

# Using Drawings, Pictures and Graphs

Besides system and custom report styles, ReportSmith offers you several means of achieving variety and impact in your reports, by:

- Drawing objects directly in ReportSmith.
- Displaying graphical data fields.
- Graphing report data.
- Using OLE to link or embed graphical objects in your report.

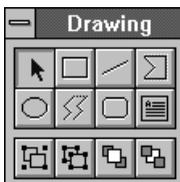
## Drawing in ReportSmith

ReportSmith's Drawing Toolbox helps you accurately draw commonly used shapes such as lines, circles, boxes, and polygons; you can position items in back or in front of each other. You can also type text into your drawings.

- To open the Drawing Toolbox, choose Tools|Drawing.

The Drawing Toolbox appears, as shown in Figure 5.1.

**Figure 5.1: The Drawing Toolbox**



# Using the Drawing Toolbox

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The following table describes the buttons in the Drawing Toolbox and their uses.

**Table 5.1: The Drawing Toolbox buttons**

Name	Icon	Function
Arrow		Select an object.
Rectangle		Draw a rectangle or square with 90° corners.
Line		Draw a line.
Polygon		Draw a closed, multi-sided figure.
Rounded Rectangle		Draw a rectangle or square with rounded corners.
Ellipse		Draw an ellipse or a circle.
Polyline		Draw a polyline figure (an open, multi-sided figure).
Text		Insert text in a text frame into a report.
Group		Group selected objects together.
Ungroup		Ungroup selected object.
Bring to Front		Move a selected object to the front of other objects.
Send to Back		Move a selected object to the back of other objects.

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Once you select a drawing tool to use, you can draw anywhere on your report—headers, footers, even the data body can accept drawings.

**Note:** If you create a drawing in one field of a column, that drawing is repeated in *every* field of that column, in all groups.

- To select a drawing object, click the Arrow tool and then select the object.
- To draw a rectangle or square, click the Rectangle tool and then drag the “crosshair” cursor to create the rectangle or square. You can use your point of origin as any corner of the rectangle: upper-right, upper-left, lower-right, or lower-left.
- To draw a straight line or line segment, click the Line tool and then drag the “crosshair” cursor. You can draw a line in any direction; you are not restricted to horizontal or vertical lines.

- To draw a closed polygon,
  - 1 Click the Polygon tool.
  - 2 Drag the “crosshair” cursor to establish a starting line.
  - 3 Click and hold to establish the end point of the first side.
  - 4 Repeat step 2 for each additional side.
  - 5 Click the starting point to close the figure.

—or—

Select another tool after drawing the penultimate line of the figure.

—or—

Double-click the last point drawn, to automatically connect it to the starting point.

- To draw a rectangle or square with rounded corners, click the Rounded Rectangle tool and then drag the “crosshair” cursor to create the rectangle or square. You can use your point of origin as any corner of the rectangle: upper-right, upper-left, lower-right, or lower-left.
- To draw a circle or ellipse, click the Ellipse tool and then drag the “crosshair” cursor until the ellipse is the size and shape you want. You can draw circles and ellipses either vertically or horizontally, but not diagonally.
- To create an open multi-sided figure (polyline),
  - 1 Click the Polyline tool.
  - 2 Drag the “crosshair” cursor to establish a starting line.
  - 3 Click and hold to establish the end point of the first line.
  - 4 Repeat step 2 for each additional line.
  - 5 Double-click the last point drawn, to tell ReportSmith you have completed the figure, and to place it in your report.
- To insert text, click the Text button and then click your report and begin entering text. See Chapter 4, “Formatting and Printing Reports”, for details on inserting and formatting text.
- To group graphical objects,
  - 1 Click the Arrow tool.
  - 2 *Ctrl*-click to select each object.
  - 3 Click the Group tool.

The selected graphical objects are now grouped as a single object and can be moved, copied, or deleted as such. To select an object within the group, first select the group and then select the object.

- To ungroup objects, select the group, and then click the Ungroup tool.
- To move graphical objects in front of other objects, select the object and then click the Bring to Front tool. If you want the object to be at the front of several layers of objects, you may need to repeat this step several times.
- To move graphical objects in back of other objects, select the object and then click the Send to Back tool. If you want the object to be at the back of several layers of objects, you may need to repeat this step several times.

## Displaying graphical data fields

Data is not always textual; it often takes the form of pictures, illustrations, or diagrams. For example, you might have an employee table that contains pictures of your employees, or a customer table with simple maps to each customer's location.

Customarily, file names of the relevant graphics are stored in a column in the table, pointing to the directory paths and names of the graphics files. When you view the table in ReportSmith, these file names appear by default. However, you can choose to display the graphics to which they refer.

- To display graphical data fields,

### 1 Choose Tools|Options.

The Options dialog box appears, as in Figure 4.5 on page 119.

