and the original purchaser are liable. You are free to use the designs on any number of your own computers and are free to supply the designs to Production Sharing members for the purpose of having them make parts for you. Otherwise, you must protect them and not supply the files to anyone else, including other *eCabinet Systems* Members. Remember, each user of the files must purchase their own library.



*13.0*

**Additional Menus**



## **Additional Menus Introduction**

There are other menus that are not placed on the **Main Toolbar**. They are:

**Shape Manager**  
**Drawer Box Designer**

There are also some features and options that do not have a specific icon, but are still an independent function or operation. These are:

**Navigate Bar**  
**Mathematic Operations**  
**Keyboard Shortcuts\Hotkeys**

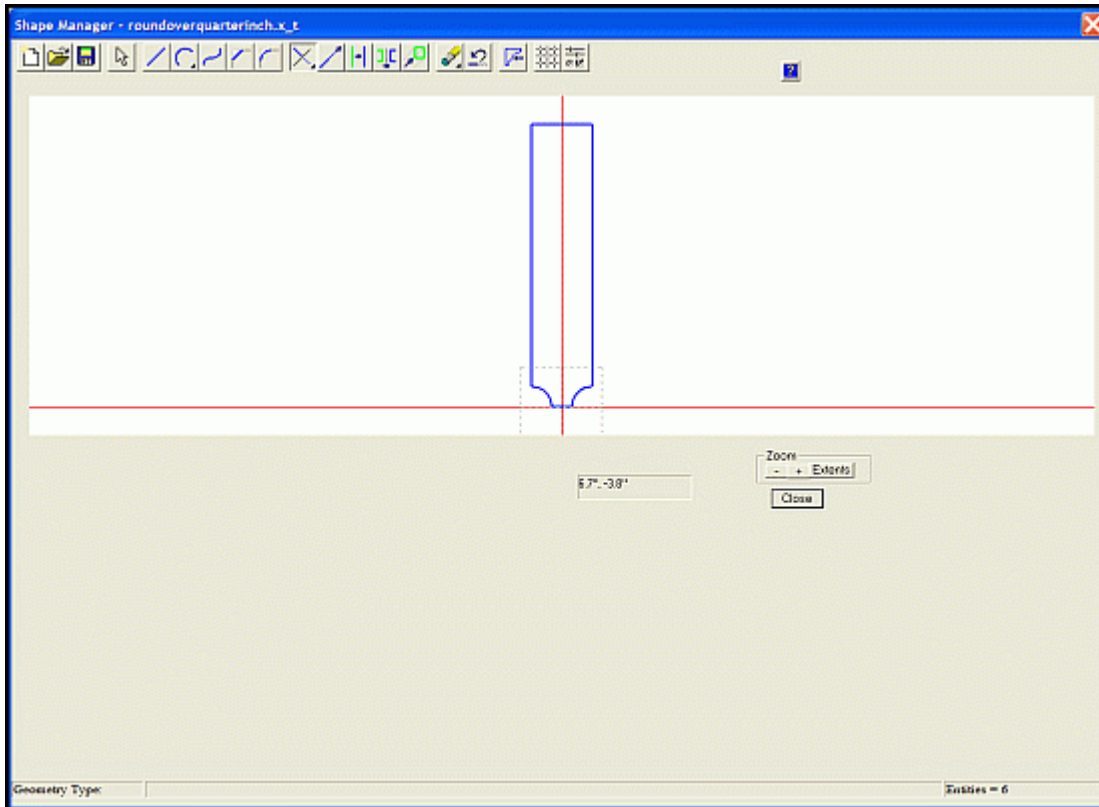
## *13.1*

# **Shape Manager**

## Shape Manager Menu Structure



**Shape Manager**



The **Shape Manager** is where profile shapes are developed and applied to cutting tools. Those tools can then be used to cut profiles on parts in the **Part Editor**.

While working in the **Shape Manager**, an area to the lower left offers step-by-step guidance for each function. There is also a place to enter (X, Y) positions manually. The red intersecting lines show the X-axis (horizontal) and the Y-axis (vertical), and the point where the X and Y axes cross is called the origin, or the (0, 0) point.

**Note:** The vertical Y-axis represents the centerline of the tool. The origin or (0, 0) point should be located at the bottom of the shape that defines the tool.

The **Zoom** control allows you to zoom in and out by using either the + and – buttons on the display or using the "+" and "-" keys on the keyboard. In addition, you can hold the **Ctrl** key and pull a blue rectangle with the mouse over the area you want to zoom to. The **Extents** button zooms the workspace to just include all the entities that currently exist. The workspace can be panned left, right, up, and down using the **ARROW keys**.

Because you are generally working in a smaller workspace when creating tools, a **Local Settings/Preferences** dimension display is available through the **Local Settings/Preferences** icon. This allows you to select a dimension display for this area that is different than the rest of the program. Changing the dimension display here will not affect the display anywhere else except in **Shape Manager**.

## Shape Manager Icons



**New** - This clears the page and prepares to make a new profile.

**Open** - This opens an existing geometry (profile) file.

**Save** - This saves the current geometry as a geometry file, with the ".x\_t" extension.



**Select Entities** - This allows the selection of **Single** entities, a **Partial Chain**, a **Chain** or **All** entities.



**Line Mode - Straight** - Select this to enter the **Line Mode** and create straight lines. Create a line by defining the start and end points.

**Line Mode - Circle/Arc** - This enters the **Circle Mode**.

**Three Point Arc** - Create an arc by defining the start point, any mid-point and the end point.

**Circle** - Create a circle by defining the center and radius.

**Line Mode - Spline** - Select this to enter the **Spline Mode** to create a flowing curved line. Select a starting point, then points along the line. Press **Esc** to end the spline curve.

**Line Mode - Chamfer** - Place a **Chamfer** at the intersection of two lines. Select this, and then select the two lines. Notice that the lines are extended or trimmed as needed.

**Line Mode - Fillet** - Place a **Fillet** at the intersection of two lines. Select this, and then select the two lines. Notice that the lines are extended or trimmed as needed.



**Trim** - Enters the **Trim Mode**.

**Trim One** - Trim the first line selected at the intersection with the second line selected. Notice that the side of the line selected remains, and the other end is trimmed.

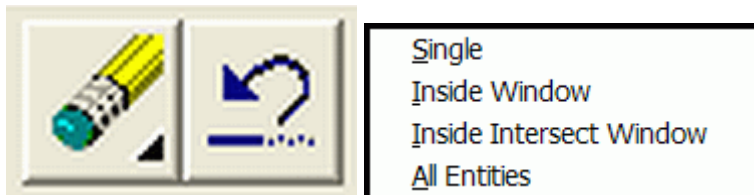
**Trim Two** - Trim two lines at their intersection, keeping the side of each line you selected.

**Extend** - Extend a line or arc by a fixed distance. Select this, input the extend increment, and click the end of the line or arc you want extended.

**Offset** - Offset a line, arc, circle a fixed distance or create an offset duplicate of a line, arc, circle at a fixed distance. Select this, and then set the offset parameters, and click the entity you want to offset.

**Mirror** - Mirror a number of selected entities about the X or Y-axes, or across a defined line.

**Move** - Move existing geometry. Press **Esc** to enter the **Select Mode**. Select the geometry and press this, and then follow directions.



**Delete** - This enters a mode where you can delete existing geometry as based on your selections.

**Single** - Select this to enter a mode that deletes any item you click. Press **Esc** to exit the mode.

**Inside Window** - Select this to enter a mode where you can draw a rectangle that deletes any items that are completely inside the rectangle.

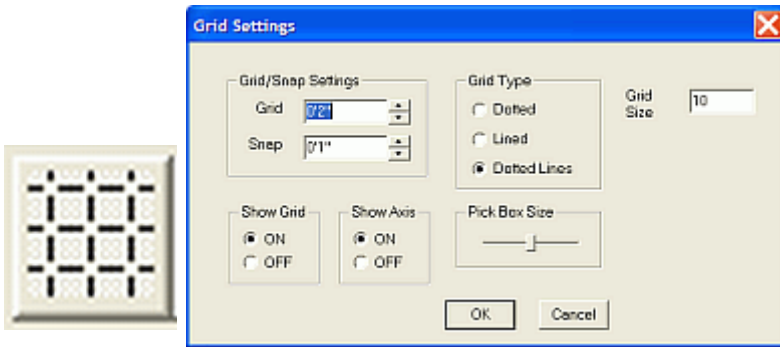
**Inside Intersect Window** - Select this to enter a mode where you can draw a rectangle that deletes any items that have any portion of them inside the rectangle.

**All Entities** - Select this to delete all geometry.

**Undo** - This feature will Undo the last action. You can also use **Ctrl + Z**.



**Create Tool** - Use this feature to create and save a profile cutting tool using existing closed geometry. This tool is used to apply the profile to a part in the **Part Editor**.



**Grid Settings** - This opens a dialog where grid parameters can be set.

**Grid/Snap Settings** - This area defines the increment for the background grid and the increment at which snap functions step.

**Show Grid** - This area turns the background grid ON or OFF.

**Show Axis** - This area turns ON and OFF a display of the X and Y-axes.

**Grid Type** - This selects the type of background grid to display.

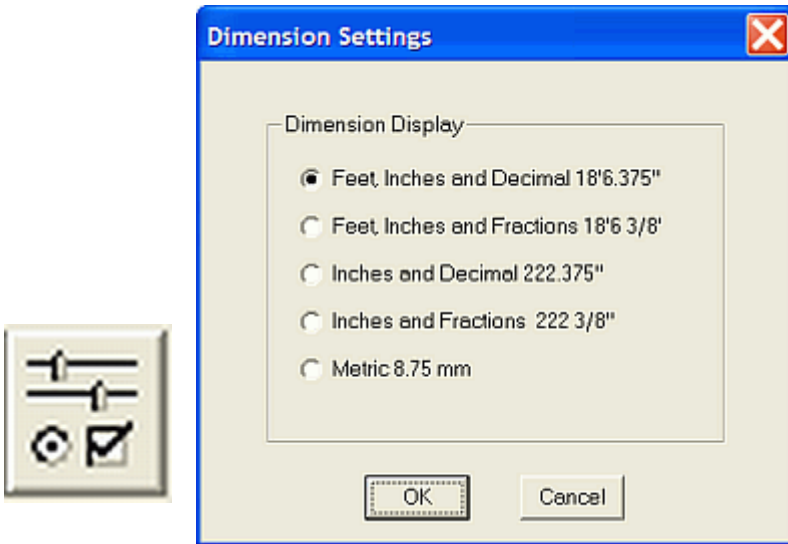
**Dotted** - Only dots are shown at the intersections defining the columns and rows.

**Lined** - The grid is displayed using solid lines.

**Dotted Lines** - The grid is made of dotted horizontal and vertical lines defining the columns and rows.

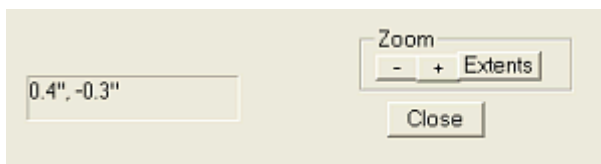
**Pick Box Size** - This defines the size of the box used to pick points or lines.

**Grid Size** - This is the number of grid spaces on each side of the axis line.



**Local Settings/Preferences** -

This sets the dimension format for this area, which can be different from those used in the remainder of the program. Therefore, changes here do not affect other areas in the program.



**Zoom** - This adjusts the zoom levels.

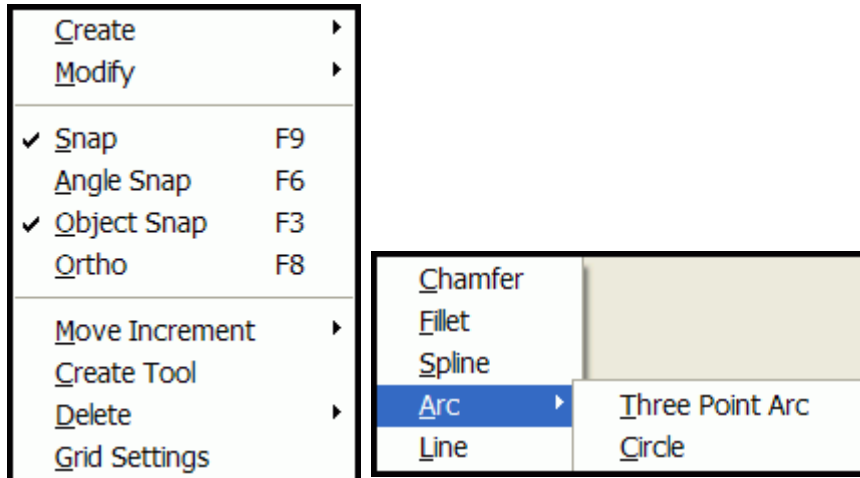
**"+"** - This zooms the scene closer. Alternatively, use the "+" key on the keyboard.

**"-"** - This zooms the scene away. Alternatively, use the "-" key on the keyboard.

**Extents** - This zooms the workspace to include just the existing geometry.

**Close** - This closes the **Shape Manager**.

## Shape Manager - Right Click Options



**Create** - This creates a segment where the cursor is placed.

**Chamfer** - Use this to place a **Chamfer** at the intersection of two lines. Select this then select the two lines.

**Fillet** - Use this to place a **Fillet** at the intersection of two lines. Select this then select the two lines.

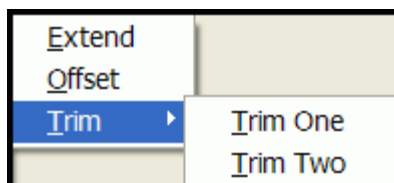
**Spline** - Select this to enter the **Spline Mode** and create a flowing curved line. Select a starting point, then points along the line. Press **Esc** to end the spline curve.

**Arc** - This enters the **Circle Mode**.

**Three Point Arc** - Create an arc by defining the start point, any mid-point and the end point.

**Circle** - Create a circle by defining the center and radius.

**Line** - Select this to enter the **Line Mode** and create straight lines. Create a line by defining the start and end points.



**Modify** - This modifies the following types of entities.

**Extend** - Extend a line or arc by a fixed distance. Select this, input the extend increment and click the end of the line or arc you want extended.

**Offset** - Offset a line, arc or circle a fixed distance, or create a duplicate of a line, arc or circle at a fixed distance. Select this, set the offset parameters and click the entity you want to offset.

**Trim** - Enters the **Trim Mode**.

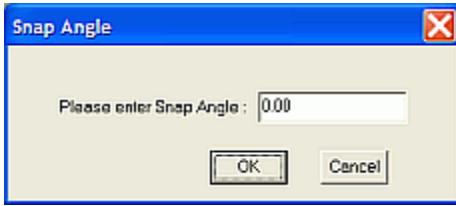
**Trim One** - Trim the first line selected at the intersection with the second line selected.

Notice that the side of the line selected remains, while the other end is trimmed

**Trim Two** - Trim two lines at their intersection, keeping the side of each line you clicked.

**Snap** - Toggle **Snap** ON and OFF.

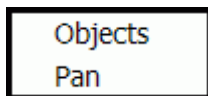
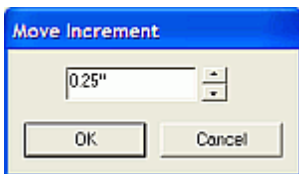




**Angle Snap** - Turn ON and OFF a function that snaps the line in fixed angular increments. Toggling **Angle Snap** ON opens a dialog where the **Angle Snap** is set.

**Object Snap** - This turns **Object Snap** ON/OFF. When ON, the position snaps to any object inside the Pick Box when the left mouse button is clicked.

**Ortho** - When checked and active, **Ortho** restricts lines to vertical or horizontal. When unchecked, lines can be drawn at any angle.

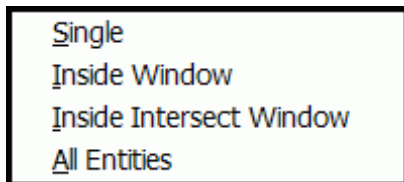


**Move Increment** - This is the distance the highlighted items move each time an **ARROW key** is pressed.

**Object** - This sets the increment by which objects move inside the scene in response to a **Move** command.

**Pan** - This sets the increment by which the scene moves.

**Create Tool** - Create and save a profile cutting tool, using existing closed geometry. This tool is used to apply the profile to a part in the **Part Editor**.



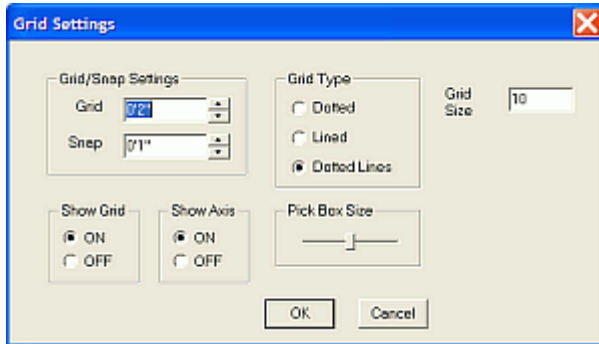
**Delete** - This enters a mode where you can delete existing geometry, as based on your selection.

**Single** - Select this to enter a mode that deletes any item you click. Press **Esc** to exit the mode.

**Inside Window** - Select this to enter a mode where you can draw a rectangle that deletes any items that are completely inside the rectangle.

**Inside Intersect Window** - Select this to enter a mode where you can draw a rectangle that deletes any items that have any portion of them inside the rectangle.

**All Entities** - Select this to delete all geometry.



**Grid Settings** - This opens the dialog where grid parameters can be set.

**Grid/Snap Settings** - This area defines the increment for the background grid and the increment at which the Snap function steps.

**Show Grid** - This area turns the background grid ON or OFF.

**Show Axis** - This area turns ON and OFF a display of the X and Y-axes.

**Grid Type** - This selects the type of background grid to display.

**Dotted** - Only dots are shown at the intersections defining the columns and rows.

**Lined** - The Grid is displayed using solid lines.

**Dotted Lines** - The grid is made of dotted horizontal and vertical lines defining the columns and rows.

**Pick Box Size** - This defines the size of the box used to pick points or lines.

**Grid Size** - This is the number of grid spaces on each side of the axis line.



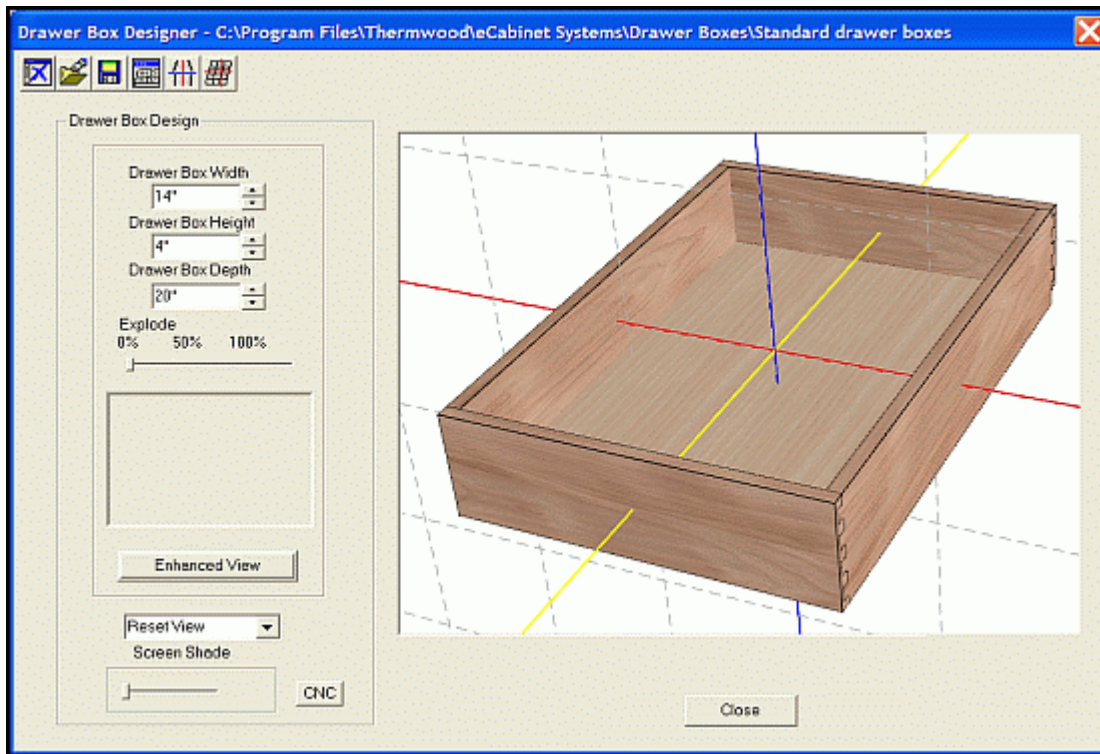
*13.2*

**Drawer Box Designer**

## Drawer Box Designer Menu Structure



### Drawer Box Designer

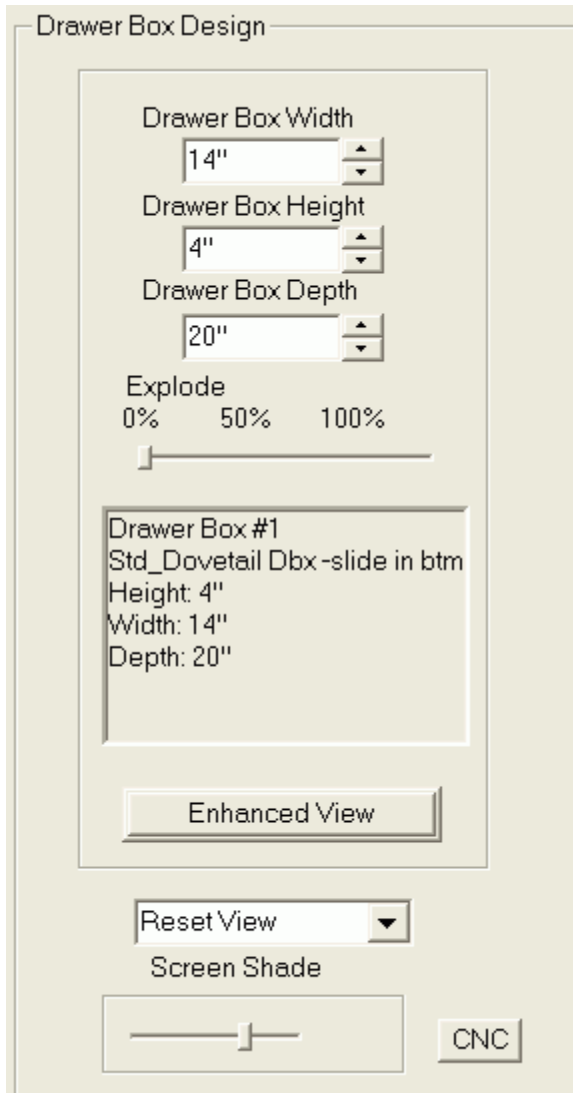


This opens an area where you can create and save various types of drawer boxes. As with cabinets themselves, you start with an initial “seed” drawer box, modify it and then save it under a new name. The modified drawer box can then be loaded, further modified and saved under yet another name. Unlike cabinets, however, drawer boxes can be saved and retrieved from any directory, so it is important to remember where you put them.

There are two default drawer boxes that are supplied with *eCabinet Systems*. Each can be modified and saved under new filenames. The two standard drawer box designs offered represent the two basic ways dovetail drawer boxes are made. Both use a bottom material that is not as thick as the sides, and is full dadoed into the front and sides. One box also full dadoes the bottom into the back, completely capturing it. The second design stops the back short, so that the drawer bottom can be slid into the box from the back. This allows the bottom to be removed for finishing the interior of the drawer box, eliminating blowback from the spray gun. The drawer bottom is then assembled and stapled in place after finishing.

The drawer box image can be moved, rotated and zoomed using the same mouse controls as the cabinet (**Shift + Left Click** to rotate, **Shift + Right Click** to move and **Shift + Both Mouse Buttons** to zoom).

**Note:** The drawer box is initially presented in the orientation it would be placed in a cabinet, with the front of the drawer box as seen from the front of the cabinet.



**Drawer Box Width** - Set the width of the drawer box you want displayed. Actual size is determined when the drawer box is used.

**Drawer Box Height** - Set the height of the drawer box you want displayed. Actual size is determined when the drawer box is used.

**Drawer Box Depth** - Set the depth of the drawer box you want displayed. Actual size is determined when the drawer box is used.

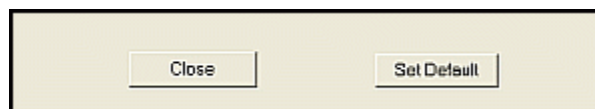
**Explode** - This control moves the drawer box parts away from each other and then brings them back together, as desired. This can also be done using the wheel on the mouse or the **PgUp** and **PgDn** keys.

**Enhanced View** - When depressed, this button turns ON full level of detail. When OFF, the level set in the **Settings/Preferences** area is used. Full level of detail provides the best image quality, but with slower computer operation. A lower level of detail speeds execution, but with reduced image quality.

**Reset View Options** - This returns to the original front view, or any other selected view, and display any changes to the design.

**Screen Shade** - This controls the screen background colors; they can vary from white to black.

**CNC** - This opens the CNC area, allowing the generation of CNC files for the item or items highlighted. If nothing is highlighted, CNC files are generated for the entire assembly.



**Close** - This closes the **Drawer Box Designer**, but does not save. To save, use the **Save** icon at the top of this window.

**Set Default** - This sets the currently loaded drawer box as the Default. This will only appear when you have a cabinet or assembly selected for this drawer box.

## Drawer Box Designer Icons



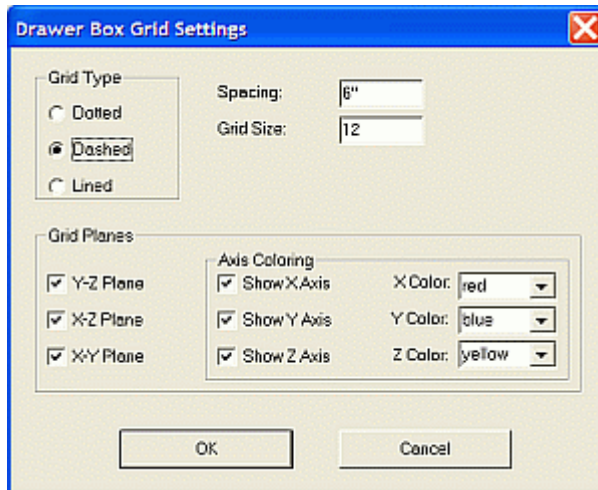
**New** - This clears the work area.

**Load Item** - This opens a window to select an existing drawer box.

**Save** - This opens a window where you can **Save** your drawer box.

**Construction Settings** - This opens the **Drawer Box Construction Settings** dialog. See the next section in this manual, "**Drawer Box Designer - Construction Settings**" for more information.

**Perspective/Orthographic View** - This switches between a Perspective view and an Orthographic view (without perspective).



**Grid Settings** - This opens a dialog that allows you to adjust parameters for the three-axis **Grid** display.

**Grid Type** - This determines the appearance of the Grid

**Dotted** - Only dots are shown at the intersections.

**Solid Line** - The Grid is made of solid lines.

**Dotted Line** - The Grid is made of dotted lines.

**Spacing Setting** - This sets the dimension between Grid squares.

**Grid Size Setting** - This is the number of Grid squares on this side of the axis.

**Grid Planes** - This defines which grid planes are turned on and the appearance of the X, Y and Z-axes.

**Y-Z Planes**

**X-Z Planes**

**X-Y Planes**

**Axis Coloring** - This controls the visibility and color choice of the axis lines.

**Show X-axis**

**Show Y-axis**

**Show Z-axis**

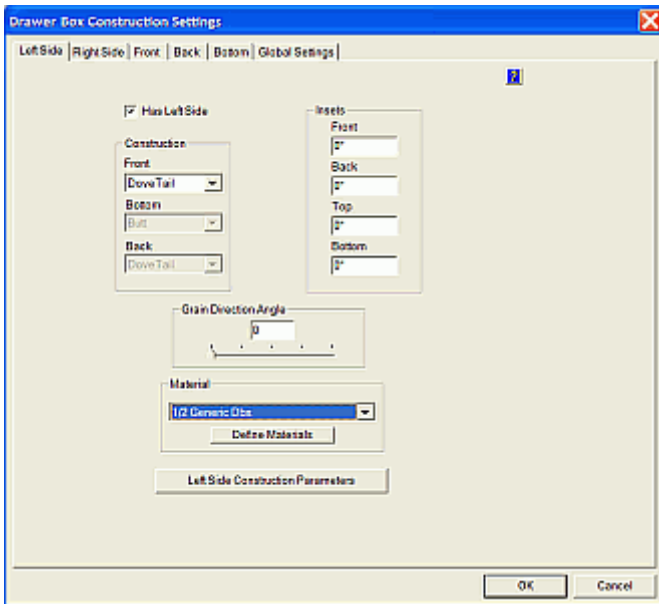
**X Color selection** - Black, Blue, Magenta, Red or Yellow.

**Y Color selection** - Black, Blue, Magenta, Red or Yellow.

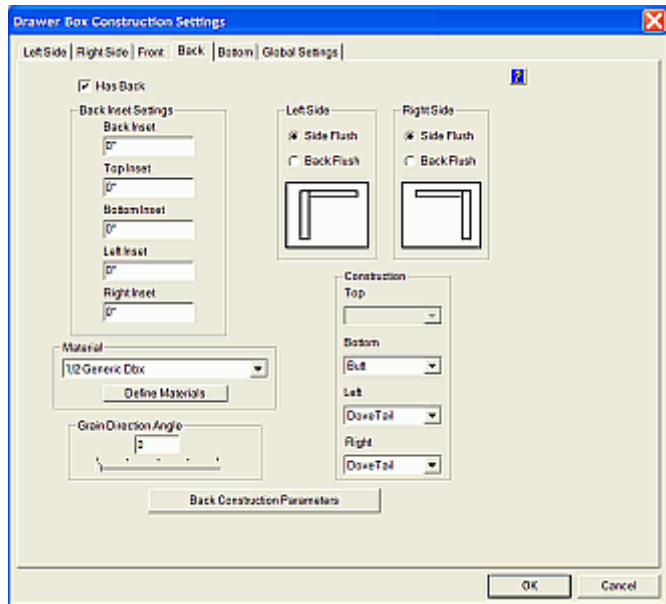
**Z Color selection** - Black, Blue, Magenta, Red or Yellow.



