# Single Line (LS)

Use the Single Line command to draw a single line with a start and end point.

**To draw a single line:**

1. Choose the single line command.
2. Place the starting point.
3. Place the ending point.

If you know the exact length of the line, you can use direct distance entry to place the ending point.

See Also:

{button ,AL(`Line',0,`',`')}  Other types of lines

{button ,AL(`Properties',0,`',`')}  Line Properties

{button ,AL(`Snaps',0,`',`')}  Snaps

{button ,AL(`Track',0,`',`')}  Tracking

# Continuous Line (LC)

Use the Continuous Line command to create a continuous line consisting of one or more line segments. Continuous lines may be selected and edited as single objects.

**To draw a continuous line:**

1. Click the continuous line command.
2. Place the starting point.
3. Place the end point of the first line segment.
   This is also the starting point for the second segment.
4. Place additional points to create the line segments of the continuous line.
   Note: if you inadvertently place a point in the wrong location, you do not need to abort the command and start over. Use the Undo Vertex command to “backspace” through the line segments you have placed, then make the correction and continue.
5. Choose the Pen Up command, double-click, or press the Escape key to stop drawing line segments.

See Also:

{button ,AL(`Line',0,`',`')} Other types of lines

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Double Line (LD)

Double lines are useful for drawing walls, roads, and other parallel lines.

**To draw a double line:**

1. Choose the Double Line command.

   If you know that all the Double Line settings are correct, skip to step 5 to begin drawing. If you need to verify or change the settings, follow any or all of steps 2 through 4.
2. Press the right mouse button and choose DB Line Settings to check the line settings.

   The Double Line speed bar appears displaying the current settings. Make changes as needed to the left and right offsets (see Tips below). You may also check the Solid Fill box to have the space between the lines filled with the current line color.

   You can turn Auto Fillet mode on or off by pressing the right mouse button and choosing Auto Fillet from the popup menu.

   A check mark precedes the command when it is turned on.

   Press the right mouse button and choose Fillet Radius to check the Fillet settings.

   The Fillet speed bar appears, displaying the current settings. Enter the new radius in the text box. Check the Auto Fillet box to turn Auto Fillet on. Check the Fillet Preview box to have a dynamic preview of the filleted corners displayed while drawing.
3. Place the starting point.
4. Place points to define each new bend in the set of double continuous lines.
5. Choose the Pen Up command, double-click, or press the Escape key to complete the command.

   This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

**Tips**

- The “left” and “right” offset directions are defined relative to the movement of the cursor; the “left” offset applies to the left of the cursor’s forward direction, and the “right” offset applies to the right. This applies whether the cursor is moving up, down, left or right on the screen. For example, if you are drawing from the bottom of the screen to the top, the “left” offset line is on the left side of the double line as you view your screen. If, however, you are drawing from the top to the bottom, the “left” offset is actually on the right side of the double line as you view your screen.
- Most double line settings can be changed “on the fly,” while you are using the command. For example, you can click the right mouse button to bring up the context-sensitive popup menu, then choose DB Line Settings. A speed bar appears at the top of the screen with the current double line settings. Make any changes, then return to drawing. The changes take effect with the start of the next double line.
- You can review and edit the current settings for double lines at any time by choosing Settings from the Utilities menu, then clicking the General tab.  You can also save the current settings as a style, or load a style (from the File menu) to set all the double line settings at once.

See Also:

{button ,AL(`Line',0,`',`')}  Other types of lines

{button ,AL(`Properties',0,`',`')}  Line Properties

{button ,AL(`Snaps',0,`',`')}  Snaps

{button ,AL(`Track',0,`',`')}  Tracking

# 2-Point Rectangle (R2)

Use the Two-Point Rectangle command to create a horizontal or vertical rectangle.

**To draw a two-point rectangle:**

1. Choose the Two-Point Rectangle command.
2. Place any corner (vertex) of the rectangle.
3. Place the opposite corner.

   In most cases, the ideal way to create a two-point rectangle is with manual entry, set to Relative mode. In this mode, the second point (representing the diagonally-opposite corner) of the rectangle can be specified by entering the width and height of the rectangle as the X and Y coordinates.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Properties',0,`',`')}  Line Properties

{button ,AL(`Snaps',0,`',`')}  Snaps

{button ,AL(`Track',0,`',`')}  Tracking

# 3-Point Rectangle (R3)

Use the Three-Point Rectangle command to create a rectangle by defining its length and height with three points.

**To draw a three-point rectangle:**

1. Choose the Three-Point Rectangle command.
2. Place a point at any corner (vertex) of the rectangle.
3. Place the endpoint of the line.
4. Move the cursor perpendicular to the line you just drew.
5. Place a third point to complete the rectangle.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

**Tips**

- In most cases, the second and third points can be placed using direct distance entry or a snap command.
- If ortho mode is off, you can use polar coordinate entry with Relative mode to draw the first side of the rectangle, providing you know the length and angle of the first side of the rectangle.

See Also:

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Center Polygon (PC)

Use the Center Polygon command to draw a regular polygon.

**To draw a regular polygon using center construction:**

1. Choose the Center Polygon command.
   (If you know that the settings (number of sides and whether the polygon is to be inscribed) are correct, skip to step 3 to begin drawing.)
2. Choose the number of sides for the polygon by pressing the right mouse button and choosing Number of Sides and then selecting the appropriate number from the popup menu.
3. Place a point to locate the center of the polygon.
4. Place a point to complete the polygon.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

If you want to create an inscribed polygon, press the right mouse button and choose Inscribed from the popup menu, so that a check mark precedes the command.

If the Inscribed command is checked, the second point used to define the polygon will represent a vertex of the polygon. If the Inscribed command is not checked, the second point will represent the midpoint of a side of the polygon.

See Also:

{button ,AL(`Polygon',0,`',`')} Other types of polygons

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Side Polygon (PS)

Use the Side Polygon command to draw a regular polygon when you know the length, orientation and location of one side.

**To draw a regular polygon using one-side construction:**

1. Choose the Side Polygon command.
2. Choose the number of sides for the polygon by pressing the right mouse button, choosing Number of Sides, and then selecting the appropriate number from the popup menu.
3. Place the starting point for one side of the polygon.
4. Place an end point for one side of the polygon.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Polygon',0,`',`')} Other types of polygons

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Irregular Polygon (IP)

Use the Irregular Polygon command to create a polygon of three or more sides, each side being of any length or angle. In effect, this command creates a closed continuous line.

**To draw an irregular polygon :**

1. Choose the Irregular Polygon command.
2. Click to place the first point.
3. Place additional vertex points around the perimeter of the polygon.
4. Choose the Pen Up command, or double-click to complete the polygon.

   You do not have to place an end point on top of the starting point; Corel Visual CADD connects the first and last vertices automatically.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Polygon',0,`',`')} Other types of polygons

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# 2-Point Circle (C2)

Use the Two-Point Circle command to create a circle when you know the location of the center point, and the circle's radius or the location of any point on the perimeter (circumference) of the circle.

**To draw a two-point circle:**

1. Choose the Two-Point Circle command.
2. Place the center point of the circle.
3. Place the second point on the circumference of the circle.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

**Tip**

There are several ways you can place the second point:

- Using direct distance entry, you can simply type the radius.
- If you know the diameter, you can use direct distance entry, and let Corel Visual CADD calculate the radius for you. For example: if the diameter is 2' 3 3/4", you could type **(2' 3 3/4")/2** as the radius.
- Use any of the snap commands to place a perimeter point precisely at any location.

See Also:

{button ,AL(`Circle',0,`',`')} Other types of circles

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# 3-Point Circle (C3)

Use the Three-Point Circle command to create a circle when the center and radius are not known. The circumference must pass through three specific points in your drawing.

**To draw a three-point circle:**

1. Choose the Three-Point Circle command.
2. Place the first of the three points for the circle to pass through.
3. Place the second point.
   As you move the cursor, a new rubberband connects the second point to the cursor.
4. Place a third point to complete the circle.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Circle',0,`',`')} Other types of circles

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Diameter Circle (CD)

Use the Diameter Circle command to create a circle whose diameter you specify by placing two points.

**To draw a diameter circle:**

1. Choose the Diameter Circle command.
2. Place a point that will be on the circumference of the circle.

As you move the cursor, you see a dynamic preview of the circle.

1. Place a second point to define the circle.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

**Tip**

- If you know the diameter, simply type it while you are dragging the preview circle in the desired direction.
- If you just know the radius, do the same thing, but enter the diameter as a mathematical expression—for example: **(***radius***)*2**.

- You can also use Snap commands to make the circle exactly fill the space between two objects.

See Also:

{button ,AL(`Circle',0,`',`')} Other types of circles

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Ellipse (EP)

Use the Ellipse command to draw an ellipse defined by the length and width at its principal axes.

**To draw an ellipse:**

1. Choose the Ellipse command.
2. Place the starting point of the first axis.
3. Place the endpoint of the first axis.
   This defines the length and orientation of the ellipse. As you move the cursor perpendicular to the first axis, a preview of the ellipse follows your cursor.
4. Place a third point to complete the ellipse.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Circle',0,`',`')} Other types of circles

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# 2-Point Arc (A2)

Use the Center-Span-Arc command to create an arc when you know its centerpoint, the starting point of the arc, and any point on the line connecting the center point with the end of the arc (or the extension of that line).

**To draw a center-span arc:**

1. Choose the Center-Span-Arc command.
2. Place a point at the center of the arc.
   A rubberband connects the center with the cursor, representing a preview of the radius.
3. Place the first endpoint of the arc.
   This point determines the radius as well as one endpoint of the arc.
4. When you have opened the arc to the desired angle or alignment, place another point.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Arc',0,`',`')} Other types of arcs

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# 3-Point Arc (A3)

Use the Three-Point Arc command to create an arc when you know the beginning point, a point on the arc, and the endpoint.

**To draw a three-point arc:**

1. Choose the Three-Point Arc command.
2. Place the starting point for the arc.
3. Place any intermediate point on the arc.
   A preview of the arc appears, connected on one end to the cursor.
4. Place the endpoint of the arc.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Arc',0,`',`')} Other types of arcs

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Elliptical Start-Span Arc (EA)

Use the Elliptical Start-Span Arc command to create an elliptical arc based on a “parent” ellipse. You first create the “parent” ellipse by defining its major and minor axes. Then, you define the beginning and end of the elliptical arc using an angular span originating at the center of the ellipse.

**To draw a elliptical start-span arc:**

1. Choose the Elliptical Start-Span Arc command.
2. Draw the “parent” ellipse.

   Follow the procedure included for the Ellipse command.

   When the ellipse is completed, a rubberband connects the center to the ellipse to the cursor. The rubberband line represents a cutting line; the intersection of this line and the ellipse will be the start of the elliptical arc.
3. Place the first endpoint of the elliptical arc.
4. Place a point to complete the elliptical arc.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Arc',0,`',`')} Other types of arcs

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Single Bezier Curve (BS)

Use the Single Bezier Curve command to create a curved line. The shape of the curve is determined by two control points. These control points define lines that are tangent to the curve at the endpoints. Corel Visual CADD constructs a smooth curve connecting the endpoints and meeting the tangency constraints.

**To draw a single Bezier curve:**

1. Choose the Single Bezier Curve command.
2. Place the starting and ending points of the curved line.

   A preview curve appears, connecting the two endpoints. Moving the cursor controls the slope and “bulge” of the curve at the starting end.
3. Place the first control point to fix the slope of the curve at the starting point.

   The cursor now controls the location of the second control point. Moving the cursor changes the slope and “bulge” at the end of the curve.
4. When the curve is shaped as desired, place the second control point.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Curve',0,`',`')} Other types of curves

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Continuous Bezier Curve (BC)

Use the Continuous Bezier Curve command to create a continuous curved line, consisting of individual bezier curves joined at each construction point, but behaving as one entity.

**To draw a continuous Bezier curve:**

1. Choose the Continuous Bezier Curve command.
2. Place the starting point of the curve.
3. Place points to define the remaining segments of the curve (the curve will pass through these points).
   Each segment of the curve is adjusted when you place the second line of the line segment, creating a smooth, continuous curve.
4. Choose the Pen Up command, double-click, or press the Escape key to complete the command.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

**Tips**

- See also the Single Bezier Curve and Move Point commands.
- Corel Visual CADD provides extensive support of snap, constraint and trim commands involving both bezier and spline curves. For example, you can trim a continuous bezier curve to a line, circle, or even another bezier curve. You can also Snap Tangent and Snap Perpendicular to each of these entities.

See Also:

{button ,AL(`Curve',0,`',`')}  Other types of curves

{button ,AL(`Properties',0,`',`')}  Line Properties

{button ,AL(`Snaps',0,`',`')}  Snaps

{button ,AL(`Track',0,`',`')}  Tracking

# Spline Curve (CV)

Use the Spline Curve command to draw a spline curve. You can move construction points on a spline curve, but you cannot move control points independently.

**To draw a spline curve:**

1. Choose the Spline Curve command.
2. Place the starting point of the curve.
3. Place additional construction points to create the desired curve.
4. Choose the Pen Up command, double-click, or press the Escape key to complete the command.

This command uses the properties of layer, color, line type and line width to draw your line. To change these line properties, click on the Properties button in the main speed bar.

See Also:

{button ,AL(`Curve',0,`',`')} Other types of curves

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

# Point (PO)

Use the Point command to place a point for use during the construction of another object.

**To place a point:**

1. Choose the Point command.
2. Place a point where you want the point marker to be located.

You can choose to display or hide points in your drawing. To display, print, and plot point markers, check the Points box located in the Display section of the System tab in the Settings dialog box (Utilities menu). If the box is not checked, you can select and snap to points, but they will not be displayed, printed, or plotted.

See Also:

{button ,AL(`Properties',0,`',`')} Line Properties

{button ,AL(`Snaps',0,`',`')} Snaps

{button ,AL(`Track',0,`',`')} Tracking

## Pen Up

Common command used to end multi-segmented or continuous entities. It can be accessed from the 2 letter command, PU, or from the context sensitive mouse menu access by clicking the rightmost button on your mouse.

# Text Line (TL)

You can use the Text Line command to create any text except dimensions, leaders, and attributes. When you use the Text Line command, you see only the current line as you type in a text box on a speed bar. A bounding box for the text appears in the drawing, which expands to fit the text you type. Use the Text Block command instead of the Text Line command if you're typing multiple lines of text and do not need to see the boundaries of the text block in the drawing until after you have placed the text.

**To enter text with the Text Line command:**

1. Choose the Text Line command.
2. Place a starting point for your text.

   The Text Line speed bar appears.

   The point where you clicked becomes the baseline of the first line of text. A bounding box appears in your drawing which expands as you type text in the text box.
3. Type the text.

   To create multiple lines of text, press the Enter key at the end of each line.

   You can change the text properties at any time before you click the Text speed bar's OK button by clicking on the text settings or vector settings tab. The settings you choose apply to the whole line of text.
4. Click OK, or press the Enter key twice to place the text.

See Also:

{button ,AL(`text',0,`',`')} Other text tools

{button ,AL(`TextSetting',0,`',`')} text settings

# Linear Dimension (DL)

Use the Linear Dimension command to display a length. Typically, linear dimensions are used to show the length of an object, but they can also show the distance between objects, or any other distance. Once placed, a linear dimension is “associative.” If the dimensioned items are moved, stretched or rescaled, the associated dimension is updated automatically.

**To place a linear dimension:**

1. Choose the Linear Dimension command.

   If you wish to check or change dimension settings, click the right mouse button to bring up the context-sensitive popup menu. From the popup menu, choose the category for the dimension parameter you wish to inspect or change. A specialized speed bar will appear.
2. Make any changes you wish, then click the OK button to proceed with the dimensioning operation.

   You can bring up the popup menu repeatedly to check other dimension parameters. All dimension settings can also be changed from the Settings dialog box, accessed through the Utilities menu.

   You can choose from three dimensioning “modes:” Single, Cumulative, or Partitioned. In the Single mode, you place dimension lines individually. Use the Cumulative mode to place a series of dimension lines originating from the same point, or the Partitioned mode to place dimension lines end to end, where the end point of one line is the beginning point of the next.

   The dimension mode can be selected from a speed bar, which is displayed by selecting Dimension Mode from the context-sensitive dimension popup menu. This mode, and all other dimension settings, can also be changed from the Settings dialog box, accessed through the Utilities menu.

   You can also control the direction in which dimensions are measured. You can choose horizontal, vertical, “at an angle” (measuring points projected onto a user-defined angled line), or aligned (true distance between the measuring points, or true length of a line).
3. Place the starting point for the dimension.

   If the first (or only) object to be dimensioned is a line, you can simply click the line. Corel Visual CADD will locate each endpoint, and start the dimension (if this is the case, skip to step 5).

   Otherwise, the first point should be placed precisely, since it will be the basis for the first distance measurement.
4. Place the ending point for the first dimension.

   As you move the cursor, a dynamic preview of the dimension now appears, constrained to move perpendicular to the dimension direction. You can place the dimension on either side of the line you are measuring. Depending on the settings for Proximity Fixed and Extension Stretch, you may or may not be able to freely drag the dimension preview (within its constraints), and the extension lines may stretch as required to maintain the specified extension offset, or they may remain constant in length, allowing the offset distance to vary.
5. Drag the dimension line to the desired location away from the dimensioned object, and place a point to set the dimension line.

   For single dimensions, this step completes the command. For Partitioned dimensions, this point sets the first dimension line and establishes the starting point and offset for the next dimension line (so you will not need to place the dimension line for subsequent dimensions).

   For Cumulative and Partitioned dimensions, place subsequent points to create each new dimension.

   Choose the Pen Up command or double-click to complete the command.

See Also:

{button ,AL(`dimension',0,`',`')} Other types of dimensions

{button ,AL(`dimsettings',0,`',`')} Dimensions settings

# Angular Dimension (DA)

Use the Angular Dimension command to measure any angle in your drawing by first identifying a vertex and then a point on each ray. For every angle, you have a choice of dimensioning either the inside or the outside measurement.

Once placed, angular dimensions are “associative.” This means that if the dimensioned angle changes, the associated angular dimension will be updated automatically.

**To place an angular dimension:**

1. Choose the Angular Dimension command.
2. Place a vertex for the angle, snapping to a point on the object you are dimensioning.

   If you are dimensioning the angle spanned by an arc, click the arc. Corel Visual CADD will find the endpoints and determine the angle (if this is the case, you can skip to step 5).
3. Place a second point to identify the first ray of the angle.
4. Place a third point to identify the second ray of the angle.
5. Drag the mouse to choose the smaller or larger angle.

   A dynamic preview of the angle dimension will now appear.
6. Drag the preview dimension to the desired location and place a point to position the dimension.

**Tip**

- The text is always placed horizontally in angular dimensions.
- Corel Visual CADD gives you extensive control over the appearance and other properties of each part of a dimension. For more information about how to change these properties and other dimension settings, see the descriptions of the Dimension Tab and Dim Text Tab in the Settings dialog box. You can also access these properties while any dimension command is active, by clicking the right mouse button to bring up a context-sensitive popup menu. This menu provides access to the specialized speed bars that are available to help you easily change dimension settings.

See Also:

{button ,AL(`dimension',0,`',`')} Other types of dimensions

{button ,AL(`dimsettings',0,`',`')} Dimensions settings

# Radial Dimension (DR)

Use the Radial Dimension command to measure the radius of a circle or arc. Once placed, a radial dimension is “associative:” if the dimensioned items are stretched or rescaled, the associated dimension will be updated automatically.

**To place a radial dimension:**

1. Choose the Radial Dimension command.
2. Click the circle or arc you are dimensioning.

   A preview of your dimension appears along a path which passes through the object’s centerpoint and your cursor. The dimension line rotates as necessary to stay aligned with the cursor, and the dimension arrow points outward toward the circle perimeter when the cursor is inside the circle, and inward toward the circle when the cursor is outside the circle.
3. Drag the dimension to the desired position, then click to set the radial dimension.

   You can hold down the CTRL key to place the dimension orthogonal.

**Tip**

- Corel Visual CADD gives you extensive control over the appearance and other properties of each part of a dimension. For more information about how to change these properties and other dimension settings, see the Dimension Tab and Dim Text Tab in the Settings dialog box. You can also access these properties while the dimension command is active, by clicking the right mouse button to bring up a context-sensitive popup menu. This menu provides access to the specialized speed bars that are available to help you easily change dimension settings.

See Also:

{button ,AL(`dimension',0,`',`')} Other types of dimensions

{button ,AL(`dimsettings',0,`',`')} Dimensions settings

# Diameter Dimension (DD)

You use the Diameter Dimension command to measure the diameter of a circle or arc. Once placed, a diameter dimension is “associative;” if the dimensioned items are stretched or rescaled, the associated dimension will be updated automatically.

**To place a diameter dimension:**

1. Choose the Diameter Dimension command.
2. Click the circle or arc you are measuring.
   A preview of your dimension appears along a path which passes through the object’s centerpoint and your cursor. The dimension line rotates as necessary to stay aligned with the cursor, and the dimension arrows point outward toward the circle perimeter when the cursor is inside the circle, and inward toward the circle when the cursor is outside the circle.
3. Drag the dimension to the desired position, then click to set the diameter dimension.

**Tip**

- Corel Visual CADD gives you extensive control over the appearance and other properties of each part of a dimension. For more information about how to change these properties and other dimension settings, see the Dimension Tab and Dim Text Tab in the Settings dialog box. You can also access these properties while the dimension command is active, by clicking the right mouse button to bring up a context-sensitive popup menu. This menu provides access to the specialized speed bars that are available to help you easily change dimension settings.

See Also:

{button ,AL(`dimension',0,`',`')} Other types of dimensions

{button ,AL(`dimsettings',0,`',`')} Dimensions settings

# Ordinate Dimension (DO)

Ordinate dimensions allow you to place a series of dimensions based on a point on the drawing you specify.

1. Click the Ordinate Dimension tool.
2. Click a basepoint from which to measure the dimensions.
3. Click a point that describes the positive axis of your measurements.
4. Click where you want to locate the dimension lines.
5. Click the points that you want to dimension. When done, choose Pen Up from the right mouse menu.

See Also:

{button ,AL(`dimension',0,`',`')} Other types of dimensions

{button ,AL(`dimsettings',0,`',`')} Dimensions settings

# Leader (LE)

Leaders (or “call-outs”) are notes that identify or call attention to objects or areas in the drawing. A multi-segmented, arrowhead-tipped line connects the object to a block of text.

**To place a leader:**

1. Choose the Leader command.
2. Click to set the tip of the arrowhead.

   An arrowhead-tipped rubberband will appear between the first point and the cursor location.
3. Place additional points to set segments of the leader line.

   By placing multiple segments, you can make the leader line “bend” around objects in the drawing. Remember that the final segment or “shoulder” will be drawn automatically to connect the leader lines to the text block
4. When finished drawing the leader line segments, choose the Pen Up command—do *not* press Esc, as this will cancel the command.
5. Type the leader text in the speedbar at the top of the screen.

   As you type leader text, a bounding box appears next to the leader shoulder in the drawing. This box indicates the position of the leader text, although you will later be able to shift it to either side of the leader shoulder.
6. When you have finished typing the leader text, press Enter twice, or click the OK button.

   The leader text will appear next to the leader shoulder. As you move the cursor to the left or right, the leader text will “flip” to the opposite side of the shoulder.
7. Click to place the leader text.

See Also:

{button ,KL(`Leader Tab',0,`',`')} Leader Settings

{button ,KL(`Datum Dimension',0,`',`')} Datum Dimension

# Datum Dimension (DU)

Use Datum dimensioning to place a leader containing the absolute X, Y or XY value of a chosen point.

1. Click the Datum Dimension tool.
2. Click the point to dimension.
3. Click additional points to draw the leader. Click Pen Up to complete the leader line.
4. Click to position the datum text.

**Tip**

To edit a datum dimensions as you place it, click the right mouse button while placing the leader, click Datum, click Datum Edit, and then enter text and select options on the speed bar.

See Also:

{button ,AL(`dimension',0,`',`')} Other types of dimensions

{button ,AL(`dimsettings',0,`',`')} Dimensions settings

# Hatch Selection (HS)

You use the Hatch Selection command to draw a hatch pattern when the hatch boundaries are defined by closed objects such as circles, polygons, connected single lines, etc. Closed objects located inside *other* closed objects remain unchanged when all are selected.

**To draw a hatch pattern within selected objects:**

1. Select the closed objects you wish to hatch.
   Objects you select must be closed (sharing the same beginning and end point).
2. Choose the Hatch Selection command.

**Tip**

You can change the hatch properties by clicking the Hatch Tab in the Settings dialog box, which is accessed from the Utilities menu. Select hatch properties and click the Update button to preview the changes. Click OK to set the hatch properties.

{button ,AL(`hatch',0,`',`')} See also:

# Hatch Boundary (HB)

You use the Hatch Boundary command to draw a hatch pattern within an area that you specify by placing points.

**To draw a hatch pattern using points to define a boundary:**

1. Choose the Hatch Boundary command.
2. Place points to define an imaginary irregular polygon that would enclose the hatch pattern.

   Rubberbands are displayed connecting the cursor to the last point placed and to the first point placed. These lines provide a preview of the area to be hatched.
3. When finished defining the area to be hatched, choose Pen Up.

   The defined area will be hatched.

**Tip**

You can change the hatch properties by clicking the Hatch/Fill tab in the Settings dialog box, which is accessed from the Utilities menu. Select hatch properties and click the Update button to preview the changes. Click OK to set the hatch properties. For more information, see the description in the Utilities Menu chapter

{button ,AL(`hatch',0,`',`')}  See also:

# Seed Hatch (HS)

Use the Seed Hatch command to add a hatch to closed objects such as circles, polygons, connected single lines, Boolean entities etc. Closed objects located inside other closed objects remain unhatched.

**To draw a hatch pattern within selected objects:**

1. Click the Seed Hatch tool.
   Remember that the objects must be closed (sharing the same beginning and end point).
2. Click inside the area to be hatched.
   The objects will be filled with the current hatch.

**Tip**

If there are 100 or more objects on screen when you click Seed Hatch, Corel Visual CADD will prompt you to narrow the list of entities to include using selection to only on-screen objects.

{button ,AL(`hatch',0,`',`')} See Also

# Fill Selection (FS)

You use the Fill Selection command to add a solid-color fill to selected closed objects such as circles, polygons, connected single lines, etc. Closed objects located inside other closed objects remain unfilled.

Fill has two properties: color and layer. The color is defined by the fill color property, which is accessed through the Hatch/Fill Tab in the Settings dialog box. Fills are placed on the current layer.

**To draw a solid fill within selected objects:**

1. Select the objects you wish to fill.
   Remember that the objects must be closed (sharing the same beginning and end point).
2. Choose the Fill Selection command.
   The selected objects will be filled with the current fill color.

{button ,AL(`fill',0,`',`')}  See also:

# Fill Boundary (FB)

You use the Fill Boundary command to create a solid-color fill within boundaries defined by points that you place.

Fill has two properties: color and layer. The color is defined by the fill color property, which is accessed through the Hatch/Fill Tab in the Settings dialog box. Fills are placed on the current layer.

**To fill an area using points to define the boundary:**

1. Choose the Fill Boundary command.
2. Place points to define an imaginary, irregular polygon that encloses the fill.

   Rubberbands connect the cursor to the last point placed and to the first point placed. These lines provide a preview of the area to be filled.
3. When finished defining the area to be filled, choose Pen Up.

   The defined area will be filled.

{button ,AL(`fill',0,`',`')}  See also:

# Seed Fill (FS)

Use the Seed Fill command to add a solid fill to closed objects such as circles, polygons, connected single lines, boolean entities etc. Closed objects located inside other closed objects remain unhatched.

**To draw a solid fill within selected objects:**

1. Click the Seed Fill tool.
   Remember that the objects must be closed (sharing the same beginning and end point).
2. Click inside the area to be filled.
   The objects will be filled with the current fill color.

**Tip**

If there are 100 or more objects on screen when you click Seed Fill, Corel Visual CADD will prompt you to narrow the list of entities to include using selection ot only on-screen objects.

{button ,AL(`fill',0,`',`')} See Also

# Create Reference Frame (RCF)

Reference Frame entities enable you to display the contents of one file within another. You can use the frames to layout drawings for printing or to create overlays.

**To create a Reference Frame in which to fit a drawing:**

1. Click Reference Frame, Create from the Draw menu.
2. Click two points representing the corners of the reference frame.
3. Click Browse to find a drawing, or if you have multiple drawings open, click the MDI tab.
4. Click OK to accept the reference frame.

**Tip**

You can completely control the view of the reference frame by selecting it and right-clicking. On the mouse menu are commands to zoom and pan around the drawing, choose layers to display or hide, or update or change the drawing of reference.

# Place Reference Frame (RCP)

Reference Frame entities enable you to display the contents of one file within another. You can use the frames to layout drawings for printing or to create overlays.

**To place a Reference Frame that displays a whole drawing at full scale:**

1. Click Reference Frame, Place from the Draw menu.
2. Click Browse to find a drawing, or if you have multiple drawings open, click the MDI tab.
3. Click OK to accept the reference frame.
4. Click the point representing the lower left corner of the frame.

**Tip**

You can completely control the view of the reference frame by selecting it and right-clicking. On the mouse menu are commands to zoom and pan around the drawing, choose layers to display or hide, or update or change the drawing of reference.

# Display Transparent

Use Display Transparent to display grid marks and other entities through the reference frame.

**To use display transparent:**

1. Select a reference frame on the drawing.
2. Right click and choose Display Transparent.

## Display Boundary

Use Display Boundary to toggle the display and printing of the border surrounding reference frames on and off.

**To toggle Display Boundary:**

1. Select a reference frame on the drawing.
2. Right click and choose Display Boundary.

# Properties (PP)

Use the properties speed bar to change current drawing properties such as line width, color, layer, and line type. After the properties have been changed, the next entity you create will be drawn with the chosen properties. If you would like to change the properties of an entity or entities currently on the drawing, see Change.

### To change current drawing properties

1. Click the Properties button, or click the Draw menu, and then click Properties.
2. Change Layer, Color, Line type, and Line width as needed, and then click OK.

### Tips

- To change properties quickly from the keyboard, position the cursor on the Properties speed bar, click the right mouse button, and click Fast Properties. This allows you to change single properties from the command line; i.e., CL 15 + ENTER will change the current layer to 15.
- You have a choice of using Windows line widths which are measured in pixels or real-world line widths. When using real-world line widths, you specify the width in real-world terms; i.e., .5", 2mm, etc. As such, these line widths are subject to scaling during output.

# Undo (OO)

Use the Undo command to reverse one or more of your last commands. Any operation that changes the drawing database can be reversed. For example, erased objects are restored, drawn objects are removed and moved objects are replaced in their original positions. Operations that do not change the database, such as zoom commands, selections, hiding/displaying of layers, settings, and so on, are not affected by the Undo command.

**To reverse the last operation performed:**

- Choose the Undo command.

The last operation is undone; a drawn object will disappear, an erased object will reappear, etc.

**Tip**:

If you accidentally undo an operation, you can use the REDO command to cancel the undo.

{button ,KL(`Redo',0,`',`')} See Also

# Redo (RE)

Use the command immediately after an Undo command to reverse the effect of the Undo command by "re-doing" the command. If several consecutive operations were undone, Redo can be used repeatedly to restore each one.

**To redo the last operation undone:**

- Choose the Redo command.

The last undo operation is canceled.

{button ,KL(`Undo',0,`',`')} See Also

## Cut (Ctrl+X)

Use the Cut command to move objects from your drawing to other drawings or Windows applications. Cut removes the selected objects from the drawing and places them onto the clipboard. Use the Paste command to copy these objects from the clipboard into another application or drawing.

**To cut objects from the drawing onto the clipboard:**

1. Select the objects to be removed from the drawing and placed on the clipboard.
2. Choose the Cut command.

   The selected objects disappear from the drawing and are placed on the clipboard.

# Copy (Ctrl+C)

Use the Copy command to copy objects from your drawing to other drawings or Windows applications. Copy places these objects onto the clipboard. Use the Paste command to paste them from the clipboard into other drawings or applications.

**To copy objects onto the clipboard:**

1. Select the objects to be copied to the clipboard.
2. Choose the Copy command.
   The selected objects remain in the drawing but are also copied to the clipboard.

{button ,KL(`Object Linking & Embedding',0,`',`')}  See Also

## Paste (Ctrl+V)

Use the Paste command to copy text and graphic data from other Corel Visual CADD drawings into your current drawing.

**To paste objects on the clipboard into the drawing:**

1. Choose the Paste command.

   A box indicating the extents (width and height) of the clipboard contents appears, attached at the upper left corner to the cursor. You drag this box to position the contents in the drawing.
2. Click to paste the clipboard objects.

   The clipboard contents are pasted into the drawing. The objects remain in the clipboard, ready to be placed elsewhere. They will remain on the clipboard until you clear it, place new objects on it with Cut or Copy, or exit Windows.

## Select

Use the Select command to specify which objects are acted upon by a subsequent editing command. The selection operation can be performed as a separate command, prior to choosing an editing command, or is initiated automatically if you choose an editing command with no objects pre-selected. After you choose the Select command, a popup menu appears to the side listing the following options available to create your selection set:

## Select All (SA)

Selects the entire drawing. This option is available directly as the 2-letter command **SA**.

{button ,AL(`Select',0,`',`')}  See also:

## Select Last (SL)

Reselects the objects that were selected before the last editing operation, or before the last selection set was cleared with the Clear Selection command. This option is available directly as the 2-letter command **SL**.

{button ,AL(`Select',0,`',`')} See also:

## Select Window (SW)

Selects all objects fully enclosed by a user-drawn rectangular selection "window" (Note: do not confuse this "window" with the document or application "window" as used in Windows products documentation). This option is available directly as the 2-letter command **SW**.

{button ,AL(`Select',0,`',`')} See also:

## Select Object (SB)

Selects a single object that you click. This option is available directly as the 2-letter command **SB**.

{button ,AL(`Select',0,`',`')}  See also:

## Select Crossing (SX)

Selects all objects enclosed by or touching a rectangular selection area that you "draw" by placing points at the diagonally-opposite corners. This option is available directly as the 2-letter command **SX**.

{button ,AL(`Select',0,`',`')} See also:

## Select Layer (SY)

Selects all objects in the specified layer. This option is available directly as the 2-letter command **SY**.

{button ,AL(`Select',0,`',`')}  See also:

## Select Adjoining (SJ)

Selects a series of objects that share end points. Used to select continuous lines or polygons that have been exploded (see Explode command in the Modify menu), or any other "chain" of objects that have endpoints in common. To select the connected objects, Corel Visual CADD starts at the object you click, and checks in both directions for adjoining objects. If there is more than one possible path, use the TAB key to cycle through available options. This option is available directly as a the 2-letter command **SJ**.

{button ,AL(`Select',0,`',`')}  See also:

## Invert Selection List (SI)

Selects all objects that have not been selected and deselects all objects that have been selected. This option is available directly as a the 2-letter command **SI**.

{button ,AL(`Select',0,`',`')} See also:

## Clear Selection (SC)

Globally deselects all currently selected entities. This command is performed immediately. This option is available directly as a the 2-letter command **SC**.

{button ,AL(`Select',0,`',`')}  See also:

## Erase Last (EL)

Use the Erase Last command to immediately correct a drawing error. If chosen repeatedly, objects are erased in the reverse order drawn. If you erase an object in error, use the Undo command to restore it.

**To erase the last drawn object:**

- Choose the Erase Last command.

The last drawn or modified object is erased.

# Clear Drawing (DX)

Use the Clear Drawing command when you want to start over with a "blank slate." Clear Drawing erases the entire drawing, but does not change the current drawing environment (settings, toggles, and so on).

Before clearing the drawing, Corel Visual CADD warns you that you are about to clear the drawing. You can either click OK to clear the drawing, or click Cancel to cancel the Clear Drawing command.

**To clear the drawing:**

1. Choose the Clear Drawing command.
   Corel Visual CADD asks you to confirm that you want to clear the entire contents of the drawing.
2. Click Yes to clear the drawing.

# Selection Filter (SF)

Use the Selection Filter command to define a set of selection criteria based on entity type and/or properties. When the filter is on, selection operations "capture" only those objects meeting *all* of the filter criteria.

**To use the selection filter:**

1. Choose the Selection Filter command or click the Filter button on the Selection speed bar.
2. Change the object type, layer, color, line type and line width text boxes to define the selection criteria you want to use.

   Each setting further defines the properties of the objects to be selected. Only those objects meeting all of the criteria are selected (or deselected if you press Ctrl as you click a selection tool). If you do not want to restrict the selection based on a particular entity or property, click "*ALL*" in that text box. Clicking the Reset button in the speed bar will set the entity type and each property to "*ALL*".

   For example, to set the filter to select for all bezier curves in line type 3, click "bezier" in the Entity type box, "3" in the line Type box and "*ALL*" in the other three boxes. All bezier curves in line type 3 are selected regardless of color, layer and line width. To select for more than one entity type or individual property, such as all red *and* green circles, set the filter for the first property, perform the selection by using a selection tool, then reconfigure the filter for the second property and repeat the selection process.

   You can use the Match button to specify an entity type or property "by example." To do this, click the Match button, then click the text box of the property or entity type you wish to set, then click an object that has that property. The list box is updated automatically with the matching property. To set the filter to match all properties of an existing object, click the Match button, then click directly on the target object. All filter criteria are set automatically to match the object type and properties of the existing object.
3. Check the Filter box to activate the filter.

   If this box is unchecked, the filter is inactive and any selections performed are not filtered.
4. Click OK.

   The Filter will apply to the next selection command you choose.

