Getting Started

Starting CADMAX

Once installation has been completed and you have completed Setup, CADMAX is ready to be started.

! To start CADMAX from the Windows Task bar, click on **Start**, then click on **Programs**, locate the program group that contains CADMAX and click on it, then click on **CADMAX** or the name of the CADMAX product that you have.

! To Start CADMAX from the Desktop, double click on the CADMAX icon. If you want to change your **Start In** folder, right click on the CADMAX icon to display the pop up menu, click on **Properties**, then click on the **Shortcut** tab. Click in the **Start In** text area and type the name of a new start in folder.

Opening a CADMAX Drawing

CADMAX drawings created in any version of CADMAX can be opened through **File > Open** function. The **Open** function can also be started by pressing **F4.** If a drawing is already loaded, CADMAX prompts you to save the current drawing. See *Saving a CADMAX Drawing* below in this section.

Complete details on the Open function are available in the *File Management and Utilities* section of this manual. Details on loading AutoCAD drawings are in the *Import/Export* section of this manual.

To Load an Existing Drawing

1. Click on **File > Open** or press **F4**. The Open Drawing dialog box appears.

2. A default list of files to load are displayed, based on the last file specification that was used. Previous file specifications can be obtained by clicking on the arrow in the File Path combo box.

   Use the Folders box to locate the folder that contains the drawing. Sample drawings are located in the /SAMPLES subfolder under the folder that CADMAX was installed. CADMAX also includes ANSI, ISO, and Architectural starter drawings for all paper sizes in the /STARTERS subfolder.

3. Once the drive and directories are selected, a list of files is displayed. Highlight a file to load by clicking on it, then click on **OK**.   Also a double-click will load the file automatically. Files may also be selected by pressing the first letter of the file.

The CADMAX Interface

Before you begin using CADMAX, this section will help you to become familiar with CADMAX's user-interface.

CADMAX's Main Window

The following figure shows CADMAX's main window and its various components. CADMAX is based on Microsoft Foundation Classes making its user-interface consistent with most other Windows products. If you are already familiar with other Windows products, then you already know how to work with CADMAX's user-interface.
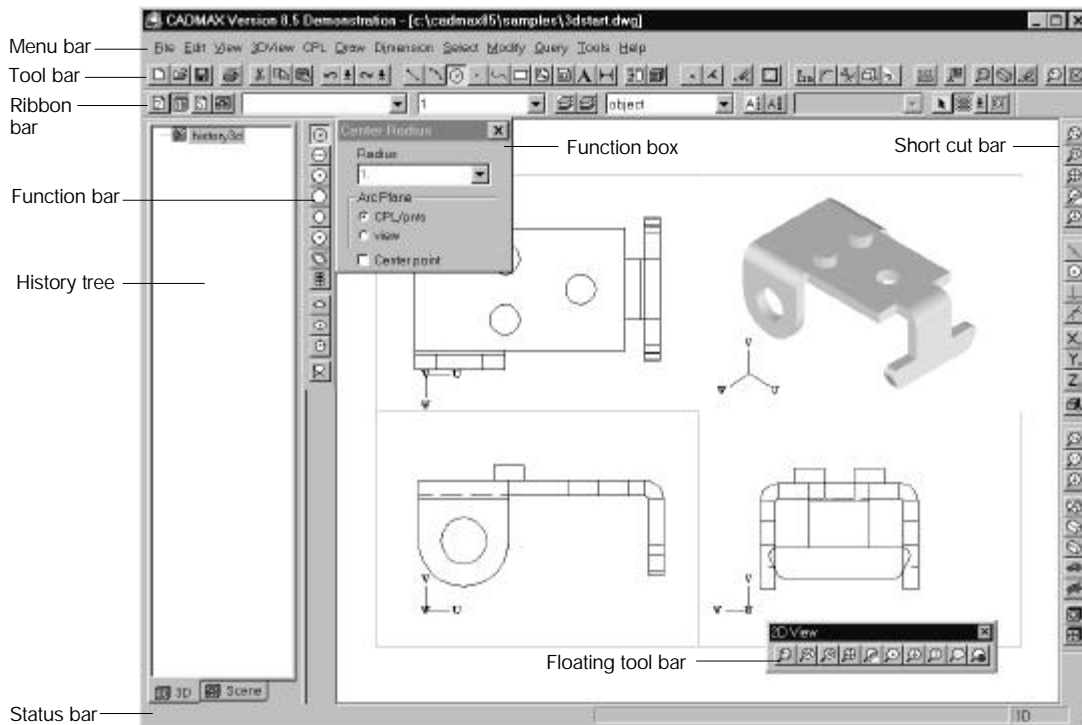
How to Execute Functions

Most CADMAX functions can be accomplished in at least two different ways. Some functions, those that are frequently used, may be executed in more than two ways. Let's start with the example of a **Center Diameter Circle** as a typical geometry construction case. You can construct the circle starting from the Menu Bar or by clicking on the specific icons to start the circle.

How to Insert Geometry using Center Diameter Circle as an Example:

1. On the Menu bar, click on the **Draw** menu. Position the cursor over **Circle** until the Circle submenu pops up or click on **Circle** to display the submenu.

