



## **Band Editor User Guide**

Version 1.3

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**Band Editor User Guide**  
Version 1.2

We encourage you to inform us of any errors you may find in this guide, and we ask that you please forward suggestions that will make this document more relevant/understandable to those that will follow. We listen to our users to always try to improve our literature and products. Welcome to **Argos!** Enjoy!

**1 - Introduction**

This document is intended for the **Argos** users who have the authority to create reports; i.e. developers and power end users. The Band editor is used to create formatted reports from **Argos** Report DataBlocks. Using the Band editor, you can create reports that effectively present data in a printed format. Because you have control over the size and appearance of everything on a report, you can select and display the information the way you want to see it. Using the Band editor, you can create mailing labels.

Steven Miller  
938 Railway Square  
West Chester, PA 193

---

**Create Mailing Labels**

Lee Gates  
88 Chickawaw Pike  
Pascagoula, MS 39567

---

**Group Records into Categories**

**Add Logos**



## Faculty Instructional Load

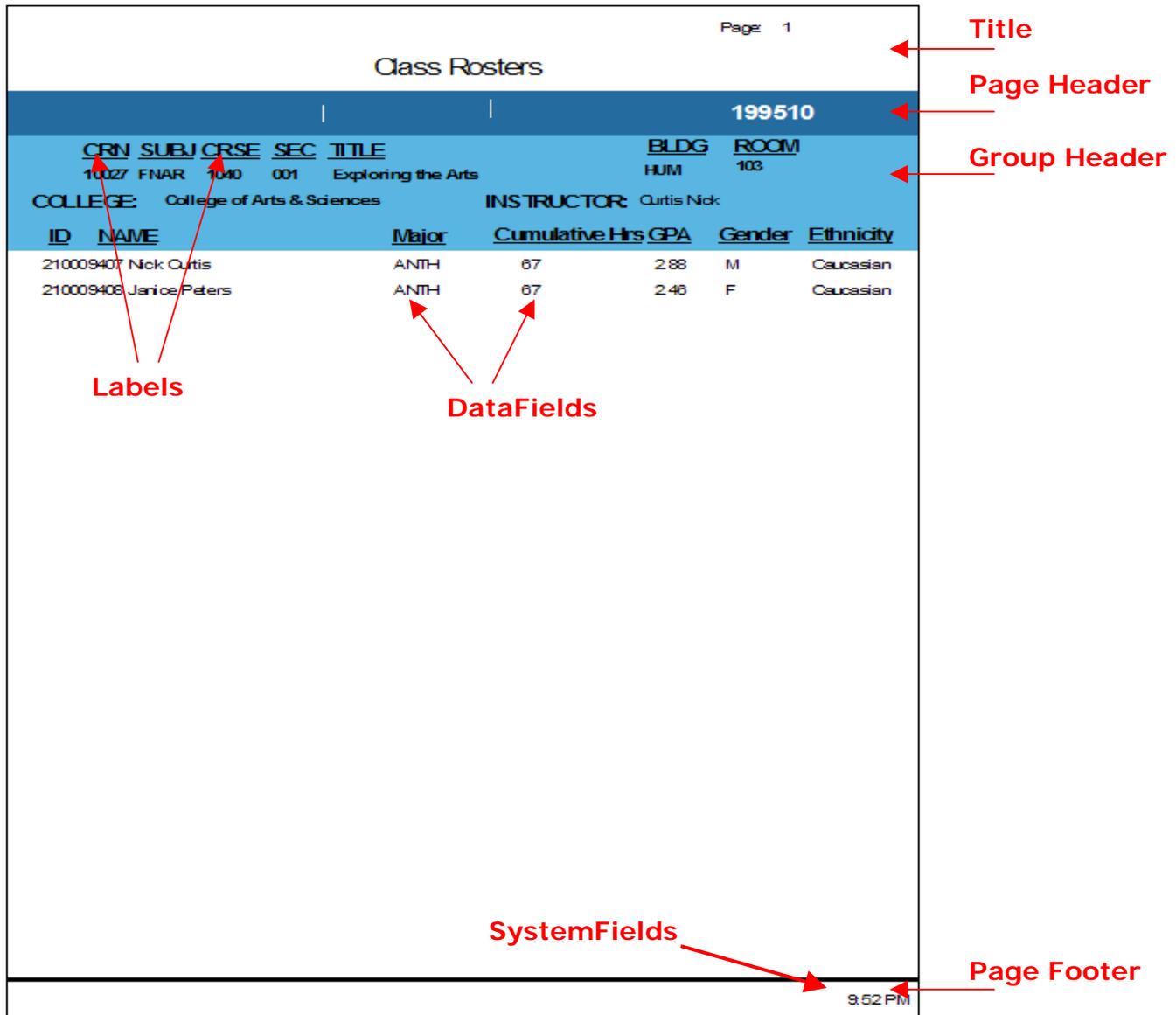
<u>ID</u>		<u>Instructor</u>						<u>Term</u>				
710000010		Preston Thomas						199510				
CRN	SUBJ	CRSE	SECT	Sect Crd HRs	Gen Crd HRs	CALC WRKL	Enrl	Percent RESP	Contact Weekly	Contact Total	FTE Factor	
10006	ACC	231	001	3.00	6.00	3.00	2.00	100.0	3.00	48.00	.25	
10007	ACC	234	001	3.00	6.00	3.00	2.00	100.0	3.00	48.00	.25	
Instructional Workload				6.00		Total Contact		6.00				
Total FTE				.50		Total Weekly		96.00				
<u>ID</u>		<u>Instructor</u>						<u>Term</u>				
710000027		James Smith						199510				
CRN	SUBJ	CRSE	SECT	Sect Crd HRs	Gen Crd HRs	CALC WRKL	Enrl	Percent RESP	Contact Weekly	Contact Total	FTE Factor	
10001	ACC	232	001	3.00	24.00	3.00	8.00	100.0	3.00	48.00	.25	
10008	ACC	243	001	3.00	6.00	3.00	2.00	100.0	3.00	48.00	.25	
10024	ECO	110	001	3.00	24.00	3.00	8.00	100.0	3.00	48.00	.25	
10025	ECO	211	001	3.00	12.00	3.00	4.00	100.0	3.00	48.00	.25	
Instructional Workload				18.00		Total Contact		12.00				
Total FTE				1.00		Total Weekly		192.00				

Fig. 1.1 – Sample Banded Reports

**Calculated Totals**

Most of the information in a report comes from the underlying Report DataBlock, which is the source of the report's data. Other information in the report is stored in the report's design. For example, expressions used to calculate totals or any static text such as headers and column labels are all part of the form design.

The image below shows the first page of a sample report, which prints a class roster:



Class Rosters							Page 1
						199510	
CRN	SUBJ	CRSE	SEC	TITLE	BLDG	ROOM	
10027	FNAR	1040	001	Exploring the Arts	HUM	103	
COLLEGE: College of Arts & Sciences				INSTRUCTOR: Curtis Nick			
ID	NAME	Major	Cumulative Hrs	GPA	Gender	Ethnicity	
210009407	Nick Curtis	ANTH	87	2.88	M	Caucasian	
210009408	Janice Peters	ANTH	87	2.46	F	Caucasian	
						9:52 PM	

**Fig. 1.2 – Parts of a Banded Report**

These sections are used for report designing and are called "Bands". For example there is a "Footer" band for all text in the page footer and a "Title" band for the report title. The most important band is the "Detail" band. The Detail Band is printed once for each data record (for each student in the above example), which results in a list of the data. The Detail Band's layout is the same for each record, so it must be created only once. For every record, the Detail Band is printed after the placeholders have been replaced with the current record's data.

Apart from Report Bands, which divide the report into logical sections, a report consists of report elements placed on the Report Bands. These elements define what exactly is printed on each band.

The two most important report elements are "Labels" and "DataFields". Labels are used for printing text - for example a title - that has no connection to the data in the DataBlock. DataFields are placeholders for fields from the DataBlock. Whenever a DataField is to be printed, then **Argos** gets the field content from the DataBlock and puts this text where you placed the DataField. Data pulled back from the DataBlock we will refer to as a DataSet.

Usually labels are add-ons for DataFields, to make the report look better and more understandable by not only listing data, but also showing which kind of data is printed.

The following types of report elements are available when designing a report:

- DataFields to display text from a dataset
- Labels to display fixed text
- SystemFields (date, time, page number,...)
- Shapes (circle, rectangle, line)
- Image (Windows bitmap file)
- Expression (calculated field, mathematical calculations, ...)
- Memo (text with multiple lines)

Each of the report elements have specific attributes or properties (font, color,...), which can be edited. This is further described in the chapters about the different elements.

## 2 - Report Design

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### Select Report Style

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For complete detailed instructions on adding and creating a report, see Chapter 3. In this chapter, we will only discuss the elements that make up a banded report.

The banded editor allows you to use a wizard to create a report, or you can create a report completely from scratch. The following shows the blank editor.

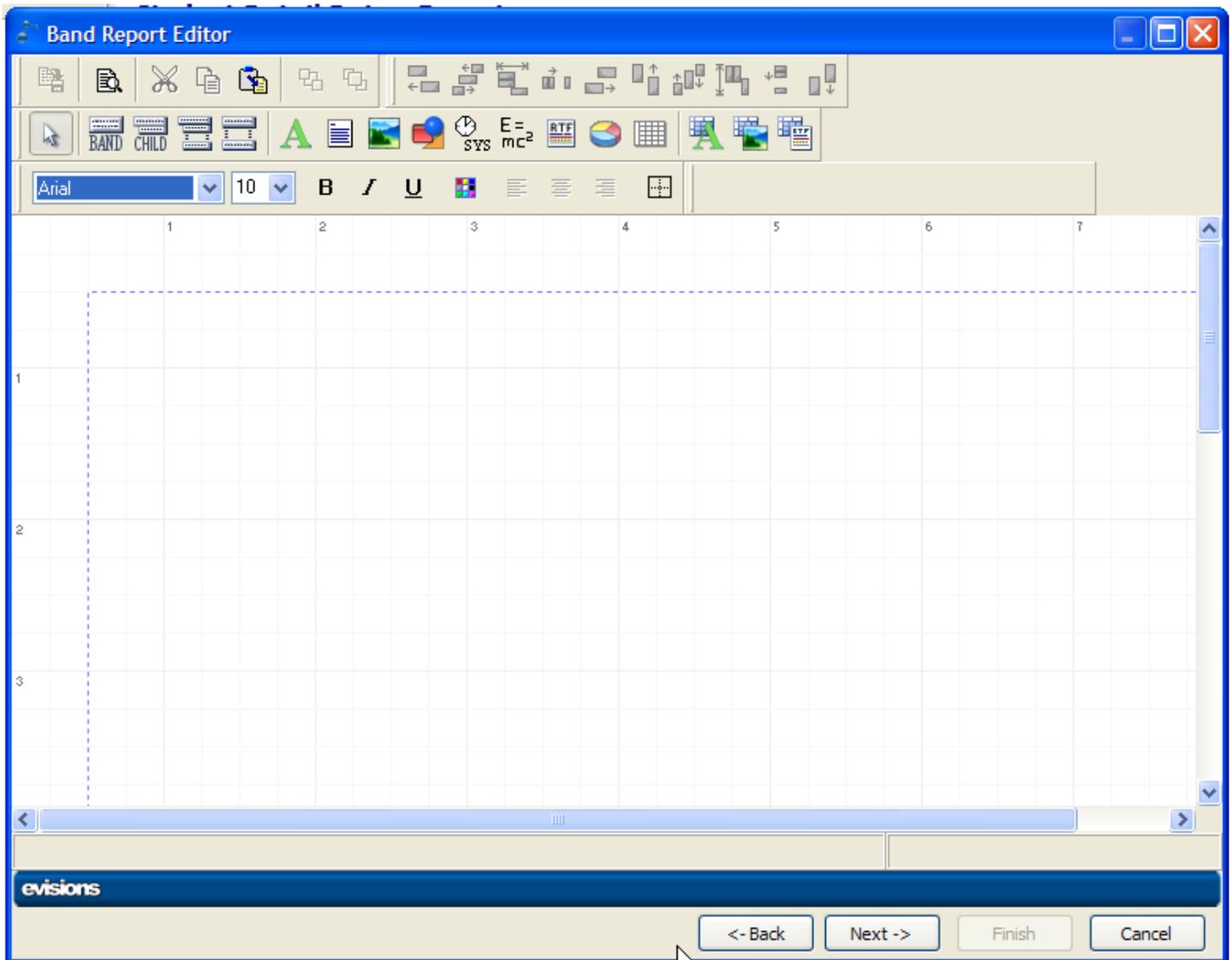


Fig. 2.1 - Blank Report

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## Add Report Elements

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Buttons for adding report elements are displayed on the toolbar along the top.

To add an element to the report you must click its button and then click on the report where you want the element to be inserted. Of course, you can still move a report element to another position later.

When adding new Report Bands it doesn't matter where you click on the report, because the position of each band is determined by its band type (page header, title band...) automatically.



### Report Band (Standard Band)

The following band types are available:

**Title:** The title band will be printed on the first page of the report.

**Page header:** The page header is printed at the top of each page.

**Column header:** Used with reports that have multiple columns.

**Detail:** The detail band is the most important Report Band. It is printed once for each data record from the main report table.

**Group footer:** The group footer is printed at the end of a group, before a new group starts.

**Summary:** The summary band is printed at the end of the report.

**Page footer:** The page footer is printed at the bottom of each report page.

The band properties for these bands are all set with the same property dialog. The following options are available:

**Type:** Band type (see above)

**Color:** This defines the background color of the Report Band.

#### Print

- not on first page: prints the band only on the second page and following
- not on last page: suppresses printing of the band on the last report page
- even page numbers only: only prints the band on even page numbers
- odd page numbers only: only prints the band on odd page numbers
- at bottom of page: moves the band to the bottom of the page before printing it
- force new page: starts a new page before printing the band
- force new column: starts a new column before printing when using reports with multiple columns

#### Only print band if expression is true:

An expression can be used to determine whether the band should be printed or not. The expression must have a logical result of "true" or "false".

**Frame:**

A frame or single frame lines can be drawn around the Report Band. You can select which lines should be drawn, in which color, style and width.

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### **Child Band**

A Child Band is a band which is attached to another Report Band and will always be printed below its parent band. This way you can print an additional band after each detail band. The advantage of using Child Bands instead of just resizing the parent band to make room for more report elements is that there can be a page break between a band and its child if needed, and the Child Band can be printed independently from its parent band, even if the parent band is not printed.

You must use Child Bands if you have report elements with "Autostretch" set to true, and you want to print elements below such auto-resizing fields. In this case, place all the elements to be moved down automatically because of autostretching elements before them on a Child Band.

The following options are available:

**Parent Band:** The band to which the Child Band is attached.

**Color:** This defines the background color of the Child Band.

#### **Print**

- not on first page: prints the band only on the second page and following
- even page numbers only: only prints the band on even page numbers
- odd page numbers only: only prints the band on odd page numbers
- at bottom of page: moves the band to the bottom of the page before printing it
- force new page: starts a new page before printing the band
- force new column: starts a new column before printing when using reports with multiple columns

#### **Only print band if expression is true:**

An expression can be used to determine whether the band should be printed or not. The expression must have a logical result of "true" or "false".

#### **Frame:**

A frame or single frame lines can be drawn around the Report Band. You can select which lines should be drawn, in which color, style and width.

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**Group Band**

A Group Band is used to structure data into groups of data records. For example if you want to print a list of addresses, you can add some space before each new first letter starts and insert a caption, or you can group addresses by city or state.

**Example:**

The following shows the same data formatted two different ways. The report on the left is using the Group Band to 'group' data by the first letter of the last name. The report on the right is not grouped.

<b>LastName</b>	<b>FirstName</b>	<b>LastName</b>	<b>FirstName</b>
<b>B</b>		Baldwin	Janet
Baldwin	Janet	Bender	Oliver H.
Bender	Oliver H.	Bennet	Ann
Bennet	Ann	Bishop	Dana
Bishop	Dana	Brown	Kelly
Brown	Kelly	Burbank	Jennifer M.
Burbank	Jennifer M.	Cook	Kevin
<b>C</b>		De Souza	Roger
Cook	Kevin	Ferrari	Roberto
<b>D</b>		Fisher	Pete
De Souza	Roger	Forest	Phil
<b>F</b>		Glon	Jacques
Ferrari	Roberto	Green	T.J.
Fisher	Pete	Guckenheimer	Mark
Forest	Phil	Hall	Stewart
		Ichida	Yuki

**Fig. 2.2 – Sample of a Report with and without a Group Band**

Internally, groups are handled the following way: Before printing a data record, the report engine checks if the expression result of the Group Band is different from the last data record's expression result. If this is the case, the Group Band will be printed, else it won't. This way data can be grouped with great flexibility, because you can use the expression for nearly any kind of calculation.

The following options are available:

**Master:**

Defines which is the master band for the group. This can be either the detail band or a Sub Detail band. The group is checked each time the master band is printed.

**Color:**

This defines the background color of the Report Band.

**Expression:**

This expression determines whether a Group Band is printed or not. The band will be printed each time the result of the expression changes.

**Print:**

- at bottom of page: moves the band to the bottom of the page before printing it
- force new page: starts a new page before printing the band
- force new column: starts a new column before printing when using reports with multiple columns

**Footer Band:**

This band is printed at the end of each group, before the next Group Band is printed.

**Frame:** See Report Band (Standard Band) above.

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**Label**

A label is for printing static text, i.e. text that is printed exactly like it is displayed during report design.

The following options are available:

**Text:**

This is the text that should be printed. You can only type in one line of text. Memos can be used for multi-line text.

**Rotation:**

Use this to rotate your text. Rotation can be set to anything between 0 and 360 degrees. For example, 90 degree means displaying the text vertically.

**Font:**

Selects the font for the report element

**Color:**

Defines the background color for the report element (the font color can be set with the "Font" button).

**Alignment:**

The report element's text can be aligned left, right or centered.

**Automatic word-wrap:**

Set this option if you want the text to wrap to the next line if it does not fit into the given width (similar to word processor software).

**Transparent:**

The report element's background will not be printed if this option is activated. This way you can place text on top of an image for example, without hiding the image under a white box with text.

**Autosize width:**

This option resizes the report element to make room for its complete text. If "Autosize" is not set and the text is larger than the element size, text will be clipped off.

**Autostretch height:**

This option is for report elements with multiple lines, e.g. memo fields. The height of the elements will be stretched to make room for all lines. If needed, the Report Band will be stretched too.



**Memo**

A memo is used to print text that has more than one line. Just like a label a memo displays text in one color and font. If you want to use formatted text, you can use a Rich Text field.

The following options are available:

**Text:**

This is the text that will be printed.

**Font:**

Selects the font for the report element.

**Color:**

Defines the background color for the report element (the font color can be set with the "Font" button).

**Alignment:**

The report element's text can be aligned left, right or centered.

**Automatic word-wrap:**

Set this option if you want the text to wrap to the next line if it does not fit into the given width (similar to a word processor software).

**Autosize width:**

This option resizes the report element to make room for its complete text. If "Autosize" is not set and the text is larger than the element size, text will be clipped off.

### Autostretch height:

This option is for report elements with multiple lines, e.g. memo fields. The height of the elements will be stretched to make room for all lines. If needed, the Report Band will be stretched too.

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### Image/Bitmap

An image element is a bitmap from a BMP file that is inserted into the report.

The following options are available:

#### File:

The file that contains the image (if there is no bitmap in this field, nothing will be printed).

#### Stretch picture:

Activate this option to stretch the picture so it fits exactly into the report element's size, else the picture will be cut off if there is not enough room, or space will be left empty if there is too much.

#### Autosize report element to fit picture:

This option resizes the report element to make room for complete image. If "Autosize" is not set and the image is larger than the element size it will be clipped off.

#### Center picture:

If the report element is bigger than the picture and the "Stretch" option is not activated, the picture will be centered in the report element instead of being placed in the top left corner.

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### Shape

This report element can be used to draw (horizontal or vertical) lines, circles and rectangles.

The following options are available:

#### Type:

Selects the shape, which can be a circle, rectangle, horizontal line, vertical line or top/bottom and left/right lines.

#### Brush:

- **Style:** different styles to fill a circle or rectangle
- **Color:** the color that is used to fill the shape

#### Pen:

- **Width:** line width of the shape
- **Mode:** various line drawing modes

- **Style:** solid, dotted or dashed lines



### **System Field**

This report element is used to display various system data like current time or date, page number etc.

Available options:

#### **Text:**

This text will be displayed before the actual system data. For example you can use the text "Report printed on: " when printing the current date.

#### **Type:**

The type of system data to print. The following types are available:

- **Date:** the current date when printing the report
- **Time:** the current time when printing the report
- **Date/Time:** the current date and time
- **Detail count:** total number of data records
- **Detail number:** number of the current data record
- **Page number:** current page number of the printout
- **Report title:** the report title which can be set via "Report|Options"

#### **Autosize width:**

This option resizes the report element to make room for its complete text. If "Autosize" is not set and the text is larger than the element size it will be clipped off.

#### **Transparent:**

The report element's background will not be printed if this option is activated. This way you can place text on top of an image for example, without hiding the image under a white box with text.