**Tips**

- When the filter is turned on, subsequent selection operations "capture" only those objects meeting all of the filter criteria For example, say you set the filter to screen for red circles of line type 3, width 4, and layer 5. If you turn the filter off, then use the "window" selection option, all objects completely enclosed within the window are selected. However, if you turn the filter on, then only red circles of line type 3, width 4, and layer 5 are selected, even though other objects were completely enclosed within the selection window.
- The set of criteria defined by a filter can include only one entry for each property or entity type. For example, you cannot select for red *and* green circles at the same time. However, you can build your selection set by making multiple "passes" with the selection tools, and changing the filter criteria between each "pass."
- Changing the filter does not alter any previous selections. However, the filter can be used to selectively remove objects from the selection set if you press Ctrl as you click the desired selection tool. If you press Ctrl and the filter is on, then only objects meeting the filter criteria are deselected by the selection tools.
- Until turned on, the filter will have no effect on selection or deselection operations. It can be turned on or off, or reconfigured as often as needed during a selection operation to build up your selection set before performing an editing function. Once the editing operation is completed or canceled, the filter is turned off automatically.

{button ,AL(`Select',0,`',`')} See also:

# Implied Selection Tool (SE)

Use the Implied Selection command to build a selection set using the same tool to select by object or by a selection window. You can then choose editing commands. Using this tool, you can quickly select and edit objects without obscuring the default speed bar with the selection speed bar.

**To use the Implied Selection tool to select objects:**

1. Click the Implied Selection tool button.

   The cursor changes from crosshairs to a selection arrow.
2. Click an object to select it, or drag to select a group of objects.

   As long as the tool is active—the cursor is arrow-shaped—you can click an object to select it or hold down the first mouse button and drag to select a group of objects. When you drag, Corel Visual CADD draws a selection window, and selects objects that are completely enclosed within this window.

**Tips**

- Each time you select an object or place a selection window with the Implied Selection tool, your previous selection is deselected. To preserve the previous selection set, hold down the Shift key while pointing to an object or placing a window with the Implied Selection tool. This adds the newly-selected items to the selection set, rather than replacing it.
- To deselect objects with the Implied Selection tool, hold down the Ctrl key and click an object or place a window.

{button ,AL(`Select',0,`',`')}  See also:

# Snap Near Point (NP)

Use the Snap Near Point command to find the construction point nearest the cursor location when the command is chosen with the mouse button or keyboard. Since the cursor must be near the point to be placed, this command is unavailable from on-screen menus and buttons. However, you can access this command with the two-letter command shown to the left, and by pressing the Shift right mouse button (or, if configured accordingly, by clicking the right mouse button).

**To snap to the nearest point:**

1. Position the cursor near the target definition point.
2. Type NP or SHIFT-RIGHT CLICK .
   Corel Visual CADD locates the new point exactly on the existing definition point.

See also

{button ,AL(`Snaps',0,`',`')}  Other types of snaps

# Snap Object (SO)

Use the Snap Object command in drawing or editing operations to locate a point on an object when the specific location on the object is not critical.

**To snap to an object:**

1. Choose the Snap Object command.
2. Click the target object where you want the point to be set.
   The point is set on the target object.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Midpoint (SM)

Use the Snap Midpoint command in drawing or editing operations to find the midpoint of a line, or along the perimeter of an arc. If you need to find the center of curvature of a circle, arc, or the centroid of a polygon, use the Snap Center command.

**To find the midpoint of an object:**

1. Choose the Snap Midpoint command.
2. Click anywhere on the target line or arc.
   The point is set at the midpoint of the target object.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Intersection (SI)

Use the Snap Intersection command in drawing or editing commands where an exact point of intersection must be found.

**To snap to the intersection of two objects:**

1. Choose the Snap Intersection command.
2. Click near the point where the two target objects intersect.

   The point is set at the point of intersection of the two target objects. If there are multiple points of intersection (such as a line passing through a circle), Corel Visual CADD finds the point of intersection nearest the mouse click.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Perpendicular (SP)

Use the Snap Perpendicular command when a single or continuous line must be drawn perpendicular to a target object. You can choose to use the Perpendicular command as a snap (which terminates the line on the target object) or as a constraint (which sets the originating point on the target object and constrains the line perpendicular to the object).

Valid target objects include lines, continuous lines, circles, arcs, rectangles, polygons, ellipses, elliptical arcs, spline curves, and bezier curves.

**To use as a snap:**

1. Choose the Line command and place the first point.

   This initiates rubberbanding as you are prompted to pick the second point.
2. Choose the Snap Perpendicular command.

   Corel Visual CADD prompts you to pick an object.
3. Click the target object to set the second point.

   Corel Visual CADD terminates the line perpendicular to the target object. If the line cannot be drawn perpendicular to the target object itself, the line is drawn perpendicular to a calculated extension of the object.

**To use as a constraint:**

1. Start a Line command.
2. Choose the Snap Perpendicular command.
3. Click the target object.

   Now you need to set the starting point of the line.
4. Click to place the starting point.

   If you want the starting end of the constrained line to move freely on the target object, click any point without using a snap command. When you do this, a rubberband line connects the target object to the cursor. This line moves and stretches as you move the cursor, always maintaining a perpendicular relationship between the rubberband line and the target object.

   If you want the perpendicular line to originate on a specified point on the target object or elsewhere, use a snap command to start the line. The snap determines a fixed starting point of the new line, which is free to stretch along its axis, but not move laterally.
5. Click a point to terminate the line, or type a desired length of the line.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Tangent (ST)

Use the Snap Tangent command primarily when a line must be drawn tangent to a target object. You can use the Tangent command as a snap or constraint to determine whether the tangent line terminates on the target object or originates on the target object. Valid target objects include lines, continuous lines, circles, arcs, rectangles, polygons, ellipses, elliptical arcs, interpolating curves, and bezier curves.

**To use as a snap:**

1. Start the Line command and place the first point.

   Corel Visual CADD prompts you to pick the second point.
2. Instead of immediately picking a terminating point, choose the Snap Tangent command.

   Corel Visual CADD prompts you to pick an object.
3. Click the target object.

   Corel Visual CADD terminates the line tangent to that object. If the line cannot be drawn tangent to the target object itself, the line is drawn tangent to an imaginary extension of the object.

**To use as a constraint:**

1. Start the line command.
2. Instead of picking the starting point of the line, choose the Snap Tangent command.

   Corel Visual CADD prompts you to pick an object.
3. Click the target object.
4. If you want the starting end of the constrained line to be able to move freely on the target object, click any point without using a snap command.

   A rubberband line is drawn connecting the target object to the cursor. This line moves and stretches as you move the cursor, always maintaining a tangential relationship between the rubberband line and the target object.
5. If you want the tangent line to originate on an specified point on the target object or elsewhere, use a snap command to start the line.

   The snap determines a fixed starting point of the new line, which is free to stretch along its axis, but not move laterally.
6. Click a point to terminate the line, or type a desired length of the line.

See also

{button ,AL(`Snaps',0,`',`')}  Other types of snaps

# Snap Parallel (LL)

Use the Snap Parallel command to draw a line parallel to a straight line or segment of a continuous line, polygon or rectangle. The parallel line can be drawn at a specified offset from the target line, or at a distance defined by the starting point of the new line.

**To draw a parallel line at a specified offset from an existing line:**

1. Choose the Snap Parallel command.
2. Click anywhere on the target line.
   A speed bar will appear indicating the default offset distance or the last offset distance used.
3. Edit the offset distance as desired. When finished, click OK or proceed directly to Step 4.
4. Place a point, then drag the cursor to start the new line.
   Corel Visual CADD will constrain movement of the rubber band line to be parallel to the target line.
5. Place a point to complete the line.

**To draw a parallel line starting at an exact, user-placed point:**

1. Choose the appropriate line drawing tool (single line, continuous line or double line).
   If the desired line drawing tool is set as the default tool (see System Tab in Settings dialog box), you may omit this step.
2. Place the starting point of the single line, continuous line or double line.
3. Choose the Snap Parallel command.
4. Click anywhere on the target line.
   Corel Visual CADD will constrain movement of the rubber band line to be parallel to the target line. The line will start exactly where you placed it in Step 2.
5. Place a point to complete the line.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Closest (SC)

Use the Closest command to find the nearest construction point. Closest Point functions the same as Nearest Point, but because it prompts the user instead of executing immediately, it is accessible from the menu.

**To snap to the closest point:**

1. When prompted to pick or snap to a point, choose the Closest command.
2. Click near the target definition point.
   Corel Visual CADD locates the new point exactly on the existing definition point.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Percentage (SR)

Use the Snap Percentage command when a desired point is located along an object at a distance from the end equal to a specified percentage of the length of the target object. Can be used on lines, continuous lines, and arcs.

**To use the Snap Percentage command:**

1. When prompted for a point in any command, choose the Snap Percentage command.
2. Click the target object on which the point is to be set.
   The end nearest the point picked is the "0%" end of the target object, and the opposite end is the "100%" end.
3. Type the desired percent of the length of the target object.

**Tips**

- Do not  type the percent symbol (%).
- You can enter percentage values less than "0" or greater than "100" to set points on the "extension" of the target object.

See also

{button ,AL(`Snaps',0,`',`')}  Other types of snaps

# Snap Center (SN)

Use the Snap Center command to find the center point of an object like a circle or polygon. This command differs from the Midpoint command, which finds the midpoint along the length or perimeter of an object.

**To set a point at the center of an object:**

1. When prompted for a point, choose the Snap Center command.
2. Click one of the above objects.
   Corel Visual CADD sets the point at the center of the target object.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Quadrant (SQ)

The Quadrant command is especially useful when an extreme horizontal or vertical point on a circle or arc are needed. For example, you can snap a horizontal or vertical dimension directly to the outer edge of a hole or column. You can also easily measure the diameter of a circle by snapping to opposite quadrant points.

**To locate a quadrant point on a circle or arc:**

1. When prompted for a point, choose the Quadrant command.
2. Click the circle or arc near the desired quadrant point.
   Corel Visual CADD sets a point exactly on the quadrant point.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Last Point (LP)

Use the Last Point command whenever the last point placed in a drawing is also the point with which you want to start another drawing or editing operation. For example, if you want to track from the endpoint of the last line drawn, choose the Tracking command, then when you are prompted for the point to begin tracking from, choose the Last Point command. The cursor snaps to the endpoint of that last line drawn.

**To use the Last Point command:**

- Choose the Last Point command.

The cursor immediately snaps to the last point placed.

See also

{button ,AL(`Snaps',0,`',`')} Other types of snaps

# Snap Between 2 Points (S2)

Use the Snap Between 2 Points command in drawing or editing procedures to find the midpoint between two entities or points. This command is similar to Snap Midpoint but explicitly asks for 2 user-defined points .

**To draw a line beginning between 2 points:**

1. Choose the Single Line command or other drawing command.
2. Choose the Snap Between 2 Points command.
3. Choose the first point to snap between, then the second.
   The object begins between the two selected points.
4. Place a point to complete the line.

{button ,AL(`Snaps',0,`',`')}  Other types of snaps

## Quick Search

The Quick Search toggle enables a faster search method for objects in the drawing. With Quick Search toggled ON Corel Visual CADD will select the first object it finds within the search tolerance - not necessarily the nearest object but the first object in the database that is within the tolerance. Quick Search is most useful when your drawing is very large and you are zoomed in far enough not to have too many competing points in the area around the cursor.

**Tip**

If Backward Redraw is ON, the first object that Quick Search will find will actually be the most recent object placed within the tolerance.

# Ortho Mode (OR)

Use the Ortho command when drawing or editing operations require repetitive movement or point placement along the same, parallel or perpendicular axes. The default ortho angle setting is 0, resulting in the standard horizontal and vertical reference frame. Changing the ortho angle simply rotates this reference frame to a user-defined angle. This command is particularly useful when used with the Direct Distance Entry command.

**To toggle the ortho mode:**

- Choose the Ortho command.

Toggles the current status of ortho mode. If the command is on, for example, choosing Ortho turns it off.

**Note:**

See also the Ortho Angle, Cursor Free, and Track commands. Orthogonal mode takes priority over other snap commands. When point data is entered by manual coordinate entry or through other snaps, the point values are located and then placed at the nearest location on the active orthogonal axis.

See also

{button ,AL(`Ortho',0,`',`')} Other commands relating to Ortho

# Ortho Angle (OA)

Use the Ortho Angle command to set the orthogonal angle.

**To set the ortho angle:**

1. Choose the Ortho Angle command.
2. Type the desired ortho angle.
   The ortho angle is set to the specified angle.

**Tip**

See also the descriptions of the Ortho and Track commands. You can set the ortho angle at any time, even in the middle of orthogonally-constrained drawing or editing operations, or while tracking. You can also use the Match command to set the ortho angle to match that of an existing object.

See also

{button ,AL(`Ortho',0,`',`')}  Other commands relating to Ortho

## Cursor Free (CF)

Use the Cursor Free command to align points on the orthogonal axis with existing points in the drawing. When Cursor Free is toggled on, you can position the cursor over or snap to any target point in the drawing, and Corel Visual CADD sets a point on the orthogonal axis. Since the new point is perpendicular to the target point, but placed along the constrained axis, it represents the closest point on the orthogonal axis to the target point.

**To toggle the Cursor Free command:**

- Choose the Cursor Free command.

Corel Visual CADD toggles the Cursor Free on or off.

{button ,AL(`Ortho',0,`',`')} Other commands relating to Ortho

# Increment Snap

Use the Increment Snap command in drawing or editing operations where the size or spacing of objects is based on a uniform increment of length. When Increment Snap is on, all cursor movement in rubber band operations is in multiples of this length.

You can set or change the dimension of the base increment in the Constraints Tab of the Settings dialog box (accessed from the Utilities menu).

**To use Increment Snap:**

- Choose the Increment Snap command.

The current status of the increment snap command is reversed.

**Note:**

Ortho mode must be on for increment snap to operate. For information on turning on the Ortho mode, see Ortho.

# Track (TK)

Use the Track command to eliminate the need for drawing temporary construction objects. With the Track command, you can locate a point that has a known relationship with existing objects, but which cannot be located directly by a single snap operation. For example, you can locate a light fixture in the center of a room by starting a track command at the center of one wall and, with Cursor Free ON, rubberbanding into the room and snapping to the midpoint of the adjacent perpendicular wall. A point is set in the center of the room.

Just as in everyday life you might follow directions to locate an address, with Track you can locate a point by creating a path that uses precise angles, distances, and known relationships with existing objects.

**To use the Track command:**

1. Choose the Track command any time Corel Visual CADD is prompting for a point.

   Corel Visual CADD prompts for a starting point. Do one of the following:
2. If you want to track at an angle matching (or perpendicular to) an existing line, select the line by clicking on it (do not use a snap command); if you want to use the *current* ortho angle for tracking, use a snap command to pick the first point.

   If you used a snap command to pick the first point, Visual immediately shifts to tracking mode, using the point you set as the start of the track path.

   If you select a line without using a Snap command, Corel Visual CADD automatically sets the ortho angle to match the angle of the target line, and then prompts you a second time to pick a starting point.
3. If you selected the line without using a Snap command, set the starting point.

   If you want, use a snap command or precise coordinates to locate the requested point and set the exact starting point of the track path.

   As you drag the cursor away from the starting point, note that you now appear to be stretching an orthogonally-constrained rubberband line, just as if you were drawing a line in ortho mode.
4. Use coordinates, direct distance, or snaps to set a precise point along this "line".

   You can stop tracking at this point (by choosing the Track End command), or continue "drawing", snapping to existing points and objects, making turns—even changing the ortho angle as you go.
5. If necessary, set other tracking points.

   The track remains in place and Corel Visual CADD stays in tracking mode until you choose the Track End command.
6. Set the final point and choose Track End.

   When you quit tracking by using the Track End command, Corel Visual CADD sets a point at the end of the track and erases the tracks.

**Tip:**

Track can be used at any time to find a point. You can change any of the orthogonal commands before or during tracking.

See Also:

{button ,AL(`Track',0,`',`')} Other commands relating to Tracking

## Track End

This command replaces the Track command on the Snaps Menu during Tracking. You can also end Tracking by using Pen Up from the context sensitive mouse menu or by typing PU.

# Manual Entry Absolute (MO)

Use the Manual Entry Absolute command to set the operating mode to the absolute manual entry mode. The manual entry mode determines how Corel Visual CADD interprets coordinates (whether Cartesian or polar) that you type. In the absolute mode, coordinates are interpreted as relative to the drawing origin. This mode is particularly useful when locations are calculated or imported through external programs or macros.

**To set the manual entry mode to absolute:**

- Choose the Manual Entry Absolute command.

The manual entry mode is set to absolute. Corel Visual CADD displays "ABS" at the right end of the status bar to indicate the absolute manual entry mode.

For more information, see X & Y Coordinates.

{button ,AL(`MEM',0,`',`')} Other manual entry modes

# Manual Entry Relative (MR)

Use the Manual Entry Relative command to set the operating mode to the relative manual entry mode. The manual entry mode determines how Corel Visual CADD interprets coordinates (whether Cartesian or polar) that you type. In the relative mode, each point placed or referenced through a snap or other command becomes a temporary origin for the next operation. This mode is particularly useful when distances are measured in sequence, with the end of one measurement being the beginning of the next.

**To set the manual entry mode to relative to the last point:**

- Choose the Manual Entry Relative command.

The manual entry mode is set to relative to the last point. Corel Visual CADD displays "REL" at the right end of the status bar to indicate the relative manual entry mode.

For more information, see X & Y Coordinates.

{button ,AL(`MEM',0,`',`')} Other manual entry modes

# Manual Entry Basepoint (MB)

Use the Manual Entry Basepoint command to set the operating mode to the basepoint manual entry mode. The manual entry mode determines how Corel Visual CADD interprets coordinates (whether Cartesian or polar) that you type. In the basepoint mode, you specify a temporary origin that remains in effect until you change its location or change modes. This mode is particularly useful when locations are known in relation to one specific point.

**To set the manual entry mode to basepoint:**

- Choose the Manual Entry Basepoint command.

The manual entry mode is set to basepoint. Corel Visual CADD displays "BPT" at the right end of the status bar to indicate the basepoint manual entry mode.

For more information, set basepoint and see X & Y Coordinates.

{button ,AL(`MEM',0,`',`')} Other manual entry modes

# Set Basepoint (BP)

**To set the basepoint location:**

1. Choose the Set Basepoint command.
2. Type or otherwise place a point at the new basepoint location.

If you wish to start using this new basepoint for coordinate entry, be sure that you are in Basepoint mode. Setting the basepoint will not change the manual entry mode.

**Tip**

You can set the basepoint location while in any manual entry mode (absolute, relative or basepoint); however, keep in mind that the coordinates will be interpreted as relative to the current entry mode. Also, the basepoint location is only relevant in Manual Entry Basepoint mode, and will have no effect on coordinate entry in the other two modes.

{button ,AL(`MEM',0,`',`')}  Other manual entry modes

## Grid Origin (GO)

Use the Grid Origin command to move the display/snap grid so that a specified point of the drawing falls exactly on a grid point (The grid does not actually have an origin, as such. This command simply aligns the grid with any point you choose). By properly aligning and sizing the grid, and turning Snap Grid on, you can quickly and accurately place objects at multiples of base X and Y offsets from a specified point. With this command, for example, you could place electronic components neatly on the holes in a circuit board, or place trees or shrubs in a landscape plan.

**To align the grid with a specified point:**

1. Choose the Grid Origin command.
2. Place a point where you would like a grid point to be located.

   Corel Visual CADD will move the grid so that a grid point is located precisely at the specified point. Even if you were to change the grid size, a grid point will be located on this point until you turn off the grid or re-issue the Grid Origin command.

# Grid Size (GS)

Use the Grid Size command to set the spacing of grid points to any convenient spacing in the X and Y directions. The grid will be aligned with the point chosen in the Grid Origin command or, by default, to the drawing origin.

**To set the grid size:**

1. Choose the Grid Size command.

   A speed bar will appear with the current settings for the X and Y grid spacing displayed.
2. Edit the X and Y grid spacing as desired. When finished, click OK.

   The new grid spacing will be set as specified, with the new grid originating about the drawing origin (by default) or the most-recently specified grid origin point.

{button ,AL(`Grid',0,`',`')}  Other grid commands

# Grid Display (GR)

This command toggles on or off the display of the drawing grid.

**To set the grid size:**

- Choose the Grid Display command.

The grid display status will be reversed (displayed or hidden).

**Tip**

Turning the grid display on or off does not affect the status of Grid Snap. Snap Grid can still be on (constraining cursor movement to grid points only) even if the grid points themselves are not visible.

{button ,AL(`Grid',0,`',`')} Other grid commands

# Snap Grid (SG)

When Snap Grid is on, the cursor can move only from one grid point to another (The grid need not be visible for Grid Snap to be in effect. See Grid Display). This constraint is toggled on or off with the Snap Grid command.

**To constrain cursor movement to grid points:**

- Choose the Snap Grid command.

Cursor movement will be constrained to grid points (see exception below), even if Grid Display is toggled off.

**Note**

Some commands conflict with Snap Grid, and are resolved as follows:

- Manual coordinate entry of coordinates overrides grid snap. Points placed manually will be located as entered, regardless of the status of the Snap Grid toggle.
- Other snaps override Grid Snap.
- Orthogonally-constrained operations maintain the orthogonal constraint even if grid snap is on. If cursor free is off, then the cursor will stay on the orthogonal axis (rather than on grid points) but will "jump" to positions that are as close as possible to the nearest grid points. If cursor free is on, then the cursor will move from one grid point to another, while the end of the orthogonally-constrained rubber band line "shadows" it.

{button ,AL(`Grid',0,`',`')}  Other grid commands

## File New (FN)

Use the New command to start a new drawing from scratch. Corel Visual CADD assigns the first file created within a drawing session the name DRAWING1, the second file DRAWING2, and so on.

Corel Visual CADD automatically sets up the drawing environment for a new file based on preferences you have specified when saving other drawings, or on defaults shipped with the program. You can change these settings individually using commands and settings options, or you can change many settings at the same time by loading a style file (see the Styles command in this chapter) to create the desired drawing environment.

**To start a new drawing:**

- Start Corel Visual CADD without specifying an existing drawing file to load.

or

- If Corel Visual CADD is running, choose the New command.

# File Open (FO)

Use the Open command to continue work on a drawing, or to load a AutoCAD, Generic CADD, or DXF-format file as a Corel Visual CADD file.

**To open an existing drawing file, using the Open command:**

1. Choose the Open command.
2. If necessary, in the List Files of Type list, change the file type.
   By default, Corel Visual CADD lists files with the VCD extension. You can also select AutoCAD (.DWG) files, Generic CADD (.GCD) files, or .DXF files.
3. If necessary, change the path and drive in order to locate the file you wish to open.
4. In the list box, double-click the file name, or select the file name and click OK.

**Tip**

If you want the same file path to be displayed the next time you open a file, check the "Save File Path" box.

## Close (FC)

Use the Close command to close the active drawing file, either prior to exiting Corel Visual CADD or before opening another drawing, in order to conserve memory.

**To close the current drawing:**

- Choose the Close command.

Corel Visual CADD remains active after the drawing file closes, but will only display the File and Help menus.

# Merge (FM)

Use the Merge command to combine the contents of two drawings. The name and drawing environment of the first drawing loaded are preserved, although symbols and attributes of the second drawing are added to those of the first (conflicts such as duplicate symbol names are resolved in favor of the first drawing).

**To merge another drawing file into the current drawing:**

1. Choose the Merge command. Remember that both files that you are trying to merge must both be .VCD files.
2. If necessary, change the path and drive in order to locate the file you wish to merge.
3. In the list box, double-click the file name, or select the file name and click OK.

   Once loaded, the merged file will be represented by an "extents" box that is attached to the cursor at the lower left corner. (An extents box is a box that represents the outer edges of your drawing.)
4. Drag the extents box of the merged file to the desired location, then click to place the merged drawing in place.

**Tip**

If you want the same file path to be displayed the next time you merge a file, check the "Save File Path" box. Also remember that you can only merge files that are both .vcd files.

## Save (DS)

Use the Save command to save your drawing data. Save often during a drawing session as protection against power outages or computer crashes. Then save at the end of a drawing before exiting Corel Visual CADD.

This command saves the drawing to disk under the current name.

**To save the current drawing:**

- Choose the Save command.

If the file has been previously saved and named, Corel Visual CADD saves the file under the current name.

If the file has not yet been saved, Corel Visual CADD displays a Save File dialog box where you can name the file and set the path location, as described for the Save As command.

# Save As (FA)

Use the Save As command to rename and save a drawing with another name, or to save a copy of an existing drawing so that it can be used as the base of a new drawing. Save As preserves the last-saved version of the file, and saves a copy under the name you give it.

You can also use this command to save the file into a different file format, so that it can be used with other computer-aided drawing programs.

**To save a drawing under a new name:**

1. Choose the Save As command.

   A dialog box appears with a list of existing drawings displayed in the current path.
2. If necessary, change drives or paths to place the drawing in the location of your choice.
3. If necessary, change the drawing extension in the Type box to one of the other supported file types.

   This causes the file to be saved in the selected file type so that the drawing can be read by other CAD programs or other types of applications.
4. Type a name for the file in the File Name box.
5. Click OK.

   The drawing is saved in the chosen format, name, drive and path. The new file name is displayed at the top of the drawing window.

# Print (PR)

Corel Visual CADD contains both a Print and Plot command. The print command utilizes the standard Windows drivers for output to the device. The plot command is an internal routine allowing more control over vector output devices by bypassing the Windows drivers. Each of these commands maintain separate default settings for the print output such as scale, orientation and page size.

The Print dialog can be accessed from the main speedbar or from the 2 letter command, PR.

The dialog maintains all the settings for accessing and controlling the printed output. The available options allow for full control over standard print features such as orientation and size along with a variety of options for improving print output and performance.

**Printer** - the printer section displays the currently active printer. To change the printer select the "Setup.." button.

**Page Size** - the page size is dependent on the installed printer. To change the page size or review other sizes supported by the current driver select the "Setup…" button.

**Margins** - the margins are defaulted to values specified by the current installed printer. To change the default margins select the "Margins…" button.

**Print Scale** - the print scale setting displays the current scale factor for printing. The value is only used when the scale option is selected. Values are entered in paper units versus real world coordinates. For example, 1 in = 48 in will print the drawing at quarter inch scale (48"/12" = 4'). The Real World units always reflect the smallest unit in the current system settings. For example, when the current units are "ft-in" the smallest unit is the inch.

**Fit to Paper, Current View or Scale** - defines the mode the current print job is to use. The drawing can be scaled automatically to fit the current paper size, scaled to display the current view to fit the page or to a factor entered.

**Portrait or Landscape** - determines the paper orientation between horizontal (landscape) or vertical (portrait).

**Print to File** - send the output to a file on disk. Corel Visual CADD will prompt for a file path and name after the "Print" button is selected.

**Time/Date Stamp** - includes a time and date stamp on the printed page. The location of the time stamp are controlled by settings in the Windows Registry. Please refer to the User Guide for details on the Registry.

**Selection Only** - prints only the selected entities in the drawing.

**Fast Preview** - shows only an outline of the drawing during preview to speed the display of complex drawings.

**All Colors to Blac**k - prints all entities in black regardless of their color.

**Metric Paper Units or English Paper Units** - selects the units in which to measure paper size and margin settings.

**Origin** - sets the drawing origin relative to the lower left corner of the margin. The units are measured in paper scale not drawing real world coordinates.

**Rotation Angle** - sets the rotation of the drawing relative to the paper.

**Copies** - sets the number of copies to print.

**Preview** - shows a preview of the drawing as it will print using the current settings. After changing the Print Scale of a drawing, the preview window allows the drawing to be dragged into the desired position. For example to print a detail of a drawing at a specific scale, set the desired scale and then drag the image on the preview using the mouse until the desired detail is shown.

**Center** - centers the drawing on the given page based on the current margin settings.

**Setup** - used to select a new printer or initiate the driver setup for the active printer. The print routine utilizes the Windows drivers provided by the printer manufacturers. These drivers contain printer specific settings that may improve overall print performance. The drivers vary between printer and printer manufacturer. For details on options available through the driver please refer to the printer manufacturers documentation.

**Update** - used to update the print preview screen after changes have been made to the print settings.

# Print Setup (PT)

Use the Print Setup command to display the Print Setup dialog box. The Print Setup dialog is used to select a new printer or initiate the driver setup for the active printer. The print routine utilizes the Windows drivers provided by the printer manufacturers. These drivers contain printer specific settings that may improve overall print performance. The drivers vary between printer and printer manufacturer. For details on options available through the driver please refer to the printer manufacturers documentation.

**To display the Print Setup dialog box:**

1. Choose the Print Setup command, or click Setup in the Print dialog box.

   Make changes as necessary to the settings for printer.
2. Click Options to display a dialog box of printer-specific options like , paper size, page orientation, and paper source. The driver information is also available through the Window Print Manager. In Windows 95 select the start button on the taskbar and choose Settings…Printers.
3. Click OK to accept the printer setup options.

# Plot (PL)

Corel Visual CADD contains both a Print and Plot command. The print command utilizes the standard Windows drivers for output to the device. The plot command is an internal routine allowing more control over vector output devices by bypassing the Windows drivers. Each of these commands maintain separate default settings for the print output such as scale, orientation and page size.

The Plot routine is designed to enhance the control over vector output devices. In most situation, the standard Window driver will provide the best output capability. Please refer to the print routine for using the standard Windows driver to get the desired output. By using direct plot, the Windows drivers are bypassed allowing Corel Visual CADD to send information directly to the plotter or to printers not supported through standard Windows drivers.

The Plot dialog can be accessed from the main speedbar or from the 2 letter command, PL. In order to use direct plot the plotter should be configured to hardware flow control. Direct plot does not support TrueType fonts. Vector fonts will be substituted for TrueType fonts when direct plot is used.

The Plot dialogs contains many of the same settings found in the normal print command along with specific settings for controlling pen mapping and language output. The basic controls allow for standard output features such as orientation and size. In addition to these settings, there are many advanced settings for accessing the plotter pens and the language code for controlling the plotter.

**Printer** - the printer section displays the currently active printer. To change the printer select the "Setup.." button.

**Page Size** - the page size is dependent on the installed printer. To change the page size or review other sizes supported by the current driver select the "Setup…" button.

**Margins** - the margins are defaulted to values specified by the current installed printer. To change the default margins select the "Margins…" button.

**Print Scale** - the print scale setting displays the current scale factor for printing. The value is only used when the scale option is selected. Values are entered in paper units versus real world coordinates. For example, 1 in = 48 in will print the drawing at quarter inch scale (48"/12" = 4’). The Real World units always reflect the smallest unit in the current system settings. For example, when the current units are "ft-in" the smallest unit is the inch.

**Fit to Paper, Current View or Scale** - defines the mode the current print job is to use. The drawing can be scaled automatically to fit the current paper size, scaled to display the current view to fit the page or to a factor entered.

**Print to File** - send the output to a file on disk. Corel Visual CADD will prompt for a file path and name after the "Print" button is selected.

**Time/Date Stamp** - includes a time and date stamp on the printed page. The location of the time stamp are controlled by settings in the Windows Registry. Please refer to the User Guide for details on the Registry.

**Selection Only** - prints only the selected entities in the drawing.

**Fast Preview** - shows only an outline of the drawing during preview to speed the display of complex drawings.

**All Colors to Blac**k - prints all entities in black regardless of their color.

**Metric Paper Units or English Paper Units** - selects the units in which to measure paper size and margin settings.

**Origin** - sets the drawing origin relative to the lower left corner of the margin. The units are measured in paper scale not drawing real world coordinates.

**Rotation Angle** - sets the rotation of the drawing relative to the paper.

**Preview** - shows a preview of the drawing as it will print using the current settings. After changing the Print Scale of a drawing, the preview window allows the drawing to be dragged into the desired position. For example to print a detail of a drawing at a specific scale, set the desired scale and then drag the image on the preview using the mouse until the desired detail is shown.

**Center** - centers the drawing on the given page based on the current margin settings.

**Setup** - initiates the plotter specific settings for detailed control over the output. The options available include plotter specific settings such as communication port and baud rate, pen map settings and language code settings. These are discussed in detail later in the section.

**Update** - used to update the print preview screen after changes have been made to the print settings.

**Plotter Settings**

By selecting the "Setup…" button from the main plot dialog, the specific driver information for the plotter are displayed. These settings are contained n one of three categories: Plotter, Pen Map and Language. All these options allow for complete control over the plotter and the plotter output. In most cases, Corel Visual CADD provides a common set of driver information for popular plotter. If your plotter is not supported, the settings can be easily manipulated to achieve the desired output.

**Plotter Tab**

The plotter tab contains specific settings describing the device including hardware ports and number of carousels. When modifying settings for the communication settings ensure that the hardware itself is configured for hardware flow control.

**Port** - displays the communication port to which the plotter is connected.

**Baud Rate, Data Bit, Parity and Stop Bit** - specifies the communication settings for the current port. Please refer to the hardware documentation for more information.

**# Pens** - sets the number of pens in each carousel.

**Total** - sets the number of pen carousels to be used.

**Use Multiple Carousels** - if using more than one carousel this box must be checked for Corel Visual CADD to switch during plotting.

**New** - creates a new plotter definition.

**Default** - sets the current plotter driver as the default for direct plot.

**Sort Color** - activates pen sorting when active. Pen Sorting will improve plot time by reducing pen changes and assuring that each pen is only used once.

**Optimize Plotting** - actives motion optimization when active. Motion optimization will improve plot time by minimizing unnecessary pen movements and drawing from one end of the paper to the other.

**Origin at Lower Left** - places the origin at the lower left corner of the paper when checked, otherwise the origin is placed at the center of the paper.

**Page Size** - selects the size of the plotter media. This size reflects the printed area on the page and not the actual sheet size.

**Add** - adds a new page size to the list by using the values entered in the Length and Width boxes.

**Remove** - deletes the current page size from the list.

**DPI -** specifies the maximum resolution of the plotter in dots per inch.

**Pen Map**

Pen mapping allows colors in the Corel Visual CADD drawing to represent different pens in the plotter effectively giving precise line width control to the plotter. Pen mapping involves assigning pens from the plotter carousel to colors that exist in the drawing. In addition to simply setting a pen, the map can set the pen width and speed which can improve the output for plotter. When using pen mapping, it is important to remember that many ink jet plotters use pen numbers to represent different line types. Certain pen numbers or ranges of pens may refer to lines that are not solid or that are created using gray-scale fills. If the All Colors to Black option is checked in the plot dialog, all colors will plot using the pen mapped to color 0, normally black.

**New** - creates a new map. The direct plot routine can store multiple pen mappings for creating different sets of output.

**Default** - sets the current pen map as the default.

**Corel Visual CADD Color** - the entity color in the drawing you wish to map.

**Pen Number** - specifies the pen number assigned to the individual color.

**Pen Width** - adjusts the width of the pen. The width setting is used to create solid fills and is measured in millimeters.

**Pen Speed** - sets the speed at which the pen moves across the paper. Speed is measured in millimeters per second. Specifying a high speed may result in damage to the pen tip.

**Language**

Corel Visual CADD supports for many common plotter languages. However, if the desired language is not available, you can create a language directly through the interface. A plotter language consists of a delimiter, initialization string, de-initialization string, pen up, pen move, pen draw, pen speed and pen change commands. Each of these needs to be specified when creating a language. The required control codes are generally listed in the output devices documentation and set to a specific plotter type.

**Delimiter** - specifies the character that separates commands sent to the plotter. This field can be left blank.

**Init. String** - describes the commands that are sent to the plotter for initialization.

**De-Init. String** - describes the commands that are sent to the plotter after the plot is complete.

**Pen Up** - specifies the characters that raise the pen from the paper.

**Pen Down** - specifies which characters lower the pen to the paper for drawing.

**Pen Move** - specifies the characters that signal the plotter to move the pen from one location to another in the up position.

**Pen Draw** - specifies the characters that signal the plotter to move the pen from one location to another in the down or draw position.

**Pen Speed** - specifies the characters that set the pen speed for the current pen.

**Pen Change** - specifies the characters that signal the plotter to change to a new pen.

**New** - creates a new plotter language setting.

**Default** - Restores the plotter language settings to the default values for an HP-GL plotter.

**Use HP-GL/2 Commands** - enables the use of HP-GL/2. This setting can improve the quality of arcs and circles and decrease plot time if the plotter supports HP-GL/2 graphics language. When utilized the Init. String must contain values for the plotter

to recognize HP-GL/2 commands.

# Load Style (TY)

Use the Load Style command to configure many of Corel Visual CADD's settings in a single operation. Styles are predefined collections of Corel Visual CADD settings, similar in concept to style sheets or templates used in most word processors. These settings can include object properties such as line type, color, layer, and width, as well as operational settings such as ortho angle and increment snap distance.

When you load a style file, Corel Visual CADD reconfigures the drawing environment according to the settings and properties saved with that file.

**To load a style file:**

1. Choose the Load Style command.
   A list box of available style files appears.
2. Select the style file you wish to load and click OK.
   The Corel Visual CADD settings adjust according to the styles included in the selected file.

{button ,AL(`Style',0,`',`')}  See Also

# Save Style (TV)

Use the Save Style command to save related groups of current settings to disk. You can then restore the settings whenever you wish with the Load Style command.

Styles are predefined collections of Corel Visual CADD settings, similar in concept to style sheets or templates used in most word processors (for more information about styles, see Load Styles). A style file can include anything from a single set of entity properties (layer, color, line type and line width) to virtually the entire Corel Visual CADD drawing environment. Style files allow you to quickly configure all relevant settings necessary for a particular task. By sharing style files you can easily create and follow office drafting standards.

You can save from one to nine categories of settings from the current drawing environment.

**To create a style file:**

1. Choose the Save Style command.

   A list box of available style files appears.

   If you wish to redefine an existing style, select a name from the list. If you wish to create a new style, enter the new name in the text box.
2. Click the Styles button .
3. Check the style categories that you wish to be included in the style file. When finished, click OK.

   A style file is created that includes all the current settings from the selected categories.
4. Click OK to save the Style to disk.

{button ,AL(`Style',0,`',`')}  See Also

# Load Menu (LM)

The Load Menu command allows the user to load a previously defined custom menu that overrides Corel Visual CADD's default menu.