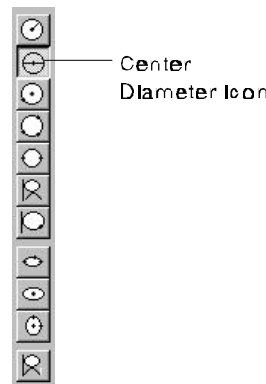2. In the Circle submenu, click on **Center, Diameter**.

<center>or</center>

1. In the Draw Tool bar, click on the **Circle** icon.

2. The **Circle** Function bar displays vertically along the left edge of the screen. Click on the **Center, Diameter** icon.

3. Once a function has been chosen, its Function box is displayed. It contains the modifiers that relate to the selected function. Function boxes are modeless. You can change its settings any time before you complete the function.
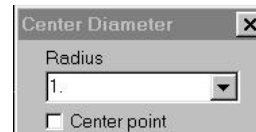
4. In addition to the modifiers in the Function box, there are additional modifiers that relate to the active function in the Ribbon bar.

Like the Function box modifiers, these modifiers can also be changed at any time. If a modifier is not available for the current function it will be grayed out.

5. Click in the work to insert the circle.

Menu Bar

All CADMAX functions can be executed from the Menu bar. Commands are selected by using the left mouse button to click on the menu name. The menu appears, showing all of the function choices that are available. Functions that are unavailable will be grayed so that you cannot click on them. In addition, the actual choices that are available in the menus will vary depending upon the current operating mode. You can set the operating mode in the **Edit** menu or by clicking on the appropriate mode in the Ribbon bar.

Menus and functions can also be executed using the keyboard. If you look at the functions on the Menu bar, you will notice they have a character underlined. Hold down the <Alt> key and type the underlined letter to open the menu. Once a menu is opened, type the underlined character in the menu to execute the function in the menu. For example, to start the Line function, type <Alt>+d to open the Draw menu, then type "l" to start the Line Point to Point function.
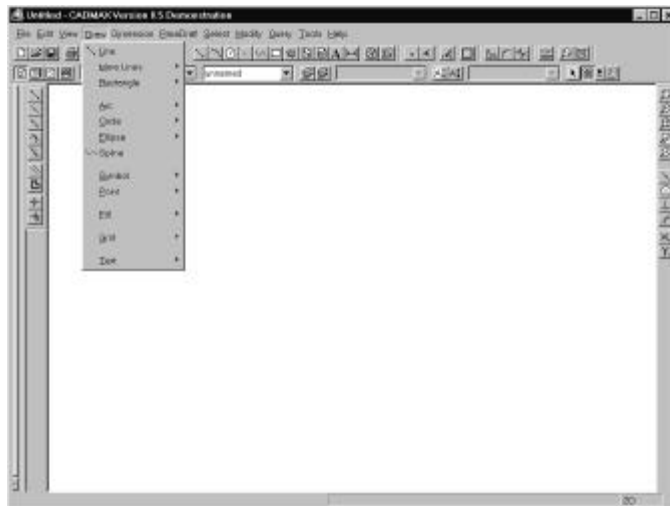
Along with the name of the function in the menu, CADMAX also displays its icon if one has been assigned to the function. As will be discussed below, many functions can be executed from icons. The icons are placed in the menus to help users associate an icon to the function that it represents. The figure to the right shows the Dimension menu along with the icons that represent each function. Showing the icons helps users learn them. This makes using tool bars and functions easier.

Many functions can be executed using short-cut keyboard operations. Keyboard short-cuts are displayed to the right of a function in the menu. Keyboard short-cuts can also be assigned by users.

Menus can cascade through multiple levels. Whenever a menu contains a ▸ right arrow at the right of a function, another cascading menu will appear when the mouse hovers over the entry. Slide the cursor over to the next level to choose a function in that menu. Menu levels are expressed in the documentation using the convention **Draw > Arc > 3 Points** as an example. This means click on **Draw**, slide the cursor to hover over **Arc**, wait into the Arc cascade menu displays, and then click on **3 Points**.

Whenever a "..." is displayed to the left of a function, it means that this function will display a dialog box.

The menus that are available will reconfigure automatically depending on the current mode. Functions are grouped into the following menus:

File	• Accessing or creating files such as drawings, plots, merge, packages, exit
Edit	• Undo, Redo, Cut/Copy and Paste, Mode
View	• 2D Viewing functions such as Zoom, Pan, Show World
3DView	• 3D Viewing functions such as Zoom, Dynamics, View Edit, and Make Hidden
CPL	• Functions regarding the 3D Construction Plane
Draw	• All functions which create objects such as Lines, Arcs, Symbols, etc
Dimension	• All dimension functions
ParaDraft	• 2D Parametrics, if you have purchased this upgrade
Select	• All select and unselect functions
Features	• Used in Sketch and Modeling mode for parametric modeling features

Plane	• Used in Sketch mode for functions that control the sketch plane.
Modify	• All functions which change objects such as Transform, Fillet, or Modify Text
Query	• All functions which inquire about objects such as Measure and Quick Look
Tools	• A variety of miscellaneous functions like Symbols, Attributes, Preferences
Help	• Access to the on-line HELP

Tool Bar

The CADMAX Tool bar is located directly below the menu bar. It contains icons for a variety of CADMAX's different operations. In the default configuration, there are actually five different tool bars and the available icons will vary depending on the operating mode. When one of the Tool bar icons are clicked on, one of three different actions can take place:

- A dialog box will be displayed for the icon. For example, if you click on the 📂 **Open** icon, the File Open dialog box will be displayed. This would be the same as clicking on **File > Open**.