#### **Font:**

Selects the font for the report element

#### **Color:**

Defines the background color for the report element (the font color can be set with the "Font" button).

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## **Expression Field**

An Expression Field (Calculated Field) is used for displaying text or data that is calculated by an expression or formula. You can do numerical calculations, string manipulations, concatenate DataFields and much more.

### **Expression:**

This expression is evaluated each time the calculated field is going to be printed (see the chapter on [expressions](#)).

### **Format:**

Numerical fields can be formatted by setting a format definition (see the chapter on [expressions](#)).

### **Font:**

Selects the font for the report element

### **Color:**

Defines the background color for the report element (the font color can be set with the "Font" button).

### **Master:**

If your expression uses any aggregated functions, you must link the "Master" property to the dataset that will be used to update the expression. Each time a new data record from this dataset is selected the expression will be recalculated.

### **Alignment:**

The report element's text can be aligned left, right or centered.

### **Rotation:**

Use this to rotate your text. Rotation can be set to anything between 0 and 360 degrees. 90 degree means displaying the text vertically for example.

### **Autosize width:**

This option resizes the report element to make room for its complete text. If "Autosize" is not set and the text is larger than the element size, text will be clipped off.

### **Autostretch height:**

This option is for report elements with multiple lines, e.g. memo fields. The height of the elements will be stretched to make room for all lines. If needed, the Report Band will be stretched too.

### **Reset after print:**

If you are using calculations like sums or counting of data record etc., you can use this option to reset the value of the calculation to zero after the report element has been printed.

**Automatic word-wrap:**

Set this option if you want the text to wrap to the next line if it does not fit into the given width (similar to a word processor software).

**Transparent:**

The report element's background will not be printed if this option is activated. This way you can place text on top of an image for example, without hiding the image under a white box with text.



**Rich Text Field**

The Rich Text element is a report element that can display multi-line text with different fonts, colors and formatting. In the Rich Text property dialog, press the "Edit" button to show a text editor with Rich Text editing capabilities.

**Alignment:**

sets the text alignment if no alignment has been set with the editor

**Font:**

sets the font if no font has been specified with the editor

**Color:**

sets the text color if no color has been set with the editor

**Autostretch height:**

This option is for report elements with multiple lines, e.g. memo fields. The height of the elements will be stretched to make room for all lines. If needed, the Report Band will be stretched too.



**Chart**

The chart element can be used to display various types of graphs and charts. There are many options available, which would be too much to describe here.



**Line Grid**

This report element can be used to draw a grid of lines.

The following options are available:

**Columns:**

- **Number of Columns:** How many columns
- **First Column Join:** The first column displayed with no 'row' lines.
- **Color of First Column:** Set color of first column

**Rows:**

- **Number of Rows:** How many rows in grid
- **First Row Joined:** The first row displayed with no 'column' separation
- **Color of First Row:** Color of first row

**Transparent:** No color set – will pick up the background color of report element grid is placed on

**Color of First Cell:** Will color the first cell (column 1, row 1)

**Brush:**

- **Style:** different styles to fill a circle or rectangle
- **Color:** the color that is used to fill the shape

**Pen:**

- **Width:** line width of the shape
- **Mode:** various line drawing modes
- **Style:** solid, dotted or dashed lines



**DataField**

A DataField displays data from a table or query. This can be numerical data, characters or multiple lines of text.

The following options are available:

**DataField:**

Select the DataField you want to print.

**Alignment:**

The report element's text can be aligned left, right or centered.

**Format:**

Numerical DataFields can be formatted by setting a format definition.

**Font:**

Selects the font for the report element

**Color:**

Defines the background color for the report element (the font color can be set with the "Font" button).

**Automatic word-wrap:**

Set this option if you want the text to wrap to the next line if it does not fit into the given width (similar to a word processor software).

**Transparent:**

The report element's background will not be printed if this option is activated. This way you can place text on top of an image for example, without hiding the image under a white box with text.

**Autosize width:**

This option resizes the report element to make room for its complete text. If "Autosize" is not set and the text is larger than the element size then text will be clipped off.

**Autostretch height:**

This option is for report elements with multiple lines, e.g. memo fields. The height of the elements will be stretched to make room for all lines. If needed, the Report Band will be stretched too.

**Suppress printing of repeated values:**

Activate this option if you do not want to print DataFields with the same values repeatedly. The report engine will only print the DataField for the first data record, and leave all following prints of this DataField empty if the field's content hasn't changed.

**Suppress printing if value of DataField is 0**

This option suppresses printing of numerical fields if their value equals zero.

**Reprint on new page:**

If you have activated "Suppress printing of repeated values", you can use this option to reprint a field if a new page starts, even if it would be suppressed normally because of equal values.

**Reprint on new group:**

Same as "Reprint on new page" but for groups.

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## ToolBar

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You can change many report element properties directly with the toolbar instead of using the element's property dialog. Additionally you can use it to modify multiple elements at once.



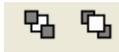
This button is for creating a saving a report design that has been modified.



Use this button to test or preview of the report.



With these buttons report elements can be cut(deleted), copied and/or pasted.



These buttons are used to set a report element to the background or bring it in front of all other report elements, in case of overlapping elements.



Report elements can be aligned with these buttons. Some of the buttons are only enabled when multiple elements are selected (for example to align the left edges).



This part of the toolbar shows the type of the currently selected report element and its main property (text if it is a label, DataField, band type, ...). You can edit this property directly with the toolbar, without the need to open the element's property dialog.



Here you can set font and font styles of the selected report elements (font name, font size, bold, underline, italic,color).



These buttons are for aligning text within a report element. Text can be aligned left, right or centered. This only makes sense if the report element's size is bigger than its text, and if "autosize" is deactivated.



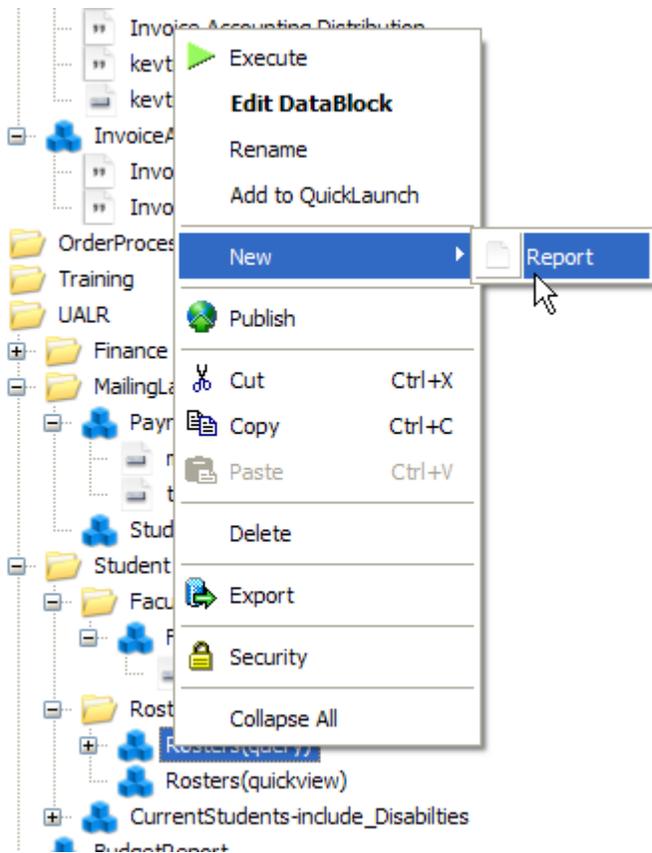
With this button you can open a dialog to set the frame options for the selected element.

### **3 – Build a Report using Wizard**

In this example we will create a simple report that prints an address list. A DataBlock has been created which returns all the names and addresses of everyone in the database. You can follow all steps with any DataBlock available to you because the type of data is not important for this example.

#### **Create a New Report**

To create a new report for an existing Report DataBlock, select the DataBlock, right click and select New Report. Only those users with the proper authority will be able to create a report.



Alternatively you can also select the New Report button from the Menu options.

Banded Reports can only be added to Report DataBlocks, not QuickView DataBlocks. Report DataBlocks use both the Parameter Design and Query Design forms.

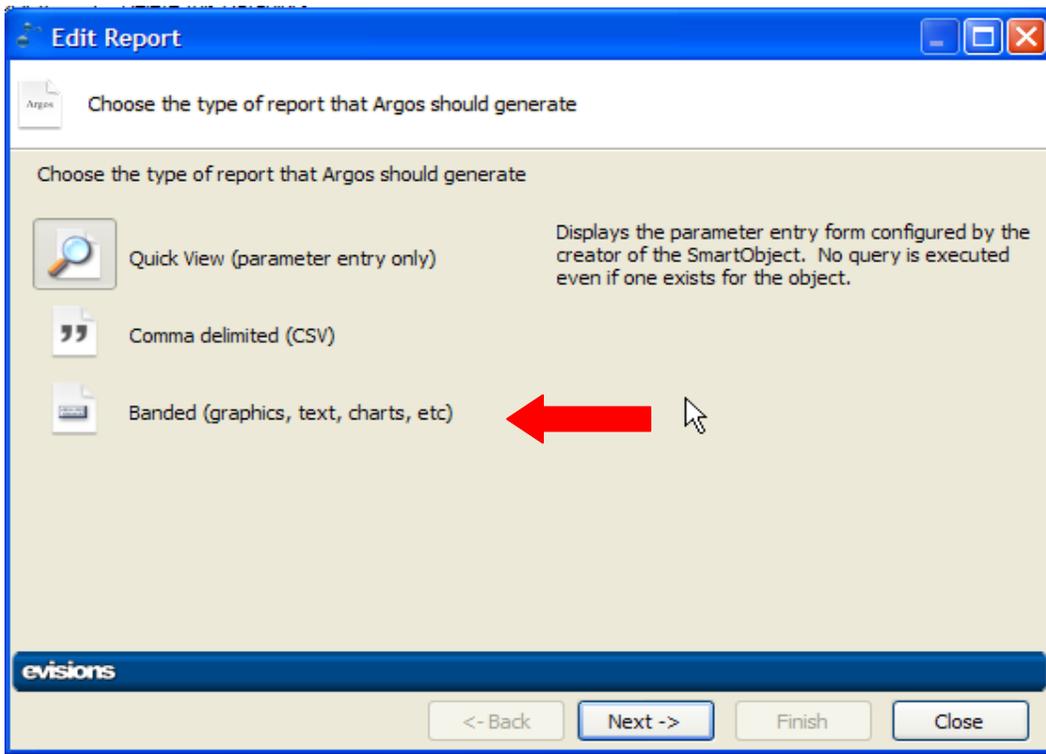
The Parameter Design is used to allow users any easy way to select criteria in order to limit the information retrieved. Their selections are then used as Conditional Fields in the Query Design.

QuickView DataBlocks give end users the ability to look at information on their screen with drill down capabilities. It is very useful for combining different screen shots from the database application into one. Users have the ability within a QuickView report to right click on the information being displayed and dump it into an excel spreadsheet for further manipulation.

Only those users who have the privileges to add reports can create new reports. In addition, the user must also have proper security permissions to

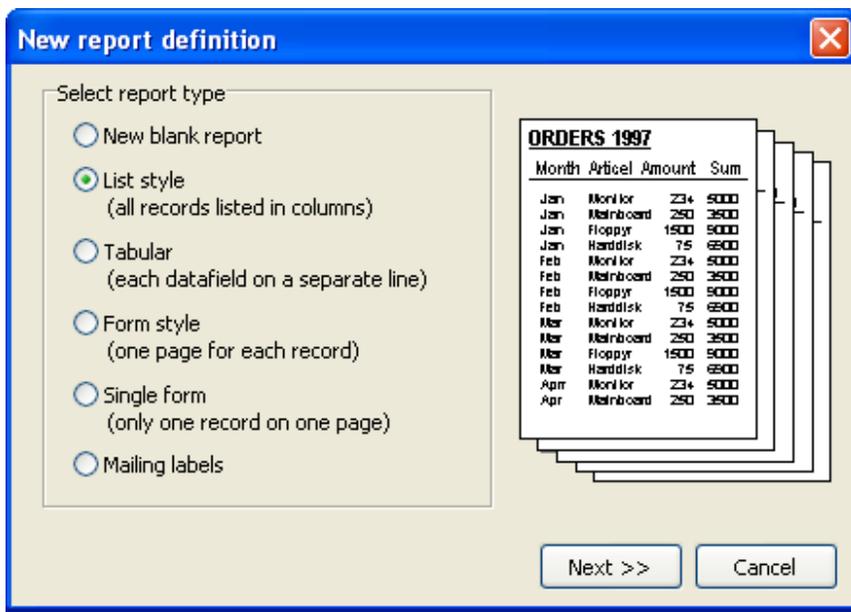
access the DataBlock. Review the ***End User Guide*** and the ***Developer's Getting Started Guide*** for more detail.

**Fig. 3.1 – Create New Report**



**Fig. 3.2 – Choose Type of Report**

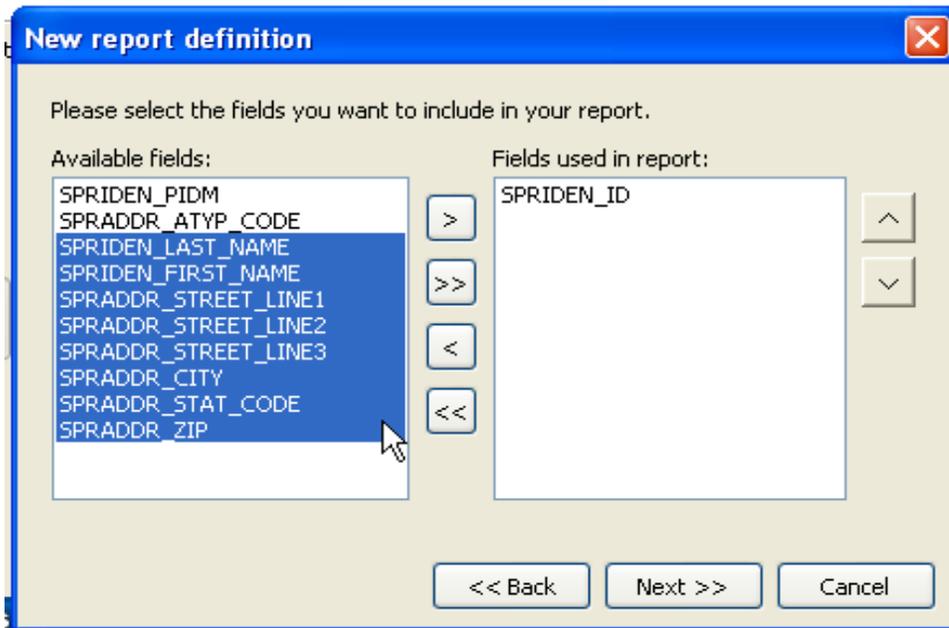
You will next be prompted to select the type of report. From this menu, select the Banded (graphics, text, charts, etc.) option (  ).



**Fig. 3.3 – Select Style of Report**

The report wizard prompts for which kind of report you want to create. If you select "New blank report" as the report type, a completely empty report will be created and the report wizard will exit. You must then add all Report Bands and datasets manually. The other options will guide you through and create a report based on the style selected. We will be creating a 'List Style Report' where all the records will be listed in columns.

Click Next to continue.

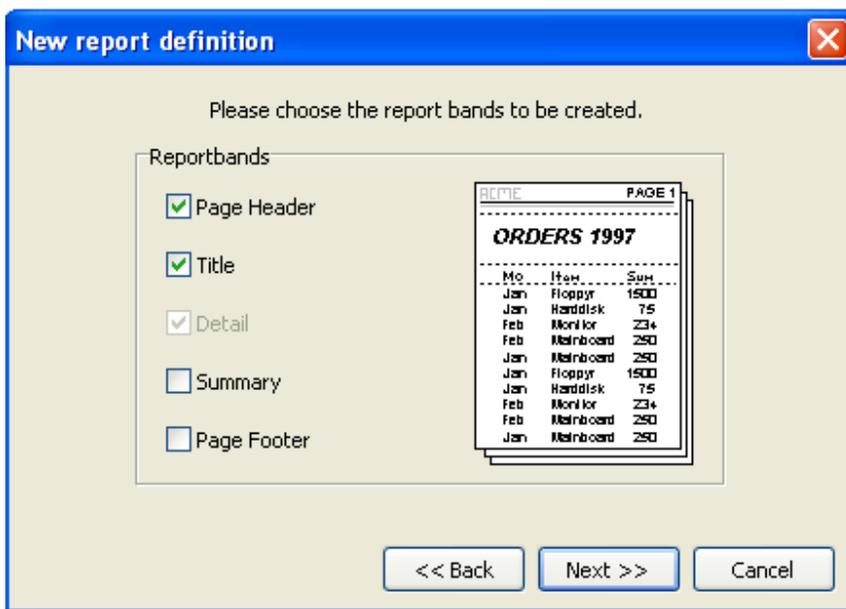


**Fig. 3.4 – Select Fields**

On the next page of the report wizard you must select which fields to use. You select the fields from the selected DataBlock. You can drag fields from one list box to the other with your mouse, or you can use the buttons located between the list boxes. In the right list box you can drag fields up and down with your mouse to change the field order.

Multiple fields can be selected by using the ctrl or shift key along with the mouse.

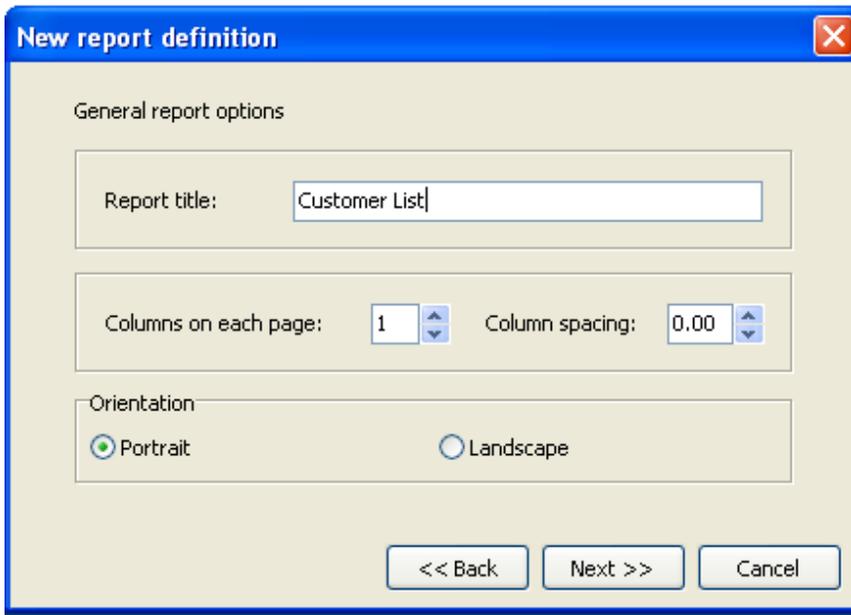
Click Next to continue.



**Fig. 3.5 - Select Bands**

On the next screen, you select what 'bands' you want to appear on the report. By default the Page Header and Title are selected. Check/uncheck the options you want.

Click Next to continue.



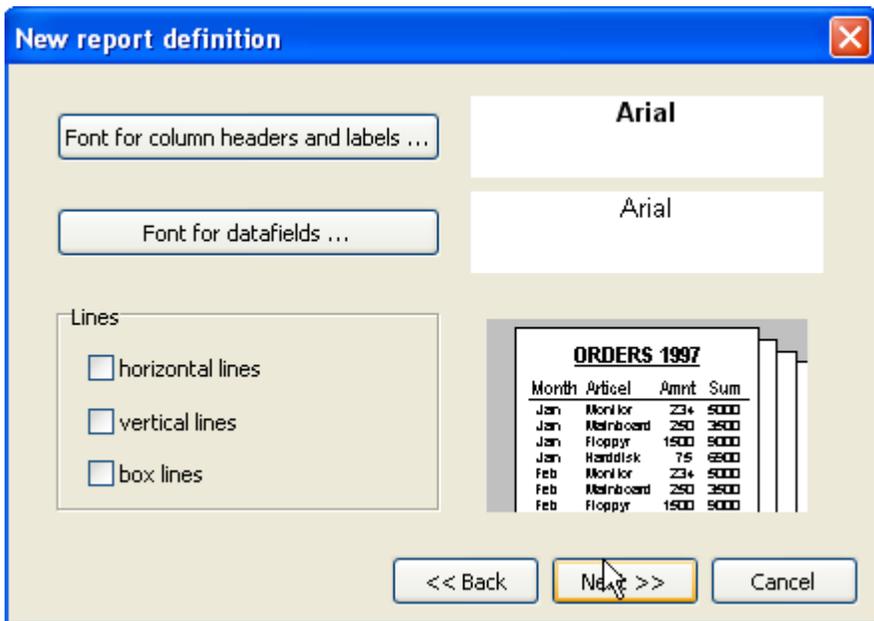
**Fig. 3.6 – Report Options**

On the next form you set up the characteristic of the report itself. Here you assign a title to the report. This is the title that will print in the Title Band.

The Columns on each page indicator allows you to split the page into multiple columns. These columns are distinct from the data columns that were selected. For example, if you changed the number of columns from 1 to 2, there would be two columns of all the fields selected – similar to a news letter layout.

You can also indicate if this is for portrait or landscape output.

