

Using the R&R ReportWorks Sample Files

Introduction

The R&R ReportWorks sample files include a set of data files and reports that are designed to illustrate many of the features that are available within R&R. There are also two VB application samples that illustrate using the R&R custom control to execute reports. This document details the inside workings of these sample files and will hopefully give you some ideas on how you might implement your own R&R reports. All of the sample files are installed in the SAMPLE subdirectory of your R&R installation directory. Each report has both an Xbase and an SQL version. The SQL report use the same data files as do the Xbase reports and access them through the R&R Sample Reports data source that is automatically created when you install R&R. The sample files are based on a fictional company, *Round and Round Software*.

The following data files are used by the sample reports

RRCUST.DBF

Customer master file. Contains one record for each customer who is uniquely identified by a numeric customer number (Field name CUST_NO)

RRORDERS.DBF

Order master file. Contains one record for each product order. Each order is uniquely identified by a numeric order number (Field name ORDNO). There is also a numeric CUSTNO field identifying the customer who placed this order. Note that RRORDERS uses a different field name (CUSTNO) than does the RRCUST.DBF (CUST_NO) to identify a customer. Although the names of the fields are different in these tables, the content of these fields use the same set of data values.

RRITEMS.DBF

Order detail file. Contains one record for each ordered item that includes the quantity, order number (ORDER_NO) and product number (PROD_NO) for that item. Note that RRITEMS uses a different field name (ORDER_NO) than does the RRORDERS.DBF (ORDNO) to identify a customer. Although the names of the fields are different in these tables, the content of these fields use the same set of data values.

RRPRICES.DBF

Product/price master file. Contains one record for each product along with its price (PROD_PRICE), description (PROD_DESC) and the location of the bmp file containing a picture of the product (IMAGE_LOC). Products are uniquely identified by a numeric product number (Field name PROD_CODE). Note that RRPRICES uses a different field name (PROD_CODE) than does the RRITEMS.DBF (ORDNO) to identify a product. Although the names of the fields are different in these tables, the content of these fields use the same set of data values.

RRSHIP.DBF

Shipping type master file. Contains one record for each shipping method (SHIP_TYPE) along with its cost (SHIP_CHARG)

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RRSLSEMP.DBF

Salesperson master file. Contains one record for each salesperson and is uniquely identified by a numeric number (Field name SALESNO). Records in the RRORDERS.DBF contain a matching field (SALESPERSO) to indicate the salesperson that took that order.

RRSLSEDU.DBF

Sales training master file. Contains one record for each training course that has been completed by a salesperson. The RRSLSEDU.DBF contains the field for the salesperson (SALESNO), name of the course taken (COURSE) and the date that the course was taken (CRS_DATE).

PRODINFO.TXT

The PRODINFO.TXT file is an ASCII text file created to supply report information that is not contained in any of the Round and Round data tables. This file is used in the Catalog with Variable Graphics Report.

.BMP IMAGE FILES

In the \IMAGE subdirectory of the SAMPLE directory are a set of .BMP image files that are used by the sample reports. They include the Round and Round company logo that is included by many of the sample reports and a set of images that picture each of the available Round and Round products.

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The sample reports include

Basic Columnar Report

Lists sales by product for a given time period with subtotals by product and grand totals at the end of the report.

Catalog with Variable Graphics

Lists each available product along with a detailed product description and a picture illustrating each product.

Cross Tabulation Report

Shows a column for each salesperson and subtotals by day, month or year depending upon user selection when the report is run.

Export Report

Exports data from the customer master file to a comma separated text data file. Optionally can export to XML via the Result Set Browser.

Form Letter with Bursting Report

Report layout is formatted as a year-end customer letter that summarizes sales for that year. Can be printed or can use bursting to email each letter to the appropriate customer email address.

Grouped Columnar Report

Lists shipments by product for a selected date range with subtotals by product and salesperson.

Mailing Labels Report

Creates an Avery 5163 address label for each customer.

Multi-Line Columnar Report

Current customer list including name, address and website.

Sales by Salesperson Report

Multiple scan report listing all training courses and customer orders by salesperson for a given time period. The SQL version of this report is a User SQL report where the SELECT statement is explicitly entered rather than being automatically generated.

Summary Columnar Report

Lists 2001/2002 sales by customer with subtotals and graphs for each customer and a summary page listing grand total order statistics.