- A Function bar will be displayed. A Function bar is actually a Tool Bar that contains additional functions that relate to the Tool bar icon that was chosen. For example, if you click on the ✏ **Line** icon, the Line Function bar will be displayed.

The default position for a function bar is vertical along the left side of the screen. They can be positioned anywhere on the screen. Then any of the icons in the Function bar can be clicked on to execute the specified function. The function at the top of the Function bar is the default function. Whenever a Function bar is displayed the top function is automatically executed. The default function in a Function bar can be changed at any time.

- A specific action will take place. For example, if you click on 🔲 **Clear**, then any geometry that is selected will be unselected. No additional action will take place.

Use Tool Tips to see the name of a function. Hold the cursor over a function and a tool tip will display showing the name of the function.

Any Tool bar may be moved around separately by picking it up on a spot where there is no button and dragging it elsewhere. Tool bars may float anywhere on the screen, or may be docked to any edge of the screen.

Any Tool bar can be fully customized. In addition, new custom Tool bars may be created with any combination of icon buttons. See the section on customization.

The standard CADMAX Tool bars are:

File • Mostly the commands from the File, Edit and Help menus. Note that the UNDO and REDO buttons in this tool bar also can display a scrolling list of UNDO locations to jump to.

Draw • The top most commands from the Draw menu.

Select • Some of the commands from the Select menu.

Modify • Some of the commands from the Modify menu.

Query • Some of the commands from the Query, 3DView and CPL menus.

Ribbon Bar

CADMAX has a special tool bar called the Ribbon bar. It is located directly below the main Tool bar at the top of the display. The Ribbon bar must always be displayed because it contains a variety of settings and operations that are important to CADMAX's operation.
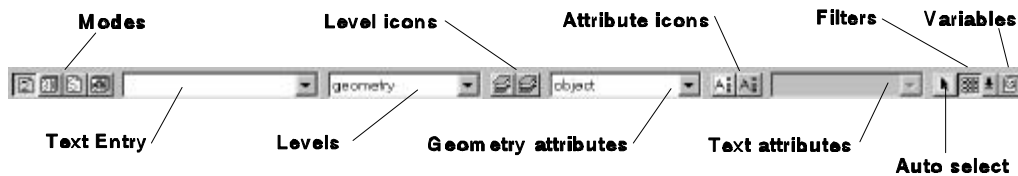
The standard functions on the Ribbon bar are:

Mode • CADMAX has four different modes of operation: 2D, 3D, Sketch, and Modeling. Sketch and Modeling modes are only available with CADMAX Solid Master. To change a mode, click on the appropriate mode icon to make it the active mode. The mode can also be set in the **Edit** menu.

When is a mode is activated, CADMAX changes the menus, tool bars, and operations for that mode. Using modes makes operating CADMAX easier. For example, when you are in 2D mode, only 2D geometry can be added to the drawing and only 2D functions are available.

Text Entry • The keyboard echo area is here. Unless you are typing into a modifier in a Function Box, all keystrokes will automatically go to this area.

Note that the keyboard area displays a down arrow where all previously entered keystrokes may be found in a scroll window, optionally modified and reused.

Levels • There are three Level features in the Ribbon bar:

First, the current level for new geometry is shown in a scrolling combo box. You may change the level at any time while in a function that uses levels. Only editable levels are shown.

Second, the Levels Control icon displays the complete Levels dialog box where all capabilities are available. When the Levels Control icon is clicked on, any active function will be aborted.

Third, Nested Levels can be accessed by holding the Ctrl key and then clicking on the Levels icon. It displays the levels dialog box with only those functions that can be changed within a command. This dialog may be displayed at any time and any operation in the dialog box can be performed without interrupting the current function.

Nested Levels and Levels Control can also be accessed from the **Tools** menu.

Attributes • There are four Attribute features in the Ribbon bar:

First, the current Geometry attribute is shown in a scrolling combo box. You may select another attribute at any time while in a function that uses geometry attributes as one of its modifiers.

Second, the Attribute Control icon displays the complete Attribute dialog box where all capabilities are available. When the Attribute Control icon is clicked on, any active function will be aborted.

Third, the Nested Attribute icon can be accessed by holding the Ctrl key and then clicking on the Levels icon. It displays the Attribute dialog box with only those functions that can be changed within a command. This dialog box may be displayed at any time and any operation in the dialog box can be performed without interrupting the current function.

Fourth, the current Text attribute is shown in a scrolling combo box. You may select another attribute here at any time while in a function that uses text attributes as one of its modifiers.

Note that functions which do not require geometry or text attributes will gray out these items. Nested Attributes and Attribute Control can also be accessed from the **Tools** menu.

Auto Select • Click on the Auto Select icon to turn -Auto Select? "on" or "off". When -Auto Select? is "on", new geometry will automatically be selected when it is inserted into the drawing.