Click Next to continue.



**Fig. 3.7 – Report Characteristics**

The following form determines the look of the report. You can set default fonts for text and DataFields, and you can have the wizard insert lines between the columns and rows of the report.

Click Next to continue.

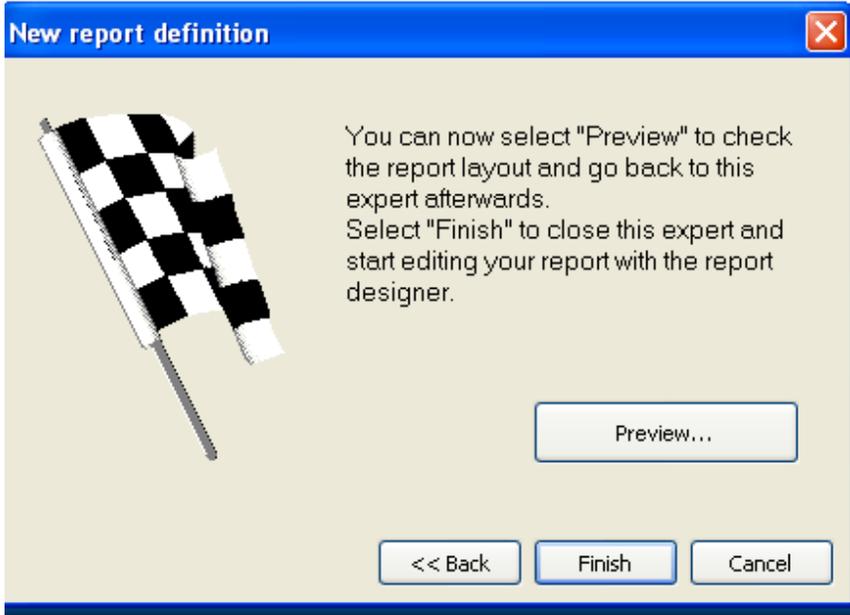
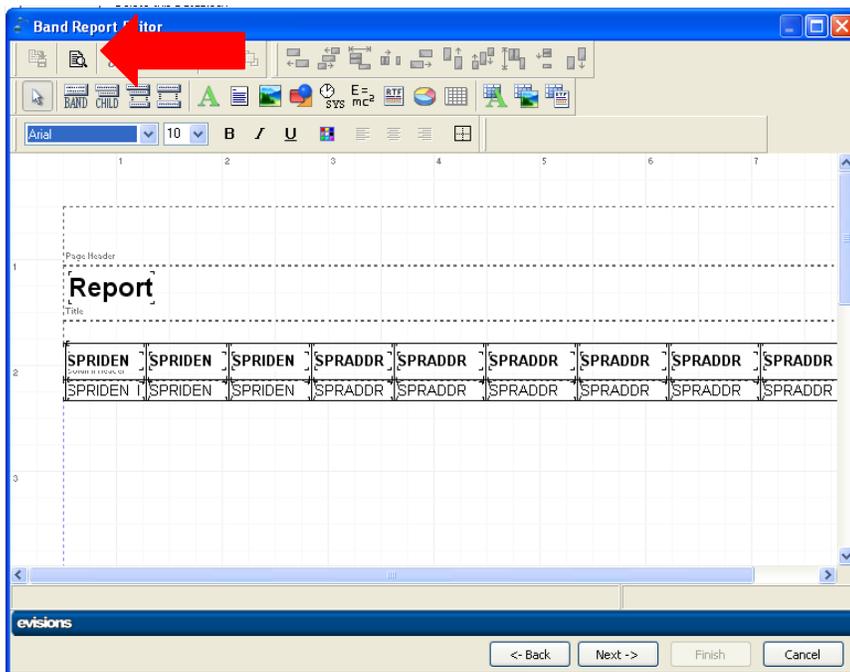


Fig. 3.8 – Preview Report

After you have made all your selections, the final screen gives you an opportunity to Preview or, if you want to make some modifications, click Finish to continue on to the Band Report Editor form to review the report definitions.



On the Band Report Editor form you can add and modify the appearance of the report itself.

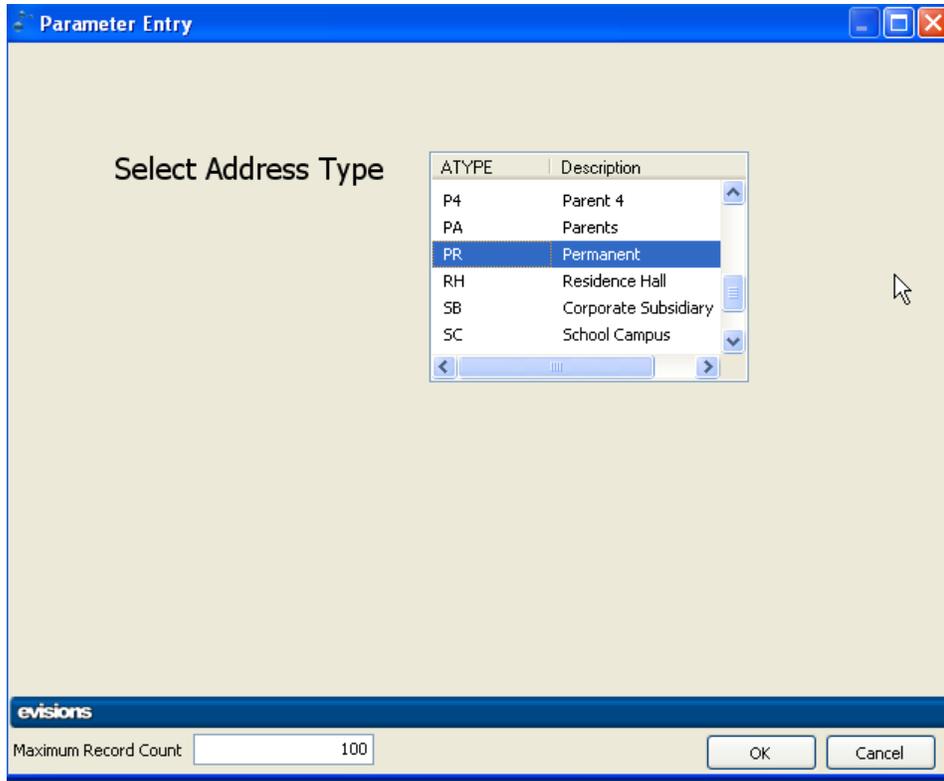
You can test the report by clicking on the Preview icon (📄). This allows you to review the output before saving.

Fig. 3.9 – Report Design Form

---

## Review Output

---



The image shows a software dialog box titled "Parameter Entry". On the left, the text "Select Address Type" is displayed. In the center, there is a table with two columns: "ATYPE" and "Description". The table contains the following entries:

ATYPE	Description
P4	Parent 4
PA	Parents
PR	Permanent
RH	Residence Hall
SB	Corporate Subsidiary
SC	School Campus

The "PR" row is highlighted. At the bottom of the dialog, there is a blue bar with the "evisions" logo on the left. Below the logo, there is a label "Maximum Record Count" followed by a text input field containing the number "100". To the right of the input field are two buttons: "OK" and "Cancel".

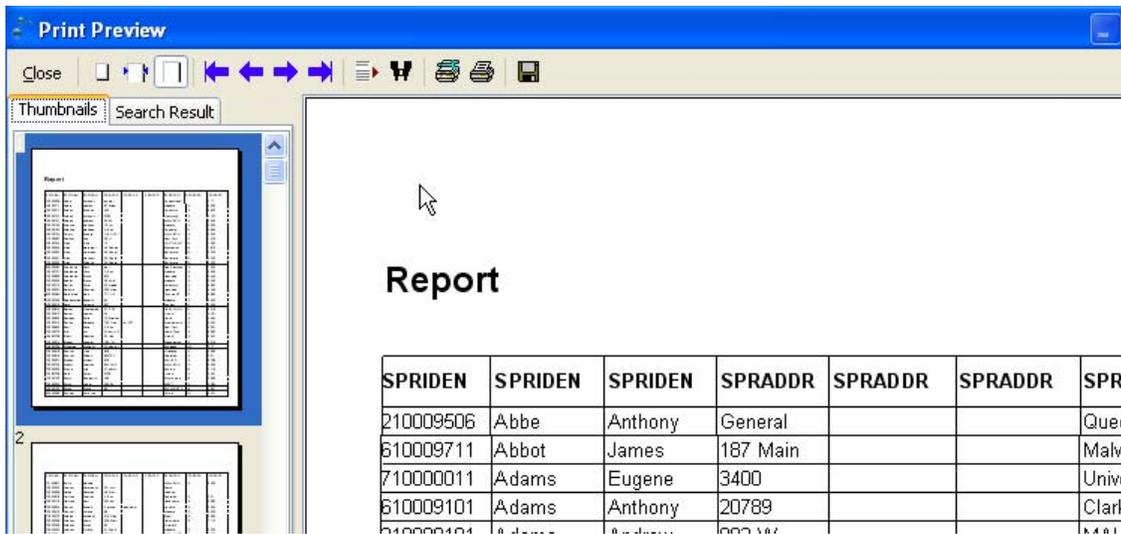
After clicking the Preview icon on the Report Design Window, the next screen will display the Parameter Entry form. For testing purposes, make a selection. Note that at the bottom of the form you can also select how many records to return.

If you are testing just the general appearance you may want to set this to a relatively small number such as 10. To view how a multi-page report looks, you can set this to a higher number.

The settings made on this page are active until you close and save the report you are working on.

**Fig. 3.10 – Enter Test Parameters**

Click OK to continue. The next page shows the report.



**Fig. 3.11 - Sample Run of Report**

On the Print Preview, the developer has several tools available.



These buttons allow the developer to resize the output as displayed on the screen. The first will zoom the whole page to fit on the screen. The second will zoom the page width and the last will resize to 100%.



These buttons are used to move from page to page or to the first and last page.



Using this button allows the developer to go to a specific page of output.



Clicking this button, the developer will be prompted for a search value. If present, the viewer will move to the page on which the specified value is located.



These buttons allow the user to set up a printer and/or print a copy of the displayed report.



Press this button to close the preview form and return to the edit window.

---

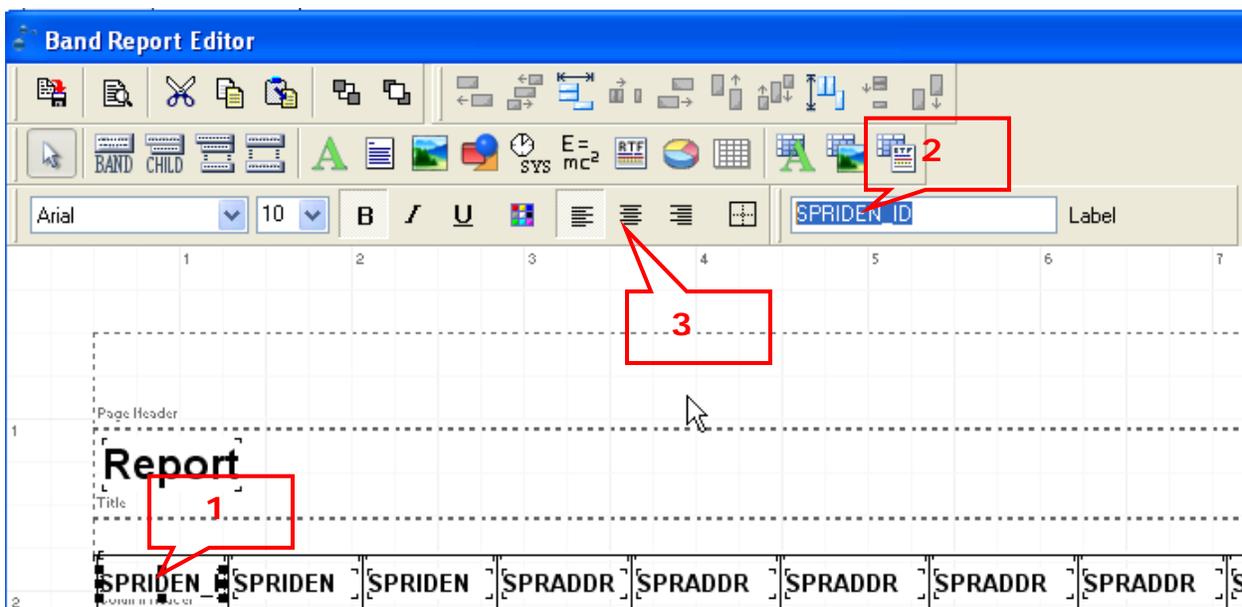
## Modify Report Elements

---

### Change Label

When reviewing the output it becomes obvious the field captions for the DataFields don't look very good ("SPRIDEN" and "SPRADDR"). These values are being picked up from the field names selected. The report wizard has used the field names of the DataFields automatically, which doesn't always lead to optimal results. (The field names are determined by the aliases assigned in the DataBlock design itself. If no aliases are used, then the field name from the table will be used.)

To change the labels, leave the preview by pressing on the Close button. Select the desired label with the left mouse button. The toolbar will now show you the element type, e.g. "Label". You can see the element's most important property, which for a label is its text of course. You can activate this edit line with your mouse and directly edit the label text there.



**Fig. 3.12 – Change Label Using ToolBar Options**

In this example we have selected the first field (SPRIDEN\_ID) (1). We will change the SPRIDEN\_ID to just ID (2) and Center the Text (3).

Alternatively you can double click on the object and make the changes on the label property form itself:

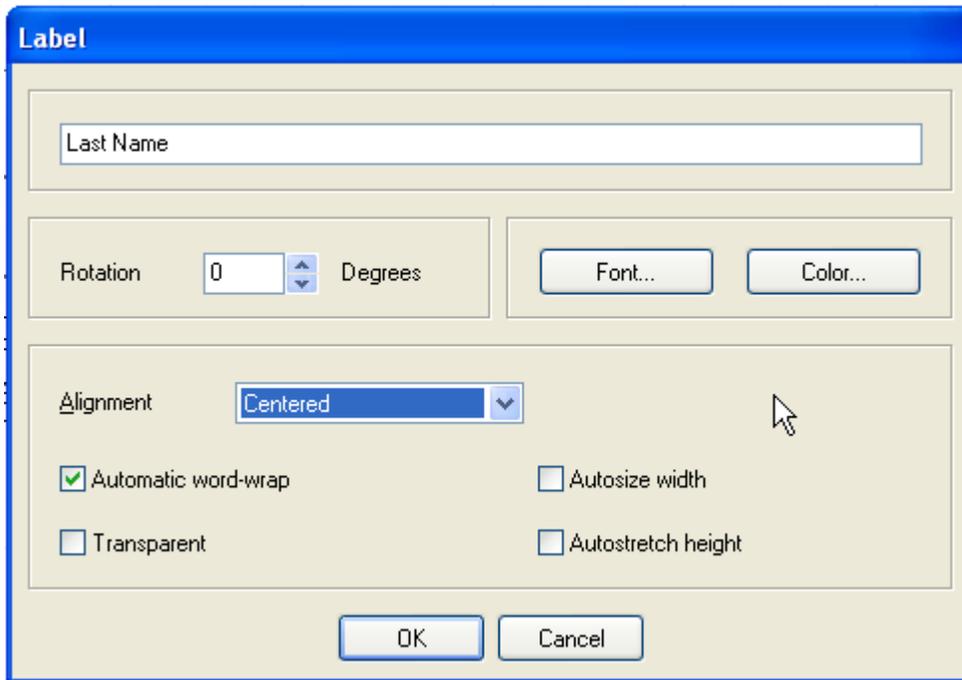


Fig. 3.13 – Changing Label using Label Property Form

### **Change size and position**

If you don't like the position of a report element, simply click and drag with your left mouse button. Please note that elements cannot be moved out of their Report Band.

To change the size of a report element, first select it and then drag one of the eight small black boxes to resize the element.

### **Add another report element**

For demonstration purposes we will now add a circle around the report title. Please click the shape button  to insert a shape.

Click on the Report Band that contains the report title. It is not important to click on the exact position where you want to place the circle, because you can easily move the report element later. After clicking on the Report Band the property dialog of the new shape will be shown. Select "Circle" from the "Type" combo box (1):

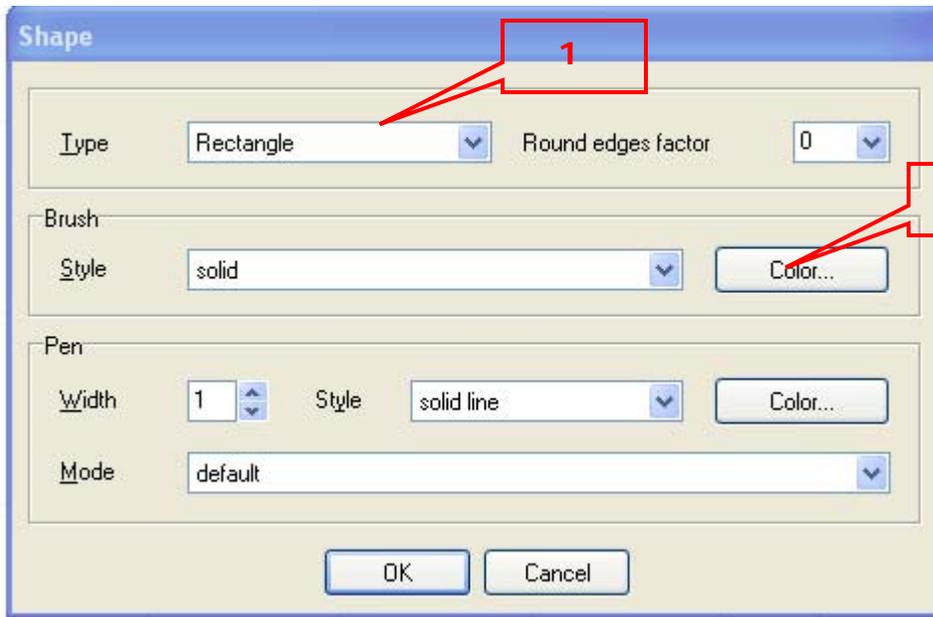


Fig. 3.14 – Shape Property Form

Click the Color button from within the "Brush" (2) area and select yellow to draw a yellow filled circle. After leaving the dialog with "OK", a yellow circle will appear on the report layout:

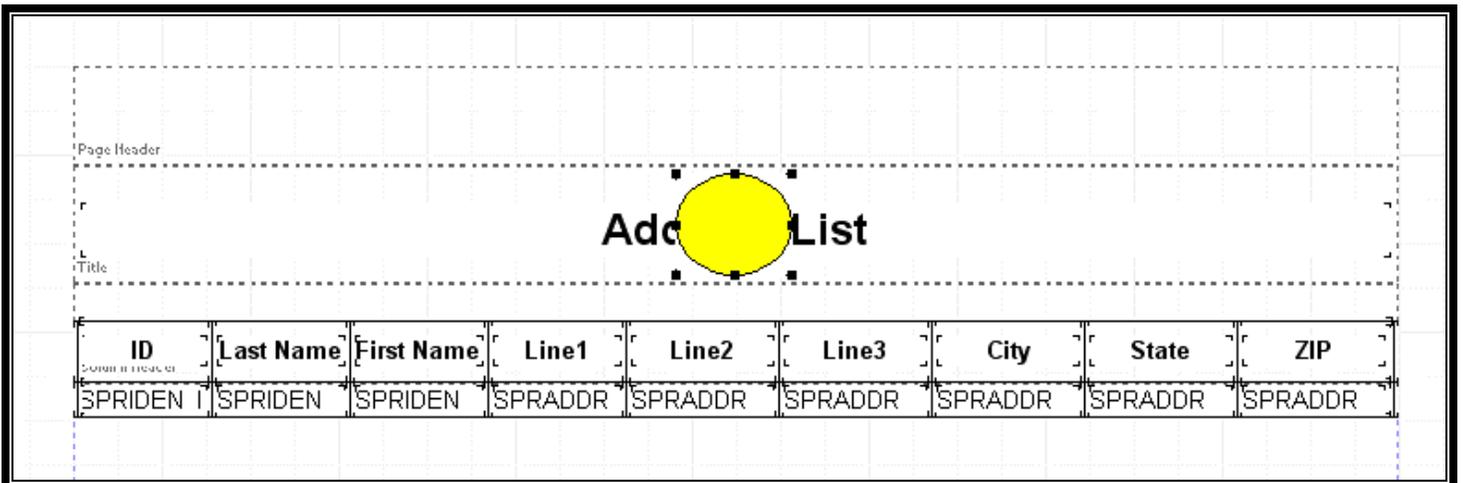
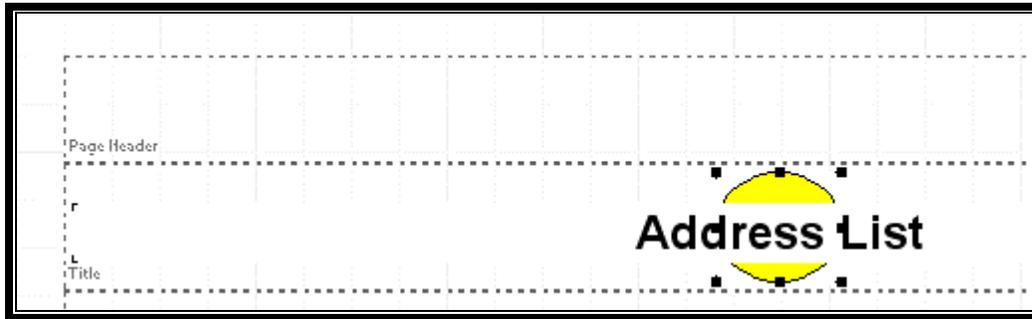


Fig. 3.15 – Adding a Shape

Unfortunately the circle is in front of the title and conceals part of it. Click the button  from the toolbar at the top of the designer window to move the circle to the background. Now move the title so it is positioned over the circle:



**Fig. 3.16 - Send Shape to Back**

Of course it still does not look good due to the white background of the label covering the circle. Open the property dialog of the title label (right mouse button, "Edit") and activate the "Transparent" option. The background of the label will now be transparent.