**To open an existing menu file, using the Load Menu command:**

1. Choose the Load Menu command.
2. If necessary, change the path and drive in order to locate the file you wish to open.
3. In the list box, double-click the menu file name, or select the menu file name and click OK.

**Tip**

If you want the same file path to be displayed the next time you open a file, check the "Save File Path" box.

{button ,AL(`Customizing',0,`',`')}  See also:

## File Run (FU)

The RUN command executes programs external to Corel Visual CADD.

**To use the RUN command:**

1. Select the RUN command from the File menu.
2. Type the path and filename of the program you wish to execute, using the Browse button if necessary.
3. Click OK to execute the program.

# Send (SD)

Use the Send command to send your current drawing via email.

**To email a drawing:**

1. Choose Send from the File menu.
   Make sure the file has been saved.
2. Complete the message information in your mail system, and then send the message.

# Load ASCII (LA)

Use Load ASCII to load text files from disk and place it in your drawing with the current text settings.

**To load a text file from disk:**

1. Click the Load ASCII button in the text editor
   OR
   Type LA
2. Choose the file you wish to load, changing drive and paths as necessary. Click OK when done.
3. Click to place in the drawing.

# Layer Display (YD)

Layer Display is a quick way to display a layer or multiple layers from the keyboard without loading Layer Manager.

**To quickly display a layer:**

1. Type YD or click the Layer Display button.
2. In the speedbar type the layer you wish to display or * for all layers. Click OK or hit Enter.

# Layer Hide (YH)

Layer Hide is a quick way to hide a layer or multiple layers from the keyboard without loading Layer Manager.

**To quickly display a layer:**

1. Type YH or click the Layer Hide button.
2. In the speedbar type the layer you wish to hide or * for all layers. Click OK or hit Enter.

## Exit (FX)

Use the Exit command to exit Corel Visual CADD. If unsaved drawings are loaded, Corel Visual CADD prompts you to save the drawing files before closing Corel Visual CADD.

**To exit Corel Visual CADD:**

- Choose the Exit command.

Displays the selected symbol’s name.

Lists the symbols whose definitions are loaded in your drawing.

Sets the X size of the symbol when you place it. Scale values of 1.0 are equivalent to full size, or 100%. Values greater than 1.0 increase the size of the symbol. Values less than 1.0 reduce the size of the symbol.

Sets the Y size of the symbol when you place it. Scale values of 1.0 are equivalent to full size, or 100%. Values greater than 1.0 increase the size of the symbol. Values less than 1.0 reduce the size of the symbol.

Negates the X Symbol Scale value.

Negates the Y Symbol Scale value.

Sets the symbol’s angle of rotation. Enter a value in the text box, or click buttons to add 45° or 90° to the current angle or reset the angle to 0°. Positive values rotate symbols counterclockwise. Negative values rotate symbols clockwise.

Resets symbol rotation to 0°.

Adds 45° to current symbol rotation.

Adds 90° to current symbol rotation.

Previews the selected symbol.

Explodes symbols into their basic components upon placement, when checked.

Sets the angle and properties of the selected symbol to match those of the next object you click in your drawing.

Opens Corel Visual CADD's online Help window.

Opens the Load Symbol dialog box.

Closes the Symbol Manager.

Reconfigures the Symbol Manager to display only the list of symbols.

Sets Corel Visual CADD to use the placement color when placing symbols.

Note: Double-clicking on the Symbol Manager title bar rolls it up or down.

General tab of Settings db callouts

Sets the radius of fillets.

Sets corners to fillet automatically as you draw with the Continuous Line and Continuous Double Line tools.

Sets the possible fillet options to display as you move the cursor around an intersection or corner during a fillet operation.

Sets the number of sides drawn with the Polygon tool.

Sets the Regular Polygon tool to place the second point as a vertex of the polygon, inscribed in a two-point circle.

Sets the Regular Polygon tool to place the second point as the midpoint of a side of the polygon, circumscribed around a two-point circle.

Sets the distance from the original object to the offset copy.

Sets the offset copy to display as a "rubberbanding" image before placement.

Sets the offset distance of the line to the left of or above the cursor.

Sets the offset distance of the line to the right of or below the cursor.

Automatically fills the space between the double lines with a solid color.

Sets the distance from the corner or intersection to the start of the chamfer on the first line selected.

Sets the distance from the corner or intersection to the start of the chamfer on the second line selected.

Sets Corel Visual CADD to place symbols as the individual entities that compose them, deleting any attached attributes.

Checked: Enables snaps to target any point within a symbol. Unchecked: Enables snaps to target only symbol handle points.

Sets the entities composing exploded symbols to be located on the layer on which you place each symbol

Sets the entities composing exploded symbols to be located on the layer that is current when you place each symbol

Sets the entities composing exploded symbols to be located on the layers where the entities were located at the time they were saved as a symbol.

Checked: Enables objects on all visible layers to be edited. Unchecked: Enables objects on the current layer only to be edited.

Enables Corel Visual CADD to snap to objects on all layers, rather than just the current layer.

Sets the final X dimension of objects copied from Corel Visual CADD to the Windows clipboard in on-screen inches.

Sets the final Y dimensions of objects copied from Corel Visual CADD to the Windows clipboard in on-screen inches.

Abandons your changes and closes the dialog box.

Saves your changes and closes the dialog box.

Specifies if Corel Visual CADD is to use layer properties or not.

Specifies if Corel Visual CADD is to use the symbol color placement or not.

Specifies if selected objects will visually drag across the screen during move and copy operations.

Specifies if selected objects are highlighted in the selection color.

Determines if Quick Search is toggled ON or OFF. If toggled ON, Corel Visual CADD will select the nearest object in the database within the current search tolerance.

Sets the maximum distance in on-screen inches the cursor may be from an object for Corel Visual CADD to snap or select it.

Specifies, in on-screen inches, the size of the cursor’s horizontal and vertical cross-hairs. For example, a value of "1.0" sets the cursor size to 1 inch. To specify a full-screen cursor, type "0."

Specifies the tool to which Corel Visual CADD will return after each command is completed. To choose a new default tool, click on the desired tool in the drop-down list.

If toggled on objects, such as continuous line, rectangles and regular and irregular polygon tools will be placed as single lines. For example, once placed, a rectangle would not be considered one continuous line but four single lines.

Determines if the current drawing settings are saved as the default environment upon exiting Corel Visual CADD. When checked, environment settings will be saved every time Corel Visual CADD is closed. All current system settings are saved.

Specifies if pressing Shift while you click the right mouse button activates the popup menus. If you choose this option, you can program the middle and right mouse buttons to perform other functions without giving up the convenience of the popup menus.

Sets the multiplier used to change the drawing magnification when the Zoom In command is used. The factor for the Zoom Out command is the reciprocal of this number.

Specifies if Corel Visual CADD will prompt you to pick a point on the screen before performing any zoom in or zoom out operations. This point becomes the center of the new view displayed on the screen.

Determines if Corel Visual CADD will automatically save your work in a backup file. Only drawings that are **named** and have **changed** will be automatically saved.  Named drawings to which no changes have been made will not be saved.

Specifies interval, in minutes, at which drawings will be automatically saved in the .VBK format. Corel Visual CADD will not save at the specified interval if a dialog box, such as text edit or assign script is open or a tool active, until the dialog or tool has been closed or completed.

Specifies if Construction Points are displayed and printed or plotted (ON) or hidden (OFF).

Specifies if Handle Points are displayed and printed or plotted (ON) or hidden (OFF).

Specifies if Fills are displayed and printed or plotted (ON) or hidden (OFF).

Specifies if Hatches are displayed and printed or plotted (ON) or hidden (OFF).

Specifies if Points are displayed and printed or plotted (ON) or hidden (OFF).

Specifies if the various line types patterns are displayed and printed or plotted (ON) or all lines appears as line type 0 Solid (OFF).

Specifies if the various line widths are displayed and printed or plotted (ON) or all lines appears as line width 0 (OFF).

Sets the "real world" incremental distance that each arrow key will advance the cursor.

Sets the "on screen" incremental distance each arrow key will advance the cursor. This incremental distance remains the same even when the zoom value changes.

Specifies if scrollbars display on the drawing area.

Specifies if files will be locked to other users.

Specifies background color of drawing area.

Specifies cursor color.

Specifies color objects will be when selected.

Specifies rubberband color.

Specifies arrow keys will move in real world units.

Specifies arrow keys will move in screen units.

Layer Manager options

Opens when you click the Utilities menu and then click Layer Manager.

Displays all selected layers.

Makes the selected layer the active drawing layer.

Hides all selected layers except the current layer.

Opens the Name Layer dialog box, in which you can name and rename layers.

Selects all layers listed.

Text box for entering the layer(s) you want to select. A hyphen separating two numbers designates a range of layers. A comma separating two numbers designates noncontiguous layers.

Lists all available layers. Hidden layers are dimmed.

Designates the current drawing layer.

Indicates a layer containing at least one object.

When checked, lists only layers containing an object, as well as named layers.

When checked, redraws objects on newly hidden or displayed layers as soon as you click Hide or Display. When unchecked, objects redraw after you close Layer Manager.

When checked, Layer Manager settings apply to all windows. When unchecked, Layer manager settings apply only to the active window.

When checked, only the list of layers is displayed. Click the right mouse button to view all Layer Manager options. Note: Double-clicking the Layer Manager title bar rolls it up and down.

Opens the Layer properties speed bar, on which you can assign properties to the selected layer(s).

Sorts the list of layers alphabetically by name, or restores the list of layers to its original numerical order.

Close Layer Manager.

Starts up the Layer Properties dialog box. From this dialog box you can set how you want the properties to be set for a particular layer.

settings dialog box, Constraint tab

Opens when you click the Utilities menu, click Settings, and then click the Constraint tab.

Sets the base angle for drawing when Ortho mode is on. All entities are placed in 90° increments of the specified angle.

Turns ortho mode on or off.

Frees the cursor to move anywhere on screen when ortho mode is on.

Sets the length of each Increment Snap.

Sets the cursor to move only in multiples of a predefined distance when ortho mode is on.

Sets the coordinate entry mode to Relative mode.

Sets the coordinate entry mode Absolute mode

Sets the coordinate entry mode Basepoint mode.

Sets the X origin point for Manual Entry Basepoint.

Sets the Y origin point for Manual Entry Basepoint.

Sets the X spacing between grid points.

Sets the Y spacing between grid points.

When checked, constrains point placement to grid points.

Displays the grid.

Selection Filter speed bar

Opens when you click the Edit menu and then click Selection Filter.

Sets the type of object as the search criterion.

Sets a layer as the search criterion.

Sets the color of objects as the search criterion.

Sets the line type of objects as the search criterion.

Sets the width of objects as the search criterion.

When checked, turns on the Selection Filter.

Resets all selection filter speed bar criteria to All.

Opens online Help.

When clicked, sets the selection filter criteria to match the properties of the next object you click.

Saves the new criteria and closes the selection filter speed bar.

Settings dialog box, Hatch/Fill tab

Opens when you click the Utilities menu, click Settings, and then click the Hatch/Fill tab.

Lists the available hatch patterns.

Sets the selected hatch pattern’s angle. Type a positive or negative value between 0 and 360.

Displays fill and hatch boundary outline on the screen.

Sets the scale of the selected hatch pattern. 1.0 = 100%.

Displays a sample of the selected hatch pattern when you click Update.

Updates the hatch preview with the current settings

Sets the hatch color, which applies to all hatch patterns until you change it.

Sets the fill color, which applies to all fills until you change it.

settings dialog box, Leader tab

Opens when you click the Utilities menu, click Settings, and then click the Leader tab.

Specifies the font of the current leader text block.

Sets the height of the leader text.

Sets the line spacing of the leader text block. Spacing is represented as a percentage of the text height. For example, 200% line spacing yields double-spacing.

Sets the style of leader TrueType fonts to bold.

Sets the style of leader TrueType fonts italic.

Sets the style of leader TrueType fonts to underlined.

Adjusts the space between vector-font leader characters. Spacing is expressed as a percentage of character size. For example, a value of 100% would create one full character width between each character in the text block.

Adjusts the angle at which individual leader characters are slanted in a vector font. This is similar to italics but can be varied in degree and can slant backward.

Adjusts the height-to-width ratio of characters in text blocks created using a vector font. An aspect of 1.0 yields characters that are as tall as they are wide.

When checked, all characters take up the same width on a line. When unchecked, wide characters take up more space than narrow characters.

When checked, characters are solid filled. When unchecked, characters are displayed in outline, making both redrawing and printing faster.

Select the datum dimension style displaying X values.

Select the datum dimension style displaying Y values.

Select the datum dimension style displaying both X and Y values.

When checked, no datum dimension style is applied.

Selects the type of arrowhead to place at the end of the leader.

Sets the length of the arrowheads.

Adjusts the shape of the arrowhead or the angle of the slash.

Sets the distance between the tail-end of the leader and the leader text.

Adjusts the size of the leader tail's horizontal segment that is placed nearest the text.

Settings dialog box, Dimension tab

Opens when you click the Utilities menu, click Settings, and then click the Dimension tab.

Specifies the orientation of the dimension line to be horizontal.

Specifies the orientation of the dimension line to be vertical.

Specifies the orientation of the dimension line to be aligned with the object being dimensioned.

Specifies the orientation of the dimension line forced at a particular angle.

Sets the degree at which to slant an angled dimension line.

Selects the type of arrowhead to place at the ends of the dimension line.

Sets the length of the arrowheads.

Adjusts the shape of the arrowhead or the angle of the slash.

Flips the dimension line so that the arrows point inward. Use this option when the extension lines interfere with the dimension text.

Set the left length of the dimension lines that extend from the arrows when Flip is checked.

Set the right length of the dimension lines that extend from the arrows when Flip is checked

Adjusts the space between the drawing object and the end of the extension lines when Proximity Fixed is checked.

Adjusts the distance that the extension line extends past the dimension line and away from the drawing object.

When Stretch is unchecked, adjusts the distance the extension line extends beyond the dimension line and toward the drawing object.

When checked, the extension lines stretch to reach the drawing object (minus the Offset distance). When unchecked, the Offset setting is ignored, and the extension lines follow the setting of the Below distance.

Places the dimension line at a fixed distance (Offset plus Below) from the drawing object.

Creates individual dimensions.

Creates baseline dimensions

Creates chained dimensions.

Selects the dimension element to adjust. Choosing All will affect all elements of a dimension.

Set the color for the selected dimension element.

Set the line width for the selected dimension element.

Set the line type for the selected dimension element.

Hides or displays the selected element.

When checked, puts all dimensions on a specified layer.

Specifies the layer on which to place new dimensions when Dim Layer is checked.

settings dialog box, Dim Text tab

Opens when you click the Utilities menu, click Settings, and then click the Dim Text tab.

Specifies the font of the current dimension text block.

Sets the height of the dimension text.

Sets the line spacing of the dimension text block. Spacing is represented as a percentage of the text height. For example, 200% line spacing yields double-spacing.

Sets the style of dimension TrueType fonts to bold.

Sets the style of dimension TrueType fonts italic.

Sets the style of dimension TrueType fonts to underlined.

Adjusts the space between vector-font dimension characters. Spacing is expressed as a percentage of character size. For example, a value of 100% would create one full character width between each character in the text block.

Adjusts the angle at which individual dimension characters are slanted in a vector font. This is similar to italics but can be varied in degree and can slant backward.

Adjusts the height-to-width ratio of characters in text blocks created using a vector font. An aspect of 1.0 yields characters that are as tall as they are wide.

When checked, all characters take up the same width on a line. When unchecked, wide characters take up more space than narrow characters.

When checked, characters are solid filled. When unchecked, characters are displayed in outline, making both redrawing and printing faster.

Allows the dimension text to align with its dimension line

Allows the dimension text to display horizontally regardless of the dimension line's orientation.

Sets the distance at which dimension text is placed above the dimension line when Above Line is selected.

Sets the distance between dimension text and dimension line segments when In Line is selected.

Adds the text in the Suffix box to the end of the dimension text.

Text to add to end of dimension text when Suffix box is checked.

Adds the text in the Prefix box to the beginning of the dimension text.

Text to add at the beginning of dimension text when Prefix box is checked.

Specifies the dimension text will appear above the dimension line.

Specifies the dimension text will appear or in the middle of the dimension line.

When checked, centers dimension text in the dimension line. If unchecked, the dimension line and text are positioned using the same selection point.

Sets the amount of tolerance below the dimensioned value. This amount is used in displaying tolerance values and is the only value used for the min/max display style.

Sets the amount of tolerance above the dimensioned value. This amount is used in displaying tolerance values.

Replaces the dimension text with the text you type in the Overwrite box.

Text to overwrite current dimension text with.

Selects the style in which to display dimension tolerances.

Sets the factor by which dimension values are scaled from the standard drawing units. You can enlarge part of the drawing as a detail and set the Dim Scale multiplier so that dimensions will display properly.

Sets the spacing (as a percentage of one line height) between lines of text for stacked tolerance display.

settings dialog box, Numeric tab

Opens when you click the Utilities menu, click Settings, and then click the Numeric tab. Numeric Dimension settings affect the number format of dimensions you create. Numeric Display settings affect the number format displayed on the status bar and used in direct-distance entry.

Sets the number of digits to show to the right of the decimal in distances and angles on the screen display.

Sets the number of digits to show to the right of the decimal in distances and angles within dimensions.

Sets the smallest fractional value permitted on the screen display.

Sets the smallest fractional value permitted within dimensions.

Sets the format for displaying angles to decimal degrees, degrees:minutes, or degrees:minutes:seconds on the screen display. If you select decimal degrees format, the Decimal Places setting determines the number of digits displayed to the right of the decimal.

Sets the format for displaying angles to decimal degrees, degrees:minutes, or degrees:minutes:seconds within dimensions. If you select decimal degrees format, the Decimal Places setting determines the number of digits displayed to the right of the decimal.

When checked, displays leading zeros in decimal measurements of less than 1 drawing unit (for example, 0.1234) on the screen display.

When checked, displays leading zeros in decimal measurements of less than 1 drawing unit (for example, 0.1234) within dimensions.

When checked, displays the unit of measurement along with the value on the screen display.

When checked, displays the unit of measurement along with the value within dimensions.

When checked, displays fractions as a single character (for example, ¼, ½, ¾) within dimensions. This option is only available when using a vector font for dimension text.

When checked, displays dimensions in both the primary and the secondary units.

Sets the primary unit of measurement in which to display dimensions.

Sets the optional secondary unit of measurement in which to display dual-unit dimensions.

When checked, displays a dash in dimensions made using the feet and inches unit.

Sets the unit of measurement used in the status bar display and in direct-distance entry.

Text properties with the text-line tool

Opens when you click the text-line tool in a drawing.

Enter the text to add to the drawing. Press ENTER for a new line, or press ENTER twice to end entry. Click within the edit box to change text.

Use the arrows to scroll through multiple lines of text.

Matches the properties of an existing text block. Click the button, and then click the text block whose properties you want to match.

Specifies the font of the current text block.

Sets the height of the text.

Adjusts the rotation angle of the text block.

Sets the line spacing of the text block. Spacing is represented as a percentage of the text height. For example, 200% line spacing yields double-spacing.

Adjusts the color of the text.

Sets the style of TrueType fonts to bold.

Sets the style of TrueType fonts to italic.

Sets the style of TrueType fonts to underlined.

Adjusts the alignment of the text block to be flush left.

Adjusts the alignment of the text block to be centered.

Adjusts the alignment of the text block to be flush right.

Adjusts the space between vector-font characters. Spacing is expressed as a percentage of character size. For example, a value of 100% would create one full character width between each character in the text block.

Adjusts the angle at which individual characters are slanted in a vector font. This is similar to italics but can be varied in degree and can slant backward.

Adjusts the height-to-width ratio of characters in text blocks created using a vector font. An aspect of 1.0 yields characters that are as tall as they are wide.

When checked, all characters take up the same width on a line. When unchecked, wide characters take up more space than narrow characters.

When checked, characters are solid filled. When unchecked, characters are displayed in outline, making both redrawing and printing faster.

Import/export dialog box, gcd settings tab

Opens when you click the Utilities menu, and then click Import/Export.

When selected, indicates that Generic CADD hatches are converted to a symbol that looks like the original hatch.

When selected, indicates that all Generic CADD hatches are converted to the selected Corel Visual CADD hatch pattern.

List of hatches to which to convert Generic CADD hatches.

When checked, retains original names during importing rather than using font name mapping.

During export, specifies the font name to be used when no mapping exists for a font.

During import, specifies the font name to be used when no mapping exists for a font.

import/export dialog box, dwg settings tab

Opens when you click the utilities menu, click Import/Export, and then click DWG Settings.

Selects inches as the unit of measure in which the AutoCAD drawing was created.

Selects feet as the unit of measure in which the AutoCAD drawing was created.

Selects millimeters as the unit of measure in which the AutoCAD drawing was created.

Selects centimeters as the unit of measure in which the AutoCAD drawing was created.

Selects meters the unit of measure in which the AutoCAD drawing was created.

Specifies that AutoCAD screen colors will be retained during translation.

Specifies that AutoCAD color numbers will be retained during translation.

Specifies that drawings referenced by AutoCAD XRefs are translated into the Corel Visual CADD format.

Specifies that drawings referenced by AutoCAD XRefs are left in the AutoCAD format..

When checked, retains original names during importing rather than using font name mapping.

During export, specifies the font name to be used when no mapping exists for a font.

During import, specifies the font name to be used when no mapping exists for a font.

import/export dialog box, gcd Font import tab

Opens when you click the Utilities menu, click Import/Export, and then click the GCD Font Import tab.

Adds a new font name mapping to the list using the selected Corel Visual CADD and Generic CADD font names.

Removes the selected font mapping from the list.

List of available Generic CADD fonts.

List of available Corel Visual CADD fonts.

Adds a new font name to the list of available fonts.

Removes the selected Generic CADD font from the list of available fonts.

Type a new font name here.

Current font mapping.

import/export dialog box, gcd Font EXPORT tab

Opens when you click the Utilities menu, click Import/Export, and then click the GCD Font Import tab.

Adds a new font name mapping to the list using the selected Corel Visual CADD and Generic CADD font names.

Removes the selected font mapping from the list.

List of available Generic CADD fonts.

List of available Corel Visual CADD fonts.

Adds a new font name to the list of available fonts.

Removes the selected Generic CADD font from the list of available fonts.

Type new font name here.

Current font mapping.

import/export dialog box, dwg Font IMPORT tab

Opens when you click the Utilities menu, click Import/Export, and then click the GCD Font Import tab.

Adds a new font name mapping to the list using the selected Corel Visual CADD and AutoCAD font names.

Removes the selected font mapping from the list.

List of available AutoCAD fonts.

List of available Corel Visual CADD fonts.

Adds a new font name to the list of available fonts.

Removes the selected AutoCAD font from the list of available fonts.

Type new font name here.

Current font mapping.

import/export dialog box, dwg Font export tab

Opens when you click the Utilities menu, click Import/Export, and then click the GCD Font Import tab.

Adds a new font name mapping to the list using the selected Corel Visual CADD and AutoCAD font names.

Removes the selected font mapping from the list.

List of available AutoCAD fonts.

List of available Corel Visual CADD fonts.

Adds a new font name to the list of available fonts.

Removes the selected AutoCAD font from the list of available fonts.

Type new font name here.

Current font mapping.

Print dialog box

Opens when you click the File menu and then click Print.

Displays the current printer.

Displays the current page size.

Displays the current margin settings.

Sets the factor by which the drawing will be scaled when the Scale option is checked.

Selects vertical (portrait) page orientation.

Selects horizontal (landscape) page orientation.

Specifies the drawing is to be scaled to fit the paper size.

Specifies the drawing is to be scaled so that the displayed view will fill the page.

Specifies the drawing is to be scaled to a factor that you enter.

Sends the output to a file on the disk drive.

Check this box to include a time and date stamp on the printed page's edge.

Check this box to print only the selected entities on a drawing.

Shows only an outline of the drawing during the print preview to speed the preview of large or complex drawings.

Prints all entities in black, regardless of their color.

Selects the unit to English in which to measure paper size and margins.

Selects the unit to Metric in which to measure paper size and margins

Opens the Margin Settings dialog box.

Sets the drawing X origin relative to the lower left corner of the margin. The units of measure are those of the page size and not of the drawing.

Sets the drawing Y origin relative to the lower left corner of the margin. The units of measure are those of the page size and not of the drawing

Sets the rotation angle of your drawing relative to the paper.

Sets the number of copies to print.

Prints your drawing.

Opens the Print Setup dialog box.

Shows a preview of the drawing as it will print using the current print settings.

Centers the drawing on the printed page.

Refreshes the Preview area with the current settings.

Plot dialog box

Opens when you click the File menu and then click Print.

Displays the current plotter.

Displays the current page size.

Sets the factor by which the drawing will be scaled when the Scale option is checked.

Sets the drawing X origin relative to the lower left corner of the margin. The units of measure are those of the page size and not of the drawing.

Specifies the drawing is to be scaled to fit the paper size.

Specifies the drawing is to be scaled so that the displayed view will fill the page.

Specifies the drawing is to be scaled to a factor that you enter.

Sends the output to a file on the disk drive.

Check this box to plot only the selected entities on a drawing.

Shows only an outline of the drawing during the plot preview to speed the preview of large or complex drawings.

Plots all entities to pen 0, regardless of their color.

Selects the unit in which to measure paper size and margins.

Sets the drawing Y origin relative to the lower left corner of the margin. The units of measure are those of the page size and not of the drawing.

Sets the rotation angle of your drawing relative to the paper.

Plots your drawing.

Opens the Plot Setup dialog box.

Shows a preview of the drawing as it will plot using the current plot settings.

Centers the drawing on the printed page.

Opens Penmap dialog to adjust plotter settings.

Plot setup dialog box, Pen map tab

Opens when you click the File menu, click Plot, click Setup from the Plot dialog box, click Options from the Plot Setup dialog box, and then click the Pen Map tab.

Uses the pen mapping set you select from the drop-down list.

Specifies the pen numbers assigned to individual colors.

Specifies the color to which a pen is assigned.

Click to create a new named set of pen mappings and add it to the pen map list.

Resets the pen map to its original settings.

Adjusts the width of a pen. The width setting is used to create solid fills and is measured in millimeters.

Sets the speed at which the pen moves across the paper. Speed is measured in millimeters per second. Specifying too high a speed may result in damage to the pen tip.

Plot setup dialog box, Plotter tab

Opens when you click the File menu, click Plot, click Setup from the Plot dialog box, click Options from the Plot Setup dialog box, and then click the Plotter tab.

Displays the plotter for which the current settings are listed.

Specifies the port to which the plotter is connected.

Specifies the baud rate setting.

Specifies the data bit settings.

Specifies the stop bit settings

Specifies the parity settings.

Sets the number of pen carousels to be used.

Sets the number of pens in each of the pen carousels.

Check this box if you are using more than one carousel.

Creates a new plotter definition.

Sets the current plotter driver as the default for direct plotting.

Type witdth of new page size here.

Type length of new page size here.

When checked, activates pen sorting.

When checked, activates motion optimization.

When checked, places the origin in the lower left corner of the media. When unchecked, places it in the center of the media.

Writes plot file out to disk buffer before sending it to the plotter.

Selects the size of the plotter media. Page size reflects the printed area on the page and not the actual sheet size.

Adds a new page size to the Page Size drop-down list by using the values set in the Length and Width boxes.

Deletes the current page size from the list.

Specifies the maximum resolution of the plotter in dots per inch.

Save changes and exit dialog.

Exit dialog without saving changes.

Plot setup dialog box, language tab

Opens when you click the File menu, click Plot, click Setup from the Plot dialog box, click Options from the Plot Setup dialog box, and then click the Language tab.

Specifies the plotter language for the current settings.

Specifies the character that separates commands sent to the plotter. This field can be left blank.

Describes the commands that are sent to the plotter to initialize it.

Describes the commands that are sent to the plotter after a plot is completed.

Specifies which characters raise the pen from the paper.

Specifies which characters lower the pen to the paper.

Specifies the characters that signal the plotter to move the pen from one location to another in the up position.

Specifies the characters that signal the plotter to move the pen from one location to another in the down position.

Specifies the characters that set the pen speed for the current pen.

Specifies the characters that signal the plotter to change to a different pen.

Creates a new plotter language setting.

Restores the plotter language settings to the default values for an HPGL plotter.

Enables the use of HP-GL/2 (Hewlett Packard graphics language - 2). Check this box to improve the quality of arcs and circles and decrease plot time if your plotter supports the HP-GL/2 graphics language. If you check this box, you need to provide an Init String that tells your plotter to recognize HP-GL/2 commands.

Close dialog and save settings.

Close dialog without saving settings.

Type text here.

Specifies the font used in text blocks or lines.  Corel Visual CADD can use either Windows Truetype fonts or it's own vector fonts.

Specifies the size (height) of text characters in current drawing unit.  The height of the text is measured in real world scale.

Specifies the color of text.

Specifies the orientation of text from 0 to 360. Rotation is counter-clockwise.

Determines the width to height ratio of each text character. For example, with a text height of 1" and an aspect of 2, the text character will be twice as wide as it is tall.

Determines left text justification.

Determines center text justification.

Determines right text justification.

Specifies **bold** type when checked. This applies only to Truetype text.

Specifies italic type when checked. This applies only to Truetype text.

Specifies underlined type when checked. This applies only to Truetype text.

Specifies the spacing between lines as percentage of the font size. This is measured from the reference point of the first line to the reference point of the second line. For example, using a font height of 2" and line spacing of 200%, the distance between the lines would be 4".

Specifies the spacing between characters of a text line as a percentage of the character size. The default is 20%. This command only applies to vector text.

Dropdown determining layer on which text will be placed.

Specifies the angle at which vector text is slanted to emulate italics. Angle must be between -45º and 45º. This command only applies to vector text.

Specifies if vector text is proportionally spaced. If monospace is toggled on, each letter will use the same amount of space. From example, an "I" will take the same amount of space as a "w".  This command only applies to vector text.

Specifies if vector outline fonts are filled with the current text color. Acts as a toggle.

Accept current values and return to drawing.

Exit dialog without saving.

Load ASCII text from disk.

Attribute create

Attribute name

Character to separate Field from Value

Type the field here

Type the value here

Click to Add the current Field/Value pair to the list

Click to Delete the current Field/Value from the list.

Click to accept values

Click to close dialog without keeping current information.

List of attributes you’ve created so far.

Attribute attach

Lists attributes currently loaded in the drawing.

Current value of highlighted Field/value pair. May be changed.

Click to update new value.

Current Field/value pairs of selected attribute. Click to change the value.

Saves current values and attaches attribute to selected symbol.

Cancels without attaching attribute to selected symbol.

Attribute embed

Lists attributes currently loaded in the drawing.

Current default value of highlighted Field/value pair. May be changed.

Click to update new value.

Current Field/value pairs of selected attribute. Click to change the value.

If checked, prompt for values each time symbol is placed.

If checked, prompt for insertion point of attribute each time symbol is placed.

Saves current values and embeds attribute to selected symbol.

Cancels without embedding attribute to selected symbol.

Symbol to which attribute will be embedded.

attrib edit

Lists attributes currently loaded in the drawing.

Current value of highlighted Field/value pair. May be changed.

Click to update new value.

Current Field/value pairs of selected attribute. Click to change the value.

Updates current attribute and returns to drawing screen.

Cancels without updating attribute.

Symbol to which attribute is currently attached.

path tab

Default path for Corel Visual CADD drawings (.VCD).

Default path for symbols (.VCS).

Default path for fonts (.VCF).

Default path for AutoCAD drawing files (.DWG).

Default path for AutoCAD .DXF files.

Default path for Generic CADD drawing files (.GCD).

Default path for Corel Visual CADD system files (toolbars, menus, etc.)

Click to search the hard drive for the selected path.

Click to exit dialog and save changes.

Click to exit dialog without saving changes.

Text/atb tab

Opens when you click the text-line tool in a drawing.

Specifies the font of the current text block.

Specifies text should always be placed on a specific layer.

Specifies layer on which text should be placed.

Sets the height of the text.

Adjusts the rotation angle of the text block.

Sets the line spacing of the text block. Spacing is represented as a percentage of the text height. For example, 200% line spacing yields double-spacing.

Adjusts the color of the text.

Sets the style of TrueType fonts to bold.

Sets the style of TrueType fonts to italic.

Sets the style of TrueType fonts to underlined.

Adjusts the alignment of the text block to be flush left.

Adjusts the alignment of the text block to be centered.

Adjusts the alignment of the text block to be flush right.

Adjusts the space between vector-font characters. Spacing is expressed as a percentage of character size. For example, a value of 100% would create one full character width between each character in the text block.

Adjusts the angle at which individual characters are slanted in a vector font. This is similar to italics but can be varied in degree and can slant backward.

Adjusts the height-to-width ratio of characters in text blocks created using a vector font. An aspect of 1.0 yields characters that are as tall as they are wide.

When checked, all characters take up the same width on a line. When unchecked, wide characters take up more space than narrow characters.

When checked, characters are solid filled. When unchecked, characters are displayed in outline, making both redrawing and printing faster.

Specifies the font of the current text block.

Sets the height of the text.

Adjusts the color of the text.

When checked, attributes are displayed on the screen.

When checked, only attribute labels are displayed on the screen

MISC

Saves current path as default for current file type.

Opens file as Read-Only. No changes may be made unless the file is saved with a new name.

Only saves entities which are currently selected on the drawing.

Click to choose which styles will be saved.

Loads the Corel Visual CADD default menu.

Checked: Current dimension settings will be saved to the style.

Checked: Current text settings will be saved to the style.

Checked: Current drawing settings will be saved to the style.

Checked: Current system settings will be saved to the style.

Checked: Current hatch settings will be saved to the style.

Checked: Current selection filter settings will be saved to the style.

Checked: Current file exchange (DWG/GCD font mapping, etc.) will be saved to the style.

Checked: Current symbol settings will be saved to the style.

Checked: Current layer settings will be saved to the style.

Click to save all settings to the style.

Type path and executable name here.

List of currently loaded symbols. Click to select symbols to be removed.

Automatically selects loaded symbols that have not been placed in any open drawing.

Removes selected symbols.

Close Symbol remove dialog.

Gives information on currently selected entities. If no entities are selected, current drawing information is listed.

Close Object information dialog.

Checked: the Main speedbar (at the top of the drawing screen) will display.

Checked: the Tool Palette (at the left of the drawing screen) will display.

Checked: Buttons will display in color rather than monochrome.

To enlarge toolbar buttons so that they are easier to see, select the Large Buttons check box.

To display on-screen descriptions of toolbar buttons when the pointer pauses on them, select the Show ToolTips check box.

Print setup

Click here to use the default printer listed below

Printer currently listed as default.

Click here to use a specific printer from the list below.

List of available printers.

Click to close dialog and save changes.

Click to close dialog without saving changes.

Click to see more specific information and settings regarding the current printer.

Edit the left margin of the paper here.

Edit the right margin of the paper here.

Edit the bottom margin of the paper here.

Edit the top margin of the paper here.

Click to restore default margins from your current printer driver.

Other

List of currently loaded attributes.

List of currently loaded symbols.

List of currently loaded symbols.

List of currently loaded symbols.

# Linear Copy (CO)

Use the Linear Copy command to duplicate objects already in the drawing. You can make multiple copies arranged in a line; each item in the series is placed at the same user-defined offset from the previous item.

**To copy objects:**

1. Select one or more objects to copy.
2. Choose the Linear Copy command.

   A speed bar will appear, with an editing cursor in the "Number of copies" box. The number of copies will be 1, or the last number you used for a copy operation.
3. If necessary, change the number of copies, then click OK or press Enter.
4. Place a point to define the starting point for the relative offset of each copy.

   The distance and angle from this point to the next point will be used as the offset distance and direction for each new copy relative to the previous. Neither point has to actually be on, or even near the objects being copied.

   After this point is placed, a rubber band will display between the first point and the cursor location. This line previews the offset "vector." In addition, a bounding box will appear for each copy that you specified, each placed at the relative offset defined by the rubber band line. The location and spacing of these bounding boxes provides a dynamic preview of where the copies will be placed.
5. Place a point to define the ending point for the relative offset.

{button ,AL(`Copy',0,`',`')}  See Also:

# Radial Copy (RC)

Use the Radial Copy command to create copies in a radial pattern, such as spokes around the hub of a wheel. This type of command is sometimes called a radial or circular array.

**To create radial copies of a selection:**

1. Select one or more objects.
2. Choose the Radial Copy command.

   A speed bar appears, with an editing cursor in the "Number of items in array" box. The number of items will be preset to 2 (the original objects plus one new copy), or the last number you used for a copy operation.
3. If necessary, change the number of items and the angle spanned by the array, then click OK or press Enter.

   A dynamic preview will appear, showing the copies in the correct relationship to the originally-selected object(s) and the cursor. The copies are shown as bounding boxes radiating around the cursor, which represents the center of the array.
4. Place a point to set the center of the array.

   The copies will be placed around the center point, with the copies spanning the specified angle. Each copy will be the same distance away from the center point, with the original selection at the beginning of the angular span, and the last copy at the end of the angular span.

**Tip**

- Unlike the Linear Copy command, in the Radial Copy command you specify the total number of items, *including* the original.
- In addition, a span of 360 is treated as a special case. Normally, the last copy is placed at the end of the specified span angle; however, in the case of 360, this would cause the last copy to be placed directly on top of the original selection. Normally, when you specify a span of 360, you want the original and all copies to be uniformly spaced around a full circle. Corel Visual CADD does this by not placing the last copy when the span angle is exactly 360.

{button ,AL(`Copy',0,`',`')}  See Also:

# Array Copy (AC)

With the Array Copy command, you create a "grid" of copies of a selection. For example, you could easily draw rows of trees of shrubs in a landscaping plan, a column grid in a structural drawing, or a block of seats in a theater, etc. The grid need not be rectangular; it can be oriented in any direction and "shaped" like any parallelogram.

