8 Quick Reports

Introduction

One of the most important tasks in data management is report generation. The Quick Report editor is one of two tools made available by 4th Dimension for the purpose of designing reports. You use the Quick Report editor to create ad-hoc reports in the User environment. The other tool is the Form editor, which you can use to design reports in the Design environment. You should use an output form to design reports that require complex designs or programmatic processing.

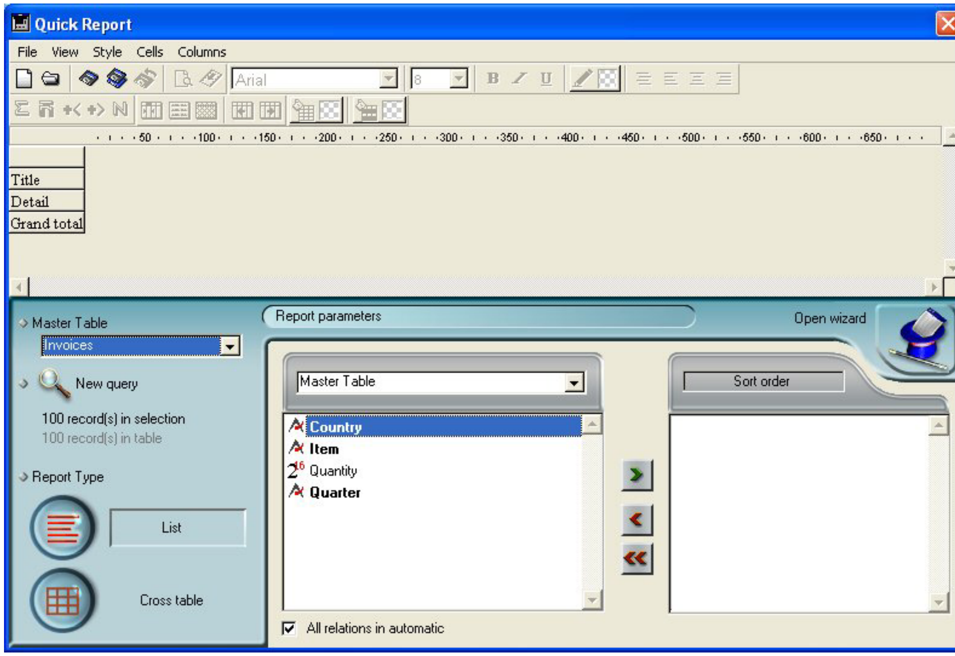
Using the Quick Report editor, you can:

- Produce lists of records.
- Create break areas.
- Produce cross-table reports.
- Compute summary calculations.
- Modify fonts and styles in the report.
- Define borders and background colors on a cell basis.
- Save and open quick report designs to disk.
- Select different output types such as HTML or text file, 4D View or 4D Chart area, print or save to disk.

The Quick Report editor produces reports from the current selection of records. Before generating a report, set the current selection of records that you want to include in your report.

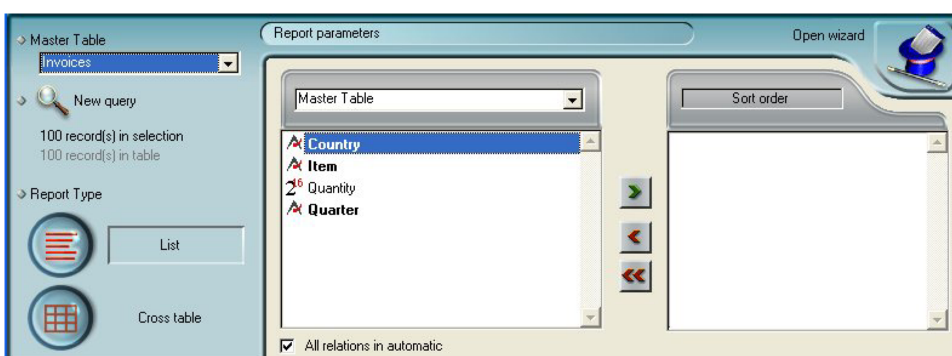
Overview of the editor

In the user environment, the Quick Report editor appears as follows:

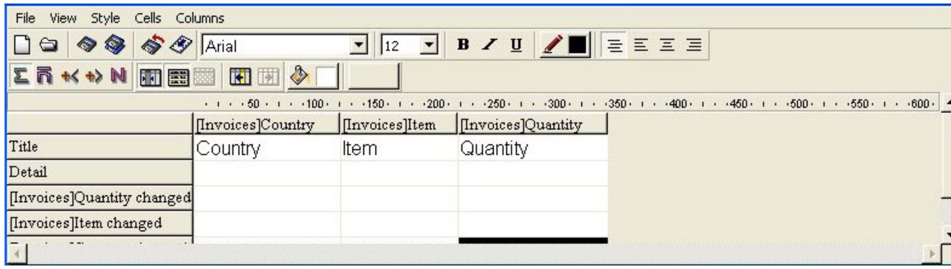


It consists of two main areas:

- The Quick Report data area that is used to specify the type of report to be built and the data to be integrated; it also can be used to access the Quick Report Wizard:

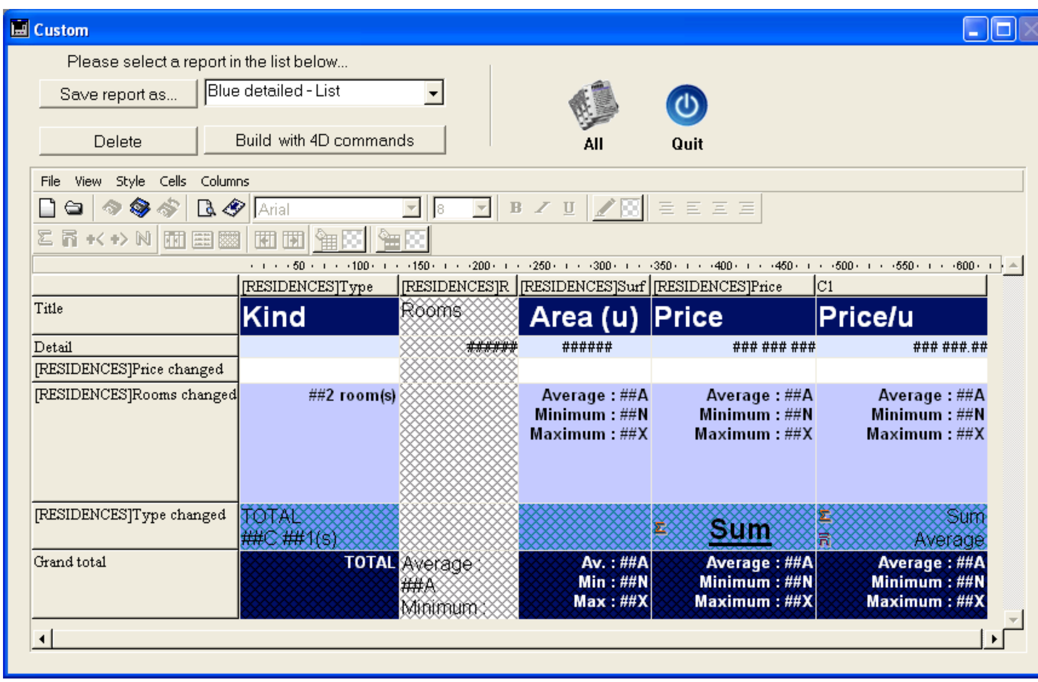


- The actual Quick Report area:



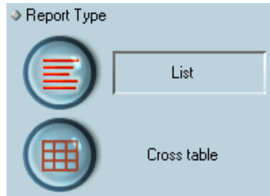
This shows the area as it appears when a Quick Report area is inserted in a form. This is where actual column and row contents are created, where sort orders are defined, etc. Also, this area includes various toolbars, its own menu bar and contextual menus.

For example, this area could be placed in a form as depicted below:



List Mode and Cross-table Mode

In the Quick Report editor there are two operation modes available which generate two specific types of reports: **List** and **Cross table**.



- **List mode**
  This is the default mode and was the only mode available in the previous version of the Quick Report editor. In this mode, reports would typically display records as a list with break levels where sums would be performed.The following is a typical List quick report.

First Name	Last Name	Department Name	Salary
Biff	Davis	Accounting	43780
Smeldorf	Garbando		19610
Alan	Hull		41460
Bryan	Pfaff		26440
Shirley	Ransome		36040
Marlys	Wilson		36500
		Sum for Department : Accounting	203830
Kathy	Forbes	Engineering	18840
Dennis	Hanson		40520
Mary	Smith		55000
Andy	Venable		43520
Lance	Wolfram		27300
		Sum for Department : Engineering	185180

- **Cross-table mode**
  This mode allows you to display your report as a two-dimensional table. This is useful when you want to display data from a data source broken down into categories that actually are a function of two other data sources.

For example, a cross-table form would let you display in a table how many of each product type was sold in each quarter. The following is a typical Cross-table Quick Report.

	AV Preamplifier	Power module	Remote control	Line Total
Q1	34	29	39	102 10526316
Q4	48	64	21	133 66666667
Q3	49	68	40	157 48148148
Q2	64	74	47	185 66666667
Grand total	195 5.90909090909 1	235 5.875 1	147 5.4444444444 1	577 5.77 1

Quick Report Basics

This section describes basic operations used when working with the Quick Report editor to design a report.

Creating a New Quick Report

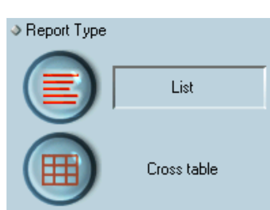
By default, the Quick Report editor lets you create reports in the User environment.
It is also possible to create reports from the Custom Menus mode, if a Quick Report area has been inserted into a form.

► To design a quick report:

1 Choose Quick... from the Report menu.

4th Dimension displays the Quick Report editor. If a previous report has been defined, it appears in the window. To erase the contents of the window, choose **New** from the **File** menu or click the icon New in the file management toolbar to begin a new Quick Report design.

2 Choose the type of report to be generated by clicking either on the List or Cross table button, located at the bottom left corner of the Quick Report editor:



The List type is generally selected by default. The selection of a type modifies the Quick Report area.

Loading and Saving a Quick Report Design

You can save a quick report design as a file that you can open from the Quick Report editor. The quick report design includes all of your specifications for the report, but not the data. By saving report designs, you can maintain a library of quick report designs that you can use according to your needs.

Note If you do not save your design, it is displayed the next time you open the Quick Report editor but only during the same work-session.

Saving a Quick Report Design

► To save a quick report design:

1 Choose <u>Save as</u> from the <u>File</u> menu.
OR
Click the Save as icon in the file management toolbar .

4th Dimension displays a create-file dialog box in which you can name the quick report design.

Note Quick report files in 4th Dimension for Windows are denoted by the file extension .4QR.

2 Enter a filename for the quick report and click <u>OK</u>.

4th Dimension saves the report as a file that you can open with the Quick Report editor. You can save the file on your hard disk. If you modify the parameters of the report subsequently and want to save them again, you just need to choose the **Save** command in the **File** menu.

The new file will replace the previous one on the disk, without the standard save file dialog box appearing.

Loading a Quick Report Design

When the Quick Report editor is open, you can load a saved design and use it to print a new report. You can use the same quick report design repeatedly to print different selections of records.

► To load a report design:

1 Choose <u>Open</u> from the <u>File</u> menu.
OR
Click the Open icon in the file management toolbar .

4th Dimension displays an open-file dialog box displaying a list of available quick report designs.

