# HyperView Objects and Report Layout

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# Introduction

This document describes in detail the various HyperView objects available on the **Object** bar and the options available to organize your report on the HyperView Editor's **Layout** bar. The main topics in this document include:

- Using Objects and Controls in HyperView Reports
- Using the Layout Bar to Organize your Report

Information in this document will appear in the *PC-DMIS 3.5 Reference Manual* and is provided here for those using previous versions of PC-DMIS.

# Using Objects and Controls in HyperView Reports

This topic describes each object available to you from the **Object** toolbar. The **Object** toolbar appears in Edit Mode and allows you to insert a wide variety of objects into your report. You can insert text, pictures, multi-media, dialog box controls, and other items.

*Object toolbar*

PC-DMIS extends the base set of HyperView objects available to your reports with several PC-DMIS specific objects already included on your **Object** toolbar. These objects may be added to a report in the same way as normal HyperView objects, but often have new properties added to the **PC-DMIS** tab of the property sheet and pertain to very specific reporting functions. Where appropriate, the documentation identifies those objects that are unique to PC-DMIS.

## Select Object

The **Select** object allows you to select an object already inserted into your HyperView report. Simply click on the object in the report and PC-DMIS will surround the object with a border and small green squares. This lets you know the object has been selected. Once selected, you can move, resize, or edit the object.

## Text Object

The **Text** object allows you to insert textual labels, descriptions, and markings into your HyperView report. This is helpful in making your report more meaningful. You can change an inserted text object's display by selecting the text object, right-clicking on it, and editing its properties.

Common properties used on a text object include:

| Property | Description |
|---|---|
| `Text` | This is the text displayed in the object. |
| `Orientation` | This rotates the text object horizontally or vertically. Be aware that you can only display some fonts horizontally (such as the MS SANS SERIF font). |
| `Alignment` | This aligns the text within the object. Available alignments are: `Left`, `Center`, and `Right`. |

## TextVar Object

The **TextVar** object allows you to insert dynamic, numerical text into your HyperView report. This object differs from the **Text** object by deleting the `TEXT` property and adding these 2 properties:

| Property | Description |
|---|---|
| `ValueEq` | Value equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript). The value is formatted and displayed at run time.<br>`-$, $, CONST` |
| `Format` | This formats the numerical value using 'C' language standards. However, you should use only the |

| | |
|---|---|
| | numeric portion. For example, the format `%5.2lf` becomes `5.2`, `%5d` becomes `5`. One exception to this is when using `BOOLEAN` variables, the `$` string gets converted into `NO` or `YES`. |

You can use the **TextVar** object to easily display page numbers in a multi-page HyperView report. Simply edit the **ValueEq** property so that it's set to display the set variable value of `CurPage` (for the current page number) or `NumPage` (for the total number of pages).

### *Example of Using BASIC Scripting to Dynamically Display Text*

You can also use BASIC code in the **VBS Mini-Editor** to dynamically display a value inside a **TextVar** object. For example, suppose you have text for a heading that you want to display only on certain pages of a multi-page report. You could use code similar to that shown here:

1. Create ten page multi-page report:
   - Right click on HyperView's main screen. The **Property Sheet** for **The Frame/The View** opens.
   - Select the **Events** tab.
   - Double click `EventInitialize`. The **VBS Mini-Editor** will open.
   - Click the **Wizard >>** button. The **Script Wizard** dialog box opens.
   - In the **Variables** area of the dialog box, pull down the drop-down list on the left. You will see that **CurPage** and **NumPages** are available for selection.
   - Select **NumPages**.
   - Click the **Insert** button. This will bring up the **VBS Mini-Editor** with the following text:
     "`NumPages`"
   - Type "**=10**" after the NumPages command. So that the text reads:
     "`NumPages=10`"
   - Click **OK** to close the mini editor.
2. Double click on the **TextVar** object to access the **Property Sheet** dialog box.
3. Select the **PC-DMIS** tab.
4. Click on the `ValueEQ` property. The **VBS Mini-Editor** appears much of it unavailable for selection.
5. Select **VBScript** from the list. The text area of the editor becomes available.
6. Add some string variables containing the messages you want to display on different pages:

```
Dim strMessage1 As String
Dim strMessage2 As String
strMessage1 = "HEADING FOR PAGES 1-5"
strMessage2 = "HEADING FOR PAGES 6-10"
```

7. Add conditional code so that depending on which page is the current page the text displayed in the **TextVar** object changes.

   ```
   If curpage <= 5 Then Retn =
      strMessage1 Else Retn = strMessage2
   ```

   This code changes the text to display the string given to the `strMessage1` variable when the current page is one through five and then to display the string given to the `strMessage2` variable when the current page is six through ten.

8. Click **OK** to close the **VBS Mini-Editor**.
9. Close the **Property Sheet** dialog box.
10. Press CTRL + E to place your report in run mode.
11. Press PAGEUP or PAGEDOWN to cycle through the multiple pages and watch the text change dynamically.

## Line Object

The **Line** object allows you to quickly insert a standard line into your HyperView report. You can then right-click on the inserted line and modify its properties.

Common properties used on a line object are:

| Property | Description |
|---|---|
| `PenWidth` | This sets the width of the line in pixels. |
| `PenStyle` | This changes the line style to `Solid`, `Dash`, `Dot`, `Dash-dot`, and `Dash-dot-dot`. |
| `Arrowhead` | This determines if the line should contain an arrowhead and the direction the arrowhead points. You can choose one of these formats:<br>`----(none)`<br>`<---`<br>`--->`<br>`<--->(both)` |
| `ArrowheadHeight` | This determines the height of the arrowhead in pixels. |

## Polyline Object

The **Polyline** object allows you to link lines together to construct an area. When you click and create the first line, a second line is automatically started at the end point of the first line. Polyline objects contain the same properties as a standard line object with these additions:

| Property | Description |
|---|---|
| `PenWidth` | This sets the width of the object's border in pixels. |
| `HatchStyle` | This sets the type of pattern (or hash) to use to fill the resulting polygon. Available patterns are:<br> Horizontal<br> Vertical<br> Diagonal<br> Reverse Diagonal<br> Cross<br> Diagonal Cross |
| `ShadowStyle` | This sets the location of the 3D shadow on the resulting polygon. Available locations are:<br>`Top/Left`, `Bottom/Right`, or `None`. |

## Border Object

The **Border** object inserts a rectangular border into the HyperView report. Along with the ability to resize the object, add a fill color, add a border color, and change other attributes, the following editable properties are included for border objects:

| Property | Description |
|---|---|
| `PenWidth` | This sets the width of the object's border in pixels. |
| `HatchStyle` | This sets the type of pattern (or hash) to use to fill the resulting polygon. Available patterns are: |

| | |
|---|---|
| | Horizontal<br>Vertical<br>Diagonal<br>Reverse Diagonal<br>Cross<br>Diagonal Cross |
| `ShadowStyle` | This sets the location of the 3D shadow on the resulting polygon. Available locations are:<br>`Top/Left`, `Bottom/Right`, or `None`. |
| `HiliteColor` | This sets the color used for the `BorderStyle` property. |
| `BorderStyle` | This sets the 3D highlight style of the object's border. Options include `Normal`, `3D`, `Sunken` and `Raised`. |

## Arc Object

The **Arc** object inserts an elliptical arc into the HyperView report. A default arc doesn't have a fill color and has a beginning angle of 0 degrees and an ending angle of -90 degrees.