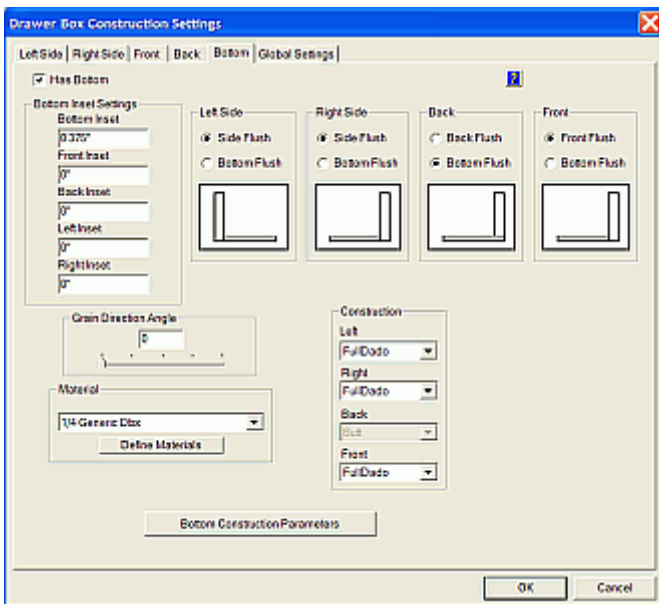
# Drawer Box Designer - Construction Settings



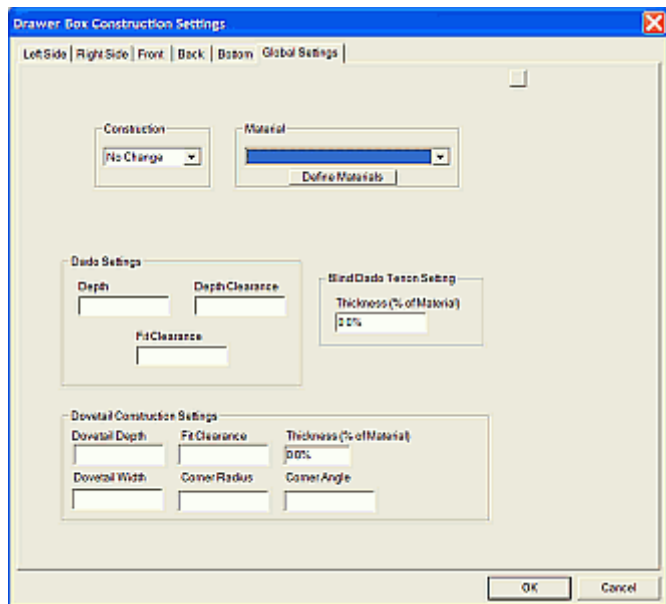
Left side (Right side similar).



Back (Front similar).



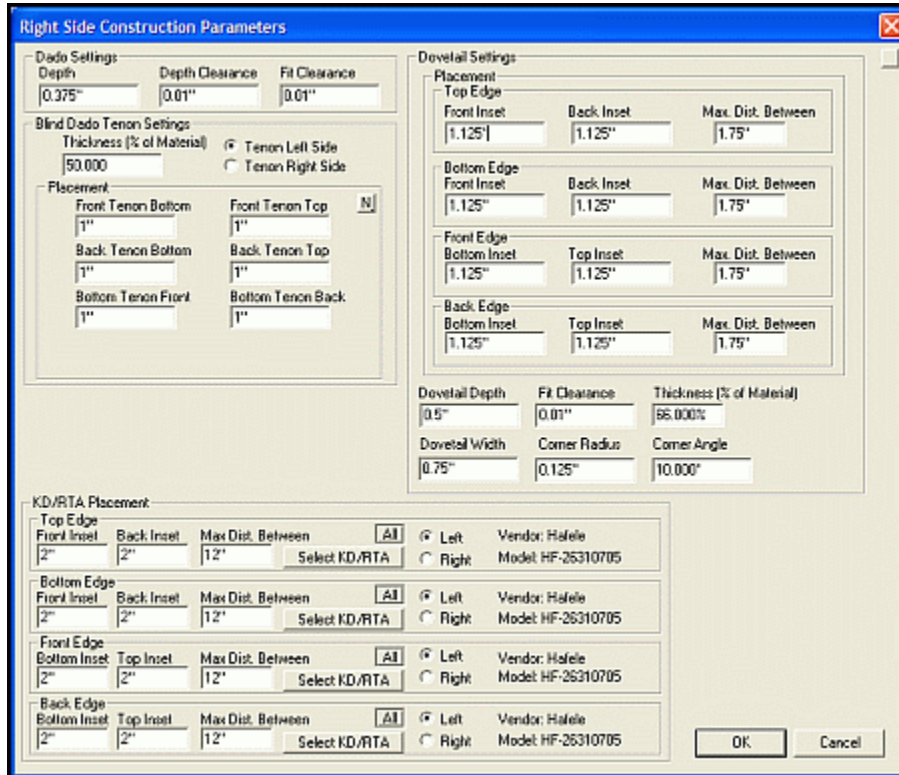
Bottom.



Global.

In the **Drawer Box Construction Settings**, the specific details to the drawer box construction are defined. Overlaps are specified in the front and back areas, and the joint (construction) is specified in the left and right side areas. Normally, front and back flush is used for dovetail joints and side flush for blind dado and other joints. Remember that **Back Flush** means that the back overlaps the sides, while **Side Flush** means that the side overlaps the back. **Insets** modify the side from its normal size. Positive insets make the dimension smaller and negative insets make it larger. When a drawer box is resized, the inset is based on the new size. For example, if you set a 1" inset for the top, the top will be 1" shorter than the normal height of the drawer box, regardless of what that height is.

## Construction Parameters



A typical **Drawer Box Designer Construction Parameter** window is illustrated. All of them (**Left Side, Right Side, Front, Back** and **Bottom**) are similar. Each drawer box component has its own **Construction Parameters** and you can adjust each independently.

Insets can modify the sides from their normal sizes. Positive Insets make the dimension smaller and negative Insets make them larger. Most drawer boxes use a thin bottom that is full dadoed into the sides, front and back. For drawers with a thick bottom, blind dado construction works well. In this case, you might want to go to the **Bottom Construction Parameters** and set all the tenon insets to zero, in the **Placement** area.

Notice that in addition to the normal joints there is also a **Dovetail** joint. Thermwood has developed a method of making these and machining them in a nest using a Thermwood CNC router with all machining begin performed from the top in a nest. This requires a special dovetail tool that includes a radius at the top. This top radius mates with the curved inside corner that results from machining the mating part using a small diameter straight cutter.

For the **Dovetail** joinery settings, see the section in this manual called "**Cabinet Joinery and Tooling**" for complete details.

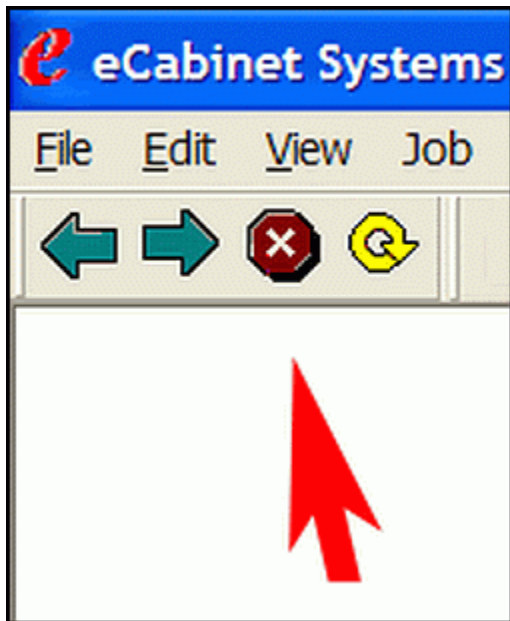
For the **Full Dado, Blind Dado** and **KD/RTA** joinery settings, see the section in this manual called "**Construction Settings/Parameters - Common Menu Use**" for complete details.



## *13.3*

# **Independent Functions/Operations**

## Navigate Bar



---

**Navigate Bar** - Controls display of the **Navigate Bar**, which provides the ability to move forward and back in the program, much like a website.

**Back** - Moves back to previous page.

**Forward** - Moves forward to a previously viewed page.

**Stop** - Stops page loading.

**Reload** - Regenerates page.

**Note:** The **Navigate Bar** is only used on pages that are connected to the Internet.

## Mathematic Operations - The "Built In" Calculator

**Mathematic Operations** permit you to use mathematical operations in almost any place where you would type a number. For example, if you type numbers with a plus sign (+) between them, the system will do the math for you, and display the result. This also works with minus (-), divide (/) and multiply (\*), and it also understands the use of parenthesis.

# Hotkeys (Keyboard Shortcuts)

## Main Screen

**F1** - Help.

**Ctrl + C** - Copy.

**Ctrl + E** - This opens the **Settings/Preferences** window.

**Ctrl + N** - New Job.

**Ctrl + O** - Open Job.

**Ctrl + P** - Print.

**Ctrl + S** - Save Job.

**Ctrl + V** - Paste.

**Ctrl + X** - Cut.

**Ctrl + Z** - This is used to Undo the last action.

## Cabinet/Assembly Editor

**Home** - This resets view to the front.

**F12** - This displays the Cabinet/Assembly in Full Screen view.

**A** - Returns you to the **Main Screen**, when in the **Shelf/Partition, Face Frame, Door/Drawer or Molding Editors** (cursor focus must be in the view area).

**C** - This launches the **Construction Settings** dialog. If in specific areas, it will launch the **Construction Settings** dialog for the respective area.

**D** - When in the **Main Screen**, this will take the active cabinet to the **Door/Drawer Editor** (cursor focus must be in the view area).

**E** - When in the **Main Screen**, this will take the active cabinet to the **Edgebanding Editor**. If a part or multiple like parts is highlighted, it will go directly to the **Edgebanding Editor** for the selected parts (cursor focus must be in the view area).

**F** - When in the **Main Screen**, this will take the active cabinet to the **Face Frame Editor** (cursor focus must be in the view area).

**H** - When in the **Main Screen**, this key will hide any selected part.

**L** - When in the **Main Screen**, this launches the **Place Items** window (cursor focus must be in the view area).

**M** - Temporarily displays all **Nodes/Markers** while held down.

**N** - When in the **Main Screen**, this will take the active cabinet to **Constraint Manager**. If a part is highlighted, it will load with that part in **Constraint Manager** (cursor focus must be in the view area).

**O** - When in the **Main Screen**, this will take the active cabinet to the **Molding Editor** (cursor focus must be in the view area).

**R** - When in the **Main Screen**, this will take the active cabinet to the **Stretcher Editor** (cursor focus must be in the view area).

**S** - When in the **Main Screen**, this will take the active cabinet to the **Shelf/Partition Editor** (cursor focus must be in the view area).

**T** - Highlights/Selects the **Insert Target** and, while held down, will show it through any items that may be hiding it.

## Edgebanding (Global Area)

- A** - Select all edges.
- B** - Select all bottom edges.
- F** - Select all front edges.
- I** - Inverts selection.
- K** - Select all back edges.
- L** - Select all left edges.
- R** - Select all right edges.
- T** - Select all top edges.
- Esc** - Clears all selections.
- Delete** - Remove **Edgebanding** from highlighted parts.

## Line Drawing Editor

- M** - Temporarily displays all **Nodes** while key is depressed.

## Custom Layout Hotkeys

### Overhead/Main View

- Esc** - This deselects selected Items, and backs up one mode, one step at a time (ends at **Select Mode**).
- Home** - Zooms the screen to full extents and positions the room to the overhead non-perspective view
- F2** - This brings back the Placement Wireframe of the last Cabinet/Assembly that was selected.  
Be advised that leaving **Custom Layout**, saving a job, visiting the **Select Items to Install** dialog etc. will discontinue this option.
- D** - **Edit Wall** (Must have a wall selected).
- E** - **Edit Cabinet/Assembly** with currently selected cabinet or assembly.
- G** - This selects one of the four **Placement Option-Place Modes**, in descending order.
- I** - This activates the **Move Increment-Objects** field.
- I + Tab** - This activates the **Move Increment-Pan** field.
- L** - Install Item. (This launches the Place Items dialog).
- N** - This activates the Right Click menu, which also enables additional Hotkey selection.
- O** - Move in Wireframe.
- P** - Render View.
- R** - Create Rectangular Walls.
- S** - Create Single Wall.
- U** - Countertop Editor.
- V** - Reverse Build Direction.
- W** - Elevation/Wall View (Must have a wall selected).
- Ctrl + A** - This selects (highlights) all items in the room (except Wall Doors and Wall Windows).
- Ctrl + PgUp** - This moves the selected display objects up by the current Move Increment.
- Ctrl + PgDn** - This moves the selected display objects down by the current Move Increment.



## Edit Wall

**Esc** - This deselects selected Items, and backs up one mode, one step at a time, to return to **Overhead/Main View**.

**Home** - This zooms the screen to full extents and positions the room to the overhead non-perspective view. (Focus must be in the view area).

**A** - This adds highlighted geometry to a wall.

**C** - Create Circle.

**E** - This sets all highlighted geometry to Neutral.

**I** - This activates the **Move Increment-Objects** field.

**I + Tab** - This activates the **Move Increment-Pan** field.

**N** - This activates the Right Click menu, which also enables additional Hotkey selection.

**O** - Rotate geometry.

**R** - Create Rectangle.

**T** - Create Three Point Arc.

**X** - This cuts highlighted geometry from wall.

## Elevation/Wall View

**Esc** - This deselects selected Items, and backs up one mode, one step at a time, to return to **Overhead/Main View**.

**Home** - This zooms the screen to full extents and positions the room to the overhead non-perspective view. (Focus must be in the view area).

**F2** - This brings back the Placement Wireframe of the last Cabinet/Assembly that was selected. Be advised that leaving **Custom Layout**, saving a job, visiting the **Select Items to Install** dialog etc. will discontinue this option.

**G** - This selects one of the four **Placement Option-Place Modes**, in descending order.

**I** - This activates the **Move Increment-Objects** field.

**I + Tab** - This activates the **Move Increment-Pan** field.

**L** - Install Item. (This launches the Place Items dialog).

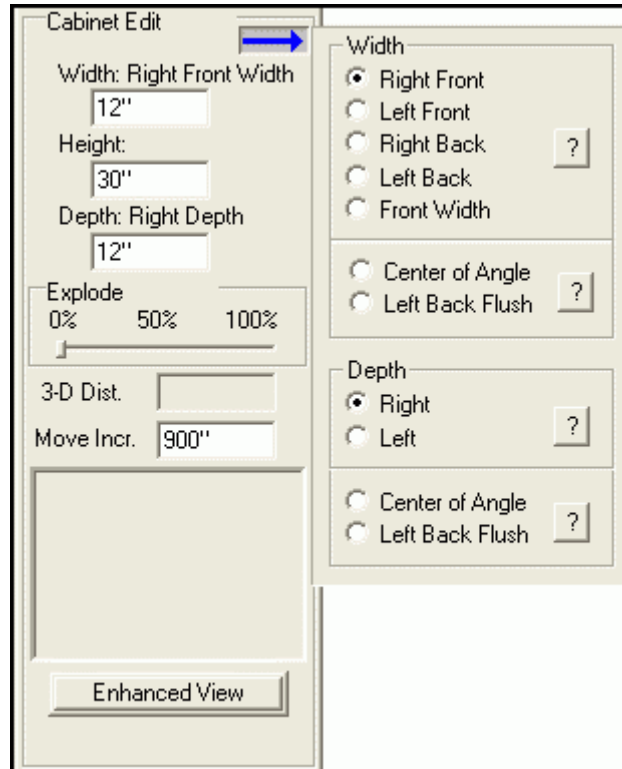
**N** - This activates the Right Click menu, which also enables additional Hotkey selection.

**O** - Move in Wireframe.

*14.0*

**Operations Detailed and Explained**

## Corner Cabinet Details



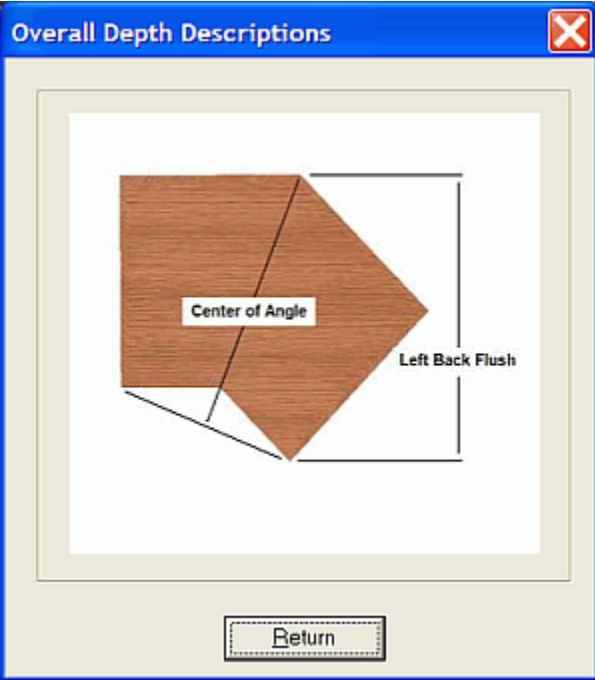
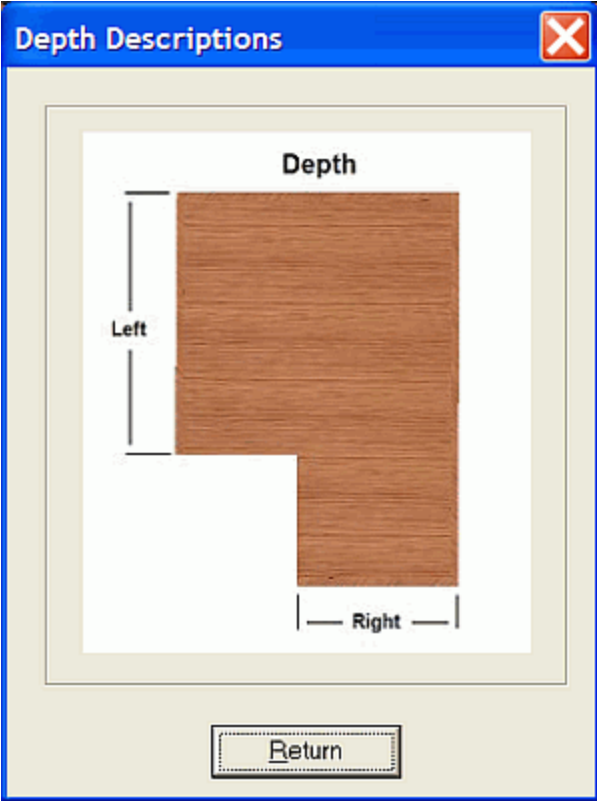
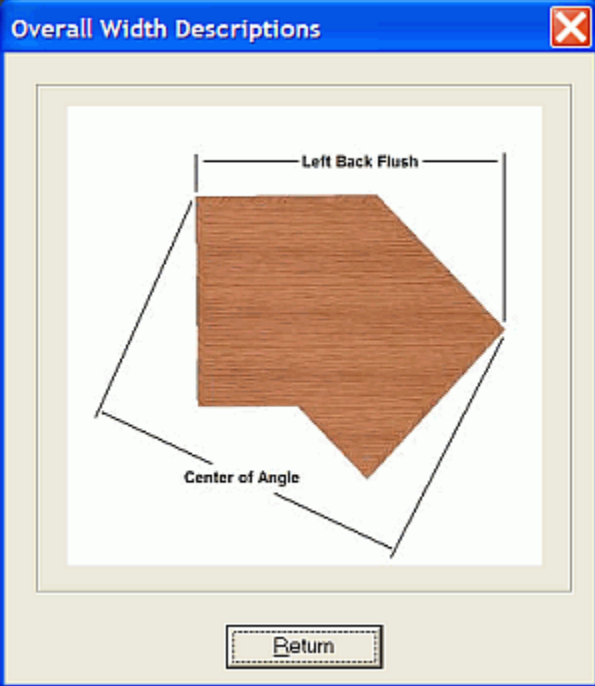
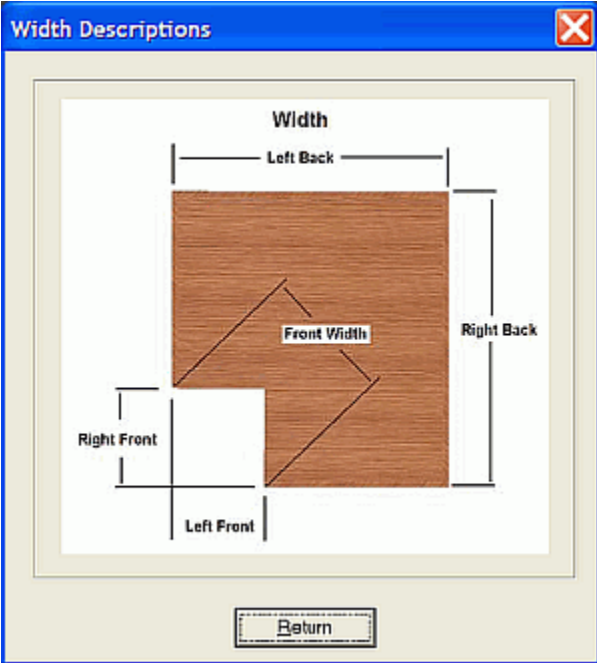
Corner cabinets are somewhat unique because they include parameters that other cabinet types do not share. These parameters are specific to the unique requirements of a corner cabinet. The **Cabinet/Assembly Editor** for the corner cabinet is essentially the same as for a base or upper cabinet with two additions. The first addition is a dialog to help define the basic dimensions of the corner cabinet. It is accessed by pressing the button with the **Blue Arrow**.

### "Blue Arrow" Parameters



This opens the dialog shown to the right of the arrow. Base and upper cabinets have only three primary dimensions, **Width, Height and Depth**. Corner cabinets are more complex, and instead of adding a whole list of new dimension boxes for corner cabinets, the system keeps the same three dimension boxes, but uses a dialog to select which dimension on the corner cabinet is displayed in those dimension boxes at any time. In the example shown, the top **Width** box is currently showing the **Right Front Width** of the corner cabinet. It is possible to specify any of the dimensions shown, however, in many cases the dimensions are interconnected. Changing one may change others, however, this approach allows you to specify dimensions of the corner cabinet using the dimensions most available to you. You will quickly notice that each side of the corner cabinet can be a different dimension, both in **Width** and **Depth**.

To address possible confusion in the dimensions, a **Question Mark Button** has been placed in each area, which launches a diagram of the corner cabinet showing the meaning of each dimension name, as shown in the illustrations that follow.



## Corner Cabinet Doors

There are two types of corner cabinets. An Angle Front cabinet has a single angled opening that goes between the two wings. Placing doors on an Angle Front corner cabinet is essentially the same as placing them on a base or upper cabinet. The second type of corner cabinet, the Corner Front, has two surfaces at an angle to each other. There are some additional considerations when placing doors on this type of cabinet. Notice that you can highlight each front face of the cabinet individually. Doors are installed in each of these openings separately. The sequence that is used to install the doors in these openings determines how they fit, and how they overlap in the center.

If you install the doors in a Corner Front cabinet, one at a time, the first door installed goes all the way to the corner, and the second door is made shorter to overlap the first. The gap between doors is the **Door to Door Gap** set in **Door/Drawer Settings**. The software also allows for a Double Right or Double Left door. These are doors hinged on the right and center, or are hinged on the left and center. They open on either the right or the left, with the second door attached by a hinge to the first door. The **Door to Door Gap** specified in the **Door/Drawer Settings** is measured from the corner of each door to the theoretical point where the faces of the door intersect.

## Lazy Susan

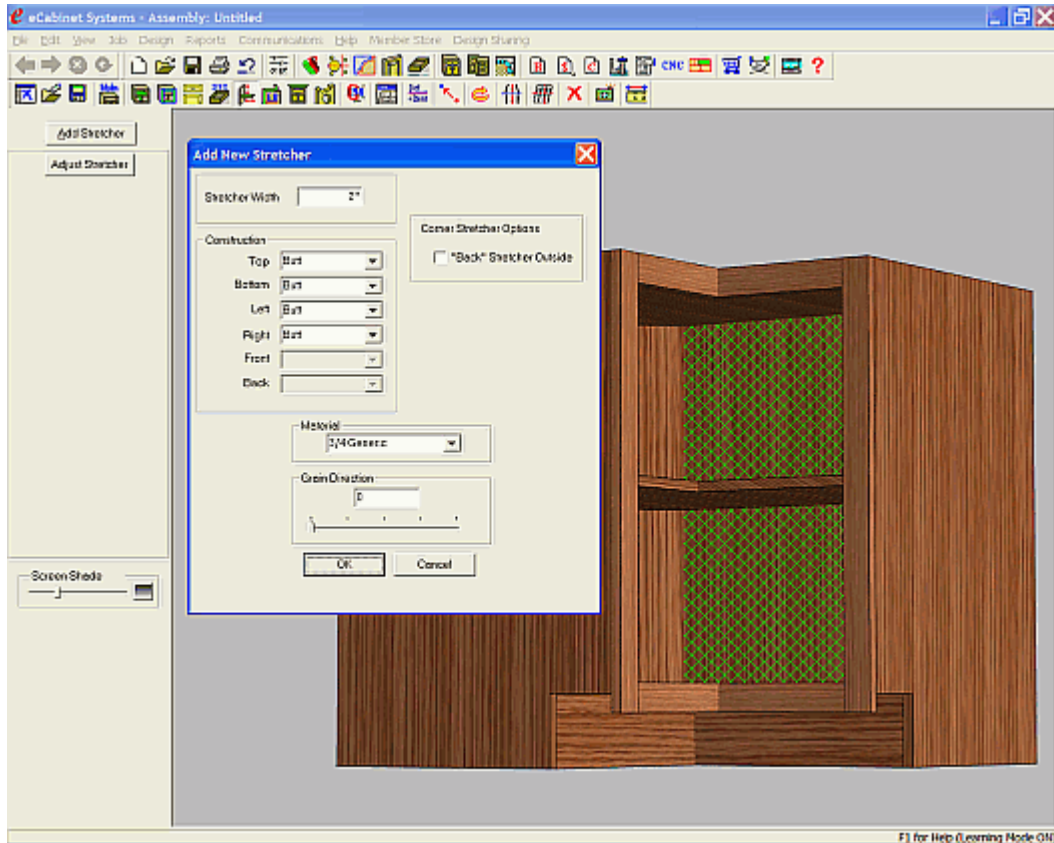


Another option for corner cabinets is a Lazy Susan door. A Lazy Susan door is normally an inset door, in which both doors are permanently attached to a Lazy Susan. The actual placement and spacing is the same as for a Double Right (or Left) door. You must specify an inset for a Lazy Susan door and allow sufficient gaps for the door to clear the ends or the face frame when the Lazy Susan is rotated. The primary difference in a Lazy Susan door is that no hinges are added to the cabinet for the doors, even if default hinges are specified. In the case of a Double Left or Right door, only the primary hinges for the door that attach to the cabinet are automatically added to the **Buy List**.

**Note:** The hinge arrangement required between the doors for a Lazy Susan must be added separately using the **Add Item** function.

The final type of door that can be added to a corner cabinet is a Double Door. These are added in much the same manner as a single door, highlighting one side at a time and adding the door. As with the single door, the side added first goes all the way to the corner, and the side added last overlaps the first.

## Corner Cabinet Stretchers

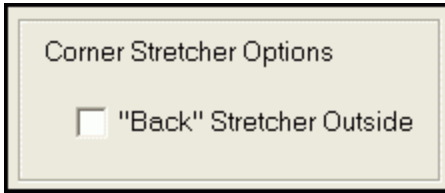


When a corner cabinet is taken to the **Stretcher Editor**, only two elements can be added:

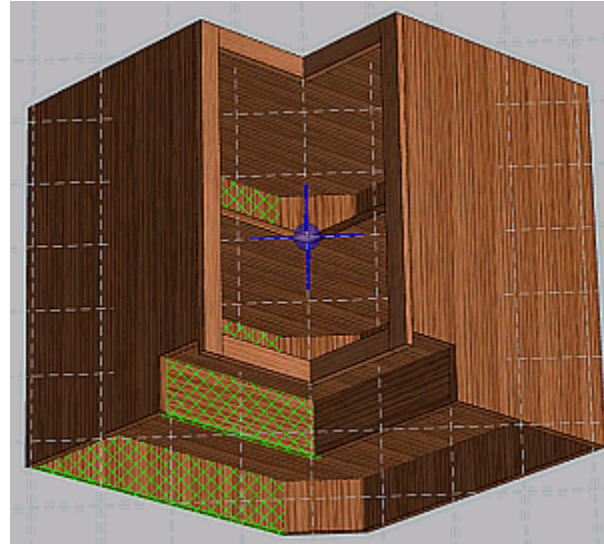
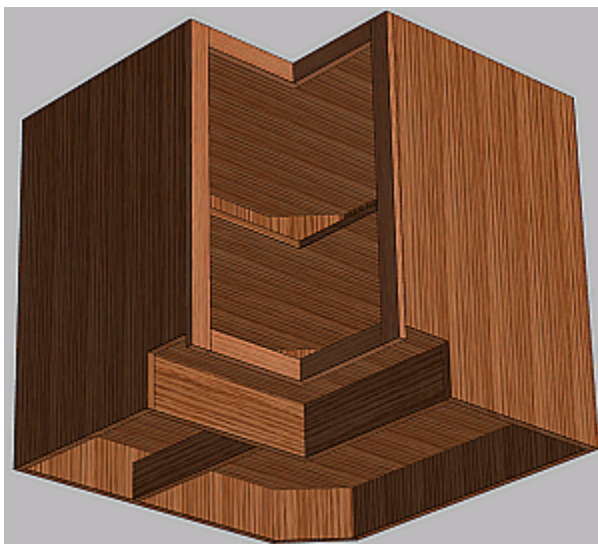
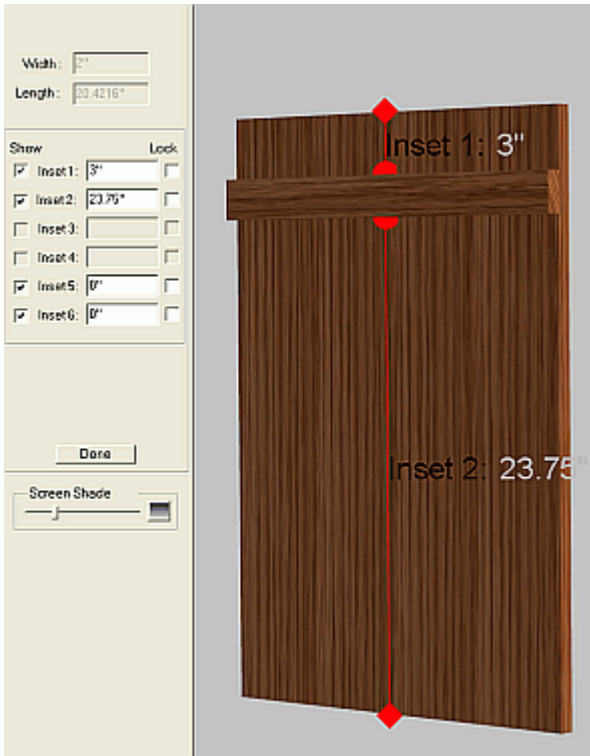
- Nailers** - These mount against the back of the cabinet to support mounting to a wall.
- Sleepers** - These support the deck, underneath of it.