Use Filters • Click on the Use Filters icon to set -Use Filters? to "yes" or "no" during select operations. When Use Filters icon is depressed, geometry will be selected according to the current User Filters settings. The Use Filters settings can be changed by clicking on the select arrow next to the Use Filters icon to display the Use Filters dialog box shown below.

The User Filters dialog box shows each geometry type and its current status. When a geometry type is clicked, that means that it is available to be selected. When it is not checked and the Use Filters icon is depressed, then that geometry type will not be selected.

One setting may be changed at a time or use the Edit button to make multiple changes.

Variables • CADMAX ParaDraft and Solid Master users will have a Variable icon. Click on this icon to display the Variables dialog box.

Function Boxes

When a function is executed from the Function bar or from a Menu and it has modifiers associated with it, a small dialog box appears called a Function box. The Function box displays the modifiers that may be set for the specified function. Function boxes are modeless. This means you can go back and forth between the work area and Function box without restriction. Simply click into this area and use the various radio buttons, check boxes and combo boxes to set the modifier options. The graphic to the left shows the Function box for Linear Dimension.

Combo box modifiers retain a history of the last 12 values entered for the modifier. You can select from the list by clicking on the down arrow. This history is saved across sessions in a file called "CXMODMRU.DAT". This file may not be edited outside of CADMAX, but may be removed to get rid of the history, or may be moved to another machine to acquire the modifier history.

Additional combo box modifier history can be obtained by clicking on the Smart Modifier right arrow icon located next to the combo box down arrow. When you click on this button, a smart modifier dialog is displayed. It contains a complete user-editable history of previously entered values, functions to help calculate a value, and a calculator.

Some Functions boxes have special buttons:

Continue   • This is used to enter the next phase of a multi-phase function such as Stretch.

Finish   • This is used by functions which have modifiers but which do not require work area clicks. Click this button after you have set any modifiers for the function to complete.

You may pick up a Function Box and place it somewhere else on the screen by dragging its title area. The next Function Box will appear at this location. If you click the 'X' to kill the Function Box, the command will continue to run and the next Box will appear in the default screen location again.
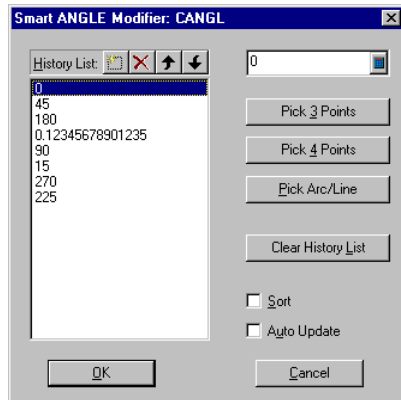
Smart Modifier Dialog Boxes

The right arrow at the end of each modifier in a function box is used to display a Smart Modifier dialog box relating to that modifier. Depending on the type of modifier, a dialog box will contain the following:

- ! A list of user-defined modifier settings
- ! A field for typing new modifier settings
- ! A calculator

! Button boxes that have additional features for generating modifier values

! Buttons for adding, removing, reordering, and clearing the modifier list

Following is an example of a number/integer dialog box for angle.

The available options in a number/integer dialog box will vary depending on the particular modifier that is selected. Following is a list of options:

OK	Click on **OK** to insert the currently highlighted setting into the modifier in the detail menu. Double clicking on a modifier in the list will insert it into the modifier. Lastly, pressing **Enter** will also insert the currently highlighted modifier setting.
Cancel	Click on **Cancel** to close the current box without changing the currently highlighted modifier setting.
Clear History List	Clear all entries in the History List.
Sort	New entries are added to the list sequentially. The list can be sorted alpha/numerically. Once the list has been sorted it cannot revert back to a sequential list. Although, if Sort is turned back off, then any new entries are added to the list sequentially from that point forward.
Auto Update	When Auto Update is active, any value in the user entry field is automatically added to the list when it becomes the active modifier setting by clicking on **OK**.
List Manager	At the top of the list are a series of icons that you can use to edit the History List. Use the icons to add, delete entries or to move entires up or down the list. First highlight the entry to be edited.

|	
Calculator	Click on the Calculator icon, which is located at the end of the text entry field of the Smart Modifier dialog box. The results of using the calculator are inserted into the modifier field and also into the dialog box list if Auto Update is active. When the Calculator icon is clicked on, the value in the user entry field is placed in the calculator. After a calculation is complete, click on '=' to update the modifier setting.
Pick 2 Points	The Pick 2 Points function will calculate the distance between any two points and insert the result in the modifier field and also into the dialog box list if Auto Add is active. When Pick 2 Points is clicked on, the dialog box clears so that the drawing can be viewed. Since this is already a nested function, another nested function such as WINDOW or SNAP may not be used. However, keyboard snap operations and coordinate entry are supported.
Pick 3 Points	The Pick 3 Points function calculates a modifier value from clicking on any 3 points in the drawing and calculating the angle. The answer is inserted into the modifier field and also into the dialog box list if Auto Add is active. When Pick 3 Points is clicked on, the dialog box clears so that the drawing can be viewed. Since this is already a nested function, another nested function such as **Window** or **Snap** may not be used. However, keyboard snap operations and coordinate entry are supported.
Pick 4 Points	The Pick 4 Points function is identical to Pick 3 Points, except the angle is calculated by clicking on two vectors and calculating the angle at intersection.
Pick Arc/Line	The Pick Arc/Line function will calculate the angle of a line from 0° or the angle of an arc from start point to end point when it is an angle modifier. When it is a distance, the radius of the arc or length of the line are used. Click on the Pick Line/Arc function, the dialog box clears, then click on the line or arc. The geometry will turn yellow in 2D and red in 3D indicating the element that was touched. Since this is already a nested function, another nested function such as **Window** or **Snap** may not be used.