2 Double-click a filename or select a filename from the list and click OK.

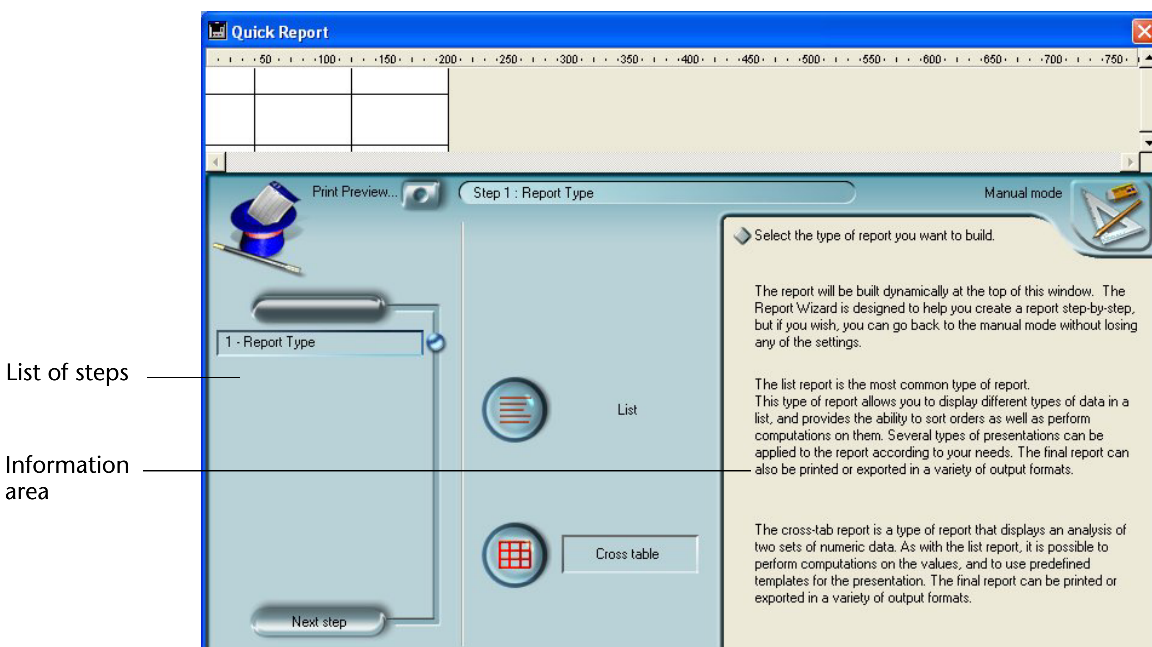
4th Dimension replaces the current design with the design you opened.

The Quick Report Wizard

When creating a manual Quick report, you can use the Wizard to guide you through the creation of the report.

To invoke the wizard, click the **Open wizard** button in the Quick Report editor:

The pages of the wizard then replace the data area in the window of the Quick Report editor:



The construction of the report is then carried out through detailed steps with comments appearing in the right-hand part of the window.

To create a Quick Report using the wizard, follow the instructions displayed on the screen.

To exit the wizard, click on the button to return to Manual mode:

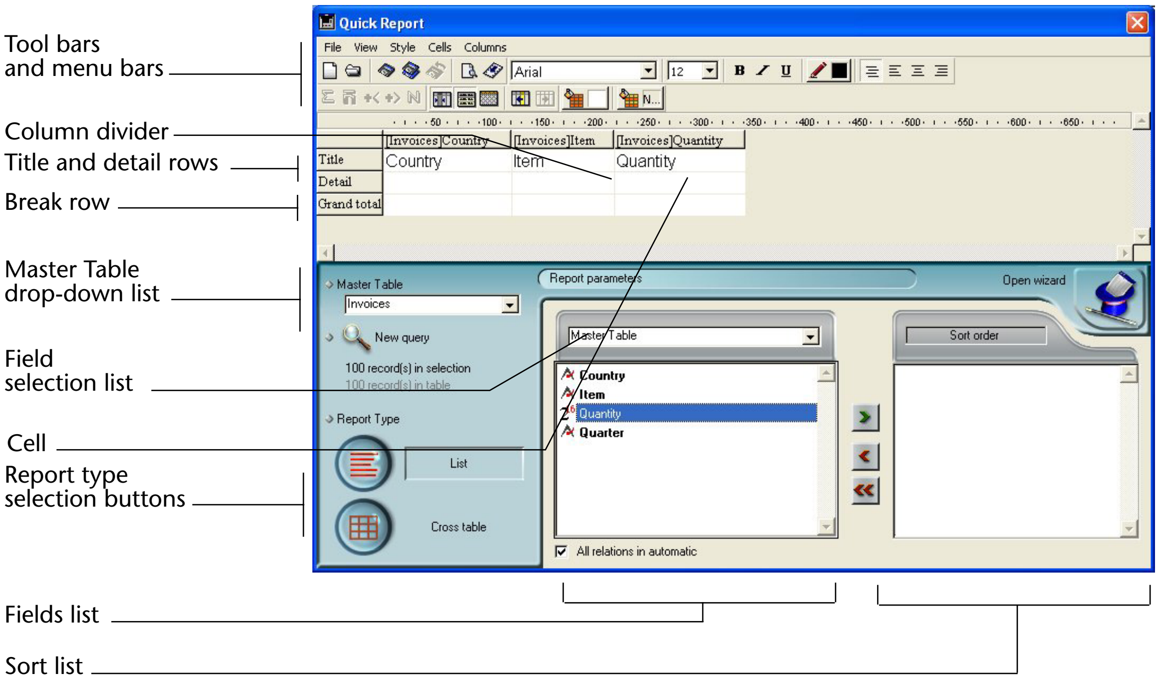
Using the Quick Report Editor

Interface

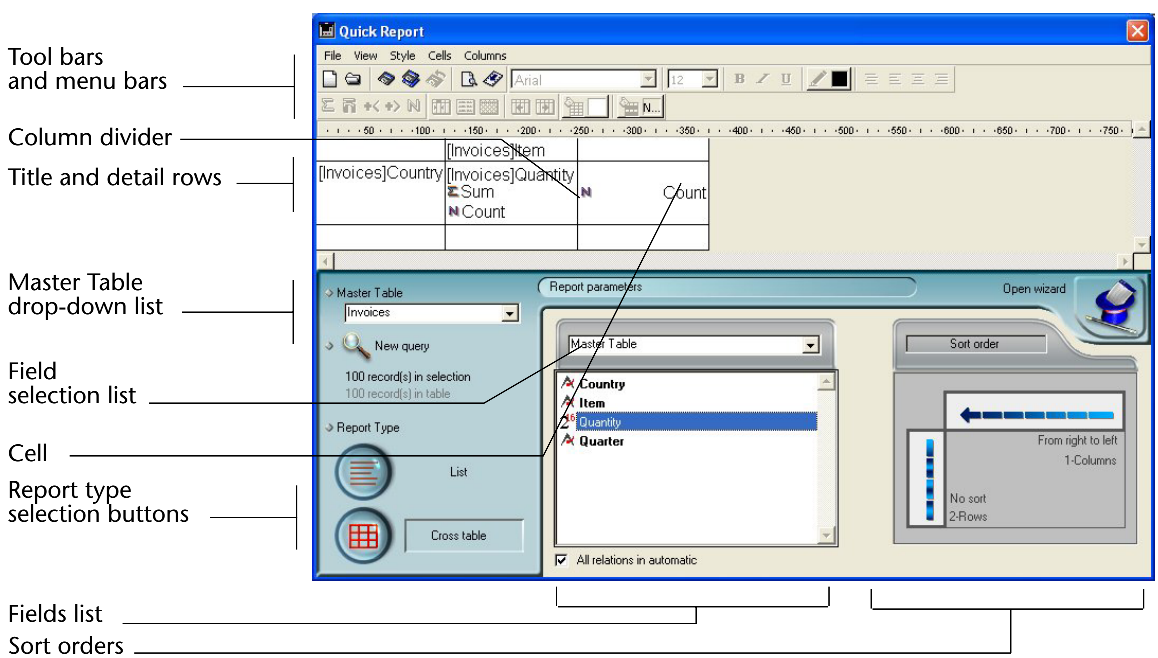
When you create a quick report, you can specify the following:

- Columns that display fields or formulas, either from the current table or from related tables,
- Sort levels and order (list mode),
- Summary calculations,
- Display format,
- Text for labels,
- Formats for numeric and Boolean data,
- Font, font size, style, and justification for labels, summary calculations, and data,
- Background colors on a cell column or row basis,
- Borders,
- Page headers and footers.

List mode:



Cross-table mode:



The Quick Report editor contains the following elements:

- **Master Table drop-down list**: This menu is used to specify the master table that will be used as a basis for generating the report. The fields of this table are displayed in the Fields list and the related fields will be displayed in relation to this table.
- **Fields list**: This list lets you select the fields to be inserted into the report by double-clicking or by drag and drop. It displays either the list of fields found in the master table, the hierarchical list of tables and related fields or the hierarchical list of all the tables and fields of the database. You choose the type of display in the Field selection list located just above the area.
Indexed fields appear in bold. You can also display and select the fields of related tables.

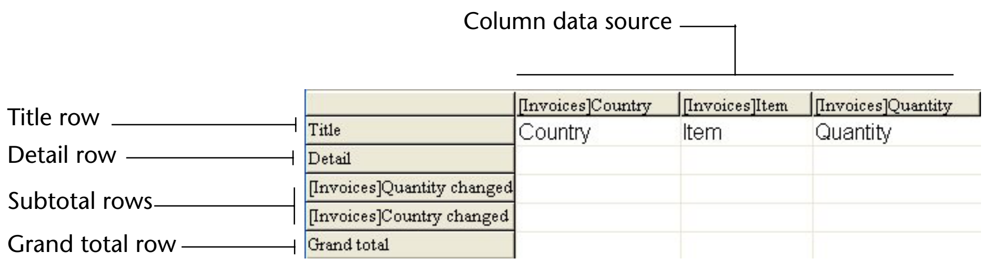
Note Only tables and fields which are not hidden appear in the Fields list of the Quick Report editor. For information about hiding tables and fields, refer to the *4th Dimension Design Reference* manual.

- **All relations in automatic**: This option is used to specify the way in which the Quick Report editor will make use of the relations between the different tables of the database.
On principle, the editor can only use automatic relations. By default, the option is not checked and only automatic relations can be used by the editor.
If the **All relations in automatic** option is checked, the Quick Report editor considers the manual relations of the database as automatic relations and will thus enable access to all the data related to the database.

Note to developers The **All relations in automatic** option causes all the relations to pass into automatic for the current process, even after the Quick Report editor has been closed. If you want to make sure that all the relations will be manual after using the Quick Report editor, execute the statement AUTOMATIC RELATIONS(False;False).

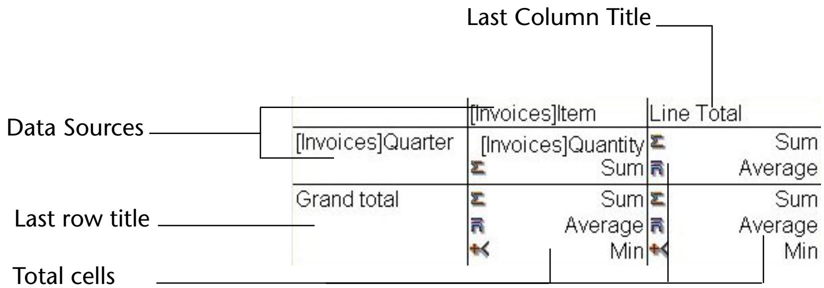
- **Column dividers**: These lines indicate the boundaries between columns of the report. They can be moved manually in order to enlarge or reduce the size of each column. Manual resizing deselects the **Automatic Width** option if it has been activated for the column concerned.
- **Cells**: A cell is the intersection of a row and a column.

- **Scroll bars**: You use the scroll bars to view parts of the quick report design that extend beyond the area of the quick report form.
- **Sort list/Sort order display area**:
  - In List mode, this list displays the fields of the report on which the sort will be carried out, as well as the sort order and whether it will be ascending or descending. Each field inserted into this list causes a sub-total row to be added in the Quick Report area.
  - In Cross-table mode, this area displays the sort order for each data source.
- **Quick Report area**: This area lets you build your report by inserting fields using drag and drop, double-clicking or via the contextual menu; you can also adjust the width of the columns added or delete breaks or formulas, define the colors and borders of cells, etc.



  - **Title row**: The title row is repeated for each page. This row displays the names of fields or formulas that have been inserted into the report. It is repeated for each page of the report. The Quick Report editor inserts field names by default, but you can modify the contents.
  - **Detail row**: This row contains information drawn from each record and is repeated in the report for each record. You can associate a display format with it, depending on the type of data represented.
  - **Subtotal rows**: These rows display intermediate calculations as well as the wording that is associated with them. A row is created for each sort order.