Along with the ability to resize the object, add a fill color, add a border color, and change other attributes, the following editable properties are included for arc objects:

| Property | Description |
|---|---|
| `PenWidth` | This sets the border width in pixels. |
| `PenStyle` | This changes the arc's border style to `Solid`, `Dash`, `Dot`, `Dash-dot`, and `Dash-dot-dot`. |
| `Angle1` | This number sets the start angle for the arc. The default is 0 degrees. |
| `Angle2` | This number sets the end angle for the arc. The default is -90 degrees. |
| `IsWedge` | If set to `NO` (the default), PC-DMIS draws a filled arc without a wedge, like this: |

| | |
|---|---|
| | <br>If set to `YES`, PC-DMIS draws a filled arc with a wedge like this:<br> |

## Ellipse Object

The **Ellipse** object inserts an ellipse into the HyperView report. The default ellipse is a circle with the same distance from the centroid of the circle to all points along the circumference; however you can easily stretch the circle to form an ellipse.

Along with the ability to resize the object, add a fill color, add a border color, and change other attributes, the following editable properties are included for ellipse objects:

| Property | Description |
|---|---|
| `Width` | This sets the width of the object's border in pixels. |
| `PenStyle` | This changes the line style to `Solid`, `Dash`, `Dot`, `Dash-dot`, and `Dash-dot-dot`. |
| `HatchStyle` | This sets the type of pattern (or hash) to use to fill the resulting polygon. Available patterns are:<br> Horizontal<br> Vertical<br> Diagonal<br> Reverse Diagonal<br> Cross<br> Diagonal Cross |

## Frame Object

The **Frame** object inserts a frame into the HyperView report. You'll generally use this object to set off groups of similar options when designing your own dialog boxes inside your HyperView report.

Along with the ability to resize the object, add a fill color, add a border color, and change other attributes, the following editable properties are included for frame objects:

| Property | Description |
|---|---|
| `BorderColor` | This sets the color of the border. |
| `HiliteColor` | This sets the color used for the `BorderStyle` property when you use `Raised` or `Sunken`. |
| `BorderStyle` | This sets the 3D highlight style of the object's border. Options include `Normal`, `3D`, `Sunken` and `Raised`. |
| `BorderWidth` | This sets the width of the object's border in pixels. |
| `Text` | Text typed here determines the name used for the frame's title. |
| `Alignment` | This aligns the text within the object. Available alignments are: `Left`, `Center`, and `Right`. |

## Bitmap Object

The **Bitmap Object** allows you to insert a pre-created bitmap graphic into your HyperView report. When you click this icon, a dialog box appears.

*Bitmap Dialog*

- The **OK** button allows you to insert a bitmap loaded into the dialog box into the HyperView report.

- The **Cancel** button allows you to close the dialog box without inserting any bitmap.
- The **Copy** button allows you to copy a bitmap to the Clipboard that you have already loaded into this dialog box through the **Load** button.
- The **Paste** button allows you to paste a copied bitmap graphic from the Clipboard into the dialog box. Selecting the **RLE** check box compresses the graphic when it's saved with the report.
- The **Load** button allows you to load a bitmap into the dialog box. Selecting the **Link** check box also links the bitmap to the report by its directory path.
- The **Clear** button allows you to clear the loaded bitmap out of the dialog box.
- The **Transparent** list allows you to specify one color within the bitmap that will be made transparent.

Along with the ability to resize the object and change other attributes, the following editable properties are included for bitmap objects:

| Property | Description |
|---|---|
| `Bitmap` | This contains the file name for the bitmap. |
| `Layout` | `Center, Left,` or `Right` is the alignment of the bitmap within the rectangle.<br>`Stretch` expands or shrinks the graphic to fit the size of the box.<br>`Size to Fit` automatically expands the rectangle size to fit the size of the graphic. |

## Pointer Object

The **Pointer** object inserts a dynamic, movable, colored pointer into the HyperView report. The color defaults to yellow.

Along with the ability to resize the object, change colors, and change other attributes, you can cause this object to move by using these properties in conjunction with Visual BASIC code:

| Property | Description |
|---|---|
| `ValueEq` | Value equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |
| `MinimumEq` | Minimum equation (This value can be a set constant number, a value evaluated from a simple equation, or |

| | |
|---|---|
| | a returned value from a VBScript).<br>`-$, $, CONST` |
| MaximumEq | Maximum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>-$, $, CONST |

**Tip:** If you change the direction of the pointer, the movement of the arrow will also change to the direction specified.

### *Example of Using BASIC Scripting to Dynamically Move the Pointer*

You can also use BASIC code in the **VBS Mini-Editor** to dynamically move the pointer. Suppose you want to create a report that moves a pointer along an axis as you progress through a multi page report. You could use code similar to that shown in this example:

1. Create a ten page multi-page report:
   - Right click on HyperView's main screen. The **Property Sheet** for **The Frame/The View** opens.
   - Select the **Events** tab.
   - Double click `EventInitialize`. The **VBS Mini-Editor** will open.
   - Click the **Wizard >>** button. The **Script Wizard** dialog box opens.
   - In the **Variables** area of the dialog box, pull down the drop-down list on the left. You will see that **CurPage** and **NumPages** are available for selection.
   - Select **NumPages**.
   - Click the **Insert** button. This will bring up the **VBS Mini-Editor** with the following text:
     "`NumPages`"
   - Type "**=10**" after the NumPages command. So that the text reads:
     "`NumPages=10`"
   - Click **OK** to close the mini editor.
2. Insert a **Pointer** object into the report.
3. Select the pointer and drag its box to increase its vertical distance. Notice that when you elongate the box vertically, the size of the pointer doesn't change, just the total distance that can be traveled by the pointer.
4. Double click on the **Pointer** object to access the **Property Sheet** dialog box.
5. Select the **PC-DMIS** tab.

6. Click on the `ValueEQ` property. The **VBS Mini-Editor** appears much of it unavailable for selection.
7. Select **VBScript** from the list. The text area of the editor becomes available.
8. Add the following code to cause the pointer to move based on a user input with each new page on a multi-page report:

```
intValue = InputBox ("Type a value.
   The pointer will move this
   percentage amount of the total
   distance.")

Retn = intValue
```

9. Click **OK** to close the **VBS Mini-Editor**.
10. Close the **Property Sheet** dialog box.
11. Press CTRL + E to place your report in run mode.
12. Press PAGEUP or PAGEDOWN to cycle through the multiple pages and watch the pointer move dynamically based on your input.

## Gauge Object

The **Gauge** object inserts a gauge object (or progress bar) into the HyperView report.