Note that this is not visible in design mode, but you can see this when using the preview button.



**Fig. 3.17 – Transparency**

### **Grouping**

You can make a list more readable by dividing it into paragraphs or groups. For example, the address list would be more readable if we grouped by the first letter of the last name. Each letter could have its own 'paragraph' and start on a new page. To accomplish this you will need to create a Group Band.

To insert a Group Band, press the Group Band (  ) (1) button and click on your report. The Group Band property form will be shown, where you must set the field on which the group should work.

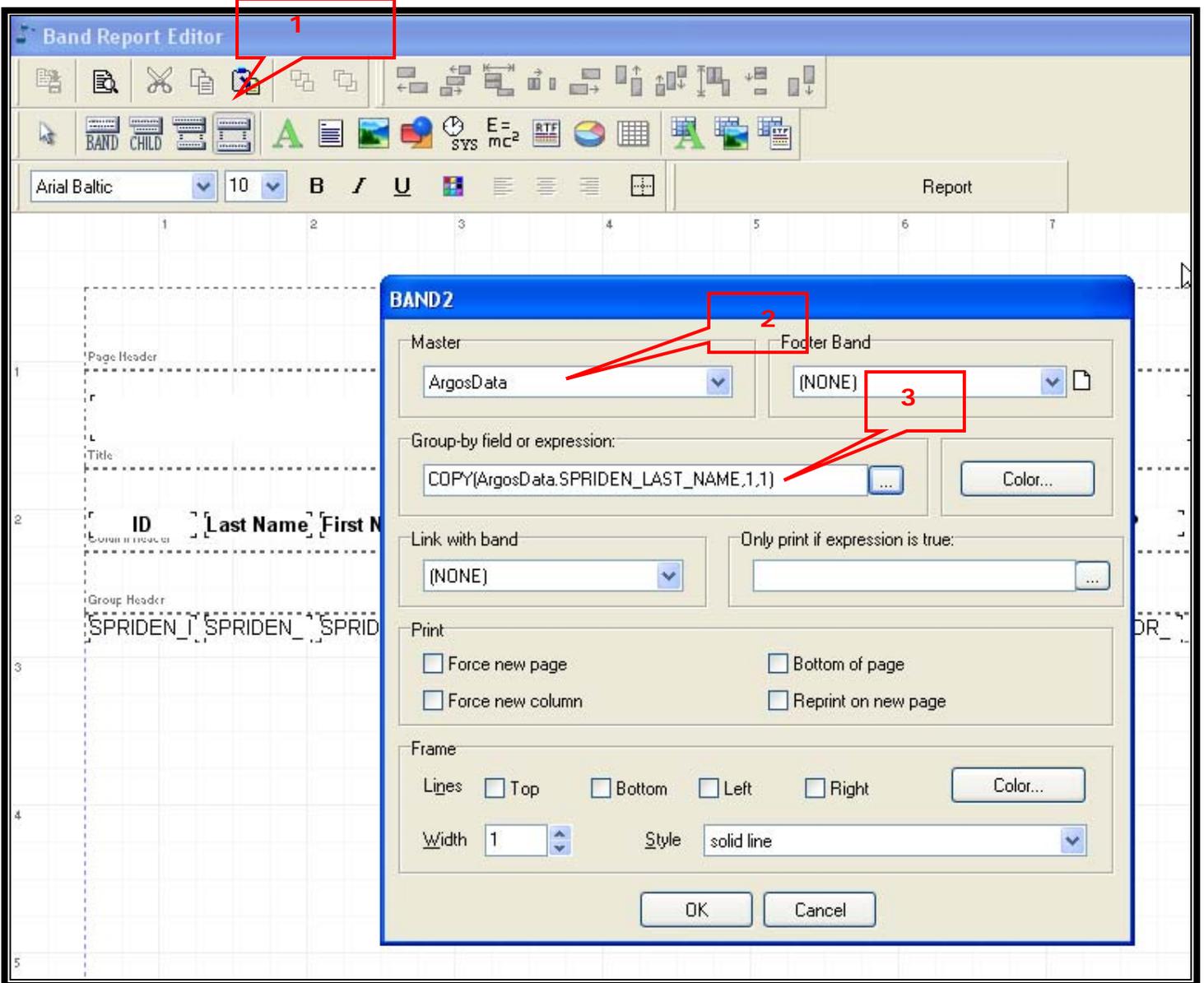


Fig. 3.18 - Adding a Group

The Group 'Master' (2) is the controlling data source on which the records will be grouped. For our purposes the Master will always be ArgosData. Each time a record from this source is to be printed, the report engine will check the group expression and compare its result with the result of the previous record. Only if the results are **not** the same will the Group Band be printed.

We want to group our sample address table by the first letter of the last name, the expression must be "Copy(ArgosDate.LastName,1,1)" (3) (see the chapter on expressions for more information). Leave the dialog window by clicking OK now.

You have now added a Group Band to the report. Take a look at the report preview and you will see that the Group Band is inserted before each new first letter of the company name.

### Address List

ID	Last Name	First Name	LINE1	LINE2	LINE3	CITY	STATE	ZIP
210009506	Abbe	Anthony	General			Queensland		4217
610009711	Abbot	James	187 Main			Malvern	PA	19355
710000011	Adams	Eugene	3400			University	PA	16802
610009101	Adams	Anthony	20789			Clarksville	PA	15122
210009101	Adams	Andrew	803 W			MALVERN	PA	19355
610009109	Adason	Marlene	21 Elm			Malvern	PA	19355
610009109	Adason	Marlene	PO Box			Oneonta	NY	13820
610009724	Adims	Eudora	PO BOX 21			MALVERN	PA	19355
711000067	Advisor	Joe	699-H			New York	NY	11216
210009304	Allan	Alice	813			NORTHAMP	MA	01063
610009304	Allan	Margaret	345 Region			Worcester	MA	01610
510000003	Allen	Kathleen	300 Regal			Baltimore	MD	30335
510000001	Allen	Matthew	300 Regal			Baltimore	MD	30335
510000002	Allen	Roberta	300 Regal			Baltimore	MD	30335
500000082	Anderson	April	Trent			San Remone	CA	91205
610009721	Applebee	Chris	PO Box			Malvern	PA	19355
210009608	Applebee	Bruce	1830			Lansdale	PA	19446
210009305	Babbit	Bruce	15 Euclid			Malvern	PA	19355
210009713	Baker	Peter	103 Maple			University	PA	16802
210009524	Baldwin	Rhonda	1928 Main			Lansdale	PA	19446
500000084	Ballentine	Mark	6771 1/2			Tuscon	AZ	70880
610009305	Bannerman	Beverly	984			Malvern	PA	19355
210009519	Bard	Celeste	1837			Snyder	NY	14226
210009519	Barker	Clementine	83 PARK			NEW YORK	NY	10016

Fig. 3.19 – Testing Grouping

The Group Band will only result in some empty space because there are no report elements on it. But you can add labels, expression fields or any other elements to the Group Band if you like. We will discuss the adding of an expression in Chapter 5.

On the preview button, click the Close button ( Close ) to return to the report editor. At this point we are ready to save the report.

## Save Report

Once you are satisfied with the report, to save a new report, click on the Next button on the bottom of the screen. The next screen asks for a report name. This is the name of the report as will be seen by the **Argos** end users. You should also provide a description.

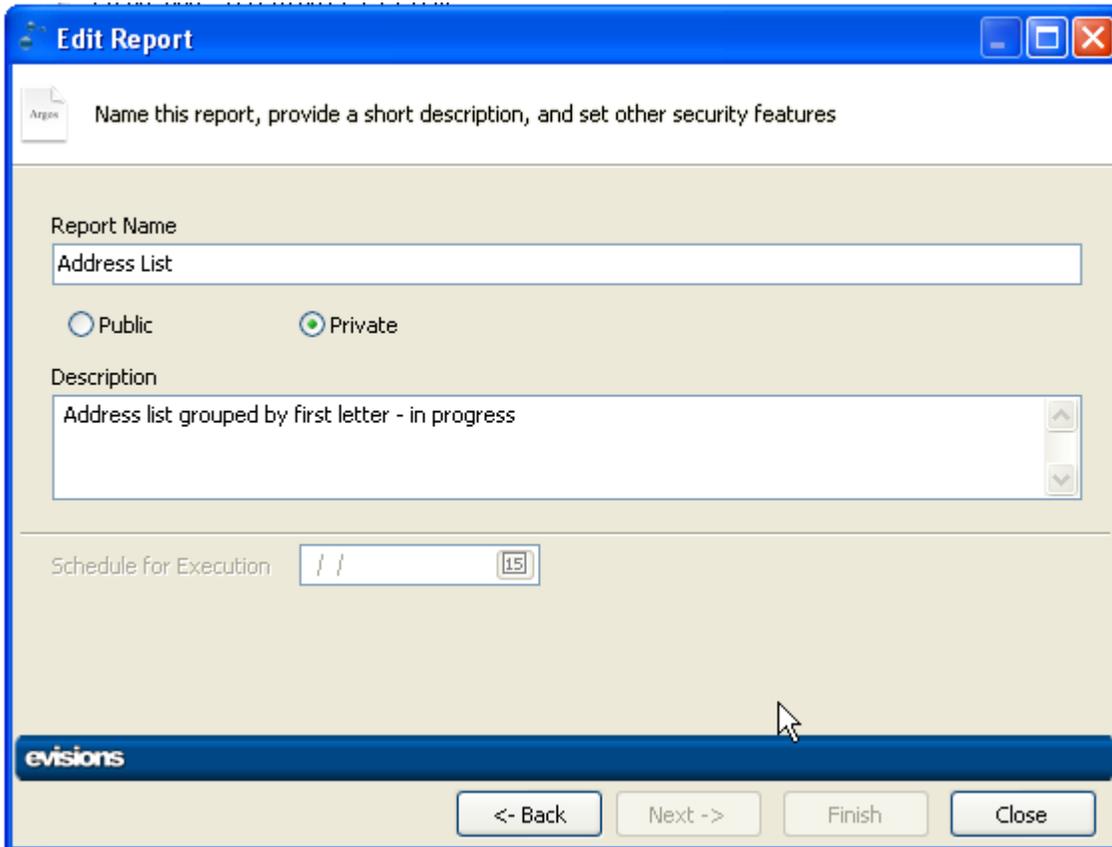
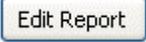


Fig. 3.20 – Saving a Report

By default, all reports are public reports, meaning that anyone who has permission to the DataBlock on which the report is based can execute the report. If Private is selected, only the creator of the report can execute. For example, while working on a report, you might want to make the report Private.

## 4 – Edit Report

### Select Report

If you have the proper access, you can edit an existing report. From the **Argos Explorer** window, select the report you wish to edit and select the Edit Report (  ) button, or right click and select edit report from the available options.

You will be taken immediately to the Band Report Editor.

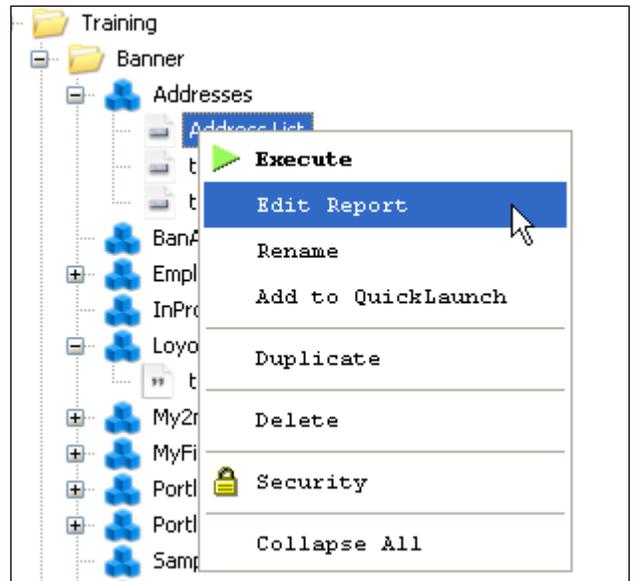


Fig. 4.1 – Edit Report

### Change Report Properties

To change the properties of the report (i.e. page size, orientation, etc.) right click on a blank spot of the report and select Edit for the list of options.

On this page you can change the paper size and orientation. By using the drop down list for Paper size, note the available options. Please note that not all printer drivers support all paper sizes.

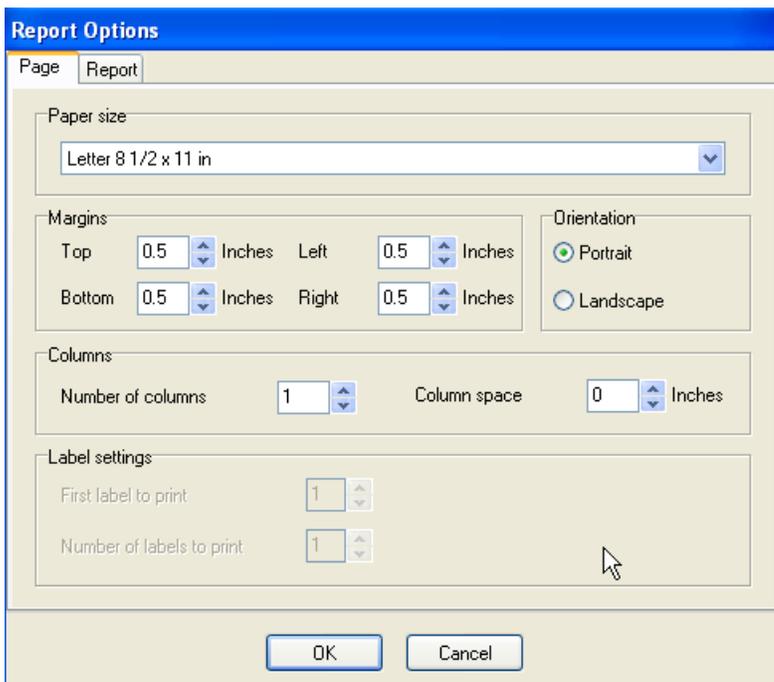
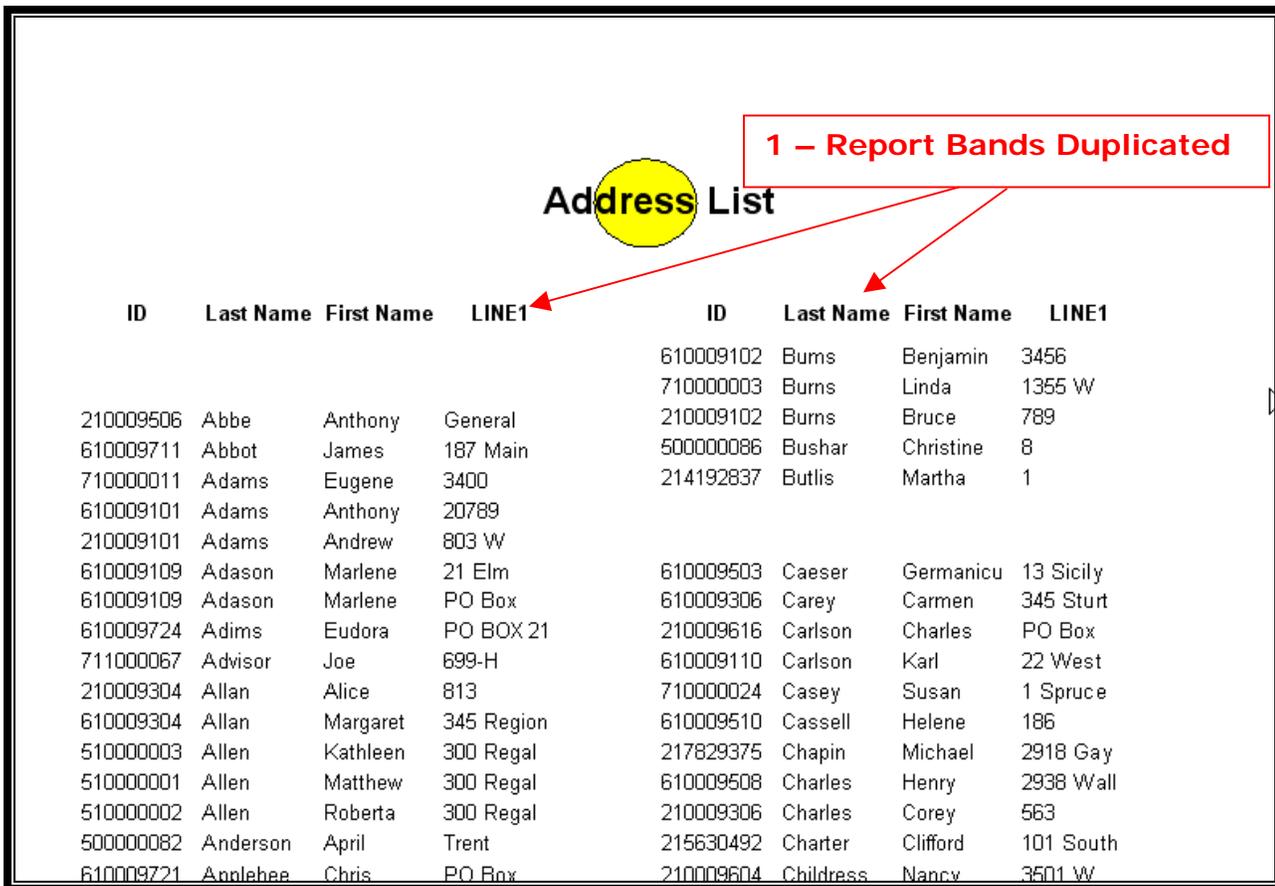


Fig. 4.2 – Change Report Options

**Edit a Band**

By default, if you have used the wizard to create a report, the field labels will be on a Column Header Band. A Column Header Band is typical used on reports with multiple columns (i.e. news letter layout). For example, if we had specified the number of columns to be 2, the report would look like the following: (Note that the LINE2, LINE3, City, State and ZIP fields were removed from the report for readability):



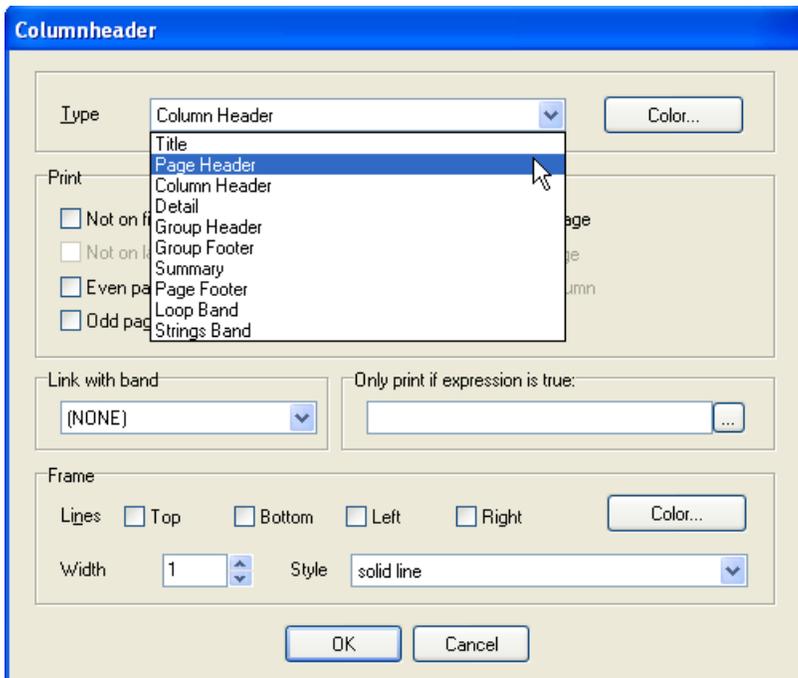
**Address List**

ID	Last Name	First Name	LINE1	ID	Last Name	First Name	LINE1
210009506	Abbe	Anthony	General	610009102	Burns	Benjamin	3456
610009711	Abbot	James	187 Main	710000003	Burns	Linda	1355 W
710000011	Adams	Eugene	3400	210009102	Burns	Bruce	789
610009101	Adams	Anthony	20789	500000086	Bushar	Christine	8
210009101	Adams	Andrew	803 W	214192837	Butlis	Martha	1
610009109	Adason	Marlene	21 Elm	610009503	Caeser	Germanicu	13 Sicily
610009109	Adason	Marlene	PO Box	610009306	Carey	Carmen	345 Sturt
610009724	Adims	Eudora	PO BOX 21	210009616	Carlson	Charles	PO Box
711000067	Advisor	Joe	699-H	610009110	Carlson	Karl	22 West
210009304	Allan	Alice	813	710000024	Casey	Susan	1 Spruce
610009304	Allan	Margaret	345 Region	610009510	Cassell	Helene	186
510000003	Allen	Kathleen	300 Regal	217829375	Chapin	Michael	2918 Gay
510000001	Allen	Matthew	300 Regal	610009508	Charles	Henry	2938 Wall
510000002	Allen	Roberta	300 Regal	210009306	Charles	Corey	563
500000082	Anderson	April	Trent	215630492	Charter	Clifford	101 South
610009721	Anlehee	Chris	PO Box	210009604	Childress	Nancy	3501 W