**To create an array of copies of a selection:**

1. Select the object(s) you wish to copy.
2. Choose the Array Copy command.

   A speed bar will appear, with text boxes for "Number of copies" and "Number of Rows." The number of copies and rows will be preset to 1, or to the last numbers you used in the array copy command.
3. If necessary, change the number of copies.

   This number determines the number of copies of the selection that will be used to create the first row of copies. Note: the original selection does not count as one of the copies.
4. If necessary, change the number of rows.

   This number determines how many rows of copies will be included in the array.
5. Click the OK button or press Enter.
6. Place a point to define the starting point for the first relative offset "vector."

   The distance and angle from this point to the next point will be used as the offset distance and direction from copy to copy in the first row. Neither point has to actually be on or even near the objects being copied.
7. Place a point to define the ending point for the first relative offset vector.

   The first row of copies will be placed at the first relative offset. A second rubber band line will appear, tethered to the starting point of the first vector. A bounding box will appear for each copy that you specified for the array, with the spacing between rows determined by the relative offset defined by the second rubber band line.
8. Place a point to set the endpoint for the vector that determines the spacing between the rows of copies.

   The specified number of rows of copies will be placed, with the row-to-row spacing determined by the second offset vector.

{button ,AL(`Copy',0,`',`')} See Also:

# Multiple Copy (MC)

Use this command to make multiple copies of objects at user defined points within the drawing. Unlike linear or array copy, individual copies are placed until the command is ended.

**To make multiple copies of an object**

1. Select the object or objects you wish to duplicate.
2. Click the Multiple Copy Tool.
3. Click to define a reference point on the object or objects.
   An image of the object now follows your cursor around the drawing area.
4. Click to place a duplicate object.
5. Repeat steps 4 as many times as you need to.
6. Press ESCAPE to end the command.

{button ,AL(`Copy',0,`',`')}  See Also:

# Offset (OF)

Use the Offset command to draw parallel objects to lines, continuous lines, polygons, curves, circles, ellipses, circular or elliptical arcs.

**To draw an offset:**

1. Select the object or objects to be copied and used as the "base" for the offset.
2. Choose the Offset command.

   A speed bar will appear, displaying the current offset value. The speed bar also displays a checkbox marked "Fixed". When checked, the offset will be set to the value specified in the "Offset" box, and moving the cursor will simply allow you to pick on which side of the target object you want the offset to be drawn.

If the Fixed box is not checked, the offset will move freely with the cursor, with the changing offset distance displayed in the offset box. If there is more than one object selected to be offset, the offset value must be entered i.e. there is no rubberbanding preview as with single objects.

3. If you want to specify a numeric offset distance, check the Fixed box, and enter the desired offset distance in the Offset box.
4. Place a point to indicate the selected side and—if the fixed box is not checked—distance from the target that the offset is to be placed.

{button ,AL(`Copy',0,`',`')}  See Also:

# Close Contour (CC)

Use the Close Contour command to join the starting and ending points of multisegmented lines or curves, when you want the connection to be trimmed (for straight segment objects) or smooth (for curves). Examples: draw a closed topographic contour line; draw a foundation wall.

**To draw an object with a closed perimeter:**

1. Draw the continuous line, double line, or curve until you are ready to join the beginning and end points.
2. Choose the Close Contour command, or click the right mouse button to bring up the context-sensitive popup menu and select Close Contour.

   Corel Visual CADD closes the beginning and ending points, and either trims or smoothes the joint. The drawing command terminates automatically.

# Erase (ER)

Use the Erase command to delete unwanted objects.

**To erase a selection:**

1. Select the objects to be deleted.
2. Choose the Erase command or press the delete key.
   The items will be deleted.

**Tip**

Like other drawing and editing commands, Erase is reversible. To restore an item or selection that has been erased, click the Undo button in the main speed bar.

# Move (MV)

Use the Move command to change the location of an object or selection, without changing the orientation or size.

**To move a selection:**

1. Select the object(s) you wish to move.
2. Choose the Move command.
3. Place a reference point that will define where the selection will be moved **from**.
4. Place a point to define where the selection will be moved **to**.
   The selection moves to the new location.

# Move Point (MP)

Use the Move Point command to reshape or resize objects by moving definition points. All selected objects with definition points exactly at the specified location are affected by the command.

**To move selected definition points at a specified location:**

1. Select one or more objects that you want to modify.

   Objects not selected, even those with definition points at the specified location, will be ignored.
2. Choose the Move Point command.
3. Use the Nearest Point snap or another snap to precisely locate the point to be moved.
4. Place a reference point that will define where the selection will be moved **from**.

   After the reference point is placed, all selected objects with definition points at the location defined in step 3 will drag with the cursor to provide a dynamic preview of the objects after modification.
5. Click to set the point in the new location.

   The point or points you selected are moved to the new location, and the form or size of the selected object(s) are updated.

# Stretch (SS)

Use the Stretch command to reshape, resize or move objects by moving definition points. All selected objects with definition points captured within a selection window will be affected by the command. This command is similar to the Move Point command, except that the points need not all be at the same location. For example, you can easily change the length of a rectangle by selecting the rectangle, enclosing one side in a selection window, then "stretching" that end to a new location.

**To stretch selected objects:**

1. Select the objects that you want to stretch.
2. Choose the Stretch command.
3. Drag to draw a window that encloses the points to be moved.
4. Click to place a starting reference point.
5. Click to place an ending reference point.

   The captured points and objects will be moved to the new location, and the form or size of the selected objects will be updated accordingly.

# Scale (SZ)

Use the Scale command to expand or compress selected objects in the X or Y directions, relative to a specified point. This command works by changing the horizontal and/or vertical distances between a specified fixed reference point and the definition or handle points of selected objects. If you wish, you can specify separate distance scaling factors for the X and Y directions.

**To rescale a selection:**

1. Select the object(s) you wish to rescale.
2. Choose the Scale command.
3. Place a reference point.
   A speed bar will appear, with current X and Y scale factors displayed.
4. Change the X and Y scale factors as desired.
5. Click OK.
   The selection will be rescaled as specified about the reference point.

**Tip**

Normally, if you rescale objects in the X direction, the rescaling direction will be horizontal; if you rescale objects in the Y direction, the rescaling direction will be vertical. However, the X and Y directions for symbols and text rotate with them. For example, text placed at a rotation of 90 rescales vertically when scaled in the X-direction, because the X-direction for the text has been rotated with the text, and is now vertical.

{button ,KL(`Fit Scale',0,`',`')}  See Also:

# Fit Scale (FT)

Use the Fit Scale command to rescale a selection "by example." Corel Visual CADD rescales the selection so that a reference distance changes to match a target distance. Both distances are defined by placing points.

**To rescale a selection using the Fit Scale command:**

1. Select the objects to be rescaled.
2. Choose the Fit Scale command.
3. Place a point to serve as the first reference point within the selection.
4. Place a point to define the second reference point in the selection.

   The first two points define the distance to be rescaled.
5. Place the first fixed reference point.

   This point is the starting point of the target distance. As you move the cursor away from this point, the selection will expand proportionately.
6. Place the second point to set the target distance.

   The selection will rescale so that the distance between the first two points now matches the distance between the second set of points.

{button ,KL(`Scale',0,`',`')}  See Also:

# Rotate (RO)

Use the Rotate command to rotate a selection around an axis.

**To rotate a selection:**

1. Select the object(s) to be rotated.
2. Choose the Rotate command.
3. Place a point to serve as the center of rotation.

   A speed bar appears with a text block displaying the rotation angle. The selection will rotate as the cursor moves around the axis point.
4. Change the rotation angle to the desired value, then click OK. Alternatively, place a point when the selection is rotated to the correct orientation.

# Align (AG)

Use the Align command to change the orientation of an object or selection to match that of an existing object. You place two points to define the selection angle and two points to define the target angle.

**To realign a selection to match a target angle:**

1. Select the objects to be aligned.
2. Choose the Align command.
3. Place the first point of the selection angle.

   This point will also serve as a reference point for the movement of the selection.
4. Pick the second point of the selection angle.

   Corel Visual CADD calculates the angle of the line defined by these two points. The selection will be rotated so that this angle equals the target angle. The points can be located anywhere on the drawing.
5. Pick the first point of the target angle.

   The selected object moves so that the first point of the reference angle is superimposed on the first point of the target angle. As you move the cursor, the object is rotated around this point.
6. Pick the second point of the target angle.

   While the first point of the target angle is significant because it is also the destination point for movement of the selection, the second point is used only to define the destination angle. When this point is placed the object is fixed in alignment with the target angle in its new location.

# Mirror (MI)

Use the Mirror command to save time in drawing objects with axial symmetry (a wine glass, a boat hull in plan view, and floor plans for some apartment buildings, for example). Simply draw one side of the objects, then make a mirror copy to create the other side.

**To create a mirror image copy of a selection:**

1. Select the objects to be mirrored.
2. Choose the Mirror command.
3. Place the first point of the mirror line.

   This and the next point define the edge view of a "mirror" plane that determines the relationship between the mirror copy and the original. These points can be anywhere on the imaginary mirror line.
4. Pick the ending point of the mirror line.

   The selection will be "mirrored" about the line defined by these two points.

The "mirrored" image will be the same distance away from the mirror line as the original.

{button ,AL(`Copy',0,`',`')}  See Also:

# Explode (EX)

The Explode command is normally used when you want to individually edit an object contained within a compound object. For example, to change the color of a single segment within a continuous line, you must first explode the continuous line.

**To explode a selection:**

1. Select the objects to be exploded.
2. Choose the Explode command.
   Compound objects within the selection will be exploded to the next lower level.

**Tips**

- Continuous lines, rectangles, regular and irregular polygons, continuous bezier curves, symbols, attributes, dimensions, fills, and hatch patterns can be exploded. Single lines, arcs, circles, ellipses, elliptical arcs, single bezier curves, spline curves, and text are basic objects which cannot be reduced further.
- The results of the explode command depend on the entity being exploded. An entity may contain other entities requiring more than one exploding operation to reduce it to its elemental parts. The following list demonstrates the results when the entity is exploded:

  **Continuous lines**, rectangles and regular and irregular polygons become single lines.

  **Continuous bezier curves** become single bezier curves.

  **Symbols** become the collection of objects that were used to create them, including other symbols when appropriate.

  **Attributes** become blocks of text.

  **Dimensions** become lines, fills and text blocks.

  **Hatch patterns** become individual lines.

## Change (CG)

Use this command to make changes to the properties (the line color, layer, etc.) of selected objects.

**To change the properties of a selection:**

1. Select one or more objects to be changed.
2. Choose the Change command.

   A dialog box or speed bar appears, displaying properties that are common to the selected objects. If only one type of object is selected (for example, through use of the selection filter), then all properties of that object type will be displayed.
3. Change the properties that you want, then click OK.

# Break (BR)

Use the Break command when you want to create a gap in an object. For example, you may want to insert an electrical symbol into a wiring diagram, or create an opening in a wall.

**To create a break in an object:**

1. Select the object in which you wish to create the break.
2. Place a point at or near where you want the break to begin.
   This point need not be exactly on the object; the break will start at the point closest to the point you place. A dynamic preview of the break appears, shadowing the cursor movement.
3. Place a point at or near where you want the break to end.

**Tip**

Break is a persistent command and will repeat unless you press Escape or choose another command.

# Extend Single (XT)

Use the Extend Single command when you want an object to be extended so that it terminates exactly on a target object or the extension of the target object.

**To extend an object to a target object:**

1. Choose the Extend Single command.
2. Click the object to be extended.
3. Click the target object.
   The first object will be extended to meet the second.

{button ,AL(`Trim',0,`',`')}  See Also:

# Extend Multiple (XM)

Use the Extend Multiple command to extend a group of lines so that they all terminate on a common target object (or the extension of the target object).

**To extend a group of objects to meet a target object:**

1. Select the lines to be extended.
2. Choose the Extend Multiple command.
3. Click the target object.
   The selected objects will be extended to meet the target object.

{button ,AL(`Trim',0,`',`')} See Also:

# Trim Single (TR)

Use the Trim Single command when you want an object that extends past a target object (or the extension of the target object) to end exactly on that target object or its extension.

**To trim an object to a target object:**

1. Choose the Trim Single command.
2. Click the object to be trimmed.
   The side of the target object that you click will be the side of the trimmed object that will be retained after the trim.
3. Click the target object.
   The first object will be trimmed to the second.

**Tip**

Trim Single is a persistent command and will repeat unless you press Escape or choose another command.

{button ,AL(`Trim',0,`',`')}  See Also:

# Trim Multiple (TM)

Use the Trim Multiple command to trim a group of lines to a common target object (or the extension of the target object) or path.

**To trim an object to a target object:**

1. Select the lines to be trimmed.
2. Choose the Trim Multiple command.
3. Click the target object or path.
   As you move the cursor back and forth across the target object, a dynamic preview displays, showing the objects as they would appear trimmed to that side of the target object.
4. Click the side of the target object to retain.
   The first objects will be trimmed to the second object or path.

{button ,AL(`Trim',0,`',`')}  See Also:

# Trim Intersection (IT)

Use the Trim Intersection command to automatically break or trim two sets of intersecting double lines to create one of three types of junctions. For example, you can use this command to create junctions of double-line walls or pipes.

**To create an "L", "X" or "T"-type junction at the intersection of two sets of double lines:**

1. Choose the Trim Intersection command.
2. Click anywhere inside the quadrilateral formed by the intersection of the two sets of parallel lines.
   As you move the cursor around the intersection, dynamic previews will be displayed of the various "L", "X" or "T"-type junctions that can be created at the intersection.
3. When the type of junction you want appears, click the mouse button.
   The junction will be drawn to match the preview.

{button ,AL(`Trim',0,`',`')}  See Also:

# Fillet (Fl)

Use the Fillet command to create rounded corners or bends.

**To fillet an intersection:**

1. Choose the Fillet command.
2. If necessary, change the fillet settings, press the right mouse button and choose Fillet Radius from the popup menu.

   The Fillet speed bar appears. Make any changes needed. Enter a new radius in the text box. Check the Auto Fillet box if you want all corners of Continuous and Double lines automatically filleted. Check the Preview box to have a dynamic preview of the fillet arc displayed. Click on the OK button when done.
3. Click the first line or arc to be filleted.
4. Click the second line or arc to be filleted.

   A dynamic preview of the fillet arc will display. The different options for the fillet display dynamically as you move the cursor around the intersection.
5. Click when the preview fillet is in the correct location.

   The filleted objects will be trimmed automatically to meet the fillet arc exactly at the point of tangency.

**Tip**

Fillet is a persistent command and will repeat unless you press Escape or choose another command.

# Chamfer (CH)

Use the Chamfer command when an otherwise sharp corner is to be softened with a straight-line bevel (chamfer). The depth and orientation of the chamfer are determined by specifying the distance from the intersection of the first two lines to the endpoints of the chamfer line.

**To chamfer a corner with the current chamfer settings:**

1. Choose the Chamfer command.
2. If necessary, change the chamfer settings, press the right mouse button and choose Chamfer Distance from the popup menu.

   The Chamfer speed bar appears. Make any changes needed. Enter a new distance or distances in the text box. Click on the OK button when done
3. Click the first line to chamfer.
4. Click the second line to chamfer.

# Dimension Edit (DE)

**To edit a dimension:**

1. Select the dimension or dimensions you wish to edit.
2. Click the third mouse button to display a context-sensitive popup menu.
3. Choose Dimension Edit from the popup menu.
4. A tabbed dialog box appears with the following categories:
   Dimension CMD_TabDim
   Dim Text CMD_TabDimText
   Numeric CMD_TabNumeric
5. Change the dimension properties as desired, then click the OK button to accept the changes.

{button ,AL(`dimedit',0,`',`')}  See Also:

# Dimension Text Move

**To move dimension text:**

1. Select the dimension you wish to edit.
2. Choose Dimension Text Move from the popup menu.
   The dimension text will attach to and drag with the cursor, connected to the center of the dimension line with a rubber band line.
3. Place a point to set the dimension text where desired.

{button ,AL(`dimedit',0,`',`')}  See Also:

# Dimension Text Slide

Allows text from a selected dimension to be moved along the axis of the dimension line. Used when dimension text conflicts with extension lines or arrows, or with other objects.

**To slide dimension text along the dimension axis:**

1. Select the dimension you wish to edit.
2. Choose Dimension Text Slide from the popup menu.
   The dimension text will in parallel with the cursor, parallel to the dimension line axis.
3. Place a point to set the dimension text where desired.

{button ,AL(`dimedit',0,`',`')}  See Also:

# Dimension Arc Move

This command allows angular dimension graphics to be moved while maintaining the connection to the dimensioned object. The entire "top" part of the dimension graphic moves with the cursor, while the lower part of the extension line stretches to maintain the connection to the dimensioned object.

**To move an angular dimension:**

1. Select the angular dimension you wish to edit.
2. Choose Dimension Arc Move from the popup menu.

   The angular dimension arc line will attach to and drag with the cursor, while maintaining a concentric relationship with the vertex of the dimensioned angle.
3. Place a point to set the dimension arc line where desired.

{button ,AL(`dimedit',0,`',`')}  See Also:

## Undo Vertex (UV)

This command allows you to sequentially "undo" placement of the line segments placed during the current Continuous Line command. This allows you to correct a misplaced segment without having to erase then redraw the entire continuous line. If desired, Undo Vertex can be repeated over and over again (using the spacebar to repeat the command, or selecting it from the mouse menu each time) until the current continuous line is completely undone.

**To delete the last line segment without aborting the Continuous Line command:**

- While in the Continuous Line command, choose Undo Vertex from the popup menu or press the backspace key.

The last placed-line segment and vertex will be removed, and the rubber band line attached to the previous vertex.

**Tip**

Repeat the Undo Vertex command as often as desired. Line segments will be removed sequentially from last to first.

# Boolean

Use the Boolean command to join two selected overlapping closed objects of any type onto a mixed entity path, enabling you to to preview and choose from three variations. You preview these options by moving your cursor around the selected objects. The variations create an object that results from:

- The union of the selected objects, retaining all outer portions.
- The intersection of the selected objects retaining only those portions that intersect.
- The subtraction of one object from the other, retaining portions that lie outside the limits of the other.

**To create a new object from existing entities:**

1. Select two overlapping closed objects.
   The objects must both be closed for a successful boolean.
2. Click the Boolean tool.
3. Move your cursor around the objects for a preview of Boolean options, then click when you see the option you want.

**Tip**

Use Select Adjoining to help select closed paths or objects.

# Place Symbol (YP)

You use the Place Symbol command to place a symbol in your drawing. A speed bar allows you to select and preview a symbol, and adjust its rotation angle and scale. Before you can place a symbol, however, you must create it within the drawing or load it into memory with the Load Symbol command.

**To place a symbol:**

1. Choose the Place Symbol command.
2. Select the symbol you want to place from the speedbar.

   When you click a symbol name, a preview of the symbol appears to the right of the symbol list box. In addition, the current settings for the symbol appear.
3. If necessary, change the rotation angle or scale values.

   You can enter a value into the rotation angle text box, or click "+90" to add 90 to the current rotation angle value. Likewise, you can enter a value for the X or Y scale values, or click "-X" or "-Y" to immediately change the value's sign.
4. Position the pointer and click to place the symbol.

   As you move the cursor back into the drawing area, the symbol appears at the current scale and rotation, and will drag with the cursor. Before you place the symbol, you can move the cursor back into the speed bar to change the symbol scale or rotation, or to change the symbol itself.

**Tips**

- You can also use the Symbol Manager to select and place symbols, and to change symbol settings. For more information, see Symbol Manager.
- To enable Use Placement Colors when placing symbols, check off "Use Placement Colors" in the General Tab.
- If the symbol does not appear in the symbol list box, it has not been loaded into the drawing. You can load symbols using the Load Symbol command or create and load symbols using the Create Symbol command. Only loaded symbols appear in the symbol list.

# CREATE SYMBOL (YC)

You use the Create Symbol command to create a symbol made up of existing objects, which may then be placed repeatedly in the drawing (rotated and rescaled as desired) or saved to disk for future use.

**To create a symbol:**

1. Select the objects which make up the symbol.
2. Choose the Create Symbol command.
3. Type the name of the symbol in the Symbol text box.

   Next to the Symbol text box is the "Replace Selection" check box. If you check this box, the selected objects in your drawing are replaced by the symbol. If unchecked, the objects remain separate and the symbol is loaded into memory but not placed in the drawing.
4. Place a handle point for the symbol.

   The handle point determines the relationship between the symbol and the cursor when you drag and place it. The symbol rotates and rescales relative to this point.

   After you name the symbol, you can replace the selected objects with the new symbol. You can then place the location for the handle point.

**Tips**

- Symbols that you create in one drawing do not automatically become available to other drawings unless you save them to disk with the Save Symbol command.
- During the Place Symbol command, you can temporarily move the handle point of a symbol to make symbol placement more convenient using the New Handle command. However, the original handle point is always used to define the symbol location for selection and editing operations.

# SYMBOL MANAGER (MGY)

Use the Symbol Manager command to display a dialog box where you can quickly select and place symbols. This movable dialog box includes most of the symbol placement tools that are available in the Place Symbol speed bar. You can leave the Symbol Manager dialog box open while you perform other drawing or editing tasks (including operations that display their own speed bars), and when you need to place symbols, you can do so without using the Place Symbol command.

**To use the Symbol Manager:**

1. Choose the Symbol Manager command.
2. Click the symbol name that you want to place or preview, and adjust the symbol settings in the Symbol Manager dialog.
3. Position the pointer and click to place the symbol.

As you move the cursor back into the drawing area, the symbol appears at the current scale and rotation, and follows the cursor. Before you place the symbol, you can change the symbol scale or rotation.

The Symbol Manager dialog box remains open, ready for you to select and place another symbol.

The scale values, **X** and **Y**, set the size of the symbol when you place it.. A value of 1.0 is equivalent to full size or 100%.

**Rotate value** sets the symbols angle of rotation. Enter a value in the text box, or click buttons to add 45° or 90° to the current angle, or reset the angle to 0°. Positive values rotate symbols counterclockwise. Negative values rotate symbols clockwise.

**Preview box** shows a preview of the selected symbol.

**Auto explode** explodes symbols into their basic components upon placement.

The **match entity** button sets the angle and properties if the selected symbol to match those of the next object you click on in your drawing.

**Load** loads the Symbol dialog box.

**Close** closes the Symbol Manager.

**Use Placement Color** will toggle symbols color being either the current Layer Property color or the color that they were originally created in.

**Expand** sets Symbol Manager to display only the list of symbols.

**Tips**

- You can right click the mouse button when using the symbol manager and select from the list of available options.
- After you place a symbol, you can still change if it is to adhere to the Use Placement Color scheme or not. Select the symbols that you want to modify with the various select tools and then right click the mouse button. You can now toggle if the selected symbols are to adhere to Use Placement Color scheme.

# EXPLODE SYMBOL (YX)

You use the Explode Symbol to explode already placed symbols. Doing this gives you greater freedom to change object attributes, since you have a limited ability to modify a symbol. Symbols can be scaled or rotated, for instance, but you cannot change properties like line color, width and type, nor can you make design changes within symbols.

**To place symbols in exploded form:**

1. Select symbol(s).
2. Choose the Symbol Explode command.

The symbols are exploded into the entities used in their creation.

# NEW HANDLE (NH)

You use the New Handle command to temporarily use a different handle point to place the symbol. Corel Visual CADD uses the handle as a reference point when it places or rotates a symbol. By temporarily using a different handle, you can position symbols more precisely. For example, if a rectangular symbol's handle is at its center, but you want to place the symbol tight into a corner, you can change the handle position to a corner of the symbol, and then snap to the destination corner to place the symbol. The next time you place the symbol, its handle returns to its original position.

**To change handles during symbol placement:**

1. Using the Place Symbol command or the Symbol Manager, select a symbol to place.
2. Choose the New Handle command.
3. Click to temporarily place the symbol in a blank area of the drawing.

   This frees the cursor to move to a different spot on the symbol. Now, you'll need to tell Corel Visual CADD where to place the new handle. You can use Snap commands or tracking to locate the new handle point, if you want.
4. Click to set the location of the new handle.

   When you move the cursor now, the symbol follows, but is attached at the new handle. Now you can place the symbol, using tracking or Snap commands, if you want.
5. Click to place the symbol using the new handle point.

# SYMBOL REPLACE (YR)

You use the Symbol Replace command to substitute some or all placements of one symbol with a different symbol. For example, you could use this command to change the type of fixture placed throughout a drawing, without having to manually erase the "old" symbols and then place the new ones.

**To replace selected symbols in the drawing:**

1. If you want to replace only selected symbols, select the symbols on the drawing to be replaced.
   If you do not select a symbol, using this command replaces all occurrences of the old symbol with the new symbol.
2. Choose the Symbol Replace command.
   The symbol ribbon appears, with two pull-down lists. The lists contain all currently-loaded symbols.
3. In the Replacing pull-down list on the speed bar, choose the symbol you want to replace.
4. In the With pull-down list on the speed bar, choose the new symbol.
5. Click OK.
   The selected symbols are replaced with the new symbol. If you did not select any symbols before choosing the Symbol Replace command, all occurrences of the old symbol are replaced by the new.

# SYMBOL REMOVE (YV)

You use the Symbol Remove command to delete all symbol placements, without replacing them with new symbols. This command also "unloads" the symbol.

**To remove a symbol from the drawing:**

1. Choose the Symbol Remove command.
   A symbols list appears, listing all loaded symbols.
2. Click the symbol you want to remove.
3. Accept the confirmation that you want to remove the symbol, then click OK.
   The chosen symbol is removed from the drawing.

# LOAD SYMBOL (YO)

You use the Load Symbol command to add symbol definitions to the drawing database, so that you can use the symbols. Symbols are not actually placed until you use the Symbol Manager or the Place Symbol command.

**To load a symbol into the drawing:**

1. Choose the Load Symbol command.

   A list of available symbols appears. If necessary, select a different symbol file extension, disk drive or path to find the symbol(s) you want to load.
2. Locate and click the symbols you want to load.
3. Click OK.

**Tip**

You can select multiple symbol files using the Shift and Control keys to add and subtract from the list using normal Windows conventions.

# SAVE SYMBOL (YS)

You use the Save Symbol command to save symbols to disk, so that they can be used in other drawings. Symbols that you have created and saved with a drawing cannot be loaded into other drawings until you save the symbol to a VCS file on disk.

**To save a symbol to disk:**

1. Choose the Save Symbol command.
2. Locate and select the symbol(s) you want to save.
   If necessary, change the drive and/or path where you want the symbol to be stored.
3. Click OK to save the symbols.

**Tip**

If you use the Merge command to add an existing drawing to the current drawing, the symbols saved with the second drawing are added to the merged drawing file.

# Symbol Count

Symbol Count exports the name and count of each symbol present in the current drawing to .WK1 or .CSV (comma delimited format).

**To export a Symbol Count into Spreadsheet format:**

1. Open or create a drawing containing symbols. (If the drawing does not contain symbols, you will get an error message.)
2. Choose Symbol Count from the Symbols menu.
3. Choose the file type to which you wish to export. Name the file and change the path if necessary.
4. Click OK when done.

Corel Visual CADD will write the file to disk to the path and filename you chose. This file may now be opened in any number of spreadsheet or other programs and manipulated. The file is exported in the following visual format:

| SYMBOL NAME: | COUNT: |
|---|---|
| AN-RANGE | 1 |
| AN-REFRG | 1 |
| BUNK | 2 |
| CHAIR | 8 |
| DRESSER | 2 |
| END-TABLE | 4 |

# ATTACH ATTRIBUTE (TA)

You use the Attach Attribute command to attach an attribute to a symbol before you place it. Attributes are non-graphic data that can include information such as a model number, price, color, or any other textual information that you would like to associate with a symbol. The information can be displayed or hidden in the drawing, and it can be extracted and processed by other programs to create, for example, cost summaries, bills of materials, schedules.

**To attach an attribute to a symbol:**

1. Select the symbol to which you want to attach the attribute.
2. Choose the Attach Attribute command.
3. Select the attribute that you want to attach.

**Tips**

- Like a symbol, an attribute must either be created within the current drawing, or imported with the Attribute Load command before it can be attached to a symbol.
- Each attribute can contain up to 128 named data "fields" (also called "labels"), each of which can contain up to 80 text characters. Data values for each field may contain up to 80 text characters.
- Attributes can be named and saved. You can attach them to symbols after the symbol is placed (using the attach command) or use the embed attribute command to have attributes always attach to a specific symbol.

# CREATE ATTRIBUTE (TC)

Use the Create Attribute command to create an attribute. Attributes are non-graphic data that can be "attached" to a symbol, and can include information such as a model number, price, or color.

**To create an attribute:**

1. Choose the Create Attribute command.
2. In the Name text box, type a name for the attribute.
3. If necessary, change the default separator.
   The separator appears between the attribute field name and the default field value.
4. Type the name or label assigned to the field in the Field text box.
   For example, you can add labels such as "Part No.," "Model," "Color," "Price," and so on.
5 . Type the most likely value to be assigned to the field in the Default Value text box.
   You can edit this value only after you place the symbol.
6. Click Add to add the Field and Default Value entries to the attribute.
   If you want, continue adding fields and default values to the attribute.
7. Repeat steps 4 - 6 to add each field and default value.
   The values you've entered appear in the display box below the Add and Delete buttons. You can select a field and default value pair from this box and edit or delete it.
   If you want to delete a field and default value, select the field and click Delete.
8. When you have finished adding attribute fields and default values, click OK.
   The attribute is added to the drawing database.

**Tip**

The attribute name can be up to eight characters long.

# ATTRIBUTE EMBED (TD)

Use this command to cause Corel Visual CADD to automatically attach an attribute to a symbol as the symbol is placed in the drawing. Any number of attributes can be embedded in the symbol. Using the normal commands for attribute management, you may specify that the attribute information be displayed or hidden. You may also specify whether default field values for the attribute should be accepted automatically, or if you should be prompted to edit the values as each symbol is placed.

**To embed an attribute in a symbol:**

1. Make sure that you have placed a symbol of the type in which you want to embed the attribute, and that you have created or loaded the attribute you wish to embed (See Attribute Create and Attribute Load).
2. Select a sample of the symbol into which you wish to embed an attribute.
3. Choose the Attribute Embed command.

   A dialog box will appear with options for selecting the "host" symbol, the attribute to be embedded, and options for placement.
4. Check the Symbol Definition box to verify that the correct "host" symbol is selected. If necessary, change the name to the correct symbol. Of course, the symbol must be loaded and placed in the drawing.
5. Choose the attribute you wish to embed from the Attributes box.

   The list of field names and default values for the chosen attribute will appear in the Default Value list box.

   Click on any field whose default value you wish to change in embedded instances of the attribute (this does not change default values in the attribute definition itself unless you click on the Update button).

   The field value will appear in the text box located above the Default Value list box.

   Edit the field value as desired. The edited value will be accepted if you click on another field to edit, or if you click the OK button to accept your changes.

   If you want to be able to edit the attribute information prior to each placement of the host symbol, check the Prompt Values box. If this box is not checked, Corel Visual CADD will place the attribute with the default values whenever you place the host symbol.

   If you want to manually place the attribute each time you place the host symbol, then check the Prompt Insertion Point box. This option is recommended when automatically-placed attribute information could get in the way of other drawing objects.
6. When all information is correct, click the OK button.
7. Drag the attribute text into place and click the pointer button.

**Tip**

An embedded attribute creates a permanent link in the symbol definition. You cannot "un-embed" an attribute, although, of course you can use the Symbol Replace command to replace the symbol with one with a different attribute, or no attribute at all.

# LOAD ATTRIBUTE (TO)

You use the Load Attribute command to load attributes so that you can use them in the current drawing.

**To load an attribute:**

1. Choose the Load Attribute command.
2. Choose the attribute files you want to load.
3. Click OK to load the selected attribute files.

# SAVE ATTRIBUTE (TS)

You use the Save Attribute command to save an attribute to a disk so that you can use the same attribute in other drawings.

**To save an attribute to disk:**

1. Choose the Save Attribute command.
2. Select the attributes you want to save.
   If necessary, change the drive and/or path where you want the attribute to be stored.
3. Click OK to save the attributes.

# ATTRIBUTE EDIT

**To edit a value in an attribute:**

1. Select the attribute whose values are to be edited. Note that you can click on the attribute itself or the "parent" symbol with which it is associated, and that both the symbol and attribute will be selected.
2. Right Click and choose the Attribute Edit command.
3. Click on the value you wish to edit.
4. Edit the value in the text edit box labeled "Value."
5. Click the Update button to accept the changed value.
   The change will be reflected in the list box.
6. Repeat steps 3-5 until all values are correct.
7. When all selected attributes are as desired, click the OK button to accept the changes.

**Tip**

Also, you can edit a hidden attribute by selecting its parent symbol, then issuing the Attribute Edit command. All attached attributes will be listed, even if hidden.

# ATTRIBUTE MOVE

**To move an attribute:**

1. Select the attribute you wish to move.
2. Click the right mouse button and choose the Attribute Move command.
3. Click on the attribute you wish to move.
   You can now drag the attribute by its handle.
4. Place a point to set the attribute at the desired location.

**Symbol File Extension**

Corel Visual CADD can read both it's native symbol format, .VCS, and symbols (components) created in Generic CADD, .CMP.

**Shift & Control Keys**

In Windows common dialog boxes, such as File Open and Save, the Shift key allows you to select a range of files by holding it down and selecting the first and last file in the range.  Holding the Control key allows individual multiple selection.

# Tile Vertical

You use the Tile Vertical command to see open Corel Visual CADD drawing files with the screen initially split into equal vertical windows. (You can readjust the size and shape of the windows using normal Windows procedures.)

Each drawing is displayed in its new window in the same view that was in effect the last time the drawing was active.

**To display all open drawings in a vertical format:**

- Choose the Tile Vertical command.

The drawing area will be split into equal vertical windows, one for each open drawing. You can resize the windows by dragging the window edges or corners with the pointer, or move the windows by dragging the title bars, according to standard Windows conventions.

{button ,AL(`Windows',0,`',`')}  See Also

# Tile Horizontal

You use the Tile Horizontal command to see all open Corel Visual CADD drawing files with the screen initially split into equal horizontal windows. You can resize the windows by dragging the window edges or corners with the pointer, or move the windows by dragging the title bars, according to standard Windows conventions. The active window—the window that is set to accept Corel Visual CADD commands—is indicated with highlighted borders and title bar.

Each drawing appears in its window in the same view that was in effect the last time the drawing was active.

**To display all open drawings in a horizontal format:**

- Choose the Tile Horizontal command.

The drawing area will be split into equal horizontal windows, one for each open drawing. You can resize the windows by dragging the window edges or corners with the pointer, or move the windows by dragging the title bars, according to standard Windows conventions.

{button ,AL(`Windows',0,`',`')} See Also

# CASCADE

You use the Cascade command when you want quick access to all open Corel Visual CADD drawing files, but you want the active drawing to take up most of the display area. You can resize the windows by dragging the window edges or corners with the pointer, or move the windows by dragging the title bars, according to standard Windows conventions. The active window—the window that is set to accept Corel Visual CADD commands—is indicated with highlighted borders and title bar.

Each drawing is displayed in its new window in the same view that was in effect the last time the drawing was active.

**To display all open drawings in a vertical format:**

- Choose the Cascade command.

Click on any visible part of a window to make that window active, and to bring it to the top of the stack.

Each drawing is displayed in its new window in the same view that was in effect the last time the drawing was active.

{button ,AL(`Windows',0,`',`')}  See Also

# Redraw (RD)

Use the Redraw command to refresh the screen. When you move or erase an object, its old location is redrawn with the background color. This effect tends to break up or obscure remaining objects that it overlapped or intersected. You can use the Redraw command to clean up the screen after this happens. This command is especially useful when editing lines drawn on top of each other or objects that overlap.

The objects are redrawn in the order you drew or edited them.

**To redraw the display:**

- Choose the Redraw command.

The screen is immediately redrawn. Press any key during redrawing to terminate the process.

**Tip**

To redraw only a portion of the screen, use Window Redraw. This can save considerable redraw time, since only the windowed area will be redrawn.

## Redraw Window (RW)

You use the Redraw Window command to redraw a portion of the screen. As your drawing increases in size, the time required to redraw the full screen becomes significant. Redraw Window saves a great deal of time by redrawing only the portion of the drawing enclosed by the window.

**To Redraw a portion of the display:**

1. Choose the Redraw Window command.
2. Click to place a window around the area you want to redraw.
   The enclosed area is immediately redrawn.

# Backwards Redraw (BA)

Backward Redraw allows you to reverse the order in which objects are redrawn when you issue a Redraw command, or any command that causes the screen to redraw. Visual CADD's default is to redraw the entities on screen in the order they were drawn. Turning Backwards Redraw on reverses this order, so that the redraw starts with the **last** entity drawn and proceeds back to the **first**. This is useful during editing, when all you want to see are the last few entities drawn, or when you want to see an entity that is "underneath" a previously drawn entity.

**Tip**

While Backwards Redraw is on, selection of entities also happens in reverse order. In other words when Visual CADD searches the drawing database for an entity within the set tolerance from the point clicked, it will find the first one from the bottom of the database. Normally the first thing drawn would be found, but with backwards redraw the last thing drawn, meeting the selection criteria, would be selected.

# Zoom All (ZA)

Use the Zoom All command to see the entire drawing. This helps you get an overview of what you have drawn, and also helps you find "spurious" objects far from the main drawing area that may have been created inadvertently. These objects can cause problems when you load a drawing or try to plot or print using the "Fit to Page" option.

Only currently visible layers are displayed and used to calculate the appropriate zoom factor.

**To Zoom All:**

- Choose the Zoom All command.

The screen is redrawn at the highest zoom value that will entirely show all displayed objects.

{button ,AL(`Zooms',0,`',`')} Other types of zooms

# Zoom Window (ZW)

You use the Zoom Window command to zoom only a portion of the screen. Visual CADD will take your selection window and enlarge it uniformly until the width or height meets the limits of the screen. If the zoom window is very small, the magnification will be great. If the zoom window is large, the magnification will be less significant. In the case of a rectangular window where the width or height is very large relative to the other, the magnification will be limited by the larger dimension.