Quick Tool Bars

Along the right side of the screen are several tool bars for performing popular 2d viewing, 3d viewing and snapping operations. The viewing functions are nested and can be used any time. Use the snapping options in place of slash snap codes or displaying the Snap dialog box. Any snap function executed in the Quick Tool bar are for one snap only. After you click to use the snap on geometry, the snap settings return back to their previous setup.
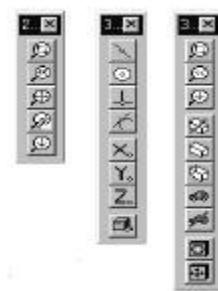
Pop-Up Menus

Pop up menus can be accessed at any time by clicking on the right mouse button. The pop-up menu, shown at right, provides quick access to a variety of frequently used functions. The advantage of using the Pop-Up menu is that it permits you to use a variety of functions without having to locate their menu or icon. Additionally, when a function in a Pop-Up menu is used the current Function bar is not changed. This permits you to easily return back to the current function without having to return to the Menus or Tool bars.

Feature Tree

The Feature Tree is available to CADMAX Solid Master users in Sketch and Modeling modes. It is located on the left-hand side of the display. The Feature tree contains a list of each feature in a modeling session. The tree shows the type of modeling operation. Some modeling operations have multiple levels. You can show the levels by clicking on the + to expand the levels or - to compress the levels.

The Feature can be activated by clicking on **Tools > Feature Tree**. You can expand or compress the width of the tree by placing the cursor on the right edge of the tree until the ◄|► symbol appears at the cursor. Click and hold the cursor until the Feature is at the desired width.

From the Feature Tree, a number of different functions can be performed. By clicking on a feature in the tree, the geometry associated with the feature will also highlight showing the relationship of the feature to the geometry. A feature can be edited or its sketch edited from the tree. In addition, by right clicking, you can move, rename, hide, condemn, and suppress features.

Status Bar

At the bottom of the screen is the status bar. The leftmost area of this bar serves two purposes. First, it displays a small helpful description of any menu item or tool bar item which is under the mouse. Second, this is where the standard CADMAX prompt appear.

The second area of the bar is where short informational messages appear. If a message is longer than the informational area, you can click in the message and scroll through the text. In addition, you can copy and paste the text in the message area.

The rightmost area of the Status bar shows the current mode and drawing scale.

Saving a CADMAX Drawing

The current drawing can be Saved as a CADMAX drawing. The **Save As** function can also be started by pressing **F3.**

Complete details on the **Save** and **Save As** functions are available in the *File Management and Utilities* section of this manual. Details on saving AutoCAD drawings are in the *Import/Export* sections of this manual.

To Save a Drawing Using the Same Name

1. Click on **File > Save** or press **<Alt+F12>**.

To Save a Drawing Using a New Name

1. Click on **File > Save As** or press **F3**. The Save dialog box appears.

2. Set the folder in the tree and type in the name of file to save the current drawing as. Optionally, you can type in the full path.

    Drawing summary information can be modified by clicking on the **Properties** box.

    Use **Preferences** to edit the drawing history and set additional file preferences.

3. Once the file name and folders are specified, click on **Save As**.

Exiting CADMAX

CADMAX prompts you to save your work before you exit CADMAX. You can exit CADMAX using any of the following methods:

   • Click **File > Exit**.
   • Press **F2**.
   • Click on the X icon at the top right corner of the CADMAX screen.

Starting a Drawing from Scratch

In most cases, you'll find it best to start with an existing CADMAX drawing and then modify it to create a new drawing. Use these instructions to start a CADMAX drawing from scratch and to learn about many of the settings that you will want to configure in a starter drawing. This exercise will be helpful in starting to use CADMAX for the first time. You will learn how to establish text and geometry attributes, levels, draw a simple title block and establish 3D views (if working in 3D). Of course, CADMAX comes with a number of sample starter drawings that you can use as a basis for making your own starter drawing.

Starting a New Drawing

There are five simple steps to take before you begin a new CADMAX drawing:

1.   Load a "blank" drawing.

2.   Set style characteristics ("attributes") for text and geometry both for the screen display as well as for plotting.

3.   Establish system preferences such as scaling preferences through **Tools > Preferences** and **Query > System**.

4.   Set up a title block.

5.   If it is to be a 3D drawing, locate where the 3D views are to be plotted, and set up a 3D view layout.

Opening a Blank Drawing

When you first start CADMAX, there is a blank drawing in memory. This allows you to rename the drawing and save it as a new file. In the Sample Drawings that came with CADMAX, there is also a drawing called BLANK which you can use.

1. Start CADMAX.

2. Press **F3** or click on **File > Save As** to open the Save As dialog box.

3. Specify a folder to save the drawing in, then type a name for the new drawing. All CADMAX drawings have a default .CXD extension.