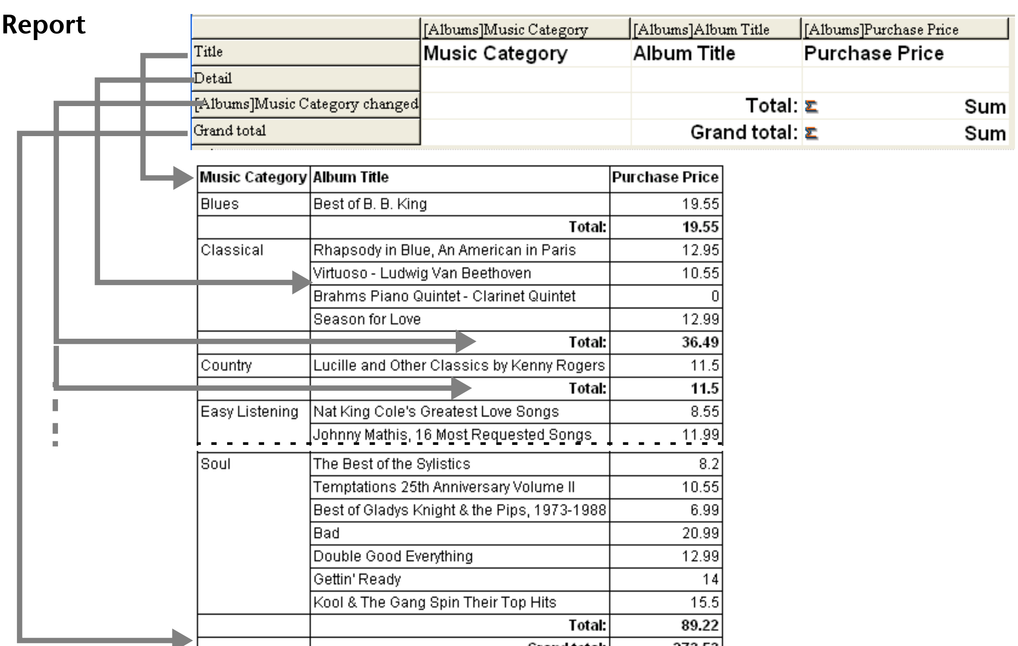
- **Column data sources**: These titles indicate the source of the data for each column.



- **Data Sources**: These two cells will house fields that will be used for the two categories of the array. The center cell can also accept fields sources and calculations at the same time.
- **Total cells**: These cells are designed to house calculations on the column's contents.
- **Title cells**: These cells house the titles for the last column or the last row. Their contents can be modified.

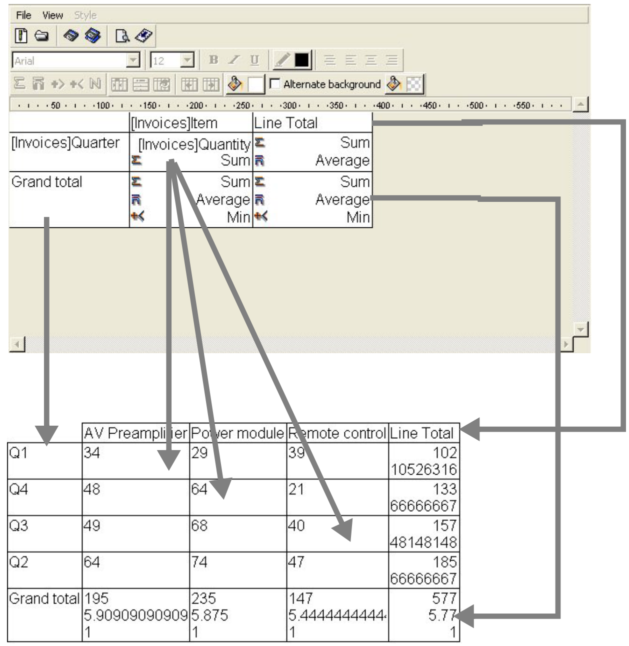
The following figures shows completed quick report designs and the relationship between the specifications in the design and the printed output:

List Report



Music Category	Album Title	Purchase Price
Blues	Best of B. B. King	19.55
	Total:	**19.55**
Classical	Rhapsody in Blue, An American in Paris	12.95
	Virtuoso - Ludwig Van Beethoven	10.55
	Brahms Piano Quintet - Clarinet Quintet	0
	Season for Love	12.99
	Total:	**36.49**
Country	Lucille and Other Classics by Kenny Rogers	11.5
	Total:	**11.5**
Easy Listening	Nat King Cole's Greatest Love Songs	8.55
	Johnny Mathis, 16 Most Requested Songs	11.99
Soul	The Best of the Sylistics	8.2
	Temptations 25th Anniversary Volume II	10.55
	Best of Gladys Knight & the Pips, 1973-1988	6.99
	Bad	20.99
	Double Good Everything	12.99
	Gettin' Ready	14
	Kool & The Gang Spin Their Top Hits	15.5
	Total:	**89.22**
	Grand total:	**273.53**

Cross-table mode



Contextual menus

The Quick Report editor has contextual menus that make it easy to access certain row, column, and cell operations. Instead of making menu selections or working with the Cell or Column properties areas, you can perform certain operations by displaying a Quick Report contextual menu.

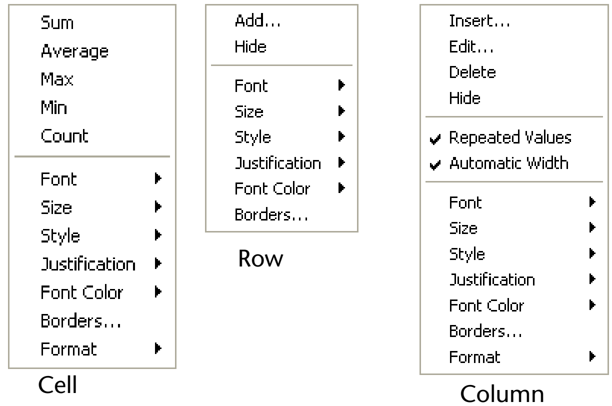
There are separate contextual menus for row, column, and cell operations.

► To use a contextual menu:

1 **Position the pointer in a cell, a row title, or a column heading and hold down the right mouse button (on windows) or press the Control key while clicking in the report area (MacOS).**

A contextual menu appears. The commands in the contextual menu depend on where your pointer is (i.e., a row label, column heading, or cell). Also, menu commands that are inappropriate for the particular row, column, or cell are disabled.

2 Choose the desired menu command:



As with any contextual menu, this menu's contents vary depending on which cell type is highlighted. Items available break down into five main types:

- Font attributes,
- Display formats,
- Standard calculations,
- Column or row management items, and
- Cell borders.

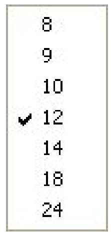
Font Attributes

These items appear in the contextual menu when a cell, column or row is selected. Selecting a font attribute will apply it to the current selection (cell, row or column). The Font attribute items appear as follows:

- **Font**
  Selecting this item displays the list of fonts installed on your machine from which you can select the font that will be applied to the items selected in the report area.

  Once an item in the list is selected, a check mark is displayed next to it.

- **Size**
  Selecting this item displays the list of font sizes from which you can select the font that will be applied to the items selected in the report area.

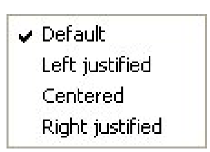


Once an item in the list is selected, a check mark is displayed next to it.

- **Style**
  Selecting this item displays the list styles (Plain, Bold, Italic, and Underline) from which you can select the font that will be applied to the items selected in the report area.

Once an item in the list is selected, a check mark is displayed next to it.

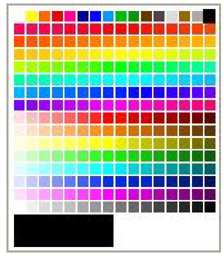
- **Justification**
  Selecting this item displays the list of justification attributes (Default, Left justified, Centered and Right justified).



Note Default is the default justification for this data type (left for numbers or, otherwise, right).

Once an item in the list is selected, a check mark is displayed next to it.

- **Font color**
  Selecting this item displays a palette of colors.

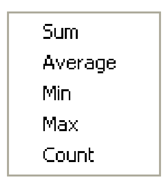


Display Formats

These items appear in the contextual menu when either a cell or a column is highlighted. From the menu, you can select one of the 4D default formats that match the data type of the column. Once selected, the format applies to the entire column, regardless of whether the current selection is a cell or a column.

Summary Calculations

These commands appear in the contextual menu when the current highlighted cell belongs to either the Grand total row or to a Subtotal row.



Selecting an item will insert the corresponding calculation in the highlighted cell (cf. “Adding Summary Calculations” paragraph, page 173). Once an item in the list is selected for a cell, a check mark is placed next to it. It is possible to select several calculations successively.

Column and Row Management Items

There are several items that are dedicated to column or row management:

- **Hide**
  Selecting this item hides the current column or row. Once it is hidden, a check mark is displayed next to the item, and the row or column is crossed out.

- **Add...**
  This item is displayed when a row is highlighted or nothing is highlighted. Selecting this item displays the formula editor to allow you to define the data source for the new column. Once this is done, the new column is added to the right of the right-most existing column.

- **Insert...**
  This item is displayed only when a column is highlighted in list mode. Selecting this item displays the formula editor to allow you to define the data source for the new column. Once this is done, the new column is added to the left of the current highlighted column.

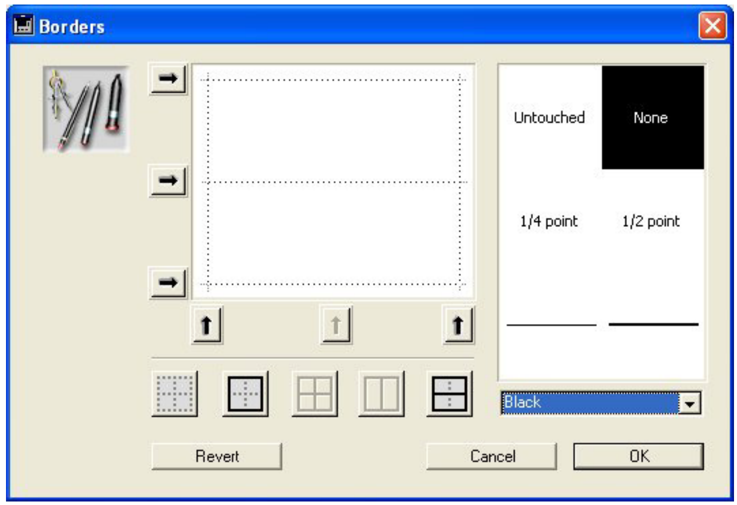
- **Delete**
  This item is displayed only when a column is highlighted in list mode. Selecting this item deletes the current highlighted column.

- **Edit...**
  This item is displayed only when a column is highlighted in list mode or when a cell is highlighted in cross-table mode. Selecting this item displays the formula editor to allow you to edit the data source for the current column (list mode) or for the current cell (cross-table mode).

- **Automatic Width**
  This item is displayed only when a column is highlighted in list mode, or when any cell is highlighted in cross-table mode. You can use this item to select or deselect the automatic width. When Automatic Width is selected, 4D will try to match the column size to the data so that the data fits on one line.

Borders

These items appear in the contextual menu when a cell, column or row is selected. Selecting Borders... displays the Borders dialog box:



For more information about this dialog box, refer to the "Setting Borders" paragraph, page 163.

Once defined, the border format is applied to the current selection (cell, row or column).

Selecting Rows, Columns, and Cells

When designing a List quick report, you need to select rows, columns, and cells in the quick report form. A cell is the intersection of a row and a column.

► To select a row:

■ **Click on the Title, Detail, Subtotal, or Grand total cells in the row label area.**

► To select a column:

■ **Click the Header row of a column.**

► To select a cell:

■ **Click the cell.**

Adding and Modifying Text

You can add or modify text in the quick report form to label parts of the report. For example, if you requested summary calculations, you can label them by adding text to other cells in the Subtotal and Grand total rows.

You can add and modify text as follows:

- Edit the text that 4th Dimension automatically adds to the Title row of the report,
- Insert text in empty cells of the Subtotal and Totals rows,
- Insert the value of a Subtotal field in the Subtotal rows,
- Specify the font, font size, justification, and style for any text that appears in the report.

Adding Text

► To add text in a report cell:

1 Click twice on an empty cell in the quick report form.

A text insertion point appears in the cell.

If you are entering a label for a summary calculation, select a cell in the same row as the cell containing the calculation icons. You cannot enter text into the same cell that contains summary calculations.

2 Type the text in the cell.

Modifying Text

► To modify text in a cell:

1 Double-click in a cell to get an insertion point and drag across the text in the cell you want to modify.

4th Dimension highlights the selected text.

2 Type the new text in the cell.

Adding Columns

In List mode, you create columns by dragging field names from the Fields list into the quick report area. If you want to add a field from a related table, expand the foreign key field in the hierarchical list of fields to display the fields in the related tables (if you have selected **Related Tables** or **All Tables** in the drop-down menu located just above the list).

You can add fields from related tables, provided that the relationship is automatic. If you want to be able to use manual relations, check the **All relations in automatic** option: in this case, the editor changes all the relations of the database to automatic (cf. "Interface" paragraph, page 142).

Note You cannot add or edit a column in cross-table mode, since the report comes with all the needed columns.

► To add a field:

■ **Drag the name of a field to the right of existing columns in the Quick Report area and release the mouse button.**

OR

Double-click on the name of a field in the Fields list.