**Fig. 4.3 – Two Column Report**

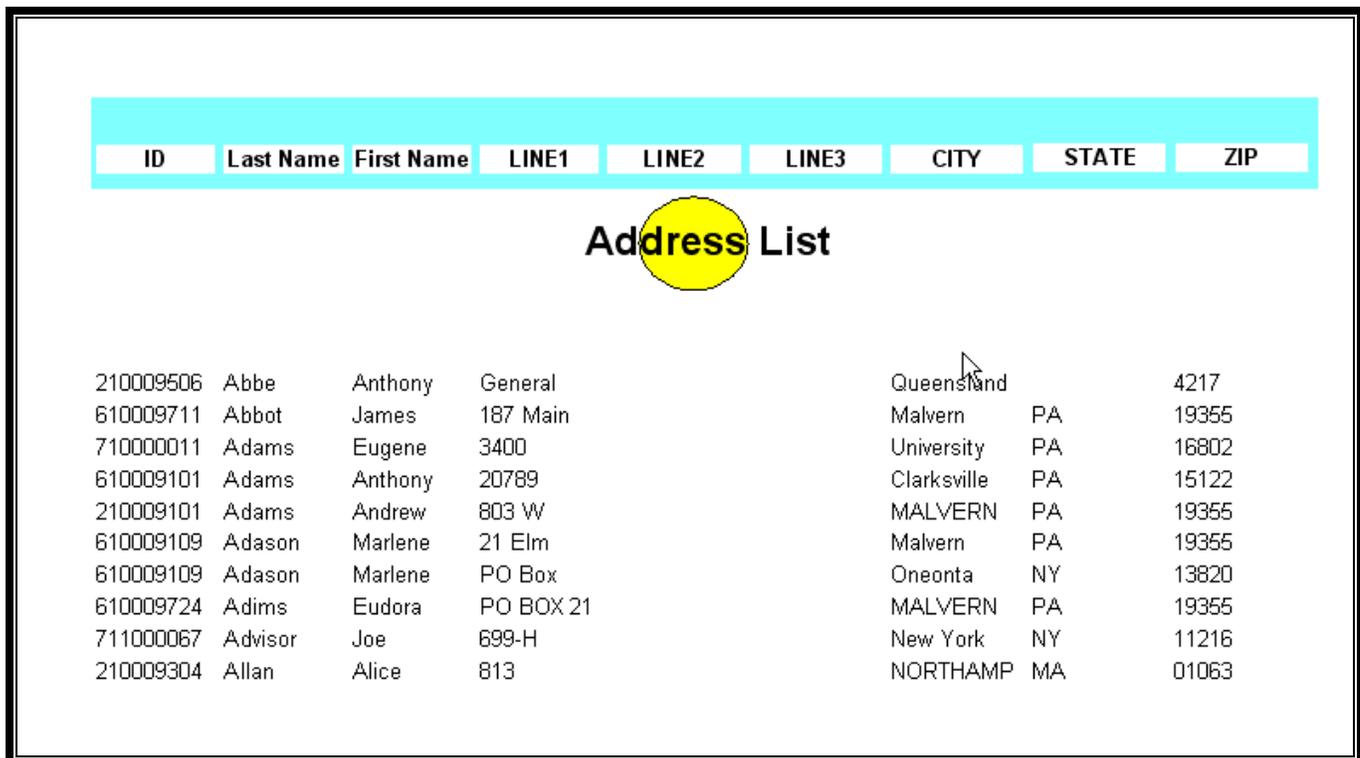
Note that the labels (1) defined in the Column Header Band are repeated on the second column.

On our original report, however, there is only one column of data. We could just as easily put the labels in what is called a Page Header Band. A Page Header by design will appear at the top of every page of the report while a Column Header will appear at the top of every column on every page of the report. To change the type and properties of the band, select the band, right click and select Edit. Here we are changing the Column Header Band to a Page Header Band.



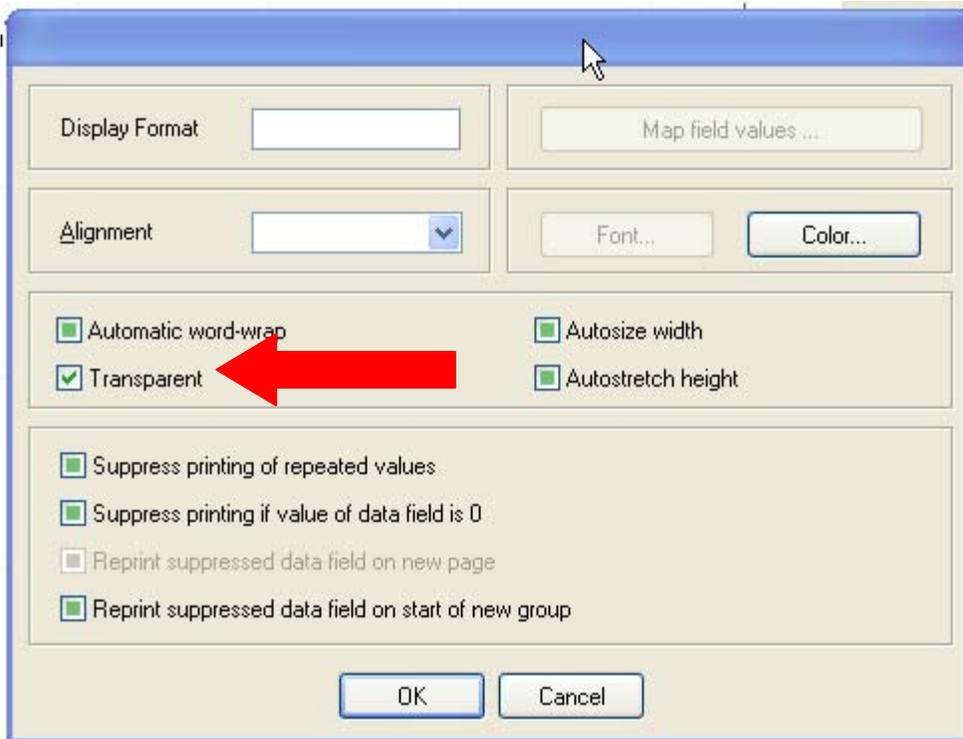
**Fig. 4.4 – Changing Type of Band**

We are also going to change the color of the band by clicking on the Color button and selecting an available color. After making these changes, hit preview to review the output. At this time the only obvious difference is the labels are on a white background.



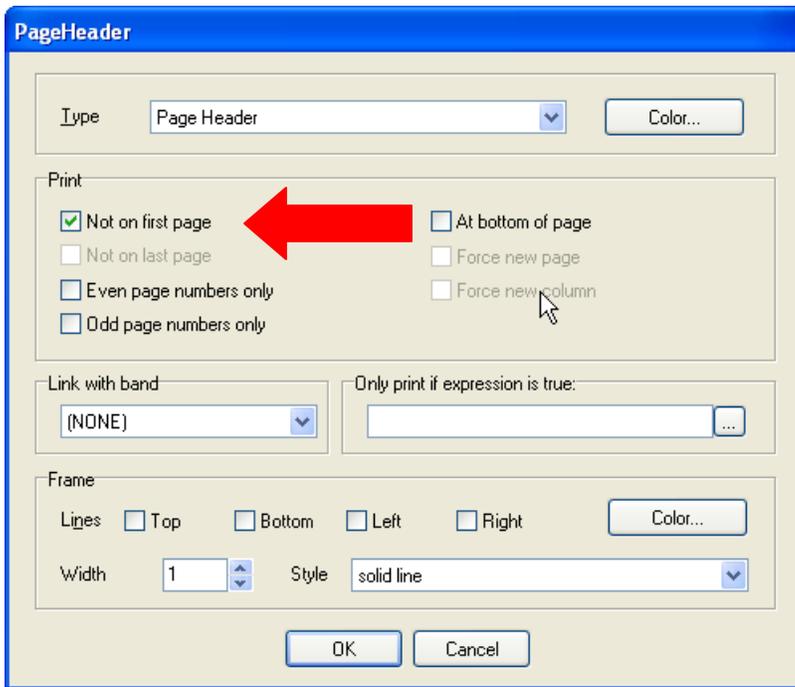
**Fig. 4.5 – Page Header with Color**

To change this, close the preview form. Using the shift key and the mouse, select all the labels in the Page Header, right click and select edit and check the transparent check box.



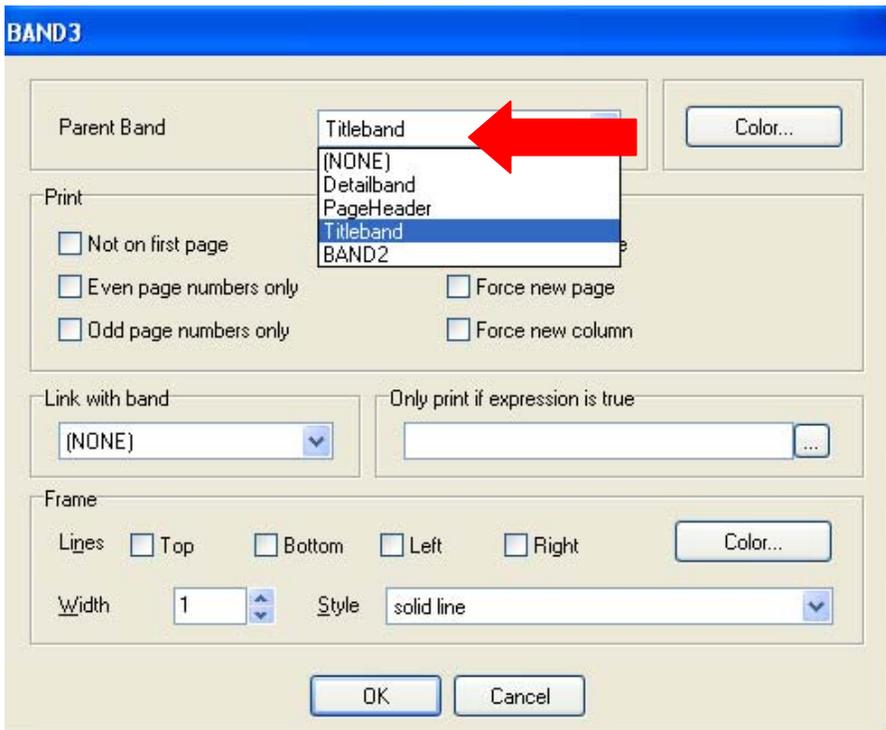
**Fig. 4.6 – Changing Label Property**

When previewing the report you will notice another problem. The Page Header appears on the first page before the Title Band (just like the two bands are positioned in the report editor). You can correct this by printing the Page Header only on the second page and following, but not on the first page, and by adding the now missing column captions to the bottom of the Title Band.



**Fig. 4.7 – Changing when to Print**

First select the Page Header Band and open its property dialog. Select the option titled "Not on first page" to prevent the band from being printed on the first report page.



**Fig. 4.8 – Selecting Parent Band**

Now let's add a Child Band. A Child Band is a band which is attached to another Report Band and will always be printed below its Parent Band. To add a Child Band, click on the Child Band icon (CHILD) and drop it anywhere on the report. Right click on the newly added band and edit the properties.

The one property you will want to change is the Parent Band. The Child Band will print every time the Parent Band prints. By associating the Child Band to the Title Band it will only print when the Title Band is printed on the first page of the report. You will also want to change the color of the Child Band to what was selected as the color on the Page Header.

You will not need to recreate all report elements for the Child Band that are also on the Page Header. You can select them on the Page Header Band, copy them to the clipboard (press the copy icon - ) , select the Child Band and paste () the clipboard elements there. Now that all elements are copied from the Page Header to the Title Band, they are still selected and you can move them so they are properly position within the Child Band. Preview the report:

ID	Last Name	First Name	LINE1	LINE2	LINE3	CITY	STATE	ZIP
21000905	Abbe	Anthony	General			Queensland		4217
61000911	Abbot	James	187 Main			Makem PA		19365
71000011	Adams	Eugene	3400			University PA		16802
610009101	Adams	Anthony	20789			Clarksville PA		15122
210009101	Adams	Andrew	803W			MALVERN PA		19365
610009109	Adason	Marlene	21 Bm			Makem PA		19365
610009109	Adason	Marlene	PO Box			Oreonia NY		13820
61000924	Adins	Eudora	PO BOX 21			MALVERN PA		19365
711000067	Adisor	Joe	899H			New York NY		11216
210009304	Allen	Alice	813			WORTHAMP MA		01063

**Fig. 4.9 – Child Band**

## Element Options

**Options**

Name:

Hint:

**Actions**

- no changing
- no editing
- no moving
- no resizing
- no deletion

**Position**

Left:

Top:

Width:

Height:

keep position relative to band bottom

autostretch height with band

OK Cancel

In addition to 'Properties', each element also has 'Options'. If you select an element, right click, and select Options. The Options dialog will be displayed, where you can name the element as well as modify its characteristics. Here we have changed the name of the Page Header and added a Hint. In addition we have checked No Editing.

The Hint will pop up when hovering over the selected element. This is active only while editing the report.

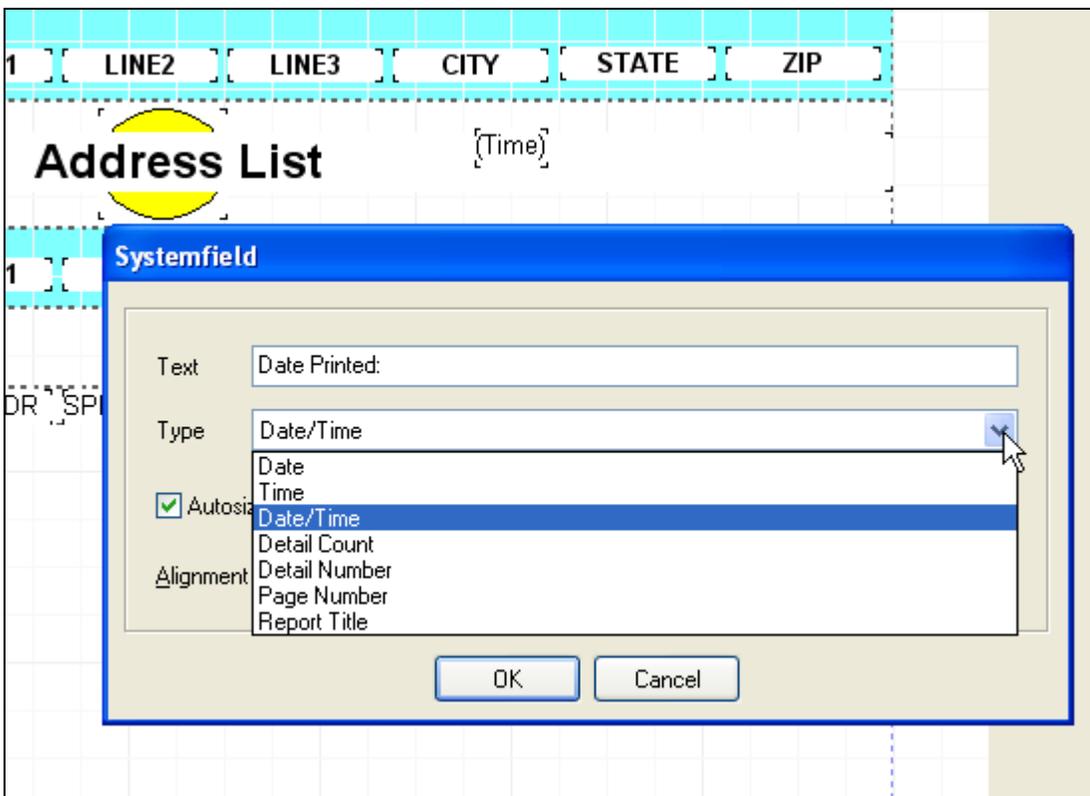
With the No Editing selected, the developer will not be able to edit the properties of the element (i.e they would not be able to change the color). It is a good idea to use the Option capability to name your bands and/or labels!

**Fig. 4.10 – Options**

## Add SystemFields to Report

There are still several items we would like to add to the report. It would be nice to include a page number. In addition, we would like to know the date and time the report was printed and how many records were printed. This can be accomplished by using the built-in or System Data Values (SystemFields) that can be added to the report.

First we want to print the date and time the report was run. We want this information to appear only once at the beginning of the report, so we will place this value on the Title Band which prints only on the first page. To do this, click the SYS button to add a System Data Value (  ) and place it on the top right corner of the Title Band.



**Fig. 4.11 – Adding SystemFields**

The text entered will be displayed before the type selected and is optional. In addition to the date printed we would like to have the page number print on the bottom of each page and finally at the end of the report print the number of records that were printed. Therefore we need to add two new bands. The first we will add is the Page Footer. We will place the page number in this band. The second band is a Summary Band that will appear at the end of the report.

On this band we will place the variable Detail Number. The final design looks like the following:

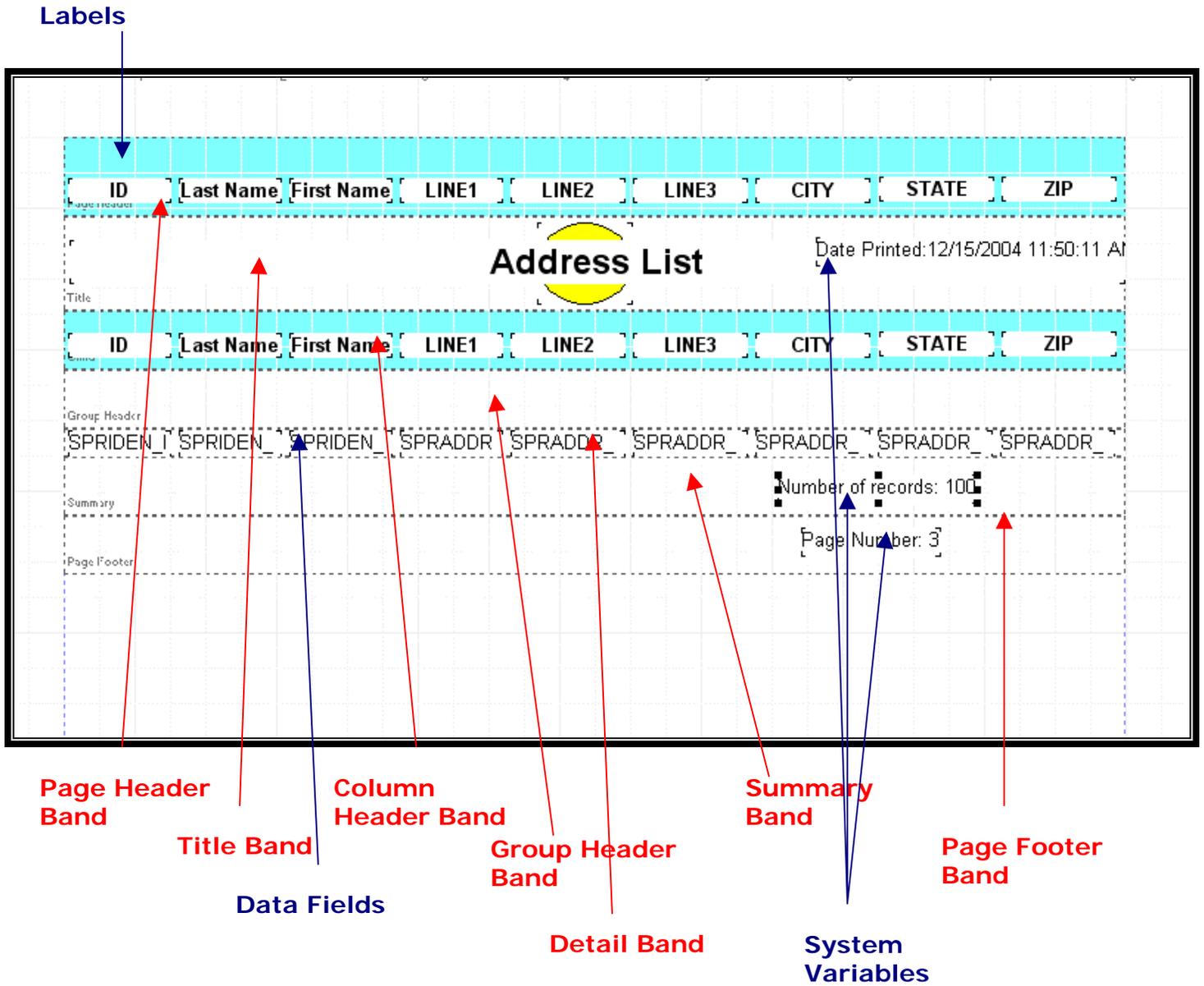


Fig. 4.12 – Final Design

## **5 - Expressions**

Using the Band Editor it is possible to add additional fields with the Expression Builder. Using the Expression Builder you can manipulate the data that has been returned in the initial query or report. Expressions are used for calculating numerical values, strings or logical values ("true" or "false"). You can do operations with DataFields, for example calculate the tax for a given amount, or merge two DataFields into one string. In the Band Editor, there are built-in functions varying from determining the square root of a number to formatting of text fields.