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Visual Basic Sample Applications RRWVB32.EXE/RSWVB32.EXE

The \SAMPLE\VB subdirectory contains two basic sample VB applications that allow you to run R&R reports using the R&R custom control. There is a separate sample for Xbase and SQL but you could also create a single application that would run both Xbase and SQL reports by including both components in your project.

The samples were written and compiled using Visual Basic 6.0. They use only a small subset of the available R?W32.OCX properties and demonstrate report preview presentation, printing, and exporting results to the following file formats:

Text file (*.TXT)
Xbase (*.DBF)
Worksheet (*.XLS)

For more information on using the R&R custom control, consult “Using the Custom Control” in the Developing Applications section of the R&R Help files.

Files in \SAMPLE\VB directory

File name	Description
READMEVB.TXT	General readme information
RRWVB32.VBP	Xbase project file
RSWVB32.VBP	SQL project file
OUTFIL32.FRM	Form used to enter output file name when export is selected. Used by both projects.
RRWVB32.FRM	Main form for Xbase application
RSWVB32.FRM	Main form for SQL application
RRDECL32.BAS	Xbase runtime DLL declarations
RRWVB32.BAS	Xbase application code
RSDECL32.BAS	SQL runtime DLL declarations
RSWVB32.BAS	SQL application code
RRWDOC.ICO	R&R Xbase icon for main form
RSWDOC.ICO	R&R SQL icon for main form
RRWVB32.EXE	Compiled Xbase application
RSWVB32.EXE	Compiled SQL application

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The following product features are illustrated by the sample reports

Feature	Report(s) Illustrating this feature
Adding lines/boxes	Basic Columnar Report Mailing Labels Report
Attaching a text files	Catalog with Variable Graphics
CASE() function	Sales by Salesperson Report
Charting/Graphing	Summary Columnar Report
Complex calculated fields	Form Letter with Bursting Report
Conditional band lines	Catalog with Variable Graphics Cross Tabulation Report Form Letter with Bursting Report Mailing Labels Report Multi-Line Columnar Report Sales by Salesperson Report
Conditional Totals	Cross Tabulation Report
Cross tabs	Cross Tabulation Report
Email bursting	Form Letter with Bursting Report
Exporting report data	Export Report
FlexLink indexing	Cross Tabulation Report.RRW Grouped Columnar Report.RRW Sales by Salesperson Report.RRW
Free form band lines	Basic Columnar Report Catalog with Variable Graphics
Header/Footer in Summary	Summary Columnar Report
IIF() function	Sales by Salesperson Report Summary Columnar Report
Insert Picture	Sales by Salesperson Report Form Letter with Bursting Report
Insert Picture from field	Catalog with Variable Graphics
Mailing labels	Mailing Labels Report
Multiple scanning	Sales by Salesperson Report
New page lines	Sales by Salesperson Report

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Feature	Report(s) Illustrating this feature
Page X of Y numbering	Basic Columnar Report
Parameter fields	Basic Columnar Report Cross Tabulation Report Grouped Columnar Report Sales by Salesperson Report
Preprocessed totals and Percent of total calculations	Form Letter with Bursting Report
Print at end of previous field	Basic Columnar Report Mailing Labels Report Multi-Line Columnar Report Sales by Salesperson Report
Records Across	Mailing Labels Report
Selecting a list of records	Basic Columnar Report
Selecting a range of records	Summary Columnar Report
Snap to Grid	Summary Columnar Report
Sorting/Grouping	Basic Columnar Report Cross Tabulation Report Grouped Columnar Report Sales by Salesperson Report Summary Columnar Report
User SQL report	Sales by Salesperson Report.RSW
Using parentheses for query/filter evaluation	Sales by Salesperson Report
Word wrap formatting	Catalog with Variable Graphics

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Details of the design of the sample reports

The sample reports start with a fictional company, *Round and Round Software* but grows out of very real business needs. The summary information about each report that was listed at the beginning of this document represents the “I need a report that..” business statement that guides what will happen when you open the report designer.

The sample reports will not necessarily teach you how to use R&R, but they will let you examine a set of R&R reports that represent a wide range of available R&R features. Each report has an Xbase and a SQL counterpart. This might be particularly helpful if you are currently migrating your backend platform from Xbase to SQL.

Along with this document, as you open the sample files you can press F1 to get context sensitive help at any point. Here we will highlight what to look for in each of the sample reports.