The illustration shows the installation of a nailer. Select the back panel and then select **Add Stretcher**. The Stretcher (Nailer) will appear on the inside of the back panel and then can be moved to its intended place.



**"Back" Stretcher outside** - When selected, it places the nailer on the outside of the back panel, as shown below.



A Sleeper is installed similarly, but can only be placed below the deck, as shown.

## Door/Drawer Front Designer Details

The **Door/Drawer Front Designer** has two functions. The first is to develop designs for doors and drawer fronts and save them for reuse, and the other is to designate a specific design as the current "Default" which will then be used when a door or drawer front is added.

Slab and MDF doors are included in the **Cut List**, nest diagram and **CNC Output**. A cut list is also available for five piece doors, based on data you supply in the **Details for Cut List** area of the **Door/Drawer Designer**.

You can designate that any door is to be obtained from an **Alternate Source**. This means you plan to buy it from another source. The system supports this by using **Alternate Source** costing when calculating cabinet cost.

*eCabinet Systems* supports four types of doors:

Doors that are available from Conestoga.

MDF doors that are designed to be machined on a CNC router.

Slab doors that are made from edge banded sheet stock.

Thermwood doors that are designed to be machined on a CNC router.

Although each type of door is intended for a specific source, all can be used to display doors for **Build In House** or **Alternate Source**.

### Door Purchasing Notes

If you plan to purchase doors for your job and you are not familiar with the vendor products, we strongly urge you to obtain a sample door before having the entire order manufactured. Doors purchased under the program are considered acceptable if they conform to the specification you selected and match the internal color match sample maintained by the door vendor. They cannot be returned simply because you, or your customer do not like what you selected or if they do not exactly match the color or finish shown on your computer monitor. If unsure at all, please get a single sample door before releasing the entire order.

We will contact you by phone the first time you order from this vendor to determine if you want a sample door. If you intend to build the doors yourself, press the **Cut List** button and input the construction details. This will be used to generate cut list data for the individual door components to help you build the doors.

If the **Door/Drawer Front Designer** was reached through the **Cabinet/Assembly Editor**, a **Set Default** button is available. This makes the design the default for the cabinet currently displayed in the **Cabinet/Assembly Editor**. Doors added to a cabinet are the default design. Press **Save** to save the design. (The design must be saved in order to use it.)

**Note:** If you started with a standard Conestoga design, you will need to create a new name. Standard Conestoga designs cannot be changed.

Designs that you save under another name can be modified by changing the design and saving it under the same name. Remember, pressing **Close** will close the **Door/Drawer Front Designer**, and does not save the current design. It must be specifically saved using the **Save** button.



## Conestoga Door Details

Notice that certain options are not displayed in the software, and that some of the various wood grade differences are too small to accurately display. Thus, the door and drawer display we use represents, as closely as technically possible today, the overall look of the door and the cabinets that use those doors, but these displays are not exact, especially as to color and wood grain texture. Colors and textures also vary widely from one computer monitor to another.

There are four modes for acquiring the doors. You can elect to:

- Purchase unfinished doors through the program.
- Purchase finished doors through the program.
- Obtain doors from an alternate source.
- Build the doors yourself.

If you select **Purchase Finished Doors**, the design, species and finish you select are added to the **Buy List**, where they can then be included in the **Shopping Cart**. The cost of these door purchases is added to **Material Cost** for the Job. If you select **Purchase Unfinished Doors**, the doors design and wood species are added to the **Buy List** as an unfinished door. You can, however select any available finish for display. In this way, you can display finished cabinet doors while purchasing doors that you intend to finish yourself. (It is your responsibility to assure that the finish you display adequately matches the finish you actually apply to the doors.) The cost of the unfinished doors is added to **Material Cost**. You must also make sure that finishing cost is adequately accounted for in the markups you use.

**Alternate Source** assumes you plan to obtain doors from a source outside the program. In this case, the number and size doors required are in the **Buy List**, however, the quantity to purchase for each is shown as zero. When the **Buy List** is submitted to the **Shopping Cart**, no orders for doors are added. The **Alternate Source Door Cost** from **Settings/Preferences, Define Markup Prices** is used.

## MDF Door Details

MDF doors are machined from MDF sheet stock and generally have an outside profile and a center cut, consisting of an inside bead and a center panel raise. If the center cut is machined with a single tool, the inside bead and center raise have the same profile. The system also supports asymmetrical tools, which are tools that have a different profile on one side than on the other. Profiles created by these tools cannot be machined directly but must be modeled by a CNC router. The result, however, looks almost identical to a five piece door. Tools for the outside profile and center cut can be developed and saved in the **Contour Manager**. In addition, tool files are available for profile tools that can be purchased through the program. Also, a set of sample asymmetrical tools are available for the center cut.

For MDF doors, you can either specify that they are obtained from an **Alternate Source** or you can **Build In House**. If you specify that they are obtained from an **Alternate Source**, alternate source costing will be used.

Developing an MDF door is a three step process. First, you load the **Standard MDF Door**, which is a slab without any machining. You can then specify a material. The image associated with the material will be used to display the door.

The second step is to select **Tools** for the exterior profile and the interior profile. Select both an **Interior Profile Tool** and an **Exterior Profile Tool**. Tools will have a ".tol" extension. Input **Plunge Depth** (remember that negative dimensions are down, into the part) and other appropriate machining data. On the inside profile you can specify **Miter Edges**. If checked, the inside corners will be squared off, rather than having the tool radius. Select this option for any machining system that squares off the inside corners. With an asymmetrical tool, the corners will always be squared off, since it can only be machined by modeling, which squares off the corner. Thus **when using an asymmetrical tool, the profile must be modeled, so the box must be checked!**

The third step is to define the path or layout for the center cut. This uses the same technique as the Thermwood door, except that the path defined here is for the center of the tool.

## Slab Door Details

A Slab is cut from sheet stock and is then edgebanded. When used here, these doors are added to the other components made from the same sheet and are therefore nested together. If you do not want the doors nested with other components, specify a different material for the doors.

Slab doors consist of a core with edgebanding around the perimeter. Overall size includes the core plus the thickness of the edgebanding, thus the door, as cut from the sheet, is smaller than finished size by the thickness of the edgebanding. To create a new door, press the **Clear** button. Enter the new **Door Name**, and then select **Material** and **Banding** from the list. (Both the **Material** and the **Banding** are defined in **Settings/Preferences, Define Stock Materials**.)

The wood grain or color image associated with the material is used to display the door. If you want a different finish for the door or for the edgebanding, or both, it is best to define a new material, give it the image you want and use it for the door. It is possible to use thick edgebanding material to simulate a wood frame. Press **Save** to save the design. If this area was accessed from the **Cabinet/Assembly Editor**, press **Set Default** to make this design the cabinet default. It will then be used any time a door is added to this cabinet.

## Thermwood Door Details

You can configure, display and estimate cost for doors based on Thermwood's **Five Piece Door** system. If you do not have a Thermwood machine, this can still be used to configure and display a wide variety of door designs, especially arches and cathedrals, which can then be obtained from other sources.

As with the previous section, you can select to either build the door yourself or obtain it from an **Alternate Source**. If you intend to build the doors yourself, press the **Cut List Detail** button and input the necessary construction details, which will be used to generate cut list data for the individual door components. If you decide to build the door yourself, the cost is calculated using material costs as defined in **Settings/Preferences-Define Stock Materials**. If you decide to use an **Alternate Source**, the door cost is calculated using the **Alternate Source Cost**.

An existing door design can be modified or a completely new design created. The door design is defined by a series of parameters and settings. Existing designs are shown as thumbnails. To load an existing design, double click on the thumbnail. The door design is changed by changing the current settings. Once new settings have been input, **Reset View** applies them to the door. **Set Default**, available if this area was accessed from the **Cabinet/Assembly Editor**, makes this door the default door for this cabinet. **Door Material** specifies material for the door. The image that is associated with this material is the finish and texture that will be used in displaying this door. The material is specified in **Settings/Preferences-Define Stock Materials**. Thermwood Doors use **Board Stock** material.

**Reference Door Size** determines the size of the door that is displayed to the right. As you will see, different sized doors can have somewhat different geometry. This display allows you to see the overall look of different sized doors. **Stile/Rail Width** specifies the width of the stiles and rails. If the door is square, both stiles are the same width and both rails are the same width. Otherwise, this defines the bottom rail width and the top rail width is the **Rail Width** plus the **Arch Height**.

**Door Type** specifies the basic geometry of the door, and there are three main types:

A Square door has two straight stiles and two straight rails.

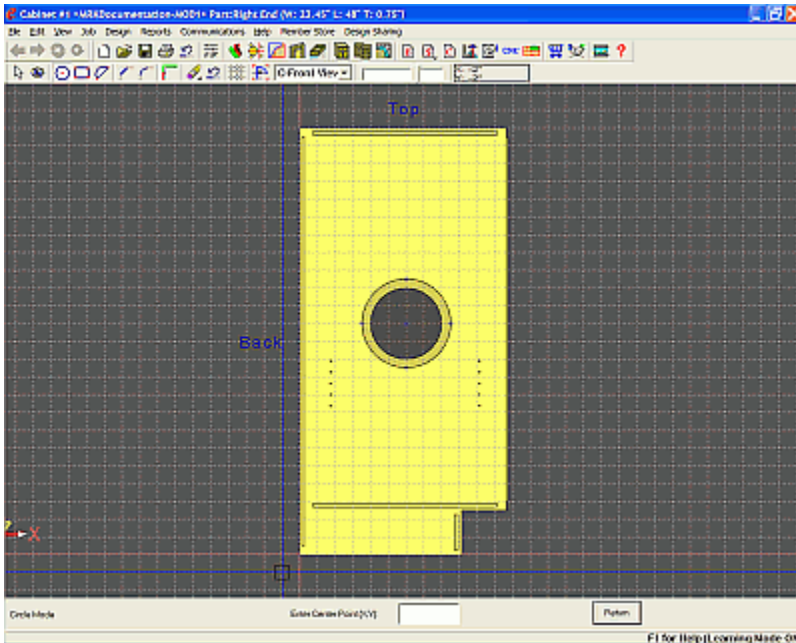
An Arch door has a single curved arch, with or without **Side Flats**.

A Cathedral is an arched door with a single main curved arch and two smaller curves, one on either side of the main arch. It may or may not have **Side Flats** and it may or may not have a **Center Flat**.

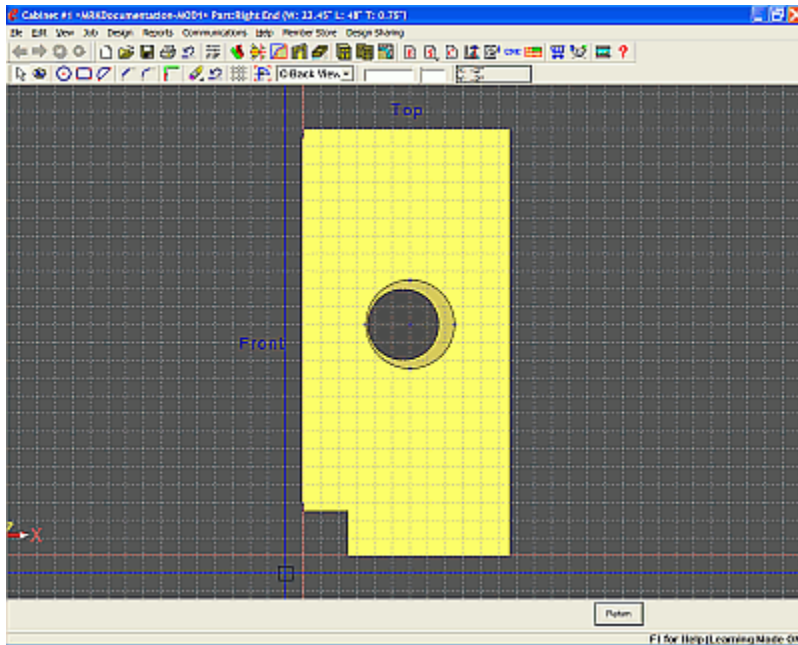
See the section in this manual called "**Door/Drawer Front Designer - Layout Tab**" for more information.

## Part Editor Details

The most important thing to remember about **Part Editor** geometry is that it is not associated with the part on the screen. Consider it, literally, just drawn on the "glass" of the monitor screen. What this means is that whatever geometry is displayed onscreen, it will be applied exactly as shown, to the part onscreen. If you want a cut through, or just a partial recess cut, the geometry must be on the side that you want to be modified, and placed exactly where you specify. Using the following example to explain this concept may indicate this more clearly.



Consider a side end of a cabinet, in this case the Right End. Notice that the 0, 0 origin is at the lower left Back/Bottom of the part. Presume you want an 8" hole clear through, with a 10" recess on the outside. You want this to be exactly 12" from the back edge. The illustration above shows the 8" hole already cut, and the geometry for the 10" hole applied. Notice also that this view is showing the inside of the end (with adjustable shelf holes and dadoes). If we were to just simply "flip the part around" to show the outside, notice that the Geometry has stayed where it was placed originally onscreen. If you were to go ahead and apply recess cutting, the holes would not be concentric. Additionally, measurement shows that the center of the 10" hole is not 12" from the back edge, and when you displayed the opposite side of the part, notice that the origin is now oriented with the Front/Bottom. (Remember that the origin is always at 0, 0.)



In order to get the circle where you want it, you must locate the centerpoint of the 10" circle on the outside of the part, where the recess will be cut. What makes this difficult is that now that the part has been placed in the proper orientation for the addition of geometry, the back edge is no longer "on snap"; any dimensions taken from it would be only as close as your eye can place it on the monitor.

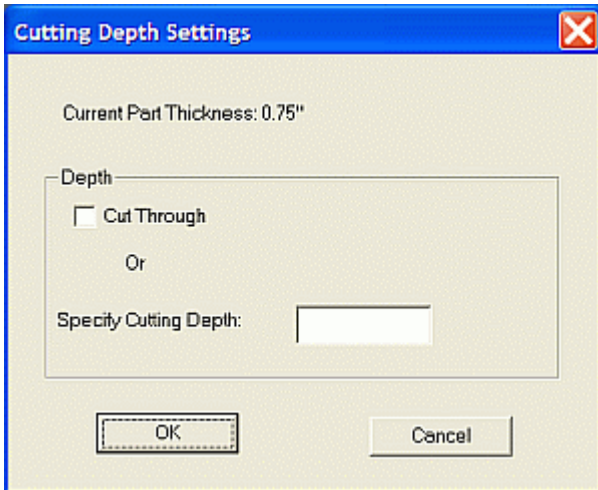
However there is a precision method to get any dimension for any part, as long as a 2 faces are oriented at the 0, 0 origin. This can be found in the section titled "**Using Contour Mode to Find a \"Hidden\" Dimension**" located elsewhere in this manual.

## Chamfer and Fillet

Placing a **Chamfer** is as simple as selecting the **Chamfer** icon, selecting the type of **Chamfer** and entering the distance in the Data Entry Box. You can use a **1 distance** or a **2 distance Chamfer** (which allows for different dimensions one either side of the **Chamfer**). Ensure that when you select the two edges, they are selected closest to where the **Chamfer** will appear.

Making a **Fillet** is just as easy. Select the **Fillet** icon, and then select the **Fillet Radius**, and then select the two edges, again, nearest to where the **Fillet** will be.

## Cutting Defined Geometry



Once geometric shapes are defined, a pocket or through cut can be made using those shapes. Press the **Select Mode** icon and then click the shape to highlight it. From the Right Click Menu, select **Cut/Pocket Using Geometric Shapes**. This launches a dialog where you either define the depth of a pocket or check that you want the hole cut through.

**Note:** If the **Cut Through** box is checked, the part will be cut through even if a dimension is placed in the **Specify Cutting Depth** box.

## Defining Geometry

Three standard geometry tools are available to define geometry, the **Rectangle**, the **Circle** and the **Filled Arc**. The geometry mode is entered by selecting the **Rectangle Mode**, **Circle Mode** or **Filled Arc** mode icons. Once a mode is entered, you remain in that mode until a different mode is selected.

There is a manual data entry area at the bottom of the screen to enter data, or the mouse cursor can be used to define the points. Once the Geometries have been drawn, they can be modified. But they must first be selected before modification and this is accomplished by clicking them. This will highlight them in orange, indicating that they have been selected.

## Part Editor - Contour Mode Details

The **Contour Mode** is essentially the same as the **Shape Manager** and consists of a basic two-dimensional CAD system. This area is used to develop a contour on the surface of the part. For additional information, see the section in this manual "**Shape Manager Details**".

There are two basic types of contours that can be made. A closed contour can be used to cut a pocket or cut through the part. An open contour can be used to guide a profile tool to cut a profile into the part. Geometry is created using a series of tools that are accessed through the toolbar or the Right Click Menu. Some of these tools (line, arc, circle and spline) create geometry. Others tools (fillet, chamfer, extend, trim, move and offset) modify geometry. Together, they can draw any two dimensional geometric shape.

### Defining a Contour

A closed contour can also be used to define the shape of a pocket or through cut. The contour is defined in the **Contour Mode** area, can be any shape but must be closed with no openings or gaps. Once a closed contour is defined, it is used to cut a pocket or through cut. Make sure no geometry is highlighted and from the right click Menu, select **Cut/Pocket Using Closed Contour**. Then click the closed contour you wish to cut to highlight it. Then press **Next** to open the cut dialog to define the pocket depth or specify a through cut. (It should be noted that this can only be done before a profile cut is made. If it is done after a profile cut, you will get an error.)

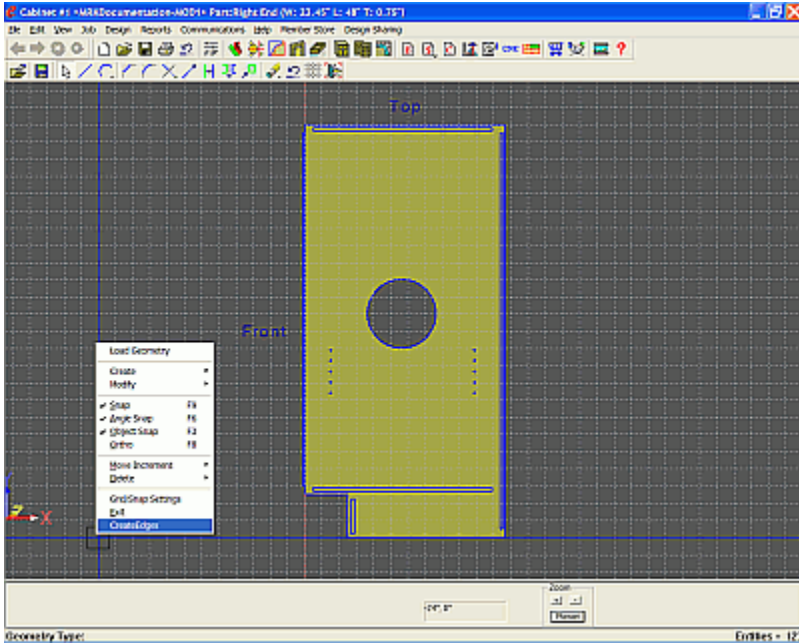
### Importing DXF Files into the Part Editor

Most CAD systems can export shapes, contours and part outlines in a file format called DXF. *eCabinet Systems* can import those files by using an option in the **Contour Mode** of the **Part Editor**. Once the DXF shape has been imported, (if it is a closed contour) it can be used to cut a pocket, or through cut, or a part can be made from the contour. The DXF file is loaded using the **Load Geometry** icon at the upper left of the toolbar. When loaded, the origin, or zero-zero point of the loaded file is placed at the lower left (or zero-zero point) of the part. The **Move** command can then be used to relocate the geometry if necessary. Once loaded, this new contour functions like any other contour that is developed in the **Contour Mode**.

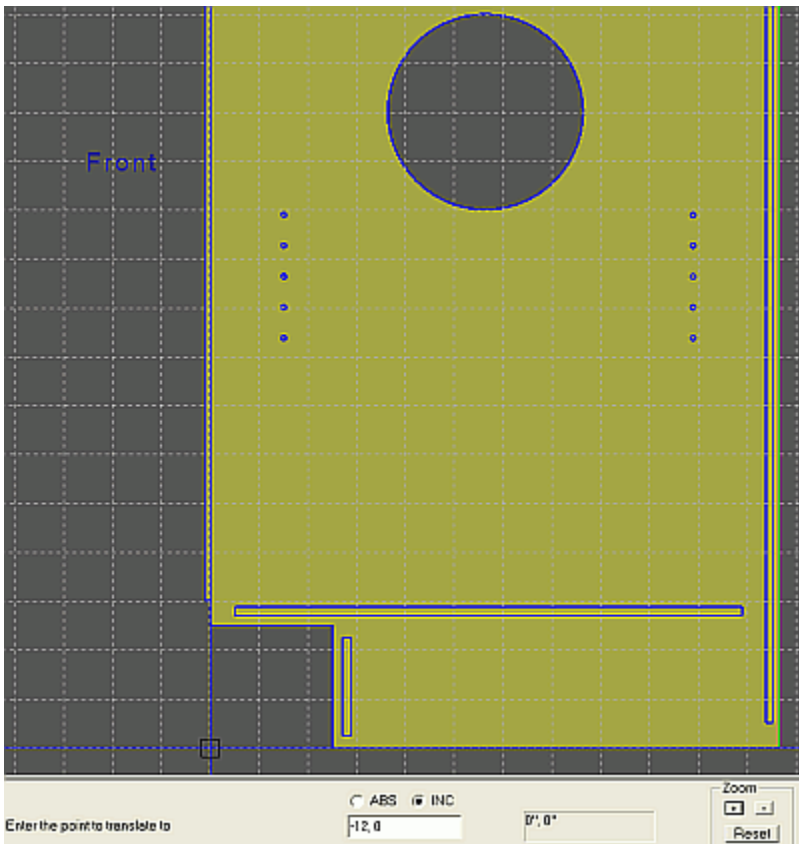
**Note:** Imported files are placed in the same orientation that they were drawn. If you are using a vertically oriented part, your imported item should be oriented vertically, as it is not possible to rotate imported entities.



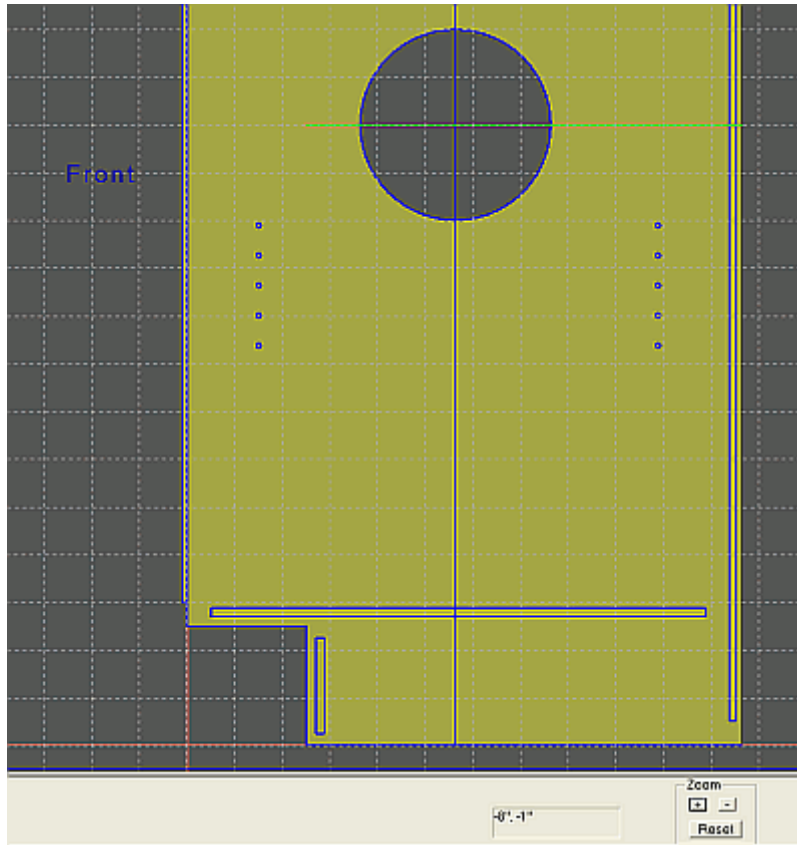
## Using Contour Mode to Find a "Hidden" Dimension



Select the appropriate side you want the cut to be made from, and then take the part into **Contour Mode**. There you will see all of the geometry, as if the part were transparent. Right Click on **Create Edges**, and all edges and geometry turn blue. At this point, the **Absolute** dimensions are now irrelevant; what we want is the **Incremental** measurements. Redefining lower right of the part as 0, 0 (**Incremental**), we can select the rear edge. Thus, it is now highlighted green.

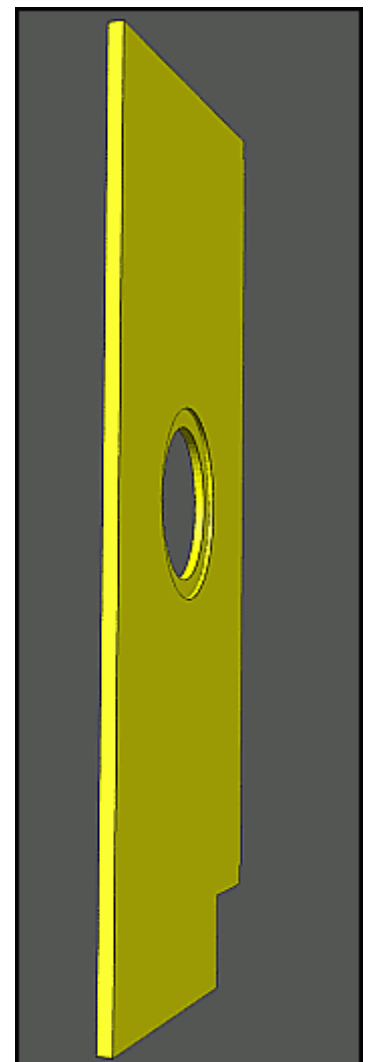
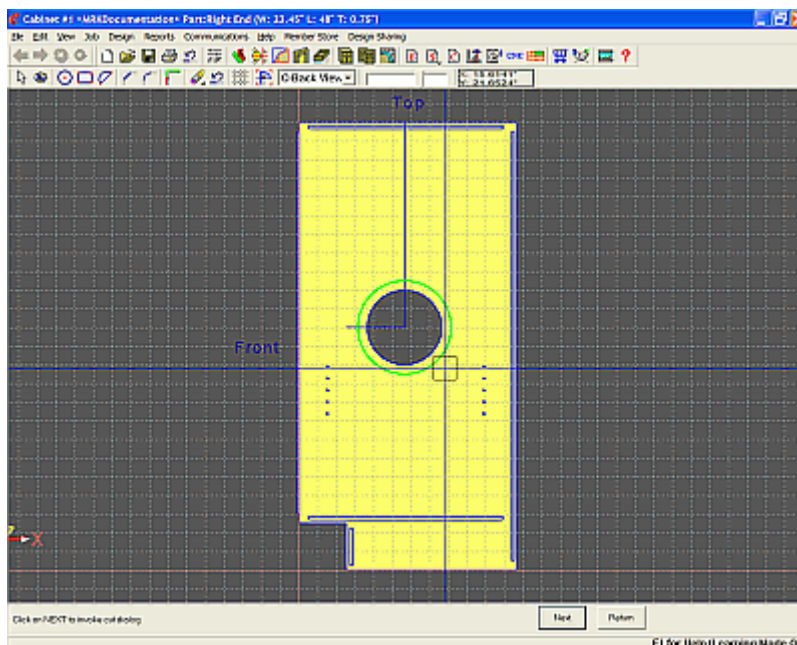


Now select **Modify, Move/Copy**, and then **Enter the point to translate from**. Using 0, 0 (**Absolute**), and with **Snap** on, click the origin. The option of **Select a point to translate to** now allows the entry of the coordinates **-12, 0**. Now the green edge has been copied 12" precisely to the left. Do the same with the bottom edge and you now have a perfect "crosshair" to snap to.