**To zoom in to a windowed area:**

1. Choose the Zoom Window command.
2. Place a window around the area to be enlarged.

   The area enclosed by the windowed is enlarged to fill the screen.

   {button ,AL(`Zooms',0,`',`')}  Other types of zooms

# Zoom In (ZI)

You use the Zoom In command to quickly magnify the current screen image. The zoom factor (relative to the current zoom value) is set on the System tab of the Settings menu (Utilities menu), and you can save an additional step if you specify that Visual CADD not prompt you to pick the center of the new view (although this option will reduce your ability to compose the new view).

**To zoom in on an image:**

1. Choose the Zoom In command.

   The settings for this command are found on the System tab of the Settings dialog box accessed through the Utilities menu. The default settings are for a zoom factor of "2" and "don't ask" for screen center.

   If the "Ask for Screen Center" box is unchecked, the screen redraws immediately at the new zoom value, using the same center of view as the previous view.
2. If the "Ask for Screen Center" checkbox is checked, pick a point at the desired center of the new view.

   The drawing is redrawn at the new magnification.

   {button ,AL(`Zooms',0,`',`')} <u>Other types of zooms</u>

# Zoom Out (ZO)

You use the Zoom Out command to quickly reduce the magnification of the current screen image with a minimum number of steps. The zoom factor (relative to the current zoom value) is pre-configured, and you can save an additional step if you specify that Visual CADD not prompt you to pick the center of the new view (although this option will reduce you ability to compose the new view).

**To zoom out on an image:**

1. Choose the Zoom Out command.

   These settings for this command are found on the System tab of the Settings dialog box accessed through the Utilities menu. The default setting for the zoom out factor is 1/2 (the reciprocal the Zoom in factor) and the "Ask for Screen Center" box is unchecked.

   If the "Ask for Screen Center" box is unchecked, the screen will redraw immediately at the new zoom value, using the same center of view as the previous view.
2. If the "Ask for Screen Center" checkbox is checked, pick a point at the desired center of the new view.

   The drawing will be redrawn at the new magnification.

   {button ,AL(`Zooms',0,`',`')} <u>Other types of zooms</u>

# Pan (PA)

You use the Pan command to pan across your drawing without changing the magnification.

**To use the Pan command:**

1. Choose the Pan command.
2. Place a point where you want the new view to be centered.
   The screen view is shifted to center about this point.
   {button ,AL(`Zooms',0,`',`')}  Other types of zooms

# Zoom Selected (ZS)

You use the Zoom Selected command to increase the magnification by a factor determined by the selected objects. Only the selected objects are used to determine the appropriate zoom factor and view. Unselected objects may be outside the screen boundaries, even though they are on visible layers. Zoom Selected can also be used to verify what you have selected, since it will fully display all selected objects.

**To zoom to view all selected objects:**

1. Select the objects you want to zoom in on.
2. Choose the Zoom Selected command.

   The view will change so that the selected objects just fill the screen.

   {button ,AL(`Zooms',0,`',`')}  Other types of zooms

# Zoom Previous (ZP)

You use the Zoom Previous command to quickly revert to a previous view. This command is especially useful during drawing or editing operations where selecting a point or object accurately requires that you zoom in close for detail work. When finished with the detail work, use Zoom Previous to return to the prior view to continue drawing or editing. Choose the command again to toggle back to the same enlarged view for accurate point or object selection.

**To return to the previous view:**

- Choose the Zoom Previous command.

The previous view is displayed.

**Tip**

Zoom Previous is not limited to viewing the previous magnification. You could return to the previous view that was created with the Pan command or the Zoom to Named View command.

{button ,AL(`Zooms',0,`',`')} Other types of zooms

# Zoom Value (ZU)

You use the Zoom Value command when you want to view the drawing on the screen at "actual" size or at a desired ratio of screen size to actual size.

**To change the zoom view to specified value:**

1. Choose the Zoom Value command.
2. Enter the new zoom value or factor.

   The magnification that you specify in the Zoom Value command is an *absolute* magnification. If you specify a value of 2, for example, the objects you see on the screen will be displayed at approximately twice their actual size.

   By contrast, when you execute the Zoom In command, the Zoom In factor is multiplied by the current magnification to calculate the new magnification (zoom value). Thus, if your current zoom value or magnification is 3, and the Zoom In factor (set in the System tab in the Settings dialog box) is set to 2, then executing the Zoom In command will result in a new display magnification of 6.
3. Place a point to be the new center of the screen.

   The view is magnified or reduced to the new zoom value and centered about the point selected.

**Tip**

Due to differences in screen sizes, the magnification produced by the Zoom Value command is approximate.

{button ,AL(`Zooms',0,`',`')}  Other types of zooms

# Zoom View (ZV)

You use the Zoom View command to view named views. Named views, defined with the Name View command, are especially useful whenever a particular screen view needs to be accessed repeatedly for drawing or editing operations.

**To display a previously named view:**

1. Choose the Zoom View command.
   A list of available views will appear.
2. Pick a named view from the list.
3. Click OK.
   The named view appears.
   {button ,AL(`Zooms',0,`',`')} Other types of zooms

# Name View (NV)

You use the Name View command to assign a name to a view that you want to redisplay.

**To name a screen view:**

1. Zoom or pan to the screen view that you want to name.
2. Choose the Name View command.
   The Name View toolbar appears.
3. Enter the name to be assigned to this view in the text box and click OK.

{button ,AL(`Zooms',0,`',`')}  Other types of zooms

# New View (VW)

Use New View to open another view of your current drawing. You can use multiple view to view two or more areas of your drawing simultaneously.

**To open a new window displaying the active drawing:**

Click the Zooms menu, Multiple Views, New View.

**Tips**

- Use Tile Horizontal or Tile Vertical from the Windows menu to arrange the views of your drawing.
- Use SHIFT-REDRAW to quickly redraw all views.
- Organization of views will save with the drawing.

{button ,AL(`Views',0,`',`')} Other types of views

# Zoom All Views

Zoom All Views performs a Zoom All to all views of the current drawing.

**To Zoom All Views of the current drawing:**

Click Zooms menu, Multiple Views, Zoom All View.

**Tips**

- Use SHIFT-Zoom All as a keyboard short cut for Zoom All Views.
- Use Tile Horizontal or Tile Vertical from the Windows menu to arrange the views of your drawing.
- Use SHIFT-REDRAW to quickly redraw all views.
- Organization of views will save with the drawing

{button ,AL(`Views',0,`',`')} Other types of views

# Redraw All Views

Use Redraw All Views to refresh each open view of a the current drawing.

**To Redraw All Views of the current drawing:**

- Click the Zooms menu, Multiple Views, Redraw All Views or hold SHIFT and perform a redraw from the 2 letter command (RD) or tool button.

{button ,AL(`Views',0,`',`')} Other types of views

# Close All Views

Use Close All Views to close all open views of the current drawing that have been created with the New View command.

**To Close All Views of the current drawing:**

Click the Zooms menu, Multiple Views, Close All Views.

**Tips**

- Use SHIFT-Zoom All as a keyboard short cut for Zoom All Views.
- Use Tile Horizontal or Tile Vertical from the Windows menu to arrange the views of your drawing.
- Use SHIFT-REDRAW to quickly redraw all views.
- Organization of views will save with the drawing.

{button ,AL(`Views',0,`',`')}  Other types of views

# Bird's Eye View (ZB)

Use the Bird’s Eye View to open a small window displaying a thumbnail of your drawing. Using the Bird’s Eye View window to zoom and pan can greatly speed up viewing a large drawing by eliminating unnecessary redraws.

**To use Bird’s Eye View:**

1. Click Bird’s Eye from the Zooms menu.
2. Click in the Bird’s  Eye window to center the view around that point or right click for zoom options.

{button ,AL(`Views',0,`',`')}  Other types of views

# Customizing Corel Visual CADD

# CUSTOMIZING HATCH PATTERNS

With Corel Visual CADD, you can rename or modify hatch patterns, or even create your own. All the hatch pattern definitions are contained in a text file called HATCHES.HAT. You can easily edit this file in the Windows Notepad program, the DOS Edit program, or any word processor (in text mode).

A Corel Visual CADD hatch definition consists of a family of dashed or solid lines, each at a user-defined angle. These lines are copied and extended (and the dashed pattern repeated as necessary) to fill the hatched area.

The angle, line pattern and spacing of each of these dashed or solid lines are specified in a single line of text. The hatch definitions are in the following format (the hatch definitions define the hatch pattern as it would appear if drawn at a hatch scale factor of 1 and hatch rotation of 0):

HatchName, [VERBATIM,] Comment
StartX,StartY,Angle,OffsetX,OffsetY, Dash1Length,Space1Length, Dash2Length,Space2Length,...
(parameters for second line)
(parameters for third line)
...
(parameters for last line)

Note that the hatch name and comment line precedes the actual hatch line definitions, which are enclosed within the set of square brackets. There is no limit to the number of lines that can be included in a hatch definition, although more lines means slower hatching times.

The hatch definition parameters are defined as follows:

**HatchName**

Name of hatch pattern. Up to 32 characters are allowed. Spaces are not permitted.

**Verbatim**

While hatch names are typically used to represent patterns of no real world size or scale, often they are used to represent real world items such as bricks, tiles, or rocks. Corel Visual CADD typically "normalizes" any hatch pattern unless the Verbatim option is used in the definition. Normalizing a hatch involves reducing all numbers in the hatch definition to numbers less than 1. In the case of an 8" brick however, this is not necessarily a good thing, so the Verbatim option is supplied to instruct Corel Visual CADD to use the hatch definition as is, i.e. to not normalize it. The syntax is simply a comma and space followed by the word "VERBATIM" (without the quotes) on the comment line. It can appear before or after an valid comment but must include the comma and space before the word VERBATIM and must appear in all caps.

**Comment**

Optional comment text. If used, separate from hatch name with a comma.

**StartX**

X coordinate (in "real world" inches) of the start of the line relative to the "origin" of the hatch pattern.

**StartY**

Y coordinate (in "real world" inches) of the start of the line relative to the "origin" of the hatch pattern.

**Angle**

Angle of the line (0 is at the "3 o’clock" position, and positive is counterclockwise).

**OffsetX**

The X component (in "real world" inches) of the offset between copies of the line**, in the frame of reference of the line.** If the line is rotated 90 (to vertical), for example, then the X offset of the line is equivalent to the Y offset in the "absolute" reference frame of the overall hatch pattern.

**OffsetY**

The Y component (in "real world" inches) of the offset between copies of the line**, in the frame of reference of the line.** If the line is rotated 90 (to vertical), for example, then the Y offset of the line is equivalent to the X offset in the "absolute" reference frame of the overall hatch pattern.

**DashLength**

The length (in "real world" inches) of a solid line segment making up part of the line pattern. A dash is indicated as a positive length. The total number of dashes and spaces cannot exceed 16. You can start the line pattern with a dash or space. Note: if this hatch line is a solid, continuous line, skip this and all subsequent parameters on this line.

**SpaceLength**

The distance (in "real world" inches) between the end of one dash segment and the beginning of the next. The length of a space segment is preceded by a minus character ("-") to distinguish it from a solid segment (note: this does not mean that the length is "negative" or reversed in direction). The total number of dashes and spaces cannot exceed 16.

**Example:**

This following hatch pattern for standard brick in running bond pattern is defined by just two lines:

**StdBrickRun, Verbatim, Standard brick (running bond, 8" long, 2-2/3" high)**
**0,0, 0, 0,2.666667**
**0,0, 90, 2.666667,4, 2.666667,-2.666667**

The first line is the continuous, solid horizontal line that represents the top and bottom of the bricks. It starts at the origin of the hatch pattern (thus the first two 0's) and is horizontal (angle = 0). This line is repeated vertically every 2-2/3" (hence the 0,2.666666667 offset). Because the line is solid, there are no parameters for dash and space segment lengths.

The second line represents the vertical faces of the bricks. This line is dashed (with equal solid and space segments), starts at the origin (thus the first two 0's) and is vertical (angle = 90). The line is copied horizontally every 8" (hence the 8,0 offset). The line pattern is defined by a solid segment 2-2/3" long (hence the first 2.666666667), and a "blank" or space segment also 2-2/3" inch long (hence the final 2.666666667).

# CUSTOMIZING LINETYPES

You can rename or modify the line types that come with Corel Visual CADD, or create your own. All line type definitions are contained in a text file called LINETYPE.LNT. You can easily edit this file in the Windows Notepad program, the DOS Edit program, or any word processor (in text mode).

The line type definitions do not have to appear in order in the LINETYPE.LNT file, as the index number specifies which line type number to use when loaded into Corel Visual CADD. Each line type is defined in a single line of text with the following format:

LineName,Index,Reference,Dash1Length,Space1Length, Dash2Length,Space2 Length...

**LineName**

Name of pattern to be displayed in Line Type list boxes. Up to 32 characters are allowed. Spaces are not permitted in the name. The name must be unique. If a name is used multiple times, the index and definition associated with the last appearance of the name will be used.

**Index**

Line Type number (0-511). While line names are optional, all line types must have a unique number.

**Reference**

Reference frame for measuring the lengths of the solid and blank segments that make up a custom line type. Specify **W** for the "world" reference frame, or **D** for the "device" reference frame. If the **W**orld option is chosen, then the segment lengths are measured in the same reference frame as the drawing objects themselves. Thus the apparent "size" of a world-reference pattern will change when you zoom in or out on-screen, or when you plot or print at different scales. If the **D**evice option is chosen, then the segment lengths are measured in the reference frame of the computer screen, printer, or plotter. The apparent "size" of a device-reference pattern will remain constant on-screen and on paper regardless of the zoom factor or print scale.

During different views or when lines are drawn at specific lengths, the ends of line segments may not fall on a solid segment of a line definition. Because of this there is a provision built into Corel Visual CADD that allows the explicit line type definition to be overridden, in these cases. By using the **+U** or **U**nbalanced option, Corel Visual CADD will always "cap" the ends of lines with a solid segment regardless of the line definition and where the end of the line falls within that definition. The **U**nbalanced option can and must be used with either the **W**orld or **D**evice reference. See the example below.

**DashLength**

The length in inches of a solid line segment making up part of the pattern. The length is measured in "real world" inches if the World reference is specified, and on-screen or printed inches if the Device reference is specified (see Reference, above). A dash is indicated as a positive length. To include a dot as part of the pattern, specify a length of 0. The total number of dashes, dots and spaces cannot exceed 16. You can start any line type with a dash, dot or space, and the pattern will begin at the starting point of any line you draw with that line type.

**SpaceLength**

The distance between the end of one dash segment or dot and the beginning of the next. The length is measured in "real world" inches if the World reference is specified, and on-screen or printed inches if the Device reference is specified (see Reference, above). The length of a space segment is preceded by a minus character ("-") to distinguish it from a solid segment (note: this does not mean that the length is "negative" or reversed in direction). To include a dot as part of the pattern, specify a length of 0. The total number of dashes, dots and spaces cannot exceed 16. You can start any line type with a dash, dot or space, and the pattern will begin at the starting point of any line you draw with that line type.

**Example:**

The following line type is for a property line:

The line type definition is as follows: PROPLIN,11,D+U,2,-.06, .03,-.06,.03,-.06

We have assigned line type 11 to this pattern, and named it PROPLIN (this line type is commonly used to indicate property lines). The pattern starts with a 2" long solid segment followed by a .06"-long blank space, then a .03"-long solid segment, then another .06"-long blank space, then a .03"-long solid segment, then another .06"-long blank space. The "D+U" (which can be upper or lower case) indicates that this is a "device reference" line type, which means that it will always appear the same size on screen and on paper and instructs Corel Visual CADD to always end lines with solid segments.

# CREATING COMMAND ALIASES

The icons, speed bars, pull-down and popup menu provide an interface that makes it easy to learn and use Corel Visual CADD. However, many users prefer the productivity gains that can be accomplished by accessing commands directly with two or three-letter keyboard commands. Corel Visual CADD not only allows most commands and functions to be accessed through two or three-letter keyboard entry, but also allows you to invent your own two or three-letter "aliases" for the commands! These aliases may be used directly by keyboard entry, or in scripts (see Assign Script command).

When you load Corel Visual CADD, a text file called ALIAS.CMD is read into memory. This file includes a list of all Corel Visual CADD "native" command names, each next to its 2 letter command (if any). When you type a 2 letter command, Corel Visual CADD checks the list of aliases for a match. If it finds one, then it executes the native command associated with that alias. If there is no alias or native command name matching what you type, Corel Visual CADD ignores the input.

Native command names are longer than the alternative two or three-letter alias commands (note: the Enter key is not required to end either alias or native commands), so alias commands names are preferable for efficient keyboard entry. However, because native commands are "hard coded" into Corel Visual CADD, they are preferable for use in scripts that will be distributed to other Corel Visual CADD users who may not be using the same alias names.

To customize the alias command names, load ALIAS.CMD into a text editor such as the Windows Notepad program, the DOS Edit program, or any word processor (using text mode). Note that each line in the file starts with the currently assigned alias name, followed by a comma, then the native command. name. The commands appear in the ALIAS.CMD file in the following format:

```
[Alias, Native Command]
PO,Point
LS, Single Line
LC, Continous Line
R2,Rect2
R3,Rect3
...
```

You may change the alias name to any two or three-letter text you wish. Make sure, however, that these letters do not conflict with the starting letters of any other alias or native command name (you can easily check this by using the search function in your text editor).

For example, suppose you want to type "RE3" instead of "R3" to start the 3-point rectangle command. First, note that the listing for that command reads "R3,Rect3" in ALIAS.CMD. Simply change "R3" to "RE3" (do *not* alter the native command name, Rect3), and save the change under the same file name. The next time you start Corel Visual CADD, RE3 will be the new short name for the 3-point rectangle.

**Tip**

Most of the native command names are self-explanatory. However, if you need more information, all native commands are explained in the text file called NATIVE.TXT.

# Customizing Command Buttons

You can easily rearrange or add to the command buttons in the main speed bar and tool bar. The icons to be displayed in these bars are listed files MAINSBAR.CST and TOOLPAL.CST, which can be easily edited with any text editor. These files can be found in your Corel Visual CADD system directory.

To edit the toolbars, open the correct file in an ASCII text editor, such as Microsoft Windows Notepad, DOS's EDIT, etc. Make your changes based on the below information then save the file. The next time you open Corel Visual CADD, your changes will take effect.

A "***//***" (without the quotes) can be placed in front of a native command to act as a "REM". In other words, Corel Visual CADD will not place commands preceded by a // on a toolbar. It will simply ignore them.

**MAIN SPEEDBAR**

The following listing in MAINSBAR.CST would display a row of command buttons for the File New, File Open, File Save As, and Clear Drawing commands, respectively:

```
SEPARATOR
FileNew
FileOpen
FileSave
SEPARATOR
Clear
```

The commands are listed in native command format. The word SEPARATOR instructs Corel Visual CADD to place a small space in the sequence.

**TOOL PALETTE**

The following listing for TOOLPAL.CST creates a column of command buttons in the tool bar. Command names in the same row create a pop-out menu.

```
Selection
LineCont,LineSingle,LineDbl,Point
Rect2,Rect3
RPolyCen,RPolySide,IPoly
```

The last three lines create pop-out menus of additional tool buttons. Each button in the pop-out menus is specified by the comma-separated list of native command names. You can rearrange buttons, or add as many command buttons in the tool bar and pop-out menus as will fit on the screen.

**Tip**

- Individual Properties, i.e. linetype, linewidth, color, or layer, can be placed on the Main Speedbar and will appear as dropdown combo boxes.
- After editing MAINSBAR.CST or TOOPAL.CST, you can load the new versions without exiting Corel Visual CADD by right-clicking on a tool bar and choosing ‘Default Tool Palette"
- To allow the user to use more than one tool palette, please see "Customizing toolbars and speed bars" in the Users Guide.

Also see: Keyboard shortcuts and native commands

## Native.TXT

ASCII text file in the default Corel Visual CADD directory, containing native commands and their descriptions.

# Custom Commands

Corel Visual CADD supports the definition of custom commands or user defined tools. These commands are contained in the CMDEXT.DEF file located in the Corel Visual CADD system directory. The format for this file is as follows:

Native Command, Two Letter Command, Bitmap File, Name to appear on menu, Status Line Description, Script

For example, a window erase command would look like this:

WINERASE,WE,D:\BITMAP\BITMAP.BMP,&WINDOW ERASE,PLACE WINDOW,SW;@;@;ER;

**Native Command**

This is the internal command name for the custom command. This can be used in the *.CST or *.MNU files to place the command on a button or in a custom menu. This parameter should be a single word, 12 characters or less. In our example, WINERASE is the name of the Native command.

**Two Letter Command**

This is the two (or three) letter shortcut that will provide access to the command via the keyboard. If the two letter command is already used in the ALIAS.CMD that command will have precedence over the one defined in CMDEXT.DEF. If using three letters, be aware that if another command uses the same first two letters the other command will also have precedence. All two letter commands must start with a letter.

**Bitmap File**

This is the path and name of the bitmap to be placed on the button if the native command is placed on a toolbar. Corel Visual CADD uses 20x20 pixel buttons and will shrink or grow any bitmap to this size. If a path is not designated, Corel Visual CADD will search in the custom directory as designated in the settings for the bitmap. For more information on customizing toolbars, see "Customizing Toolbars".

**Menu Description**

This specifies the text that will appear on a menu if the custom command is placed in the custom menu. The "&" Symbol placed before a letter designates the letter that will be the "Hot Key" or the keyboard shortcut for that item on the menu. The "Hot Key" will appear underlined.

**Status Line Description**

When the user passes the cursor over a the command on the menu or a button, this is the description of the command that will appear in the status line to give the user an idea of the tools function or prompt the user for information.

**Script**

The is the actual script the native command performs. (For more information on writing scripts see "Assign Script"). As in the SCRIPT.DEF file, all commands must be delimited by semi-colons (;). A few special script commands of note that allow the use of external executable programs are:

EXENAME - this defines the name of an executable to be run when the RUN command is used.
RUN - executes the program as designated by EXENAME

An example of this might be;

HATCHCHANGE,HC,C:\HATCH.BMP,HATCH &CHANGE ,SELECT HATCH, EXENAME;HATCH.EXE;RUN;

This uses an external program to execute the hatch change instead of an internal script. While in some cases it may not be advantageous to use an external program, when complicated tools are made, external programs are the most efficient way of creating them.

See Also: Assign Script

# Custom Menus

Menus can altered, added, deleted or rearranged. Native and Custom Commands may be added or removed from existing menus.

Custom menus are saved in ASCII text files with .MNU extension. Custom menus can be loaded into Corel Visual CADD using several different methods. The Load Menu command is designed specifically to load custom menus (it will not load mouse menus or toolbars). Menus may also loaded automatically via command line or Registry settings.

The format for this file is as follows:

```
POPUP "&File"                          // Define start of Popup Menu "File"
   FileOpen                            // Native Command
   "&New File", FileNew                //"Description", Native Command
   Separator                           // Separator
   "&Close", 2405                      //"Description", Native Command ID
   Separator                           // Separator
   FileSave                            // Native Command
   FileSaveAs                          // Native Command
   .
   .
   .
   FileExit                            // Native Command
POPUPEND

POPUP "&Edit"                          // Define New Popup menu "Edit"
   Undo                                // Native Command
   Redo                                // Native Command
   SEPARATOR                           // Separator
.
.
```

Commands are defined as following in a custom .MNU file:

**Native Command**

Either a Corel Visual CADD native command or a custom command defined in the CMDEXT.DEF file. If the item is a native command, the menu description is stored internally. If the command is defined in CMDEXT.DEF, then menu description is taken from the *Menu Description* parameter of the custom command definition. (For more information, see Custom Commands.)

**"Description", Native Command**

Same as above, but overrides the menu description of the native command with specified text.

**"Description", Native Command ID**

Same as above, but uses an associated Corel Visual CADD Native Command ID. It is not recommended using these IDs as they are not published and can change without notice. They are documented and supported for compatibility with Microsoft Windows™ Menu ASCII format.

**POPUP "Menu Name"**

Defines the start of a Popup Menu with name "*NAME*". All commands following POPUP and preceding POPUPEND will be included in the popup menu

**POPUPEND**

Defines the end of specified Popup menu

**SEPARATOR**

Creates a separator line in the menu

**Note**

The following items are optional but are included for compatibility with Microsoft Windows™ Menu ASCII format.

**MENUITEM Native Command**

Used before a Native Command. Has no effect

{

Same as POPUP

}

Same as POPUPEND

# Custom Mouse Menus

When creating custom tools it may be necessary to create or modify the context sensitive mouse menus to be used with the tool. This menu appears when the user clicks the right mouse button in the drawing area while using a tool. Customization of mouse menus is accomplished using ASCII text files: a pointer file (MOUSEMNU.DEF) and an ASCII menu file for each tool.

**MOUSEMNU.DEF**

MOUSEMNU.DEF is an ASCII text file which contains all the current Corel Visual CADD tools and their default menu files.. It resides in the System Path and can be modified to include custom commands. (For more information on Custom Commands, please see Custom Commands.) Corel Visual CADD will use the specified *Menu File* if it can find it. When the user clicks the right button, Corel Visual CADD will determine if a *Menu File* has been mapped to the tool. If so, Corel Visual CADD will load the *Menu File* and create a popup menu on the fly. If *Menu File* not found, the tool's default Menu is used.

The format is as follows for **MOUSEMNU.DEF**:

Native Command,Path\Menu File
NativeCommand, Path\Menu File
NativeCommand, Path\Menu File
.
.
.

**Example:**

SymPlace,C:\VCADD\MENU\SYMPLACE.POP
LineCont,C:\VCADD\MENU\LINECONT.POP
LineSingle,C:\VCADD\MENU\LINESING.POP
LineDbl,C:\VCADD\MENU\LINEDBL.POP
Point,MENU\POINT.POP (see note)

**Note**

The Menu File path can be explicitly specified, C:\VCADD\MENU\SYMPLACE.POP. Or if the drive is not explicitly specified, then Corel Visual CADD will look were the System Path points to. For instance, if the System Path is C:\VCADD and Menu File is MENU\SYMPLACE.POP, then VC will look for the Menu File in the directory C:\VCADD\MENU\.

**Menu File**

The *Menu File* is the ASCII text file that contains the actual menu information and design for a particular tool's mouse menu. The Menu File does not necessarily need to be named the same as the tool menu it is defining, (although it might be a good idea) but it must end in the extension .POP. The mouse menu can contain any of Corel Visual CADD's native commands or custom commands. Custom commands can also be defined locally or 'on the fly' for commands that are only available as long as this menu is active. **.CMDEXT** defines the beginning of the section in which custom commands may be defined. Format of custom commands within mouse menus is the same as in Corel Visual CADD's CMDEXT.DEF with the exception of the bitmaps and 2 letter command is ignored. When Custom commands are used, Corel Visual CADD will search for commands defined in the *.CmdExt* section of the Mouse Menu first, then search commands defined in the file *CMDEXT.DEF,* and lastly Corel Visual CADD's default native commands.

All menu items including Popup, Popupend and separator are available in mouse menus as well.

**Sample Menu File:**

SYMPLACE.MNU

```
OK                    // See Note below
Match                 // See Note below
SymLast               // VCADD Native command
```

```
Track                   // VCADD Native command
NewHandle               // VCADD Native command
Separator       // Separator Line
SYMROT90                // Custom command defined below
SYMROT45                // Custom command defined below
SYMROT0                 // Custom command defined below
Separator
POPUP "Flip"            // Start Popup menu with name "Flip"
        SYMFLIPX                // Custom command defined below
        SYMFLIPY                // Custom command defined below
POPUPEND                // End Popup menu
```

```
.CmdExt                         //Local Custom Command Area
SYMROT90, , ,Symbol Rotate +90,Rotate +90,SymRot;$SymRot+90;        //Custom Commands
SYMROT45, , ,Symbol Rotate +45,Rotate +45,SymRot;$SymRot+45;
SYMROT0, , ,Symbol Rotate = 0,Rotate = 0,SymRot;0;
SYMFLIPX, , ,Symbol Flip X,Flip X,SymScX;-$SymScX;
SYMFLIPY, , ,Symbol Flip Y,Flip Y,SymScY;-$SymScY;
```

**Note**

Some Corel Visual CADD mouse menus, particularly those involving settings that may be matched (such as rotation, height, etc.), have **OK** and/or **MATCH** hard coded at the top of the mouse menu. These cannot be removed.

See Also Assign Script, Custom Commands, Custom Menus.

## CMDEXT.DEF

The ASCII text file that contains the definitions for Custom Commands.

# Guide to Corel Visual CADD Linetypes

Guide to Standard Corel Visual CADD Linetypes

TYPE___1, 1, d, 0.87, -0.13
Generic LT-1.

TYPE___2, 2, d, 0.65, -0.35
Generic LT-2.

TYPE___3, 3, d, 0.50, -0.50
Generic LT-3.

TYPE___4, 4, d, 0.35, -0.65
Generic LT-4.

DASHDOT, 5, d, 0.60, -0.20, 0, -0.20
Generic LT-5. AutoCAD Dashdot.

TYPE___6, 6, d, 0.60, -0.15, 0.10, -0.15
Generic LT-6.

DIVIDE, 7, d, 0.60, -.133, 0, -.134, 0, -.133
Generic LT-7. AutoCAD Divide.

TYPE___8, 8, d, 0.60, -0.08, 0.08, -0.08, 0.08, -0.08
Generic LT-8.

DOT, 9, d, 0, -.10
Generic LT-9. AutoCAD DOT.

DASHED, 10, d, 0.24, -0.08
The Mech. & Arch. Drawing Dashed Line.
The Electrical Under Surface Conduit Line.
The Plumbing Drawing Condensate Drain Line.
AutoCAD Dashed.

HIDDEN, 11, d, 0.115,-0.05
The Mech. & Arch. Drawing Hidden Line.
AutoCAD Hidden.

CENTER, 12, d, 0.115,-0.07, 1.01, -0.07
The Mech. & Arch. Drawing Center Line.
Sim. to AutoCAD Center with correction.

PHANTOM, 13, d, 0.99, -0.05, 0.115,-0.05, 0.115, -0.05
The Mech. Drawing Phantom Line.
AutoCAD Phantom.

BORDER, 14, d, 0.60, -0.20, 0.60, -0.20, 0, -0.20

AutoCAD Border.

The first 14 line types above include the first 9 Generic CADD line types and the 8 basic AutoCAD line types. If you need additional AutoCAD or Generic CADD line types you must use the correct AutoCAD line type name and place Generic CADD line type number at the same Visual number for correct conversion of DWG and GCD files.

COLD___W, 15, d, 0.85, -0.05, 0.05, -0.05

The Plumbing Drawing Cold Water Piping Line.

HOT____W, 16, d, 0.75, -0.05, 0.05, -0.05, 0.05, -0.05

The Plumbing Drawing Hot Water Piping Line.

RETURN_W, 17, d, 0.65, -0.05, 0.05, -0.05, 0.05, -0.05, 0.05, -0.05

The Plumbing Hot Water Return Piping Line.

VENT____, 18, d, 0.125,-0.08

The Plumbing Drawing Vent Line.

The Electrical Exposed Conduit Line.

The Surveying Map Semi-tangents Line.

Medium long extra fine dashes.

The 4 line types directly above include the most common additional types needed for most building design drawings.

PL____X1, 19, d, 1.00, -0.08, 0.13, -0.08, 0.13, -0.08

PL____X2, 20, d, 2.00, -0.08, 0.13, -0.08, 0.13, -0.08

PL____X3, 21, d, 3.00, -0.08, 0.13, -0.08, 0.13, -0.08

The Surveying Map Property Boundary Line.

PL=Property Line

Note: The X1, X2, etc. indicate the relative length of the long line in a line type.

CL____X1, 22, d, 0.05, -0.05, 1.18, -0.05

CL____X2, 23, d, 0.05, -0.05, 2.35, -0.05

CL____X3, 24, d, 0.05, -0.05, 4.70, -0.05

The Surveying Map Right of Way Center Lines.

CL=Center Line

FL____X1, 25, d, 0.30, -0.05, 0.05, -0.05, 0.05, -0.05, 0.05, -0.05

FL____X1, 26, d, 0.60, -0.05, 0.05, -0.05, 0.05, -0.05, 0.05, -0.05

FL____X3, 27, d, 1.20, -0.05, 0.05, -0.05, 0.05, -0.05, 0.05, -0.05

The Surveying Map Symbols for Water Flow Line, Edge of Stream or Body of water.

FL=Flow Line

PAVED_RD, 28, d, 1.22, -0.08

The Surveying Map Edge of Hard Surface Paved Roads Line.

GRAVELRD, 29, d, 0.72, -0.08

The Surveying Map Edge of Macadem/Metalic Paved Roads Line.

DIRT__RD, 30, d, 0.42, -0.08

The Surveying Map Trail Line & Edge of Unpaved Dirt Roads.

TIE_LINE, 31, d, 0.05, -0.03
The Surveying Map Tie Line.
Short extra fine dashes.

DITS__X1, 32, d, 0.01, -0.03
DITS__X2, 33, d, 0.01, -0.05
DITS__X3, 34, d, 0.01, -0.08
Very short dashes. Makes good dotted lines.

DOTS__X1, 35, d, 0, -.05
DOTS__X2, 36, d, 0, -.08
DOTS__X3, 37, d, 0, -.13
Dotted lines.

WATER_X1, 38, d, 0.30, -0.08, 0.01, -0.08
WATER_X2, 39, d, 0.60, -0.08, 0.01, -0.08
WATER_X3, 40, d, 1.20, -0.08, 0.01, -0.08
The Surveying Map Water & Irrigation Lines.
Dash-dot lines.

GAS___X1, 41, d, 0.30, -0.08, 0.01, -0.08, 0.01, -0.08
GAS___X2, 42, d, 0.60, -0.08, 0.01, -0.08, 0.01, -0.08
GAS___X3, 43, d, 1.20, -0.08, 0.01, -0.08, 0.01, -0.08
The Surveying Map Gas Pipe Lines.
Dash-dot-dot lines.

SAN___X1, 44, d, 0.30, -0.08, 0.01, -0.08, 0.01, -0.08, 0.01, -0.08
SAN___X2, 45, d, 0.60, -0.08, 0.01, -0.08, 0.01, -0.08, 0.01, -0.08
SAN___X3, 46, d, 1.20, -0.08, 0.01, -0.08, 0.01, -0.08, 0.01, -0.08
The Surveying Map Sanitary Sewer Pipe Line.
Dash-dot-dot-dot lines.

BORDR_X1, 47, d, 0.30, -0.08, 0.30, -0.08, 0.01, -0.08
BORDR_X2, 48, d, 0.60, -0.08, 0.60, -0.08, 0.01, -0.08
BORDR_X3, 49, d, 1.20, -0.08, 1.20, -0.08, 0.01, -0.08
(Sim. to Border line)
Dash-dash-dot lines.

You can easily add to or modify the above line types, but be sure to save the LINETYPE.LNT file included with Corel Visual CADD under another name such as LINETYPE.ORG before attacking with your favorite text editor.

The other style w (real world) of Corel Visual CADD linetypes may be more useful than the d (as drawn) style described above if you work mostly in only one output scale. Then you can see and correct any lines that end with a space by substituting a slightly different line type. To convert line type 10 DASHED to real world scale multiply the distances by 48 for the 1/4"=1'-0" architectural scale.
Before: DASHED, 10, d, 0.24, -0.08

After: DASHED48, 50, w, 11.52, -3.84

## LINETYPE.LNT

ASCII text file in which Corel Visual CADD linetype definitions are stored. Located in the Corel Visual CADD system directory.

# General Tab (TBG)

**Fillet options**

These options include settings used with the filleting commands.

**Radius** Sets the radius of fillets drawn either during editing (with the Fillet command), or with the continuous-line tool when the Auto Fillet option is checked.

**Auto Fillet** Specifies if corners are filleted automatically when the double-line tool is used. The radius occurs at the interior intersection of each inside corner.

**Preview** Specifies if the possible fillet options are displayed as the cursor is moved around an intersection or corner during a Fillet command.

**Regular Polygon options**

Settings in this box determine the number of sides and the construction technique used to define regular polygons (see Regular Polygon on the Draw menu).

**Num sides** Sets the number of sides drawn with the center-polygon and side-polygon tools.

**Inscribe** Specifies if the second point placed with the center-polygon and side-polygon tools will correspond to a vertex of the polygon. This is equivalent to inscribing the polygon in a 2-point circle.

**Circumscribe** Specifies if the second point placed with the center-polygon and side-polygon tools will correspond to the midpoint of a side of the polygon. This is equivalent to circumscribing the polygon around a 2-point circle.

**Offset options**

Lets you set the distance used by the Offset command, and whether the offset copy can be previewed when you move the cursor across the target object.

**Distance** Sets the distance from the target object to the offset copy.

**Preview** Specifies if the offset copy is displayed as a rubberbanding image before placement.

**Double Line options**

This box sets the offset distances used by the double line command, and whether the space between the double lines is to be filled with a solid color (see Double Line in the Draw menu).

**Left Offset** Sets the offset distance of one of the lines to the left of the cursor path.

**Right Offset** Sets the offset distance of one of the lines to the right of the cursor path.

**Solid fill** Specifies if the space between the double lines is to be filled with solid color.

**Chamfer options**

These options display the current distance settings used with the Chamfer command. These distances are measured from the corner or intersection of two lines and represent the endpoints of the diagonal line that will chamfer the intersection when that command is chosen.

**Dist 1** Sets the distance from the corner or intersection to the start of the chamfer on the first line selected.

**Dist 2** Sets the distance from the corner or intersection to the start of the chamfer on the second line selected.

**Symbol options**

These options display settings relating to the placement and treatment of symbols.

**Explode on Placement** Sets Corel Visual CADD to place symbols as the individual entities that compose them. This makes it easier to edit the symbol, but takes more memory and file space, and deletes any attributes that are attached to the symbol.