What to see across the reports

Insert->Picture from File

Round and Round has created a consistent format across their reports by adding their corporate logo to almost all of their reports.

Format->Properties or F9

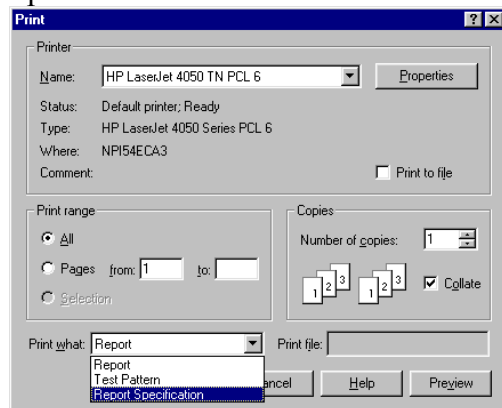
This logo is then sized to fit individual reports.

Options->Default Settings

Tahoma is used as the preferred typeface. By setting the default, any field added to the report will use the default font/point size. It can then be changed as necessary.

File->Print (Print What Report Specifications)

A report specification is a document that describes the contents of a report. You can print a report specification by going to the File-Print menu and then selecting Report Specification in the Print What list.



Adding the sample reports to Report Librarian and Data Dictionary.

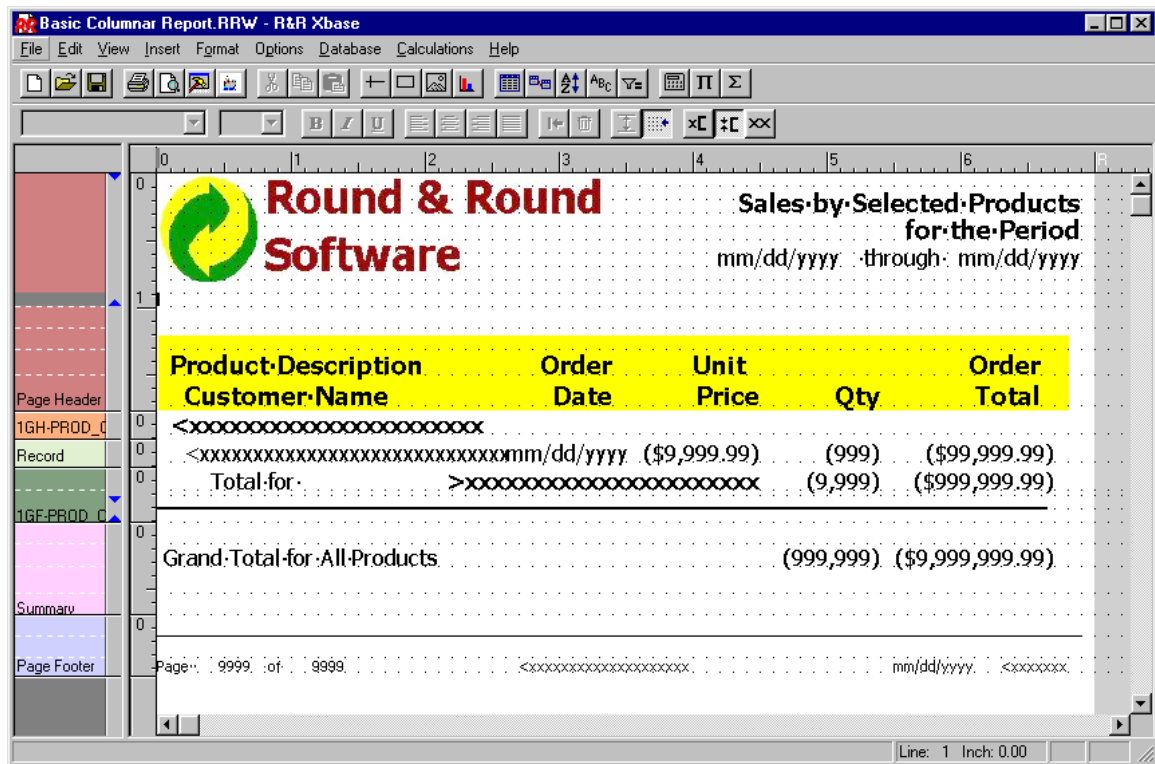
To add the sample report to the R&R Report Librarian, open and save each report in the Report Designer. This will automatically update the Librarian.