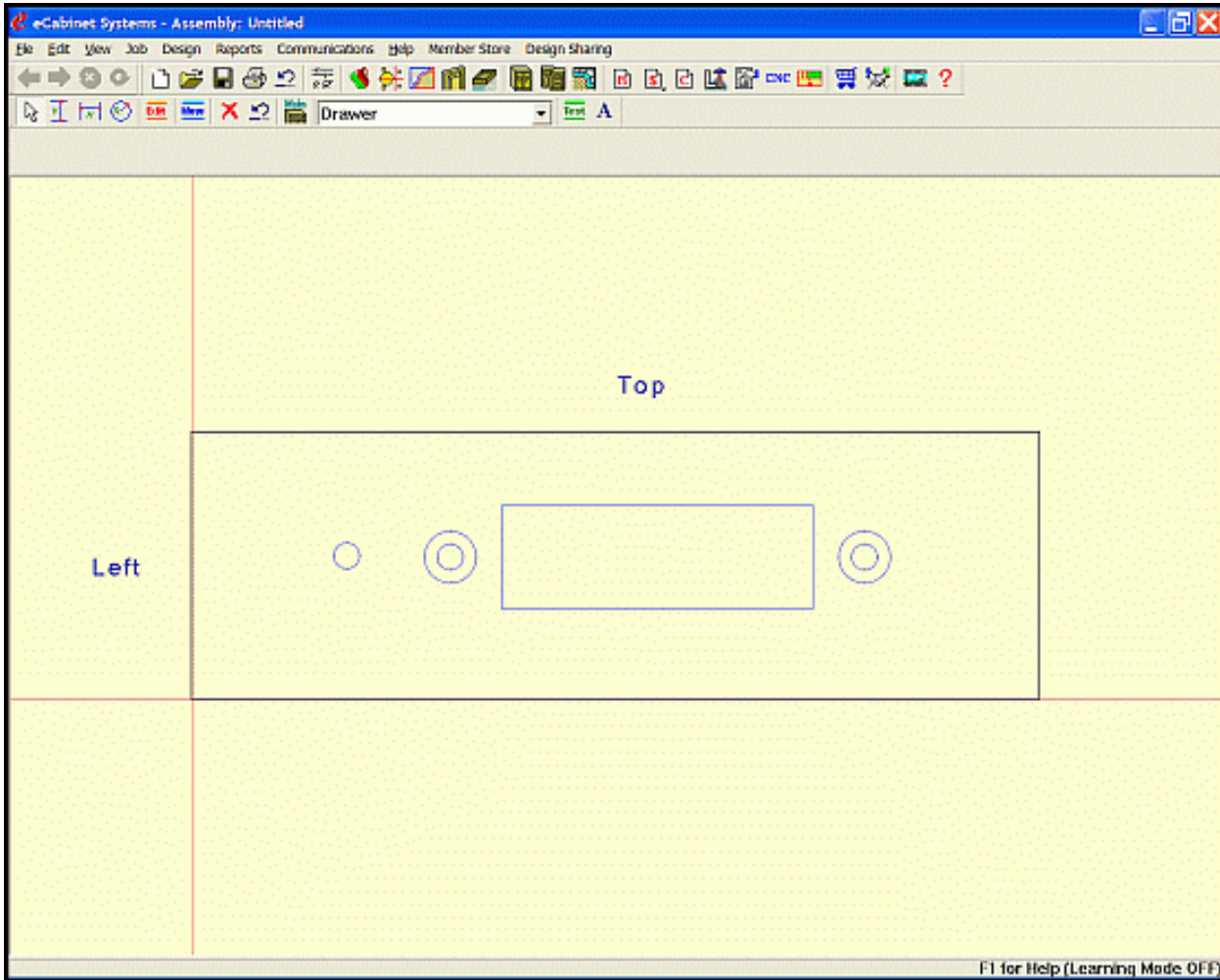


**Trim** the lines, and draw a **Circle**. Setting **Object Snap** ON will select the previously created intersection, so now type the radius (5"), and you will then have the desired circle, perfectly placed. Now exit **Contour Mode** and select the outer geometry circle, and **Cut/Pocket Using Closed Contour**, to create your recessed circle design.

Return to **Contour** mode, **Delete, All Entries**, to remove all (now unnecessary) blue geometry. As you can see, the end result is perfect.



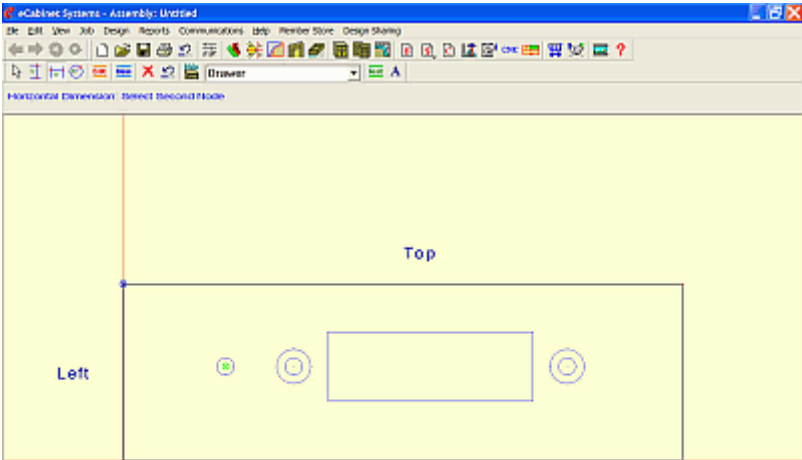
## Constraint Manager Details



Presume that you want to make the cabinet wider, but want some of these cut-outs to stay the same size, and in the same place. This is where the **Constraint Manager** becomes invaluable. The **Constraint Manager** enables you to have your cabinet designs changed and still leave the **Part Editor** edits "fixed"; they will stay intact, while the remainder of the part, or the entire cabinet changes size proportionally.

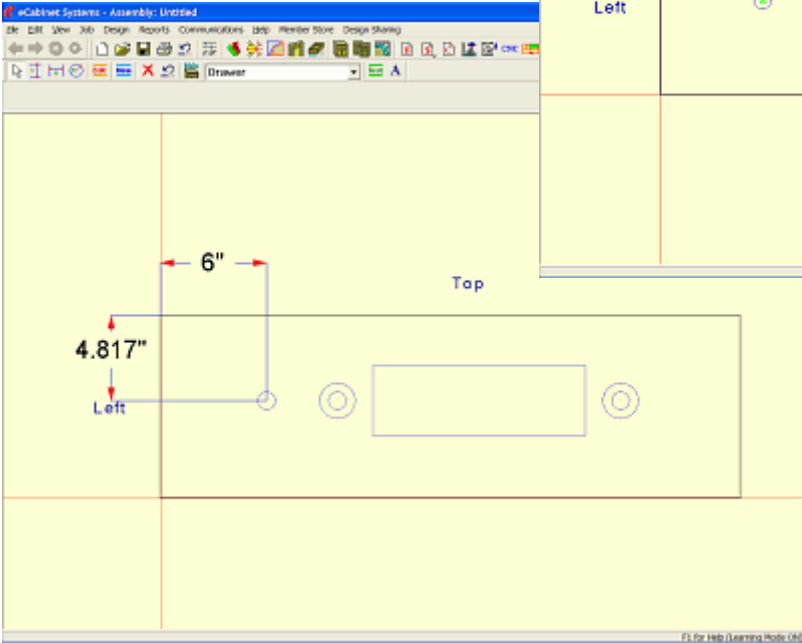
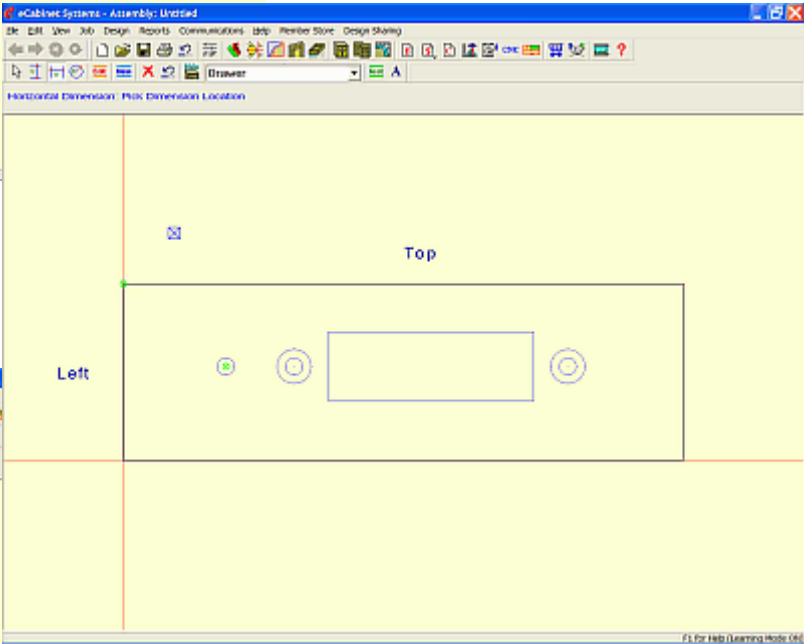
# Dimension Nodes

**Constraint Manager** uses **Nodes** to dimension entities from. There are 3 types of **Nodes**, and hitting the "M" key on the keyboard will indicate them. The hollow blue ones are **Corner Nodes**, the solid blue ones are **Circular Quadrant Nodes** and the red ones are **Raw Point Nodes**. Raw points indicate the original outlines of this part. Any changes to dimensions and entities will be proportional to their original locations. This means that non-constrained entities positioned near the center will stay in the center as the cabinet grows or shrinks, but those near the edges will move relative to the overall sizing changes. Taking a part into the **Constraint Manager** will present you with a screen as shown above.



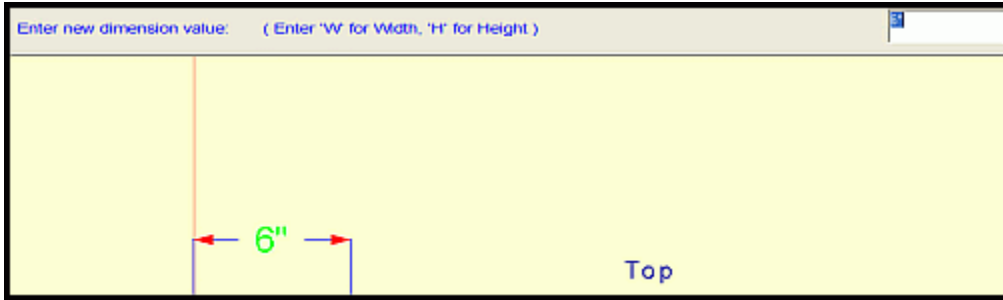
Begin by setting the constraint on the left side hole, horizontally. Notice the green crosshair in the center of the circle.

Move the cursor to where you want to place the constrained dimension.



Do the same to the vertical dimension. Even if you do not intend to change the part in the vertical axis, it is a good idea to constrain both axes if possible.

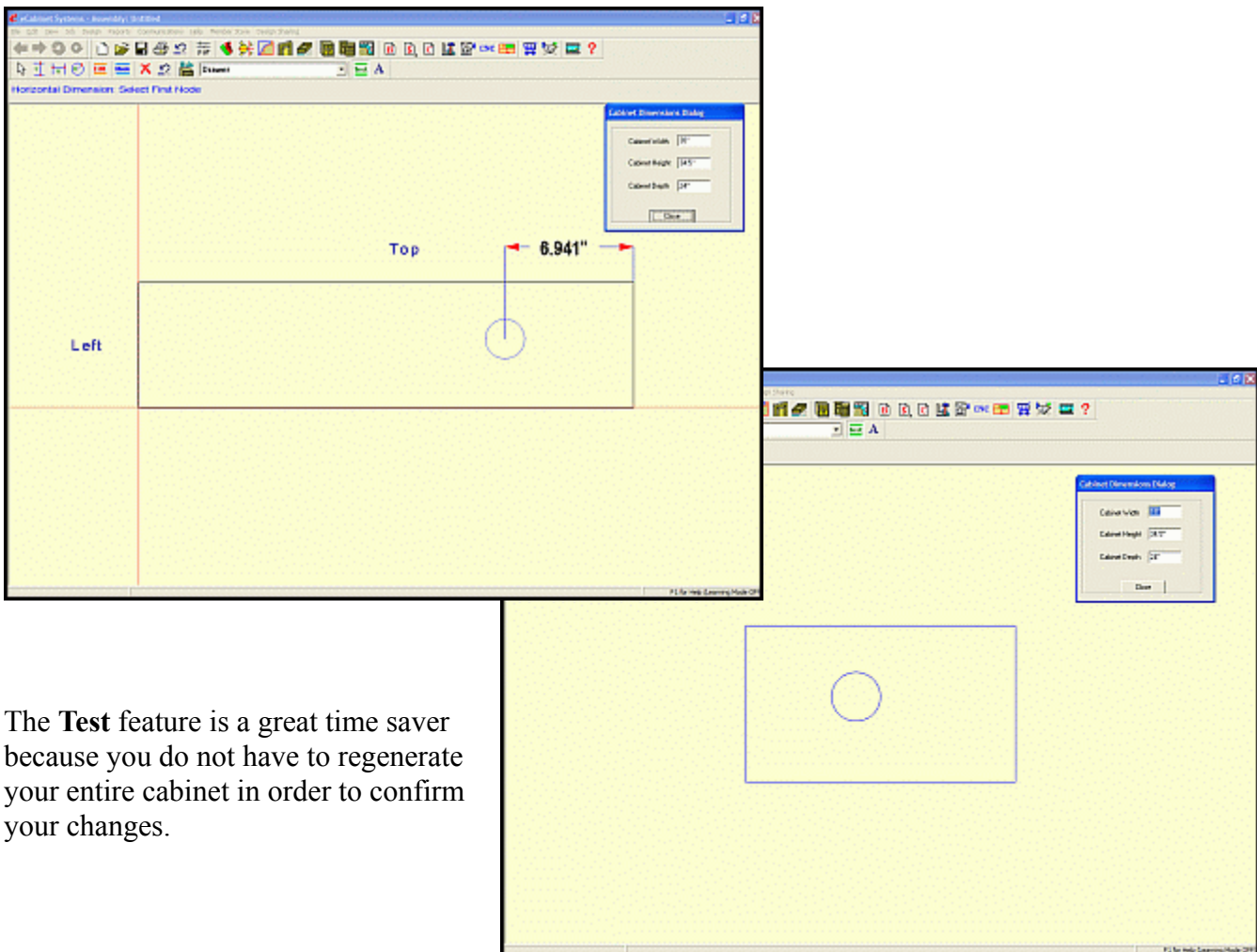
## Mathematic Operations



Mathematic operations are also permitted. You can also use two variables, “W” for the width of the part and “H” for the height of the part, and these can be used in formulas to define constraints. For example,  $W/2$  when used to define a horizontal position will always position in the center of the part.  $W/3$  is one third of the way across the part. These formulas work using +, -, \*, and /. Parentheses are also allowed.

## Test Feature and Editing

**Editing** is a unique feature, and it allows you to change the dimensions, right in **Constraint Manager**, without having to go back to the **Cabinet/Assembly Editor**. Since this is a dynamic function, a Test mode has been added. This **Test** feature to confirm that your edits and constraints work as intended.



The **Test** feature is a great time saver because you do not have to regenerate your entire cabinet in order to confirm your changes.

## Display Part Editor Details

The **Display Part Editor** process starts with a three-dimensional graphics file, which is generated by a third-party software program. The file must be in the ".stl" or ".hsf" file format.

**Note:** The ".stl" files are just the "3D" wireframes, whereas the ".hsf" files are those that have already been fully rendered on all faces.

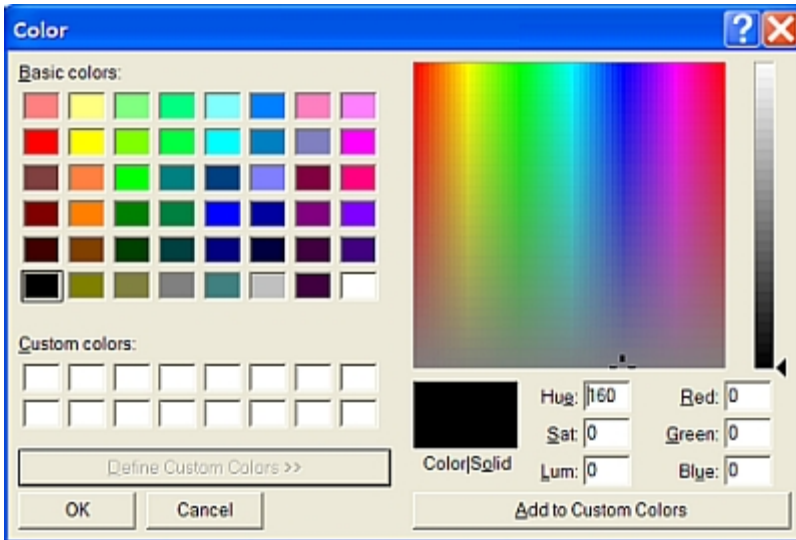
Many three-dimensional CAD packages can output ".stl" files, and there are several websites that provide ".stl" files for download, including the *eCabinet Systems* website, where Members can post their files. In addition, in the directory *C:\Program Files\Thermwood\eCabinet Systems\Sample\_stls\*, you will find some ".stl" files that you can process through the **Display Part Editor**. Finally, any part in the **Cabinet/Assembly Editor** or **Custom Layout** can be exported in the ".hsf" format and loaded into the **Display Part Editor**. These can then be textured and saved as an ".hsf" file, where they can then be used as **Display Objects** in the **Cabinet/Assembly Editor** or **Custom Layout**.

**Note:** When a cabinet part is exported to the **Display Part Editor**, saved as an ".hsf" file, and then is loaded back into the **Cabinet/Assembly Editor** as a display part, it is no longer a cabinet part, it is a display part. It will not be included with the cabinet parts in the **Cut List**, and will not be nested with other cabinet parts.

### About the .stl Format

The standard file format for rapid prototyping is called ".stl". In this format, the shape of the object is defined by a mesh of tiny triangles laid over the surfaces. The triangles must meet without gaps or overlaps, if the object is to be built successfully. There is a trade-off between smoothness, accuracy and file size, and mapping any curved surface with flat triangles (facets) means that a lot of small facets are needed for a good match and a smooth curve. This reproduces curved shapes accurately, but results in very large files that are difficult to work with.

## Adjusting Color



Color is defined as RGB or Red, Green and Blue. Red, green and blue are the primary colors, and by mixing different proportions of these three colors, any color can be achieved. The digital value of any primary color can be set from 0 to 255. The displayed color is achieved by adjusting the values of the three colors. For example, 255, 255, 255 is pure white. 0, 0, 0 is black. 20, 20, 20 is gray, 30, 30, 30 is lighter gray and 20, 20, 30 is a slightly bluish gray. With these three settings, 24 million separate colors can be specified. In trying to determine a color, pressing the **Select Image** button and then selecting **Add Custom Solid Color** and then selecting **Define Custom Color**, will enable you to work with the mouse to develop the color you want. Then copy the Red, Green and Blue settings for that color into the **Display Part Editor**. Additionally, the other three selections are provided for those familiar with those color functions and are:

**Hue** - This is the overall color shade.

**Saturation** - This is the overall color depth.

**Luminance** - This is the overall brightness.

## Invert Part

Different CAD systems at times operate in X, Y, Z coordinate systems that are oriented differently than the X, Y, Z coordinate system in *eCabinet Systems*. The **Invert Part** controls are used to re-orient parts that were saved in a different coordinate system orientation. Clicking on the X, Y or Z buttons inverts the axis selected, doing essentially a three-dimensional mirror of the object along the selected axis. Clicking the button again, switches it back to its previous orientation.

## Operator

The **Operator** display at the top of the menu column is used to change the angle or position from which the scene is viewed, as well as to move or rotate one part with respect to the X, Y, Z coordinate system, and, with respect to any other parts that are loaded. There are a few modes that the **Operator** uses.

**Camera** - This mode, so named because it is very much like a camera in operation, shows the fixed "scene", and like a camera, the fixed scene will show different directions and orientations only when the camera moves. In **Camera**, the scene does not change, only your view of the scene changes. This is an important concept, because the orientation of the object with respect to the real world (the scene), is the orientation the object will be, when it is placed in a room. When the **Display Part Editor** is first started, the **Camera** is located with respect to the X, Y, Z coordinate system, so that X is left and right, Y is up and down and Z is in and out. The **Camera** is pointed at the origin of the X, Y, Z coordinate system, offset along the Z-axis. With **Camera** displayed in the **Operator** display, the left mouse button is used to rotate the **Camera**, the right mouse button is used to pan the **Camera** and both mouse buttons are used to move the **Camera** toward or away from the origin. When **Camera** is used, the relative position of the parts to the X, Y, Z coordinate system does not change. **Reset View** resets the **Camera** position to its original orientation.

**Rotate Part** - This mode is used to rotate the selected part with respect to the X, Y, Z coordinate system. When the **Rotate Part** operator is selected, the part is rotated using the right mouse button. If two or more parts are loaded, only the part selected will rotate. The coordinate system and all other parts remain stationary. This allows the position of one part to be adjusted with respect to others. If a single part is rotated using the **Rotate Part** operator, it rotates with respect to the X, Y, Z coordinate system.

**Move Part X & Y** - This mode is used to move the part along the X and Y-axes of the coordinate system. When the **Move Part X & Y** operator is selected, the part is moved using the right mouse button. From the original position of the **Camera**, the X-axis is left and right and the Y-axis is up and down. If the **Camera** is rotated however, these movements will be different, since the X, Y, Z coordinate system is now being viewed from a different perspective. The **Move Part X & Y** operator moves along the X and Y-axes regardless of the **Camera** position. If working from different **Camera** rotations becomes confusing, it is recommended that parts be moved from the original default **Camera** position.

**Move Part Z** - This mode is used to move the part along the Z-axis of the coordinate system. When the **Move Part Z** operator is selected, the part is moved using the right mouse button, moving up and down on the screen. From the original position of the **Camera**, the Z-axis is toward or away from you. If the **Camera** is rotated, however, this movement will be different since the X, Y, Z coordinate system it is being viewed from a different perspective. The **Move Part Z** operator moves along the Z-axis regardless of the **Camera** position.



## Selecting and Using Texture Images

A ".jpg" or ".bmp" image is a file depicting a two dimensional graphic image of a texture, color or surface. To use as an *eCabinet Systems* Image it must first be selected and loaded. To select an Image, press **Select Image**, select the desired directory and highlight the Image, then press OK. The Images window is also used to manage Images within the program. Be aware that adding to or changing specific images in this window changes them throughout the program. To add a custom image, press **Add Image**, locate and highlight the image file name (".jpg" or ".bmp" format only, and at 300 DPI resolution). Press **Open** and indicate the directory and name for the image. To add a solid color Image, press **Add Custom Solid Color**. Either select a color, or create a color using the color palette, and press OK, indicating the directory and name for the image. Delete an existing image by selecting the image and then pressing the **Delete** button.

## Selecting Objects

If more than one ".stl" file has been loaded into the **Display Part Editor**, it is necessary to select one of the objects to move or texture. All controls (except the **Camera Operator**) affect the selected object only. Select an object by placing the cursor on the object and Right Click the mouse. The number of the selected active object is displayed in the **Number of Object Selected** box at the top of the menu column.

## Transparency

The transparency of an object is controlled through the **Transmission On** selection. When checked, the object becomes transparent. At this point, the amount of color determines the amount of transparency. The closer to white that the color is, the more clear the object will be. The closer to black the color, the more opaque, and less transparent the object. If **Transmission On** is not checked, the object will be totally opaque and will appear solid.

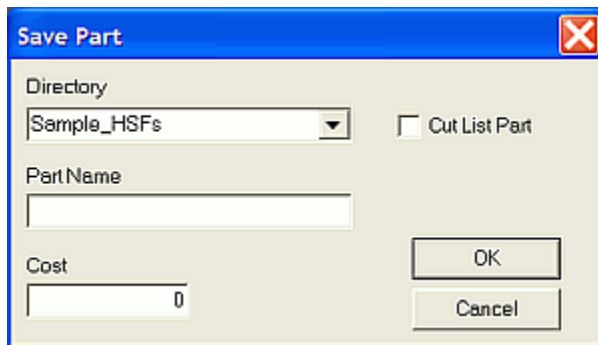
## Using the Appearance Settings Library

All of the various settings for a **Display Object** are called the Appearance. Common **Appearance Settings** have been saved in a library, and therefore these settings can be loaded and used when developing new objects. To use an existing **Appearance Setting**, highlight it in the selection window and press **Load Selected Appearance**. To save the current **Appearance Settings**, input the name under which you want to save the settings and press **Save Current Settings**. To delete a saved **Appearance Setting**, highlight it and press **Delete Selected Appearance**.

## Combine Two or More Display Parts into One File

It is possible to load and texture two or more parts, move and rotate them with respect to each other and then save them as a single **Display Part** (".hsf" file).

Open the **Display Part Editor**, either with its icon on the toolbar or with the pull down menu at **Design-Display Part Editor**. Load the first file by pressing the **Load STL/HSF** button. Do this again as necessary. The parts that are loaded will be numbered sequentially. Select the **Number of Part** you want to position.



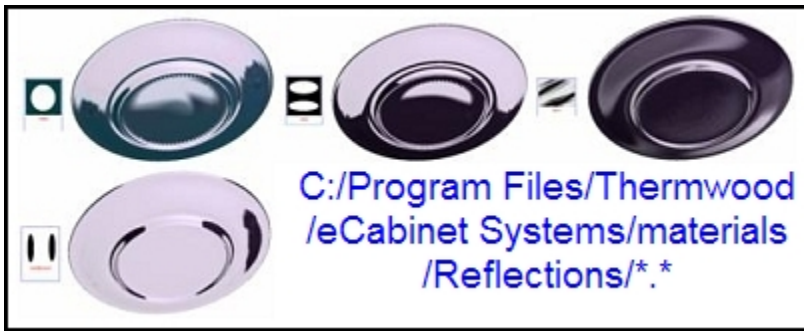
When all parts are positioned with the correct appearance, press **Save** and select a directory and input a filename to save the part as. If you would like a cost added to the Job or cabinet cost each time this part is used, input the **Cost**, and if you would like this part included in the Cut List report, check **Cut List Part**.

## Multiple Textures on the Same Display Part

Once a **Display Part Editor** file is loaded, it will need color, texture and a general "look". This software also has the ability to display complex objects that have different color and texture on different parts of the object. This is accomplished by generating a different ".stl" file for each portion of the object, loading each ".stl" file into the **Display Part Editor**, positioning them with respect to each other and then selecting and texturing each portion separately.

## Environmental Mapping

**Environmental Mapping** means how the selected Image is reflected. The Image itself then determines how glossy or shiny the object appears. If the Image has sharp contrasting colors, a white circle in a black box for example, the object will appear very shiny. The softer the transition between colors in the image, the less glossy the object appears. In this mode, the **Gloss** and **Specular** controls also work. A white color with a sharp contrast image results in an object that looks like chrome. The same bitmap with a more yellow or brass color will look like shiny brass or gold. Here are some examples, again of the same part, that show a near unlimited appearance variety:



## Texture Mapping

**Texture Mapping** takes the color and texture of the selected Texture Image and applies it to the object. If you want the object to look like wood, use a wood Texture Image file and check **Texture Mapping**. The wood texture will be mapped to the surface of the object, making it look as if it were made of wood. In this mode, the **Color**, **Gloss** and **Specular** settings of the object are controlled by the color of the texture rather than these individual controls. **Scale** defines the relative size of the texture image to the part, so that increasing the **Scale** number increases the size of the texture image with respect to the part. For example, the grain on a small wood part will be much larger with respect to the part than grain on a large part. **Rotate** controls the angle at which the image is applied to the part surface. Changing the **Rotate** control rotates the image with respect to the part. Use this control to obtain the best orientation between the part and the image applied to its surface. Here are a few examples of the same part with different textures mapped to them:



## Hardware Hole Editor Details

The **Hardware Hole Editor** is used to create a mounting hole pattern that is then associated with a piece of hardware. When that hardware is used on a cabinet, the hole pattern is automatically added to the appropriate parts. Most hardware offered in the *eCabinet Systems* program already has a hole pattern associated with it. When these components are used on a cabinet, the associated hole pattern is automatically added to the appropriate cabinet parts. If your parts are to be processed on a CNC router, these hole definitions are important, because they will be machined into each component.

The workspace is a CAD type drawing area bisected by an X and Y-axis, and these axis definitions play an important role in locating the holes with respect to the part, and the cabinet. For example, on a door hinge, the Y-axis separates holes that are drilled into the cabinet side (those to the right of the Y-axis) from the holes that are drilled in the back of the door (holes to the left of the Y-axis). However, the same Y-axis functions differently when used to define holes for KD/RTA fasteners, where holes to the right of the Y-axis are cut into the edge of one panel, and holes to the left of the Y-axis are machined into the face of the mating panel. Red X and Y-axis lines cross at the origin, which is 0, 0 in **Absolute** coordinates. For certain types of hardware that attach to more than one part, such as hinges or KD/RTA, the vertical Y-axis separates the machining of one component from the machining of the other.

## Placing and Editing Hardware Holes

A **Rectangle Tool** and a **Circle Tool** are available to define the hole geometry pattern.

**Note:** The **Rectangle Tool** creates rectangles with square corners on the screen, but the actual machined hole will have radius corners, based on the diameter of the tool used to cut them.

A grid is available to assist in locating holes, and the grid dimensions are based on actual size. Thus, a 1" grid represents a 1" square on the cabinet (or hardware component). The view can be zoomed using the + and – keys and panned using the **ARROW keys**. The pan distance is defined by **Edit Move Increment**, which is set from the Right Click menu. **Reset View**, or the **Home** key, returns to the original view.

Dimensions can be either **Incremental (INC)** where they are measured from the last entered point, or **Absolute (ABS)** where they are measured from the 0, 0 origin. Geometry placed over the Y-axis only exists on the side on which it was placed, and does not extend across the Y-axis, since each side of the Y-axis represents a separate cabinet component. When the geometry is placed, the "+ Depth" and "- Depth" are applied, which are the depth from the above and below surface of the part. To define two holes of different depths, place the first, change the depth, then place the second, and each will have the depth specified when it was created. Depth should be set before the hole is defined.

After placement, hole geometry can be moved or deleted by selecting it using the **Select** mode (it turns red). Geometry can be moved in the following 3 ways:

Hold the **Shift + Left Click**.

Set an absolute X and Y position in the dimension boxes to the left and press **Enter**.

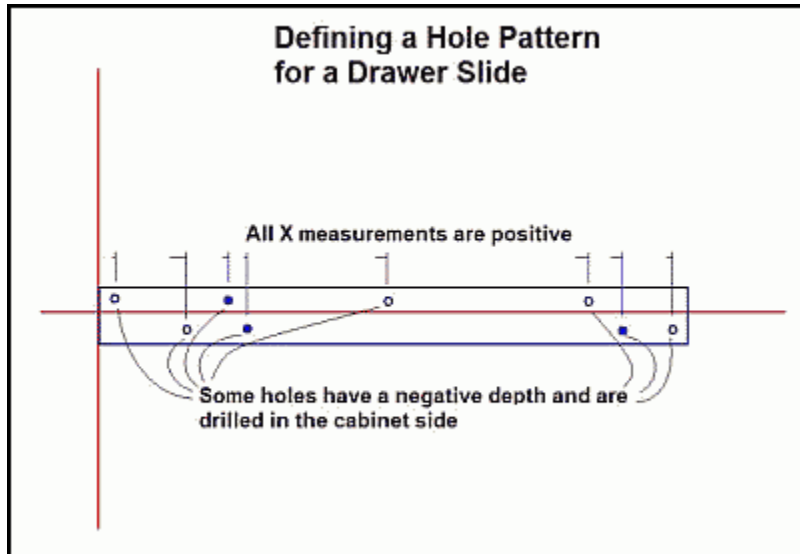
Hold the **Shift + ARROW keys** on the keyboard.