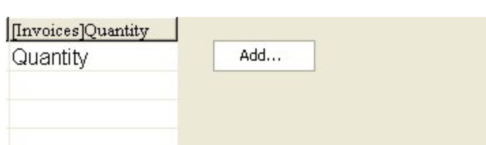
Note If you drag and drop a field onto an existing column, it will be replaced by the new column.

4th Dimension creates a column for the field and places the field name in both the column header and the cell in the Header row.

By default, 4th Dimension prints the field names as column heads at the top of each page in the quick report.

► To add a column using a menu command:

1 **Select the Add... command in the Columns menu of the editor.**
OR
Right-click (Windows) or Control+click (MacOS) over an unused area of the Quick Report area, then select the Add... command.



The standard 4th Dimension formula editor is displayed, allowing you to specify the data source of the new column (field or formula).

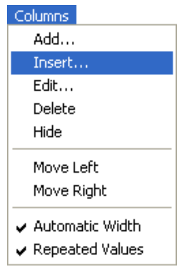
Inserting Columns

In List mode, you can insert an empty column into a quick report. After you insert the column, you can assign a field or a formula to it.

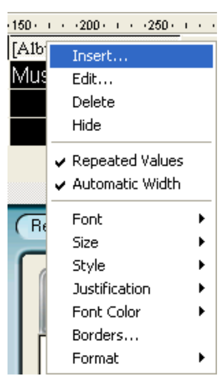
► To insert a column:

1 Select a column.

2 Choose Insert... from the Columns menu.



OR
Hold down the right mouse button (Windows) or Control+click (MacOS) to display the Quick Report contextual menu and choose Insert.



The standard 4th Dimension formula editor is displayed, allowing you to specify the data source of the new column (field or formula).

Deleting Columns

In List mode, as you specify fields for your quick report, you may want to remove some columns to place them elsewhere. Or, you might want to delete the column from the report.

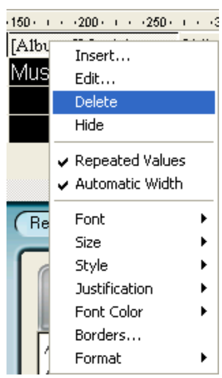
► To delete a column using the Quick Report menu bar.

1 **Select the column you want to delete.**

2 **Choose Delete from the Columns menu.**

OR

Right-click (Windows) or Control+click (MacOS) on the header of the column to be deleted, then select the Delete command from the contextual menu.



4th Dimension removes the selected column of the report.

Replacing Columns

In List mode, you can replace a column in the quick report by dragging another field over it. You can also replace a field with a formula and vice versa.

► To replace a column by a field:

1 **Drag a field from the Fields list to the column you want to replace.** The replacement is instantaneous. If the previous field was designated as the sort level, the field that replaces it will also be substituted in the sort order list.

► To replace a column using the formula editor:

1 **Select the column you want to replace and choose Edit... from the Columns menu.**
OR
Hold down the right mouse button (Windows) or Control+click (MacOS) on the header of the column to be replaced, then select the Edit... command in the contextual menu.

The standard Formula editor of 4^{th} Dimension appears, allowing you to designate the new data source of the column (field or formula).

When you print the quick report, 4^{th} Dimension will print the results of the formula for each record that appears in the Detail row. See the section “Associating Formulas to a Quick Report” on page 158 for information about adding a formula to a quick report.

Sizing Columns

By default, the Quick Report editor sizes columns automatically, as reflected in the **Automatic Width** button. It sizes each column based on the maximum length of data displayed in the column and any labels typed into the column. The Quick Report editor sizes the columns at the time the report is printed.
This operation is enabled for a column when the **Automatic Width** attribute has been associated with it. You can set and view the activation of this option in the **Columns** menu, in the contextual menu of the columns or using the corresponding button in the Columns toolbar:

To view the widths of each column, preview the report on the screen. See “Generating a Quick Report” on page 184 for more information about previewing the report.

Because selecting the **Automatic Width** button or contextual menu item changes the width of a column based on the maximum width of data in the records being printed, selecting different records can change the size of the columns.

You can resize a column manually, which automatically causes the deselection of the **Automatic Width** option (where applicable).
When a column is set manually, text in the column wraps within the specified area.

► To manually resize a column:

1 **Select the column you want to resize.**

2 **Move the pointer over the column divider in the quick report to change the pointer into a column width cursor .**

3 **Drag the column divider to the left or right to resize the column.**

Moving Columns

In List mode, as you specify fields for your quick report, you may want to move some columns to place them elsewhere.

► To move a column using the Quick Report tool bar:

1 **Select the column you want to move.**

2 **Click the move icon to move it to the right or to the left:**

OR

3 **Select Move right or Move left from the Columns menu to move the column as desired.**

4th Dimension moves the selected column.

Associating Formulas to a Quick Report

You can add a formula to a column in a quick report. For example, you can add a formula that computes employees' monthly salaries from an Annual Salary field.

► To associate a formula with a column:

1 **Insert an empty column**
OR
Click an existing column and choose Edit... from the Columns menu.
OR
Double-click an existing column's header.
OR
Hold down the right mouse button (Windows) or Control+click (MacOS) on an existing column header to display the Quick Report contextual menu and choose Edit.

4th Dimension displays the Formula editor, which you can use to build a formula. If you selected an existing column, the formula you create will replace the previous contents of the column.

Note Make sure that the formula you create does not change the current selection. Changing the current selection will cause problems when you print the quick report since the report is based on the current selection. For information about commands and functions that change the current selection, refer to the *4th Dimension Language Reference*.

2 Build the formula by clicking on the fields, operators and commands, then enter the desired values in the editing area.
OR
Click the Load... button to retrieve an existing formula from disk.

For more information about the formula editor, refer to the *User Reference* manual.

If you click the **Load...** button, 4th Dimension displays an open-file dialog box and asks you to select a file. When you load a file, it replaces any formula that currently appears in the Formula editor. After you load a formula, you can modify it in the editing area.

To save the formula as a file that you can retrieve and use in another column or in another report, click the **Save...** button and enter a filename in the dialog box.

3 Click OK to assign the formula to the column.

4th Dimension adds a new label to the column that identifies it as a formula. You can relabel the column by typing a label into the header cell for that column. The formulas are labelled *C1* to *Cn*. These labels are the name of the variables containing the current value of the column. You can use these variables in other formulas.

Modifying the graphic attributes of a report

You can modify the graphic appearance of a quick report. The Quick Report editor lets you set the following attributes:

- the character font, as well as its size, justification, style and color,
- the background color of the cells,
- the cell borders.

In addition, 4th Dimension provides a set of predefined report templates that you can modify as desired.

Note Appearance specifications are only taken into account for the “Printer” and “HTML File” output destinations (colors only). With other types of output, the formatting of reports must be carried out after the report is generated, using the receiving applications (4D View, 4D Chart or a text editor). For more information about report destinations, refer to the “Generating a Quick Report” paragraph, page 184.

Specifying Character Font, Size, Justification, Style and Color Attributes

While designing your quick report, you can specify different fonts, font sizes, justification, styles and colors. You can then apply these specifications to text, data, and summary calculations within rows, columns, or cells in the quick report.

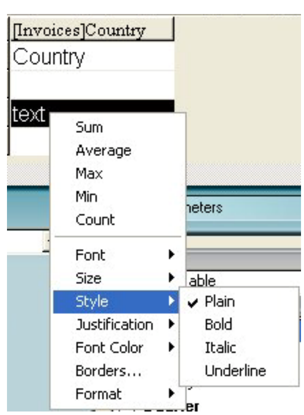
If you assign specifications to the Detail row of the report, you will not see the results until you preview or print the report.

You can specify font attributes using either the Quick Report menu commands or the Quick Report contextual menu.

► To specify a character font, font size, style, justification or color:

1 **Hold down the right mouse button (Windows) or Control+click (MacOS) on the row label, column header, or cell to which you want to apply the font attributes.**

A contextual menu appears.



2 **Use the Font, Size, Style, Justification or Font Color submenus to change the font attributes as desired.**
OR

1 In the report, select the column, row or cell that you want to configure.

2 Choose a font in the drop-down font list and a size in the drop-down size list; then choose a style, justification and color in the <u>Style</u> toolbar:

Note You can also assign a style and justification using the **<u>Style</u>** menu.

4th Dimension applies the parameters to the text, data or calculations included in the selected area.

Specifying the background color of cells

The Quick Report editor allows you to set a background color for each cell. You can set either a single color or two alternating colors, which provides better readability for tables.

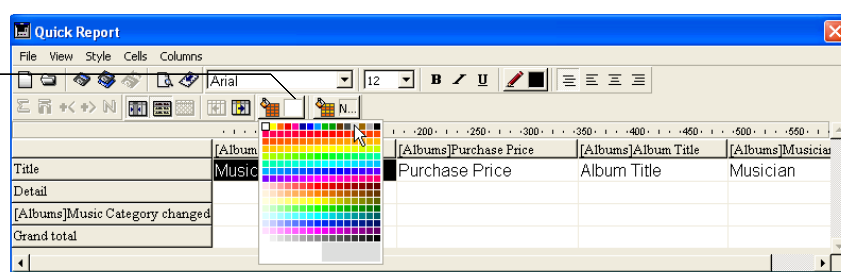
It is possible to set background colors for both List and Cross-table reports.

Background colors are used with the “Print” and “HTML File” output destinations.

► To set a background color:

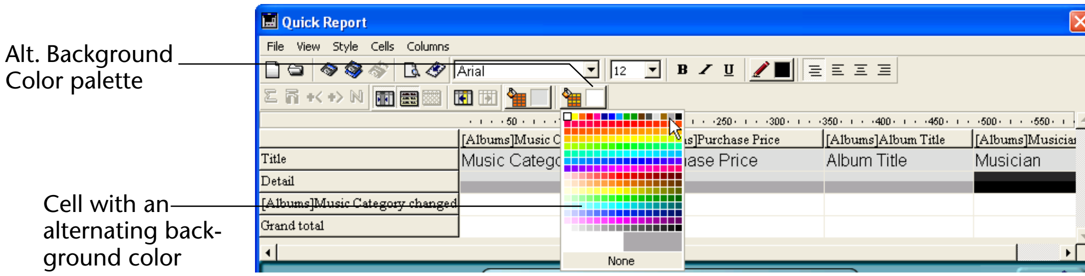
1 Select a cell, column or row, then choose the main color in the “Background Color” palette of the toolbar:

Background Color palette



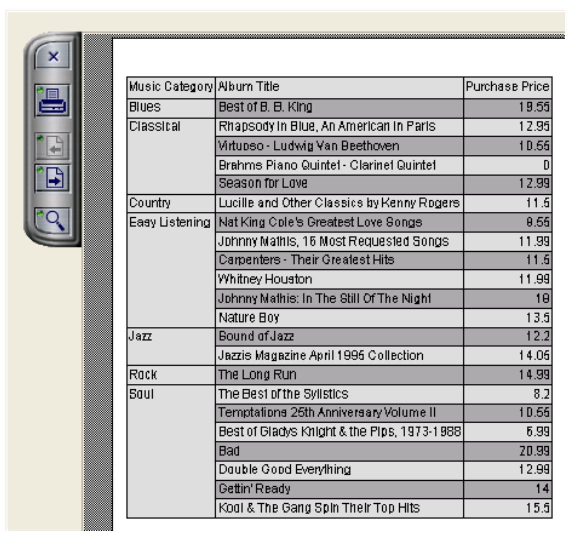
You can assign any color combination that you want to the rows, cells and columns.

2 (Optional) If you want to use an alternating background color, choose it using the "Alt. Background Color" palette:



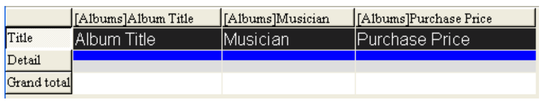
The cells which have been assigned two alternating background colors will display both of them in the Quick Report editor.