Along with the ability to resize the object, change colors, and change other attributes, you can cause the object's percentile bar to move by using these properties in conjunction with Visual BASIC code:

| Property | Description |
|---|---|
| `ValueEq` | Value equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |
| `MinimumEq` | Minimum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |
| MaximumEq | Maximum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>-$, $, CONST |

**Tip:** If you change the direction of the gauge, the progress of the gauge will also change to the direction specified.

### *Example of Using BASIC Scripting to Dynamically Change the Gauge's Value*

You can also use BASIC code in the **VBS Mini-Editor** to dynamically change the value of the gauge at a given time. Suppose you want to create a report that moves the gauge from 0 to 100 percent based on how many pages of the report you have viewed. You could use code similar to that shown in this example:

1. Create a ten page multi-page report:
   - Right click on HyperView's main screen. The **Property Sheet** for **The Frame/The View** opens.
   - Select the **Events** tab.
   - Double click `EventInitialize`. The **VBS Mini-Editor** will open.
   - Click the **Wizard >>** button. The **Script Wizard** dialog box opens.
   - In the **Variables** area of the dialog box, pull down the drop-down list on the left. You will see that **CurPage** and **NumPages** are available for selection.
   - Select **NumPages**.
   - Click the **Insert** button. This will bring up the **VBS Mini-Editor** with the following text: "`NumPages`"
   - Type "**=10**" after the NumPages command. So that the text reads: "`NumPages=10`"
   - Click **OK** to close the mini editor.
2. Insert a **Gauge** object into the report.
3. Select the **Gauge** object and drag its box to increase its vertical distance. This is the total distance the percentile bar can travel.
4. Double click on the **Gauge** object to access the **Property Sheet** dialog box.
5. Select the **PC-DMIS** tab.
6. Click on the `MaximumEq` property. The **VBS Mini-Editor** appears; much of it is unavailable for selection.
7. Select **VBScript** from the list. The text area of the editor becomes available.
8. Add the following code that will cause the maximum value for the gauge to equal the total number of pages in the HyperView report:

```
Retn = NumPages
```

9. Click **OK** to close the **VBS Mini-Editor**.

10. Now click on the `ValueEQ` property. The **VBS Mini-Editor** again appears.
11. Select **VBScript** from the list. The text area of the editor becomes available.
12. Add the following code that will cause the gauge to reflect the progress through a multi-page HyperView report:

    ```
    Retn = curpage
    ```

13. Click **OK** to close the **VBS Mini-Editor**.
14. Close the **Property Sheet** dialog box.
15. Press CTRL + E to place your report in run mode.
16. Press PAGEUP or PAGEDOWN to cycle through the multiple pages and watch the gauge's percentile bar move dynamically as you progress through the multi-page report.

## Graph Object

The **Graph** object inserts a graph into your HyperView report with the ability to dynamically update its data. The **Graph** object allows you to store and then display an array of data points. You can use X and Y values to specify the points of data on the graph.

*Default Graph object*

Along with the ability to resize the object, change colors, and change other attributes, you can cause graph objects to update their data dynamically by using these properties in conjunction with Visual BASIC code:

| Property | Description |
|---|---|
| `DataPointColor` | This changes the colors used on the X, Y data points and on any lines drawn between points. |
| `Width` | This changes the diameter (in pixels) of the data point. |
| `ConnectPoints` | Setting this to `YES` draws lines between the data points on the graph, visually connecting them together. |
| `Clockwise` | Setting this to `NO` reverses the Y axis, making the top negative and the bottom positive. |
| `Xdivisions` | This divides the X axis of the graph, essentially adding the specified |

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| | number of columns. |
| `Ydivisions` | This divides the Y axis of the graph, essentially adding the specified number of rows. |
| `EnablePoint` | If set to `1`, your graph accepts the addition of new data points.<br>If set to `0`, your graph rejects the addition of new data points. |
| `ClearAllPoint` | If set to `1`, all data points are cleared from the graph the next time your HyperView report enters Run mode.<br>If set to `0`, all data points remain in the graph. |
| `XpointEq` | This is the X value for your data point on the graph. You can use a simple equation, or evaluate the data from a VBScript. |
| `YpointEq` | This is the Y value for your data point on the graph. You can use a simple equation, or evaluate the data from a VBScript. |
| `XminEq` | This is the X axis minimum equation. The value used determines the beginning value making up the X axis.<br> <br><br>You can use a simple equation, or evaluate the data from a VBScript. |
| `YminEq` | This is the Y axis minimum equation. The value used determines the beginning value making up the Y axis.<br> <br><br>You can use a simple equation, or evaluate the data from a VBScript. |
| `XmaxEq` | This is the X axis maximum equation. The value used determines the ending value making up the X axis.<br> <br><br>You can use a simple equation, or |

| | |
|---|---|
| | evaluate the data from a VBScript. |
| `YmaxEq` | This is the Y axis maximum equation. The value used determines the ending value making up the Y axis.<br> <br><br>You can use a simple equation, or evaluate the data from a VBScript. |

**Tip:** You can re-scale the Y axis by clicking on the up and down arrows near the graph's origin.

## *Example of Using BASIC Scripting to Dynamically Plot Points on the Graph*

You can also use BASIC code in the **VBS Mini-Editor** to dynamically plot points on a graph object. Suppose you want to create a report that plots points based on user input. You could use code similar to that shown in this example:

### Set Up the Graph

1. Create a ten multi-page report:
    - Right click on HyperView's main screen. The **Property Sheet** for **The Frame/The View** opens.
    - Select the **Events** tab.
    - Double click `EventInitialize`. The **VBS Mini-Editor** will open.
    - Click the **Wizard >>** button. The **Script Wizard** dialog box opens.
    - In the **Variables** area of the dialog box, pull down the drop-down list on the left. You will see that **CurPage** and **NumPages** are available for selection.
    - Select **NumPages**.
    - Click the **Insert** button. This will bring up the **VBS Mini-Editor** with the following text: "`NumPages`"
    - Type "**=10**" after the NumPages command. So that the text reads: "`NumPages=10`"
    - Click **OK** to close the mini editor.
2. Insert a **Graph** object into the report.
3. Double click on the **Graph** object to access the **Property Sheet** dialog box.

4. Select the **PC-DMIS** tab.
5. Click on the `XmaxEq` property. The **VBS Mini-Editor** appears.
6. Select **CONST** from the list and type **100**. This sets the upper end of the X range on the graph.
7. Click **OK** to return to the **Property Sheet**.
8. Click on the `YmaxEq` property.
9. Select **CONST** from the list and type **100**. This sets the upper end of the Y range on the graph.
10. Click **OK** to return to the **Property Sheet**.
11. Modify any other properties to customize the look and feel of the graph.
12. Close the **Property Sheet** dialog box.

### Declare Global Variables

1. Open the **Property Sheet** for **The Frame/The View**. Do this by selecting, then right clicking on an object. The **Property Sheet** will appear.
2. Select the **Settings** tab and scroll down to the `LocalVariables` property.
3. Double click on the `LocalVariables` property. The **Local Variables** dialog box appears.