The hole geometry can be viewed in three dimensions by selecting the **3D View Mode** button at the top. At this point, the geometry can be moved and rotated using the standard mouse controls. Selecting any other button resets the view and exits the **3D View Mode**.

Once the correct hole geometry has been established, it is saved under a file name using the **Save** button. Saved hole geometry can be opened and added to existing geometry. For example, you may want a cabinet to be drilled for two different drawer slides so you can use either during assembly. In this case, you can load geometry for the first, and then add geometry for the second and save the combination as a new pattern.

The geometry is associated to a specific piece of hardware using the **Attach to Part** button. After attachment, any time the hardware is used, the associated hole pattern is added to the appropriate cabinet components.

## Typical Drawer Slides

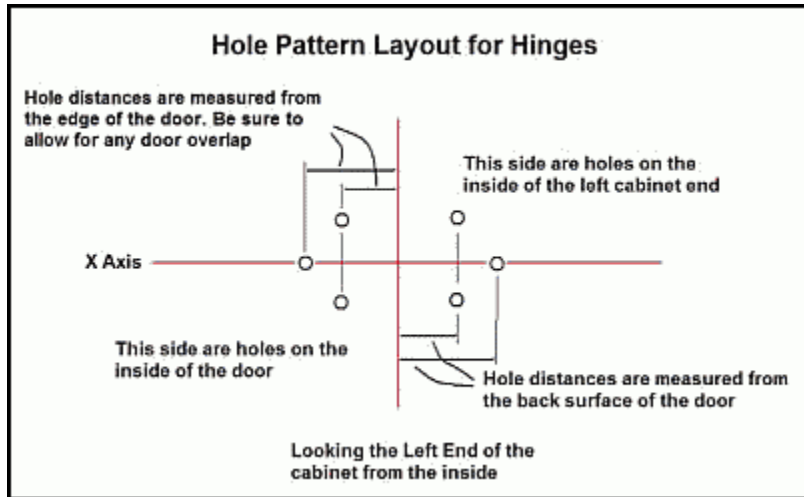


Drawer slides are handled differently. Orientation for defining the drawer slide pattern is the same as for hinges; looking at the inside surface of the left end of the cabinet. All holes for a drawer slide are defined in the "plus X" direction with the Y-axis being the front of the drawer box. The X-axis is normally the centerline of the slide, but can also be the bottom edge of the slide if you want, as long as you remember this when you define the slide position on the drawer box. When defining the slide position in the Door/Drawer area of **Construction Settings**, you are actually defining the vertical position of the X-axis on the drawer box.

### Drawer Slide Mounts

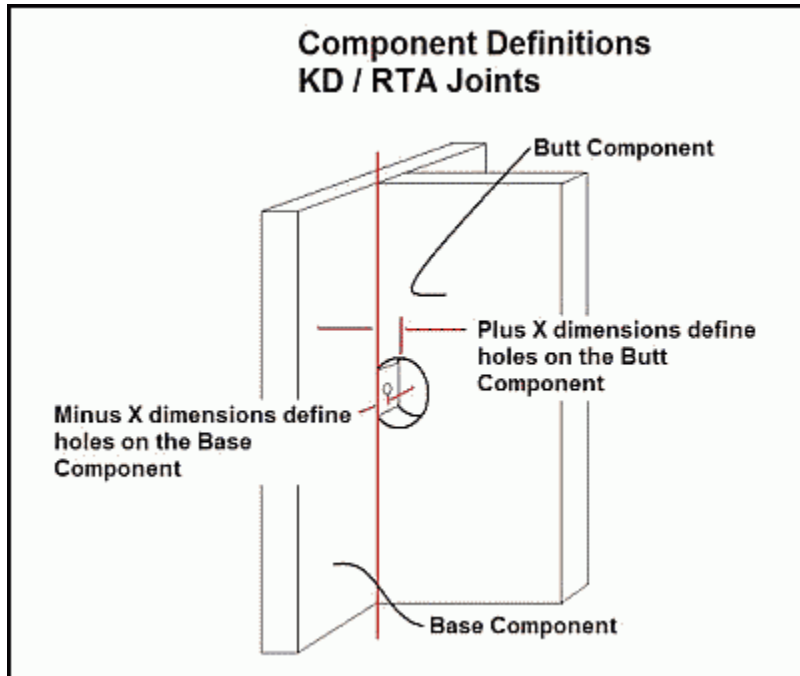
Drawer slide mounts typically attach to the cabinet back and support drawer slides. The hole pattern for these is created with the 0, 0 origin at the center of the slide support.

## Typical Hinge Holes



The above diagram details how to layout the hole pattern for hinges. Hinge layout is defined for a hinge mounted to the left end of the cabinet as viewed from the right side of the cabinet. The door on the front of the cabinet is to the left. The system will reverse and transpose the pattern as necessary for use in other orientations. The vertical Y-axis separates the holes on the cabinet end from the holes on the door. Holes to the right of the Y-axis ("plus X" dimensions) are machined on the cabinet end and holes to the left of the Y-axis ("minus X" dimensions) are machined on the inside of the door. X measurements to the right ("plus X" dimensions), which define the holes in the cabinet side, should be measured from the back surface of the door when closed. Thus, insetting the door also insets the hole pattern. X measurements to the left ("minus X" dimensions), which define holes in the back of the door, should be measured from the right edge of the door. Be aware that the door overlap should be taken into account when determining these dimensions. For hinges, all depths should be minus (-), which will machine into the components. The depth entered is the depth of the hole from the surface of the cabinet component.

## Typical KD/RTA Holes



KD/ RTA fasteners are used to connect perpendicular components. The diagram above defines the two components, so that we can create the required hole pattern. In the joint, the edge of the **Butt Component** joins the surface of the **Base Component**. As with hinges, the vertical Y-axis splits the pattern. Holes to the right ("plus X" direction) are placed on the **Butt Component**. Holes to the left, ("minus X" direction) define holes in the **Base Component**. Although the "minus X" holes appear to the left of the red Y-axis, (on the hole diagram) when machined, they are to the right of the joint between the mating surfaces, as shown. Again, although we define the joint between two vertical panels, the system rotates and repositions the hole patterns as required, when used on the cabinet itself. All depths for KD/RTA fasteners should be "minus", or into the part.



## Shape Manager Details

The primary purpose of the **Shape Manager** is to create shapes or profiles. These shapes or profiles can then be used to create profile tools that can then be used to cut a profile on a cabinet component in the **Part Editor**. Tools created by the **Shape Manager** can be unusual, because you can create non-symmetrical tools, or even tools that only have one side.

The tool shape you create in the **Shape Manager** follows the path defined in the **Part Editor**. In the **Shape Manager**, a good way to visualize the way a tool will cut is to imagine that you are standing behind the tool shape, and it is cutting, while moving away from you. Cutting a profile made by a non-symmetrical tool, especially in the instance where the profile on one side of a groove is different from the groove on the other side, is possible with the **Shape Manager**. This is because the cut is not machined by a traditional tool, but instead is simulated by using a small diameter ball nose cutter, and a small diameter square bottom tool. The ball nose tool moves along the profile, shifting over a small distance each pass until the basic shape of the profile has been generated. Then, any sharp inside corners are finished with the square bottom tool. This same approach also works on a symmetrical cut when the required profile cutter is not available. It can be especially valuable on wide or complex moldings where tooling costs might otherwise be substantial.

## Geometry

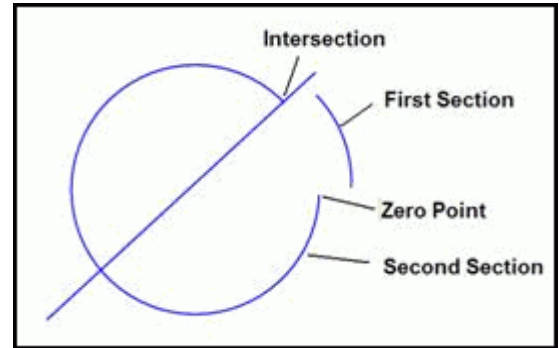
Geometry is created using a series of tools, accessed by the right click menu. Some of these tools (**Line**, **Arc**, **Circle**, **Spline** and **Mirror**) create geometry. Others (**Fillet**, **Chamfer**, **Extend**, **Trim**, **Move** and **Offset**) modify geometry. Together, they can draw any two dimensional geometric shape. Each of the tools that create geometry requires that points to create them be precisely located. There are two ways to accurately locate points. First, you can type the X and Y coordinate position. Be sure to use a "-" (minus or negative) sign for X positions to the left of zero, or for Y positions below the zero point. The second way of precisely locating points is to set the **Grid Spacing** to an increment from which all required points can be reached, and then turn on **Snap**. The cursor will then position on the grid points, and it is simply necessary to move it to the desired point. With **Object Snap** turned on, the cursor will snap to the end point of a line or arc, if it is within the Pick Box when the mouse is clicked. This assures that there will be the required continuous unbroken path between geometric entities.

Create **Lines** by specifying each end point. Create a **Three Point Arc** by specifying the start point, one intermediate point and the end point. Create a **Circle** by specifying the center and the radius. Enter the **Spline** mode and begin specifying points on the Spline curve. Press **Esc** to exit the **Spline** mode. To create a mirror image of geometry, start by highlighting the geometry you want to mirror. Then press the **Mirror** icon and indicate what you want to mirror the geometry about. You can mirror about the X-axis, the Y-axis or a line. A **Chamfer** or a **Fillet** can be placed at the intersection of two lines or arcs.

To trim a single line at an intersection, select **Trim**, **Trim One**, click the line portion you want to keep, and then click the entity that it intersects with. To trim two lines at their intersection, select **Trim**, **Trim Two**, click the portion of the first line you want to keep, and then click the portion of the second line you want to keep. If the two lines intersected, they are trimmed at the intersection point, keeping the portion of each you selected.

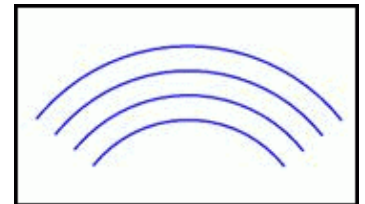
A circle can also be trimmed. To understand how this works, think of a circle as a 360 degree arc with both the start and end points located at 3 o'clock to the right, as in the illustration:

The circle is then made up of two sections, one that starts at 3 o'clock and extends counterclockwise to the first intersection, and a second section that starts at the intersection point and extends counterclockwise, back to the 3 o'clock (or zero) position. When trimming, the section of the circle first select will remain, and the other section is discarded. In the above example, if you click the section labeled **First Section** and then select the line, the entire arc labeled **Second Section** is trimmed leaving only the **First Section**. If you click the arc labeled **Second Section** and then click the line, the arc labeled **First Section** is trimmed away leaving the arc labeled **Second Section**.



Sometimes when trimming a circle, you may need to perform the trim operation more than once. For example, if you wanted to keep the arc located above the line, you first need to trim away the first section. Now it is no longer a circle but is an arc and will trim like an arc segment. Perform a second trim to remove the arc between the zero point and the line by clicking on the arc above the line and the trimming to the line. To keep the arc below the line, click the second section below the line and trim to the line. In this case, everything from the intersection to the lower left to the zero point will be gone. Then, trim the lower arc back to the line and it is extended until it meets the trim line.

Lines and arcs can be extended by a fixed distance by selecting the **Extend** icon. A dialog will ask for a distance to extend. After entering a distance, whichever end of a line or arc you click is extended. Notice that arcs extend along the curved arc path in the illustration:



The **Offset** command, when applied to an entity, either creates an offset copy of the entity, or it offsets the entity a fixed distance. This command is executed by selecting the **Offset** icon or selecting **Modify, Offset** from the Right Click Menu. In the dialog that appears, you set the offset distance and select whether the entity is copied or moved. Then, click on the entity you want to offset and then click the side of the entity you want to offset to. **Offset** straight lines are the same length as the original, and **Offset** arcs have the same included angle as the original.

Entities can be deleted by entering the **Delete** mode. Press the **Delete** icon or select **Delete** from the Right Click Menu. Several **Delete** modes are available:

**Single Delete** - This will delete any single entity that you click on.

**Inside Window** - This will pen a mode where you can pull a red rectangle or window using the mouse. Any entity that is completely within the window is deleted. An entity that touches or crosses the window frame is not deleted. Only entities completely inside the window are deleted in this mode.

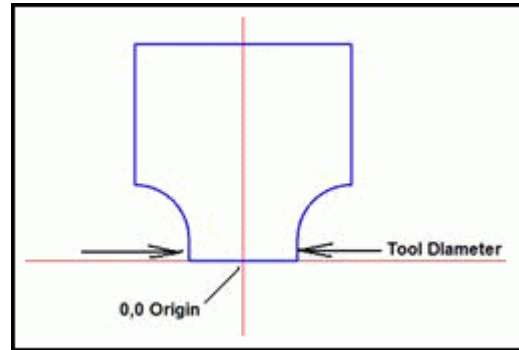
**Inside Intersect Window** - This also opens a mode where you can pull a window; however, in this mode, any entity that has any part of it inside or touching the window is deleted.

**All Entities** - This does just what it says, it deletes everything.

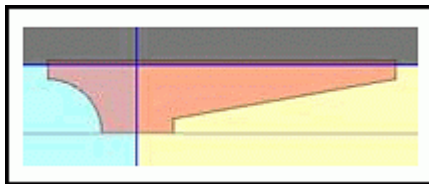
## Creating Profile Tools

Profile tools are created by first creating a closed geometric shape, and then using this shape to create the tool. Geometric shapes created in this area can be saved and then loaded and used again. Once the geometry is complete, you can create a tool using the **Create Tool** icon or by selecting **Create Tool** from the Right Click menu. Remember, to create a tool, you must have closed geometry, which means that the outline must be a continuous closed curve with no gaps or openings. Tool shapes should generally be drawn symmetrical with their full shape.

The tool diameter is the shank diameter from the beginning of the cut profile on one side to the cut profile on the other side. This is also generally the diameter of the shank that mounts in the router collet.



## Using Non-Symmetrical Tools



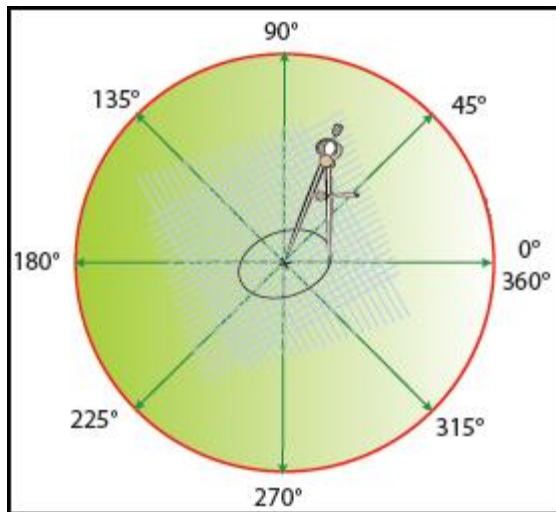
The illustration at left shows a cross section of a non-symmetrical tool. It is clear that the shape of that tool matches the illustration of the raised panel door, shown on the right. Obviously, this tool cannot actually be made as a rotating router bit. It can, however, be used in *eCabinet Systems* to create a machined channel in a part that has a different profile on each side, as shown. When sent to a Thermwood CNC router, these shapes can be "modeled". Modeling consists of machining with a 1/8 or 1/4 inch ball nose router bit that steps over 0.01" to 0.02" with each pass as it develops the shape. Square inside corners are then machined using a square bottom bit. The Thermwood SuperControl automatically develops the modeling program needed to make a part, if a tool does not already exist with the correct profile.

This ability to model almost any profile without specially ground tooling can dramatically decrease costs when a limited amount of production is needed. It also dramatically increases flexibility for shops that build custom products. If the channel in the part is cut with a rotating router bit, inside corners are typically round with the same radius as the router bit. If you create a contour with square corners, the inside profile will be squared off as shown.

**Note:** In the **Shape Manager** data, as exported to *eCabinet Systems*, it is not possible to create a profiled corner on an inside cut that has a radius less than the radius of the router bit at its largest radius. If you want to simulate the effect of the radius corner that results from using a router bit, you will need to use a fillet equal to the radius of the tool.

## Custom Layout Details

This section features some additional information regarding the **Custom Layout** area. Many new features have been added to *eCabinet Systems Version 5.2*, but a majority of the basic operations have been unchanged. A few of the more common operations are detailed here, as well as some of the changes.



**Note:** In **Custom Layout**, angles begin at the 3 o'clock position and go around counterclockwise back to zero.

### Adding Picture in a Picture Frame to a Wall

Proceed to **Custom Layout, Elevation/Wall View, Select Items to Install, Wall Specific Items, Window**. For the "picture", use the **Outside Image**, press Change and select desired image. (See the section in this manual titled "**Common Menu Operations, Select Image**" for additional information.) The **Window Trim** becomes the "picture frame". Enter the desired **Width** and **Height** sizes, have zero **Mullions** selected, and do not check **Apply to both sides of wall**.

### Adjust Mounting Height of Installed Items

From **Custom Layout, Overhead/Main View**, select one or more Items, and Associate them to a wall. Select that wall and then proceed to the **Elevation/Wall View** and then select the item or items. Confirm that the **Move Increment, Objects** is set to the desired measurement, and press the **ARROW keys** to move the Item to the desired position.

## Align Installed Base Cabinet With an Upper Cabinet

Start in the **Custom Layout-Elevation/Wall View**, with the wall containing the base and an upper cabinets installed. Highlight the desired base and an upper cabinet. Select **Adjust Cabinet Features-Resize/Equalize**, and specify which cabinet will be the one that moves:

**Anchor Lower** - This ensures that the lower cabinet remains fixed, while the upper cabinet moves.

**Anchor Upper** - This ensures that the upper cabinet remains fixed, while the lower cabinet moves.

Now, specify how you want the cabinets aligned. There are 4 choices:

**Center** - This will align the centers, cabinet widths remain unchanged

**Align Right** - This will align the right edges, cabinet widths remain unchanged

**Align Left** - This will align the left edges, cabinet widths remain unchanged

**Equalize** - This will make the cabinet widths both equal to the width of the anchored cabinet and align them above each other.

Press **Return** and then **Done** to complete this operation.

## Change Texture for Only One Wall or Floor

This can be accomplished by creating a thin **Display Cube** that is the size of the room, putting the desired image on it and locating it on the floor. Start in the **Custom Layout Overhead/Main View** with a layout that has more than one room. Select **Install Item**, and choose **Display Cubes**.

In the **Width** and **Length** boxes, input the width and length of the desired room, and in the **Depth** box input .01". Press the **Select Image** button to acquire the desired image (texture), and place it on the face of the **Display Cube** as desired.

## Controlling the View

Once a room is created and detailed, the layout can be viewed from virtually any angle and distance. The **Angle** and **Rotate** slider bars tilt and rotate the room or, the **Shift** key and left mouse button can be used. Left to right motions rotate the room, while up and down movements tilt it. **Reset View** restores the standard overhead view, and **Perspective** sets the room to a standard perspective view. The + and – buttons to the left, or the "+" and "-" keys on the keyboard can be used to zoom the image. The four **Arrow buttons** on the screen or the **ARROW keys** on the keyboard will pan the room left, right, up, and down. Should a wall block your view, you can **Hide** it. Two options are available. You can **Hide Wall Only** or **Hide Wall and Associations**. The related **Restore** commands are available as needed. Pressing **Reset View** also restores all walls. Finally, if you placed lighting, you can turn it on and off using the **Lighting Effect** controls.

## Creating and Editing Walls

Walls are created from above, looking down on the room. All walls are vertical and all walls are straight. Walls can be created either perpendicular to, or at angles with each other. **Wall Thickness** can be changed in **Edit Wall View, Wall Dimensions**, but the wall can only be one thickness. Angled or tapered walls are not permitted. **Wall Height** can be changed in **Edit Wall View, Wall Dimensions**. The **Left, Right and Center Heights** can be changed, but the **Center** will always show the average dimension between the two; the slope must be linear. To create a cathedral or other special shape wall, you can either build the wall from multiple vertical segments or add appropriate **Geometry** to the existing wall to meet the desired shape.

**Note:** Curved walls can be simulated by creating a large **Display Cube** in the **Cabinet/Assembly Editor**, then by taking it to the **Part Editor** and creating a curved wall of the appropriate size. This will then need to be taken to the **Display Part Editor** to apply a representative texture, and then to be entered into the room as an Item.

## Drawing Leaders

A **leader** is an arrow and line generally pointing to something and it may or may not have text associated with it. To place a **leader**, from the Right Click menu select **Insert** and then **Insert Leader** or select the **Insert Leader** icon from the toolbar. The cursor will then change to the leader symbol (arrow with a long, bent tail). Click where you want the tip of the arrow to be, and pull out the line in the direction you want, and then click to anchor the tail of the line. You can now type text you want associated with the leader. Press the **Esc** key or click the mouse away from the text to complete the leader. Edit existing leader text by holding the **Shift** key and clicking on the text. You can now use the backspace to remove text, or type additional text as needed.

## Editing a Dimension or Text

To adjust text position only, highlight the text, and press **Shift + Left Click** and move the mouse. To adjust both the lines and the text position, highlight the lines (text will also highlight), and press **Shift + Left Click** and move the mouse.

## Measuring Distances in Custom Layout

Highlight any two objects in **Overhead/Main View**, and then move the mouse away from them and the linear and triangular distances will automatically appear.

## Wall/Floor Textures

Wall and Floor textures can be adjusted or changed as needed. Right click a wall or floor and select **Wall/Floor Texture**. One option is to select a new texture from images available, by selecting **Change Texture**. This will also let you add a new image to the selection, which can be used for the application of custom finishes, colors or patterns. Notice that selecting a new texture does not make it the **Default Texture** but simply accesses a palette that allows you to work with a second texture. Once selected, you can select how the texture is placed on the wall. You can have the system automatically tile the image, which is good for wallpaper images. You can also stretch a single copy of the image over the wall, and this can be useful for taking a digital photo of an existing real-life wall and recreating it in the room. You can also tile the image manually, specifying the number of rows and columns. To place the texture on a wall, press and hold the **Ctrl** key, and the symbol of a paint roller will appear. Clicking the paint roller on any wall will change its texture. You can release the **Ctrl** key, rotate or re-orient the room, and then press **Ctrl** key again to texture walls that could not be accessed from the first view.

**Set All Walls to Default** sets all walls to the current default texture (which is set in **Custom Layout Parameters**). **Set All Walls Like This Wall** sets all walls to the texture of the wall you previously selected. **Set Floor to Default** sets the floor to the current default texture as set in **Custom Layout Parameters**. **Use Default** sets the wall you just selected to the current default texture. **No Texture** reverts the wall to a flat gray color with no texture. Selecting **Walls with No Texture** will cause the walls to not react to any commands that will texture all walls.

If you require two separate textures on a single wall, (a chair rail with different wallpaper on the top and bottom for example) you will need to texture the wall with the first texture. Also, there may be times you may want to create a multi room layout, with different floor images in each room. Alternatively, you may want a different floor appearance in one section of a room or a hall. The only way to get a different images in the same layout is to map that image to a thin **Display Cube**.

Create a **Display Cube** the size of the room and 0.1” thick. Then, map the desired image to the cube using the **Stretched** selection. (If needed, see the section in this manual called "**Common Menu Operations, Select Image**" for additional information on this.) Since the bottom of the cube is automatically placed on the floor when it is created, all you will need to do is slide it into position from overhead. If you need to rotate this object, use **Edit Options**, to rotate it as needed about the Z-axis, then press **OK**. Use **Ctrl + Right Click** to move and place the **Display Cube**, then press **Esc** when done.

**Note:** When creating rugs to place on these **Display Cube** floors, make the cube thickness 0.2” instead of 0.1”. This assures that the top surface of the rug cube will be above the floor cube, and that the rug will be visible.

## Creating a Countertop With Sink Using a Display Cube

Most countertops are best developed using the **Countertop Editor**. Should something be required that the **Countertop Editor** cannot produce, you can use a **Display Cube** that is developed in the **Cabinet/Assembly Editor**. Then it is trimmed and modified using the **Part Editor**, and then it can have a texture and other details applied in the **Display Part Editor**. Additionally, there it can be merged with sink and faucet images.

Determine the overall dimensions needed to cover all cabinets and other items (including any overhangs), and load a **Display Cube** into the **Cabinet/Assembly Editor**. Input these dimensions as the **Length** and **Width**, and Input the thickness of the countertop as **Depth** and press **OK**.

Highlight the cube and send it to **Part Editor**. It is simpler to remove material than to add it, so use the **Circle**, **Rectangle** and **Filled Arc** tools to create geometry that overlaps everything on the panel except the area you want as a countertop; leave the "good" countertop areas uncovered. This can be the place to cut out the sink location now, also. Now select this geometry and **Cut Through**, **Cut/Pocket Using Geometric Shapes** to remove the unneeded material. Continue to modify the remaining material as needed to get the final shape and then send this part now back to the **Cabinet/Assembly Editor**.

**Export** it as an ".hsf" file, and then open **Display Part Editor**, and load this part in the **Display Part Editor**. Modify the appearance and texture until you are happy with this part and then save it. Now, insert a sink file and place it into the countertop image. Save this as a new file, and then insert a faucet, and place that appropriately. Save that as a new file. Now place this **Display Item** in **Custom Layout**, move it to the proper elevation and **Associate** to appropriate wall.

## Creating a Custom Item with a Cabinet

This procedure uses images of actual items (a range, a car, a TV, a mailbox, etc) that are placed on the surface of cabinet that has been modified to act as a shape template, to create realistic items to install and display in the **Custom Layout**. These must be must be developed in the **Cabinet/Assembly Editor** and saved as an **Assembly**.

To begin, locate and save (in a temporary directory) the various images of the faces (front, top, left side, etc.) of the desired item. Carefully crop these images so that only the actual desired surface is visible, using an image editor such as Microsoft Paint or the **Image Control** program in *eCabinet Systems*.

In **Cabinet/Assembly Editor**, select **Load Item, Std. Detached Toe**. Change **Cabinet Width**, **Cabinet Height** and **Cabinet Depth** to the desired dimensions. Modify the cabinet to the shape desired (you can use all the **Cabinet/Assembly Editor** features including **Part Editor** at this time) and then select the entire cabinet and **Export** as an ".hsf" file. Load item into Display part Editor, and apply the images to the desired faces. See the section titled "**Display Part Editor Details**" for more information on this procedure. When the item looks as desired, **Save** part and then it will be available as a **Display Object**.



## Creating a Custom Item with Display Cubes

This procedure uses images of actual textures (rust, water, dirt, fabric etc.) that are placed on the surface of **Display Cubes** to create realistic items to install and display in the **Custom Layout**. However, since some of these designs may require several cubes they must be developed in the **Cabinet/Assembly Editor** and saved as an **Assembly**.

To begin, locate and save (in a temporary directory) the images of the Texture of the desired item. Carefully crop these image so that only the actual desired surface is visible, using an image editor such as Microsoft Paint or the **Image Control** program in *eCabinet Systems*.

In **Cabinet/Assembly Editor**, select **Load Item, Display Cube** and input the **Width, Length** and **Depth** as desired. Press **Select Image**, and then at the lower left, press **Add Image**. (See the section in this manual titled "**Common Menu Operations, Select Image**" for additional information.) Select the image you just created and it will be applied over the **Display Cube**. Stretch to fit, and then, if needed, move the **Insert Target** to where you want the next **Display Cube** placed. Load any additional **Display Cubes** as detailed above. Thin **Display Cubes** can also be placed adjacent to the existing Cubes. Use **Rotate** and **Align** to position the second **Display Cube** on top of the first. Now **Save** the two **Display Cubes** as an assembly.

## Walls - Creating and Manipulating Them

Before creating walls, set the **Add Wall Parameters** values for **Height** and **Thickness** to the values desired. These values are applied to newly created walls only, not to any existing walls, and can be changed before the end point is defined. It is also possible to change the **Wall Height** value, after the first point of a wall is defined, to create angled height walls, but variable thickness walls are not supported. Also, when doing most actions, look along the bottom of the screen for some **QuickTips** on how to perform the current **Action**.

### Create Single Wall

From the **Action** field, select **Create Single Wall**. Notice that focus is automatically placed in the now active **Enter Start Point** field. To begin construction of a wall, you can type an X, Y start location or click anywhere in the view area to select a point. Also, moving the end of the wall to the edge of the display will activate the **Auto Zoom** feature. The view will automatically adjust and it will zoom out to the extents of this wall. While moving a wall around in the view, you will see the **Wall Length** and **Wall Angle** fields update and the focus will be in the **Wall Length** field.

An **End Point** for the wall can be manually entered, either in **Absolute** or **Incremental** mode, or with a mouse click and focus will stay on the **Wall Length** field in case you want to change this dimension.

Discontinue a wall from being created by pressing the **Esc** key, while noting that you are still in **Create Single Wall** mode. In this way, you can quickly continue on, if you selected a wrong start point, for example. Pressing **Esc** one more time will cancel **Create Single Wall** mode and will then return the **Action** to **Select Mode**. Also, at any time, you can select **Esc** to back out one-step at a time until **Select Mode** is active again.

## Wall Nodes

If you move the pick box over the end point of a wall, you will notice the blue **Wall Node** that appears. If **Object Snap** is On, a wall will start exactly from that end point, and will automatically be connected with a **Miter**.

## Build Direction

Notice the thick black line on one side of a wall. This denotes the primary side of the wall, and the **Build Direction** is out from this face. In addition, the default wall image (or texture) will automatically be applied to this face. **Build Direction** can be changed for the current wall from the Right Click menu, by selecting **Wall Options, Reverse Build Direction**. The Hotkey **V** can also change the **Build Direction**.

## Wall Miters

It is important to know that if the end points of the walls do not meet at the exact same point, or if the **Build Directions** for the walls do not match, a **Miter** will not exist.

## Create Rectangular Wall

If you need a square or rectangular room, choose the **Create Rectangular Walls** option from the **Action** field, and this will create a set of 4 connected walls.

## Dimension Format Override

In **Custom Layout**, you can type in the other point using feet, inches and fractions, even though the default **Dimension Format** is set to inches and decimals. Any dimension format can be entered, regardless of your current format, as long as you use the correct formatting symbols.