Here is an example of a generated report in List mode (preview) that has alternating background colors:



Music Category	Album Title	Purchase Price
Blues	Best of B. B. King	19.56
Classical	Rhapsody In Blue, An American In Paris	12.95
	Virtuoso - Ludwig Van Beethoven	10.56
	Brahms Piano Quintet - Clarinet Quintet	0
	Season for Love	12.99
Country	Lucille and Other Classics by Kenny Rogers	11.5
Easy Listening	Nat King Cole's Greatest Love Songs	8.56
	Johnny Mathis, 16 Most Requested Songs	11.99
	Carpenters - Their Greatest Hits	11.5
	Whitney Houston	11.99
	Johnny Mathis: In The Still Of The Night	10
	Nature Boy	13.5
Jazz	Bound of Jazz	12.2
	Jazzis Magazine April 1995 Collection	14.05
Rock	The Long Run	14.99
Soul	The Best of the Sylistics	8.2
	Temptations 25th Anniversary Volume II	10.56
	Best of Gladys Knight & the Pips, 1973-1988	6.99
	Bad	20.99
	Double Good Everything	12.99
	Gettin' Ready	14
	Kool & The Gang Spin Their Top Hits	15.5

Background colors are also taken into account in reports generated in HTML format:



Album Title	Musician	Purchase Price
Rhapsody in Blue, An American in Paris	George Gershwin	12.95
Sound of Jazz	Lionel Hampton	12.2
Nat King Cole's Greatest Love Songs	Nat King Cole	8.55
The Best of the Stylistics	Stylistics, The	8.2
Johnny Mathis, 16 Most Requested Songs	Johnny Mathis	11.99
Best of B. B. King	B. B. King	19.55
Carpenters - Their Greatest Hits	Carpenters, The	11.5
Jazzis Magazine April 1995 Collection	Various	14.05
Virtuoso - Ludwig Van Beethoven	Berliner Philharmoniker	10.55
Temptations 25th Anniversary Volume II	Temptations, The	10.55
Brahms Piano Quintet - Clarinet Quintet	Benda Musicians, The	0
Best of Gladys Knight & the Pips, 1973-1988	Gladys Knight & the Pips	6.99
Bad	Michael Jackson	20.99
Double Good Everything	Smokey Robinson	12.99
Gettin' Ready	Temptations	14
The Long Run	Eagles	14.99
Kool & The Gang Spin Their Top Hits	Kool & The Gang	15.5
Lucille and Other Classics by Kenny Rogers	Kenny Rogers	11.5
Whitney Houston	Whitney Houston	11.99
Season for Love	London Symphony Orchestra	12.99
Johnny Mathis: In The Still Of The Night	Johnny Mathis	18
Nature Boy	Nat King Cole	13.5

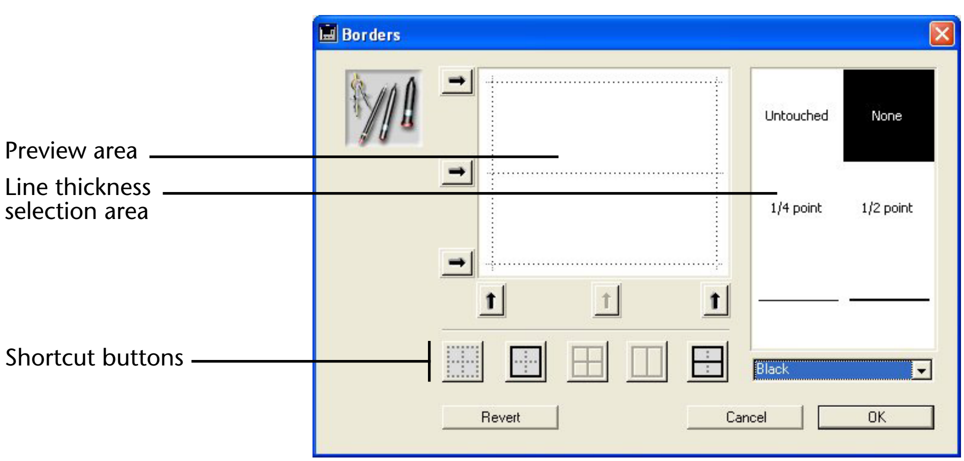
Setting Borders

You can set the borders for cells in both cross-table and list reports.

► To set the borders for a cell, a column or a row:

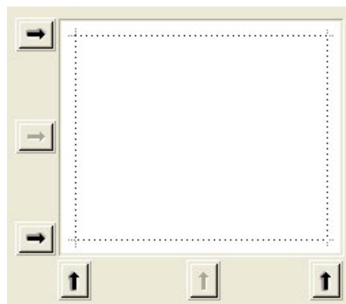
1 **Highlight a cell, column or row, and either select <u>Borders...</u> in the contextual menu or from the <u>Style</u> menu.**

The “Borders” dialog box is displayed:

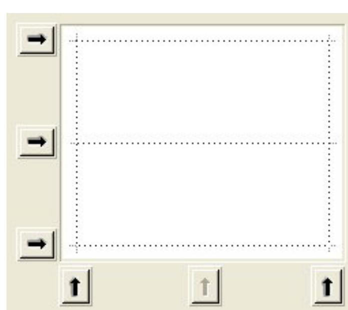


The preview area varies dynamically depending on the type of the selection: cell, column or row, but also whether a cell is in a list or cross table type report. For example, the behavior of the center cell in a cross-table report is different from the behavior of a detail cell in a list report. The center cell is repeated both horizontally and vertically for a cross-table report, whereas the detail cell in a list report is going to be repeated only vertically. Also, other cells may not be repeated at all (titles, for instance).

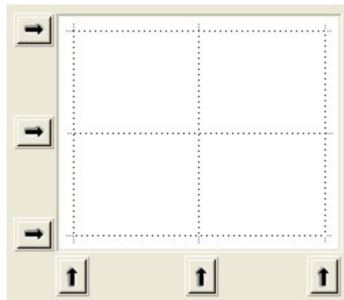
- If the selected cell is a title cell (which is not repeated), the outer lines represent the outer lines of the cell:



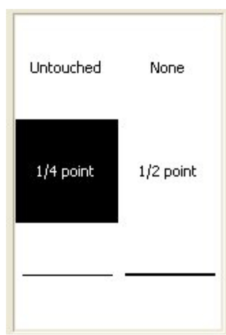
- If the selected cell is a detail cell in a List report (which is repeated vertically), the outer lines represent the outer lines of the cell repetition, and the inner horizontal line represents the border between two cells in the sequence:



- If the selected cell is the center cell in a Cross-table report (which is therefore repeated both horizontally and vertically), the outer lines represent the outer lines of the repetition of cells, and the inner lines represent the borders between each cell generated from the center cell:



2 Select the line thickness and color to use:



You can use different colors for different borders.

3 Select the borders using either the arrows or the shortcut buttons.

You will notice that some shortcut buttons are disabled to match the type of the cell you are editing.

4 Repeat steps 2 and 3 for each border to be configured.

5 Click OK to validate the changes.
OR
Click Revert to revert to the original border settings.
OR
Click Cancel to discard the changes and close the dialog box.

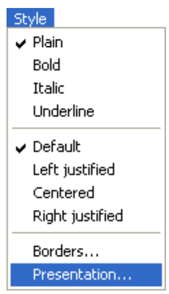
Using a predefined report template

The Quick Report editor contains a set of predefined templates providing various graphic approaches for the production of printed or HTML reports. You can use all of the template as is or you can use it as a basis for constructing your own reports. A template can be applied at any time.

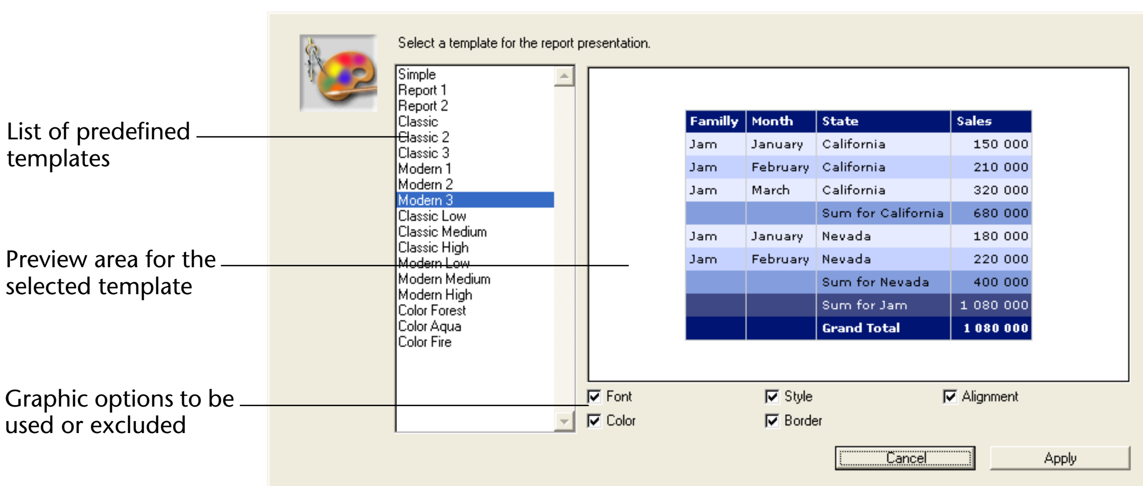
A report template combines a set of graphic characters: font, colors, style, borders and justification. You can use either all or part of the template characteristics.

► To use a predefined template:

1 Choose the Presentation... command in the Style menu.



The template selection dialog box appears:



2 In the list of predefined templates, click on the one that you want to use.

You can preview each template in the right-hand area of the dialog box. Choose the template that best corresponds to your needs, keeping in mind that you can always modify your report subsequently.

3 **If you do not want to use all the graphic options set by the template, you can uncheck each option that you do not want to be taken into account.**

By default, all the options are selected. If, for example, you uncheck the “Border” option, the borders defined by the template will not be applied to your report.

Note Only the “Color” option will be taken into account for reports whose output destination is an HTML file.

4 **Click on Apply.**

The selected characteristics are immediately applied to your report. If any graphic attributes were set previously, they will be replaced.

Keep in mind that certain characteristics will be only visible once the report has been generated.

Sorting Records

An important feature of the Quick Report editor is the ability to sort the records in your report. You sort records for two reasons:

- To view records in a particular order,
- To create groups of records and subtotal areas in the report for the purpose of reporting summary calculations for groups.

Specifying a Sort Order for a List Report

You can specify a sort order at any time; simply drag and drop a column into the Sort order list.
For example, if you wanted to sort the records of salespeople by the Sales Region field, you would drag and drop the Sales Region column into the Sort order area.

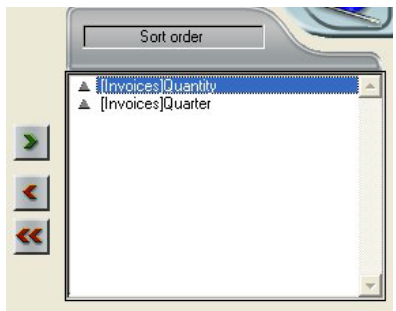
You can also sort on a formula by selecting the column that contains the formula and placing it in the Sort order list. See the section “Associating Formulas to a Quick Report” on page 158 for more information about adding formulas to quick reports.

You can sort a report on several levels. The order in which the fields and formulas appear in the Sort order list indicates the sort level.

► To specify the sort order using the field list:

1 **Drag the Field you want to set as the sort level from the Fields list to the Sort order list.**
OR
Highlight the field from the Field lists and click on the field insertion button:

The field is then added to the Sort order list.

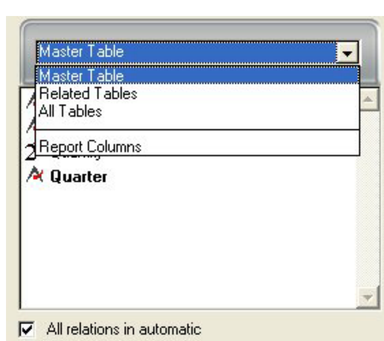


By default, sorts are carried out in increasing order (a -> z). You can reverse the direction of the sort by clicking on the triangle next to the field in the Sort order list.

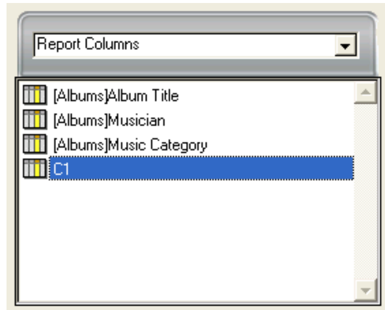
Note If the sorted field has not already been inserted into a report column, an additional column is automatically created in the Quick Report area.