In the example we have been working on, we used an expression on the Group Band to break on the first letter of the last name. The Group Band will print every time there is a new group. We now want to go back and instead of having a blank line print, to show what the value of the first letter of the last name that is causing the break. On our Group Band we will add the expression of how the data is grouped.

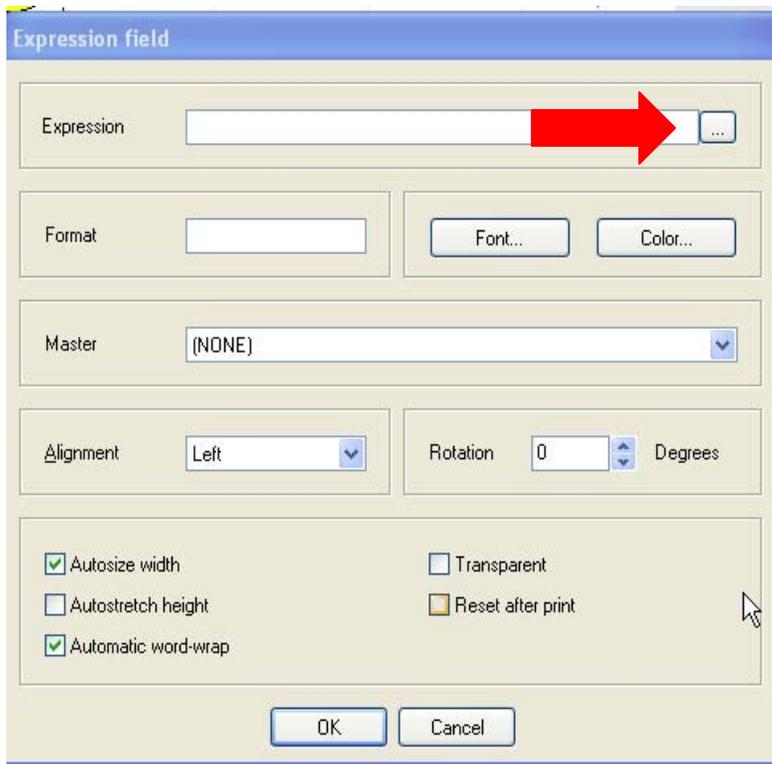
---

### **Create an Expression**

---

In our working sample, currently the Group Band prints a blank line any time there is a change in the first letter of the last name. We would like to indicate this change by printing the first letter of the last name on the Group Band.

To add an expression, click on the Expression icon () on the top tool bar then click on the Group Band. The expression field window will then be displayed:



In the Expression box you can manually enter the expression. However, to make sure the correct syntax is used there is also a wizard interface for composing the expression. To access the expression wizard click on the ellipsis (...) next to the expression line.

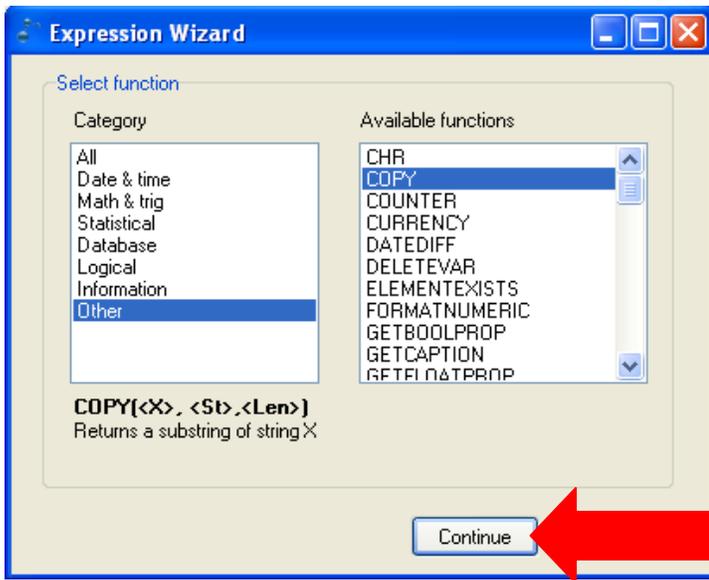
**Fig. 5.1 – Expression Field**

The Expression Wizard allows you to quickly add a DataField or a Function. We want to build the function that will return the first letter of the last name.

Click on the Function Button (  ) to continue.



**Fig. 5.2 – Expression Wizard**



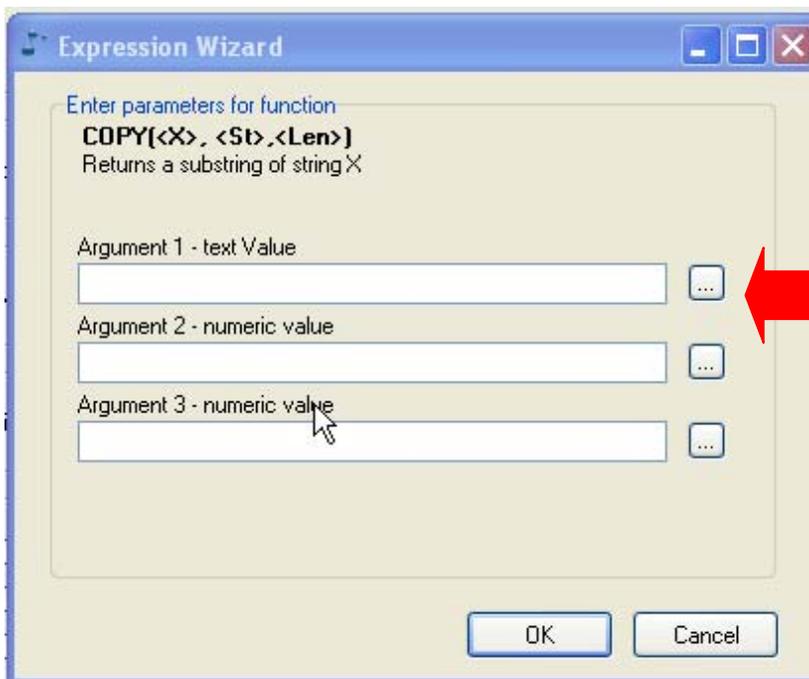
**Fig. 5.3 – Select Desired Function**

A list of all available functions will be displayed. To narrow the search you can click on the category in the left column. The right list will then display only the functions that are in the selected category.

We are interested in string functions, so will click on the Category 'Other'.

As a function is selected, how to use the function (syntax) and what the function does will be displayed.

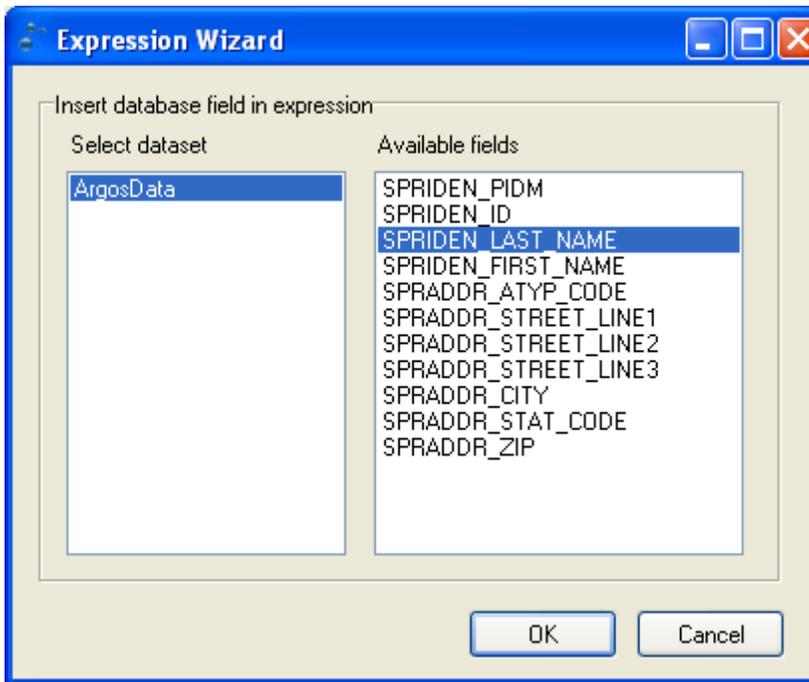
Notice that the COPY functions returns a substring of a string. Select this function and click Continue.



**Fig. 5.4 – Parameter Entry**

The next window guides you through adding the different parts of the expression being built. If you know the value, you can manually enter the value.

The Expression Wizard can be pulled up by clicking on the ellipsis next to the argument being edited. Here we will click the ellipse next to the Argument 1 window. The same window as displayed in Fig. 5.2 will open.

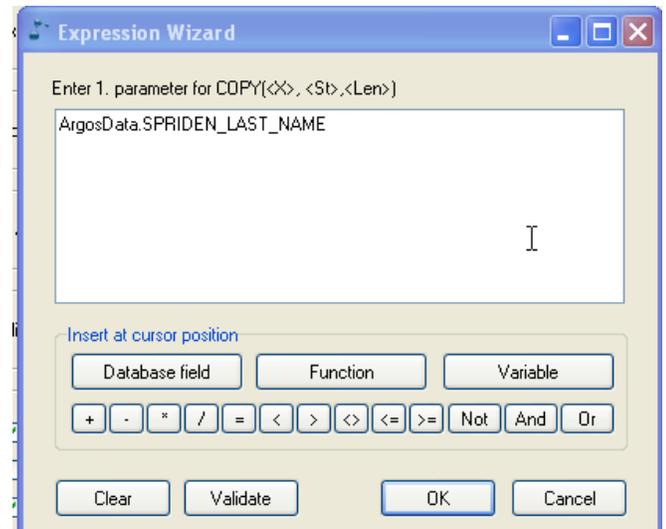


**Fig. 5.5 – List of Database Fields**

This time, click on the Database Field button (  ). A list of all the database fields for this DataBlock will be displayed. Any field in any table referenced in your DataBlock can be accessed in an expression.

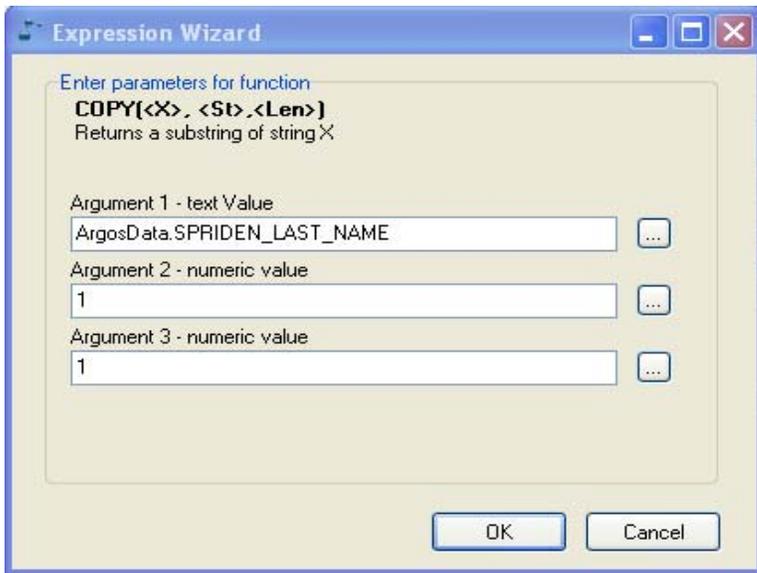
Field names can be referenced either just by the field name itself (e.g. Name) or by the data source name followed by a dot and the field name (e.g. ArgosData.Name).

Select SPRIDEN\_LAST\_NAME and click OK to continue.



**Fig. 5.6 – Database Fields in Wizard**

From this window, click OK to return to the Expression Builder.

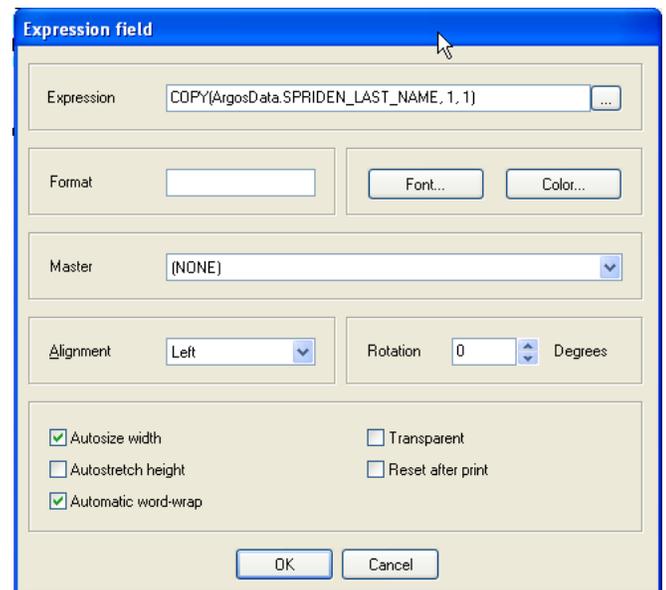


**Fig. 5.7 – Complete Expression**

Since we only want to pull off the first letter of the last name, we will manually enter the values for Argument 2 and 3, as shown in Fig. 5.7.

Click OK to continue.

Click OK one more time to return to the Expression Field initial window:



**Fig. 5.8 – Expression Wizard Main window**

Click OK again to return to main Report window. Position the new field and change the properties so the text will stand out. In our sample we bolded the text and used a 16 pitch font. Review the output.

<b>Address List</b>								Date Printed: 12/20/2004 4:18:04 PM
ID	Last Name	First Name	LINE1	LINE2	LINE3	CITY	STATE	ZIP
<b>A</b>								
210009506	Abbe	Anthony	General			Queensland		4217
610009711	Abbot	James	187 Main			Malvern	PA	19355
710000011	Adams	Eugene	3400			University	PA	16802
610009101	Adams	Anthony	20789			Clarksville	PA	15122
210009101	Adams	Andrew	803 W			MALVERN	PA	19355
610009109	Adason	Marlene	21 Elm			Malvern	PA	19355
610009109	Adason	Marlene	PO Box			Oneonta	NY	13820
610009724	Adims	Eudora	PO BOX 21			MALVERN	PA	19355
711000067	Advisor	Joe	699-H			New York	NY	11216
210009304	Allan	Alice	813			NORTHAMP	MA	01063
610009304	Allan	Margaret	345 Region			Worcester	MA	01610
510000003	Allen	Kathleen	300 Regal			Baltimore	MD	30335
510000001	Allen	Matthew	300 Regal			Baltimore	MD	30335
510000002	Allen	Roberta	300 Regal			Baltimore	MD	30335
500000082	Anderson	April	Trent			San Remone	CA	91205
610009721	Applebee	Chris	PO Box			Malvern	PA	19355
210009608	Applebee	Bruce	1830			Lansdale	PA	19446
<b>B</b>								
210009305	Babbit	Bruce	15 Euclid			Malvern	PA	19355
210009713	Baker	Peter	103 Maple			University	PA	16802
210009524	Baldwin	Rhonda	1928 Main			Lansdale	PA	19446
500000084	Ballentine	Mark	6771 1/2			Tuscon AZ	AZ	70880
610009305	Bannerman	Beverly	984			Malvern	PA	19355
210009519	Bard	Celeste	1837			Snyder	NY	14226
210009619	Barker	Clementine	83 PARK			NEW YORK	NY	10016

**Fig. 5.9 – Final Report**

**Expressions Summary**

The expression evaluator works with four data types: Strings, Integer, Float and Boolean. Binary data and memo fields are not supported in expressions. Below is a list of how database fields are converted to report data types:

<b>Data type</b>	<b>Field type</b>
String	String fields, date and time fields
Integer	SmallInt fields, byte fields, integer fields
Float	Float fields, currency fields
Boolean	Boolean (logical) fields

Below is a list of the supported operators that you can use when creating an expression:

<b>Operator</b>	<b>Description</b>
+	Add
-	Subtract
*	Multiply
/	Divide
()	Parentheses
And	Logical AND
Or	Logical OR
Not	Logical NOT
=	Equal
<	Less than
>	Greater than
<=	Less than or equal
>=	Greater than or equal
<>	Not equal

Some of the more common functions included are:

<b>Function</b>	<b>Description</b>
Date	Return current date as a string
Time	Return current time as a string
Str(Number)	Converts the numeric argument to a string
Copy(Str,s,l)	Returns a substring of str (starting from the s-th character, returning a maximum of l characters)
Int(Number)	Returns the integer part of a number
Frac(Number)	Returns the fractional part of a number
If (Expr, r1, r2)	Returns r1 or r2 depending on the boolean expr
TypeOf(Expr)	Returns the data type of expr
Sqrt(Number)	Returns the square root of a number
True	Logical value True
False	Logical value False
Sum(Expr)	Returns the sum of expr
Count	Returns the number of entires
Min(Expr)	Returns the lowest value of expr
Max(Expr)	Returns the highest value of expr
Average(Expr)	Averages the expr

### **Using Strings in Expressions**

Strings in expression should be put in single quotes. The following is a valid expression:

'Computers are great!'

Maximum string length is 255 characters.

## Expression Examples

Below are some examples of expressions:

<b>Expression</b>	<b>Description</b>
1	Integer constant, returns 1
1.5	Floating point constant, returns 1.5
'Argos'	String constant, returns "Argos" as a string
True	Logical constant, returns True
1 + 2	Numeric calculation, returns 3
2 * (3 + 2.5)	Numeric calculation, returns 11
'Argos' + ' is great'	String calculation, returns "Argos is great"
Name	Returns the value of the field Name if it exists
Customer.Name	Returns the value of the field Name in the Customer table
Name + ' ' + Contact field	Concatenates the Name field, a blank and the Contact field
AmountPaid * TaxRate / 100	Numeric field calculation
'Printed ' + Date	String calculation
'Total amount paid is ' + str(AmountPaid)	String calculation
if(AmountPaid > 5000, 'Large order', 'Small order')	Returns "Large order" if AmountPaid is greater than 5000, else "Small order"
if(CheckField, 'X', '')	Prints an X if CheckField is True

---

## **Format Data**

---

Numerical fields and date or time fields can be displayed in many different ways. This can be controlled with format strings, which represent the output formatting in a symbolical way. The format feature is available on any expression or DataField.

### Numerical Fields

<b>Specifier</b>	<b>Represents</b>
<b>0</b>	Digit place holder. If the value being formatted has a digit in the position where the '0' appears in the format string, that digit is copied to the output string. Otherwise, a '0' is stored in that position in the output string.
<b>#</b>	Digit placeholder. If the value being formatted has a digit in the position where the '#' appears in the format string, that digit is copied to the output string. Otherwise, nothing is stored in that position in the output string.
<b>.</b>	Decimal point. The first '.' character in the format string determines the location of the decimal separator in the formatted value; any additional '.' characters are ignored. The actual character used as the decimal separator in the output string is specified in the Number Format of the International section in the Windows Control Panel.

- , Thousand separator. If the format string contains one or more ',' characters, the output will have thousand separators inserted between each group of three digits to the left of the decimal point. The placement and number of ',' characters in the format string does not affect the output, except to indicate that thousand separators are wanted.
  
- E+** Scientific notation. If any of the strings 'E+', 'E-', 'e+', or 'e-' are contained in the format string, the number is formatted using scientific notation. A group of up to four '0' characters can immediately follow the 'E+', 'E-', 'e+', or 'e-' to determine the minimum number of digits in the exponent. The 'E+' and 'e+' formats cause a plus sign to be output for positive exponents and a minus sign to be output for negative exponents. The 'E-' and 'e-' formats output a sign character only for negative exponents.
  
- 'xx'/'"xx"** Characters enclosed in single or double quotes are output as-is, and do not affect formatting.
  
- ; Separates sections for positive, negative, and zero numbers in the format string.

The locations of the leftmost '0' before the decimal point in the format string and the rightmost '0' after the decimal point in the format string determine the range of digits that are always present in the output string.

The number being formatted is always rounded to as many decimal places as there are digit placeholders ('0' or '#') to the right of the decimal point. If the format string contains no decimal point, the value being formatted is rounded to the nearest whole number.

If the number being formatted has more digits to the left of the decimal separator than there are digit placeholders to the left of the '.' character in the format string, the extra digits are output before the first digit placeholder.

To allow different formats for positive, negative, and zero values, the format string can contain between one and three sections separated by semicolons.

- One section: The format string applies to all values.
- Two sections: The first section applies to positive values and zeros, and the second section applies to negative values.
- Three sections: The first section applies to positive values, the second applies to negative values, and the third applies to zeros.

If the section for negative values or the section for zero values is empty, that is if there is nothing between the semicolons that delimit the section, the section for positive values is used instead.

If the section for positive values is empty, or if the entire format string is empty, the value is formatted using general floating-point formatting with 15 significant digits. General floating-point formatting is also used if the value has more than 18 digits to the left of the decimal point and the format string does not specify scientific notation.