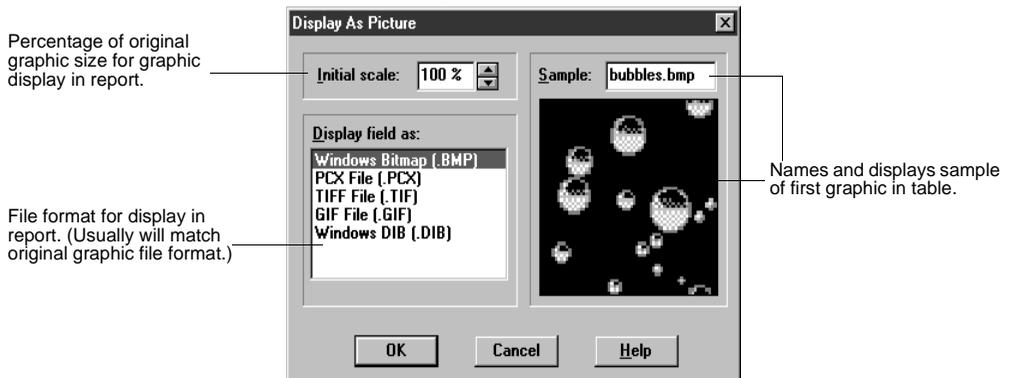
### 2 In the Picture File Search Path text box, enter the directory path where you have stored the graphics files for the table(s) in your report.

**Note:** If the full path name is included for each graphic filename in the table, you need not perform steps 1 and 2 above.

### 3 Select the column containing graphics file names, and then choose Format|Display As Picture.

The Display as Picture dialog box appears, as in Figure 5.2

**Figure 5.2: The Display as Picture dialog box.**



- 4 Select options as appropriate and then choose OK.  
ReportSmith now displays the graphics represented by the file names in your report.

**Note:** ReportSmith bases row height on the height required for the first graphic in the table. You can adjust all of the rows by resizing the row and then the picture.

All graphics in any one column must be of the same type. For example, a single column cannot contain both \*.BMP and \*.PCX files.

## Example of Graphical Fields

The following example report contains two columns. The first column, Name, contains the name of a picture (or .BMP) file. The second column, Graphic, contains the file name of each picture.

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**Graphics**

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<i>PageHeader</i> Name	Graphic
Bubbles	bubbles.bmp
Cars	cars.bmp
Toaster	toaster.bmp
Zig-zag	zigzag.bmp

After using the Format|Display As Picture command to set options to Windows Bitmap format and the size to 50%, the report looks like this:

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**Graphics**

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<i>PageHeader</i> Name	Graphic
Bubbles	
Cars	
Toaster	
Zig-zag	

*Detail*

# Using OLE to link or embed graphical objects

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You can also use Object Linking and Embedding (OLE) to link or embed graphical objects in your reports. The graphic is then updated in the report whenever the original graphic file changes. An additional advantage is that you can place the linked or embedded object anywhere in the report; you are not restricted to placing it in a header or footer.

**Note:** The following sections in this chapter are intended only as a guide to linking or embedding graphical objects within a report.

## Choosing to link or embed

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You can add graphic files to reports by either linking or embedding the graphics. Linked and embedded graphical objects look identical and act much the same in a document. However, there is an important difference. An embedded object loses its identity as a file and becomes part of another document; a linked object maintains its identity as a separate file.

Since a linked object remains a separate file, making changes to it changes it in *every* report to which it is linked. An embedded object, on the other hand, is changed *only* in the report in which you make the change, not in other reports in which it is embedded or within the original.

### Choose linking when:

- You want to be able to make changes to the original and have those changes reflected in all documents linked to that original.
- The graphical object is to be inserted into several reports or widely distributed.
- The original graphic file is likely to be frequently modified.
- The original graphic file is unlikely to be moved.
- The graphical object is large, and you will be distributing it via a network or electronic mail.
- You need to conserve disk space by having only one copy of the graphical object.

### Choose embedding when:

- You want to be able to make changes to the object and have those changes reflected only in one particular document.
- The object is to be inserted into only a few documents or will not be widely distributed.
- The original file is unlikely to be frequently modified.
- The original file is likely to be frequently moved.
- The object is small, or when the object is large but you will not be distributing it via a network or electronic mail.
- You do not need to conserve disk space by having only one copy of the object.

## Choosing how to link or embed

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There are two ways to embed a graphical object in a report, and one way to link it:

- You can link or embed a graphical object by copying the object to the Clipboard and then pasting it into the report where you want it in one of two ways.
- You can embed a graphical object in a document by using the Insert|Object command within the report. You cannot link a graphical object with this method.

### Using Copy and Paste to link or embed

You can add a graphical object to a report by copying a graphical file to the Clipboard and then pasting it into the report. A linked or embedded graphical file becomes a graphical object within the report to which it has been added.