► To specify a sort for a column (field or formula):

1 **Select <u>Report Columns</u> from the table selection drop-down list.**

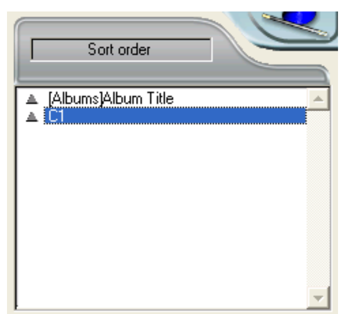


The list then displays the headers of the columns present in the report:



2 Drag the column that you want to set as the sort level and drop it in the "Sort order" list.
OR
Highlight the field from the Field lists and click on the field insertion button:

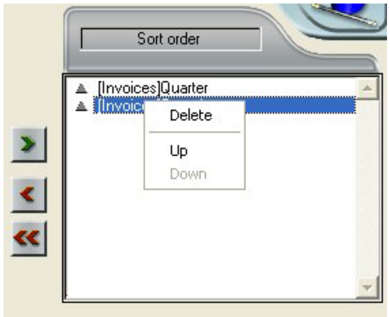
4th Dimension then displays the name of the column in the Sort order list:



Changing the sort level

► To change the level of a sort:

1 Right-click (Windows) or Control+click (MacOS) on the field in the Sort order list in order to display the contextual menu:



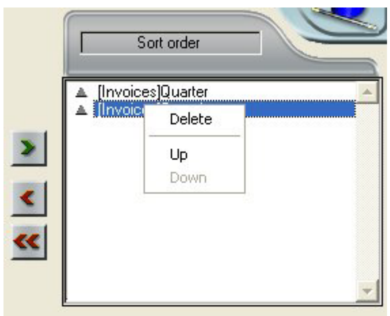
2 Select <u>Up</u> or <u>Down</u> to move the field up or down (respectively) in the sort levels.

Deleting a Field or Formula from the Sort List

You can delete any field or formula from the Sort list.

► To remove a field or formula from the Sort order:

1 Select the field or formula to be deleted in the sort list and display the contextual menu using a right-click (Windows) or Control+click (MacOS):



2 Select <u>Delete</u>.

The level is then removed.
Note that the associated column is not removed from the report. On the other hand, the associated subtotal row disappears.

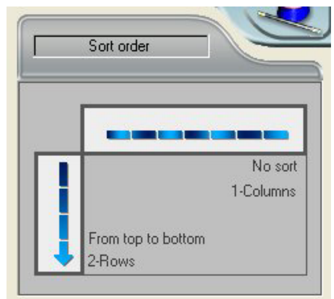
Sorting the Cross-Table Values

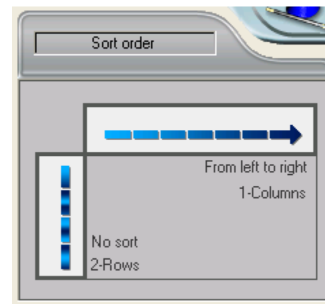
In a Cross-table report, the only values that can be sorted are the horizontal and vertical data sources (the two data sources that are used as categories in the final table).

► To sort the categories in a cross-table report:

1 Click the sort indicators in the Sort order area.

An arrow indicates the sort order specified:





To modify or delete the sort order of a data source, click on it again. The different possible reports appear successively.

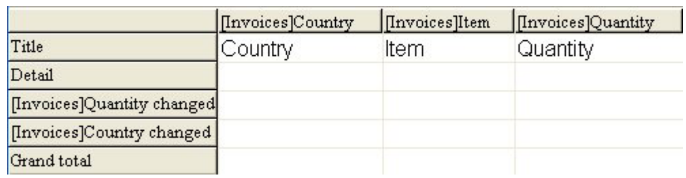
When no arrow is displayed, no sort order is selected. In this case, values will be displayed in the order they appear in the selection.

Subtotal Levels

In a quick report, you set break levels to separate or “break” records into groups according to values in one or more sort fields. A break area is printed at each break level. You can print summary calculations in the break area. The summary calculations — sum, average, minimum, maximum, and count — are calculated for each group of records.

Break levels are determined by the sort levels and Break rows. For example, if you sort records by Sales Region, 4^{th} Dimension inserts a break between each group of records that have the same sales region. These rows are automatically inserted when a sort is defined:

After you add a subtotal row to the quick report, you can request summary calculations on each break. For example, you can insert a summary calculation in a subtotal row to display subtotals for sales from each state in a marketing region. Refer to the section "Adding Summary Calculations" on page 173 for more information about adding summary calculations to Subtotal and Total rows.



The label of a subtotal row indicates which change in value triggers the break.

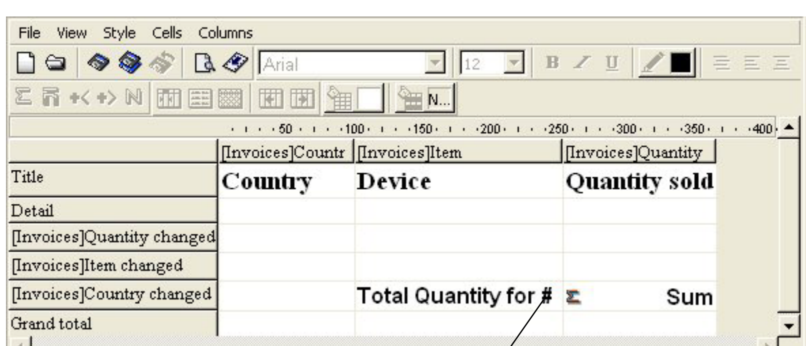
Using the Values of Break Fields in Labels

You can improve the appearance and comprehensibility of your reports by labeling each Subtotal row using the value of the Break field.

To request that the value of a Break field be printed in a label placed in the Break area, use the number sign (#) in the label. For example, the text "Total salaries for department #" will insert the department name (in this case, the value of the Department field) in place of the number sign when the report is printed.

The number sign does not need to be placed in the same column as the Break field. It will display the value of the Break field in any cell in the Subtotal row.

The following figure illustrates the use of the number sign in a label in the Subtotal row.



Adding Summary Calculations

You can add summary calculations on the contents of fields and formulas to each Subtotal row and to the Totals row. In a cross-table report calculations can be inserted in the center row.

The calculation buttons in the toolbars of the Quick Report editor identify the summary calculation options available for quick reports.

The following summary calculations are available.

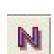
- **Sum** totals the values in the report or break.

- **Minimum** displays the lowest value in the report or break.

- **Maximum** displays the highest value in the report or break.

- **Average** calculates the average of the values in the report or break.

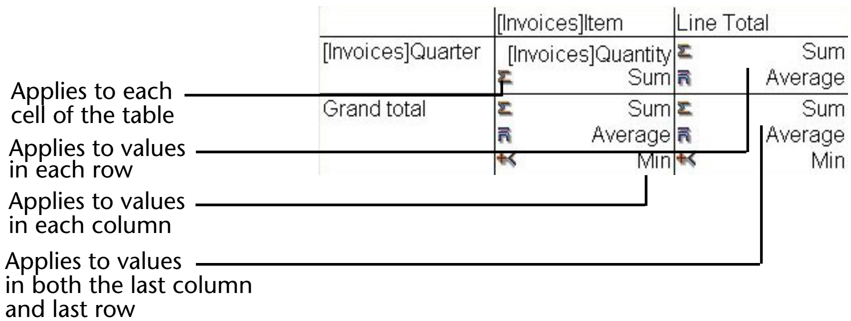
- **Count** calculates the number of records in the report or break.



These options also appear in the Quick Report contextual menu for cells in the Subtotal and Total rows or, for a Cross-table report, in the total cells and the center cell.

- List Reports
  When you place a summary calculation in the Totals row, the calculation is done for all records in the report. If you place the summary calculation in a subtotal row, separate calculations are done for the records in each break.

- Cross-table reports
  Summary calculations will apply as follows



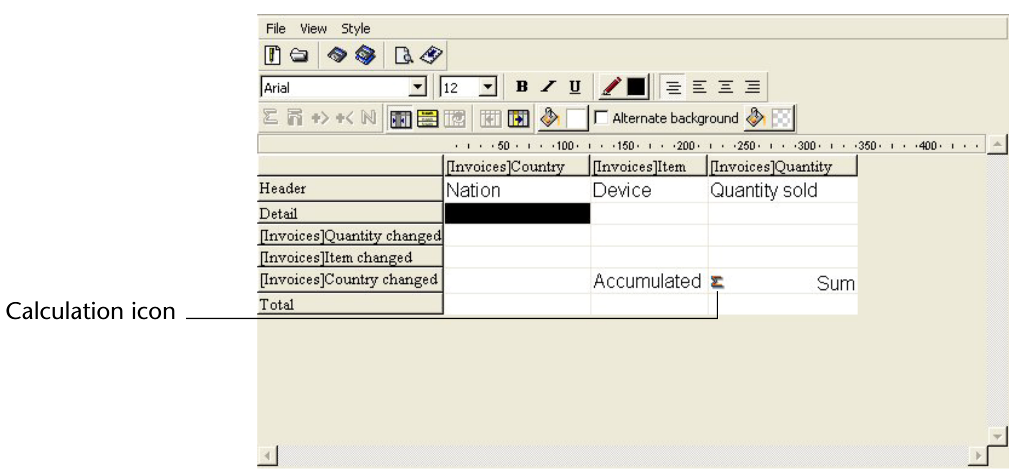
► To add a summary calculation:

1 Select a cell where you want to insert the summary calculation.

The Sum, Minimum, Maximum, and Average calculations work only on a numeric field or formula.

2 Click as many summary calculation buttons as you like.
OR
From the contextual menu, choose the desired summary calculations.

4th Dimension displays a calculation icon in the selected cell for each type of summary calculation you request. The following figure shows calculation icons in the Subtotal and Total rows.



If you add more than one summary calculation to a cell, 4th Dimension stacks the calculation icons on top of each other, as shown above.

Using Calculations and Column Values in Labels

You can insert summary calculations using the following codes.

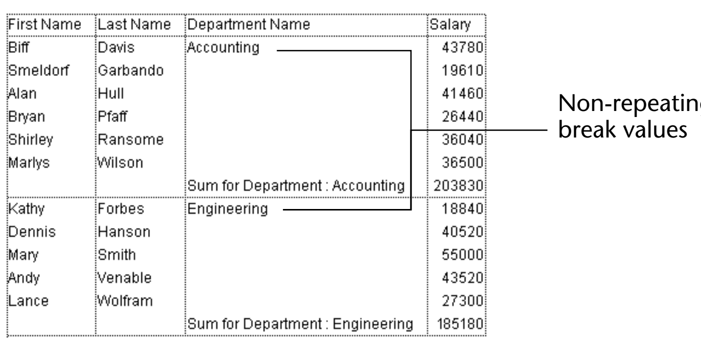
- **#S** will be replaced by the **sum** in the sub-total or total row.
- **##A** will be replaced by the **average**.
- **##C** will be replaced by the **count**.
- **##X** will be replaced by the **max**.
- **##N** will be replaced by the **min**.
- **##xx**, where *xx* is a column number. This will be replaced by that column's value, using its formatting. If this column does not exist, then it will not be replaced

These codes can be useful when you want to mix labels and data in a cell.

Displaying Repeated Values for Break Columns

In a report with subtotals, the columns which are used to group records so that summary calculations can be done are called *Break columns*. In the report shown above, the Department field is a Break column since the records in the report are grouped by department.

When a report like this is printed, the values for the Break column are printed only once per break. In other words, a department name is printed only for the first record in the group and is not repeated until the department changes.



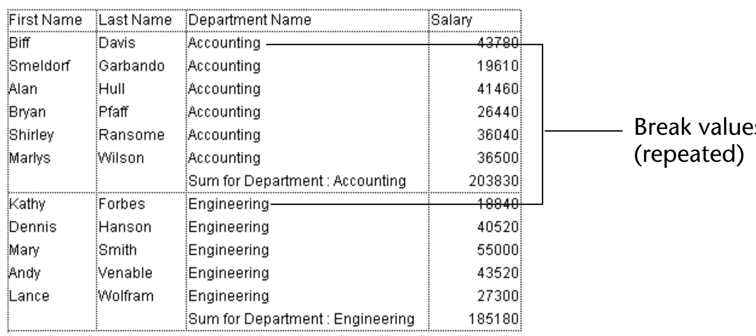
First Name	Last Name	Department Name	Salary
Biff	Davis	Accounting	43780
Smeldorf	Garbando		19610
Alan	Hull		41460
Bryan	Pfaff		26440
Shirley	Ransome		36040
Marlys	Wilson		36500
		Sum for Department : Accounting	203830
Kathy	Forbes	Engineering	18840
Dennis	Hanson		40520
Mary	Smith		55000
Andy	Venable		43520
Lance	Wolfram		27300
		Sum for Department : Engineering	185180

In some cases, you may want to repeat the values for the Break columns so that they appear for every record in the Break area. You do so by selecting the **Repeated Values** column property. This can be done either by clicking the **Repeated Values** button in the toolbars  , by choosing the **Repeated Values** menu command in the Quick Reports contextual menu for that column, or by selecting Repeated Values from the Columns menu.