## Manipulating Walls

When manipulating walls, by default, the end point of a wall will be adjusted. However, if you would rather have the start point of the wall move, then you must select the **Wall Node** at the start point of the wall. If you want both ends to adjust equally, both **Wall Nodes** must be selected.

## Wall Angle

The angle of a wall can be changed as well. **Wall Angle** starts from the 3 o'clock position and goes around counterclockwise back to zero. When both **Wall Nodes** are still selected, a wall will rotate around its center. If none of the **Wall Nodes** are selected, it would default to pivot about the start point of the wall. Selecting just one **Wall Node** will move that end, and the wall will pivot from the opposite end. Walls can be adjusted or moved with the mouse, too, as long as it is selected, along with one of its **Wall Nodes**. With the mouse anywhere in the view, hold the **Ctrl** key, and then Right Click and drag, and the selected end of the wall moves. Let go of the right mouse button to disengage this movement.

## Wall Nodes While Manipulating Walls

If **Object Snap** is on, the end of a wall can be moved to any other **Wall Node** and it will snap to it as soon as the pick box comes in contact with it. Press **Esc** once, and note that only the **Wall Nodes** deselect. This is useful if you just want to change the **Wall Node** selections for highlighted walls. Now, press **Esc** again and it will deselect all of the highlighted walls.

## Edit Wall Area

**Edit Wall Area** is used to change heights and thickness of previously created walls. It also allows you to cut shapes out of, or add shapes to walls. If more than one wall exists, you will see the **Choose a wall...** dialog appear. After selecting the desired wall, you will be presented with the face view of the wall. Remember that any changes are applied only to this wall.

## Adding or Deleting Material to a Wall

Three types of **Geometries** are available to be used to add or cut through a Wall, and with these, an almost unlimited array of Wall shapes can be constructed. The geometries are **Circle**, **Rectangle** and **Three Point Arc**. The **Geometries** can be created with the mouse or with the actual coordinates, in either **Absolute** or **Incremental** mode. If **Object Snap** is set to On, the **Geometries** will snap the points to any **Wall Nodes** that are displayed, just as with creating and editing walls.

## Geometry Usage

Initially, all **Geometries** have a grey transparent fill color. This signifies that the geometry is in a **Neutral** state, which means it is neither added to nor, cut from the wall at this time. Select a **Geometry** by clicking it, which will turn it red.

## Cut Geometry

Now, from the **Action** field, select **Cut Geometry**, and the former gray transparent fill color will change and the border of the **Geometry** now shows a dashed line, which signifies that this **Geometry** will be **Cut** from the wall. Be advised that all **Cuts** are through cuts.

## Add Geometry

Select **Add Geometry** from the **Action** field. The grey transparent fill color changes and the border of the **Geometry** becomes a solid line, which signifies that this **Geometry** will be **Added** to the wall. Notice that **Geometry** added to walls will not have **Miters** applied to it. Also, the black line representing the face side of the wall will show across any added **Geometry** placed in those areas, (this line will not show when in **Render View**).

## Moving Geometry

With the mouse anywhere in the view, hold the **Ctrl** key, and then Right Click and drag to move the **Geometry**. Release the right mouse button to disengage the movement.

## Move Increment Functionality

Now we will use the **Move Increment Functionality**. Set the **Move Increment for Objects** as desired and then press one of the **Shift + ARROW keys** combinations to move the **Geometry** in the direction shown. Press **Esc** to deselect the geometry.

## Rotate Mode

Select **Rotate Mode** from the **Action** field. First, define the base point, or the point at which the **Geometry** will rotate about. This can be picked with the mouse, a manual point can be entered in the **Enter Rotation Point** field or if **Object Snap** is On, it can be snapped to one of the displayed **Wall Nodes**.

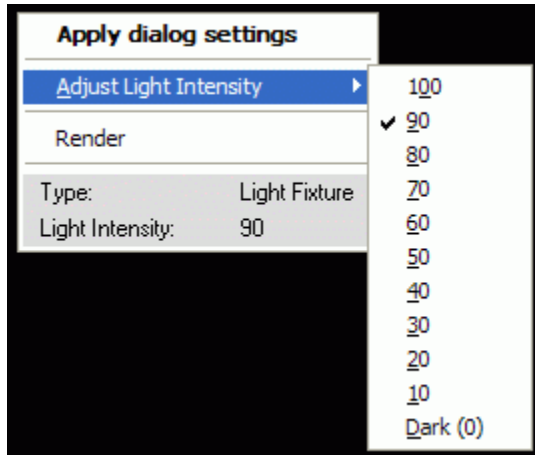
## Presentation View Details



In most cases, simply setting up lights as they might appear in the final Job will likely not generate adequate lighting, in the same way that using only an overhead light bulb or two in a photo studio will not provide great photographs. Therefore, for presentations, extra lighting must be skillfully and discretely placed. As shown in the illustrations, the **Presentation View** is a sophisticated program that can generate photorealistic views of your layouts. The **Presentation View** works with lights you place in the workspace, realistically generating lighting effects, as well as reflections and shadows that are a result of the lights and their placement.

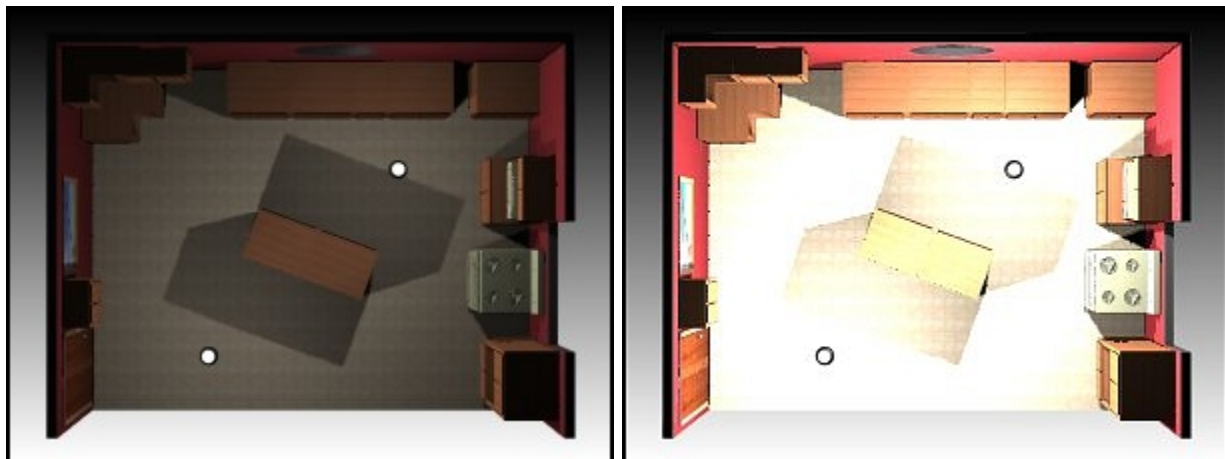
Press the **Presentation View** button, and the scene will now render, using the settings that were in effect when you last used the **Presentation View**. There are two basic controls currently available to control the lighting. **Light Intensity**, which only applies to lights, and **Shine**, which applies to any item that has a texture.

## Lighting



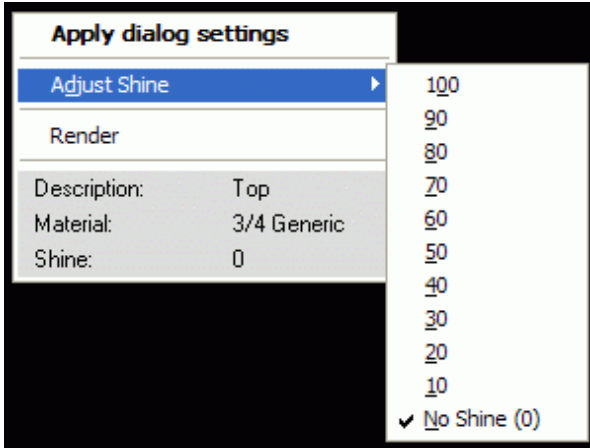
Lights can also be added to the room. However, at times the appearance of the **Presentation View** may have too many shadows, have poorly lit areas or other lighting issues when using just the **Light Fixtures** that may be in the "real" room. This can be addressed by using "hidden" **Light Fixtures**. Install an **Inset Light** or a **Dome Light** in the room, where their illumination corrects the above issues, but out of view from the final displayed presentation. Also, if you do not need to show the actual fixture itself, you can place the light, and then turn off **Light Fixtures** in the **Show/Hide Right Click Menu**. The fixtures will not be displayed, but they still are a light source in the rendering.

**Note:** The only lights that will actually illuminate scenes are the ones supplied with *eCabinet Systems*.



The intensity of a light fixture can be controlled as well. Use the **Light Intensity** control (Adjust either the slider bar at the bottom menu or from the Right Click menu). The illustration above on the left shows both lights at 20% intensity, while the one on the right has them at 90% intensity.

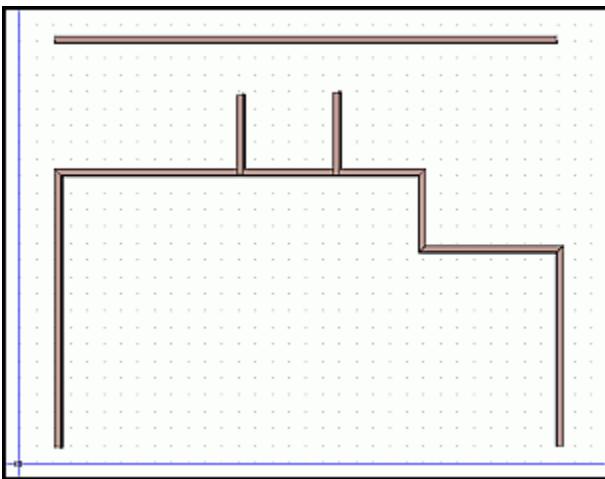
## Shine



**Shine** provides the illusion of reflections. If the **Shine** is 100%, then the surface can be thought of as a mirror; everything will be seen on it as a reflection. A **Shine** of zero would have no reflection whatsoever; it would be a dead flat sheen. When setting the **Shine**, it is a good idea to add a small amount of **Shine** to just about everything. This is because the rendering engine process data accurately only after a **Shine** value is assigned to a texture. Some items can be given a 1% **Shine**, while others the minimum is 10%.

Basic settings are done by Right Clicking on the item (confirm the intended item is correct via the **Description**) and selecting **Adjust Shine**. Experimentation is needed to see the differences, since every scene and angle may have different requirements, but it is easy to manipulate these variables to produce images of photographic quality.

## The Big Picture - A Room with a View



It is even possible to create an "outside" scenery, so that it appears you are looking out the window and door openings at a back yard. This is easily accomplished by going to **Create Single Wall in Custom Layout**. Create a wall that is a few feet taller than the existing walls, and also create two walls that protrude straight back as shown. (These will be used to direct the lights that are placed to simulate the sun shining through the windows and door.) Now, add the scene to the back wall, which will be viewed through the windows and door.



Add three lights to simulate the Sun, so that the sunlight on the floor points in the same direction through all three openings. If we used a single light, the light would radiate out at different angles and not look natural. An extra light at the rear left corner was added to help light up the "barn scene" wall; its output will not influence the interior lighting. Placing and adjusting these extra lights is a trial and error process, and you may need to generate a few test images, then add or adjust lights to get the effect you want.



Finally, add the two center lights (at a height that will be seen in the final image) and two more, toward the back of the display, which will not be seen in the rendering. The intensity of the light coming from each of these is adjusted to light and highlight the room. The height of the lights is adjusted by associating the light to a wall and then moving it in **Elevation View**.

Adjust the scene by rotating it to approximately the orientation that will eventually be desired, but move out far enough that all lights are visible. Now adjust the **Light Intensity** of each of the lights. In this example, 60% was used for the outside lights that simulate the Sun.



## Line Drawing Editor Details

The **Line Drawing Editor** is used to develop traditional line drawings for the different aspects of the Job. The process starts by sending a cabinet, group of cabinets or assembly from the **Cabinet/Assembly Editor**, or by sending a cabinet, group of cabinets, wall or entire room from **Custom Layout** to the **Line Drawing Editor**. The default page size is automatically set to the active page size of the current default printer on your computer. If you want a different page size, set the desired page size in the **File, Print** area, and then select the printer or plotter you want to use for printing, or just for the page size, and select the proper page size before accessing the **Line Drawing Editor**.

The key concept of the **Line Drawing Editor** is a concept called a **Line Drawing Object**. A **Line Drawing Object** is essentially a three-dimensional line drawing, geometric representation of parts, cabinets, walls and complete custom layouts. The **Line Drawing Object** contains every bit of geometric data about the object. Although the **Line Drawing Object** is a full three-dimensional representation of the object, a cabinet for example, you cannot access all the information at once. From a front view, it appears to be a two-dimensional line drawing of the cabinet front, and all dimensions for the front area available. Data for the back is not available from the front view, however. To get data for the back view, you need to rotate the **Line Drawing Object** of the cabinet until you have a back view. Now, the same object looks like a line drawing of the back of the cabinet. The original **Line Drawing Object** of the cabinet is copied and pasted twice resulting in three complete copies of the cabinet. One drawing is turned to the side, and a second is turned to the top. The drawings are then moved to the proper position relative to each other and dimensions are added.

There are four types of **Line Drawing Objects, Parts, Cabinets, Walls and Rooms**. Thus, the first four icons on the toolbar are **Cabinet, Part, Wall and Room**. If you select **Cabinet**, complete cabinets highlight when you pass over them, if you select **Part**, then individual cabinet parts highlight and can be selected. (You cannot select an entire cabinet in the **Part** mode, nor can you select a part in the **Cabinet** mode. You can only select the type of object that is currently active, based on your toolbar selection.) The **Room** selection shows the entire **Custom Layout**.

You cannot disassemble a **Line Drawing Object**. If a cabinet is part of a wall, you cannot move or rotate it by itself. The same thing applies to parts on a cabinet; you cannot move a door away from a cabinet. You can, however, highlight the door, copy it and paste it somewhere else on the drawing (or to another page) where it can be moved and rotated at will. There also is the **Hide** command, which lets you hide a selected object so you can access objects behind it. When the object you want to hide changes to magenta, click it. This will highlight (turn it green) it, and then you can Right Click to bring up the Right Click menu. Select **Hide** and the object will disappear, offering access to objects behind it.

A **Grid** is available to assist in locating objects. **Grid** settings are accessed from the **Grid Settings** selection in the Right Click menu or from the **Grid Settings** icon on the toolbar. Grid dimensions are set based on the size of the drawing sheet. A 0.5 inch by 0.5 inch grid represents a 0.5 inch by 0.5 inch square on the printed drawing sheet.

The **Line Drawing Editor** supports multiple pages. Each page is a separate drawing, but again, objects can be copied and pasted between pages. Each time you send a **Line Drawing Object** to the **Line Drawing Editor**, it is placed on a new page. You can also create a blank new page using the **Add Page** icon, and you can also **Rename** the pages.

**Important:** - The page size and orientation (Portrait or Landscape) for a drawing is determined by the current Print Settings (File, Print Setup).

## Acquiring Line Drawing Objects

**Line Drawing Objects** are sent to the **Line Drawing Editor** from either the **Cabinet/Assembly Editor** or **Custom Layout**. To transfer a **Line Drawing Object** of a cabinet from the **Cabinet/Assembly Editor**, without immediately proceeding to the **Line Drawing Editor**, select the cabinet and then select **Reports, Drawings, Send Cabinet**. To move to the **Line Drawing Editor** with the cabinet, select the **Line Drawing Editor** icon from the top toolbar, select **Take Cabinet** and press **OK**.

Sending a **Line Drawing Object** from **Custom Layout** is similar. Use the Right Click menu to send a **Line Drawing Object** or use the **Line Drawing Editor** icon to transfer to the **Line Drawing Editor**. In **Custom Layout** however, you must indicate what you want to send. If you want less than the entire layout, highlight the object or objects you want. (If you want the entire layout, do not highlight anything.)

## Adding and Editing Notes

Notes are text statements that can be placed on the drawing. To place a note, select the **Note** icon from the toolbar or select **Drafting Mode, Notes** from the Right Click menu. Then click to locate the note and begin typing. Press **Esc** or click the mouse to end the note. Edit an existing note text by holding the **Shift** key and clicking on the text. You can now backspace to remove text or type additional text as needed. You can also use the Windows copy and paste commands (**Ctrl + C** to copy and **Ctrl + V** to paste) to copy text from other applications onto the drawing. Text is pasted at the current cursor location.

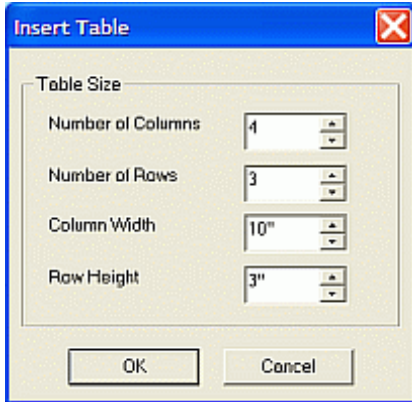
## Adding Cabinet Numbers

When a custom layout was created, each cabinet was given a number based on the order in which it was added to the job. This number is used for all reports within *eCabinet Systems*. To display the **Cabinet Number** on the drawing, highlight all cabinets you want cabinet numbers for and press the **Cabinet Number** icon or select **Insert Cabinet Numbers** from the Right Click menu.

**Cabinet Number** text is placed in the current font, size and color. Once placed, the **Cabinet Numbers** can be selected and green highlighted as a Part. Once selected, they can be moved, and their font, size and color can be changed.

**Note:** Pressing the **Cabinet Number** icon or selecting **Insert Cabinet Numbers** from the Right Click menu after cabinet numbers have been moved returns them to their original location but does not change the font.

## Adding Tables



From the Right Click menu select **Insert, Insert Table** or select the **Insert Table** icon from the toolbar. A dialog appears where the details for the table are defined. When it is defined, press **OK**, and the table will be placed in the drawing. Once it has been placed, it can be moved by using **Shift + Right Click**. The table can be resized by clicking on the lines and using **Shift + Left Click**. Shift and click into a cell to enable typing in the cell. Use the **Backspace key** to erase text from a cell.

## Adding Text to a Drawing

Activate any dimensioning mode except **Leader** or **Note**, and then select the **Font Control** icon or select **Text Font** from the Right Click menu. Select the Font, Style and Size and press **OK**. Select the **Drafting Parameters** icon or Right Click and select **Drafting Parameters**. Set **Text Spacing** and press **OK**, and then move the cursor to the place you want the text to begin, and type the desired text. Left Click or press **Esc** to exit.

## Adding Text to a Table Cell

Select the **Font Control** icon or select **Text Font** from the Right Click menu. Select the **Font, Style and Size** and then press **OK**. Now, select the **Drafting Parameters** icon or Right Click and select **Drafting Parameters**. Set text spacing and press **OK**. Press **Esc** to remove any highlights. Hold **Shift + Left Click** on a cell and it will turn green, indicating that text can be added. Press **Esc** when complete.

## Adjust Line Density

Because of the technique used to create lines, sometimes lines are broken and not solid or, interior lines can bleed through to the front. This effect varies from system to system so an adjustment is available. Select the **Line Enhance** icon or select **Line Intensity** from the Right Click menu, and then adjust the number to achieve acceptable lines (3 is default), and press **OK**.

## Adjust Line Position in a Table

Activate any dimensioning mode except **Leader** or **Note**. Press **Esc** to remove any highlights, and move the cursor over the line, and when it turns magenta, Left Click, and it will now turn blue. (It is possible to highlight more than one line and they will all move together.) Press **Shift + Left Click** and move the mouse, and when positioned, release **Shift + Left Click**.

## Adjusting the Drawing

Cabinets and all associated dimensions can be moved by highlighting it and using **Shift + Left Click**.

Position of dimension text is adjusted by highlighting it and then using **Shift + Left Click**.

A dimension line and the associated text is moved by highlighting the line and using **Shift + Left Click**.

The text portion of a leader is moved by highlighting it and using **Shift + Left Click**. To edit the leader text as well as the leader itself, use **Shift + Right Click**. Notes are moved using **Shift + Right Click**.

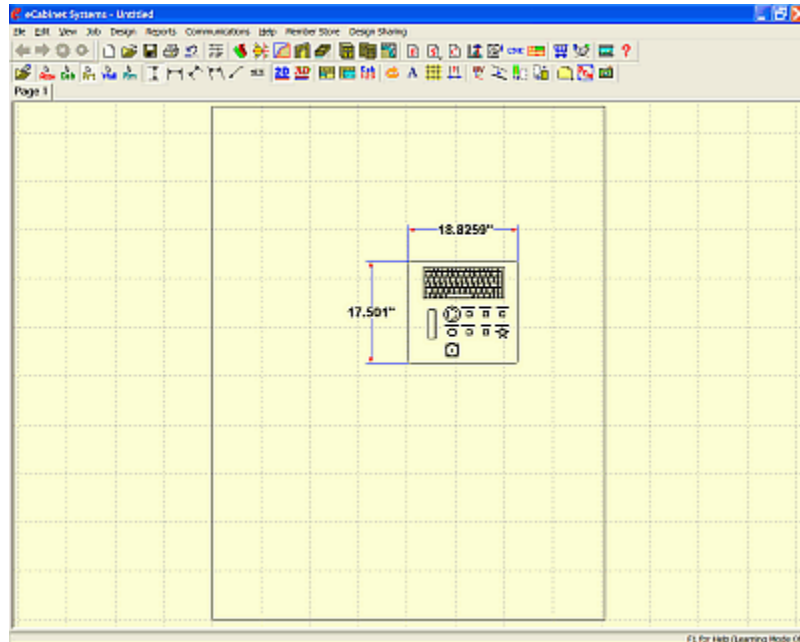
## Adjusting a Dimension, Note or Text Font

The **Font** icon or **Text Font** from the Right Click menu opens a dialog where you can adjust the text font. Spacing between lines is adjusted using **Drafting Parameters**, either from the toolbar or from the Right Click menu. Changes to the font or line spacing affect any new text plus any text that was highlighted when the change was made.

## Drawing Leaders

A **leader** is an arrow and line generally pointing to something and it may or may not have text associated with it. To place a **leader**, from the Right Click menu select **Insert** and then **Insert Leader** or select the **Insert Leader** icon from the toolbar. The cursor will then change to the leader symbol (arrow with a long, bent tail). Click where you want the tip of the arrow to be, and pull out the line in the direction you want, and then click to anchor the tail of the line. You can now type text you want associated with the leader. Press the **Esc** key or click the mouse away from the text to complete the leader. Edit existing leader text by holding the **Shift** key and clicking on the text. You can now use the backspace to remove text, or type additional text as needed.

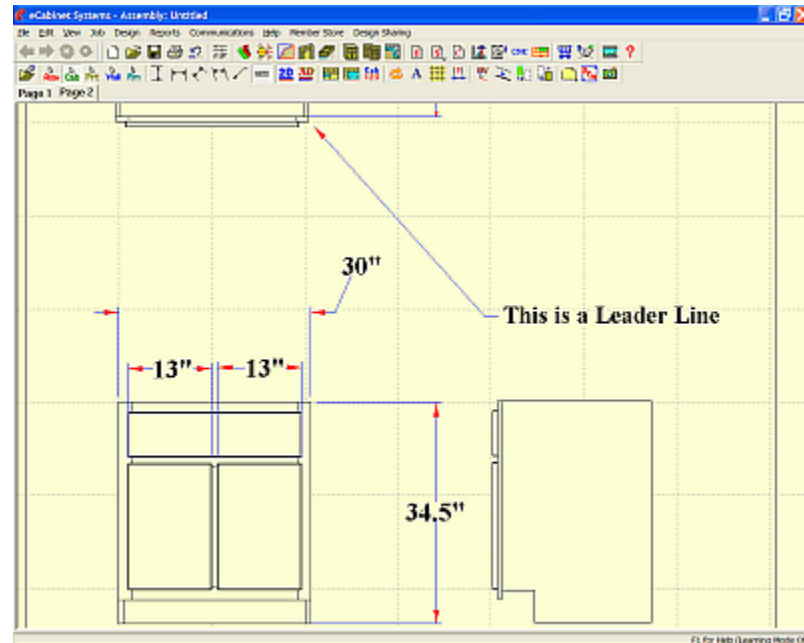
## Loading DXF Files



In addition to Line Drawing Objects, you can also load DXF drawing files into the **Line Drawing Editor**. This allows drawings or objects that have been generated by an outside CAD system to be added to a drawing. If there are nodes placed, these files can be dimensioned using the **Line Drawing Editor** dimensioning tools. To load a DXF file onto the current page, Right Click and select **Load DXF**. The drawing loaded from the DXF file is treated as a **Part** and can be copy/pasted, dimensioned, moved, rotated, or scaled, in the same manner as any other **Part**.

# Dimensioning Line Drawings

## Dimensioning a 2D Drawing



**Note:** After dimensioning a drawing, it can not be rotated again, so make sure you have your desired orientations before dimensioning.

There are four distinct Dimension Styles that determine both the appearance and measurement being displayed:

**Horizontal** means that the dimension line will be horizontal, vertically displaced from the object, and the measurement is the horizontal distance between the two nodes. The distance displayed ignores vertical or Z-axis displacement and only shows horizontal distance.

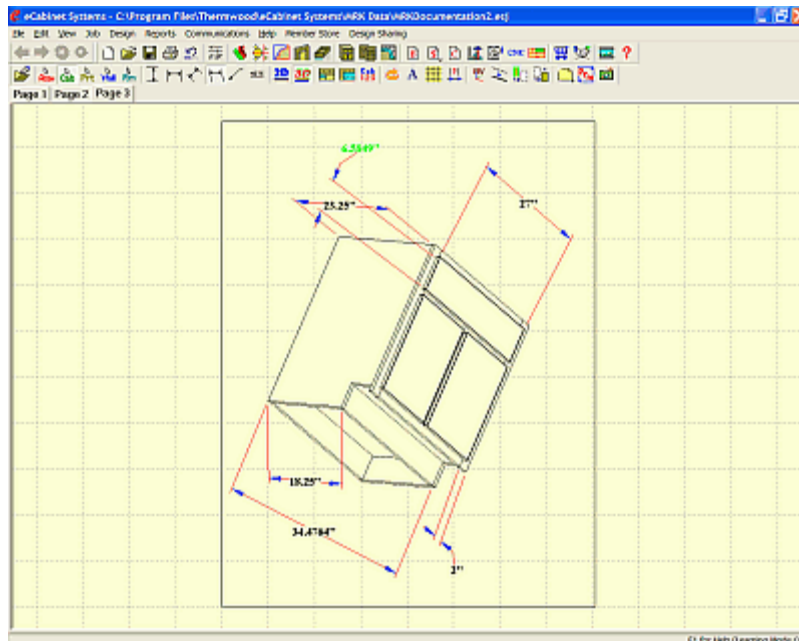
**Vertical** means that the dimension line will be vertical, horizontally displaced from the object, and the measurement is the vertical distance between the two nodes. The distance displayed ignores horizontal or Z-axis displacement and only shows vertical distance.

**Aligned** means that diagonal distance on the XY plane between the two nodes is displayed, and the dimension line remains parallel to this diagonal. Displacement of the dimension is perpendicular to the diagonal. Z-axis displacement is not considered and the dimension is the XY diagonal only.

**Free Form** also measures the diagonal distance on the XY plane between the two nodes, however, displacement is not constrained perpendicular to the diagonal but is determined by the user. Again, any Z-axis displacement is not considered and the dimension is the XY diagonal only.

Begin the dimensioning process by making certain that the **2D** icon is selected on the toolbar. Now, move the cursor over the various nodes on the cabinet. (Remember, a node is the intersection of any two lines, or the center of a hole, and you press the **M** key to see all available nodes on the page.) When you pass the cursor over a node, it highlights. Click on a node and move the cursor away, and a dimension line attached to the node follows the cursor. Highlight and click a second node, and a dynamic dimension line appears. Now, the dimension text appears and follows the cursor. Move this into the desired location, and click again to anchor it. Once the dimension text is placed, it can be moved on a pivot line by highlighting the text and, while holding the **Shift** key, and holding the left mouse button. You can delete a dimension by highlighting either the text, or the text and lines, and pressing **Delete**. Should you delete a dimension by mistake, the **Undo** icon or **Ctrl + Z** restores it. To zoom the display, hold the **Ctrl** key and pull a rectangle, notice that now the rectangle is blue instead of red, to remind that you are in the **Zoom** mode. When you release the mouse button, the screen zooms to the area defined by the blue rectangle. Press the **Home** key to return to a full view of the drawing, and then press the **End** key to return to the previous view.

## Dimensioning in 3D



The three-dimensional mode is entered by selecting the **3D** icon from the toolbar. When working in the three-dimensional mode, the distance measured between two nodes is the absolute three-dimensional diagonal distance in space. Notice that the dimension lines while working in **2D** are **blue with red arrows**, (the same as the colors of the icon). The **3D** icon is red underlined in blue, therefore, the dimension lines created in the 3D mode are **red with blue arrows**. This makes it easy to tell if a dimension was created in **2D** or in **3D**. This is essential to correctly interpret the data in the drawings!

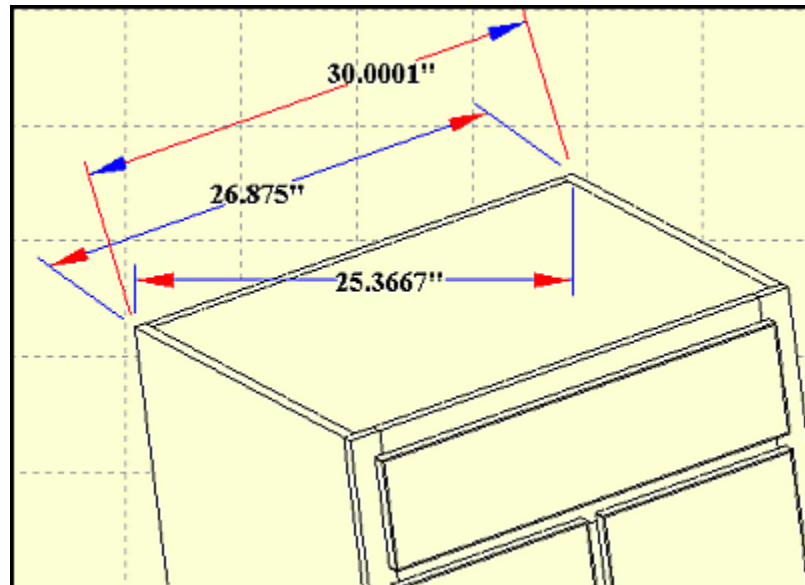
Select the **3D** icon to put the display in the 3D mode, and select **Free Form Mode**. In all of the **Drafting Modes** so far, the extension lines from the node to the dimension line were essentially fixed. Their angle was set, and could not be rotated. In **Free Form Mode**, the extension lines can be tilted to whatever angle is appropriate for proper presentation. Notice the green dimension in the illustration. It is highlighted for eventual movement.