4. Optionally, edit the **Properties** for Description, Type, Author, and Revision.

5. Click on **OK** to save the drawing.

Setting Text and Geometry Attributes

The next step in setting up a new CADMAX drawing is to define the style characteristics of text and geometry for the screen display and the plotter. We call these characteristics Text and Geometry Attributes.

Geometry attributes determine color and line style for geometry displayed on the screen and pen number and line style for geometry when it is plotted. Text attributes determine the width, height, font and spacing for text when it is displayed on the screen and plotted.

Text and geometry attributes are set from **Tools > Attributes** or from the Attributes icon on the Ribbon bar. The name you assign to each attribute should give some information about the style.

For example, the geometry attribute "object" could indicate that geometry created with this style will be object lines in the drawing and the plot.

After you assign an attribute name, you must choose the style characteristics to be associated with that name.

After you name and assign characteristics to an attribute, it is ready to be used as a modifier. Nearly all drawing and text commands as well as some editing commands use the -Attribute Name? modifier. The attribute name to use with each function is set in the ribbon bar. First start the function, then set the appropriate attribute name. If a function does not use an attribute, then the attribute field in the Ribbon bar will be grayed out.

Text and geometry attribute names, together with their characteristics, are stored with the current drawing file.

For complete instructions for setting text and geometry attributes, see your CADMAX Reference Manual.

To define a new geometry attribute:

1. Click on **Tools > Attributes** or **Nested Attributes.**

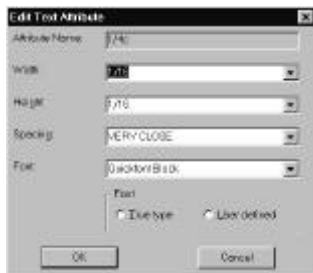2. Type the name of the new attribute and click on **New**.

3. Using the select arrows, choose a Line Style, Color, and Pen for the new attribute.

4. Click **OK.**

To define a new text attribute:

1. Click on **Tools > Attributes** or **Nested Attributes**, then click on the Text tab.

2. Type the name of the new attribute and click on **New**.

3. Using the select arrows, choose a Width, Height, Spacing and Font. If the desired font is a TrueType font, select one of the Custom fonts from the list, then click on TrueType. Otherwise skip to Step 5.

4. The Windows Font dialog box is displayed. Choose a Font and Font Style. It is not necessary to choose a Size because CADMAX controls the size. Then click **OK**.

5. Click **OK.**

Repeat this process as many times as you like to define each of the geometry and text styles you want to establish for your drawing. Most users establish geometry attributes for object, hidden, center, construction, and dimension geometry. For text, a number of attributes are established for dimensions, notes, and title block text.

Setting Levels

Whenever geometry or text is added to a drawing, it is always placed on the current level. A level, often referred to as a layer in other CAD products, is like a separate sheet of paper that can be used to construct the drawing, model, or associated geometry. Various individual drawing levels can be utilized for drawing formats, bills of material, dimensions, construction tool grids, drawing summary, or for any other drawing level separation desired.

Each level has a status of either editable, referenced or invisible. The level that geometry is added on is called the current level and it must be editable. The current level can be specified by the -Level Name? modifier in the Ribbon bar.

New levels can be created at any time during the drawing process. When organizing your levels, choose your level names carefully and consistently between drawings. This will help assure uniformity across your entire engineering database. CADMAX displays the list of levels alphabetically. Use common prefixes to name levels with related drawing components, so they are listed together.

To Create a new level:

1. Click on **Tools > Levels**, or if a new level must be created within another command **Tools > Nested Levels**. The Level Control dialog box appears.
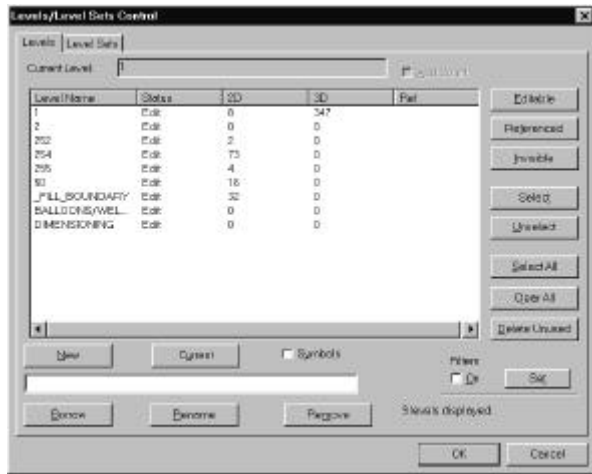
2. The cursor is blinking in text box. Enter a new level name, then click on **New** or press **Enter**.

 The level name can be up to 40 characters. Level names can contain letters, numbers, and special characters such as comma (,), dollar sign ($), hyphen (-), underscore (_), and spaces.

3. Click on **OK** to return to the drawing.

New geometry is placed on the current level. The current level is the name highlighted under the -Level Name? modifier on the Ribbon bar or the Current Level text area of the Levels dialog box. Once the current level name is changed, any new geometry is now associated with this level.

To make a level current:

1. On the Ribbon bar click on the Level select arrow to display a list of levels in the drawing.

2. Scroll through the list and click on the desired level.

 or

1. Click on **Tools > Level**s or **Nested Levels**.

2. From the Level Name list, make a level current using one of these methods:

 ! Click on a level, click on **Current**, then click on **OK**.
 ! Double click on a level.