► To display repeated values for fields in a column:

1 Select the column by clicking the header row for that column and choosing the Repeated Values command in the Columns menu or clicking the Repeated Values button in the “Columns” toolbar.
OR
From the contextual menu for that column, choose Repeated Values.

The following figure shows the report at the top of this page after the **Repeated Values** check box has been checked for the Department Name column.

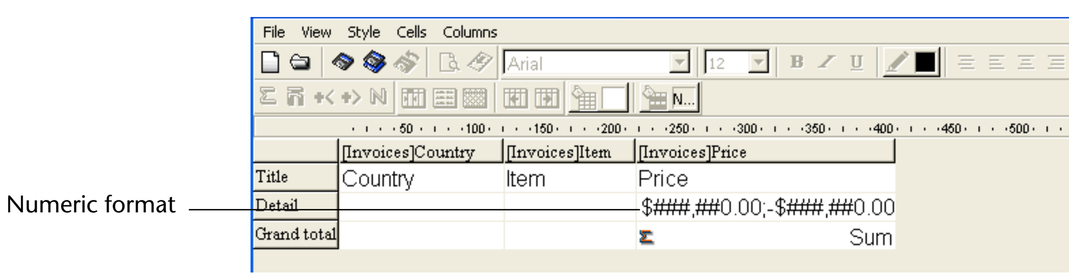


First Name	Last Name	Department Name	Salary
Biff	Davis	Accounting	43780
Smeldorf	Garbando	Accounting	19610
Alan	Hull	Accounting	41460
Bryan	Pfaff	Accounting	26440
Shirley	Ransome	Accounting	36040
Marlys	Wilson	Accounting	36500
		Sum for Department : Accounting	203830
Kathy	Forbes	Engineering	18840
Dennis	Hanson	Engineering	40520
Mary	Smith	Engineering	55000
Andy	Venable	Engineering	43520
Lance	Wolfram	Engineering	27300
		Sum for Department : Engineering	185180

Setting Display Formats

You can specify display formats for columns that contain numeric (integer, longint, real), alphanumeric (Alpha), date, time and picture data.

For example, if you are displaying salaries in a column, you can add a numeric format to the Detail cell for the Salary field. The $###,##0.00;-$###,##0.00 format places a dollar sign ($) to the left of the number and can display dollar amounts from -$999,999.99 to $999,999.99:



If your report includes Alpha fields such as a telephone number or Social Security number, you can use an Alpha format. If your report displays dates, times or pictures, you can also assign display formats to them.

4th Dimension provides different default display formats. However, you can create your own display styles for numeric and alphanumeric formats. For more information about this point, refer to the 4th Dimension *Design Reference* manual.

Assigning the display format

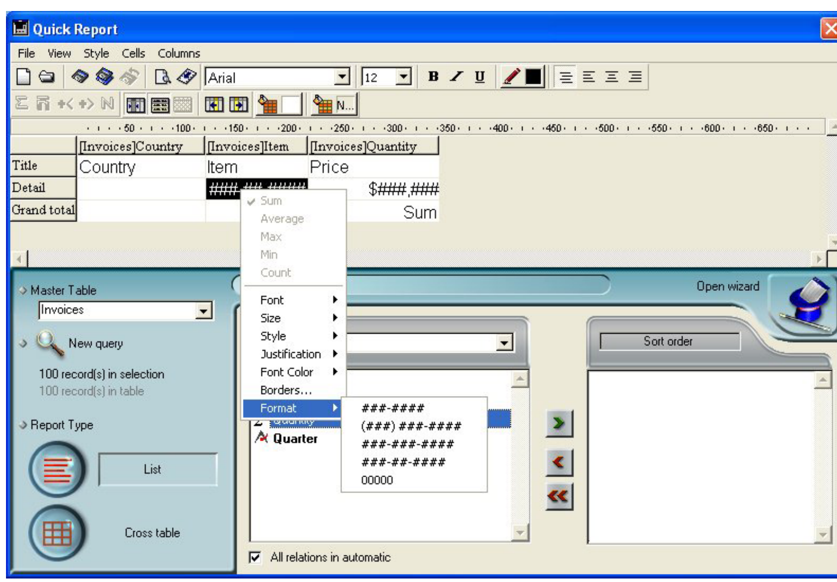
You can associate a display format with a cell by selecting it in the contextual menu or by entering it directly in the cell.

► To assign a display format to a numeric, Alpha, date, time or picture field:

1 Right-click (Windows) or Control+click (MacOS) on a cell of the column with which you want to associate a style.

The contextual menu of the editor appears.

2 Select the desired display format from the Format submenu:



The contents of the submenu vary according to the type of data contained in the column: numeric, Alphanumeric, date, time or picture. If the report column contains data that cannot be formatted, the Format command does not appear in the contextual menu.

Note For more information about display formats, refer to the User Reference manual of 4th Dimension.

The format is entered in the Detail cell. If you have also requested summary calculations for the column, the format specified in the Detail cell will automatically be applied to the summary calculations. The only exception is the "Count" calculation which is always displayed as an integer and does not accept any formatting symbols such as the dollar sign.

You can also enter the formats to be applied manually by clicking twice in the cell and entering the elements of the format using the keyboard.

Different formats can be applied to different columns in the report.

Hiding and Showing Rows and Columns

4th Dimension lets you hide rows or columns in a quick report in List mode. If desired, you can show a hidden column or row.

Hiding rows is useful when you want the report to include only summary calculations. For example, hide the Detail row if you want to display only the summary calculations that appear in the Totals and Subtotal rows. You can also use this feature to hide a Subtotal row or the Totals row.

You can hide a column if you need to use the column as a sort column, but do not want the report to display the column.

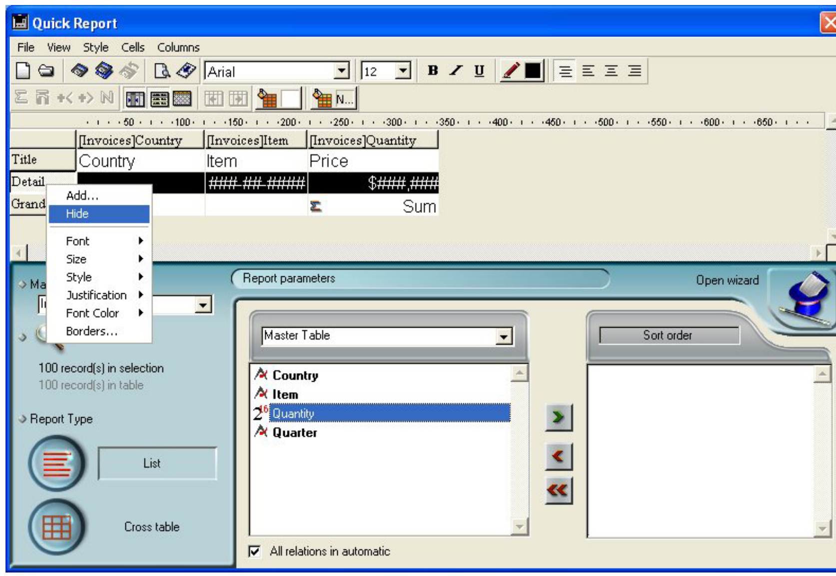
You can hide/display a row or column using either a the Quick Report contextual menu, the Columns menu or the "Columns" toolbar.

Note You cannot hide a row or column in a cross-table report.

► To hide a row or column:

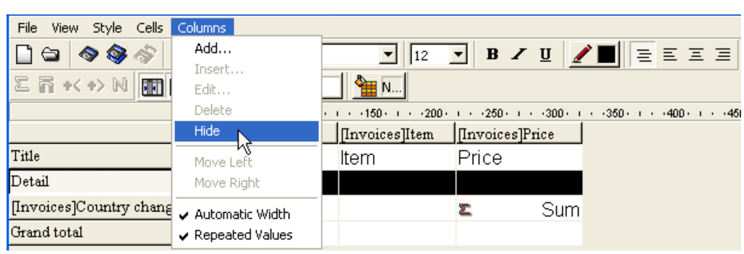
1 **Select the row or column you want to hide by clicking on its header.**

2 **Right-click (Windows) or Control+click (MacOS) on the header of the row or column to be hidden, then choose <u>Hide</u> in the contextual menu:**



OR

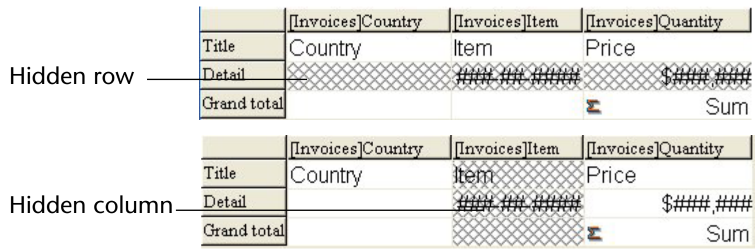
Choose the <u>Hide</u> command in the <u>Columns</u> menu of the Quick Report editor.



OR

Click on the button  **of the "Columns" toolbar.**

4th Dimension displays the column in gray to remind you that the row will not appear when you print or preview the quick report.



Showing a Hidden Row or Column

When a row or column is hidden, a check mark (√) is displayed next to the **Hide** menu command in the **Columns** or contextual menu. In addition, the corresponding button of the “Columns” toolbar is pressed in.

You can display a hidden row or column by choosing **Hide** again from either the **Columns** or contextual menu or by pressing the corresponding button in the “Columns” toolbar again. When you do so, the row or column is displayed normally in the Quick Report area.

Adding Page Headers and Footers

Before printing a quick report, you can add page headers and footers. You specify page headers and footers in the Headers and Footers dialog box. Use this dialog box to do the following:

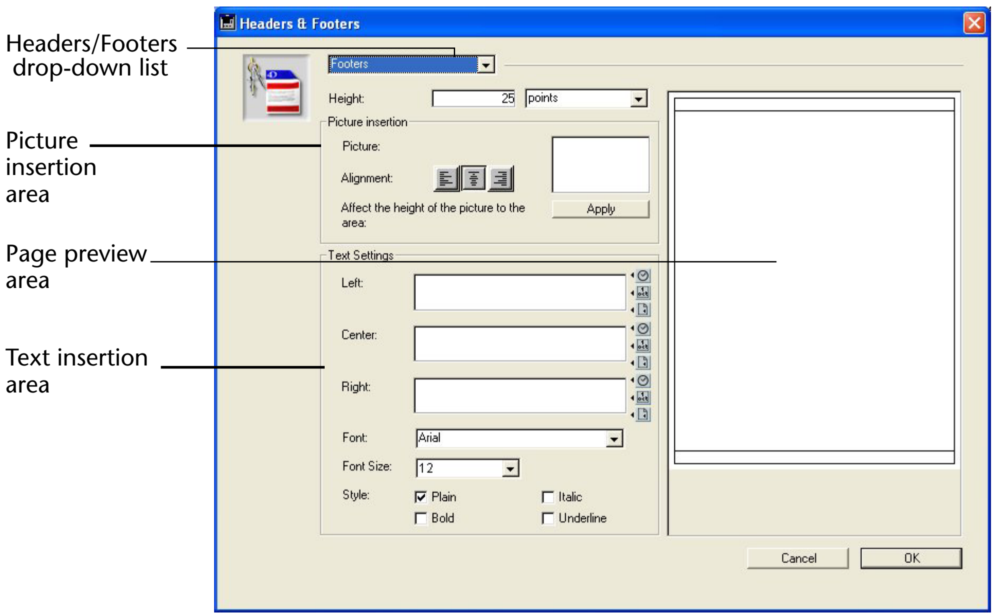
- Add page header and footer text or picture,
- Specify the size of the page header and footer areas,
- Use separate text for left, center and right parts of the header and footer.
- Specify fonts, font sizes, and font styles for page header and footer text,
- Insert codes that add page numbers and the date and time to your reports.

You can only specify page headers and footers when printing to a printer. However, once they are defined, they are kept with the report, even if the destination is modified. See the section “Generating a Quick Report” on page 184 for more information about alternate output destinations.

► To add page headers and footers:

1 Choose Header and Footer... from the File menu.

The Headers and Footers dialog box appears.



Note The preview area takes the print format configuration into account.

The Headers and Footers dialog box lets you specify both headers and footers using the same screen. Use the Headers/Footers drop-down list to indicate the one you currently want to define.

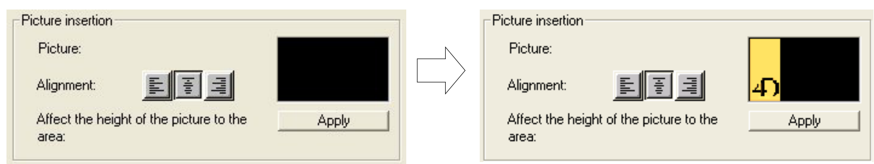
2 Choose Headers or Footers from the selection menu.