## Creating an Exploded 3D Drawing

Select cabinet and go to **Select Mode, Cabinet**. Left Click the cabinet and it will turn green. Rotate (**Shift + Left Click**) to desired angle and then use the Mouse Wheel to explode the cabinet.

Alternatively, if you do not have a wheel mouse, you can explode the cabinet in the **Cabinet/Assembly Editor** and then take it to the **Line Drawing Editor** from there.

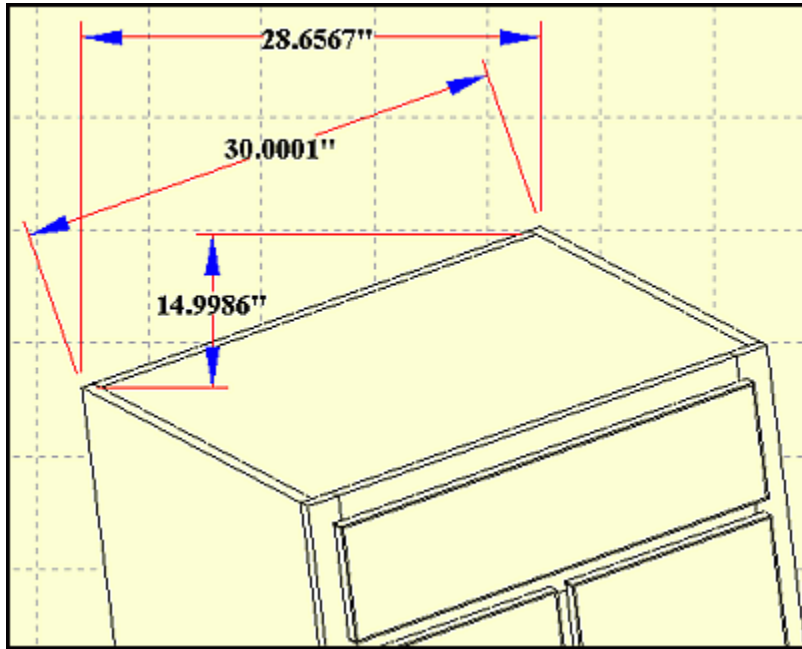
## Dimensioning Differences Between the 2D and 3D Drawings



In the above image, it is obvious that there are three different dimensions displayed for the same measurement. This is obviously impossible, and yet is correct as long as you understand the concepts of the **2D** and **3D** modes.

The (**2D**) 25.3667" dimension is the linear distance, in the horizontal plane, between the two nodes as they appear in the screen. The (**2D**) 26.875 dimension is the displayed linear distance, parallel to the back panel, measuring the same two nodes. The (**3D**) 30.001 dimension is actually the true distance. Remember that there is no Z-axis available on a **2D** drawing. Trying to dimension things with a Z-axis, such as an isometric drawing of a cabinet, will not provide the actual results. What is shown above is a **3D** isometric drawing, and the computer is only doing what it is instructed to do. This is why the **2D** vs. **3D** distinction is so important to remember.





Another example shows another issue that needs to be remembered about dimensions drawn in **3D** mode. Looking at the dimensions for the back panel width, obviously only one can be correct. One dimension was drawn in **Horizontal Mode** and one was drawn using **Aligned Mode**.

Remember, **Horizontal** is only two dimensions - literally 2D (up and down or side to side). So in a **3D** world, a **2D** dimension can (and most likely will) be wrong. Notice also that by using **Vertical Mode** (again only 2D), the dimension is also (obviously) wrong. Therefore, the following rules should apply:

**2D mode is best used when working with a cabinet oriented in a standard 2D orientation (front, side, top, bottom, back). Any of the dimension modes are appropriate.**

**3D mode is best used on isometric rotations, using the Aligned or Free Form mode for best practical dimensioning.**

## Saving your Drawings

The Line Drawing Editor saves the drawings as a Job. If you already have a Job created, and enter the Line Drawing Editor, then you should save these drawings with that Job. If you start a Job in the Line Drawing Editor, and save it, you must load your drawings first, and then go to Custom Layout.

## Manipulating Drawing Objects in the Line Drawing Editor

Once all the views have been created, it may be necessary to locate and position objects on the drawing page prior to dimensioning. **Move** the entire page by right clicking away from any highlighted objects and then move the page. The **ARROW keys** also move the page by the distance specified in **Edit Move Increment**. To **Zoom** the page using the mouse, press **Esc** to make sure nothing is highlighted and press both mouse buttons. Move the mouse up and down, to move the page in and out. The "+" and "-" keys will also zoom the page in and out. A cabinet can be exploded by highlighting it and then by using the wheel on the mouse (or by using the **PgUp** and **PgDn** keys).

There are two ways to rotate an object. Freeform rotation can be done with the mouse by placing the cursor on the highlighted object and by holding the **Shift** key and clicking the left mouse button. Alternatively, you can precisely rotate a highlighted object by highlighting it and selecting **Rotate Dialog** from the menu or selecting the **Rotate Item** icon on the toolbar.

**Note:** The rotation specified in this dialog is from the orientation that existed when the dialog was opened.

The **Reset View** selection returns the object to its original orientation.

## Selecting, Moving and Copying Objects

In the display area, there are four Select Modes on the toolbar, which are available to identify what you are trying to select.

**Select Part Mode** selects a part of a cabinet.

**Select Cabinet Mode** selects an entire cabinet.

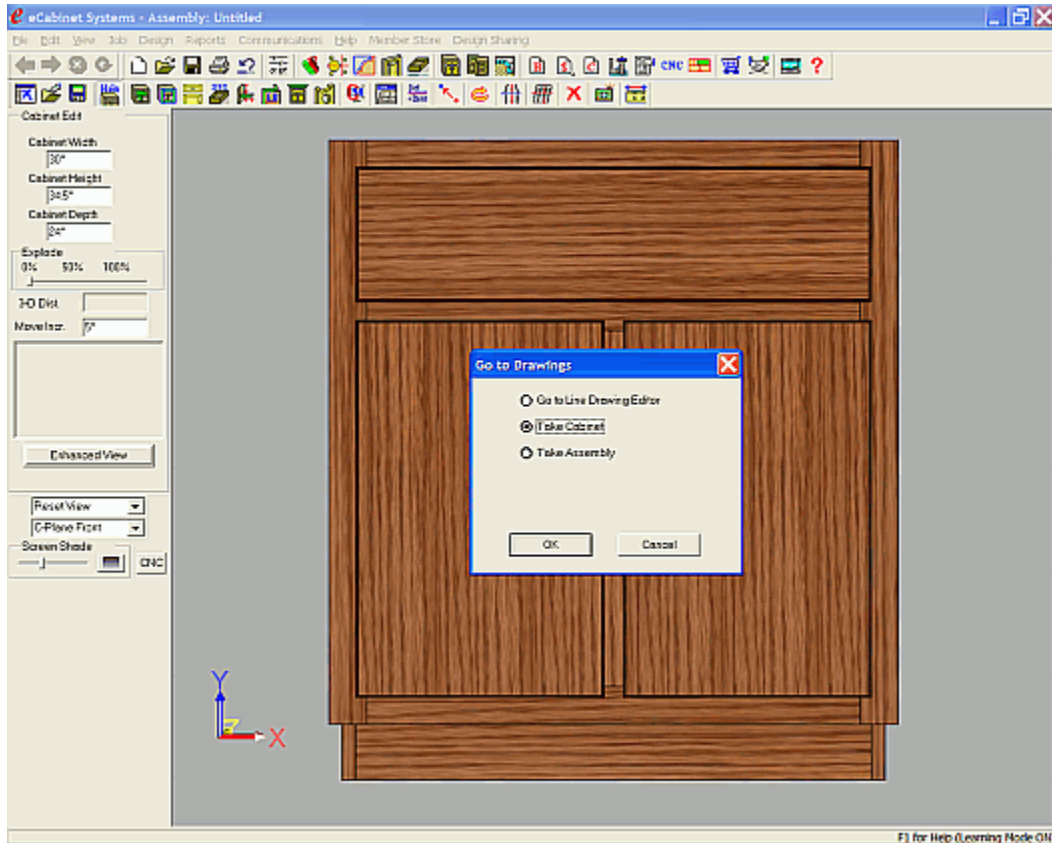
**Select Wall Mode** selects a single wall and all associated cabinets.

**Select Room Mode** selects an entire layout.

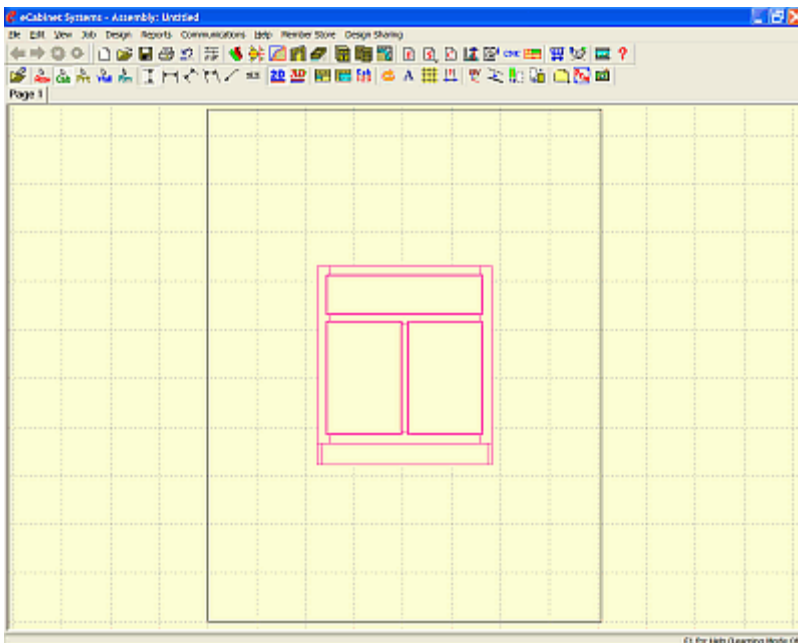
When you pass the cursor over an item, it will turn magenta color, to indicate it is available to be selected, but is not selected yet. If you click when a part is magenta, it will then turn green, which now indicates that it is selected and can be copied, pasted, rotated and moved. A green highlighted object can be cut, copied or placed by using either the **Copy** and **Paste** commands from the Right Click menu, the **Edit, Copy** and **Edit, Paste** menu selections from the Main Menu, or the Windows commands **Ctrl + C** to copy and **Ctrl + V** to paste. If you click again on a green highlighted part, it is de-selected. You can highlight multiple objects by holding the **Ctrl** key while selecting, and the **Esc** key deselects everything.

A highlighted object is moved on the drawing page by placing the cursor on the object, holding the **Shift** key and using the right mouse button. Highlighted objects are zoomed by pressing the **Shift** key while holding both mouse buttons and moving the mouse front to back. The objects can also be zoomed by holding the **Shift** key and pressing the "+" and "-" keys.

## Typical Usage of the Line Drawing Editor

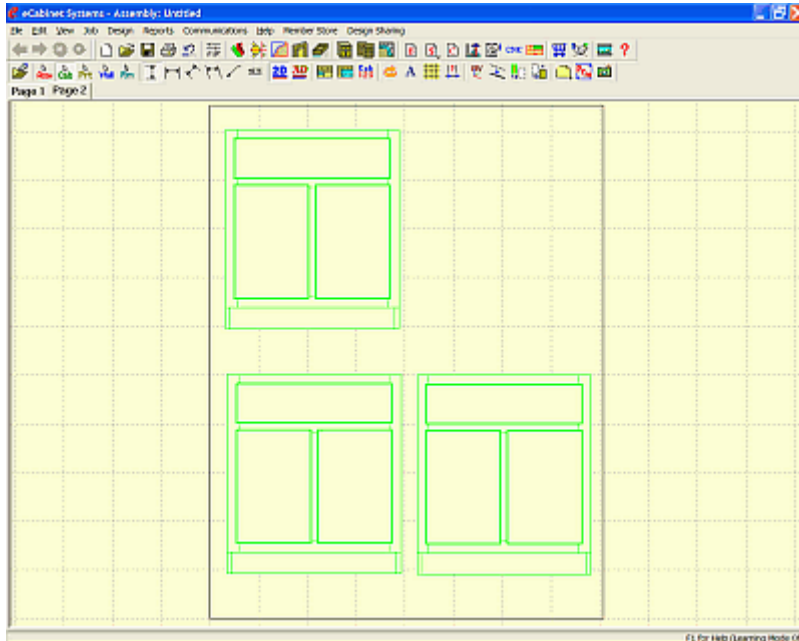


From the **Cabinet/Assembly Editor**, load a base cabinet, and then press the **Line Drawing Editor** icon. From the dialog that appears, select **Take Cabinet**.

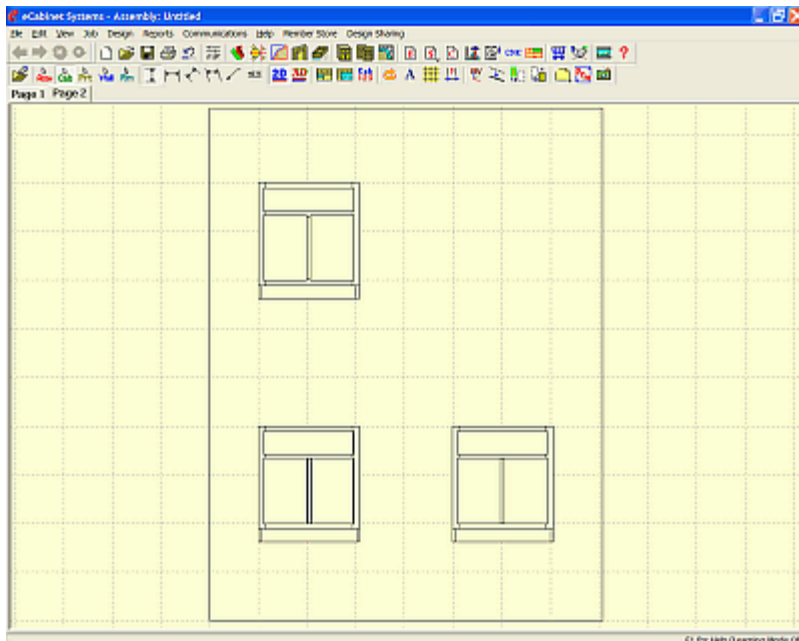


The **Line Drawing Editor** now loads, and the currently displayed cabinet appears on a new page. Set the select mode to **Cabinet** by clicking the **Cabinet** icon on the toolbar, or by Right Clicking and selecting **Select Mode, Cabinet**.

Move the cursor over the cabinet, when now turns it magenta, Left Click the cabinet to turn it green, showing that it has been selected. Also, you can click and hold the left mouse button and can pull a green rectangle over the items you want to highlight. Any item that the green rectangle touches is highlighted and therefore selected.



Copy the image, and move the original to one side, so you can paste a copy. While the original image is highlighted, press and hold the **Shift** key, and move the cabinet using the right mouse button. **Copy** the image using the mouse or **Ctrl + C**, and then paste a new copy by using the mouse or **Ctrl + V**. Press **Esc** to remove highlights from all items, and you should now have three copies of the cabinet.



Highlight all three and Zoom them down to a smaller size. Hold the **Shift** key and zoom, using both mouse buttons. You now have three identical drawings of the front of the cabinet. Now highlight one of the cabinets. From the Right Click Menu, select **Rotate Dialog**, and a dialog screen appears to allow rotation of the highlighted cabinet. Turn one cabinet 90 degrees on the Y-axis and one cabinet 90 Degrees on the X-axis, and the result is a standard front, side and top view drawing.

## Downloading and Placing Carving Files

Carving files are available through the Thermwood **CNC Rental Program**, which is available through the **Member Store**. Both **Applied** and **Inset** carving files are available. Each carving is downloaded as an executable (".exe") file. When this file is executed on a computer that has *eCabinet Systems* installed, it places the carving files into *c:\Program Files\Thermwood\eCabinet Systems\import\* as ".hsf" files. Carving instructions may be found at *c:\Program Files\Thermwood\eCabinet Systems\CNC Rental Program Directions\*. Since Inset Carvings are cut into a part, these may be added in *eCabinet Systems*, by selecting **Inset Carving Options - Add Carving** under the Right Click Options from the **Cabinet/Assembly Editor**.

This same ".exe" file can be executed on a Thermwood CNC with the SuperControl interface, and will install the CNC program files needed to machine the carving, and all of this data will be saved on your Thermwood SuperControl in the *d:\data\rental\* folder. Since carvings may be scaled in *eCabinet Systems*, if you decide to machine this carving, be sure to scale it with the same values here.

Although downloading and using these files for design purposes is free, there is a rental fee associated with actually running this program on a CNC router and making the carving. (It is the SuperControl that handles the rental fee.) When you run a part with a carving, the SuperControl tells you how many credits it requires, and how many you have available. You are not actually charged the rental fee until the part is well into the cutting of the pattern, allowing you to uncover voids or possible problems with the material. (Up to that point, you can stop, and restart the program without additional cost.)

## Applied Carvings

Applied carvings are available as either flat carvings, such as a door ornament, or as rotary carving, such as a leg or post.

**Flat** carvings can be machined on any three-axis Thermwood CNC router.

**Rotary** carvings require the optional Rotary Playback Axis. The size of the carving can be adjusted in both in the *eCabinet Systems* software and at the Thermwood CNC router.

## Inset Carvings

Inset Carvings can be applied to any flat surface. They can be previewed, scaled and rotated before being applied. See the section titled "**Cabinet/Assembly Editor Right Click Options, Add Carving**" elsewhere in this manual for additional information.

## Raised Carvings

A **Raised Carving** can be rotated and positioned anywhere on the cabinet, but it does not resize when the cabinet size changes. They are usually supplied as complete parts from vendors that must be applied to the surface of the cabinet. Highlight the entire cabinet (this assures that the carving will be associated with and be part of this cabinet). Position the **Insert Target** where you want the carving placed, and then select **Load Item**, and specify the directory you saved the carving in as a **Display Object**. Alternatively, a few **Raised Carvings** are supplied in **Vendor Item, Wood Components**.

Select the carving and **Rotate** it as desired, and then place it on the cabinet. Select **Match Texture** to make the carving in the same finish as the cabinet.

## *14.1*

# **Special Application Cabinets**

## Special Application Cabinet Introduction

Sometimes it helps to have a few ideas for those times when you can not seem to get a cabinet to fit. Here are a few that have been developed over the years, and are offered to show some more complex applications, which are possible with *eCabinet Systems*.

### Creating an Angle Front (or Angled Back) Frameless Cabinet

To create an **Angle Front Cabinet**, first specify that the corners of its perpendicular parts (top, shelves, deck, back and toe) follow the changes in width of the cabinet ends. Then, simply change the width of a cabinet end to create an angle front. Ensure all shelves are in place before changing the dimensions, the highlight the cabinet and select **Construction Settings, Angle Part**. Select the appropriate **Corners** and **Miters** for each part that will be angled. (See the section titled "**Construction Settings/Parameters - Common Menu Use, Angle Part**" for more information.) Now, select the appropriate **Construction Settings** of the horizontal parts and adjust for any necessary insets.

### Creating an Angle Front Framed Cabinet

To create an **Angle Front Face Framed Cabinet**, create an **Angle Front Frameless Cabinet** and then add a separate **Face Frame**. Specify that the corners of perpendicular parts (top, shelves, deck, back and toe) follow the changes in width of the cabinet ends. Then, change the width of the cabinet end to create an angle front as detailed above. Next, load a Framed Cabinet and remove all of its parts except for the Face Frame. Position the Face Frame over the first cabinet and now save this as an **Assembly**.

### Creating a Clip Corner Cabinet

A clip corner cabinet is developed by inseting the cabinet ends, chamfering front corners of the horizontal parts (top, shelves and deck) and adding **Display Panels** to the face of the chamfers.

Highlight the cabinet and then select **Construction Settings, Cabinet End**. Input a **Front Inset**, press **Enter** and repeat the process for the other end.

If the cabinet has a face frame, press the **Face Frame** tab and set the **Left Stile, Outside Scribe** and the **Right Stile, Outside Scribe** to the same **Inset** distance (Use a negative distance to move the face frames inward, and, since the face frame overlaps the edge, you need to add the thickness of the cabinet ends to the **Inset** distance). Press **Esc** to remove all highlights, and now select the Top panel, and send it to the **Part Editor**. Select **Chamfer**, and input the **Inset** distance, and press **Enter**.

Return to **Cabinet/Assembly Editor** and then repeat the process for the remaining horizontal parts. Highlight the cabinet and use measurement tools to determine width of the corner plate. Position **Insert Target** outside of the cabinet, and then load a **Display Panel** with the measured width and appropriate height. Rotate and align this panel, and then Copy and Paste a duplicate of this panel for the opposite side.

## Creating a Detached Toe Cabinet

Highlight the desired cabinet, and then select **Construction Settings, Toe Kick**. Input the height of the **Detached Toe** base that the cabinet will sit on, in the **Height** box (**Cabinet Height** includes the height of the cabinet, plus the height of the Detached Toe base), and press **OK**.

Move the **Insert Target** away from the cabinet, and place the **Std. Detached Toe** (or other appropriate cabinet) and press **OK**. (**Detached Toe** base cabinets are cabinets with their size and **Construction Settings** adjusted to become a detached toe base design.) Adjust the size and height of the detached base to correspond to the cabinet top, and **Align** the toe base as needed.

## Creating a Radius Corner Cabinet

A radius corner cabinet is developed by inseting the cabinet ends, filleting front corners of the horizontal parts (top, shelves and deck) and creating a curved panel from a **Display Cube** to the face of the fillets. As an option, to improve appearance, the curved panel can be exported and edited in the **Display Part Editor**.

Highlight the cabinet and select **Construction Settings, Cabinet End**, input a front **Inset** and press **Enter**. Repeat the process for the other end. If the cabinet has a face frame, go to **Construction Settings, Face Frame** tab and set the **Left Stile Outside Scribe** and the **Right Stile, Outside Scribe** to the inset distance (Use a negative distance to move the face frames inwards, since the face frame overlaps the edge, you need to add the thickness of the cabinet ends to the inset distance). Press **Esc** to remove all highlights, and Left Click on the top to highlight it. Take Top to the **Part Editor** and select **Fillet**. Input the radius of the fillet (the inset distance) and press **Enter**. Return to **Cabinet/Assembly Editor**, and repeat the process for the remaining horizontal parts.

Highlight the cabinet and use measurement tool to determine the height of the curved corner plate. Position **Insert Target** outside of the cabinet and now use measurement tool to determine the height of the curved corner plate, and the height of the curved panel. Load a **Display Cube**, with the **Width and Length** both set to the sum of the inset plus the thickness of the cabinet end. Set the **Depth** to the height of the curved end panel. Select the same Texture image that is applied to the cabinet, and click **OK**.

Left Click on the **Display Cube** to highlight it, and take it to the **Part Editor, Contour Mode**. Ensure that **Object Snap** is ON and then draw a straight line from 0, 0 vertically, to a position at least an inch off the part, and now draw a straight line from 0, 0 horizontally to a position at least an inch off of the part. Select **Fillet**, and set the fillet radius to the width of the part.

Left Click on each of the straight lines we just created and now draw a series of lines around the outside of the part, connecting the ends of the two lines we created, to make a closed contour. Set the **Offset Distance** to the thickness of the cabinet end panel and then **Copy** this line. Click on the curved fillet and then click on the part, (away from the closed contour) and now a second offset fillet is created. Draw a line around the other side of the part to make a closed contour, also. Return to **Part Editor** and Right Click and select **Cut/Pocket Using Closed Contour**. Left Click on each of the closed contours to turn them green, and press **Next**. Select **Cut Through**, and then click **OK**.



Using **Rotate** and **Align**, position the panel, and then Copy and Paste this part to create the second panel, using **Rotate** and **Align** as needed. **Save** the cabinet (because we will need to exit the **Cabinet/Assembly Editor**), and press **Esc** to remove all highlights. Position the **Insert Target** outside of the cabinet, and Left Click on the curved panel to highlight it. Select **File, Export Selection**, specify a directory and filename and **Save** it.

Go to the **Display Part Editor** and **Load** the file you just saved. Increase **Texture Scale** and adjust **Rotation** until you have an acceptable appearance, press **Reset View** and then **Save**. Return to the **Cabinet/Assembly Editor**, and reload the cabinet. If the original curved panels are on the saved cabinet, highlight and delete them. Highlight the **Insert Target** and highlight the cabinet (this is to associate the panel to the cabinet), and place the item we just saved in **Display Part Editor** and load as a **Display Item**. Use **Rotate** and **Align** to position the panel, and then copy and paste the display panel, and again **Rotate** and **Align** position the second panel.

## *15.0*

# **Quick Reference to Common Operations**

## Common Operations - Quick Reference

There are a few features available in *eCabinet Systems* that are not specific menu items, or that may not need a full explanation, but are listed here as an aid to locating the procedures elsewhere in this manual.

Add Listing of Cabinets/Assemblies to a Job using an Excel Spreadsheet - See **Batch Cabinets**.

Align Items in the Workspace - See **Align Items**.

Batch Cabinet, Changing Sheet Material - See **Change Sheet Stock**.

Batch Cabinet, Remove from Job - See **Batch Cabinets**.

Cabinet, Adding Stretcher, Brace, Nailers - See **Stretcher Editor Menu Structure**.

Cabinet, Adding Single Door/Drawer Front - See **Door/Drawer Editor Menu Structure**.

Cabinet, Assign Labor Hours to Estimate Cost - See **Cabinet/Assembly Editor-Right Click Options, Set Labor Costs**.

Cabinet, Assign Hardware - See **Define Defaults/Add Items**.

Cabinet, Assign Purchased Items - See **Define Defaults/Add Items**.

Cabinet, Changing Joint Construction - See the appropriate **Construction Settings**.

Cabinet, Changing Material - See **Construction Settings - Global**.

Cabinet, Display Exploded View - See **Cabinet/Assembly Editor Menu Structure**.

Cabinet, Full Top, Top Stretcher or Web Frame - See **Construction Settings, Top Settings**.

Cabinet, Resize to fit opening - See **Custom Layout, Resize/Equalize**.

Cabinet/Item, Copy and Paste - Select the Item, press **Ctrl + C** to copy it, go the location to paste, and press **Ctrl + V** to paste it.

Cabinet/Item, Deleting - See **Cabinet/Assembly Editor Right Click Options**.

Cabinet/Item, Moving - Confirm **Move Increment, Objects** and then use **Shift + ARROW keys** to move.

Cabinet Part, Adjusting Construction Settings or Joint Parameters - See the appropriate **Construction Settings**.

Cabinet Part, Chamfering a Corner - See **Part Editor Details**.

Cabinet Part, Changing Grain Angle - See the appropriate **Construction Settings**.

Cabinet Part, Changing Joint Construction - See **Construction Settings - Global**.

Cabinet Part, Changing Material- See the appropriate **Construction Settings**.

Cabinet Part, Deleting - See **Cabinet/Assembly Editor Right Click Options**.

Cabinet Part, Fillet - See **Part Editor Details**.

Cabinet Part, Rename - See **Cabinet/Assembly Editor Right Click Options, User Part Name**.

Capture and Save an Image of the Workspace - See **Save Image**.

Countertop, Using Countertop Editor - See **Custom Layout, Countertop Editor**.

Corner Cabinet, Changing Corner Angle or Corner Gap -See **Construction Settings-Corner Cabinets**.

Corner Cabinet, Changing Corner Front to Angle Front - See **Construction Settings-Corner Cabinets, Front Setting**.

Corner Cabinet, Miter Back - See **Construction Settings-Corner Cabinets, Corner Settings**.

Custom Layout, Adjusting Move and Pan Increment - See **Options Dialog** displays.

Custom Layout, Adjusting Room Lighting - See **Presentation Mode Details**.

Custom Layout, Cabinet, Adding Duplicate Copies to Left or Right - See **Custom Layout Right Click Menu**.

- Custom Layout, Doors and Windows, Adding - See **Custom Layout Details**.
- Custom Layout, Insert Cabinet/Assembly/Appliance - See **Place Cabinets and Assemblies**.
- Custom Layout, Install Upper Cabinet - See **Define Standard Dimensions** (for Elevation) and **Custom Layout Overhead/Main View**.
- Custom Layout, Show or Hide Items - See **Custom Layout, Right Click Options, Show/Hide**.
- Display Part, Apply Saved Appearance Settings - See **Display Part Editor Details**.
- Display Part, Creating a Reflective or Transparent Surface - See **Display Part Editor Details**.
- Door, Create 5 Piece - See **Thermwood Doors**.
- Door/Drawer, Adding Pulls - See **Door/Drawer Editor Menu Structure**.
- Door/Drawer, Adjusting Settings for Existing Door/Drawers - See **Construction Settings - Door/Drawer**.
- Door/Drawer, Preserve Grain Pattern - See **Cabinet/Assembly Editor Right Click Options, Group Parts**.
- Door/Drawer, Remove Grain Pattern - See **Cabinet/Assembly Editor Right Click Options, Group Parts**.
- Door/Drawer, Remove Pull or Pull Location - See **Door/Drawer Editor Right Click Options**.
- Door/Drawer Front, Deleting - See **Door/Drawer Editor Right Click Options**.
- Drawer, Adding a Stretcher - See **Stretcher Editor Menu Structure**.
- Drawer Box, Creating- See **Drawer Box Editor Menu Structure**.
- Drawer Box, Deleting - See **Drawer Box Editor Right Click Options**.
- Drawer Box Sizes, Parameters in the Cut List - See **Construction Settings, Door/Drawer Box Settings**.
- Display Board, Adding - See **Place/Install/Load Items**.
- Display Cube, Adding - See **Place/Install/Load Items**.
- Display Molding, Adding - See **Place/Install/Load Items**.
- Display Molding, Editing - See **Part Editor Details**.
- Display Object, Scaling - See **Custom Layout, Right Click Options, Scale Object** or **Cabinet/Assembly Editor Right Click Options, Scale Object**.
- Display Panel, Adding - See **Place/Install/Load Items**.
- Display Part, Adding a Solid Color - See **Display Part Editor Details**.
- Display Part, Changing Texture - See **Cabinet/Assembly Editor-Right Click Options, Match Texture**.
- Display Part, Map a Texture to the Surface - See **Display Part Editor Details**.
- Edgebanding, Adding to a Part - See **Edgebanding Editor Menu Structure**.
- Face Frame, Adding Face Frame to Frameless Cabinet - See **Face Frame Editor Menu Structure**.
- Face Frame, Adding Mid Stile (Mid Rail) - See **Face Frame Editor Menu Structure**.
- Face Frame, Adjusting Opening Dimensions - See **Face Frame Editor Menu Structure**.
- Face Frame, Changing Width - See **Construction Settings - Face Frame, Page 2**.
- Face Frame, Deleting - See **Face Frame Editor Menu Structure**.
- Face Frame, Set Scribe for a Stile or Rail - See **Construction Settings, Face Frame Settings**.
- Grid Settings, Adjusting - These are usually found in both the main Right Click menu and at the top as a toolbar icon.