**Symbol Snap** Lets you snap to a point in a symbol. If Symbol Snap is checked, every object within a symbol may be used as a valid target. However, if Symbol Snap is not checked, Corel Visual CADD ignores objects within the symbol and recognizes only the handle point in its search for a target of a snap or trim operation.

**Use Placement Color** When checked, each symbol placed uses the current color setting. When unchecked, each symbol placed uses the color setting assigned to each entity within the symbol.

**Explode Symbol To options**

**Placement Layer** Specifies that when a symbol is exploded, all objects that make up exploded symbols are placed on the same layer in the drawing as the symbol.

**Current Layer** Specifies that when a symbol is exploded, all objects that make up exploded symbols are assigned to the layer that is current when the symbol is exploded.

**Individual Layers** Specifies that when a symbol is exploded, each object within exploded symbols reverts to the layer that was current when the object was drawn, prior to creation of the symbol.

**Layers options**

Lets you control how Corel Visual CADD treats visible layers other than the current layer.

**All Layer Edit** Specifies if objects on all visible layers (checked) or objects on the current layer only (unchecked) are to be edited.

**Snap All Layers** Specifies if snaps are to be made to all visible objects, regardless of layer (checked) or to objects in the current layer only (unchecked). Note: All Layers Edit must be checked.

**Use Layer Properties** When checked, objects drawn on each layer take on the properties assigned to that layer.

**Tip**

All Layers Edit and Snap All Layers are independent toggles. You can snap without being able to edit all layers, or edit without being able to snap to all layers. To do both, however, each must be checked.

# Constraint Tab (TBC)

### Ortho options

**Angle** Specifies the Ortho Angle.

**Ortho On** Specifies if Ortho Mode is on or off.

**Cursor Free** Specifies if Cursor Free is on or off.

### Manual Entry options

These options specify the available origins that Corel Visual CADD uses to set points from manually-entered coordinates.

**Relative** Distances are measured along the X and Y axes from the last point entered. That is, each point placed becomes the new temporary origin for the next command.

**Absolute** All distances are measured along the X and Y axes from a fixed origin, with coordinates 0,0 at the lower left corner of a new drawing file.

**Basepoint** Distances are measured along the X and Y axes from a temporary origin, set in the Basepoint box.

### Basepoint

A user-selected point, defined by an X and a Y coordinate, is used as the origin for manual coordinate entry. The same point will remain as the origin until you change its location with the Set Basepoint command, or until you change the Manual Entry mode to Relative or Absolute. You can also change the value in the Manual Entry box.

### Increment Snap options

**Size** Sets the length of each increment snap. When Increment Snap is on, all cursor movement in rubberband operations is in a multiple of this distance.

**Increment Snap** Sets the cursor to move only in multiples of a predefined distance when ortho mode is on.

### Grid

**Grid Size: (X & Y)** Sets the X and Y distances between grid points.

**Snap to Grid Point** When checked, constrains points you place to grid points.

**Display Grid** Displays the grid.

# System Tab (TBS)

**Show Selection options**

These options control the amount of visual feedback you receive on screen as you draw or edit. Turning these functions off can reduce the time required to edit large selection sets, since highlighting or dragging large groups of objects can take a considerable amount of time.

**Show Drag** Specifies if selected objects will visibly drag across the screen during move and copy operations.

**Show Highlight** Specifies if selected objects are highlighted in the selection color (set in the Display Colors section of the System tab).

**Quick Search** Determines if Quick Search is toggled on or off. If toggled on, Corel Visual CADD will select the nearest object in the database within the current search tolerance.

**Search Tolerance** Sets the maximum distance in on-screen inches the cursor may be from an object for Corel Visual CADD to snap or select it.

**Cursor Size** Specifies, in on-screen inches, the size of the cursor's horizontal and vertical cross-hairs. For example, a value of 1.0 sets the cursor size to 1 inch. To specify a full-screen cursor, type 0.

**Default Tool Options** Sets the active tool in new drawings and the tool to which Corel Visual CADD reverts after completing most operations.

**Explode Continuous Line** Sets Corel Visual CADD to draw continuous lines as a series of single lines rather than as a single object.

**Environment Save** Determines if the current drawing settings are saved as the default environment upon exiting Corel Visual CADD. When checked, environment settings will be saved every time Corel Visual CADD is closed. The environment default can also be updated without exiting Corel Visual CADD by typing keyboard shortcut **EN**. All current system settings are saved.

**Use File Locking** When checked, subsequently opened drawings cannot be modified by another Corel Visual CADD user on your network until the drawing is saved or closed. Other users can only open, view, and copy the drawing.

**Shift + Rbutton Popup Menu** Changes activation of context-sensitive menus, enabling you to program your middle and right mouse buttons to perform other functions.

**Display Colors options**

These options let you change the color of the drawing background, cursor, selected objects, and the rubberband line. Clicking on any item displays a drop-down list of available colors.

**Note:**

Choosing a background color changes only how the drawing appears on the screen. Because Corel Visual CADD does not print or plot the background, the output is unaffected.

**Zoom In/Out options**

**Zoom In Factor** Sets the multiplier used to change the drawing magnification when the Zoom In command is used. The factor for the Zoom Out command is the reciprocal of this number.

**Ask for Center Pt** Specifies if Corel Visual CADD will prompt you to pick a point on the screen before performing any zoom in or zoom out operations. This point becomes the center of the new view displayed on the screen.

**Auto Backup options**

**Save** Determines if Corel Visual CADD will automatically save your work in a backup file. Corel Visual CADD will not overwrite the current file with new information but will save the new information with a different file extension (.vbk). To overwrite the existing file in .vcd, .gcd, .dwg or .dxf, you must explicitly choose Save As... from the File menu. When checked, all named drawings, in all document windows will be saved in the .vbk format at the specified interval. Only drawings that are named and have changed (i.e., entities added, deleted, moved, etc.) will be automatically saved. Named drawings to which no changes have been made will not be saved.

**Min** Specifies the interval, in minutes, at which drawings will be automatically saved in the .vbk format. Corel Visual CADD will not save at the specified interval if a dialog box, such as the Text Editor or Assign Script, is open or a tool is active, until the dialog has been closed or the tool operation completed.

**Display options**

These options let you determine how or whether certain items are displayed on the screen as well as in a print or plot of the drawing. Turning off the display of some of these items can reduce the visual clutter in the drawing and increase the speed of redraws.

**Construction Points, Handle Points, Fills, Hatches, and Points** Specifies if these items are displayed and printed or plotted (checked) or hidden (unchecked).

**Line Type** Specifies if the various line types patterns are displayed and printed or plotted (checked) or all lines appears as line type 0 Solid (unchecked).

**Line Width** Specifies if the various line widths are displayed and printed or plotted (checked) or all lines appears as line width 0 (unchecked).

**Scrollbars** Specifies if the scrollbars are to be displayed or not.

**Arrow Keys**

**World** Sets the real-world incremental distance that each arrow key will advance the cursor.

**Screen** Sets the on-screen incremental distance each arrow key will advance the cursor. This incremental distance remains the same even when the zoom value changes.

## Path Tab (TBP)

Use the fields on this tab to set default paths for different types of files. As always, you can accept or alter this path at each file operation. However, if you check the Save Path option in the Save or Open dialog boxes, the disk drive and file path you see are the ones that you specified most recently.

For example, say the default directory for symbols is VCADD\Symbols and that you also have some specialized symbols in a directory called VCADD\Symbols\Fixtures. When you save a new symbols drawing, and the Update Paths box is not checked, the path Corel Visual CADD uses is the default path, or VCADD\Symbols. If you decide to save the drawing to the VCADD\Symbols\Fixtures and the Update Path box is checked, the next time you save or load a symbols drawing, the last path you used (VCADD\Symbols\Fixtures) appears even though the default path has not been altered.

## Hatch/Fill Tab (TBH)

**Hatch Name** Lists the available hatch patterns.

**Angle** Sets the selected hatch pattern's angle. Type a positive or negative value between 0 and 360.

**Scale** Sets the scale of the selected hatch pattern. 1.0 = 100%.

**Hatch Color** Sets the hatch color, which applies to all hatch patterns.

**Show Boundary** Displays fill and hatch boundaries as a line on the screen.

**Update** Displays a preview of the hatch pattern in the box above the button, including pattern, color, and angle. The pattern is scaled to fit in the box.

**Fill Color** Sets the color for solid fills used in the fill commands, and between double lines when the Solid Fill option is on.

**Tip**

- Hatches and fills are both drawn on the current layer.
- Hatches always use line type 0 (solid lines), and the current line width. Hatches may be exploded into lines if you wish to change the pattern to a different line type.
- Hatches are user-definable and stored in the HATCHES.HAT file in the same folder as the Corel Visual CADD application.

# Text/Atb Tab (TBT)

### Text Settings options

**Font** Specifies the font used in text blocks or lines. Corel Visual CADD can use either Windows TrueType fonts or its own vector fonts. These are distinguished in the drop-down list by the icon next to each font name:

indicates TrueType fonts
indicates Vector fonts.

TrueType text tend to be more aesthetically pleasing and to redraw faster than vector fonts. TrueType fonts, however, are not as accurate as vector fonts and can present problems for some vector output devices such as HP-GL plotters.

**Height** Specifies the size (height) of text characters in the current drawing unit. The height of the text is measured in real-world scale.

**Color** Specifies the color of text.

**Rotation** Specifies the orientation of text from 0 to 360. Rotation is counter-clockwise.

**Justify** Determines text justification. Text can be justified left, justified right, or centered horizontally relative to the placement point.

**Line Spacing** Specifies the spacing between lines as a percentage of the font size. This is measured from the reference point of the first line to the reference point of the second line. For example, using a font height of 2" and line spacing of 200%, the distance between the lines would be 4".

**Bold** Specifies **bold** type when checked. This option applies only to TrueType text.

**Italic** Specifies *italic* type when checked. This option applies only to TrueType text.

**Underline** Specifies underlined type when checked. This option applies only to TrueType text.

**Use Text Layer** Determines if text is placed on a specific layer or on the current layer. If this option is checked, text will be placed on the layer set in the Text Layer drop-down list. This applies only to new text to be placed on the drawing, not existing text. To change existing text, please see Text Change.

**Text Layer** Determines the layer on which text will be placed. Only applies when Use Text Layer is checked.

**Between Spacing** Specifies the spacing between characters of a text line as a percentage of the character size. The default is 20%. This option only applies to vector text.

**Slant** Specifies the angle at which vector text is slanted to emulate italics. The angle must be between -45º and 45º. This option only applies to vector text.

**Mono Space** When checked, all characters are the same width. When unchecked, wide characters (M and W) take up more space than narrow characters (I and L).

**Fill Text** When checked, characters are solid filled. When unchecked, characters are displayed in outline, making both redrawing and printing faster.

**Aspect** Adjusts the height-to-width ratio of characters in text blocks created using a vector font. For example, with a text height of 1" and an aspect of 2, the text character will be twice as wide as it is tall.

### Attribute Settings options

**Font** Sets the font used for attributes. Special font formatting, such as bold, italics and underline type styles, are not available for attributes.

**Height** Specifies the size (height) of text characters in the current drawing unit. The height of the text is measured in real-world scale.

**Color** Sets the color of attribute text.

**Display Attributes** Specifies that attributes display and print as part of the drawing. Otherwise, attributes are hidden.

**Display Labels** Displays both the data field name and the data value (example: Part Name: Sky Hook). If this box is unchecked but Display Attributes is on, only the data value is displayed (example: Sky Hook).

### Tip

Attributes are always placed on the same layer as the symbol with which they are associated.

# Leader Tab (TBL)

### Text Settings options

**Height** Specifies the size (height) of leader text characters in the current drawing unit. The height of the text is measured in real-world scale.

**Line Spacing** Specifies the spacing between lines as a percentage of the font size. This is measured from the reference point of the first line to the reference point of the second line. For example, using a font height of 2" and line spacing of 200%, the distance between the lines would be 4".

**Bold** Specifies **bold** type when checked. This option applies only to TrueType text.

**Italic** Specifies *italic* type when checked. This option applies only to TrueType text.

**Underline** Specifies <u>underlined</u> type when checked. This option applies only to TrueType text.

**Char Spacing** Specifies the spacing between characters of a leader text line as a percentage of the character size. The default is 20%. This command only applies to vector text.

**Slant** Specifies the angle at which vector text is slanted to emulate italics. The angle must be between -45º and 45º. This command only applies to vector text.

**Mono Space** When checked, all characters are the same width. When unchecked, wide characters (M and W) take up more space than narrow characters (I and L).

**Fill Text** When checked, characters are solid filled. When unchecked, characters are displayed in outline, making both redrawing and printing faster.

**Aspect** Adjusts the height-to-width ratio of characters in text blocks created using a vector font. For example, with a text height of 1" and an aspect of 2, the text character will be twice as wide as it is tall.

### Arrow Settings options

These options determine the type and angle of arrowheads that will terminate the end of each leader.

**Arrow list box** Lists the types of arrowhead to place at the end of the leader.

**Size** Sets the length of the arrow, slash, or radius of circle in real-world drawing units.

**Angle** Adjusts the shape of the arrowhead or the angle of the slash.

**Offset** Sets the distance between the tail-end of the leader shoulder, and the leader text.

**Shoulder** Adjusts the size of the leader tail’s horizontal segment that is nearest the text.

**Datum Dimension options** Sets the datum dimension style to display X values, Y values, or both.

# Dimension Tab (TBD)

### Direction options

The dimension direction is the orientation used when measuring a distance and drawing dimension lines. This direction is not necessarily aligned with the object being dimensioned. Measured distances on the object are projected onto the dimension direction. For example, the horizontal dimension of a line drawn at a thirty degree angle represents the horizontal component of the true length of that line.

**Horizontal** Sets the dimension direction to horizontal. Only the horizontal component of the selected object is measured.

**Vertical** Sets the dimension direction to vertical. Only the vertical component of the selected object is measured.

**Aligned** Sets the dimension direction to parallel the line selected (or aligned with the points placed). Aligned dimensions always represent the true length of the selected line (or distance between the placed points).

**Angle** Sets the degree at which to slant an angled dimension line. Note: A horizontal dimension is equivalent to a 0-angle dimension, and a vertical dimension is equivalent to a 90-angle dimension.

### Arrow options

These options determine the type and angle of arrowheads that will terminate the ends of each dimension line. If you choose to add terminators to your lines, you can end lines with arrowheads, circles, or slashes.

**Arrow list box** Lists the types of arrowhead to place at the end of the leader.

**Size** Sets the length of the arrow, slash, or radius of circle in real-world drawing units.

**Angle** Adjusts the shape of the arrowhead or the angle of the slash.

**Flip** Flips the dimension line so that the arrows point inward. Use this option when the extension lines interfere with the dimension text.

**Flip Dist Left** Sets the length of the left dimension line segment when arrowheads are reversed by checking the Flip box (see above). The left and right sides of dimension lines correspond to the view of the dimension if it were to be rotated so that aligned dimension text would be horizontal.

**Flip Dist Right** Sets the length of the right dimension line segment when arrowheads are reversed by checking the Flip box. The left and right sides of dimension lines correspond to the view of the dimension if it were to be rotated so that aligned dimension text would be horizontal.

### Extension options

Extension lines, also called witness lines, visually connect the dimensioned object to the dimension line. They are always drawn perpendicular to (and usually beyond) the dimension line. Corel Visual CADD allows extension lines to be configured as follows:

**Offset** Adjusts the space between the drawing object and the end of the extension lines.

**Above** Adjusts the distance that the extension line extends past the dimension line and away from the drawing object.

**Below** When Stretch is unchecked, adjusts the distance the extension line extends beyond the dimension line and toward the drawing object.

**Stretch** When checked, the extension lines stretch to reach the drawing object (minus the Offset distance). When unchecked, the Offset setting is ignored, and the extension lines follow the setting of the Below distance.

**Proximity Fixed** Places the dimension line at a fixed distance (Offset plus Below) from the drawing object.

When Proximity Fixed is off, you can place the dimension line at any distance away from the dimensioned object. This means that either the Offset distance or the Below distance must "give." If Stretch is checked, the Below section of the extension line will stretch to fill the gap between the Offset distance and the dimension line. If Stretch is unchecked, the Below distance will remain constant and the Offset distance will "give" to fill the gap.

### Mode options

The options in this section determine whether dimensions are to be placed individually or in connected groups, and how grouped dimensions are related.

**Single** Dimensions are placed one at a time, as individual entities. Once a single dimension is placed, the dimension command is completed.

**Cumulative** Places a sequence of dimensions, each originating from the same point, or baseline.

**Partitioned** Places a string or chain of connected dimensions, placed end-to-end. Dimension lines are co-linear for the entire chain.

### Display options

The elements that make up each dimension include the dimension line, left and right extension lines, left and right dimension arrows, and the dimension text. Corel Visual CADD gives you total control over the visual properties of each dimension element,

independent of the others. Changing the properties of dimension elements will not effect previously drawn dimensions.

**Dimension element** Lets you choose a dimension element, so that you can modify its components using the other display options. You can select All to set the properties identically for all dimension elements, or you can set each element individually.

**Color** Specifies the color of the display element.

**Line Width** Specifies the line width of the display element.

**Line Type** Specifies the line type of the display element.

**Show** Displays the current dimension element. If unchecked, the element is hidden.

**Dim Layer** If the Dim Layer Box is checked, Corel Visual CADD will maintain a separate layer for dimensions, independent of the current layer. Otherwise, dimensions are placed on the current layer. You select the dimension layer in the text box below the Dim Layer check box.

**Note:**

Even though you may have selected a dimension layer, you still must check the Dim Layer box to activate the dimension layer option.

# Dim Text Tab (TBX)

### Text options

These options let you set the font and size of dimension text, and its orientation with respect to the dimension line. The dimension text is set in the Dimension Font box in the Dimension Text tab.

**Font** Sets the font used for dimension text.

**Size** Sets the real-world size of dimension text in current drawing units.

**Offset** Sets the distance between the dimension text and the dimension line.

**Horizontal** Specifies that dimension text is horizontal regardless of orientation of the dimension line. Applies only if dimension text placement is set to the In Line Dist option (see description below)

**Aligned** Specifies that dimension text will always be oriented parallel to the dimension line. This option is set automatically if the dimension text relationship to the dimension line is set to the Above option (see description below).

**In Line** Dimension text is inserted and centered in a break in the dimension line. The gap from the dimension line to the dimension text is the Offset distance defined above. Can be used whether Horizontal or Aligned dimension text option is chosen.

**Above** Specifies that dimension text is placed parallel to and offset from the dimension line. Automatically sets dimension text to Aligned mode.

**Centered** When checked, dimension text is placed at the midpoint of the dimension line, regardless of the orientation or mode chosen above. When unchecked, you position the dimension text by moving the cursor as you position the line. Thus, for the first dimension in a chain, you will simultaneously position both the dimension line and the dimension text.

### Tolerance options

Tolerances specify allowable variations in dimensions, and are often used in high-precision work. Corel Visual CADD lets you specify and display tolerances.

**None** Turns off tolerance display.

**Stacked** Tolerance is displayed in stacked-type format, showing measured distance, followed by allowable oversize tolerance stacked on top of allowable undersize tolerance.

**Fixed** The measured distance is shown, followed by "" and the tolerance value. Only a single tolerance distance is allowed: the "+" and "-" tolerances are identical.

**Min/Max** Shows the maximum allowable distance stacked on top of the minimum allowable distance. Measured distance is not shown.

**Lower** Sets the maximum distance permitted for a dimension to be under the specified value measured by Corel Visual CADD.

**Upper** Sets the maximum distance permitted for a dimension to be over the specified value measured by Corel Visual CADD.

**Dim Scale** Sets the factor by which dimension values are scaled from the standard drawing units. Used when details or drawings of mixed scales are plotted on the same sheet. This factor allows details to enlarged beyond real-world size, and dimensioned correctly without having to reset size-related dimension properties.

**Line Spacing %** Sets the spacing (as a percentage of one line height) between lines of text for stacked tolerance display.

### Prefix/Suffix options

Normally, the text in a dimension is calculated automatically by Corel Visual CADD. The Prefix/Suffix options let you add a custom prefix and/or suffix to the angle or distance that Corel Visual CADD calculates, without losing the associative property of the dimension. The box also includes an Overwrite control that lets you completely replace the text that Corel Visual CADD calculates for the dimension.

**Prefix** When checked, the text in the adjacent text box is displayed before the distance or angle text calculated by Corel Visual CADD. Be sure to add a space or other appropriate characters after the prefix text to separate the prefix and the calculated text.

**Suffix** When checked, the text in the adjacent text box is displayed after the distance or angle text calculated by Corel Visual CADD but before the tolerance. Be sure to add a space or other appropriate characters before the suffix text to separate the calculated text and the suffix..

**Overwrite** Checking this box replaces the calculated dimension text with text that you type in the adjacent text box.

# Numeric Tab (TBN)

**Entry & Display Unit options**

This option sets the units that Corel Visual CADD uses to display coordinates and distances on the screen and to draw dimensions. Corel Visual CADD also interprets typed distances and coordinates as being in the same units. You can choose English (imperial) or Metric units, including inches, feet, feet and inches, millimeters, centimeters, or meters.

**Numeric Display options**

These options determine how distances, coordinates, dimensions and angles are formatted.

**Decimal Places** Sets the number of digits that Corel Visual CADD displays to the right of the decimal point. The valid range is 0-8. (Note: Corel Visual CADD calculates and stores real numbers to a precision of 16 significant digits. Setting decimal places or fractions affects only how numbers are displayed, not how they are calculated or stored by Corel Visual CADD.)

**Fractional Value** Sets the smallest fraction that Corel Visual CADD displays. Valid range: ½ to 1/64.

**Angular Format** Sets the format for displaying angles as decimal degrees or degree:minutes:seconds. If decimal degrees format is used, the number of decimal places displayed is determined by the Decimal Places setting above.

**Leading Zeros** When checked, total values less than one are displayed with a zero preceding the decimal point, or before the fraction if Fractional Units format is on. For example, if Leading Zeros is checked, .75 meters would be displayed as 0.75 m, and ¾ inch would be displayed as 0 ¾", or 0’ 0 ¾" if units are in feet and inches.

**Units** Specifies if the abbreviation for the unit type is displayed after the number. Note: If units are Feet and Inches, then units are displayed regardless of this setting.

**Single Unit Fraction** Determines if fractions will display as single or multiple characters. If checked, fractions within dimensions will display as single units, i.e., ¼, ½, and ¾, rather than 1/4, 1/2, 3/4. This setting is only available when using Vector fonts.

**Show Secondary Unit** When checked, displays dimensions in both the primary and the secondary units.

**Dimension Unit** Sets the primary unit of measurement in which to display dimensions.

**Secondary Unit** Sets an optional secondary unit of measurement in which to display dual-unit dimensions.

**Numeric Display options**

These options determine how distances, coordinates, dimensions and angles are formatted.

**Decimal Places** Sets the number of digits that Corel Visual CADD displays to the right of the decimal point. The valid range is 0-8. (Note: Corel Visual CADD calculates and stores real numbers to a precision of 16 significant digits. Setting decimal places or fractions affects only how numbers are displayed, not how they are calculated or stored by Corel Visual CADD.)

**Fractional Value** Sets the smallest fraction that Corel Visual CADD displays. Valid range: ½ to 1/64.

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**Leading Zeros** When checked, total values less than one are displayed with a zero preceding the decimal point, or before the fraction if Fractional Units format is on. For example, if Leading Zeros is checked, .75 meters would be displayed as 0.75 m, and ¾ inch would be displayed as 0 ¾", or 0’ 0 ¾" if units are in feet and inches.

**Units** Specifies if the abbreviation for the unit type is displayed after the number. Note: If units are Feet and Inches, then units are displayed regardless of this setting.

**Entry & Display Unit** Sets the unit of measurement used in the status bar display and in direct-distance entry.

# Import/Export Dialog Box

The following import/export categories are included in the dialog box:

### GCD Font Import Tab

This tab allows you to control how fonts in translated Generic CADD drawings (.gcd files) are imported into Corel Visual CADD. The Import Generic CADD Font Mapping options display list boxes of Generic CADD font names, Corel Visual CADD font names, and a list box showing which Generic CADD fonts have been mapped to which Corel Visual CADD fonts.

**To map Generic CADD fonts to Corel Visual CADD fonts**

1. Click the name of a Generic CADD font you wish to translate to a specific Corel Visual CADD font.
2. Click the name of the Corel Visual CADD font you wish to substitute for the specified Generic CADD font.
3. Click the right arrow button.
   The pair of font names will appear in the map table list box.

**To delete a mapped pair of fonts from the map list**

1. Click and highlight the pair of mapped font names you wish to delete from the map list.
2. Click the left arrow button.
   The font pair will be deleted from the map list.

**Tips**

- Corel Visual CADD will not map one source font to more than one destination font.
- You can add new fonts to the Generic CADD font list by using the GCD Settings Tab.

### GCD Font Export Tab

This tab allows you to control how fonts will be translated when Corel Visual CADD drawings are exported into Generic CADD .gcd format. The Export Corel Visual CADD Font Mapping options display list boxes of Corel Visual CADD font names, Generic CADD font names, and a list box showing which Corel Visual CADD fonts have been mapped to which Generic CADD fonts.

**To map Corel Visual CADD fonts to Generic CADD fonts**

1. Click the name of a Corel Visual CADD font you wish to translate to a specific Generic CADD font.
2. Click the name of the Generic CADD font you wish to substitute for the specified Corel Visual CADD font.
3. Click the right arrow button.
   The pair of font names will appear in the map table list box.

**To delete a mapped pair of fonts from the map list**

1. Click and highlight the pair of mapped font names you wish to delete from the map list.
2. Click the left arrow button.
   The font pair will be deleted from the map list.

**Tips**

- Corel Visual CADD will not map one source font to more than one destination font.
- You can add new fonts to the Generic CADD font list by using the GCD Settings Tab.

### DWG Font Import Tab

This tab allows you to control how fonts in translated AutoCAD drawings (.dwg files) are imported into Corel Visual CADD. The Import AutoCAD Font Mapping options display list boxes of AutoCAD font names, Corel Visual CADDfont names, and a list box showing which AutoCAD fonts have been mapped to which Corel Visual CADD fonts.

**To map AutoCAD fonts to Corel Visual CADD fonts**

1. Click the name of a AutoCAD font you wish to translate to a specific Corel Visual CADD font.
2. Click the name of the Corel Visual CADD font you wish to substitute for the specified AutoCAD font.
3. Click the right arrow button.
   The pair of font names will appear in the map table list box.

**To delete a mapped pair of fonts from the map list**

1. Click and highlight the pair of mapped font names you wish to delete from the map list.
2. Click the left arrow button.
   The font pair will be deleted from the map list.

**Tips**

- Corel Visual CADD will not map one source font to more than one destination font.
- You can add new fonts to the AutoCAD font list by using the DWG Settings Tab.

**DWG Font Export Tab**

This tab allows you to control how fonts will be translated when Corel Visual CADD drawings are exported into AutoCAD .dwg format. The Export Corel Visual CADD Font Mapping options display list boxes of Corel Visual CADD font names, AutoCAD font names, and a list box showing which Corel Visual CADD fonts have been mapped to which AutoCAD fonts.

**To map Corel Visual CADD fonts to AutoCAD fonts**

1. Click the name of a Corel Visual CADD font you wish to translate to a specific AutoCAD font.
2. Click the name of the AutoCAD font you wish to substitute for the specified Corel Visual CADD font.
3. Click the right arrow button.
   The pair of font names will appear in the map table list box.

**To delete a mapped pair of fonts from the map list**

1. Click and highlight the pair of mapped font names you wish to delete from the map list.
2. Click the left arrow button.
   The font pair will be deleted from the map list.

**Tips**

- Corel Visual CADD will not map one source font to more than one destination font.
- You can add new fonts to the AutoCAD font list by using the DWG Settings Tab.

**GCD Settings Tab**

This tab allows you to add or delete font names in the GCD font lists used in the Import and Export mapping tables. You can also specify default fonts to be used in case unknown fonts are encountered during file translation between Generic CADD and Corel Visual CADD drawings.

**Ignore Font Map** When checked, current font mapping in GCD Font tabs is overridden. All fonts are mapped to the existing fonts of the same name. If the font of the same name does not exist, Corel Visual CADD will map the font to the default font.

**To add a new Generic CADD FNT file name to the list**

1. Type the font name in the text box below the Generic Font Names list box.
2. Click the Add button.
   The new font will be added to the list and to the translation map tables.

**To delete a Generic CADD font from the list**

1. Highlight the font name in the Generic Font Names list box.
2. Click the Delete button.

The font will be deleted from the list and from the font translation tables.

### DWG Settings Tab

This tab allows you to add or delete font names in the DWG font lists used in the Import and Export mapping tables. You can also specify default fonts to be used in case unknown fonts are encountered during file translation between AutoCAD and Corel Visual CADD drawings. You can also choose whether color numbers are to be preserved in the translations (this option may be more important for users of pen plotters, even though this may cause object colors to change), or if the colors numbers should be changed so that the on-screen colors are preserved during the translation (this option should be selected if it is more important for the drawing to look the same after translation).

**Ignore Font Map** When checked, current font mapping in DWG Font tabs is overridden. All fonts are mapped to the existing fonts of the same name. If the font of the same name does not exist, Corel Visual CADD will map the font to the default font.

#### To add a new AutoCAD FNT file name to the list

1. Type the font name in the text box below the AutoCAD Font Names list box.
2. Click the Add button.
   The new font will be added to the list and to the translation map tables.

#### To delete an AutoCAD font from the list

1. Highlight the font name in the AutoCAD Font Names list box.
2. Click the Delete button.
   The font will be deleted from the list and from the font translation tables.

# Measure Distance (MD)

Measures the distance and angle between two points, and reports the result in a text box in a speed bar. Measure Distance can also measure the lengths and perimeters of all objects in a selection set.

**To measure the distance between two points**

1. Click the Utilities menu, click Measure, and then click Measure Distance & Angles.
2. Place a point where you want the distance to be measured *from*.
3. Place a point where you want the distance to be measured to.

   The distance is displayed in the Segment Distance box on the speed bar, and a new rubberband line will join the latest point placed with the current cursor location.
4. You may keep placing points to measure additional distances.

   Corel Visual CADD displays the distance between the last two points placed, as well as the cumulative length of all distances measured in the current Measure operation. The distance is displayed in the current numeric format and units.
5. When finished measuring distances, click the right mouse button, and click the Pen Up command, or click OK on the speed bar.

**To measure the lengths of selected objects**

1. Click the Utilities menu, click Measure, and then click Measure Distance & Angles.
2. Select the objects whose lengths or perimeters you wish to measure, or select points along the perimeter. You can measure the lengths or perimeters of all basic geometric objects except text, dimensions, and attributes.
3. A speed bar appears with the total length displayed. You may place points to define additional distances, or click the OK button to close the speed bar.

**To measure the angle between two points**

1. Click the Utilities menu, click Measure, and then click Measure Distance & Angles.
2. Select two points defining the angle.
3. A speed bar appears with the angle displayed.

**To measure the angle between two lines**

1. Click the Utilities menu, click Measure, and then click Measure Distance & Angles.
2. Select three points defining the angle.
3. A speed bar appears with the angle displayed.

# Measure Area (MA)

Measures the area enclosed by a path defined by a series of points. Also measures the area of selected closed objects.

**To measure an area defined by a series of points**

1. Click the Utilities menu, click Measure, and then click Measure Area.
   A speed bar appears.
2. Enclose the area to be measured by placing a series of points.
3. When finished, click the right mouse button, and then click Pen Up, or click OK on the speed bar.
   Corel Visual CADD connects the last point placed to the first point to create a closed shape, calculates the area, and displays the result on the speed bar.

**To measure the area of selected closed objects**

1. Select the closed objects whose total area is to be measured.
   Any closed objects may be selected; however, they must be truly closed. Continuous lines must be closed with the Close Contour command, or by connecting the endpoints with the nearest point snap.
2. Click the Utilities menu, click Measure, and then click Measure Area.
   A speed bar appears with the total area displayed.

# Layer Manager (MGL)

Use Layer Manager to:

- Highlight individual layers, ranges of layers, or all layers to be displayed, hidden, or selected for editing.
- Set the current layer.
- Name layers and sort them by name.
- Display only layers that have been named or have data on them.
- Assign properties to a selected layer so that all objects you subsequently draw on that layer have those properties in common., such as: linetype, color, and line width.

### To use Layer Manager

1. Click the Utilities menu, and then click Layer Manager or type MGL.

   A dialog box appears, displaying a list of layers. You can use the scroll bar to display the status of all layers supported by Corel Visual CADD. Layer numbers and names are displayed, with the name of the current layer in boldface, and layers with data on them are marked with asterisks (*). Listings for hidden layers are grayed.
2. Check Short List to display only those layers that have been named or have data on them.
3. Check Redraw to display or hide layers immediately after you select a layer and click the display or hide button.

   The Redraw option provides good visual feedback of your layer hide/display operations, but it can be time-consuming to wait for layers to be displayed or hidden before you can select more layers. Turning Redraw off causes Corel Visual CADD to wait for you to close Layer Manager before it will hide or display the chosen layers.
4. Select one or more layers, and then click the display or hide button, or perform other editing functions, such as naming layers.

   You can highlight ranges of layers by dragging across the desired range (using standard Windows techniques), or click the select-all button to select all layers.

   You can also select ranges of layers by typing them in the text box above the layer list box. You can indicate a range with a dash, and separate individual layers or ranges with commas. For example, you can select several layers by typing : 3-8, 10, 14, 17-25, 60.

   To name or rename a layer, click a layer name, click again or press ENTER, type a name, and then press ENTER.

### To assign properties to a layer

1. In Layer Manager, select a layer (or hold down Shift and select a series of layers), and then click the Layer Properties button.
2. On the Layer Properties speed bar, select options from the drop-down list to set the layer properties, and then click Apply to assign properties to the next selected layer, or click OK to close the Layer Properties speed bar.

### Tips

- Layer Manager can remain on the screen while you perform other drawing or editing operations. If you do not check Redraw, however, be sure to close Layer Manager before performing any drawing or editing operations, so that the display is updated before you try the operation.
- Double-clicking the Layer Manager title bar rolls it up and down.
- To assign layer properties to objects drawn on a layer before properties were assigned to it, select the objects, click the Modify menu, click Change, and then set the objects' properties to "LP."
- If you want to change properties of an object that has been assigned layer properties, click the Modify menu, click Change, and then select different options from the properties drop-down lists.

# Text Editor (TE)

Use the Text Editor to create multiple-line blocks of text. You can use this command to edit existing blocks of text, or to create text required in all situations, except in dimensions, leaders, and attributes. When using the text editor to edit existing text, it can only edit one line or block of text at a time. To change multiple lines or blocks of text, use Text Change.

**To enter a new block of text using the Text Editor**

1. Click the Utilities menu, and then click Text Editor.
   The cursor changes to an I-beam.
2. Move the I-beam cursor to the desired starting location for the new text, and click to place a point.
   The point becomes the justification point for the first line of text and the Text Editor dialog box appears.
3. Type the text, pressing ENTER to start each new line of text.
4. If necessary, change text settings.
   Before you place the text, you can change the layer, font, text height, color, justification, line spacing, character spacing, degree of rotation, and whether the text is boldface, italics, or underlined. Text properties are independent of other object properties, so changing them does not affect comparable properties of other objects.
5. Click OK.
   The text you typed is placed in the drawing, with the current text properties. These properties are applied to subsequent text placements until you change them.

**To edit an existing block of text**

1. Select a single block of text.
2. Click the right mouse button, and then click Text Editor.
   The Text Editor dialog box appears, displaying the selected text in an edit window.
3. Edit the text as you wish.
4. If necessary, change the text properties.
5. When finished editing the text and changing settings, click OK.
   The selected text is replaced with the edited text, using the new properties. The text settings you used are applied to subsequent text placements until you change them.

See also Text/ATB Tab, Text Line, Font Converter.

# Match Entity (ME)

Use Match Entity to quickly set all current properties to match those of an existing object in the drawing. This command matches line color, line type, line width, layer, angle, length, and/or all other appropriate properties of the target object.

**To match the properties of an existing object**

1. Click the Utilities menu, and then click Match Entity.
2. Click an object whose properties you wish to match.

   All property settings appropriate to that object type are matched to that object.

# Match Tool (MT)

Use Match Tool to immediately start drawing a new object that fully matches an existing object. This command matches line color, line type, line width, layer, and/or all other appropriate properties of the target object. It then selects the drawing tool that created the object so that you can draw the same type of object.

**To match properties and begin the tool for a particular entity**

1. Click the Utilities menu, and then click Match Tool.
2. Click an object whose properties you wish to match.

   All property settings appropriate to that object type are matched to that object. In addition, Corel Visual CADD selects the correct drawing tool to draw a similar object.
3. Draw the new object.

# Pack Data (PD)

Whenever you draw or modify an object, you make changes to the Corel Visual CADD drawing database. Corel Visual CADD keeps track of the changes by marking the items that have been changed, but it does not actually remove them from the drawing database. This technique allows previous states of the drawing to be restored with the Undo and Redo commands.

On the other hand, maintaining old copies of entities takes up memory and slows system performance. The Pack Data command allows you to free memory and restore optimal performance by purging old drawing data from the database. Use this command periodically when running Corel Visual CADD, particularly after you have made numerous or complex changes to the drawing.

**Warning:** The Pack Data command removes all non-current database entries, and is irreversible. Once you execute this command, you will not be able to undo any actions that have been performed previously.

**To use the Pack Data command**

1. Click the Utilities menu, click Tools, and then click Pack Data.

   A message box will appear, asking you to confirm that you want to proceed with the Pack Data command.
2. Click Yes to confirm that you want to go through with the Pack Data command.

   The database will be packed. If you try to use the Undo command before performing any more undoable commands, Corel Visual CADD will display a prompt indicating that there is nothing to undo.