3 Enter the header or footer height in the Height area.

When you first enter the dialog box, the header and footer heights are set to 25 points each. You can not only change these values, but can change the measurement scale to enter values in inches or centimeters as well.

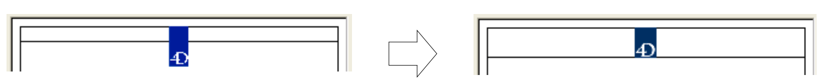
As you enter the header and footer height, the lines on the page preview area change to indicate the size of the header and footer as they will appear in the printed report.

4 If you want to use a picture, paste it in the picture area (using standard copy-paste commands):

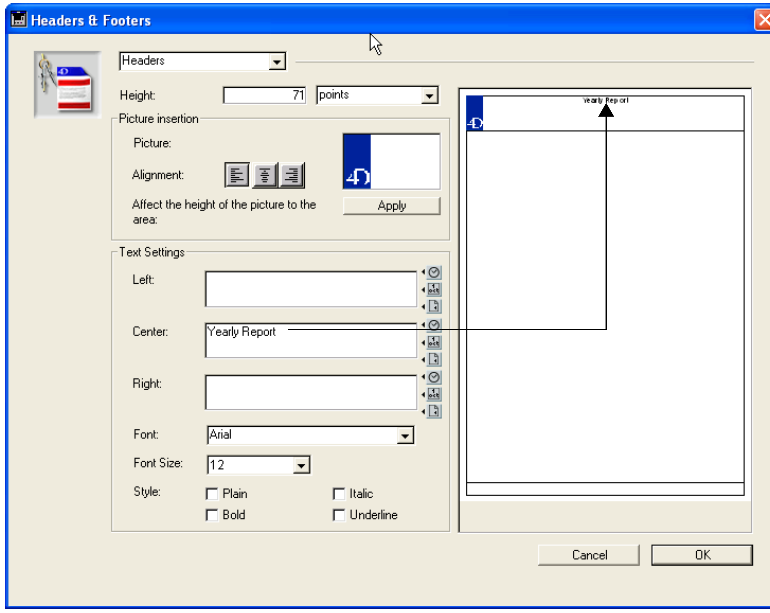


5 Select its alignment by clicking on the alignment icons:

6 If you want the height of the picture to become the height of the header/footer, click the Apply button:



7 Select an entry area and type the header or footer text.

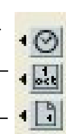


To the right of each entry area, there are three buttons that let you enter variables into the entry area.

Inserts the current time

Inserts the current date

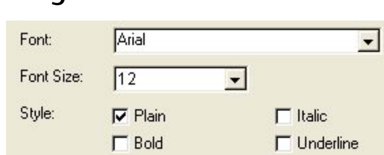
Inserts the current page number



You can insert the current page number, time of execution, or date of execution.

You can also use the code for the variables directly: #H for the time, #D for the date and #P for the page number.

8 Assign the font attributes for the header/footer.



9 Click OK to validate the changes.

Generating a Quick Report

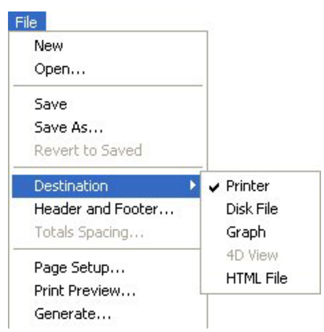
After you have completed your report design, you can “print” the quick report. You can print a quick report to a variety of output types:

- On the standard printer selected,
- To disk, in a Text file,
- To a graph,
- To a 4D View document,
- To an HTML document.

► To select an output destination:

- **Choose Destination from the File menu.**

The Destination submenu contains five items.



Printer

This option uses the printer you have chosen in your current print settings. If you are printing to a printer, you can preview the report before printing it.

► To print to a printer:

1 **In the File menu, choose Printer from the Destination submenu.**

This option is selected by default.

2 **If necessary, select Page Setup from the File menu and specify your print parameters.**

Note This command is only available when the **Printer** destination is selected.

3 If you want to preview your report, select Print Preview... in the File menu.

Note This command is only available when the **Printer** destination is selected.

The print preview dialog box appears, containing the report that you have defined with the current data of the database.

4 Select Generate... in the File menu.

5 Choose the settings that are appropriate for your report and click the OK button.

Disk File

This option sends your quick report to a disk file that you can open and modify with other applications, including text editors and spreadsheets. This option exports the records in the quick report to a text file.

When you use this option, 4th Dimension automatically uses the column headings as the first “record” that is exported.

► To generate the report in a Text file:

1 In the File menu, choose Disk File from the Destination submenu.

2 Choose Generate... from the File menu.

4th Dimension displays a standard create-file dialog box and asks you to enter a filename.

3 Enter a filename and click OK.

4th Dimension displays a dialog box that keeps you informed of the progress of the operation.

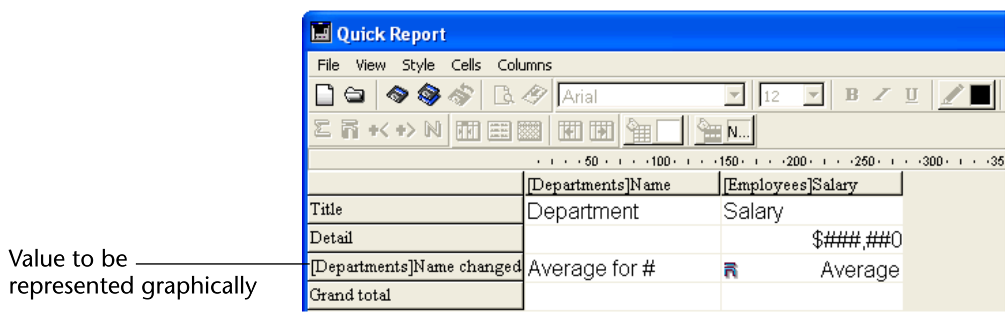
After the report is printed to a file, 4th Dimension returns you to the Quick Report editor. Remember to change the output device if you want to resume sending a quick report to a standard printer.

Print to Graph

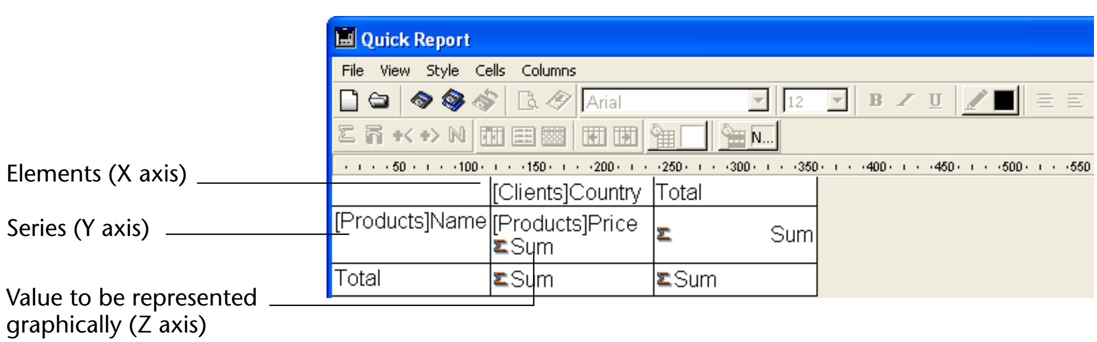
This option directs the report to 4D Chart, 4th Dimension’s plug-in for plotting data. When you choose the Graph item in the Destination submenu, your report is presented as a graph rather than in table form. Your graph can then be printed using 4D Chart.

- In **list mode**, 4D Chart uses only the summary calculations and labels in the Subtotal row. It uses the leftmost non-numeric column for the Categories axis (the horizontal axis). To use the Graph feature, your report should:
  - Include from one to five numeric fields or formulas. These columns will be assigned to the values axis in the graph.
  - Use one type of summary calculation per numeric field.

  For example, if you want to graph the average salary by department, you should create a quick report with two columns, Department Name and Salary as well as a Subtotal row consisting of the Average summary calculation for Salary:



- In **cross table mode**, 4D Chart uses two data sources and the value cell. The last row and column are ignored.
  For example, if you want to show the amount of sales per country for a set of products, you can define the following report:

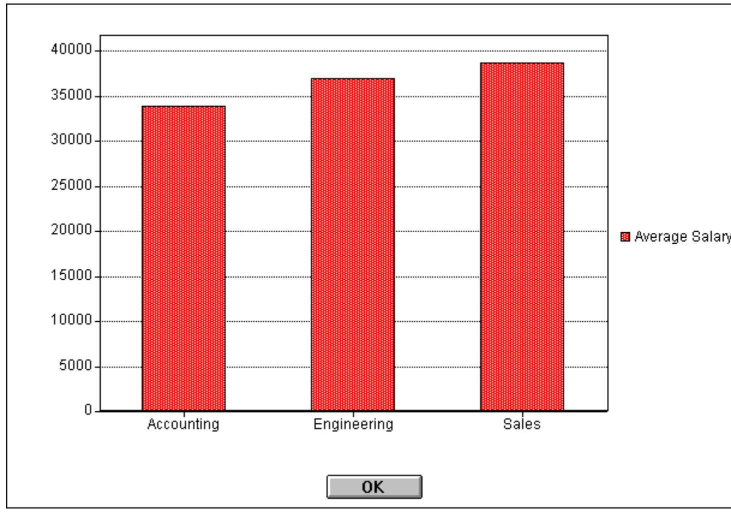


► To print to a graph:

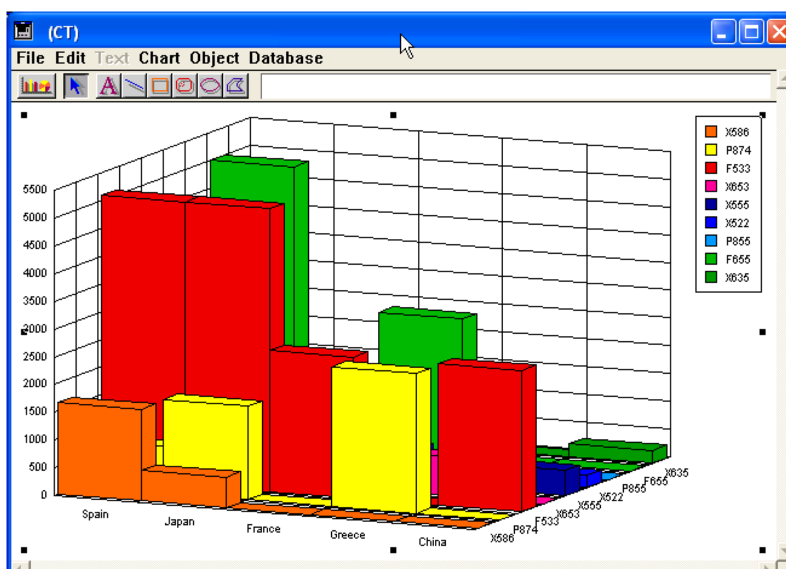
1 **In the File menu, choose Graph from the Destination submenu.**

2 **Choose Generate... from the File menu.**

- For list reports, 4th Dimension graphs your data as a 2D column graph.



- For cross-table reports, 4th Dimension graphs the data as a 3D column graph:



You can use 4D Chart to select another graph type or print the graph.

Printing to a 4D View Document

This option directs the report to 4D View, 4th Dimension's plug-in for displaying data. When you choose the 4D View item in the Destination submenu, your report is presented as a 4D View window rather than in table form. 4D View uses all the data in the report.

Note The **4D View** destination is only available if this plug-in is installed in your 4th Dimension environment and if you have the appropriate licenses.

► To generate a report in a 4D View document:

1 **In the File menu, choose 4D View from the Destination submenu.**

2 **Choose Generate... from the File menu.**

4th Dimension creates a 4D View window containing the data. You can modify its contents, print it or save it using the 4D View menu commands.

Printing to an HTML Document

This option sends your quick report to an HTML file. When you choose this option, it uses the default HTML template unless it was changed programmatically.

When you use this option, 4th Dimension automatically uses the column headings as the first "record" that is exported.

► To print to an HTML file:

1 **In the File menu, choose HTML File from the Destination submenu.**

2 **Choose Generate... from the File menu.**

4th Dimension displays a standard create-file dialog box and asks you to enter a filename.

3 **Enter a filename and click OK.**

4th Dimension displays a dialog box that keeps you informed of the progress of the operation.

After the report is printed to an HTML file, 4th Dimension returns you to the Quick Report editor. Remember to change the output device if you want to resume sending a quick report to a standard printer.