3. The Level Control dialog box closes and the specified level name becomes the current level.

Drawing a Title Block

To create a title block that matches your drafting standards, you'll use 2D rather than 3D drawing commands. Since it is a new drawing, you will have to create a new level, and then make that level "editable" so that geometry can be added to it.

Typically title blocks consist of 2D rectangles and lines and some text. The one illustrated here is very simple, but the same principles of construction apply to even the most complex title block. We're going to place our title block on Level Title_Block of the drawing.

1. Click on **Edit > 2D Mode** to draw in 2D.

2. Click on **Tools > Levels**.

3. Create a new level called **Title Block**.

4. Make **Title Block** editable.

5. Click on **Draw > Rectangle > 2 Corners.**

6. On the Ribbon bar set the -Level? to **Title Block**.

7. Set the Geometry Attribute to one of the attributes that you defined.

8. Click on the first point of the rectangle in the upper left corner of the drawing area.

9. Drag the cursor diagonally, and click on the second point in the lower right corner of the drawing area.
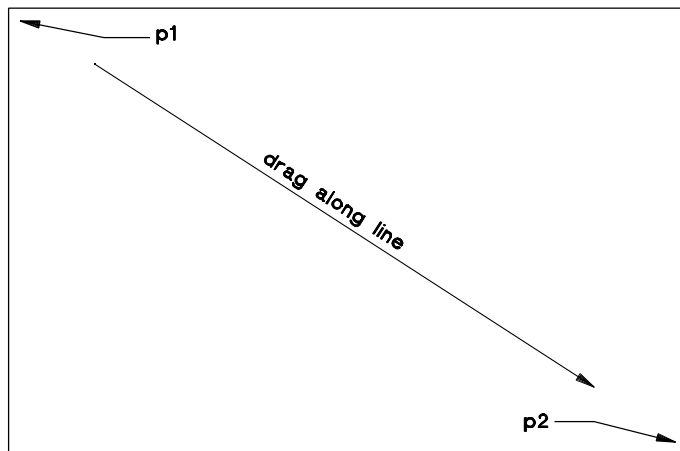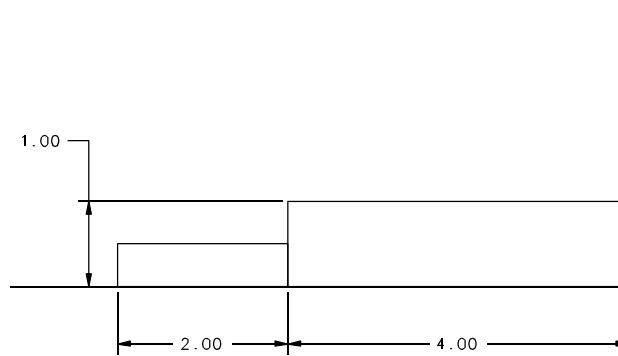

*Use **Rectangle** > **2 Corners** to draw the perimeter of the title block.*

Next we'll draw two smaller rectangles in the lower right corner.

10. Click on the lower right corner point of the large rectangle. Then type: Ctrl+←4, Ctrl+↑1 Then press **Enter**.

11. Now click on the lower left corner point of the new rectangle. Then type: Ctrl+←2, Ctrl+↑.5 Then press **Enter**.

Draw two connecting rectangles in the lower right corner of the large rectangle.

Now we'll use **Line** to divide each of the two connecting rectangles into four quadrants. But first we'll set **Snap** to Midpoint so we can easily find the midpoints of the lines that form the rectangles.
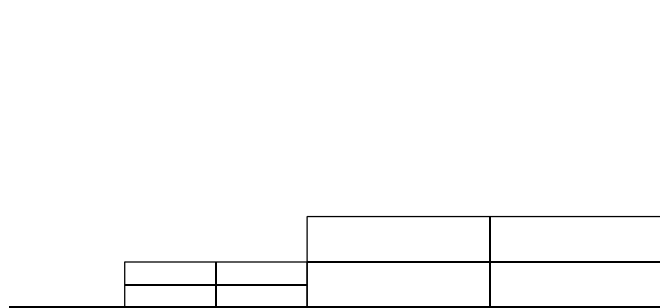
12. Click on **Tools > Snaps**.

13. Set -In Effect? to 'until changed'. Click on Midpoint, then click on **OK**.

14. Click on **Draw > Line**.

15. Set -Connect? 'off'.

16. Now draw vertical lines from the top to the bottom of each rectangle. Your click points snap to the midpoints dividing the rectangles in half.

17. Draw horizontal lines across each of the rectangles. Again, the click points snap to the midpoints dividing the rectangles in half again.
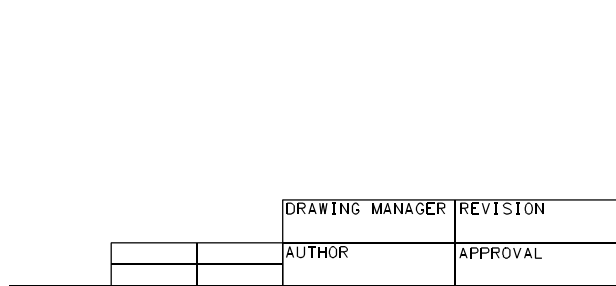
Divide each of the rectangles into four quadrants.