# Assign Script (AS)

Use Assign Script to create Corel Visual CADD macros (command scripts) while in a drawing session. With scripts, you can automate tasks involving the same series of commands, even if data or other options differ from one instance to another. When the programmed button or key is pressed, the sequence of commands that you specify executes automatically, pausing only where you specify to wait for data input or a command option.

The scripts that you create are saved in a text file called Script.def. This file can be copied and shared with other Corel Visual CADD users.

**To program a button or key with a command script**

1. Click the Utilities menu, click Tools, and then click Assign Script.
2. Click the vertical scroll button to the right of the top text box.

   A list of programmable buttons and keys appears, along with the script (if any) currently assigned to each. Pointer buttons are designated B2 through B16. Function keys are designated F2 through F12 (excluding F1 and F10, as these keys are reserved for Windows). Number and letter keys are as shown. A prefix of S or C means SHIFT or CTRL must be held down while pressing that key.
3. Click the line that includes the button or key you wish to program with a script.

   The button or key appears at the top. If the button already has been assigned a script, the current script will appear in the Edit Script Line text box.
4. Type the command sequence you wish to program into the Edit Script Line box, or choose a command from the Command list to the right and click the << button to add it to the script. You may also double-click the command to add it to the list. Each command must end in a semi-colon.
5. When you are satisfied with the script, click Update to apply the script to the selected button or keystroke. If desired, another button or keystroke combination may be edited at this time.
6. Click OK to close the Assign Script dialog box.

**Tips**

- Instead of typing commands, you can select them from the command list to the right of the script box. When you double-click a command name, the command is copied to the next spot on the script line.
- In commands that require points to be specified, you can either hard-code specific coordinates in the script or insert an @ in the script at the locations where points would be needed. The @ character tells Corel Visual CADD to wait for you to place a point (either by a mouse click, snaps, or keyboard entry) before proceeding with the next step. If you hard-code a specific coordinate value, the X and Y value of a Cartesian coordinate pair or the distance value of a polar coordinate pair must be followed by a comma. Otherwise, all data entries must also be followed by a semi-colon.
- In commands that involve persistent tools, such as continuous-line, double-line, or irregular-polygon tools, an @@ statement may be used to signify an unknown number of user points. Invoking Pen Up will end the persistent tool and move to the next command in the script, if applicable.
- In commands that set a property (such as color and layer), you can either hard-code a specific value in the script, or insert a =;@ statement so that you can set the property by example. The equals sign instructs Corel Visual CADD that you wish to set the property by example, and the @ character tells Corel Visual CADD to wait for you to click on the target object that has the desired property. For more information about setting properties by example, see Matching: Show by Example.
- Several commands cause specialized speed bars to appear. These may interrupt the execution of the script. To turn display of speed bars off while the script is executing, use the UIOff statement at the beginning of the macro to temporarily turn off the user interface; then use the UIOn statement at the end of the script to restore display of speed bars.
- For the complete list of available native commands and two and three letter key commands, please see "Keyboard shortcuts and Native Commands".
- External programs or executables may be run from scripts by using the EXENAME;path\filename;RUN; format.

**Examples:**

The following script causes Corel Visual CADD to prompt you to select objects using a selection window, and then erases the selected objects:

**CS;SW;@;@;ER;**

CS is the keyboard shortcut for the native command SelClear, which deselects all objects so that the drawing is cleared of any selected objects before selecting for deletion. SW is the SelWin command, which selects objects enclosed in a selection frame. The two @ symbols are prompts for you to choose the diagonally-opposite corners of the selection frame. Finally, ER is the keyboard shortcut for the Erase command, which erases all selected objects.

The following script is intended to be launched while you are dragging a symbol, prior to placement. The script causes Corel Visual CADD to prompt you to click on a line, then matches both the symbol rotation and Ortho angle to the angle of the line. The script then initiates the Track command, allowing you to place the symbol at a desired location on or in relation to the line:

**SymRot;=;OrAngVar;$SymRot;TK;**

SymRot is the native command that sets symbol rotation. = causes Corel Visual CADD to wait for you to click on a line (or other object) that has the desired angle. OrAngVar is the native command that sets the ortho angle. The ortho angle value is set by $SymRot, which is the system variable that holds the newly set value for the symbol rotation. Finally, the Track command, TK, is initiated, and the tracking direction will match the angle of the target line.

The following script causes Corel Visual CADD to execute the double-line tool for as long as the user wants, and then immediately begins Intersection Trim:

**LD;@@;IT;**

**LD** begins the double-line tool. The @@ statement directs Corel Visual CADD to continue the tool until you invoke a Pen Up or other type of ending command (such as Close Contour). IT begins the Intersection Trim, which itself is persistent and will continue until the user presses ESC or begins another command.

The following script causes Corel Visual CADD to run an external program:

**ExeName;C:\APPS\VPAPPS\DRAW.EXE;RUN;**

**ExeName** tells Corel Visual CADD the next string (separated by **;**) in the script is the name of the external program, in this case, **C:\APPS\VBAPPS\DRAW.EXE**. **RUN** actually executes the file previously specified.

The following script will allow you to open up a style through a script without a dialog box appearing:

**FileName;C:\APPS\Dimstyle.sty;LoadStyle;**

**FileName** tells Corel Visual CADD that the next string is going to be a name of a file, which in this case is **C:\APPS\Dimstyle.sty,** and **LoadStyle** tells Corel Visual CADD the file it is loading is a style. If you wanted to load a drawing file instead, use **FileOpen** instead.

The following script allows a line type to be changed to a different type without a dialog box appearing.

**SetType;4;**

**SetType** tells Corel Visual CADD that the linetype is going to change and to change it to linetype **4**.

The following script allows the double line tool to be activated with custom wall thicknesses.

**LD;WWL;2;WWR;6;**

**LD** tells Corel Visual CADD that the double line tool is to be used, **WWL** tells Corel Visual CADD that the left wall width is to be **2,** and **WWR** tells Corel Visual CADD that the right wall width is to be set at **6**.

# Object Info (OI)

The Object Information dialog box displays entity-specific information about the entity or entities currently selected. Basic information, such as coordinate data and layer are displayed, as well as information unique to each type of entity. For example, the information for a circle would include not only coordinate data, layer, line type, and line width, but radius and diameter as well. The information for text would include its reference point, font, and font height, among others.

Object information displays the following basic information for all *selected* entities (with the exception of text and dimensions).

Entity Number
Entity Type
Layer
Color
Line type
Line width

If no entities are selected, Object Information displays information about the current drawing window. This information includes: the total number of entities in the drawing, valid entities in the drawing, and the drawing extents. The total number of entities in the drawing includes both current valid entities as well as entities maintained in memory as the undo list. For example, if a box is drawn and then undone (OO), the total number of entities in the drawing is one although the number of valid entities is zero. Saving the drawing to disk or the Pack Data command will clear the undo list.

**To display Object Information for Currently Selected Entities**

1. Select the entities about which you want to see information.
2. Click the Utilities menu, click Tools, and then click Object Information.
   The Object Information dialog box appears containing the pertinent information.
3. Click Close or press ESC to close the dialog box.

Information from the Object Information dialog box can be copied onto the clipboard for use in other Windows programs.

**To copy Object Information onto the clipboard:**

1. Select the text you want.
2. Type CTRL-c to copy the information to the clipboard
3. Open the desired destination program
4. Click the Edit menu, and then click Paste.

# Font Converter

The Font Converter allows the conversion of Generic CADD fonts (.fnt) and AutoCAD fonts (.shx) to the Corel Visual CADD format (.vcf) so that they may be used in Corel Visual CADD. Multiple fonts can be converted at a time. Once converted to the .vcf format, Corel Visual CADD can use the fonts in drawing and translation without having to convert them again.

**To convert fonts using the Font Converter**

1. Click the Utilities menu, click Tools, and then click Font Converter.

   The Font Converter dialog appears..
2. Under List Files of Type, choose to convert either Generic CADD (.fnt) or AutoCAD (.shx) fonts.

   While Corel Visual CADD can convert both types of fonts, it cannot do both at the same time. If you wish to convert both .fnt and .shx, you must run the Font Converter twice.
3. Change the directory if necessary to locate the desired fonts.
4. Select the font files to be converted.

   You can convert multiple files at once. To select several different files, hold down CTRL and click the desired files. To select a range of files, hold down SHIFT and select the first and last file in the range. New Corel Visual CADD fonts (.vcf) will be stored in the Font Path, which you can set on the Path TAB of the Settings dialog box.
5. Click OK to begin the conversion.

   A dialog box appears displaying the current status of the conversion. If you are converting many files, the conversion may take a few minutes. The fonts are now ready to be used in Corel Visual CADD. They will be listed together with the available TrueType fonts in Text Line, Text Editor, and the Text/Atb Tab.

# Status Bar

Corel Visual CADD's Status Bar, located at the bottom of the drawing screen, serves several functions. It is broken into sections, each of which can give you valuable visual feedback about the entity or tool currently in use. Clicking on the status line can toggle between coordinate entry modes and toggle on and off ortho mode. Clicking the right mouse button on the status line yields a pop-up menu from which you can open the Settings dialog box to make other changes.

**Prompt section**

The Prompt section serves several functions, depending on the location of the cursor. If the cursor is in the drawing screen, the Prompt section displays instructions for the current tool in use. For example, if you click the 2-point-circle tool, the Prompt section displays:

2 Point Circle: Enter Center Point

and, after you place the center point:

2 Point Circle: Enter Radius Point

If the cursor is over the toolbar, the Prompt section displays the name of the tool and its keyboard shortcut (if applicable). For example, if the cursor is moved over the Print icon, the Prompt section displays:

[PR], Print Drawing

If the cursor moves over a single selected object, the Prompt section displays specific information about that entity. For example, if the cursor moves over a block of selected text, the Prompt section displays:

Text: Arial 1" 45º L

For selected text, the prompt area displays: Font, Font Height, Font Rotation, and Font Justification.

If multiple items are selected, the Prompt section displays the sum of the items selected as the cursor passes over them.

**Coordinates section**

The Coordinates section displays the current X,Y position of the cursor in the drawing window based on the current manual entry mode and numeric settings.

**Length**

The Length section of the Corel Visual CADD status bar displays the current length of the entity being drawn relative to the last point drawn.

**Angle**

The Angle section of the Corel Visual CADD status bar displays the current polar angle of the entity being drawn, relative to the last point.

**High-resolution Screens only**

On screens running Windows at a higher resolution than 640x480 (VGA), Corel Visual CADD displays extra information at the end of the normal status bar.

**Ortho Status**

The Ortho Status section of the status bar displays the current on/off status of ortho mode. If ortho mode is on, the current ortho angle is displayed. For example, if ortho mode is currently on and ortho angle is 45º, this area displays:

Ortho:45.00

This section can also act as a quick way to toggle ortho mode on and off. If ortho mode is on, clicking this section will toggle ortho mode off.

**Current Manual Entry Mode**

The Current Manual Entry Mode displays the entry mode currently in use, i.e. ABS (Absolute), REL (Relative), or BPT (Basepoint). The current mode can be changed quickly by clicking this section of the status bar.

**Selection Count**

Displays the number of items currently selected.

## HP-GL

Acronym for Hewlett Packard Graphics Language. A common plotter language.

## Vector Fonts

Vector or Stroke fonts are created from compiling typical CADD entities such as lines, circles, etc. Therefore, they are more reliable when it comes to rotation, size, and scale than are TrueType fonts.

# TABLET MODE (GM)

In normal drawing mode, you can use the digitizer much like a mouse to draw and select commands. In Tablet Mode, you can digitize paper drawings by tracing drawings attached to the digitizer tablet, but you cannot access Corel Visual CADD's on-screen menus and buttons.

While in Tablet Mode, commands must be entered through the keyboard, function keys or digitizer buttons (see Assign Script for instructions on how to program function keys and digitizer buttons to launch Corel Visual CADD commands or scripts). This enables users to continue tracing or drawing entities that lie outside the visible drawing area on the screen, without taking their eyes off the tablet area to change views. Tablet Mode will automatically be turned off when switching to another Windows application while using Tablet Mode, and turned back on when returning.

**To digitize paper drawings using Tablet Mode**

1. Click the Utilities menu, click Digitizer, and then click Tablet Mode.
2. Use the Align Drawing command or the Digitizer Scale command to align the reference frames and to determine the scale factor between the screen and paper drawing.
3. Trace points with the digitizer puck to recreate the drawing.

**Tip**

You can only use Tablet Mode with WinTab-compliant hardware and drivers.

# ALIGN DRAWING (GA)

Use Align Drawing to prepare to digitize a paper drawing, when at least one distance or set of coordinates on the paper drawing is known, but the exact scale of the drawing is not. Align Drawing not only calculates the scale factor of the paper drawing, but compensates for any misalignment of the paper drawing on the digitizer.

**To align and digitize a paper drawing**

1. Securely attach the paper drawing to the digitizer tablet using tape or other means. Horizontal or vertical alignment is not critical.
2. Click the Utilities menu, click Digitizer, and then click Align Drawing. If it was not already on, Tablet Mode will automatically be turned on.
3. Draw a line in Corel Visual CADD's drawing area that represents a line on the paper whose length and angle you know.
4. Align the digitizer crosshairs over the first point of the line in the paper drawing corresponding to the line drawn in step 3, then click the digitizer button to place the point.
5. Align the digitizer crosshairs over the second point of the line in the paper drawing corresponding to the line drawn in step 3, then click the digitizer button to place the point.
6. Type coordinates or snap to the endpoints of the line drawn in step 3.

   The digitizer scale speed bar will appear, with the calculated digitizer scale displayed.
7. Click the OK button to accept the calculated digitizer scale, or type a new value in the text box.

# DIGITIZER SCALE (GZ)

In effect, the Digitizer Scale factor translates coordinates on the digitizer tablet into real-world coordinates. It applies whenever Tablet Mode is in effect, including drawing or tracing. It is set automatically with the Align Drawing command, but can be changed at any time with the Digitizer Scale command. For example, if the Align Drawing operation results in a scale factor of 47.65 to one for an architectural drawing, it is reasonable to assume that the actual scale of the paper drawing is 48:1, or ¼" = 1' 0", and it would be appropriate to change the Digitizer Scale factor to 48.

**To adjust the digitizer scale**

1. Click the Utilities menu, click Digitizer, and then click Dig Scale.
   The Digitizer Scale speed bar appears.
2. Enter a reference distance in the Digitizer text box.
3. Enter a distance in the World text box, corresponding to the real-world distance represented by the reference distance on the digitizer.
4. Click the OK button to accept the two values.
   The ratio between the two distances will be calculated automatically as the digitizer scale factor.

**Tip**

The digitizer scale is only used when in Tablet Mode. When in normal drawing mode, the digitizer scale has no effect.

## Coordinate Systems

You draw objects in Corel Visual CADD by placing construction points. For example, you can specify the center point and a point on the circumference to draw a circle. You can easily place these points by pointing and clicking your mouse.

In Corel Visual CADD you can place a point most accurately by typing its coordinates in the status bar, rather than clicking the point with the mouse. You can identify the X and the Y coordinates (the Cartesian system), or you can identify the length and an angle (the polar system).

Manual entry of coordinates will override potentially conflicting constrained operations such as snap to grid and ortho mode. Keep this in mind when entering coordinates while in a constrained operation.

# X and Y Coordinates

When you type coordinates using the Cartesian coordinate system, you can choose among three different methods (when you use the mouse, you don't have to be concerned with them). You indicate which of the following Cartesian coordinate origins you'll be using by clicking the Utilities menu, clicking Settings, and then clicking the Constraint tab. Under Manual Entry select one of the following options:

Relative: You can type relative coordinates that are distances on the X and Y axes relative to the last point entered. In relative entry mode, the status line reads REL.

Absolute: Work in your drawing using absolute coordinates. These are distances on the X and Y axes relative to the origin point of your drawing, which has the coordinates of (0,0). In absolute entry mode, the status line reads ABS.

Basepoint: Corel Visual CADD allows you to designate a temporary "origin" in your drawing, called a basepoint. This is useful if, for example, you will be drawing a house in an area that is not close to the origin—you could base all of your coordinates on a point at the lower right corner of the house. Basepoint coordinates are distances on the X and Y axes relative to the basepoint you establish on the Constraint tab of the Settings dialog box. In basepoint entry mode, the status line reads BPT.

**To enter coordinates for a point from the keyboard**

1. Select a drawing tool.
2. Type the coordinates, separated by a comma, and press ENTER.

   For example, when you type 20,30, these coordinates are displayed in the status bar at the bottom of the window. The coordinates are automatically entered in the system you have chosen in the Settings dialog box. The system you have chosen is identified in the right-most position on the status bar (on high-resolution monitors).

# Polar Coordinates

Corel Visual CADD provides you with the option of specifying a length (or distance) and an angle from the previously specified point. Angles are measured starting at the 3-o'clock position from the current manual-entry reference point, so any point on an imaginary line that falls directly to the right of the last point entered will have an angle of 0 degrees. If you move counterclockwise around the last point entered, the angle measurement increases. If you move clockwise, the angle starts at 360 degrees and decreases. (You can also enter negative angles, which start at the 3-o'clock position and move clockwise.)

You can enter polar coordinates whenever you want; Corel Visual CADD recognizes them as polar rather than Cartesian coordinates because of the format you use to enter them.

**To enter polar coordinates**

1. With ortho mode turned off and manual entry set to Relative, select a drawing tool.
2. Click the mouse to locate the first point.
3. Type a distance and an angle in the following format, and then press ENTER:

   **7,<30**

   where 7 is the distance and 30 is the angle.

   The point is placed at the distance and angle from the original point that you have specified.

   Polar Coordinate 7,<30 (Relative Mode)

## Direct-Distance Entry

Corel Visual CADD provides you with a feature called direct-distance entry, which is a shortcut alternative to typing polar coordinates. Direct-distance entry can be used whenever you are drawing or performing a procedure involving two points and a direction.

**To use direct-distance entry**

1. Choose a drawing tool or the function to be performed.
2. Specify the first point either by clicking the mouse or by entering a coordinate.
3. Drag the mouse in the desired direction (in ortho mode, if appropriate).
4. Type a distance.
   Corel Visual CADD places the second point.

For example, when drawing a line you can click the beginning of the line, drag the mouse in a particular direction, type the distance on the keyboard, and press ENTER. If you are moving a point or object, you can also use direct-distance entry to specify the new location.

# Command Entry Options

Corel Visual CADD provides you with several ways to enter commands; you can choose the method you want to use depending on the task at hand and your personal preference. You may want to start by choosing commands from the menus and then gradually switch to typing two- or three-letter keyboard shortcuts as you become familiar with them.

When you enter a command, the command name, or instructions for how to use the command, appear in the status line. Most commands remain in effect only until the command process is complete. When drawing an object, for example, if the object has no obvious endpoint, you indicate completion by double-clicking the mouse, by pressing ESC, or by clicking the right mouse button and choosing the Pen Up command.

You can repeat most commands simply by pressing the spacebar. For example, if you have just used the Zoom In command, you can press the spacebar to zoom in again.

If you start drawing without first selecting a tool, Corel Visual CADD uses the default tool. Click the Utilities menu, click Settings, and then click the System tab to select the tool you want Corel Visual CADD to default to—the continuous line tool, single line tool, or selection tool. The following Corel Visual CADD tools are persistent and will remain active until you choose another tool or until you press ESC: trim single, trim multiple, fillet, chamfer, and the selection tool.

Many commands can be "nested" within one or more other commands. You'll often find that you'll want to use multiple commands during drawing and editing operations. For example, while drawing a polygon you can choose a snap command. While drawing a continuous line, you might want to choose the Ortho Angle command to change the angle of constraint, the Match command to specify the angle by example, and the Snap Closest command to find two points that define the angle.

You have the following choices when entering commands in Corel Visual CADD:

- Choose tools from the *tool bar* to quickly activate Corel Visual CADD commands.
- Choose commands from the *menus*, just as you do in other Windows applications.
- Click the ***right mouse button*** wherever it is in the drawing window to choose from a display of commands appropriate for the particular task at hand.
- Type *keyboard shortcuts* associated with commands.
- Click a button or select from a list in one of Corel Visual CADD's *speed bars*.
- Execute a command or a series of commands using a *function key* or another user-definable key sequence.

# Tool Bar

You can use the buttons on the toolbar to quickly choose one of Corel Visual CADD's tools. Most of these tools are categorized into groups, and each group occupies one position in the tool bar. See the *Corel Visual CADD User Guide* for a list of all the tools in the tool bar. Each group has its own pop-out menu of tools, with the most recently used tool in the group currently showing in the toolbar, on "top of the stack." (Pop-out menus in the toolbar are indicated by a small triangle on the right edge of the tool button.).

To choose a tool that is currently displayed, just click it. The name of the tool and instructions appropriate for the tool, are displayed in the status bar. If the tool you want to use is not currently displayed, click the appropriate group of tools and, dragging the mouse to the right, choose the appropriate tool. Or you can click the right mouse button to cycle through all the tools in the group.

The tool you have chosen now appears on top of the group in the toolbar.

# Menus

Corel Visual CADD provides standard Windows-type menus located on the menu bar at the top of the window. These menus provide access to all the commands available in Corel Visual CADD. Click a menu to display the commands for that menu. Arrows displayed to the right of commands indicate that subcommands are attached to the commands. An ellipsis (…) following a command indicates that the command opens a dialog box when chosen.

You can choose commands from menus by clicking the command or by pressing Alt, the letter underlined in the menu name, and then the letter underlined in the command name. For example, press ALT + D + R + 3 to activate the 3-point rectangle command from the Draw menu.

Corel Visual CADD also provides context-sensitive "smartpopup menus" of commands that are appropriate for the task you are performing. For example, while drawing a regular polygon, if you click the right mouse button, a list of the following commands is displayed: Number of Sides, Inscribed, Zooms, Snaps. Context-sensitive commands appear when you click the right mouse button during any process. Then click one of the commands displayed.

See Also: Customizing Corel Visual CADD, Customizing Menus and Customizing Mouse Menus.

## Keyboard Shortcuts

Once you learn them, the fastest method of entering a command in Corel Visual CADD is to enter the two- or three-letter keyboard shortcut associated with each command. These shortcuts, such as C2 for a two-point circle and SE for Select, appear in the status bar preceding the command name each time you choose a command. A list of these keyboard commands is included on the quick-reference card, as well as in the appendix of the *Corel Visual CADD User Guide*.

Since Corel Visual CADD recognizes all the keyboard shortcuts as commands, you don't need to indicate in any way that you are about to enter a command and you don't need to press ENTER when you have entered the shortcut. When you enter a keyboard shortcut, look in the status bar and you'll see that Corel Visual CADD has accepted the command and has either executed it or is prompting you to perform the next step.

## Speed Bars

Speed bars are displayed under the menu bar in the Corel Visual CADD window. Which one is displayed depends on what you are doing at any particular time. The main speed bar is the one you'll see most often. It appears whenever one of the specialized speed bars are not needed and gives you quick access to frequently used, general purpose commands. The wide button at the right, called the Properties button, shows you the layer, color, line type, and line width in which objects will be drawn, by default. If you click this button, the line properties speed bar is displayed.

In general, you use the speed bar in the same way you use the tool bar; you choose a command by clicking a button. A description of the button appears in the status bar as you move the mouse over the button. In addition, some of the speed bars include pull-down lists that you can select from just as you select from lists within dialog boxes. From any of the specialized speed bars you can return to the main speed bar by clicking the OK button on the speed bar.

# Scripts

If you repeat actions often when drawing in Corel Visual CADD, you can write a script and assign it to a single keystroke or a combination of keystrokes, including function keys, and mouse or digitizer buttons. Corel Visual CADD provides a default set of functions for the function keys, but you can change these and you can assign other keys and key combinations to perform particular functions. You can assign scripts on the fly while you're working in Corel Visual CADD; if you find you're needing to repeat a series of commands for a particular task, just assign the series (the script) to a keystroke or key combination and Corel Visual CADD will do the work for you. For example, you could assign Alt + F7 to draw a 10-sided polygon.

You can view and change or add to your current key definitions using the Assign Scripts command on the Utilities menu.

**To assign a script**

1. Choose the Assign Script command from the Utilities menu.

   The **Assign Script** dialog appears:

   In the dialog, select the key or key sequence you want to use from the drop-down list.

   You can choose a mouse or digitizer button, a function key, or any of the number or letter keys. You can use these keys in combination with the CTRL or SHIFT keys.
2. Select the command or commands you want to be performed from the right list.

   The commands you select are displayed in the left text box. You can select as many as you want and Corel Visual CADD will separate the commands with semi-colons. For more information on the nature of scripts see Assign Script.

When you have finished creating the script, click Update, and then click OK to exit the dialog box, or choose another key or key combination to which to assign a script.

See Also:Keyboard shortcuts and Native Commands

# Line Properties

The line properties for all objects in your Corel Visual CADD drawing, excluding text, dimensions, hatches, fills, symbols, and attributes, can be preset for your entire drawing and can be changed at any time. These line properties include layer, color, line type, and line width, and can be specified in any of the following ways:

- Using the **Properties speed bar**, which you can display by clicking the Properties button on the main speed bar. Change one or more properties by selecting settings from the drop-down lists and then clicking OK when you're done. The settings you specify will be applied to all point markers, single lines, continuous lines, double lines, rectangles, polygons, circles, arcs, ellipses, elliptical arcs, and curves, until you change them.
- Using the **Layer Properties speed bar**, which you can display by clicking the Layer Properties button in Layer Manager. Designate any layer to apply certain properties automatically when you draw objects on that layer. See Layer Manager for more information.
- Using the Match Entity command, which you can choose by clicking the **Match button** on the Properties speed bar. Select one or more properties on the speed bar, and then click the existing object that you want to match. When you draw subsequent objects, they will have those properties. If you want to match *all* the properties of an existing object, click the Match button *without* first clicking on any properties in the speed bar, and then click the existing object that you want to match.
- Applying a style that includes the line properties you want to set.

Which option you choose for setting your line properties depends on what you are drawing and where you are in the drawing process. You might want to specify your line properties along with other settings when you first begin drawing, using the Settings dialog box, and then change these settings as necessary during the drawing process using the Properties speed bar.

## Snaps

Perhaps the most important feature of a CADD program is the ability to place or constrain points in relationship to other elements in your drawing. Corel Visual CADD offers a complete set of referencing commands called snaps. When you use a snap command while locating a point, the point snaps into position. The following snaps are available:

- Object (SO) snaps to the closest point on the closest object (from the selected point).
- MidPoint (SM) snaps to the midpoint of the selected object.
- Perpendicular (SP) constrains the construction of the entity being drawn perpendicular to an existing object.
- Tangent (ST) constrains the construction of the entity being drawn tangent to a circle or arc.
- Percentage (SR) snaps to a point on an open entity that lies a specified distance (expressed as a percentage) away from the first endpoint placed.
- Closest (SC) snaps to the existing definition or handle point closest to where you click.
- Center (SN) snaps to the center of an arc, circle, or closed entity.
- Quadrant (SQ) snaps to the closest quadrant point of a circle or arc.
- Near Point (NP) snaps to the nearest point in relation to the current cursor position.
- Last Point (LP) snaps to the last point placed.

You can use a snap whenever you are expected to place a point. For example, when you issue the Single Line command, you are prompted for the starting point of the line. Before you click the point, you can choose a snap command, which will affect the placement of the starting point. For example, if you choose the Closest Snap and click near the end of an object, the starting point of the line will be placed exactly at the endpoint of that object.

The Perpendicular and Tangent snaps can function either as snaps or as drawing constraints. As snaps, these commands typically are used to find the ending point of a line or line segment so that the completed line is perpendicular or tangent to a specified object. When used as constraints, these commands cause the rubber band preview line to maintain a perpendicular (or tangent) relationship to a specified object as you move the cursor. You can place the endpoint anywhere, and the resulting line will be perpendicular or tangent to the specified object.

Most snaps can be invoked from the toolbar, from the Snaps menu, by typing the keyboard shortcut or from a popup menu accessed by clicking the right mouse button. Neither of the following snaps require that you click a point after invoking the snap:

- *Near Point*, which snaps to the current cursor position. Invoke this snap by typing NP or by pressing Shift + the right mouse button.
- *Last Point*, which snaps to the last point placed. Invoke this snap by typing LP.

You can most easily understand the power of snaps by trying them.

# Layers

Everything you draw in Corel Visual CADD is placed on a layer of your drawing. You can place everything on one layer or you can store related groups of information on different layers. This is similar to manually drawing different types of information on the overlay sheets commonly used in conventional drafting that can be viewed independently or stacked on top of one another to compose a complete drawing. For example, you might place a basic floor plan on layer 1, its furniture layout on layer 2, the electrical system on layer 3, the plumbing on layer 4, and so on. You can create, edit, view, and print any combination of layers together. You can move objects from one layer to another.

You can draw an object on any layer and with any properties you choose, or you can designate any layer to apply certain properties automatically when you draw objects on that layer.

At any time, one layer is designated as the current layer, and all objects you draw are placed on that layer. (You can designate separate layers for dimensions and text, regardless of which layer is "current".)

There are several ways to set the current layer in Corel Visual CADD. You can click the Properties button on the main speed bar, then select the desired layer from the layer box. You can use a keyboard shortcut (which, by default, is CL) to set the current layer. Finally, you can use Layer Manager to set the current layer, and to name, select, display and hide layers. On the Dimension tab in the Settings dialog box you can set a layer for all dimensions. On the Text/Atb tab in the Settings dialog box, you can set a layer for all text in a drawing.

Layer Manager is a stay-on-top dialog box that you can keep open while you're working on different layers. Notice the following in the Layer Manager list:

- Corel Visual CADD automatically assigns numbers to each of the 1,024 layers, which you can replace with a name if you want.
- You can sort layers alphabetically by name and return them to their original order.
- An asterisk (*) preceding the number means that at least one entity has been placed on the layer.
- A boldface layer name identifies the current layer. Everything you draw will automatically be placed on this layer unless you specify otherwise (except for dimensions or text, if you have placed them on their own layers).
- Any layer that is "dimmed" in the list means that all entities on it are hidden and not currently visible in the drawing.
- If you check the Short List check box at the bottom of the dialog box, Corel Visual CADD lists only the current layer, named layers, and layers containing drawing data.

{button ,AL(`Layer',0,`',`')}  See Also

# Symbols

Symbols are collections of objects that are grouped together, named, saved, and treated as a single object. You can insert them repeatedly in the same drawing, or save them on disk for use in future drawings. This saves you the time that would be necessary to draw the same objects over and over, and also provides some additional advantages. For example, each symbol is defined just once in the drawing database, so that repeated placements of the same symbol have little impact on drawing file size. The same symbol can be inserted in different locations, and at different rotations and sizes. You can create symbols yourself from objects you have drawn, use symbols from the symbols library that is included with Corel Visual CADD, and purchase commercial symbols libraries appropriate for your use.

Symbols can consist of anything you want, such as a kitchen stove, a scrollwork pattern, or an electrical outlet. You can modify a symbol at any time by first "exploding" it into its various components, changing the components as you want, and then recreating the symbol. Symbols have a "handle" point that determines how the symbol will be aligned with the placement point you select.

Finally, symbols have an identity that distinguishes them from lines, arcs, text, and other "primitive" CADD objects. This allows specialized programs to extract information about the number and types of symbols that are in a drawing, and, from that information, generate bills of materials, schedules, and other reports. You can even attach attributes (textual information) to symbols, and this information can also be extracted from the drawing to increase the information that symbols can provide.

To place symbols accurately in a drawing, you should be familiar with Corel Visual CADD's coordinate entry and point placement tools.

In general, you work with symbols in Corel Visual CADD as described in the following list. For more information, see the descriptions of the specific commands.

- You can create a symbol in your drawing by clicking the Symbol menu, clicking Create Symbol , identifying the existing entities to be included in the symbol, and then naming it.
- You place a symbol in your drawing simply by choosing it from the symbol list in Symbol Manager and then placing the handle. Once a symbol is selected in the symbol list, you can place it by first either clicking it in the preview box, by clicking the place symbol tool in the tool bar, or by clicking the Symbol menu, and then clicking Place Symbol. The symbol appears in the drawing when you place the handle.
- You can view a symbol list for each of your drawings by displaying Symbol Manager. This symbol list consists of the symbols you have created in the drawing, together with any symbols you have loaded into your symbol list either from other Corel Visual CADD drawings or from symbols libraries.
- You can load symbols into your symbol list by clicking the Symbol menu, and then clicking Load Symbol. In the Open dialog box, select one or more symbol files to be loaded into your drawing.
- To make a symbol you have drawn available for other drawings, you save it to a file by clicking the Symbol menu, clicking Save Symbol, and then naming it.
- You can divide a symbol you have placed into its individual component entities by first selecting it, clicking the Symbol menu, and then clicking Explode Symbol. Or you can explode the symbol as you place it by checking Auto Explode on Symbol Manager. You can replace all instances of one symbol in your drawing with another by clicking the Symbol menu, and then clicking Symbol Replace.

## Symbol Attributes

You can attach an attribute, which is a collection of textual information, to a symbol. A typical attribute might include an item's model number, size, and colorany kind of information regarding a symbol that you want to keep track of. You can choose to display an attribute next to the symbol in the drawing, or you can hide it.

You create attributes by clicking the Symbols menu, clicking Attributes, and then clicking Create Attribute. Each attribute can include up to 128 fields and corresponding values. Once you have placed a symbol, you can attach an attribute to it by clicking the Symbol menu, and then clicking Attach Attribute.

For more information about attributes, see Attach Attribute and Create Attribute commands.

## Drawing Constraints

It is often necessary to place points or draw lines that have certain geometric relationships with other points or objects. Corel Visual CADD provides several tools that restrict or constrain point placement to maintain such relationships. The effect of the constraints is previewed by the rubberband line, which displays while drawing or editing operations are in effect. These tools can dramatically improve the ease and accuracy of point placement, and are summarized as follows:

- Ortho Mode (OR) aligns each new point horizontally or vertically with the previous point placed. The angle of alignment can be changed from horizontal and vertical to any specified angle with the Ortho Angle (OA) command.
- Tracking (TK) allows you to locate points in reference to other points, along orthogonal axes.
- Snap Perpendicular (SP) can be used to create a perpendicular constraint between the rubberband line and a specified object.
- Snap Tangent (ST) can be used to constrain the rubberband line to remain tangent to a specified object.

# Ortho Mode (OR)

Much of your work in Corel Visual CADD consists of drawing or editing along horizontal and vertical axes. You can ensure this by manually entering coordinates, but it's much quicker to work in ortho mode. You can use the Ortho command to constrain point placement so that each point placed is in perfect horizontal or vertical alignment with the previous point.

- You can turn the Ortho command on by choosing it from the Snaps menu. A checkmark precedes the command when it is turned on. You can choose the command before or in the midst of a drawing or editing operation.
- If you're going to enter only a few points orthogonally, you can press the CTRL key while entering the points (if you're already in ortho mode, using the CTRL key takes you temporarily out of the mode).

Although the default orientation of the orthogonal axes is 0/90, these axes can be rotated to any angle you choose. This allows you to draw or edit by placing points that are in 90-degree alignment to one another but not on the horizontal and vertical axes. To change the angle of the orthogonal axes, use the Ortho Angle command:

- Click the Snaps menu, and then click Ortho Angle. Most context-sensitive menus that appear when you click the right mouse button will include the Ortho Angle command.
- When you choose the Ortho Angle command, Corel Visual CADD displays the ortho speed bar, where you can specify the angle of constraint. Entry points are then constrained to the angle you specify, and to 90-degree increments from that angle.

On high resolution monitors, the right portion of the status bar displays ORTHO:XX.XX (for the current ortho angle) or ORTHO OFF to indicate the mode you are currently working in. You can toggle ortho mode on or off by clicking the status in the status bar.

For both ortho commands, you can use the ortho speed bar to turn the following on or off:

- Ortho Mode.
- Cursor Free, which allows you to move the cursor independently of the orthogonally constrained rubberband lines displayed while drawing or editing objects.
- Increment Snap, which allows you to specify the incremental distances to which the cursor should snap, along the path you are indicating.

# Tracking (TK)

Corel Visual CADD provides a drawing aid called tracking that you can use to locate a point with a known relationship to other points or objects. Tracking nearly eliminates the necessity of drawing temporary construction lines to locate points in your drawing. When tracking, you locate points by drawing "tracks" from a known point to a desired point. The endpoint of each segment of the track can be determined by direct-distance entry, or by using any of the snap commands. When finished, the tracks disappear automatically, and the end of the last track is set as the desired point. For example, you can use tracking, instead of drawing diagonal lines, to quickly find the center of a rectangle.

**To find the center of a rectangle, using tracking**

1. Click the drawing tool that you want to originate at the center of the rectangle.
2. Click the right mouse button, and then click Track.
3. Click the lower left corner of the rectangle and move the cursor to the right.
4. Type SM (Snap to Midpoint), and then click the bottom line. This places a temporary point at the midpoint of the bottom line.
5. Move the cursor up vertically from the new point.
6. Click the Snaps menu, and then click Cursor Free.
7. Type SM, and then click the left line of the rectangle. The cursor is now positioned on the centerpoint of the rectangle.
8. Click the right mouse button, and then click Track End, which ends tracking and places the first point of the object you are drawing.

# Matching: Show By Example

If you want to make something similar in some ways or in all ways to something else you've already created in a drawing, Corel Visual CADD offers you a shortcut using the Match Entity command; you don't even need to know what the attributes of the original object were. You activate the Match Entity command by choosing the match button on the speed bar, by pressing the = (equals) key, or by choosing the Match Entity command from the context-sensitive menu, when available. When you choose the Match Entity command, the cursor appears with an equals (=) sign attached to it in your drawing.