- To add a graphical object to a report using copy and paste,
  - 1 Open both the application supplying the graphic and the report in which you want to paste the graphical object.
  - 2 Open or create the graphical object that you want to add to the report.
  - 3 In the graphic application, choose Edit|Copy.  
The graphical object is copied to the Clipboard.
  - 4 Switch to the report in which the graphical object is to be inserted and place the insertion point where you want to paste the graphical object.
  - 5 Choose Edit|Paste to embed the object.

—or—

Choose Edit|Paste Link to link to the object. (This command may not be available for all objects; consult your Windows documentation for details.)

**Note:** A graphic must have been *saved as a file* before you can link it to a report.

### Using the Edit|Paste Special dialog box

When linking or embedding a graphical object by pasting, you can use the Edit|Paste Special command in ReportSmith (and the resulting dialog box) to specify which file type to use for the embedded object. This can sometimes affect whether the object is static or editable. See your Windows documentation for details.

You can also use the Edit|Paste Special command and the resulting dialog box to specify whether the object should be linked or embedded, and whether it should be shown in its entirety or displayed as an icon representing the graphic file itself.

- To use the Edit|Paste Special dialog box, follow steps 1 through 4 above in “Using Copy and Paste to link or embed”, and then choose Edit|Paste Special. Set the options in the dialog box as desired, and then choose OK.

## Using Insert|Object to embed

You can create a new graphic and embed it as a graphical object in a report by using ReportSmith's Insert|Object menu command. The graphic must be created in an application that supports OLE.

- To add an object using the Insert|Object menu command,
  - 1 In your report, place the insertion point where you want to add the object.
  - 2 Choose Insert|Object.  
The Insert Object dialog box appears.
  - 3 In the Object Type box, select the appropriate file type.
  - 4 Choose OK.

ReportSmith opens the graphics applications associated with the file type you specified.

**Note:** A particular graphics application only appears if you selected that application as the default OLE application for this file type during setup. This is normally done automatically by the application's installation program.

- 5 In your graphics application, create the graphical object you want to add to your document.
- 6 Choose File|Update to save the changes.
- 7 Choose File|Exit and Return.  
The graphical object is placed in the report at the insertion point.
- 8 Save your report.

## Editing linked or embedded graphical objects

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When you double-click a graphical object from within a report, the graphical object's parent application opens. If the parent application supports only OLE 1.0, the application itself opens, and you can edit the graphical object within that application before returning to ReportSmith. If the parent application supports OLE 2.0, its menu structure replaces that of ReportSmith, and you can edit the graphical object "in place."

- To edit a graphical object from within a report,
  - 1 In the report, double-click the graphical object.  
The graphical object's parent application appears or replaces ReportSmith's menu structure.
  - 2 Edit the graphical object.
  - 3 Choose File|Save for a linked object, or choose File|Update for an embedded object.

**Note:** Changes to an embedded graphical object do not affect the original graphical object. Changes to a linked object are made to the *original* graphics file and are updated automatically in all documents that are linked to it.

## Graphing report data

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ReportSmith utilizes the charting and graphing capabilities of Microsoft Graph to instantly transform report data into graphs. You can create any type of graph, including pie charts, line graphs, area graphs, column graphs, and combination graphs that you can format to suit your needs.

**Note:** You must have Microsoft Graph installed on your computer system to graph ReportSmith report data. If you have installed Microsoft Word or Excel, you will probably have Graph installed on your computer system, as it can be run only from within another application.

ReportSmith offers three ways to create a graph:

- Using the Graph ribbon button.
- Defining a graph “from scratch”.
- Using the Crosstab pop-up menu.

## Graph location

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The location of a graph within your report controls the data included and how often the graph appears within the report. Graphs can be inserted only into headers or footers, but the specific type of header or footer determines what data is graphed.

If you drop into a global region such as a *page* header or *report* footer, this creates a graph using data from the *entire report*, and the graph will appear in each recurrence of the header or footer.

If you place the graph in a group header or footer, this creates a graph based on the data in only that group, and ReportSmith places the graph only in the group header or footer.

ReportSmith places the upper-left corner of the graph wherever you click within the header or footer, regardless of whether that header/footer is global or group-specific. You can reposition or format the graph as necessary—just as you would with any other report element—after inserting it.