*Local Variables dialog box*

4. Click the **Add** button twice so you can define two variables.
5. For the first variable, select **Double** under the **Type** list and type **Xvalue** in the name box.
6. For the second variable, select **Double** under the **Type** list and type **Yvalue** in the name box.

### Add a Button to Send User Input to the Global Variables

1. Add a **Button** object to the report.
2. Click on and change its label to read **Plot a Point**.

3. Access the **Property Sheet** dialog box for the newly added button object, and select the `EventClick` event. The **VBS Mini-Editor** appears.
4. Insert this code to get input from the user to plot the point:
5. `Xvalue = InputBox ("Type the X value:")`
6. `Yvalue = InputBox ("Type the Y value:")`
7. Click **OK** to accept you code and return to the **Property Sheet** dialog box.
8. Close the **Property Sheet** dialog box.

### Edit the Graph to Use the Global Variables

1. Click on the `XpointEq` property. The **VBS Mini-Editor** appears.
2. Select **+EQ($)** from the list. Another list appears. Select **<Xvalue>** from the list.
3. Click **OK** to return to the **Property Sheet**.
4. Click on the `YpointEq` property. The **VBS Mini-Editor** appears.
5. Select **+EQ($)** from the list. Another list appears. Select **<Yvalue>** from the list.
6. Click **OK** to return to the **Property Sheet** dialog box.
7. Close the **Property Sheet** dialog box.

### Test the Report

1. Press CTRL + E to place your report in run mode.
2. Press PAGEUP or PAGEDOWN to get the mini toolbar that allows you to cycle through multiple page reports to appear.
3. Click the **Plot a Point** button
4. Inserting the X and Y values.
5. Click **Refresh** from the mini toolbar and watch the point get dynamically plotted at the correct XY location.

## Button Object

The **Button** object inserts a button control into the HyperView report. You can choose the action the report will take when the button is clicked by modifying the `ButtonType` property.

Along with the ability to resize the object, change colors, and change other attributes, you can further customize button objects by using these properties:

| Property | Description |
|---|---|
| `Default` | This determines how buttons will respond when you press the ENTER key. |

| | |
|---|---|
| | `YES` - The button responds to a pressed ENTER key even if another button has the focus.<br>`NO` - If ENTER is pressed only the button that has the focus will respond. |
| `ButtonShape` | This determines the look of the button. Options include:<br>`0- Normal:` changes shape to a standard button.<br>`1- Property tab Inactive:` changes shape to an unselected property sheet tab.<br>`2- Property tab Inactive:` changes shape to a selected property sheet tab. |
| `Text` | This determines the text that appears on the button. |
| `Bitmap` | This places a bitmap of your choice on top of the button face. It uses the same dialog box and properties as described in the "Bitmap Object" topic on page 11. |
| `Layout` | This determines the position of the bitmap or text on the button's face. The values include:<br>`0- Center`<br>`1- Left`<br>`2- Right`<br>`3- Top`<br>`4- Bottom` |
| `ButtonType` | This determines the action a button will take when it's clicked.<br>`0- Cancel:` closes the report and does nothing.<br>`1- EventClick:` executes a C++ or VBScript action.<br>`2- Goto:` goes to the Multi Document Interface (MDI) associated file.<br>`3- Help:` invokes the WinHelp() function using the HelpContextID property to open the proper topic.<br>`4- OK:` records changes and closes the report.<br>`5- Record:` records changes and keeps the report open. |
| `GotoPath` | This determines the MDI associated file the report will go to when the button is clicked. This is mostly used to implement property sheet-like |

| | |
|---|---|
| | controls. |

## Checkbutton Object

The **Checkbutton** object inserts a checkbutton object, or check box, into the HyperView report. Check boxes, unlike option buttons, are never mutually exclusive. You can select as many check boxes as desired (provided they are enabled for selection).

Along with the ability to resize the object, change colors, and change other attributes, you can further customize check boxes by using these properties:

| Property | Description |
|---|---|
| `OwnerDrawn` | This specifies how the report should draw the check box.<br>If set to `TRUE`, the check box gets drawn from a bitmap specified in the `Bitmap` and `Bitmap (Off)` properties.<br>If set to `FALSE`, the check box is drawn normally. |
| `Bitmap` | This allows you to specify a bitmap to use if `OwnerDrawn` is set to `TRUE` and if the check box is selected.<br>Additionally, the specified bitmap must be the same shape as a standard check box. |
| `BitmapOffState` | This allows you to specify a bitmap to use if `OwnerDrawn` is set to `TRUE` and if the check box is *not* selected.<br>Additionally, the specified bitmap must be the same shape as a standard check box. |
| `TriState` | Instead of just the TRUE (`ON`) and FALSE (`OFF`) states, this property lets your check box have three states: true, false, and partially true, thus allowing you determine whether *a portion* of a selected option is true. |
| `AlignTextLeft` | If set to `YES`, this moves the text to the left of the check box like this:<br>`Text Here [ ]`<br>If set to `NO`, this moves the text to the left of the check box like this:<br>`[ ] Text Here` |
| `Text` | The text specified here gets displayed on the check box control. |
| `HelpHotButton` | Selecting `YES` shows a question |

| | |
|---|---|
| | mark help button next to the check box.<br> <br>Clicking this button in Run mode launches the PC-DMIS Online Help. |
| `ValueID` | This contains the `CurPage` and `NumPages` variable. You get and set this property using the control. |

## Radiobutton Object

The **Radiobutton** object inserts option buttons into the HyperView report. Option buttons are mutually exclusive, you can only have one option button selected inside your report at a time. The `ListItems` property allows you to define a set of option buttons.

Along with the ability to resize the object, change colors, and change other attributes, you can further customize this object by using these properties:

| Property | Description |
|---|---|
| `Bitmap` | This allows you to specify a bitmap to use for a selected option button.<br>The specified bitmap must be the same shape as a standard check box. |
| `BitmapOffState` | This allows you to specify a bitmap to use for a deselected option<br>The specified bitmap must be the same shape as a standard option button. |
| `AlignTextLeft` | If set to `YES`, this moves the text to the left of the option button like this:<br>`Text Here ( )`<br>If set to `NO`, this moves the text to the right of the option button like this:<br>`( ) Text Here` |
| `ListItems` | This defines a list of option buttons and its associated values (see the description on the **List Choices** dialog box below). |
| `ValueID` | This contains the `CurPage` and `NumPages` variable. You get and set this property using the control. |

The `ListItems` property displays the **List Choices** dialog box.

*List Choices dialog box*

This dialog box allows you to add, rename, and delete option buttons and assign numerical values. Generally, when adding a new option the value for that option increments automatically, so only one button is selected at a time. However, you can change the numerical values to allow the selection of groups of options with one mouse click when in Run mode.

For example, suppose you have five option buttons that you've named Options A through E, and you change their assigned values to the following:

| Option buttons | Value |
|---|---|
| Option A | 0 |
| Option B | 0 |
| Option C | 1 |
| Option D | 2 |
| Option E | 2 |

When you enter Run mode and select **Option A**, both **Option A** and **Option B** will be selected. This is because they're assigned the same value. The same is also true if you select **Option E**, both **Option D** and **Option E** will be selected. Only **Option C** has a unique value, so when you select it, only it is selected.