To populate the R&R Data Dictionary with the sample tables, you can open each sample report and reselect each master and related table. Or you can in the Report Designer create a new report and select each sample table in turn to add its field to the dictionary. See the Librarian and Dictionary documentation files for more information on these useful utilities ([\RL\Librarian Help.PDF](#) and [\RL\Dictionary Help.PDF](#))

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Basic Columnar Report

Lists sales by product for a given time period with subtotals by product and grand totals at the end of the report.



Basic Columnar Report.RRW - R&R Xbase

File Edit View Insert Format Options Database Calculations Help

Round & Round Software

Sales by Selected Products for the Period
mm/dd/yyyy through mm/dd/yyyy

Product-Description	Order Date	Unit Price	Qty	Order Total
Customer-Name				
1GH-PROD_C	<xxxxxxxxxxxxxxxxxxxx			
Record	<xxxxxxxxxxxxxxxxxxxxmm/dd/yyyy	(\$9,999.99)	(999)	(\$99,999.99)
1GF-PROD_C	Total for	>xxxxxxxxxxxxxxxxxxxx	(9,999)	(\$999,999.99)
Summary	Grand Total for All Products		(999,999)	(\$9,999,999.99)
Page Footer	Page: 9999 of 9999		mm/dd/yyyy	

Line: 1 Inch: 0.00

What to see in this report

Database->Master Table

RRORDERS was selected as the master table since this report is about product sales.

Database->Relations/Database->Joins

Additional information was needed from 3 related tables.

Calculations->Calculated Field

There are several simple calculations. In the left hand side of page footer of the report are two page calculations that allow you to print Page x of y using the PAGE() and REPORTPAGE() functions.

Database->Sort Order

Sorting controls the order of presentation of records. This report contains 3 levels of sort.

Database->Group Order

Grouping controls when a control break is made. Grouping must be consistent with sorting but may not be the same as the sort order. Note that there is just one group in this report. The Repeat header checkbox will cause the PROD_CODE header band line to be printed at the start of the group and again any time records for that group extend to more than one page.

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BASIC COLUMNAR REPORT (continued)

Calculations>Total Field

Simple group and grand totals.

Calculations->ParameteRR fields

When you run this report, you are first given a ParameteRR value entry screen where you enter a starting and ending date. This is done through the creation of two parameteRR fields. The parameteRR fields have been placed on the page header. Select either of the mm/dd/yyyy fields on the layout, right click and then select expression. This will allow you to see the contents of the field. The checkbox Replace with Input Value is checked which means that if you run report and enter 01/15/2003 for example, the next time you run the report, the default value will be 01/15/2003.

Database->Query/Database Filter

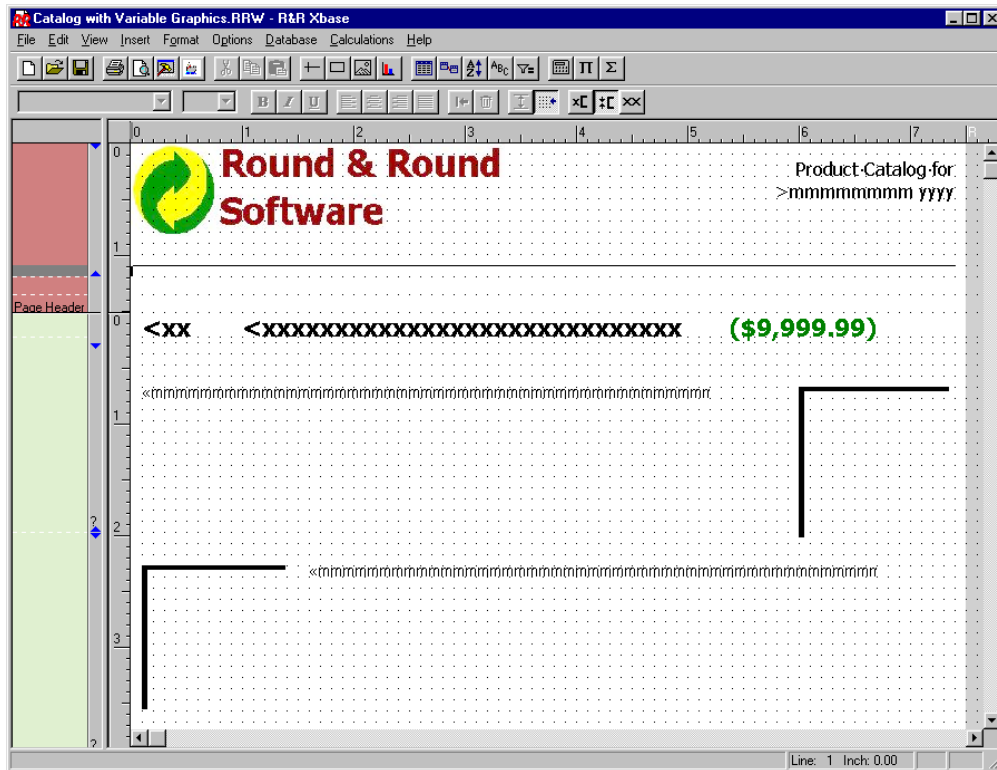
Query/Filter allows you to select records based on certain conditions. This report has 3 filter clauses. The first is an in the list selection where a list of specific products is chosen. If you edit this clause you will see what the selection rule dialog looks like when you have used the comparison operator in the list.