# Graphing a columnar report

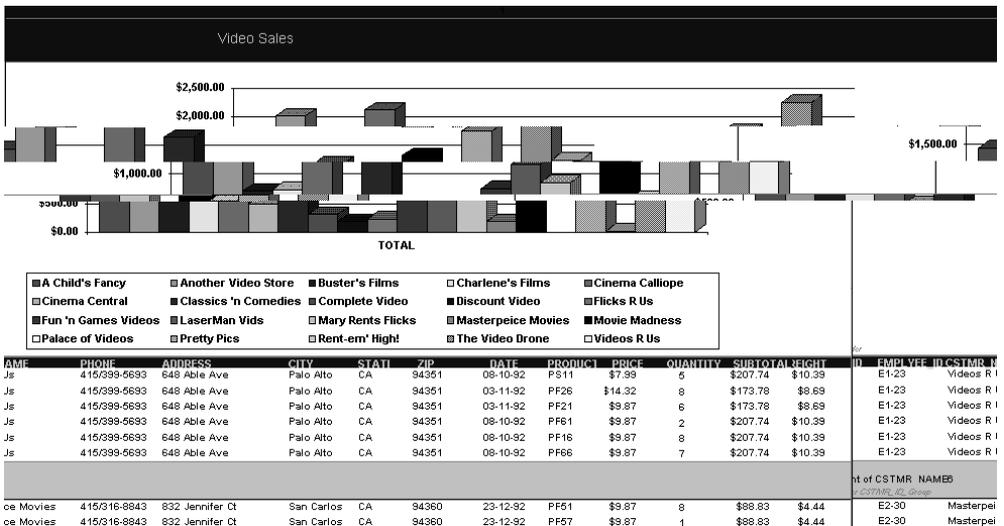
This method of creating a graph offers the simplest, fastest, and most straightforward means of graph creation. Use this technique with up to three columns of grouped and sorted data in columnar reports to create columnar graphs focusing on simple visual comparisons of values.

Ordinarily, when graphing a columnar report, each report group becomes one data series (axis) of the resulting graph, and each column becomes the other data series (axis). For example, Figure 5.3 depicts a graph of total video sales by group—the data contained in the report itself. `CSTMTR_NAME` was selected, as an entire column, to become the horizontal data series. (Graph will, by default, place non-numerical data series along the horizontal axis of a column graph.) Each customer name, which is also each report group, then became a column grouped in a horizontal row in the graph.

Likewise, `TOTAL` was selected to become the other data series. (By default, Graph places numerical data series as the vertical axis of a column graph, automatically detecting the highest value and creating a scale accordingly.)

Because the graph was placed in a report header, the figures shown in the graph represent the *report-wide* total sales for each customer name.

**Figure 5.3: An example of a columnar-report graph**



- To graph columnar report data using the visual method,

- 1 Select one, two, or three columns of data in a columnar report.

**Tip:** A single-column graph will have little practical value, as there is no scale or standard against which to compare the graphed data. The number of columns you select will affect the graph types available to you, as well as the relative effectiveness of each type. For details, see online Help in Microsoft Graph.



- 2 Click the Graph ribbon button.

The graph cursor appears.

- 3 Move the graph cursor to a header or footer, and then click to create and place the graph.

—or—

To cancel graph creation, click anywhere except a header or footer, or press *Esc*.

- To use Graph to define a report graph,

- 1 Deselect any report elements you might have selected.

- 2 Click the Graph ribbon button.

The Graph cursor appears.

- 3 Click the header or footer where the graph will appear.

Microsoft Graph appears. (Refer to online Help in Graph or to the relevant documentation in the application that installed Graph for detailed information on using Graph.)

- 4 When you have defined your report graph and data sheet, choose File|Update.

- 5 To return to ReportSmith, choose File|Exit and Return to <Report File Name>.

—or—

Click anywhere outside the Graph window.

## Graphing a Crosstab

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The technique for graphing a crosstab is slightly different from that used to create a graph of a columnar report, because you need not define the data series within the crosstab.

- To graph a crosstab,
  - 1 Select the crosstab.



- 2 Click the Graph ribbon button.

The Graph cursor appears.

- 3 Move the graph cursor to a header or footer, and then click to create and place the graph.

—or—

To cancel graph creation, click anywhere except a header or footer, or press *Esc*.

## Moving, resizing, or modifying graphs

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Once you have created a graph, you can move it or resize it within the boundaries of the header or footer in which it was placed. You can also use Graph to edit or reformat the graph.

- To move a graph, click the graph to select it and then drag it to the desired location within its header or footer.
- To resize a graph, click the graph to select it and then drag the sizing handles until the graph no longer overlaps the header/footer boundaries. (You may need to resize the header or footer itself to show the graph at a desired size.)
- To edit or modify a graph,
  - 1 Double-click the graph and then use Microsoft Graph to make modifications. As you make your changes in Microsoft Graph, you see them in your ReportSmith report. (For detailed information, see online Help in Graph or the relevant documentation for the application that installed Graph.)
  - 2 When you have finished modifying your graph, close Microsoft Graph and then save your report to keep your changes.

**Note:** Because Microsoft Graph can only be run from within another application, you cannot close a ReportSmith report until you have closed Graph.