18. Click on the **Tools > Snaps**, reset snap to default by clicking on the **Default** icon in the lower left corner of the Snap dialog box. Then click **OK**.

Let's add some text!

19. Use **View > Zoom** to zoom in on the larger rectangle.

20. Click on **Draw > Text**.

21. Set the text and geometry attributes on the Ribbon bar. Make sure the text attribute you specify has a height and width of 1/8".

22. Click on a point in the upper left quadrant of the rectangle to locate the text.

| DRAWING MANAGER | REVISION |
| AUTHOR | APPROVAL |

Enter text to complete the title block.

23. Type **Drawing Manager**, then press **Enter** *twice* to place the text.

On your own: Complete the remaining three quadrants with this text:

> **Author**
> **Revision**
> **Approval**

Now try this!!! Enter text in one of the quadrants of the smaller box. You will need to change the text attribute to a smaller text size or modify the text scale to complete the title block.

Once your title block has been finished, set the level on which it was created to Referenced. As you remember, Referenced levels are displayed but cannot be edited.

24. Click on **Tools > Levels**. Make sure level **Title Block** is highlighted.

25. Click on **Referenced**, then click on **OK**.

If you are working in 2D, then setup is complete. If you are working in 3D, the next step is to create the 3D view layout.

Selecting a 3D View Layout

CADMAX includes starter drawings that already have 3D Views established, but you might want to set up your own views. You can set up views using **3DViews > New View, Direction** or **Inherit** or **Easy View**. You can find additional instructions for the **New View** functions in CADMAX Help or the CADMAX Users Manual. The following instructions show you how to use **Easy View**.

Easy View makes easy work of setting up 3D views for a new drawing. There are eight view layouts from which to choose. Each of them includes at least one orthographic view and at least one isometric view. See CADMAX Help for the complete listing of available layouts.

Use Easy View to select the layout of views and to set the view/model scale as well as the outline and reference box levels. In addition to choosing a view layout, you'll need to define the 3D largest coordinate, the 3D view-to-model relationship and how 3D geometry will relate to 2D geometry.

Before you start Easy View, create two new levels which will be used for the -Reference Point Level? and the -Outline Level?. Follow these basic instructions for using the View Wizard:

1. Create two new levels using the instructions shown to you earlier, then click on **3DView > View Wizard**.

2. Set the -View Layout? modifier to any one of the eight layouts. Layout 3 is a standard front, top, side, and isometric 4 view layout.

3. Set the -Drawing Units? to either 'English' or 'Metric'.

4. Set the -Outline Level? modifier using one of the levels you created in Step 1 above.

   The Outline Level is where 2D view outlines are placed. No other geometry should be placed on this level. This level is set to be "referenced" so the outline is not selectable and, therefore, cannot be modified. A geometry attribute called "EASY_VIEW_OUTLINE" is created with lt blue, solid, and pen 1 for the view outlines.

5. Set the -Ref Pnt Level? modifier using one of the levels you created in Step 1 above.

   The Reference Point Level is where a 3D rectangle which exactly surrounds each view is placed. This level is set to be "invisible," and no other geometry can be placed on it. A geometry attribute called "EASY_VIEW_REFERENCE" is created with lt blue, solid, and no pen for the Ref Box.
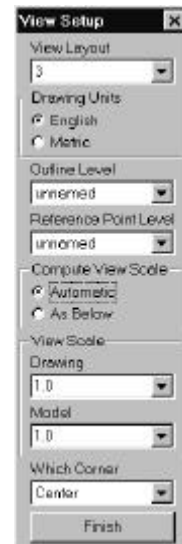
6.   Set the -View Scale? modifier to either 'Automatic' or to or 'As Below'. If you choose 'As Below' to compute the view scale, then you must also set the -Drawing? and -Model? scales. We recommend that you set -View Scale? to 'As Below' and you set -Drawing? and -Model? scales to '1'.

7.   Set the -Origin Where? modifier.

      Finally, you must set the origin of the view (0,0,0). CADMAX gives you five choices: Lower Left, Lower Right, Upper Left, Upper Right or Center.

8.   Click on **Finish**. CADMAX takes you to a text screen and asks you to answer different questions depending on how you set the modifiers.

9.   You must determine whether you want CADMAX to match the size between geometry drawn in 2D and 3D. The default response is **No**, but you should respond **Yes** if you'll be transferring geometry between 2D and 3D. To accept the default, press **Enter**. Or, to match geometry size, type **Y**, then press **Enter**.

10.   CADMAX returns you to the drawing screen. Now you're ready to locate the view layout within the title block. You'll use a dynamic rectangle to define the area within the title block where the layout will display.

      Click on a point within the upper left corner of the title block.

12.   Drag the cursor diagonally across the screen and click on a point in the lower right corner of the title block. CADMAX displays the view layout you chose within that space.

We recommend that when you have followed these procedures to set up a drawing that meets your drafting standards, save the drawing in a folder that you have reserved for your drawings. Open this file whenever you're starting a new drawing. Your geometry and text attributes, title block, levels and other style elements are already set up for you! Use this drawing in the future to start any new projects or drawings.