## ComboBox Object

The **ComboBox** object inserts a combo list into your HyperView report. Using this list you can display options to select when you click the list in Run mode.

Along with the ability to resize the object, change colors, and change other attributes, you can further customize this object by using these properties:

| Property | Description |
|---|---|
| `Accelerator` | This allows you to define the letter to use in conjunction with the ALT key to create an accelerator for the |

| | |
|---|---|
| | control.<br>The letter or symbol defined should be unique from those used for other accelerators (including the accelerators on the menu bar). |
| `UseColors` | This determines whether or not this control should use colors specified in `BackColor` and `TextColor` properties. |
| `ListItems` | This defines the list of items and the associated values (see the description of the **List Choices** dialog box described in the "Radiobutton Object" on page 23). |
| `NumDropped` | The number specified determines how many list items the report displays when you click on the list in Run mode. |
| `Sort` | Selecting `YES` sorts the list items in alphabetic order. |
| `ComboType` | This specifies the type of combo list. You can select either `Droplist` or `Dropdown`. |
| `HelpHotButton` | Selecting `YES`, shows a question mark help button next to the check box.<br> <br>Clicking this help button in Run mode launches the PC-DMIS Online Help. |
| `ValueID` | This contains the `CurPage` and `NumPages` variable. You get and set these variables using this control. |

## ListBox Object

The **ListBox** object inserts an open list inside the HyperView report.

Along with the ability to resize the object, change colors, and change other attributes, you can further customize this object by using these properties:

| Property | Description |
|---|---|
| `Accelerator` | This allows you to define the letter to use in conjunction with the ALT key to create an accelerator for the control.<br>The letter or symbol defined should be unique from those used for other accelerators (including the accelerators on the menu bar). |

| | |
|---|---|
| `UseColors` | This determines whether or not the report should use colors specified in `BackColor` and `TextColor` properties for this control. |
| `Sort` | Selecting `YES` sorts the list items alphabetically. |
| `HorizontalScroll` | Selecting `Always` places a horizontal scroll bar on the list box even if the text for a list item isn't long enough to cause it to scroll.<br>Selecting `None` removes the scroll bar. |
| `VerticalScroll` | Selecting `Always` places a vertical scroll bar on the list box even if there aren't enough list items to cause it to scroll.<br>Selecting `None` removes the scroll bar. |
| `UseTabstops` | This determines whether or not the list box should use tab stops. If set to `YES`, pressing TAB in Run mode will eventually make this list box the active control. |
| `WantKeyInput` | This determines whether or not the list box should accept keyboard input. |
| `RemoveSelection` | Selecting `YES` removes the selection from the list box (`ListID`) when recorded. |
| `ListID` | This is the ID of the list. You can set or get this by using the control. It should be in this format:<br>`item 1\r\nitem 2\r\nitem 3` and so on. |
| `ValueID` | This is the ID of the value. You can set or get this by using the control. |

## EditBox Object

The **EditBox** object inserts an editable box into the HyperView report. You can use this object with Visual BASIC scripting to collect information from those running the report.

Along with the ability to resize the object, change colors, and change other attributes, you can further customize this object by using these properties:

| Property | Description |
|---|---|
| `Accelerator` | This allows you to define the letter to use in conjunction with the ALT key to create an accelerator for the |

| | |
|---|---|
| | control.<br>The letter or symbol defined should be unique from those used for other accelerators (including the accelerators on the menu bar). |
| `Alignment` | This aligns the text within the object. Available alignments are: `Left`, `Center`, and `Right`. |
| `ReadOnly` | Setting this to `YES` makes the text read-only and therefore not editable when the report is in Run mode. |
| `BorderDrawn` | Setting this to `YES` draws a border around the control. |
| `CaseOrPassword` | This sets the style of the text in the box. You can select one of the following:<br>`0 – None:` doesn't change the display of the text.<br>`1 - Lower Case:` displays the case of the text in the box to all lower case.<br>`2 - Upper Case:` displays the case of the text in the box to all upper case.<br>`3 – Password:` masks each character of the text with an asterisk. |
| `UseColors` | If set to `YES` then colors specified in `BackColor` and `TextColor` are displayed. |
| `HelpHotButton` | Selecting `YES`, shows a question mark help button next to the check box.<br> <br>Clicking this help button in Run mode launches the PC-DMIS Online Help. |
| `ValueID` | This contains the `CurPage` and `NumPages` variables. You get and set these variables using this control. |

## EditLongBox Object

The **EditLongBox** object inserts an edit box in the HyperView report that only accepts Long numerical values. This has all the properties of the **EditBox** object (see "EditBox Object" on page 26) with the addition of `MinimumEq` and `MaximumEq` properties:

| Property | Description |
|---|---|
| `MinimumEq` | Minimum equation (This value can be a set constant number, a value |

| | |
|---|---|
| | evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |
| MaximumEq | Maximum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |

## EditDbleBox Object

The **EditDblBox** object inserts an edit box in the HyperView report that accepts Hyper variables of double types. This has all the properties of the **EditBox** object (see "EditBox Object" on page 26) with the addition of `MinimumEq` and `MaximumEq` properties:

| Property | Description |
|---|---|
| `MinimumEq` | Minimum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |
| MaximumEq | Maximum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |

## MultiEditBox Object

The **MultiEditBox** object inserts an edit box that supports more than one line of text. This has all the properties of the **EditBox** object (see "EditBox Object" on page 26), plus the following:

| Property | Description |
|---|---|
| `HorizontalScroll` | Selecting `Always` places a horizontal scroll bar on the list box even if the text for a list item isn't long enough to cause it to scroll.<br>Selecting `None` removes the scroll bar. |
| `VerticalScroll` | Selecting `Always` places a vertical scroll bar on the list box even if there aren't enough list items to cause it to scroll.<br>Selecting `Automatic` places a vertical scroll bar only when the amount of list items in the list box exceed the vertical height of the box. |

| | |
|---|---|
| | Selecting `None` removes the scroll bar. |

## Slider Object

The **Slider** object inserts a slider into your HyperView report. With a slider in your report you can allow users to set a value from a range of continuous possible values.