## Date/Time

The following formatting options are available for date and time:

<b>Specifier</b>	<b>Displays</b>
c	Displays the date using the format given by Windows' default short date format , followed by the time using the format given by the default Windows long time format. The time is not displayed if the fractional part of the DateTime value is zero.
d	Displays the day as a number without a leading zero (1-31).
dd	Displays the day as a number with a leading zero (01-31).
ddd	Displays the day as an abbreviation (Sun-Sat).
dddd	Displays the day as a full name (Sunday-Saturday).
dddddd	Displays the date in short format
dddddd	Displays the date in long format.
m	Displays the month as a number without a leading zero (1-12). If the m specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mm	Displays the month as a number with a leading zero (01-12). If the mm specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mmm	Displays the month as an abbreviation (Jan-Dec).
mmmm	Displays the month as a full name (January-December).
yy	Displays the year as a two-digit number (00-99).
yyy	Displays the year as a four-digit number (0000-9999).
h	Displays the hour without a leading zero (0-23).
hh	Displays the hour with a leading zero (00-23).
n	Displays the minute without a leading zero (0-59).
nn	Displays the minute with a leading zero (00-59).
s	Displays the second without a leading zero (0-59).
ss	Displays the second with a leading zero (00-59).
t	Displays the time using in short format.
tt	Displays the time in long format.

## 6 – More Examples

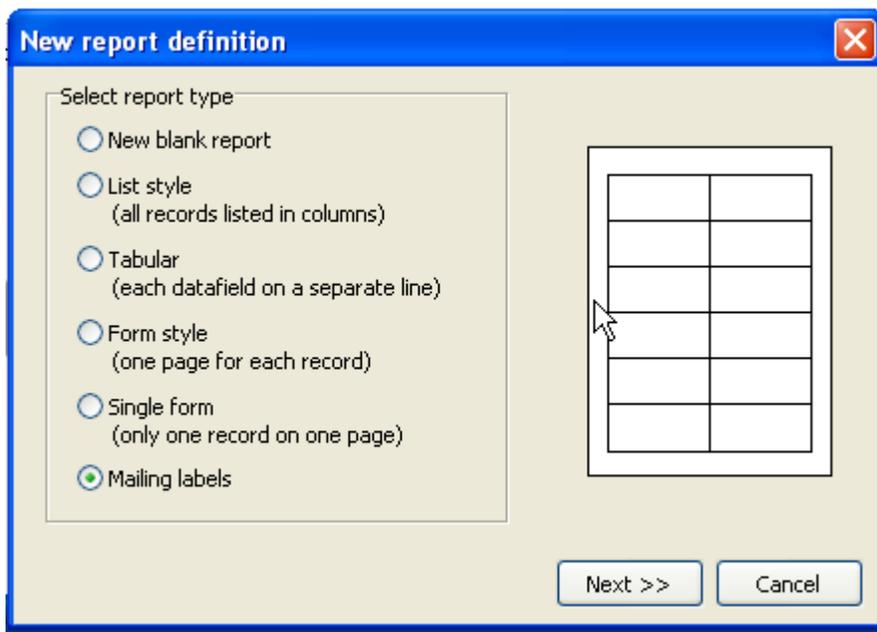
The following chapter will discuss some specific examples. The first will show how to use the Band Editor for generating mail labels. The second will demonstrate more advanced uses of the different bands.

---

### Create Mailing Labels

---

The **Argos** Band Editor can be used to generate labels for an extensive list of labels from different manufactures. To use the band editor to generate labels start out as normal following steps outlined in chapter three. However, on the form where you select the Report type, choose the 'Mailing Labels' option:



**Fig. 6.1 – Mailing Labels**

Click Next to continue. On the next form, select the DataFields you wish to appear on the labels (Fig. 3.54). Click Next to continue. The next form allows you to choose the Label format. First select the Vendor, and then the Format. In the following example we have selected the vendor Avery Standard, using the 2163 layout.

Note that if the form you are using is not listed, select one that is close to what you are using as you will be given opportunity later on to change the size and position of the individual label.

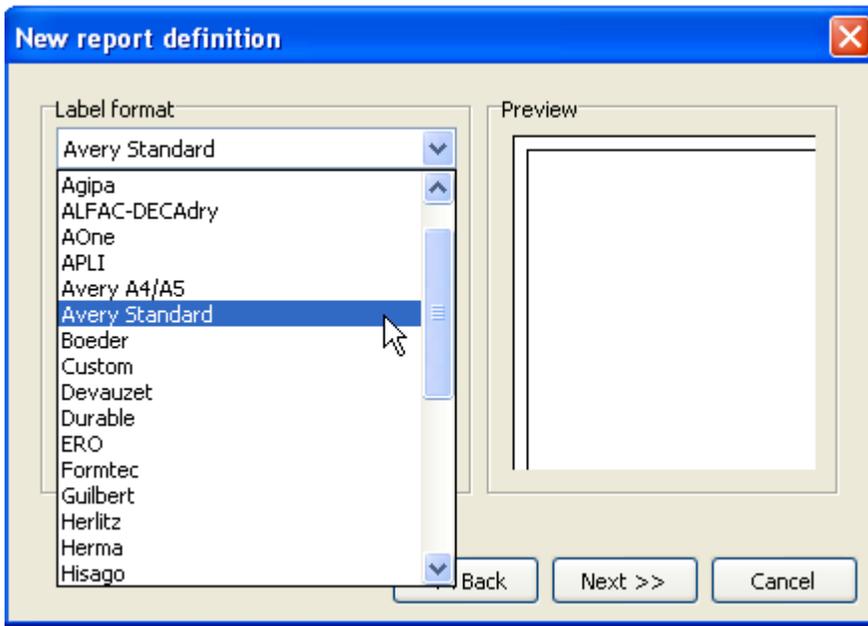


Fig. 6.2 – Select Vendor

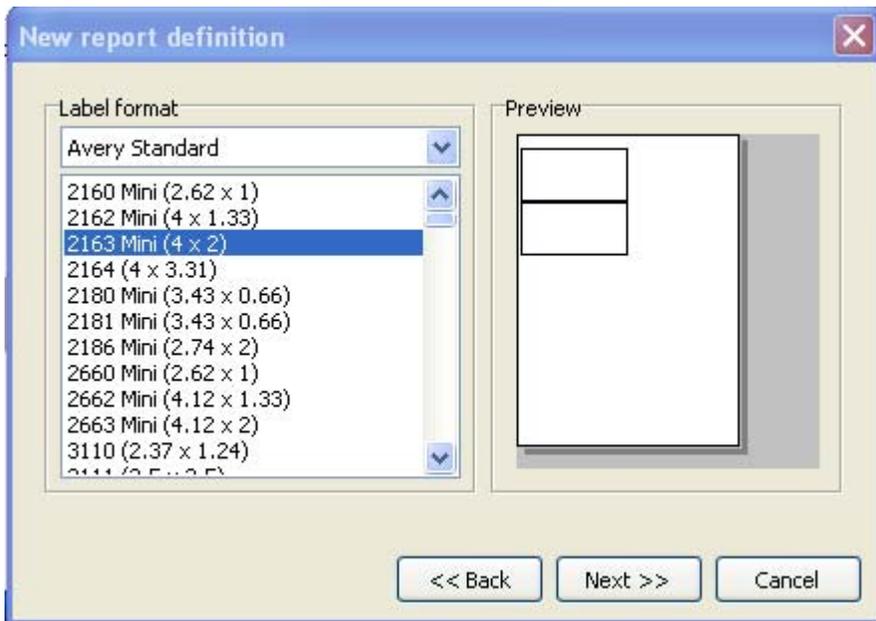
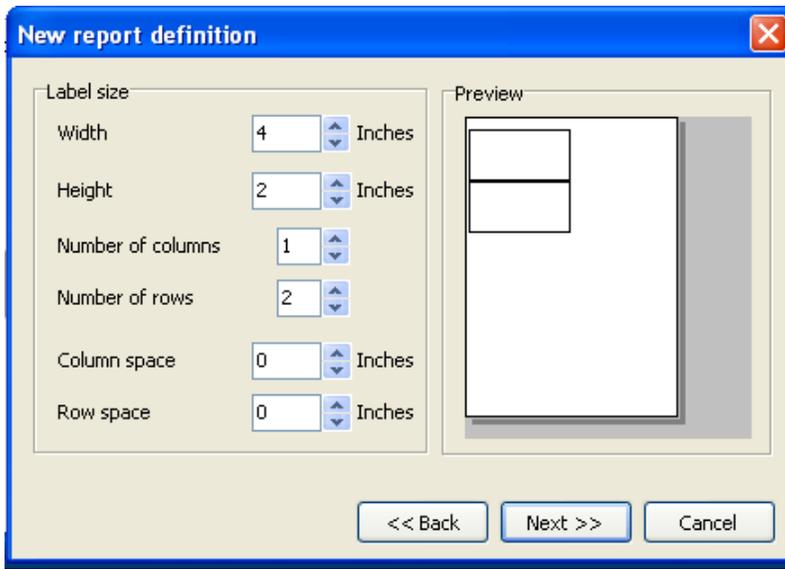


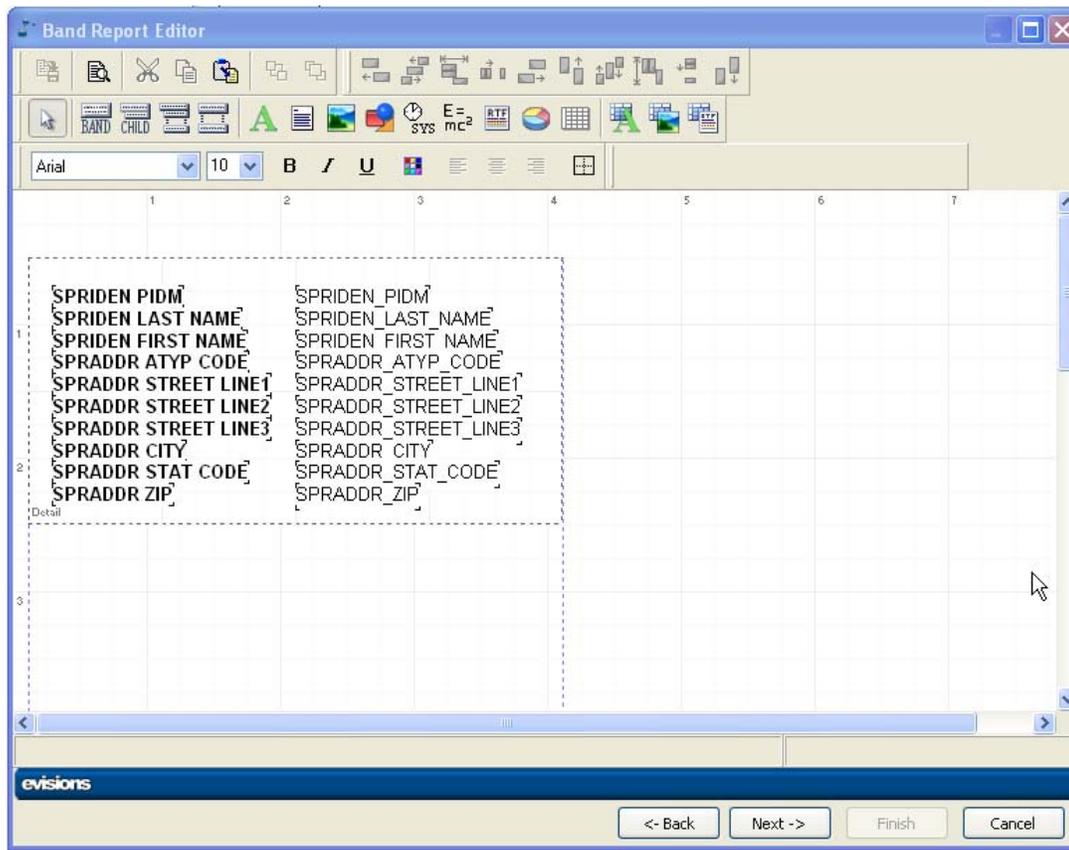
Fig. 6.3 – Select Layout

On the preview screen, a sample of the layout will be displayed. Click Next to continue. Select the paper size and margins. The Band Editor has already selected the proper margins for the form selected. However, you can change these if required. Click Next to continue. The next form allows you to customize the label size. Again, the best settings for the selected form have been set, but adjustments can be made.



**Fig. 6.4 – Label Size**

Click Next to continue. The next form will allow you to change the fonts (Fig. 3.7). Click next to continue. On the next form (Fig. 3.8) click Finish to be taken to the report editor. At this time the DataFields are displayed in columns, with Labels.



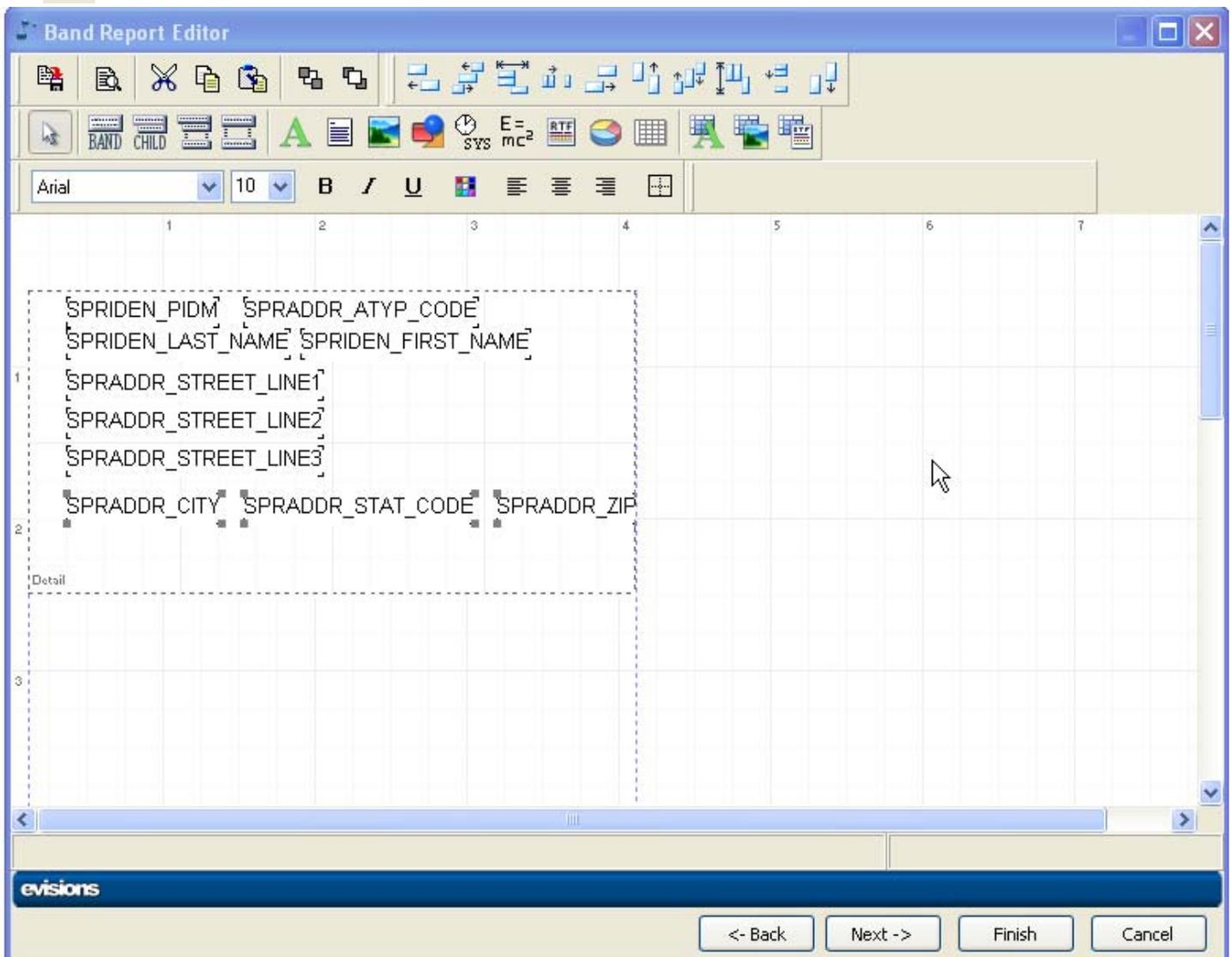
**Fig. 6.5 – Finished Label**

We will first want to delete the Report Labels. By using the mouse and the shift key we can select all the fields at once and then click the Cut icon (  ) or press the delete key.

We will now need to re-arrange the DataFields. By selected a field and clicking and dragging, the field can be moved. Using the alignment tools (  ) multiple fields can be selected and properly aligned.

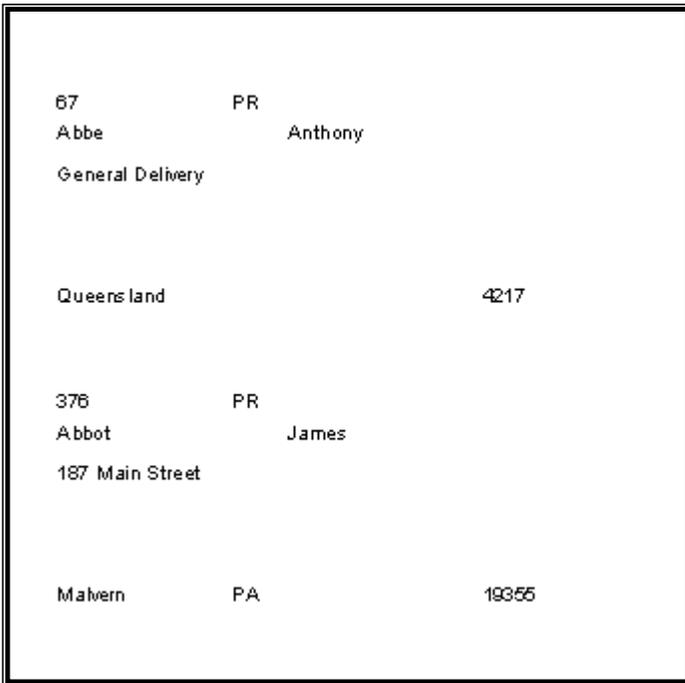
For example, to make sure the all the fields are aligned on the same left margin, select the fields in question and press the Left Alignment (  ) icon.

Similarly, to make sure items are aligned across the bottom, use the Bottom Alignment tool (  ). We have positioned our fields as such:



**Fig. 6.6 – DataFields Moved and Aligned**

To preview the layout, click on the Preview button and make sure to run with a good sample to ensure you test different possibilities.

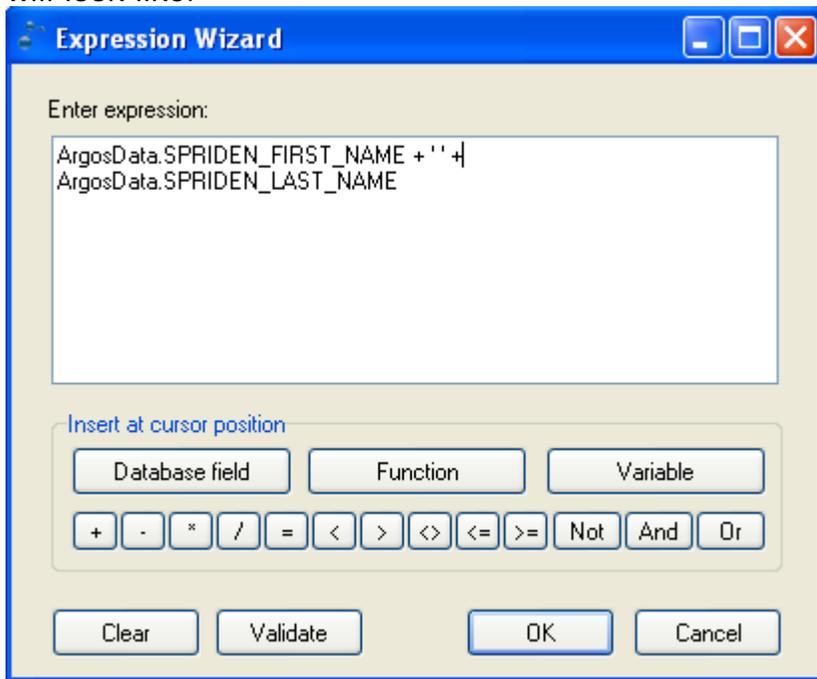


**Fig. 6.7 – Preview Labels**

At this point it is quickly evident there are several problems. First, because the name is in two fields (first and last) there are white spaces between them. The same is true for the City, State, ZIP line. This should be formatted better.

The other problem is that not all addresses have all the address lines filled in. We have allowed for up to three address lines per client. However, many only require one or two. This leaves blank lines between the last address line and the City, State, ZIP line.