Before you can use the Match Entity command, a speed bar with an edit box must be displayed at the top of the window. At what point you choose the Match Entity command and what attributes are matched depends upon how the command is implemented. For example:

- Choose the Match Entity command, and then click an existing object. When you draw the new object, Corel Visual CADD matches all the applicable attributes of the original object. For example, if you select a line, you will set line color, line type, line width, and current layer. If you select a dimension, you will set everything to do with that dimension, including arrow types and styles, offsets, text size, aspect, spacing, and so on.
- Choose the Match Entity command, highlight a setting, or pull down a list on a speed bar, and then click an existing object. When you draw the new object, Corel Visual CADD matches only the attribute you selected on the speed bar. For example, on the Text Settings speed bar, choose the match button, click the down arrow in the colors list, and then click a red circle. If you place text, the text will be colored red.
- Choose the Match Entity command when Corel Visual CADD has prompted you to enter a distance or an angle, and then click on the object that has the distance or angle to be matched.
- Choose the Match Entity command when Corel Visual CADD has prompted you to enter an angle. Type "V" to indicate to Corel Visual CADD that you will be entering a vertex angle defined by three points, and then place the three points. This is useful when you want a new baseline to match something else on the screen.

If you want to match the drawing tool used as well as the properties, use the Match Tool command on the Utilities menu.

For more information, see the Match Entity and Match Tool commands on the Utilities menu.

**Tip**

Corel Visual CADD can also match a distance or an angle using points instead of objects. See SETTING DISTANCES BY EXAMPLE and SETTING ANGLES BY EXAMPLE.

# Filters

Corel Visual CADD allows you to display those objects in your drawing that match a particular set of criteria (a filter). You set up the filter criteria by choosing the Selection Filter command from the Edit menu. Corel Visual CADD displays the filter speed bar, on which you define the filter criteria. You can include one or more of the following categories by clicking the down arrow next to the list and highlighting your choice in the list:

| Title on Speed Bar | Property |
|---|---|
| **Entity** | **Entity (object type)** |
| **Layer** | **Layer** |
| **Color** | **Color** |
| **Ln Type** | **Line type** |
| **Wid** | **Line width** |

If you do not want to use a particular category in the filter, make sure "All" is displayed in the list box for that category. When you are ready to apply the filter, check the Filter check box, and then select specific objects, as described in the following paragraphs.

For more information about filters, see the Selection Filter command under the Edit menu.

**Tip**

Choose the Reset button to return all the category selections to "All."

# Selection

Corel Visual CADD gives you several options for identifying the objects to be included in a selection. These selection commands are displayed when you click the Select button on the filter speed bar and when you click the Edit menu, and then click Select.

| Selection Technique | Description |
|---|---|
| **Adjoining** | Selects a series of objects that share end points after you click one of the objects. |
| **All** | Selects all objects in the drawing. |
| **Clear List** | Deselects all selected objects. |
| **Crossing** | Selects all objects that fall within the rectangular area you draw on the screen, including those objects only partially within the selection frame. |
| **Filter** | Opens the Selection Filter speed bar, which you can use to select all objects of a certain type and with the properties you specify. |
| **Invert list** | Deselects all selected objects, and selects objects that were not selected. |
| **Last** | Selects all objects selected the last time you used this selection technique. |
| **Layer** | Selects all objects on the layer you specify. |
| **Object** | Selects the object you click. |
| **Window** | Selects all objects that fall within the rectangular area you draw on the screen. |

For more information regarding each of the selection techniques, see the descriptions of the Selection commands on the Edit menu.

When you select objects in order to edit or modify them, you have a choice of either selecting the objects and then choosing the edit or modify command, or choosing the command first and then selecting the objects.

- To select the objects first, do so by using any combination of the techniques listed under the select command on the Edit menu, and/or using the selection tool. Then edit or modify the objects by choosing the appropriate command from the Edit or Modify menu.
- To choose the edit or modify operation first, choose the appropriate command from the Edit or Modify menus. Corel Visual CADD displays a speed bar on which you click the selection technique.

Corel Visual CADD also allows you to use a Selection Filter to restrict selections based on object properties such as color or layer.

**To make a selection using a filter**

1. Specify the criteria on the filter speed bar.
2. Check the Filter check box to turn on filtering.
3. Click OK.
4. Choose a selection technique.
5. Make your selection.

   Corel Visual CADD displays and selects the objects that meet your filter criteria and that have been included in whatever selection technique you used. For example, you might use a filter to display only the red rectangles in your drawing, and then draw a selection frame (also known as a bounding box) to include a particular area of your drawing. Corel Visual CADD would then select all red rectangles that fall within the window you dragged.

**Tip**

After you draw a selection frame, there is no visible indication of the selection frame on the screen. The objects within the window change color, indicating that they have been selected. Also, notice that the cursor turns into a "move" cursor whenever it enters the area that bounds the selected objects. You can click and drag from within the window and all objects inside the window will move with the cursor.

# Styles

In Corel Visual CADD, styles are groups of settings stored in files so that you can quickly access and apply them to your current drawing. By using styles, you can ensure that the objects in your drawings appear in a consistent manner from one drawing to another. See also SAVE STYLE and LOAD STYLE commands.

**To create a style file**

1. In your current drawing, use the speed bars or the Settings dialog box to specify the settings you want to save.
2. Click the File menu, and then click Save Style.
3. In the Save Style dialog box, click the Styles button if you want to select the groups of settings to include in the file. The Styles dialog box appears.
4. Check the groups of settings you want to save, and then click OK.
5. Name the file in the File Name text box, and then click OK.

**To apply saved styles**

1. Click the File menu, and then click Load Style.
2. In the Load Style dialog box, click the file name for the file that includes the styles you want to apply, and then click OK.

All of the format settings included in the style file are set for the current drawing and will be applied to everything you subsequently draw. You can edit the styles in your files at any time by overwriting one or more groups included in the file.

# Points in Corel Visual CADD

Corel Visual CADD provides you with three types of points that you can display on your screen to aid you in the drawing process:

*Standard points* are temporary placeholders you can use to mark positions on your screen that are not actually part of any objects. You can snap to these points while drawing objects. You place a standard point by clicking the Draw menu, clicking Point, and then placing the point in your drawing. You can toggle the display of standard points on and off by selecting Display points on the System tab of the Settings dialog box.

*Construction points* are the points that you place to draw objects and move to edit most objects. You see them at the endpoints of lines and arcs, the centers of circles and arcs, and any other place where you enter a point to create an object. You turn the display of construction points on and off in the Display box on the System tab of the Settings dialog box.

*Handle points* are used to place symbols, text blocks, and dimensions. They also appear at the origin of the drawing. You turn the display of handles on and off in the Display box on the System tab of the Settings dialog box.

# Entering Numbers in Corel Visual CADD

When working in Corel Visual CADD, you enter numbers to define coordinates, distances, angles, and sizes. Corel Visual CADD allows you to set the entry method you will normally be using to enter numbers, using the Settings dialog box. As long as you are using the default unit or method, you can enter the numbers by themselves. For example, if you have set the default unit of measurement to feet, you can enter **10** and Corel Visual CADD will interpret this number as 10 feet.

You can change the defaults for each drawing, and within a drawing you can use another unit of measurement or entry mode as long as you include the unit of measurement or the mode with the number. For example, when you enter **10M,** Corel Visual CADD interprets it as 10 meters.

The abbreviations for the units of measurement recognized by Corel Visual CADD, together with the formats they can be entered in, are included in the Help topic Units of Measurement. The formats for entering angles and a description of the use of mathematical expressions for entering numbers in Corel Visual CADD are included in the Help topic Using Mathematical Expressions to Enter Numbers.

The default numerical settings are described in the Settings command topic. Options for entering coordinates are described under Coordinate Systems. Sizes are included in the description of the Dimension commands on the Draw menu.

# Units Of Measurement

Real numbers in Corel Visual CADD are stored in double-precision floating-point format and maintain accuracy to approximately 16 significant digits. This means that you can draw both extremely small objects and extremely large objects in the same drawing without losing accuracy in either. For example, you could display a map of the U.S., zoom in to fill your screen with Washington State, zoom in again to show Seattle, and keep zooming in until you see a fly sitting on top of the Space Needle. And you would still have accuracy to spare!

Use any of the following units to enter lengths and distances:

| Units | Abbreviation |
|---|---|
| Inches | " |
| Feet | ' |
| Feet and Inches | ' " |
| Millimeter | mm |
| Centimeter | cm |
| Meter | m |

**Formats**

The following are acceptable formats for entering numeric data:

| Format | Description |
|---|---|
| 3'6" | (no spaces between the foot mark and the inches value) |
| 3' 6" | (space between the foot mark and the inches value) |
| 3'6 | (inch mark omitted) |
| 3' 6 ½" | (mixed feet/inches/fraction format) |
| 3' 6.5" | (mixed feet/inches/decimal format) |
| 3.5' | (decimal feet format) |
| 3 ½' | (fractional feet format) |
| 3.5m | (meters—no space between ) |
| 3.5 m | (meters—space between) |

**Tip**

When entering numbers in mixed feet and inches format, do not use a dash to separate the feet portion from the inches portion, or the fractions portion from the inches portion. Corel Visual CADD will interpret the dash as a minus sign, and subtract the value on the right of the dash from the value on the left. Also, be sure to leave a space between the inches value and the fraction value.

## Angle Values

Choose between fractional or decimal format to display fractional values for angles on the Numeric tab in the Settings dialog box.

Angles can be entered in decimal or fractional format, or in degrees:minutes:seconds, with the values separated by colons or periods. Do not enter the conventional symbols for degrees (°), minutes (¢), or seconds ("). For example 32:16:25 or 32.16.25 are acceptable entries for an angle, but 3216¢25" is not.

**Tip**

You may omit the seconds part of the degree:minutes:seconds format, but if you do so, use a colon instead of a period to separate the degrees from the minutes. Otherwise, the second part of the angle will be interpreted by Corel Visual CADD as decimal degrees and not minutes.

## Using Mathematical Expressions To Enter Numbers

Any time you are prompted for a number, you can have Corel Visual CADD calculate the value for you by entering a mathematical expression instead of a number. The following operators may be used:

| Operator | Description |
|---|---|
| **+** | (plus) |
| **-** | (minus) |
| ***** | (multiplied by) |
| **/** | (divided by) |
| **$SIN(**A**)** | Sine of A |
| **$COS(**A**)** | Cosine of A |
| **$TAN(**A**)** | Tangent of A |
| **$ATN(**A**)** | Arc or Inverse Tangent of A |
| **$LOG(**A**)** | Log (Base 10) of A |
| **$NLN(**A**)** | Natural Log (Base E) of A |
| **(**A**)$EXP(**B**)** | Exponent (A to the B power) |
| **$SQR(**A**)** | Square of A |
| **$SQT(**A**)** | Square Root of A |
| **$ABS(**A**)** | Absolute value of A |

You can use parentheses to create complex mathematical expressions. Expressions are evaluated in the following sequence:

1. Numbers or subexpressions enclosed in parentheses
2. Trigonometric or exponential functions
3. Multiplication or division
4. Addition or subtraction

Operations of equal "rank" are carried out from left to right. Spaces are ignored. The following expressions are legitimate ways to enter numeric expressions in Corel Visual CADD:

| Format | Result |
|---|---|
| 2*3 | 6 |
| 2*3-1 | 5 |
| 6*3-1/4 | 17.75 |
| 6*(3-1/4) | 16.5 |
| 23' 6 ½" 9' 4 ½"*2 | 42.291666667'<br>( or 42' 3 ½" ) |

**Tip**

The "-" character is interpreted as a minus sign, and not a dash. Be careful not to use a dash when entering data in feet-inches-fractions format.

# Setting Distances By Example

Any time Corel Visual CADD prompts you for an exact distance, you can define that distance by example. This allows you to set a distance visually or to match the length or size of an object in your drawing. For example, when placing text on a drawing, you may not know the exact height needed for the text to be read easily. Use the Distance command to "show" Corel Visual CADD the value for the text height. Corel Visual CADD will prompt you for a starting point and an ending point. It then calculates the value of the distance between those points and inserts the value into the text box.

**To use the Distance command**

1. Start a command that requires a distance value.
2. Highlight the text box that contains the size parameter that you want to set by double-clicking or by dragging the mouse over the current value.
3. Type **D**.
4. Place starting and ending points that define the distance you want to match. Corel Visual CADD inserts this value into the text box.
5. Click OK to accept this value.

**Tip**

If an existing object has the size or length you need, you can directly match the size without placing two points by using the Match button. See MATCHING: SHOW BY EXAMPLE.

# Setting Angles By Example

With Corel Visual CADD you can set any angle by example by placing two or three points. With the two-point or "Angle" option, the angle is defined by a basepoint and second point. The angle is measured using the standard convention of 0° at the 3-o'clock position, with positive angle values in the counterclockwise direction.

With the three-point or "Vertex" option, the angle is defined by two vectors sharing a common end point or vertex. The angle is measured between the two vectors.

**To use the Angle command**

1. Start a command that requires an angle value.
2. Highlight the text box that contains the angle parameter that you want to set by double-clicking or by dragging the mouse over the current value.
3. Type **A**.
4. In the drawing screen, place the basepoint and end point of the desired angle. Corel Visual CADD inserts the angle value into the text box.
5. Click OK.

**Tip**

If an existing object has the angle you need, you can directly match the angle without placing two points by using the Match button. See MATCHING: SHOW BY EXAMPLE.

**To use the Vertex command**

1. Start a command that requires an angle value.
2. Highlight the text box that contains the angle parameter that you want to set, by double-clicking or by dragging the mouse over the current value.
3. Type **V**.
4. In the drawing, place the vertex point, a point on the first ray, and a point on the second ray of the desired angle. Corel Visual CADD inserts the angle value into the text box.
5. Click OK.

## Rubberband Line

A rubberband line is a temporary line that provides a dynamic preview of where the next point would be placed in the current drawing or editing operation, in relation to the last point entered and the current cursor position. For most operations, the rubberband line connects the last point entered to the cursor. If Cursor Free and ortho mode are both on, however, the end point of the rubberband line "shadows" the cursor along the orthogonal axis, because in ortho mode points can only be placed along an orthogonal axis.

# Object Linking & Embedding

Object Linking and Embedding, or OLE, allows the exchange of information between compliant Windows applications, thus creating one document out of two created in separate applications. OLE requires both a Server and a Client application. Corel Visual CADD can only function as a server application, meaning you can link or embed Corel Visual CADD drawings into other applications but cannot embed or link data from other applications into Corel Visual CADD.

You may link or embed a drawing into a client application. When embedding, the drawing information is actually stored in the client document. When linking, the client document contains a pointer which points to a file on disk, in this case, a Corel Visual CADD drawing. For more information regarding OLE, please see your Microsoft Windows™ or your client application's documentation.

**To embed a Corel Visual CADD drawing in another application**

1. Open the client application (the application in which you wish to place the drawing), such as Microsoft Word or Microsoft Excel.
2. From the Edit menu in this application, choose Insert Object or choose Object from the Insert menu (This will vary according to the application. If you do not find either of these options, check your application's documentation.) to open the Object dialog box.
3. From the Object Type box, choose Corel Visual CADD Drawing.
4. At this point, depending on the application, you can either create a new document or you can embed information from a file that already exists on disk.

- If you choose to Create New, when you click OK, a Corel Visual CADD window will open, allowing you to create a drawing from scratch. When you have finished your drawing, choose Update from Corel Visual CADD's File menu to update your drawing in the client application.
- If you choose Create From File, a file list and directory will appear. Choose the Corel Visual CADD drawing (.vcd) you wish to embed. At this point, you may also decide if you would like to link the file and display the file as an icon.

See Also Cut, Copy and Paste.

## Properties button (PP)

The rectangular button at the right end of the main speed bar. This button displays the current line color, layer, line type, and line width; and brings up the Properties speed bar that allows you to change these settings.

# Properties

Use the properties speed bar to change current drawing properties such as line width, color, layer, and line type. After the properties have been changed, the next entity you create will be drawn with the chosen properties. If you would like to change the properties of an entity or entities currently on the drawing, see Change.

**To change current drawing properties**

1. Click the Properties button, or click the Draw menu, and then click Properties.
2. Change Layer, Color, Line type, and Line width as needed, and then click OK.

**Tips**

- To change properties quickly from the keyboard, position the cursor on the Properties speed bar, click the right mouse button, and click Fast Properties. This allows you to change single properties from the command line; i.e., CL 15 + ENTER will change the current layer to 15.
- You have a choice of using Windows line widths which are measured in pixels or real-world line widths. When using real-world line widths, you specify the width in real-world terms; i.e., .5", 2mm, etc. As such, these line widths are subject to scaling during output.

# Hatch Change

Hatch Change is a Visual Basic application which allows you to change the properties of hatches currently existing in a drawing. One or more hatches may be changed at a time based on selection. Hatch Change may be added to the Corel Visual CADD toolbars, menus or custom commands.

**To edit an existing hatch:**

1. Select the hatch or hatches to be changed.
2. Initiate the Hatch Change command.

   The Hatch Change dialog appears displaying the current settings of the chosen hatch(es). If more than one hatch is selected, asterisks (-***-) will appear in the properties the hatches do NOT share.
3. Choose the new hatch settings.

   For more information on Hatch Settings, see Hatch/Fill Tab in the Corel Visual CADD Reference Manual.
4. If desired, click the Preview button to preview new settings. All Settings will preview in the preview box except Scale.
5. Click the Apply button to apply new settings changes to the selected hatches. The application will automatically close.
6. Choose Close to exit the Hatch Change program without making changes.

**Note:**

If no hatches are selected the application will close.

## House Select

House Select is a utility that allows you to scan through the library of house plans on the Corel Visual CADD CD and easily locate the plans that match your set of criteria. You can locate house plans based on square footage, number of floors, number of bathrooms, and other attributes of a house plan.

**To run House Select:**

- Double click the House Select icon in the Corel Visual CADD program group.

The utility will display a bitmap rendering of your selected house, and will allow you to load the plans directly into Corel Visual CADD. The Corel Visual CADD CD must be left in the CD-ROM drive in order to run Corel House Select.

In the root directory of the Corel Visual CADD CD is a file that contains a list of all the house plans available. This list file, PLANS.*, is available in EXCEL, QUATTRO PRO and LOTUS 123 format.

# Text Change

Text Change is a Visual Basic application which allows settings to be changed within single or multiple text lines or blocks. All text settings may be changed with the exception of the text string itself and line type and line width for vector fonts (these may be changed using the Text Editor for strings or Corel Visual CADD's CHANGE command for line widths and line types). For more information, about specific text settings, see Text/Atb Tab or text editor.

**To change text using the Text Change App:**

1. Select the text lines or blocks to be changed.
2. Initiate the Text Change program. If no text is selected when the text change application is executed it will automatically close.
3. Change the settings you wish to apply to ALL selected text. -***- will appear in the settings the selected text items do NOT share.
4. Click OK. The settings will be applied to ALL selected text.

# Dimension Change

Dimension Change is a Visual Basic application designed to change the properties of one or more dimensions existing on a drawing. All settings applicable to dimension such as dim line color, dimension direction, text settings and numeric settings. For example, if you were working on a drawing that contained green dimensions using centimeters, you could use Dimension Change to change the all the dimensions on the drawing to blue dimensions using decimal inches in one step.

**To Change Multiple Dimensions:**

1. Select the dimensions you wish to change using Corel Visual CADD selection options.
2. Execute the Dimension Change application. The Dimension Change dialog appears with the current settings of the selected dimension in the appropriate .
3. Edit the dimension settings you wish to apply globally to ALL selected dimensions. If you do NOT want a particular setting to change globally, choose an IGNORE radio button or the (dash) character from the drop down lists. A quick way to change to the (dash) character in dropdown and edit boxes is to highlight the box and hit the ESCAPE key.

You can also load a style from disk to apply to dimensions. Click Load Style to load a previously saved dimension style from disk. The current settings will be replaced in the dialog and applied when you click the OK button. See Load Style and Save Style for more information.

# Wizards

Corel Visual CADD ships with several Wizards to assist in setting up a drawing. These wizards are contained in the file VCWIZARD32.DLL. The functionality is then accessed through the built in scripting language with Corel Visual CADD. The following wizards are contained in the file:

**DIMENSION**: Sizes dimensions based on input print scale and desired text height.

**TEXT**: Sizes text based on input print scale and desired text height.

**DRAWING**: Sizes text and dimensions based on an input print scale and desired text height. In addition, it will load and place a default title block within the drawing. The Drawing Wizard loads a default symbol named "WZTITLE.VCS" located in the Corel Visual CADD root directory. This symbol can be replaced with your own custom symbol for a title block. NOTE: the Wizard will size the symbol based on input parameters. For best results the symbol should be drawn at 1" X 1" so the appropriate scale is applied.

**FITTEXT**: Adjusts the text height to "fit" a specified screen size at the current zoom. For example, you can "fit" text to a height of 1/4" screen size at any zoom.

**SCALETEXT**: Applies a scaling factor to the current text settings.

**FITDIMENSION**: Adjusts the dimension properties to "fit" a specified screen size at the current zoom. For example, you can "fit" dimension settings to a height of 1/4" screen size at any zoom.

**SCALEDIMENSION**: Applies a scaling factor to the current dimension settings.

**PSHEET**: Displays non-graphical file details for the active drawing such as file size and dates. Allows the addition of file description data to be added to the drawing header.

Of these wizards only the DIMENSION, TEXT, DRAWING and PSHEET provide an interface to guide you through the settings. The other "quick" wizards are simply accessed directly any time during the drawing session.

The wizards utilizing an interface (DIMENSION, TEXT, DAWING and PSHEET) are activated via the Assign Script command in Corel Visual CADD or in the CmdExt file. Please refer to the documentation for setting up a command extension file. The following script will demonstrate the ability to launch the wizards from the Corel Visual CADD interface. The wizards all operate from an input command line. That is they work from the same procedure and are accessed by specialized arguments in the script. The following is a general script that should be used.

DLLName;VCWizard32.dll;DLLFunName;VCWizard;DLLCmdLine;"See special values below";DLLRun;

Special Command line values: These values should be inserted in the above script to activate the appropriate wizard. NOTE: do not use the "" (quotes) in the script.

| | |
|---|---|
| DIMENSION: | "dimension" or "DIMENSION" |
| TEXT: | "text" or "TEXT" |
| DRAWING: | "drawing" or "DRAWING" |
| PSHEET | "psheet" or "PSHEET" |

The "quick" wizards are also activated via the Corel Visual CADD scripting language with varying input arguments for the different factors. The following is a general script that should be used.

DLLName;VCWizard32.dll;DLLFunName;"See special values below";DLLCmdLine;"Any numeric factor";DLLRun;

Special function name values: These should be inserted in the above script to activate the desired functionality.

FITTEXT: "VCMakeTextLookGood"

SCALETEXT: "VCIncrementTextValues"

FITDIMENSION: "VCMakeDimensionsLookGood"

SCALEDIMENSION: "VCIncrementDimensionValues"

Any numeric factor: These represent the scaling or height factor to use in the script. For example, 1/4" used in conjunction with VCMakeTextLookGood will calculate the "real world" height to make text "fit" 1/4" on screen or 12mm makes text fit to 12mm in

screen height at the current zoom. As another example, the following script will scale all the current dimension settings by a factor of 5.

DLLName;VCWizard32;DLLFunName;VCIncrementDimensionValues;DLLCmdLine;5;DLLRun.

## Keyboard shortcuts and Native Commands

| Command | Shortcut | Native command |
|---|---|---|
| Align | AG | Align |
| Aligned Dimension | D3 | DimAlign |
| All Layers Edit | AL | AllLayEdit |
| All Layers Edit Off | | AllLayEdOff |
| All Layers Edit On | | AllLayEdOn |
| All Layers Snap On | | AllLaySnOff |
| All Layers Snap On | | AllLaySnOn |
| Angular Dimension | DA | DimAng |
| Arrange Icons | | WinArrange |
| Array Copy | AC | ArrayCopy |
| Assign Script | AS | ScriptAssign |
| Attribute Attach | TA | AttAttach |
| Attribute Create | TC | AttCreate |
| Attribute Embed | TD | AttEmbed |
| AutoFillet | AF | AutoFillet |
| AutoFillet Off | | AutFilletOff |
| AutoFillet On | | AutFilletOn |
| Backward Redraw | BA | BackRD |
| Bird’s-Eye View | ZB | BirdsEye |
| Boundary Fill | FB | FillBnd |
| Boundary Hatch | HB | HatchBnd |
| Break | BR | Break |
| Cascade Windows | | WinCascade |
| Chamfer | CH | Chamfer |
| Chamfer Distance | C0 | ChamferDist |
| Chamfer Distance 1 | CML | ChamDist1 |
| Chamfer Distance 2 | CMR | ChamDist2 |
| Change | CG | Change |
| Circumscribe Regular Polygon | | RPolyCrcm |
| Clear Drawing | DX | Clear |
| Clear Selection List | CS | SelClear |
| Close | FC | FileClose |
| Close Contour | CC | CloseContr |
| Color Property | CP | ColorProp |
| Constraints Tab | TBC | TabCnstrnt |
| Continuous Bézier Curve | BC | BezierCont |
| Continuous Line | LC | LineCont |
| Copy to Clipboard | | CBCopy |
| Copy to Current Layer | CY | CopyLay |
| Create Symbols | YC | SymCreate |
| Cursor Free | CF | CursorFree |
| Cursor Free Off | | CursFreeOff |
| Cursor Free On | | CursFreeOn |
| Cut to Clipboard | | CBCut |

| | | |
|---|---|---|
| Datum Dimension | DU | |
| Datum Dimension Off | | DatumOff |
| Datum Dimension On | | DatumOn |
| Datum X | | DatumX |
| Datum XY | | DatumXY |
| Datum Y | | Datum Y |
| Diameter Circle | CD | CircDiam |
| Diameter Dimension | DD | DimDia |
| Digitizer Mode | GM | DigMode |
| Digitizer Scale | GZ | DigScale |
| Dimension Arrow Settings | DMA | DimArrowSet |
| Dimension at Angle | D4 | DimAtAngle |
| Dimension Display Settings | DMD | DimDispSet |
| Dimension Extension Settings | DMX | DimExtSet |
| Dimension Leader Settings | DME | DimLeadSet |
| Dimension Line Settings | DML | DimLineSet |
| Dimension: Proximity Fixed | PF | ProxFixed |
| Dimension Scale | DMZ | DimScaleSet |
| Dimension String Settings | DMS | DimStrSet |
| Dimension Tab | TBD | TabDim |
| Dim Text Alignment | DMG | DimTextAlign |
| Dimension Text Settings | DMT | DimTextSet |
| Dimension Text Tab | TBX | TabDimText |
| Dimension Tolerance Settings | DMO | DimTolSet |
| Dim Mode: Single | D5 | DimSingle |
| Dim Mode: Cumulative | D6 | DimCumul |
| Dim Mode: Partitioned | D7 | DimPart |
| Display Construction Pts | DC | ConstPts |
| Display Handle Pts | DH | HandlePts |
| Display Layer | YD | LayDisplay |
| DLL Command Line variable | | DllCmdLine |
| Dll Function Name variable | | DllFunName |
| Dll Name variable | | DllName |
| Dll Run | | DllRun |
| Double line | LD | LineDbl |
| Double Line Fill Off | | SolidOff |
| Double Line Fill On | | SolidOn |
| Double Line Offset 1 | WWL | WallWidth1 |
| Double Line Offset 2 | WWR | WallWidth2 |
| Double Line Settings | DB | DBSet |
| Drawing Align | GA | DigAlign |
| Edit Dimension | DE | DimEdit |
| Ellipse | EP | Ellipse |
| Elliptical Arc | EA | EllArc |
| Entity Tab | TBE | TabEntity |
| Erase | ER | Erase |
| Erase Last | EL | EraseLast |
| Exename Variable | | ExeName |

| | | |
|---|---|---|
| Exit | FX | FileExit |
| Explode | EX | Explode |
| Explode Continuous Line | CX | ContLineEx |
| Explode Symbols | | SymExplode |
| Extend Multiple | XM | MExtend |
| Extend Single | XT | Extend |
| File Run | FU | FileRun |
| Fill Color | | FillColor |
| Fill Selected | FS | FillSel |
| Fillet | FI | Fillet |
| Fillet Radius | FR | FilletRad |
| Fillet Radius Variable | | FilletRVar |
| Fit Scale | FT | FitScale |
| Fixed Offset Off | | OffsetFixOff |
| Fixed Offset On | | OffsetFixOn |
| Flip Arrow | AR | ArrowFlip |
| Font Converter | | FontConv |
| General Tab | TBG | TabGeneral |
| Grid Display | GR | GridDisp |
| Grid Origin | GO | GridOrg |
| Grid Size | GS | GridSize |
| Grid Size X | | GridSizeX |
| Grid Size Y | | GridSizeY |
| Hatch Color | | HatchColor |
| Hatch Name | | HatchName |
| Hatch Rotation | | HatchRot |
| Hatch Scale | | HatchScale |
| Hatch Selected | HS | HatchSel |
| Hatch Settings | HT | HatchSet |
| Hatch/Fill Tab | TBH | TabHatch |
| Help | | Help |
| Help, About | | HelpAbout |
| Help, Index | | HelpIndex |
| Help, Technical Support | | HelpTech |
| HelpKey | | Help, Search |
| Hide Layer | YH | LayHide |
| Horizontal Dimension | DI | DimHorz |
| Import/Export Tab | | TabImpExp |
| Incremental Snap | | IncSnap |
| Incremental Snap Off | | IncSnapOff |
| Incremental Snap On | | IncSnapOn |
| Incremental Snap Size | | IncSnapSize |
| Inscribe Regular Polygon | | RPolyIn |
| Intersection Trim | IT | IntTrim |
| Invert Selection List | IS | SelInvert |
| Irregular Polygon | IP | IPoly |
| Last Symbol | YL | SymLast |
| Layer Manager | MGL | LayMgr |

| | | |
|---|---|---|
| Layer Property | CL | LayerProp |
| Layer Properties speed bar | LYP | LPDlg |
| Leader | LE | Leader |
| Linear Copy | CO | Copy |
| Linear Dimension | DL | DimLin |
| Linetype Property | TP | TypeProp |
| Linetype Scale Device | | LTScaleD |
| Linetype Scale World | | LTScaleW |
| Linewidth Property | WP | WidthProp |
| Load ASCII Text | LA | LoadAscii |
| Load Attribute | TO | AttOpen |
| Load Menu | LM | LoadMenu |
| Load Style | TY | LoadStyle |
| Load Symbol | YO | SymOpen |
| Manual Entry: Absolute | MO | Absolute |
| Manual Entry: BasePoint | MB | Basepoint |
| Manual Entry: Relative | MR | Relative |
| Match Entity | ME | MatchEnt |
| Match Tool | MT | MatchTool |
| Measure Area | MA | MeasArea |
| Measure Distance | MD | MeasDist |
| Merge | FM | FileMerge |
| Midline tool | ML | Midline |
| Mirror | MI | Mirror |
| Move | MV | Move |
| Move Dimension Text | | DimMoveTxt |
| Move Point | MP | MovePt |
| Multiple Copy | MC | MultiCopy |
| Name File | | FileName |
| Name View | NV | NameView |
| New | FN | FileNew |
| New Symbol Handle | NH | NewHandle |
| Number of Copies | | NumCopies |
| Number of Regular Polygon Sides | | RPolySides |
| Number of Rows | | NumRows |
| Numeric Tab | TBN | TabNumeric |
| Object Information | OI | ObjInfo |
| Offset | OF | Offset |
| Offset Distance | | OffsetDist |
| Open | FO | FileOpen |
| Ordinate Dimension | DO | DimOrd |
| Ortho Angle Variable | | OrAngVar |
| Ortho Mode | OR | OrthoMode |
| Ortho Off | | OrthoOff |
| Ortho On | | OrthoOn |
| Ortho Settings | OA | OrthoSet |
| Pack Data | PD | PackData |
| Pan | PA | ZmPan |

| | | |
|---|---|---|
| Paste from Clipboard | | CBPaste |
| Path Tab | TBP | TabPath |
| Path: Sys | | SYSPath |
| Path: DWG | | DWGPath |
| Path: DXF | | DXFPath |
| Path: VCD | | VCDPath |
| Path: VCF | | VCFPath |
| Path: VCS | | VCSPath |
| Pen Up | PU | Penup |
| Place Symbol | YP | SymPlace |
| Plot | PL | FilePlot |
| Point | PO | Point |
| Preview Fillet Off | | FilletPrvOff |
| Preview Fillet On | | FilletPrvOn |
| Print | PR | FilePrint |
| Print Setup | PT | PrintSetup |
| Properties Button | PP | Properties |
| Quick Search | QS | QSearch |
| Radial Copies | | RadCopies |
| Radial Copy | RC | RadCopy |
| Radial Dimension | DR | DimRad |
| Radial Span Angle | | RadSpanAngle |
| Redo | RE | Redo |
| Redraw | RD | Regen |
| Redraw Window | RW | RegenArea |
| Reference Frame: Create | RF | RFCreate |
| Reference Frame: Display Boundary | RB | RFDispBd |
| Reference Frame: Place | RP | RFPlace |
| Reference Frame: Transparent | RT | RFTransparent |
| Regular Polygon-Center | PC | RPolyCen |
| Regular Polygon-Circumscribed | | RPolyCrcm |
| Regular Polygon-Side | PS | RPolySide |
| Reset | | Reset |
| Rotate | RO | Rotate |
| Run “EXENAME” | RUN | WinExec |
| Save | DS | FileSave |
| Save As | FA | FileSaveAs |
| Save Attribute | TS | AttSave |
| Save Environment | EN | SaveEnv |
| Save Style | TV | SaveStyle |
| Save Symbol | YS | SymSave |
| Scale | SZ | Scale |
| Seed Fill | FD | SeedFill |
| Seed Hatch | HD | SeedHatch |
| Select Adjoining | SJ | SelAdj |
| Select All | SA | SelAll |
| Select Crossing | SX | SelCross |
| Select Last | SL | SelLast |

| | | |
|---|---|---|
| Select Layer | SY | SelLay |
| Select Object | SB | SelObj |
| Select Window | SW | SelWin |
| Selection Filter | SF | Filter |
| Selection Highlight On/Off | HI | Hilite |
| Selection Set | | SelSet |
| Selection Speed Bar | S1 | SelRibalog |
| Selection Tool | SE | Selection |
| Send | SD | FileSend |
| Set Angle | | SetAngle |
| Set BasePoint | BP | SetBasePt |
| Set Current Color | | SetColor |
| Set Current Layer | | SetLayer |
| Set Current Linetype | | SetType |
| Set Current Linewidth | | SetWidth |
| Set Rotation Angle | | SetAngle |
| Set Scale X | | SetScaleX |
| Set Scale X & Y | | SetScaleXY |
| Set Scale Y | | SetScaleY |
| Single Bézier Curve | BS | BezierSingle |
| Single line | LS | LineSingle |
| Snap between 2 Points | S2 | SnMid2Pts |
| Snap Center | SN | SnCenter |
| Snap Closest Point | SC | SnClosestPt |
| Snap Grid | SG | SnapGrid |
| Snap Intersection | SI | SnIntersect |
| Snap Last Point | LP | SnLastPt |
| Snap Layer | NL | SnapLayer |
| Snap MidPoint | SM | SnMidPt |
| Snap Near Point | NP | SnNearPt |
| Snap Object | SO | SnObject |
| Snap Parallel | LL | SnPara |
| Snap Percentage | SR | SnPercent |
| Snap Percentage Value | | PercSnapVal |
| Snap Perpendicular | SP | SnPerp |
| Snap Quadrant | SQ | SnQuad |
| Snap Tangent | ST | SnTangent |
| Snap to Curve Tangent Pts | DV | CurveTanPts |
| Spline Curve | CV | Curve |
| Stretch | SS | Stretch |
| Symbol Count | | SymCount |
| Symbol Explode | YX | SymExp |
| Symbol Manager | MGY | SymMgr |
| Symbol Name | | SymName |
| Symbol Remove | YV | SymRemove |
| Symbol Replace | YR | SymReplace |
| Symbol Rotation | | SymRot |
| Symbol Scale | | SymScale |

| | | |
|---|---|---|
| Symbol Scale X | | SymScX |
| Symbol Scale Y | | SymScY |
| Symbol Snap | YN | SymSnap |
| Symbol Snap Off | | SymSnapOff |
| Symbol Snap On | | SymSnapOn |
| System Tab | TBS | TabSystem |
| Tab Settings | TBO | TabOptions |
| Text Aspect | | TextAspect |
| Text Bold | | TextBold |
| Text Character Spacing | | TextChSp |
| Text Color | | TextColor |
| Text Editor | TE | TextEditor |
| Text Font | | TextFont |
| Text Height | | TextHeight |
| Text Italic | | TextItalic |
| Text Justification | | TextJust |
| Text Layer | | TextLay |
| Text Line | TL | Text |
| Text Linespacing | | TextLnSp |
| Text Rotation | | TextRot |
| Text Settings | TT | TextSet |
| Text String | | TextStr |
| Text Tab | TBT | TabText |
| 3-Point Arc | A3 | Arc3 |
| 3-Point Circle | C3 | Circle3 |
| 3-Point Rectangle | R3 | Rect3 |
| Tile Windows Horizontally | | WinHoriz |
| Tile Windows Vertically | | WinVert |
| Track | TK | Track |
| Trim Multiple | TM | MTrim |
| Trim, Single | TR | Trim |
| 2-Point Arc | A2 | Arc2 |
| 2-Point Circle | C2 | Circle2 |
| 2-Point Rectangle | R2 | Rect2 |
| Undo | OO | Undo |
| Undo Dimension | UD | UndoDim |
| Undo Vertex | UV | UndoVertex |
| Update Dialog | | Update |
| User Interface Off | | UIOff |
| User Interface On | | UIOn |
| Vertical Dimension | D2 | DimVert |
| Window: Horizontal | | WinHoriz |
| Window Stretch | WS | WinStretch |
| Window: Vertical | | WinVert |
| Zoom All | ZA | ZmAll |
| Zoom In | ZI | ZmIn |
| Zoom Out | ZO | ZmOut |
| Zoom Previous | ZP | ZmPrev |

| | | |
|---|---|---|
| Zoom Selected | ZS | ZmSel |
| Zoom Value | ZU | ZmValue |
| Zoom View | ZN | ZmView |
| Zoom Window | ZW | ZmArea |