Along with the ability to resize the object, and change other attributes, you can further customize this object by using these properties:

| Property | Description |
|---|---|
| `Accelerator` | This allows you to define the letter to use in conjunction with the ALT key to create an accelerator for the control.<br>The letter or symbol defined should be unique from those used for other accelerators (including the accelerators on the menu bar). |
| `Orientation` | This sets the orientation of the slider.<br>Selecting `Horizontal` sets the slider to move horizontally, side to side.<br>Selecting `Vertical` sets the slider to move vertically, up and down. |
| `TickStyle` | This allows you to set how ticks are displayed on a slider.<br>`0 – Both:` sets the ticks to above and below the slider (if a horizontal slider) or to the right and left sides (if a vertical slider).<br> <br>`1 - Top/Left:` sets the ticks above the slider (if a horizontal slider) or to the left (if a vertical slider).<br> <br>`2 - Bottom/Right:` sets the ticks below the slider (if a horizontal slider) or to the right (if a vertical slider).<br> |

| | |
|---|---|
| AutoTicks | Setting this to YES displays ticks on the slider. A tick is a short vertical/horizontal line that is placed at intervals (set by the TickFrequency property) along the range of the slider. |
| TickFrequency | This value determines the frequency that ticks are displayed. You can set a value between 2 and 200 ticks equally spaced along the range of the slider. |
| HelpHotButton | Selecting YES, shows a question mark help button next to the check box. Clicking this help button in Run mode launches the PC-DMIS Online Help. |
| ValueID | This is the ID of the value. You can set or get this by using the control. |
| MinimumEq | Minimum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript). -$, $, CONST |
| MaximumEq | Maximum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript). -$, $, CONST |
| DisplayID | This determines whether or not the DisplayID gets updated when the slider gets adjusted. |

## Spinner Object

The **Spinner** object inserts a spinner control into your HyperView report. You can set this control to work with an edit box, allowing you to select a numerical value by cycling through a range of numbers. The range of numbers is set using the MinimumEQ and MaximumEQ properties.

Along with the ability to resize the object vertically, and change other attributes, you can further customize this object by using these properties:

| Property | Description |
|---|---|
| Accelerator | This allows you to define the letter to use in conjunction with the ALT key to create an accelerator for the control. |

| | |
|---|---|
| | The letter or symbol defined should be unique from those used for other accelerators (including the accelerators on the menu bar). |
| `Orientation` | This sets the orientation of the spinner control.<br>Selecting `Horizontal` rotates the orientation of the spinner arrows to point horizontally.<br>Selecting `Vertical` rotates the orientation of the spinner arrows to point vertically. |
| `WrapAround` | If incrementing or decrementing the list of values and you come to the minimum or maximum value, you can set this property to `YES`, and your report will wrap to the beginning or end of the list. |
| `EditBuddy` | Selecting `YES`, associates the spinner to the edit control immediately preceding the spinner in the tab order. You can view the tab order by selecting an object in Edit mode and pressing SHIFT + ENTER. |
| `DecimalBase` | This sets the base of the spinner to either decimal based (select `YES`) or hexadecimal based (select `NO`). |
| `IncrAccelerator` | This value determines the amount to increment or decrement the spinner each time you click an arrow. The default is `1`. |
| `ValueID` | This contains the `CurPage` and `NumPages` variable. You get and set these variables using this control. |
| `MinimumEq` | Minimum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |
| `MaximumEq` | Maximum equation (This value can be a set constant number, a value evaluated from a simple equation, or a returned value from a VBScript).<br>`-$, $, CONST` |

## ActiveX Object

The **ActiveX** Object inserts an ActiveX control into your HyperView report. Once inserted, a dialog box titled **Insert OLE Control** will open.

*Insert OLE Control dialog box*

This dialog allows you to select the type of control to be inserted from a list of known controls on your computer. The objects in the **OLE Control** list are unique to each computer, based on the programs installed, etc.

If you click the **Cancel** button, nothing is added and the dialog box closes.

### *Accessing an ActiveX Object's Methods and Properties from Basic*

If you have added a control, for example, an ActiveX calendar control and called it MSCAL, you can access its events and properties through the property sheet just like any other object. In this case, since it is an ActiveX object, a new tab will be visible called **ActiveX**. This tab contains a user accessible list of variables and properties with their default values.

To set properties for the ActiveX control inside the **VBS Mini-Editor** for an event handler, type the name of the control, in this case, "`MSCAL.`" (with the period). A window appears allowing the variables and methods to be accessible. Select the "`X`" from the list. Another popup window will appear listing a set of internal editable variables for the ActiveX control.

## OLE Object

The **OLE** object embeds or links an object from another application into your HyperView report. For example, using this object you can insert an editable Microsoft Excel file into your report.

Once you insert an **OLE** object, a dialog box titled **Insert Object** appears.

*Insert Object dialog box*

This dialog box allows you to select the type of OLE object from a list of objects that are currently available on your computer. The OLE objects in the list are unique to your individual computer depending on what is installed, etc.

If you select the **Cancel** button nothing is added to the HyperView report and the dialog closes.

### *Accessing an OLE Object's Automation Methods and Properties from Basic*

If you have added an OLE control, for example the Bitmap control, and called it `BITMAP`, you may wish to access the OLE object's automation methods and properties from BASIC. For example, you might wish to add program code to change the bitmap being displayed, populate an embedded Microsoft Excel spreadsheet object with data, or set the text in an embedded Microsoft Word document. In order to access the OLE automation methods and properties for the object named "`BITMAP`", use the following code:

```
AttachOLE("BITMAP_X")
```

The object variable BITMAP_X may now be used as follows:

```
BITMAP_X.{property} = {value}
```

or

```
BITMAP_X.{automation method call}.
```

**Note:** You must have documentation for the particular OLE object you are using to know what methods and properties are available.

## Cad Object

***PC-DMIS EXTENTION OBJECT***

The CAD object is used to insert a graphical view into a report. When a CAD object is initially dropped into a report, it is created with a single

pane and grabs the current active graphics and viewset from PC-DMIS's Graphics Display window for the part program.

You can "activate" the CAD object by double clicking within its boundaries. When activated, the frame around the CAD object will change, and the translate, rotate 2D, rotate 3D, edit graphics, edit CAD, and viewset functions are all available from PC-DMIS'S toolbar. Once activated, clicking anywhere in the HyperView report (other than on the CAD object itself) will deactivate the CAD object. OLE objects behave in a similar manner, as described in the “Adding OLE and ActiveX Objects to the HyperView Report” section. When deactivated, the CAD object is simply a bitmap image of the graphics, and isn’t “live” as it is when activated. The CAD object may be activated in both Edit and Run Modes. If the viewset of the CAD object is altered while in Run Mode, it is automatically saved when the report is closed or switched back to Edit Mode. The CAD object doesn’t add any additional properties to the **PC-DMIS** tab on the **Property Sheet**.

## Analysis Object

***PC-DMIS EXTENTION OBJECT***

The analysis object is used to insert a PC-DMIS analysis window into a report. The analysis object behaves in a similar way as the CAD object in the sense that you can "activate" or "deactivate" the analysis object in the same way as you do the Cad Object. When an analysis object is initially dropped into a report, a dialog will appear allowing the user to select which dimensions to graphically analyze. Once created, this dialog is available by doing the following:

1. Open the Property Sheet for the analysis object.
2. Click on the **PC-DMIS** tab.
3. Double click on the “(Settings Dialog)” property entry. The **Dimension Analysis Options** dialog box appears.

*Dimension Analysis Options dialog box*

The **Analysis** dialog box allows you to determine the information that gets displayed in the Analysis window.

To access the available options:

1. Select the dimension from the list box on the left side of the dialog box. Available options for that particular dimension type will become selectable.
2. Select the appropriate options for the dimension.

The following options are available in this dialog box:

### *Show Arrow Heads*

The **Show Arrow Heads** check box toggles the arrow heads on or off of the deviation lines.