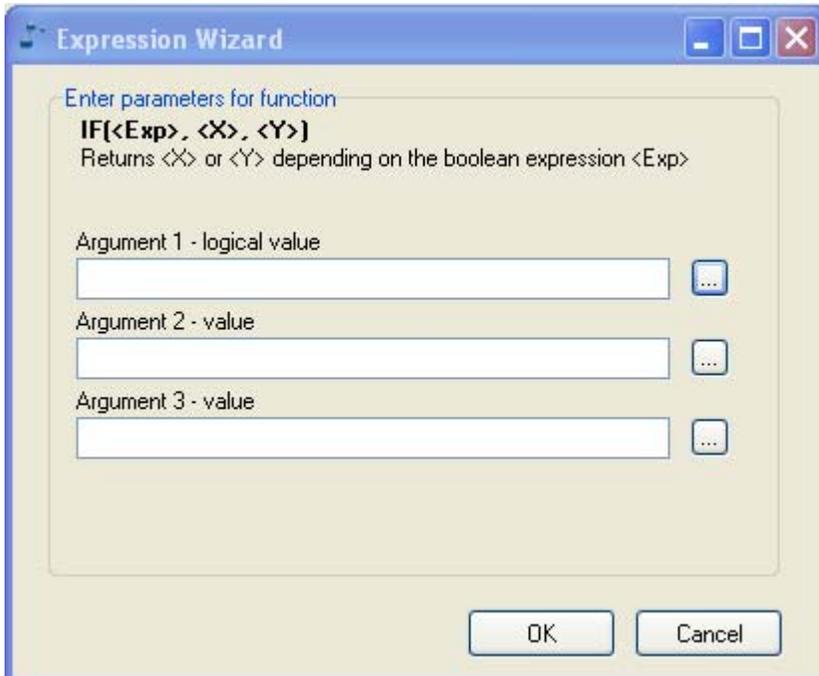
All the problems are quickly taken care of by using the Expression Builder. Return to the Report Editor, where we will first take care of the formatting of the first and last name and the City-State-ZIP. First we will select the existing DataFields and delete them. Then use the Expression Builder ( $E = mc^2$ ). We want to concatenate or join the database fields. This is done using the + sign. When joining fields with the plus sign, all leading and trailing blanks will be removed. This means that we need to add in the space between the first and last name. Our final expression will look like:



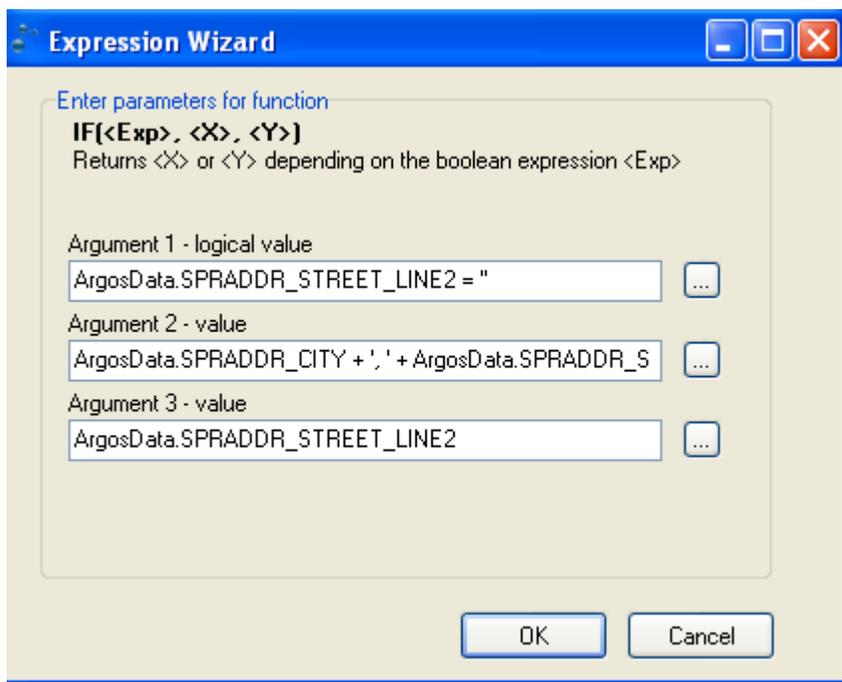
**Fig. 6.8 – Format Name**

The next issue we want to resolve is the removal of any unnecessary blank lines. First, we will assume that everyone will have a value in the STREET\_LINE1 field. So we will delete all fields

below this field and replace with different expressions using the Expression Builder. We will need to use the IF statement. Add an expression and press the Function button to get a list of all available functions. Select the IF function. The following guide will be displayed:



**Fig. 6.9 – Wizard for IF statement**



The IF statement will evaluate the statement in Argument 1. If this expression evaluates to TRUE then the value in Argument 2 will be returned. If Argument 1 evaluates to FALSE, then the value in Argument 3 will be returned.

The logic we will use is the following: If address line 2 is blank, then we will assume that address line 3 also is blank and will print the CITY-STATE-ZIP; otherwise we will print address line 2.

**Fig. 6.10 – IF Statement for Address Line 2**

The complete syntax for Argument 2 above reads:

```
ArgosData.SPRADDR_CITY + ', ' + ArgosData.SPRADDR_STAT_CODE + ' ' +  
ArgosData.SPRADDR_ZIP
```

The same type of logic will be used to determine what should print if the SPRADDR\_STREET\_LINE3 is blank, but is a little more involved. If Street\_line3 is not blank, then obviously we will print street\_line3. However, if blank, we need to determine if Street\_line2 is blank. Therefore, we need to have an 'if' statement inside an 'if'. The full statement will read as follows:

```
IF(ArgosData.SPRADDR_STREET_LINE3 = "", IF(ArgosData.SPRADDR_STREET_LINE2 = "", "",  
ArgosData.SPRADDR_CITY + ', ' + ArgosData.SPRADDR_STAT_CODE + ' ' +  
ArgosData.SPRADDR_ZIP), ArgosData.SPRADDR_STREET_LINE3)
```

The logic for the last line will also use nested ifs and reads as follows:

```
IF(ArgosData.SPRADDR_STREET_LINE2 = "", "", IF(ArgosData.SPRADDR_STREET_LINE3="", "",  
ArgosData.SPRADDR_CITY + ', ' + ArgosData.SPRADDR_STAT_CODE + ' ' +  
ArgosData.SPRADDR_ZIP))
```

In the end, this will ensure that all blanks lines are eliminated. The final output now looks like the following:



Fig. 6.11 – Final Mailing Label

Use of Bands

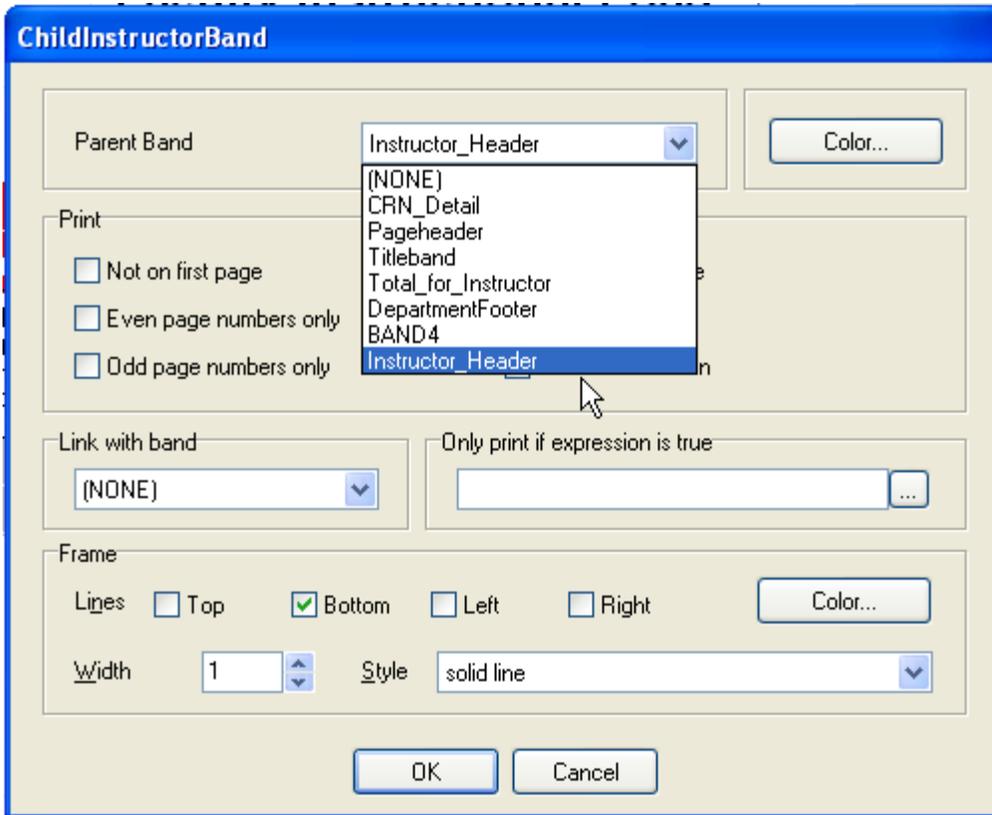
In [Chapter Four](#) we showed how to add different bands and how to group data by adding a Group Band. The report we will be working on pulls up information for faculty workloads based on term and department. For each instructor, we want a detailed listing of sections they are teaching and a total by instructor. At the end, we want a total for the department. Multiple departments can be selected. Information for each department should be printed on separate pages. The final output will look like:

Faculty Instructional Load												
Accounting						199510						
<u>ID</u>		<u>Instructor</u>								<u>Term</u>		
710000010		Preston Thomas								199510		
CRN	SUBJ	CRSE	SECT	Sect Crd HRs	Gen Crd HRs	CALC WRKL	Enrl	Percent RESP	Contact Weekly	Contact Total	FTE Factor	
10006	ACC	231	001	3.00	6.00	3.00	2.00	100.0	3.00	48.00	.25	
10007	ACC	234	001	3.00	6.00	3.00	2.00	100.0	3.00	48.00	.25	
10008	ACC	243	001	3.00	6.00	3.00	2.00	100.0	3.00	48.00	.25	
<b>Instructional Workload</b>				9.00		<b>Total Contact</b>			9.00			
<b>Total FTE</b>				.75		<b>Total Weekly</b>			144.00			
<u>ID</u>		<u>Instructor</u>								<u>Term</u>		
710000027		James Smith								199510		
CRN	SUBJ	CRSE	SECT	Sect Crd HRs	Gen Crd HRs	CALC WRKL	Enrl	Percent RESP	Contact Weekly	Contact Total	FTE Factor	
10024	ECO	110	001	3.00	24.00	3.00	8.00	100.0	3.00	48.00	.25	
10025	ECO	211	001	3.00	12.00	3.00	4.00	100.0	3.00	48.00	.25	
<b>Instructional Workload</b>				6.00		<b>Total Contact</b>			6.00			
<b>Total FTE</b>				.50		<b>Total Weekly</b>			96.00			
<b>Department Totals</b>												
<b>Instructional Workload</b>				<b>15.00</b>		<b>Total Contact</b>			<b>15.00</b>			
<b>Total FTE</b>				<b>1.25</b>		<b>Total Weekly</b>			<b>240.00</b>			

Fig. 6.12 – Multi-Group Sample

Note that the header information for the instructor detail (i.e. CRN SUBJ CRSE ...) is only printed once. This is done by adding a Child Band. A Child Band is a band which is attached to another Report Band and which will always be printed below its Parent Band. To add a Child Band, click

on the Child Band icon (  ) and place the band on the report. Double click to edit the properties. The key item to set is the Parent Band.

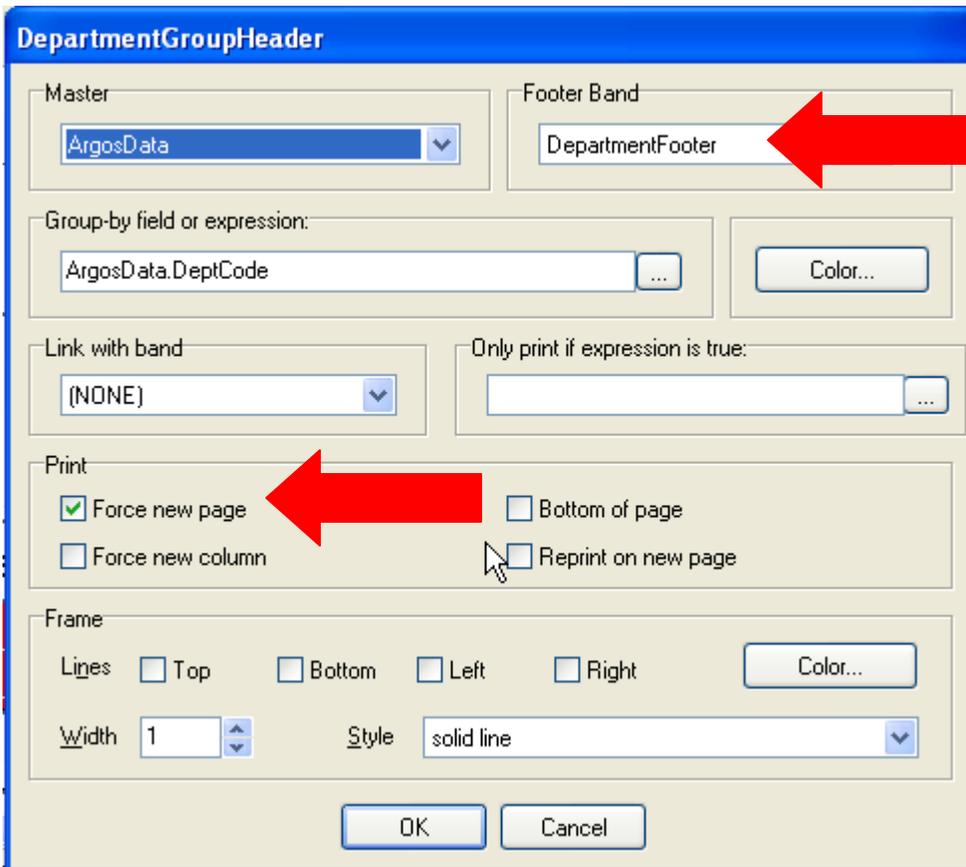


**Fig. 6.13 – Child Band Properties**

Here we have associated the Child Band with the Instructor\_Header Band. This means, that every time the Instructor\_Header Band prints, so will the Child Band.

Another feature of the report is the use of group footers and sub-totals. Group footers are added as a normal band. First click on the Band icon (  ) and set the type as Group Footer. To associate the footer being added, you must then select the group header for this band and indicate that the footer just added will be associated with this header.

Also note, for the Department, we want to start a new page every time a new department is printed. This is done by checking the 'Force New Page' option.



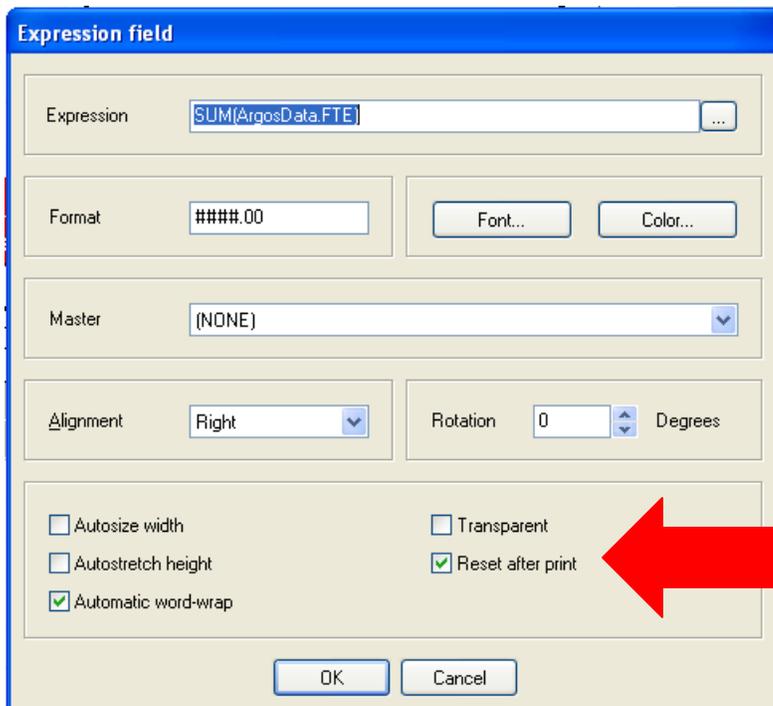
**Fig. 6.14 – Group Header Properties**

Finally, we need to calculate the totals for each instructor as well as for each department. For example, we need a total of the FTE Factor for each instructor for the selected term. In addition, we need the total FTE Factor for all instructors for the department for the selected term.

We used the Expression icon ( $E = mc^2$ ) to add expressions to the appropriate group footer. To make sure the value is reset for each instructor and/or department, note the 'Reset after Print' option is checked. This will reset the value to 0 so the next calculation will start from scratch.

The Band Editor, however, will keep track of group levels. Resetting the value on the Instructor Group Footer will reset the value only for the next instructor. When using the same calculation on the Department Footer Band, the values for the whole department will be added.

Also note on Fig. 6.15 that we added formatting and right aligned the data field. The format ###.00 will always print two numbers after the decimal point.



**Fig. 6.15 – Expression Properties**

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## **Use of Expressions to Limit Printed Information**

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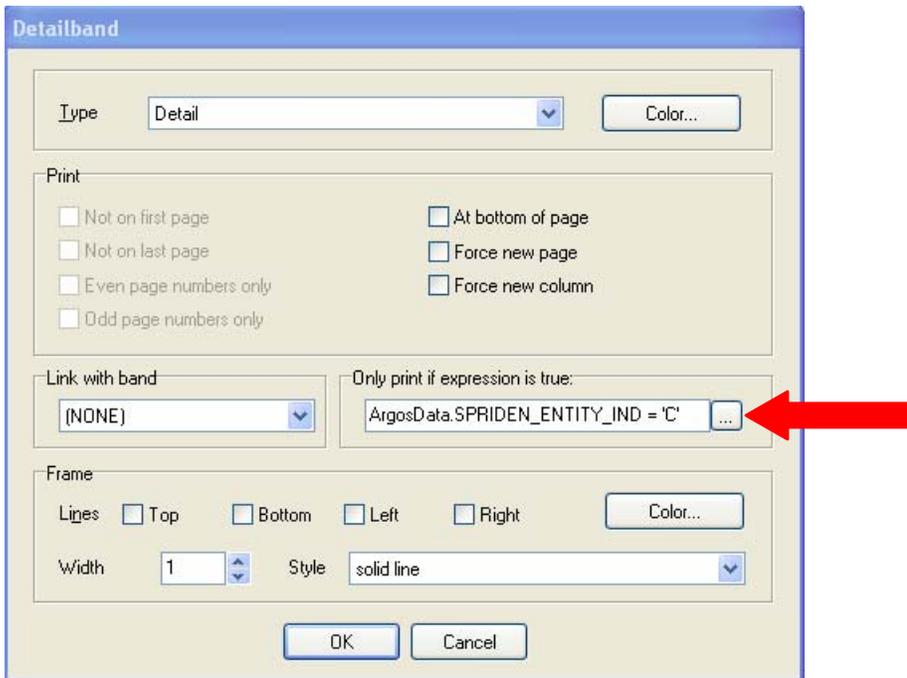
When the Argos DataBlock is initially designed, the developer creates a parameter form that the end user uses to filter or limit the data that will be displayed. For example, in the previous example the list of instructors was limited by the Term Code and Department entered by the person running the report. However, there are times that it would be useful to run the same report but filter the data on some information not available on the parameter form.

For example, in our address list, we are listing all entities that have an address for the address type selected. Our database has been set up to identify two types of entities – vendors and non-vendors. We might want to pull up a list that includes just the names and addresses of our vendors. This can be done at the report level. You do not have to go back and create a new DataBlock or modify the existing one.

To start, we will 'duplicate' the existing report. Right click on the report you wish to copy and select Duplicate. Assign a new name and description to this report. Finally select Edit Report.

We want to modify the properties of the Detail Band to limit the output to only display those entities that are identified as vendors. For our database, individuals with an entity of 'C' are considered vendors.

Edit the Detail Band by double clicking on a blank spot on the band and add the expression to filter the data. We want to print ONLY if the person is identified as a vendor.



**Fig. 6.16 – Adding Expression to Limit Printed Information**

Now when we click preview, notice that only the vendors with the selected address type will be displayed.

<b>Vendor Address List</b>						Date Printed: 1/3/2005 12:17:02 PM
ID	Company Name	Line 1	CITY	STATE	ZIP	
<b>A</b>						
500000041	ABC Trucking Company	47 Reade	Marietta	GA	30659	
500000042	Advanced Concrete and Supply	1223 Lapis	Falls Church	VA	22543	
<b>B</b>						
500000043	Barklet Brothers Real Estate	4200 Hart	Baltimore	MD	30317	
<b>C</b>						

**Fig. 6.17 – Vendors Only Report**

The examples in this chapter were provided to demonstrate some of the advanced features of the band editor. When using expressions and grouping features, it is possible to generate full featured, informative reports for your community.

## **Conclusion**

You should now be able to use the Band Editor feature of **Argos**. Please contact Evisions to schedule any purchased user training, or utilize the free resources located in the support section of our website. If you have any problems or encounter any errors, either with the Band Editor or this document, please contact us!

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## **Getting Help**

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If you are having problems, please search our Knowledge Base: <http://helpdesk.evisions.com>  
If you are unable to find the solution, please submit a HelpDesk request including a detailed explanation of the problem.

Also, if you find that areas of this documentation require additional detail or clarification, please let us know. We are constantly trying to improve our documentation.

## **Important Links**

<http://www.evisions.com/support>  
<http://helpdesk.evisions.com>  
<http://evisions.com/support/argos>

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