Hardware, Select for Cabinet - See **Door/Drawer Editor Menu Structure**.

Hardware Hole Patterns, Display - See **Cabinet/Assembly Editor Right Click Options, Visibility**.

Insert Target, Return to Origin - See **Cabinet/Assembly Editor Right Click Options, Return Target to Origin**.

Installed Cabinets, Adjusting Mounting Height - See **Custom Layout Details**.

Installed Cabinets, Changing Doors/Drawer Fronts- See **Custom Layout - Right Click Options, Adjust Cabinet Features, Change, Doors or Drawer Fronts**.

Installed Cabinets, Changing Door/Drawer Pulls - See **Custom Layout - Right Click Options, Adjust Cabinet Features, Change, Door Pulls**.

Installed Cabinets, Changing Size - See **Resize/Equalize**.

Installed Cabinets, Editing - See **Custom Layout Right Click Options, Adjust Cabinet Features, Edit Cabinet**.

Installed Cabinets, Fill Entire Wall - See **Custom Layout Right Click Options, Adjust Cabinet Features, Autofill**.

Installed Cabinets, Make Two or More Adjacent Equal in Width - See **Custom Layout, Resize/Equalize**.

Installed Cabinets, Rotate - **Custom layout, Edit Options, Rotate Object**.

Item or Part, Rotate - See **Cabinet/Assembly Editor Right Click Options, Rotate Item or Custom layout, Edit Options, Rotate Object**.

Line Drawing Editor, Adding Table - See **Line Drawing Editor Details**.

Line Drawing Editor, Adding Text to a Cell in a Table - See **Line Drawing Editor Details**.

Line Drawing Editor, Adding Text to Drawing - See **Line Drawing Editor Details**.

Line Drawing Editor, Adjusting Line Density - See **Line Drawing Editor Details**.

Line Drawing Editor, Adjusting Line Position in a Table - See **Line Drawing Editor Details**.

Line Drawing Editor, "Call Out", Creating and Modifying - See **Line Drawing Editor Details**.

Line Drawing Editor, Changing Font for Existing Text - See **Line Drawing Editor Details**.

Line Drawing Editor, Copy and Paste a Table Between Pages - See **Line Drawing Editor Details**.

Line Drawing Editor, Copy and Paste an Item Between Pages - See **Line Drawing Editor Details**.

Line Drawing Editor, Creating and Modifying Dimensions - See **Line Drawing Editor Details**.

Line Drawing Editor, Dimensioning, Isometric (3D) - See **Line Drawing Editor Details**.

Line Drawing Editor, Dimensions, Adjusting - See **Line Drawing Editor Details**.

Line Drawing Editor, Exploded Line Drawing of a Cabinet - See **Line Drawing Editor Details**.

Line Drawing Editor, Input DXF files - See **Line Drawing Editor Details**.

Line Drawing Editor, Mathematic Operations in Dimensions - See **Line Drawing Editor Details**.

Line Drawing Editor, Set Parameters for Lines, Arrows and Text - See **Line Drawing Editor Details**.

Line Drawing Editor, Split Cell in a Table - See **Line Drawing Editor Details**.

Line Drawing Editor, Top and Side Views, Creating - See **Line Drawing Editor Details**.

Material, Adding New - See **Define Stock Materials Introduction**.

Material, Deleting - See **Define Stock Materials Menu Structure**.

Material, Update Existing - See **Define Stock Material Menu Structure**.

Measure Distances in Custom Layout - See **Custom Layout Details**.

Moldings, Adding - See either **Molding Editor Menu Structure or Place/Install/Load Items**.

Moldings, Changing Texture - See **Cabinet/Assembly Editor-Right Click Options, Match Texture**.

Moldings in Molding Editor, Deleting - See **Molding Editor Menu Structure**.

Moldings in Molding Editor, Select - See **Molding Editor Menu Structure**.

Nesting, Remove Cabinets or Parts - See **Nest Diagrams - Filter**.

Nest Diagram, Creating - See **Nest Diagrams Introduction**.

Part, Modifying With Closed Contour - See **Part Editor - Contour Mode Details**.

Part, Modifying With Geometric Shapes - See **Part Editor - Contour Mode Details**.

Part, Display Hidden - See **Cabinet/Assembly Editor Right Click Options, Visibility**.

Part, Display Transparent - See **Cabinet/Assembly Editor Right Click Options, Visibility**.

Part, Display Wireframe - See **Cabinet/Assembly Editor Right Click Options, Visibility**.

Presentation View, Adding Lighting Effects - See **Presentation View Details**.

Print Nest Diagram - See **Nest Diagrams Menu Structure**.

Print Labels - See **Nest Diagrams Menu Structure**.

Profile a Path on a Part - See **Part Editor Contour Mode Details**.

Profile Tool, Creating - See **Shape Manager Details**.

Purchase Items - See **Shopping Cart Introduction**.

Save Display Part Surface Appearance Settings - See **Display Part Editor Details**.

Save Existing Cabinet/Assembly - See **Save**.

Save New Cabinet/Assembly - See **Save**.

Save Job - See **New, Open, Save & Export**.

Set Color, Accent and Wireframe Lines - See **Settings/Preferences**.

Shelf/Partition, Adding, Modifying, Moving, Deleting - See **Shelf/Partition Editor Menu Structure**.

Shelf/Partition, Adjusting Opening Dimensions - See **Shelf/Partition Editor Menu Structure**.

Shelf/Partition, Equalizing distances - See **Shelf/Partition Editor Right Click Options**.

Select Dimension Display Format - See **Settings/Preferences**.

Switch Cabinet Part Detail Display ON or OFF - See **Settings/Preferences**.

Switch Edge Lines ON or OFF- See **Cabinet/Assembly Editor Right Click Options, Visibility, Show Lines**.

Switch Grid ON or OFF - See **Grid Settings** or **Custom Layout, Grid Settings**.

Switch Item Frames ON or OFF - See **Cabinet/Assembly Editor Right Click Options, Visibility, Show Item Frames**.

Switch Learning Mode ON or OFF - See **Settings/Preferences**.

Switch Snap Modes ON or OFF - See **Custom Layout, Options Dialogs**.

Textures, Adding New Images - See **Select Image**.

Toggle Between Perspective and Orthographic View - See **Perspective/Orthographic**

Toggle Overlap Between Rails and Stiles - See **Face Frame Editor Right Click Options, Toggle Overlap**.

Visibility, Restore Normal to Everything in the Workspace - See **Cabinet/Assembly Editor Right Click Options, Visibility**.

Visibility, Restore Normal to the Last Entity Changed - See **Cabinet/Assembly Editor Right Click Options, Visibility**.

- Wall, Changing Height or Thickness - See **Custom Layout, Edit Wall View, Wall Dimensions.**
- Wall, Creating Angle Ceiling - See **Custom Layout Details.**
- Wall, Creating Arched Ceiling - See **Custom Layout, Edit Wall View, Create Three Point Arc, Add Geometry.**
- Wall, Creating Complex Opening - See **Custom Layout Details.**
- Wall, Creating Peaked Ceiling - See **Custom Layout Details.**
- Wall, Moving and Manipulating - See **Custom Layout Details.**
- Wall, Restore All Hidden - See **Custom Layout, Render View Right Click Options.**
- Wall or Floor, Adding Solid Colors - Proceed to **Render View, Right Click Options, Texture Options, Wall Floor, Change Texture.**
- Wall or Floor, Adding Wood Plank texture - Proceed to **Render View, Texture Options, Wall Floor, Change Texture.**
- Wall or Floor, Changing Texture - See **Render View-Right Click Options, Texture Options, Wall/Floor, Change Texture.**
- Wall or Floor, Placing a Custom Image - See **Select Image.**
  
- Zoom Display - See **Cabinet/Assembly Editor Display Features** or **Custom Layout Display Features.**

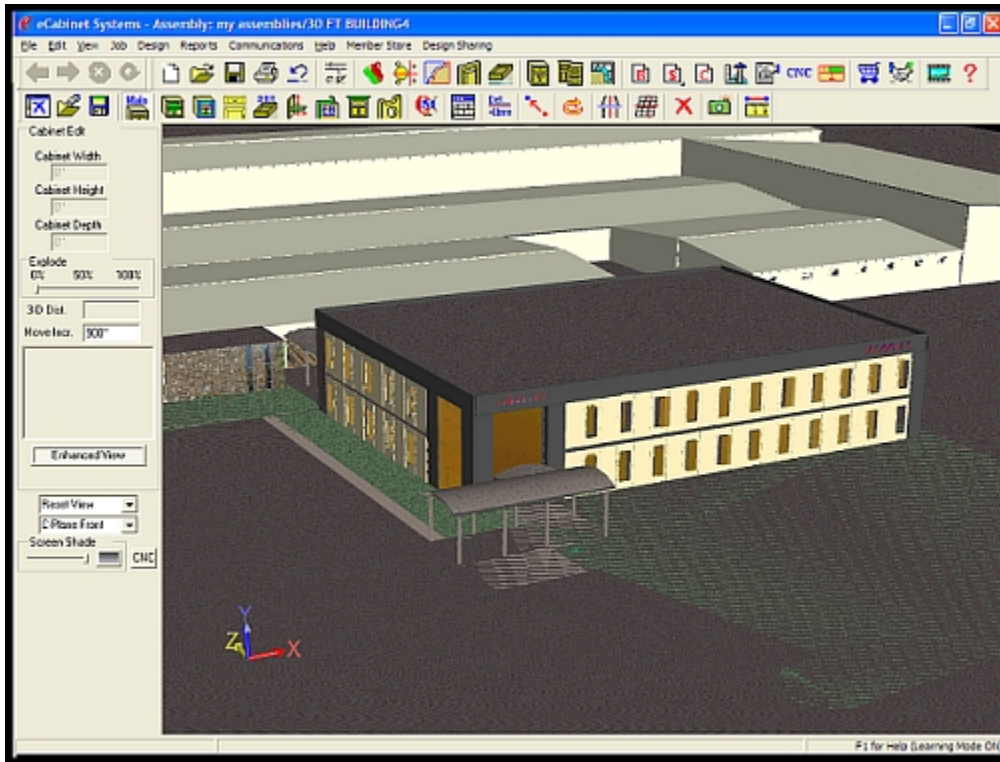
## *16.0*

# **eCabinet Systems - It's Only Part of the Program**



## Beyond the Software

There is more to *eCabinet Systems* than just the software. While it is a full featured and free-of-charge comprehensive design package for cabinets and furniture and more. (As a test, *eCabinet Systems* was used to visualize Thermwood's newest addition to the plant!)



This software package is also part of the **Thermwood Furniture Network**, a Cooperative of Members striving to provide their customers with the best product, at the lowest cost, with the most original designs, and with the highest quality possible.

## The Thermwood Furniture Network

Most cabinet shops need five things to build world class custom furniture:

1. Market leading furniture designs from world class designers.
2. A method of accessing and customizing these designs.
3. A method of producing complex parts, carvings and legs.
4. Access to furniture hardware and furniture quality finishes.
5. Training in unique production techniques.

The **Thermwood Furniture Network** addresses each area by bringing *eCabinet Systems* Members the ability to customize and build professionally designed furniture in a way that allows them sell it at a high profit.

The idea behind the program is to provide to the Members, elements of furniture manufacturing not normally available to smaller shops, and to provide these in a format that allows the furniture designs to be easily customized by each individual shop. The fact that it is “custom built” adds to its desirability and enhances the profit that can be realized from each piece.

The first element is truly professional furniture design. This can only come from true professional furniture designers. Several world-renowned furniture designers have joined the program, and are providing exciting designs, and we plan to increase the number of available designs and the number of participating designers as the program matures.

The next element required to build this furniture is an economical method to make the myriad of complex parts, moldings, turnings, legs and carvings needed for these designs. Large furniture manufacturers spend tens, and at times hundreds of thousands of dollars, tooling up for a new line of furniture. Obviously, this requires large production volumes to justify, and their traditional methods for making these parts will not work for our program. We must economically produce essentially the same parts in single quantity without a major tooling investment. To achieve this, we turn to modern technology and the Thermwood CNC router.

## The Thermwood CNC Router

A CNC router can produce virtually any part using commonly available standard tooling. In most cases, you trade off the ability to make almost anything without special tooling for a longer production cycle. Custom machinery and custom tooling allows these parts to be produced faster, so large furniture companies would not necessarily make them our way. However, if you only need one or two pieces, they can be economically made with a CNC router and the appropriate CNC program with little or no custom tooling investment.

Developing the CNC program can be a costly and time-consuming affair, but this investment is justified if the same CNC program can be used by everyone in the *eCabinet Systems* program. To accomplish this, we have committed to developing the required CNC programs needed to make the parts for these designs, and then rent these CNC programs to Members. A fee is charged each time the program is run. This fee pays the designer for their designs, and repays Thermwood for developing the program.

The control computer for Thermwood CNC routers (the *GEN2 SuperControl*) has special abilities that enhance this program, including the ability to resize parts, even those with intricate carvings. This allows the designs to be customized, and dramatically increases the value of the program. Optionally, a rotary playback axis is used to make legs, posts and turnings on the same CNC machine.

The SuperControl also handles the rental fee. You purchase credits either directly through the Thermwood SuperControl or through an office computer. (If you buy credits through an office computer, you are given an access number that must be typed into the SuperControl, which then automatically registers with our server, to keep track of credits.) Also, if you have more than one machine, there is a method for transferring credits between machines.

When you run a part, the SuperControl tells you how many credits it requires and how many you have available. At some point during program execution, the fee is actually charged against your account. This charge point is generally far enough through the program to uncover voids or possible problems with the material. At this point, you can stop and restart the program without additional cost. Once the charge point is reached, you would need to pay the fee again to restart the program. This approach to complex parts brings incredible flexibility to small shops and makes the **Thermwood Furniture Network** possible.

## The Thermwood CNC Router Discount Program

Finally, purchasing through the software also gives you an opportunity to earn discounts on Thermwood CNC router systems. By simply requesting it, we will track your purchases and place 5% of them in an account for you. These earned discounts remain in your account for five years or until they are used. At any time, you can apply any or all of your account toward the purchase of a Thermwood CNC router system. You can sign up for this program on the [www.ecabinetsystems.com](http://www.ecabinetsystems.com) website at the **CNC Router Discount Program**.

## **The Thermwood CNC Rental Program**

Designs offered through this program have a strong theme that can generally be applied to other applications. For example, carvings, moldings and corner posts from a dresser or china cabinet could be used on an elaborate bathroom vanity. A carved table skirt could be resized and used on a range hood. The possibilities are endless.

Since the designers are paid through the CNC program rental, the more elements of their design you use, the higher their fee, so we (and they) encourage you to use your imagination. There is one caution however. The overall scale, proportion and balance of a design are as important as individual design elements. When using design elements in a modified version, it is important to download the display files for each part, and resize them to build the customized design in the software, so that you can see the final result.

## The Thermwood Furniture Finish Program

The last element needed to build world class custom furniture is a world class finish. Even the best furniture designs will not measure up if you use a typical cabinet finish. Until this program appeared, the excellent quality finishes used by major furniture manufacturers were not available to small shops. The whole structure of the furniture industry is geared toward big companies. First, there are no standard finishes. When a major furniture company creates a new design, their designers work with the color development laboratories of the finishing supplier to develop a finish specifically for that product. Good finishes tend to be twelve to eighteen steps, and these steps can be different for every product.

Once the finish has been created, technicians from the finishing supplier travel to the furniture manufacturing plant and teach the line workers how to apply the new finish. The whole process is involved, expensive and time-consuming and only makes sense if finishing material is sold in large quantity. In fact, since material is only sold in large quantity, major finishing suppliers literally can not blend less than several hundred gallons of anything. Their equipment simply is not set up for it.

To address this last element, working with Valspar, the largest supplier of furniture finishes in the world, Thermwood has established a blending facility in our plant to blend finishes in the smaller quantity needed for the furniture network.

We started by working with the designers at Valspar's International Color and Design Center, to develop these finishes. These are quality furniture finishes with twelve to eighteen steps, blended to work in a typical cabinet shop. We have created a DVD video for the application of each of these finishes, although if you are not familiar with application of finishing material, you should attend an actual hands-on training class. We conduct formal classes to teach all the processes needed to build this furniture, including the finishing process. Once you have some experience with the material, the videos should suffice for adding different finishes to your offering. Through the **Thermwood Furniture Network** program, all the elements needed for *eCabinet Systems* Members to build world class custom furniture are in place.

Not only does this give you the ability to build truly great furniture, but also to make a very high profit doing it. Typical furniture from major manufacturers is marked up from 100% to 300% before reaching the consumer. It will certainly cost you more to build this furniture than a major manufacturer with a big factory and heavy tooling investment, but you do not have the same distribution markup. This means you can be price competitive and make profits unheard of in traditional furniture manufacturing. In fact, since your products are "custom", you should be able to command a price premium, enhancing your profits even more.

## The Thermwood Production Sharing Program

Finally, for those Members who do not already have a Thermwood CNC router, there are many shops on our website that offer to make parts for others, through the **Production Sharing** program.

We encourage *eCabinet Systems* Members that have production time available on their Thermwood CNC routers to offer machining services to other *eCabinet Systems* users. This type of collaboration is at the core of a cooperative and benefits both parties. To help support this, we maintain an area on our website where Thermwood CNC Router owners can post their name, services offered and contact information. We also encourage **Production Sharing** Members to attend industry trade shows, and we welcome them to use our show booth to meet with prospective *eCabinet Systems* customers. Arrangements are made directly between the parties and, other than trying to bring Members together, we are not involved in these transactions, and there is no cost for our services.



## A Note from Ken Susnjara

Purchasing is the key driving force behind the software you are using. It is also an opportunity for you to save a great deal of time and perhaps some money. If you are interested in a CNC router in the future, purchasing through the program can also earn you a discount on a Thermwood CNC router system.

Software similar to **eCabinet Systems** sells for thousands, if not tens of thousands of dollars a copy and costs more each and every year, to maintain and update. Your copy of **eCabinet Systems** (the software) did not cost you anything. It was free, but software is not free.

It has taken years and well over a million dollars to develop **eCabinet Systems**, and it requires a huge investment every year to continue expanding and supporting the software. Portions of the software are licensed from others, and in some cases, we must pay them for each copy we offer. Although the software is free to you, it has a very real cost. These bills are paid as the result of purchases that Members like you make through the **eCabinet Systems** program.

This is a win-win approach for both our Members and us, if we both do our part. You buy a lot of items to run your business. Our prices are generally as good as, and in many cases, better than what you are paying today. Therefore, purchasing through the program should not cost you anything. In effect, you get thousands of dollars a year in software and services, and if you work with us, it is all essentially free. Your business requires that you purchase these items on an ongoing basis. It just makes sense to use these ongoing purchases to support the software you rely on and also generate what could be a substantial discount on a modern CNC router system.

These are some compelling reasons to buy through the program, but you do have to change buying habits and for some this is difficult. Difficult as it might be, it is also very important. If you use the software, you are changing the very core of how you run your business. These changes will benefit you substantially. While you are making changes, we ask that you also change your buying habits, and begin using **eCabinet Systems** for all your purchases. If you do, and sales through the program increase, more and more vendors will begin using the program to sell you their products. As they compete with each other, the prices you pay will come down even farther. You will win again.

If, however, you, and other Members use the software, use the services and call or write for Tech Support and do not support the program and buy through the program, it will become impossible to continue investing in it, and the entire program will eventually fail. At that point, you can return to doing things manually on scraps of paper, or you can shell out thousands or tens of thousands of dollars to actually buy software, then pay every year to maintain it. Should this happen, we all lose. **eCabinet Systems** Members have no legal obligation to purchase through the program. You do, however, have a moral obligation. If you use our tools and benefit from those tools, you should purchase through the program.

We have seen instances where current suppliers have matched, or even discounted below our prices to try to keep the business from going to **eCabinet Systems**. If you are getting these discounts, don't kid yourself, it is strictly because of **eCabinet Systems**! If you fall for this and decide not to buy through the program because of a few cents difference, the program will ultimately fail. You will lose thousands of dollars a year in benefits, and soon your old higher prices will be back, guaranteed. Additionally the software offers another major advantage to traditional purchasing. It tracks everything you need to purchase, while developing the Job and allows you to purchase these with the push of a button. This saves time, and your time is worth money. When analyzing costs, be sure to take into account the time savings, in addition to actual component cost.

This program is based on a truly cooperative approach and places a high level of trust in human nature. If we all work together, we all benefit. If instead, everyone enjoys the program benefits but relies on others to support the program through purchases, it won't work for the long term.

**Ken Susnjara**, founder, chairman and CEO of Thermwood Corporation





# Glossary

## #

- "**.bmp**": File extension originally developed for Windows and OS/2 graphics. These files are uncompressed raster images made up of a rectangular grid of pixels, and can be quite large if the image size is large. It stands for BitMaP.
- "**.esa**": Thermwood created file format for assemblies, as used in eCabinet Systems. It stands for Ecabinet Systems Assembly.
- "**.esj**": File extension for eCabinet Systems Jobs. It was developed by Thermwood Corporation for its eCabinet Systems software.
- "**.hsf**": File extension for an eCabinet Systems Object file. It stands for HOOPS Stream File, which is a raster 2D or 3D image file that is highly compressed and is stream-capable and was developed by Tech Soft 3D, LLC.
- "**.jpg**": File extension for compressed raster (bitmapped) images. This file format is "lossy" in that while it can compress large amounts of data into small files, it removes information in doing so. Too high a compression can make the image look "pixilated" or "blocky". This is one of two image formats specified for webpages (the other is ".gif") and is used more for photographs with large amounts of colors. The ".jpg" extension is also known as ".JPEG", which stands for the Joint Photographic Experts Group, who developed this format.
- "**.ptn**": File extension for eCabinet Systems Hardware Hole Patterns. It was developed by Thermwood Corporation.
- "**.rtf**": File format commonly found in word processing documents. It contains text and additional information to preserve document formatting. It stands for Rich Text Format.
- "**.stl**": File extension for three-dimensional wireframe modeling. The data files are just the triangulated geometry without any representation of color, texture or fill. Originally defined to make 3D models with 2D "printers", it has become a standard file format by allowing the use of simple 2D triangles to replicate complex 3D surfaces. The extension name of this format stands for STereoLithography, the original name for this process, as developed by 3D Systems in 1986.
- "**.tol**": File extension for the tooling files that are generated from a Thermwood Corporation CNC Routing Machine. The extension name of this proprietary file format stands for TOoLing.
- "**.twd**": File extension for the files that are generated from eCabinet Systems to be used with a Thermwood Corporation CNC Routing Machine. The extension name of this proprietary file format stands for ThermWood.
- "**.x\_t**": File format for Parasolid files. Parasolid is a geometric modeling kernel owned by UGS Corp., which features fully integrated modeling of 3D curves, surfaces and solids. The file format is known as "XT" thus the extension name.

## A

**Assembly:** This is a grouping of two or more cabinets or other items that are saved as a single entity.

**Axis Designator:** This device is displayed at the lower left of the screen. It rotates with the workspace and assists in determining which axis is which, when working with rotated assemblies. The Axis Designator color codes each axis, with X being red, Y blue and Z yellow.

## B

**Blind Dado Joint:** This is a joint specifically designed for machining by a CNC router. A tenon, shorter than the length of a panel edge, is machined into the panel edge. A corresponding mortise is machined into the mating panel surface. The resulting joint is both strong and easy to assemble.

**Board Stock:** Board Stock is solid wood material, generally used for face frame stock. Cost calculations are done by board foot, and Board Stock can be modified in the Part Editor and appear on the Cut List.

**Butt Joint:** In this joint, the edge of one panel butts against the surface of another. This joint will require some type of mechanical fastener, such as screws or nails.

**Buy List:** The Buy List is a listing of components that must be purchased.

## C

**C-Plane:** The Construction Plane - When you first enter the Cabinet/Assembly Editor, you are looking directly at the XY Plane with the X-axis defining left and right movement, the Y-axis defining up and down and the Z-axis defining in and out. The C-Plane is also set to the XY Plane, called the C-Plane Front. Thus, mouse movements correspond to a front view. If the workspace gets oriented so that the mouse moves are not correct, (for example, if you rotate the workspace 90 degrees to the left, up and down motions still work because the Y-axis is still pointed up. Side to side mouse motions still move the item along the X-axis, but now the X-axis is in and out, not side to side; and the mouse no longer tracks properly), you need to change the C-Plane. This reassigns mouse motions to different axes so that the item moves on the screen as the mouse moves. Therefore, the C-Plane determines what the mouse does.

**Cost Sheet:** The Cost Sheet is detailed estimate of the cost to build the complete Job.

**Cut List:** The Cut List is a listing of materials required and all components that must be fabricated.

## D

**Display Board:** A Display Board is a length of Board Stock that can be positioned anywhere in the workspace. If a cabinet is highlighted when a Display Board is loaded, it is associated and becomes part of that cabinet (it can also be associated or disassociated from the cabinet using menu selections). It is added to the Cut List for board material.

**Display Cube:** A Display Cube is a rectangular cube used for display purposes only and is NOT added to the Cut List, nest diagram or CNC output. An image can be placed on each surface of a display cube to give it a variety of appearances.

**Display Panel:** A Display Panel is a rectangular panel made from Sheet Stock that can be positioned anywhere in the workspace. If a cabinet is highlighted when a Display Panel is loaded, it is associated and becomes part of that cabinet (it can also be associated or disassociated from the cabinet using menu selections). It is added to the Cut List, nest diagram and CNC output for sheet material.

**Dowel:** Dowel construction is essentially a butt joint with holes drilled into both panels, which are then assembled by placing dowels in the holes. In the eCabinet Systems, dowel construction is handled the same as butt joints.

## F

**Full Dado Joint:** This joint cuts a dado into the surface of one panel, and lengthens the corresponding panel to fit into the dado, which extends across the entire edge.

## G

**Gouraud:** Gouraud shading, named after Henri Gouraud, is used to achieve lighting on a polygon surface without requiring extensive calculations in programming. It helps make surfaces appear curved and "three dimensional" without looking like the flat faces that they really are. This technique was announced in 1971.

## I

**Insert Target:** The blue ball with axis lines protruding, which indicate where an item will be loaded. The Insert Target is moved by holding the Ctrl key and using the Right Mouse Button.

## K

**KD/RTA:** KD (knocked down) RTA (ready to assemble) hardware fasteners. These are used so the designed item can be sold in flat pieces, for ease of shipping and storage, and then the item will need to be assembled before use.

## L

**Lazy Susan:** This is a set of shelves mounted to a vertical rod. Pushing on the shelves allows them to rotate on this rod. When the corner cabinet is closed, it appears as a normal corner cabinet set of doors. When pushed, these doors open to show the Lazy Susan shelves. Clearance for the doors must be made, so a 90 degree cutout (1/4 "pie slice" of the circle) is made to the shelves.

## M

**MDF Door:** MDF (Medium Density Fiberboard) doors are machined from MDF sheet stock and generally have an outside profile and a center cut consisting of an inside bead and a center panel raise. If the center cut is machined with a single tool, the inside bead and center raise have the same profile. eCabinet Systems also supports asymmetrical tools, which are tools that have a different profile on one side than on the other. Profiles created by these tools cannot be machined directly but must be modeled by a CNC router. The result, however, looks almost identical to a five-piece door.

**Moldings:** These are lengths of decorative trim pieces that are added to the workspace. Moldings can also be added to a cabinet in the Molding Editor. Moldings added in the Molding Editor automatically resize when the cabinet resizes but are restricted to horizontal orientation. Moldings added as a Display Item can be placed in any orientation but do not resize automatically.

## P

**Puzzle Joint:** This joint, which looks like the interlocking ends on the parts from a jigsaw puzzle, can be machined directly in the nest. Without needing clamps, fixtures or screws, the assembly of the face frame is fast, accurate, square and extremely strong.

## S

**Sheet Stock:** Sheet Stock is sheet material such as plywood, MDF, particleboard and other materials from which nested parts are cut. Sheet Stock can be modified in the Part Editor and it appears on the Cut List, Nest Diagram and CNC output.

**Snap Marker:** This is a marker, somewhat like a pencil mark on a wall. For example, if you want a cabinet in a specific location, you can place a snap marker in that location and then use it to accurately locate the cabinet. It is called a Snap Marker because the cabinet (provided you are in one of the snap modes) will snap to the marker for placement. Once you snap a cabinet onto a Snap Marker and place the cabinet, the Snap Marker disappears. When working with Snap Markers it appears that the marker has thickness, in its actual use it is a two dimensional plane with zero thickness

**Stretchers:** There are a lot of different internal components used in cabinets including nailers, stretchers, webs, supports and sleepers among others. eCabinet Systems calls all of these "stretchers", regardless of their ultimate purpose.

**SuperControl:** Thermwood Corporation's trademarked CNC machine control software and hardware, which is supplied with every new Thermwood CNC machine.

## T

**Tessellation:** Tessellation can be used in graphical environments to manage complex shapes and to convert them into simpler structures for rendering. Generally, polygons are tessellated into triangles. In 3D rendering applications, sometimes the 3D shapes are too complicated to render directly, so they are divided (tessellated) into a 2D mesh of shapes to provide a representative display output, without affecting the original 3D data.

## V

**Vendor Items:** These are items available for purchase, for which three-dimensional display images are available in eCabinet Systems.

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