### *Show Max/Min Deviations*

The **Show Max/Min Deviations** check box displays a text box with'*+' at the position for the maximum deviation of a dimension, and a text box with '*-' at the position for the minimum deviation of a dimension.

### *Show Grid Lines*

The **Show Grid Lines** check box allows grid lines to be made available in the Analysis window. When this check box is selected the **Grid Options** button appears.

## Grid Options

*Analysis Grid Options dialog box*

The **Grid Options** button opens the **Analysis Grid Options** dialog box, which allows you to determine the size and number of divisions within the grid displayed in the Analysis window.

| | |
|---|---|
| **Automatically Size** | The **Automatically Size** option automatically sizes the grid based on the number of objects specified in the X, Y, and Z fields. |
| **Specified Size** | The **Specified Size** option allows you to key in specific sizes for the maximum and minimum boundaries. |
| **Number of Elements** | The **Number of Elements** boxes allow you to specify the number of divisions that will be drawn on the analysis grid. |
| **Maximum Boundary** | The **Maximum Boundary** boxes allow you to specify the upper limits of the analysis grid coordinates. |
| **Minimum Boundary** | The **Minimum Boundary** boxes allow you to specify the lower limits of the analysis grid coordinates. |

## Arrow Length Multiplier

The **Arrow Length Multiplier** box allows you to enter a scaling factor that magnifies the deviation arrows and tolerance zone for the graphical analysis mode. If a value of 2.0 is entered, PC-DMIS will scale the arrows two times the calculated deviation for each feature hit.

This option is used for viewing purposes only, and is not reflected in the text printout.

## Show Diameters

The **Show Diameters** check box allows you to show the diameters of available True Position dimensions.

## Show Contour Plot

The **Show Contour Plot** option only works for patch scans. The contour plot uses the patch scan points to create a mesh and then shades the mesh with the colors related to the profile deviations from each hit.

### *Show Color Interpolation Between Hits*

The **Show Color Interpolation Between Hits** check box toggles inserted colors between hits.

### *Show Arrows*

The **Show Arrows** option allows the arrows for deviation lines to be toggled on or off.

### *Show Lines Between Measured Hits*

The **Show Lines Between Measured Hits** check box toggles on or off lines between the measured hits.

### *Show Lines Between Nominals*

The **Show Lines Between Nominals** check box toggles lines drawn between the nominal values.

### *Show Tolerance Lines*

The **Show Tolerance Lines** check box toggles the display of the acceptable tolerances for the dimension.

## Histogram Object

***PC-DMIS EXTENTION OBJECT***

The histogram object is used to drop a histogram for a particular dimension directly into the HyperView report. When the histogram object is first dropped into the report, a dialog will appear allowing the user to select the dimension to be associated with the object. The histogram object displays the number of deviations within each of the different tolerance zones. To see how these tolerance zones are defined or to change the colors representing each tolerance zone, see “Edit Dimension Color” in Chapter 10 of the *PC-DMIS Reference Manual*.

**Note:** Histogram objects are not available for dimensions that are not directly calculated using the individual hits of their features, such as location, true position, and keyin dimensions.

## Dimension Color Key Object

***PC-DMIS EXTENTION OBJECT***

The dimension color key object is used to drop a color key directly into the HyperView report. This color key depicts the colors that are used to represent the dimensional tolerance zones for analysis and histogram objects. To see how these tolerance zones are defined or to change the colors representing each tolerance zone, see “Edit Dimension Color” in Chapter 10 of the *PC-DMIS Reference Manual*.

## Feature Text Object

***PC-DMIS EXTENTION OBJECT***

The feature text object is used to drop the inspection report text for any feature or dimension in the part program directly into a HyperView report. When the feature text object is first dropped into the report, a dialog will appear allowing the user to select the feature or dimension to be associated with the object. The feature text object is only useful if you wish to have the text for a feature or dimension appear in the HyperView report exactly as it would appear in the inspection report. If a dimension has Textual Analysis set in the Edit window, the feature text object can display the point information related to the Textual Analysis of a dimension. The dimension info object described below is a useful alternative when displaying other textual information on a particular dimension.

## Dimension Info Object

***PC-DMIS EXTENTION OBJECT***

The dimension info object is used to drop individual dimension information directly into a HyperView report. When the dimension info object is first dropped into the report, the **Dimension Info** dialog box will appear allowing the user to select the dimension to be associated with the object.

*Dimension Info dialog box*

The dimension info object brings up the **Dimension Info** dialog box. This dialog allows you to display selected dimensional information in your HyperView report.

See “Edit Dimension Info” in chapter 10 of the *PC-DMIS Reference Manual* for complete information on how to use this dialog box to display dimension information.

## Point Info Object

***PC-DMIS EXTENTION OBJECT***

The edit point info object is used to place individual point information directly into the HyperView report. After selecting this object, and drawing a box on your grid, the **Edit Point Info** dialog box appears.

*Edit Point Info dialog box*

Select the information you want in your report, then click **OK**. PC-DMIS creates point info commands for the selected features or dimensions and closes the dialog box.

You will notice that PC-DMIS displays a table on your grid that contains feature or dimension point information.

*An inserted Point Info object*

This object contains XYZ coordinate information and IJK vector information for the second hit on a circle feature.

The **Show Leader Line** check box controls whether or not leader lines (lines from the feature to the displayed Point Info information) will automatically be generated.

**Note:** Analysis Objects or Cad Objects must exist in your HyperView report previous to selecting this check box.

See "Edit Point Info" in the "Graphics Options" chapter of the PC-DMIS Reference Manual for information on the other options in this dialog box.

## *Properties in PC-DMIS tab for Point Info Objects:*

The following table contains the PC-DMIS properties available for a Point Info object when you access its **Property Sheet** dialog box.

| Property | Possible Values | Description of Associated Value |
|---|---|---|
| **(Settings Dialog)** | … | Clicking it opens the Edit Point Info dialog box |
| **DimFeatID** | Any string (default is something like F1, F2, F3 etc.). | This value determines the Feature's ID. |
| **HitNumber** | Any hit number for the given feature type. | This value determines what hit number is under examination. |
| **OrderDeviation** | 1 through 4. | This value determines placement order of the deviation in the Point Info box. |
| **OrderHitNum** | 1 through 4. | This value determines placement order of the hit number in the Point Info box. |
| **OrderPoint** | 1 through 4. | This value determines placement order of the XYZ point location in the Point Info box. |
| **OrderVector** | 1 through 4. | This value determines placement order of the IJK vector in the Point Info box. |
| **ShowColumnLines** | 0 or 1. | A value of 1 shows column lines in the Point Info box. |
| **ShowGraph** | 0 or 1. | A value of 1 shows the graph on the Point Info box. |
| **ShowHeadings** | 0 or 1. | A value of 1 shows the row headers. |
| **ShowID** | 0 or 1. | A value of 1 displays the feature's ID. |
| **ShowPointInfo** | 0 or 1. | A value of 1 displays the hit's point info. |
| **ShowType** | 0 or 1. | A value of 1 displays the feature type next to the graph. |

## Leader Line Object

***PC-DMIS EXTENTION OBJECT***

The leader line object is used in conjunction with a feature text or dimension info object and a CAD window. It provides a leader line from either a feature text or dimension info object to a CAD window, with the leader line terminating on the feature in the CAD window associated with the feature text or dimension info object. When dropping a leader line object into a report, drag the mouse from the feature text or dimension info object to the CAD object (or vice versa). If done properly, the leader line will automatically snap between that feature text or dimension info object and the appropriate location on the CAD window. If not, a dialog will pop up allowing the user to select the feature text or dimension info object and the CAD object to be used. When a CAD, feature text, or dimension info object associated with a leader line object is deleted, the leader line object is automatically deleted as well.

# Using the Layout Bar to Organize your Report

The **Layout Bar** gives you the tools you need to effectively arrange, organize, and display your objects inside the edit mode grid. The following topics discuss the functionality of each icon.

## Edit

The **Edit** icon places the Hyper report into Run mode.

## Property Sheet

The **Property Sheet** icon displays the properties for the selected object in the **Property Sheet** dialog box. The **Property Sheet** dialog box allows you to change the properties for a selected object. You can easily change the object whose properties you're looking at by choosing a different existing object from the list at the top of the **Property Sheet** dialog box.

For complete information on the available properties, see the HyperView reporting tutorial in the *PC-DMIS Reference Manual*.

## Object Sheet

The **Object Sheet** icon displays the **Object Sheet** dialog box.

*Object Sheet dialog box*

You can use this dialog box to set the tab order for objects and controls typically used on dialog boxes by simply changing the order an object appears in this dialog box.

When you press TAB in run mode, PC-DMIS will jump to the next object defined in this dialog box, giving it the focus. Only some objects are affected by the TAB key. Pressing TAB only works on those objects that have a number to the left of them in the **Object Sheet** dialog box.

## Layers Sheet

The **Layers Sheet** icon displays the **Layers Sheet** dialog box. This dialog box allows you to assign objects to different layers. You can hide or show layers. This is useful for multi-page reports that have a lot of objects.

## Toggle Grid

The **Toggle Grid** icon shows or hides the available grid. Used in Edit mode, the grid is useful for sizing objects precisely since it contains a dot every tenth of an inch.

## View Snap Points

The **View Snap Points** icon shows the snap points on each object. Snap points are useful in tying objects together with lines. For example, you can create a line between a text box description pointing to an object, such as a circle, by using a line to connect snap points on the text box description and the circle object. Then, like a leader line, when you move the circle to a new location, the attached line stretches and shrinks to accommodate the new position of the circle.

To use snap points as described in the above example,

1. Create a circle object.
2. Create a line object.
3. In edit mode, select the **View Snap Points** icon from the **Layout Bar**. You will notice that objects on the grid that have an area will display blue-colored points. These blue

points are snap points.

*Sample circle showing five snap points*

4. Select the line and drag one end of it until the end rests directly on the desired snap point of the circle. Try moving the circle object; the line is attached to the circle object's snap point.
5. Create a text object for a description for the circle and edit it with a brief description.
6. Select the other end of the line and drag it until it rests on one of the snap points of the text object.
7. Now select and drag either the text box description or the circle object. Notice that the line object gets longer or shorter and moves so that there's always a straight line between the used snap points of the two objects.

To detach objects attached to a snap point, simply drag the attached end of the object off of the snap point.

## Snap Points vs. Leader Line objects

Most of the time you will probably use the **Leader Line** object instead of snap points. It has nearly all the same functionality as snap points and is easier to use (see the "Leader Line Object" topic on page 41). One advantage snap points have over the **Leader Line** object, is their ability to support more than one line between objects and their ability to fit the connecting line exactly to a snap point. For example, with snap points you can create a more complex shape directly in the edit mode, as shown here:

*Sample Cylinder created with two four lines fitted to snap points on the two filled circles.*

## Supported Objects

Only Line and Polyline objects can attach to objects that have snap points. Below are the objects that have snap points:

- Text

- TextVar
- Border
- Ellipse
- Bitmap
- DimensionColorKey
- DimensionHistogram
- FeatureText
- DimensionInfo
- PointInfo

## Toggle Ruler

The **Toggle Ruler** icon allows you to turn on or off the ruler located on the top and left sides of the grid. The ruler shows the size of the grid in inches. It also displays your cursor's position along the grid's horizontal axis (top ruler) and vertical axis (side ruler).

## Zoom In or Out

The **Zoom In or Out** icon allows you to zoom in or out of your Hyper report and then restore the original view. When you click this icon, the following icons become available for selection:

**Zoom in 100%** - This zooms in on your report by 100 percent per click. You can click this icon at most five times to get a 500 percent zoom.

**Zoom out 100%** - This zooms out of your report by 100 percent per click if you're already zoomed in. If you haven't zoomed in at all, you will only be able to zoom out by 100 percent one time.

**Zoom to 1:1** – This restores the size of your report to the original 1 to 1 zoom size.

## Group

The **Group** icon allows you to select multiple objects and group them together. Once grouped, the editor will show the grouped objects as one object.

To group multiple objects, either hold down the SHIFT button, and select all objects in the group, or box-select all objects, and then click the **Group** icon.

## Ungroup

The **Ungroup** icon restores object in a group to their individual ungrouped states. To do this, select a grouped object and click **Ungroup**.

## Regroup

The **Regroup** icon regroups the last ungrouped set of objects without your having to reselect the individual objects.

## Align Edges

The **Align Edges** icon provides you with these additional icons that allow you to arrange a set of selected objects along their left, right, top, or bottom edges:

Aligns selected objects along their left edges

Aligns selected objects along their right edges

Aligns selected objects along their top edges

Aligns selected objects along their bottom edges

## Align Center

The **Align Center** icon provides you with these additional icons that allow you to center selected objects either horizontally or vertically:

Centers selected objects along the horizontal axis

Centers selected objects along the vertical axis

## Space

The **Space** icon provides you with these additional icons that allow you to equally space selected objects either horizontally or vertically:

Equally spaces selected objects along the horizontal axis

Equally spaces selected objects along the vertical axis

## Make Same Size

The **Make Same size** icon provides you with these additional icons that allow you to equalize the width, the height, or both the width and height of all selected objects:

Equally sizes the widths of the selected objects

Equally sizes the heights of the selected objects

Equally sizes both the widths and the heights of the selected objects

## To Front or Back

The **To Front or Back** icon provides you with additional icons that allow you to place a selected object (or objects) in front or in back of other objects. This is helpful when you have multiple objects on top of each other and you want certain objects to be visible. The available icons include the following:

Moves the selected object(s) in front of all other objects so that it is shown on top

Moves the selected object(s) behind all other objects so that is shown beneath

## Undo the Last Action

The **Undo the Last Action** icon will undo the last action you took in the editor.

## Redo the Previously Undone Action

The **Redo the Previously Undone Action** icon will redo the action that was undone when you clicked the **Undo the Last Action** icon.