The two additional clauses compare the order date with the parameteRR fields described above. If you edit either of these, you will see that the edit selection rule dialog is very different now that we are using date fields and an equality operator.

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Catalog with Variable Graphics

Lists each available product along with a detailed product description and a picture illustrating each product.



What to see in this report

Insert->Picture from Field

Each *Round and Round* product offering has an associated BMP image file. These image files are stored in the \IMAGE subdirectory. In the RRPRICES.DBF the character field IMAGE_LOC contains the filename of the image. To place the image on the report, you use the command Insert->Picture from Field and then select the field from the field list. R&R uses a placeholder image (BLANK.BMP) on the report layout and when the report is executed, it reads the value of the IMAGE_LOC field to determine what image to display.

Format->Properties (Free form band height)

As you look at the report layout, you can see that some of the band lines are larger than others and that they have blue sizing triangles. The default height for band lines is Automatic where R&R determines the height of the line based on the largest font on that line. But you can also make lines sizeable by selecting the Freeform button. If you have enabled snap to grid (**Format->Snap to Grid**) you will only be able to size free form lines to the nearest grid increment. For finer control you can deselect Snap to Grid. You control the sizing and appearance of the grid dots using **Format->Rulers** and **View->Grid**.

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CATALOG WITH VARIABLE GRAPHICS (continued)

Calculations->Calculated field

On the report layout is a field called ProdDesc. It is the one that looks like mmmm's. When the report is executed this field prints the multi-line product description. This field is a calculated field that uses the CASE() function. Here is its expression:

```
Case(PROD_CODE, "901", data, "902", spsh, "903", word, "904", draw, "905", proj, "906", publ, "907", comm, "908", util, "909", dvlp, dvlp)
```

This calculation makes sure that the correct description prints for each product.

The case function is really pretty simple. It requires a test value, here the field PROD_CODE and then it needs a list of logically paired items. In each item set, the first value is compared to the test field and the second value is what this calculation will return. In our expression the first pair has "901", data. This says if PROD_CODE is "901" (the value is in quotes because PROD_CODE is a character field) then return data. Since data is not in quotes, it must represent a field name. This pairing is then repeated for 9 more paired values and at the very end there is single value ,dvlp. The CASE function requires a final default value so it knows what to return if none of the listed members are found. In this case, if PROD_CODE contains a non listed value such as "910" or "911", the final default value dvlp will be returned. Another important property of the case function is that each of the listed return values must have the same data type. For the field ProdDesc, all of the return values are text memo fields.

Insert->Text File

Although most report data comes from database fields, there may be times where you want to incorporate additional information. At *Round and Round* the product descriptions are created and updated by the marketing department who primarily use layout and text processing applications. PRODINFO.TXT is an ASCII text file that of Round and Round product descriptions that contains field and formatting codes that will be recognized by R&R. Here is a brief extract of the contents of PRODINFO.TXT

```
.data
{<bu><ftahoma><p12>StoreIt! - Full Version PC (901) Product
Description<n><r>
<r>
<ftahoma><p10>Do more in less time! StoreIt! features an easy-
to-use relational database designed for new users yet powerful
enough for experts and developers.
}
.spsh
{<bu><ftahoma><p12>CalcIt! - Full Version PC (902) Product
Description<n><r>
<r>
<ftahoma><p10>CalcIt! for Windows combines over 15 years of
computer }
```

Field names are defined on a single line with a lead period, and the field contents are enclosed in curly braces. Formatting codes are enclosed in <>'s.

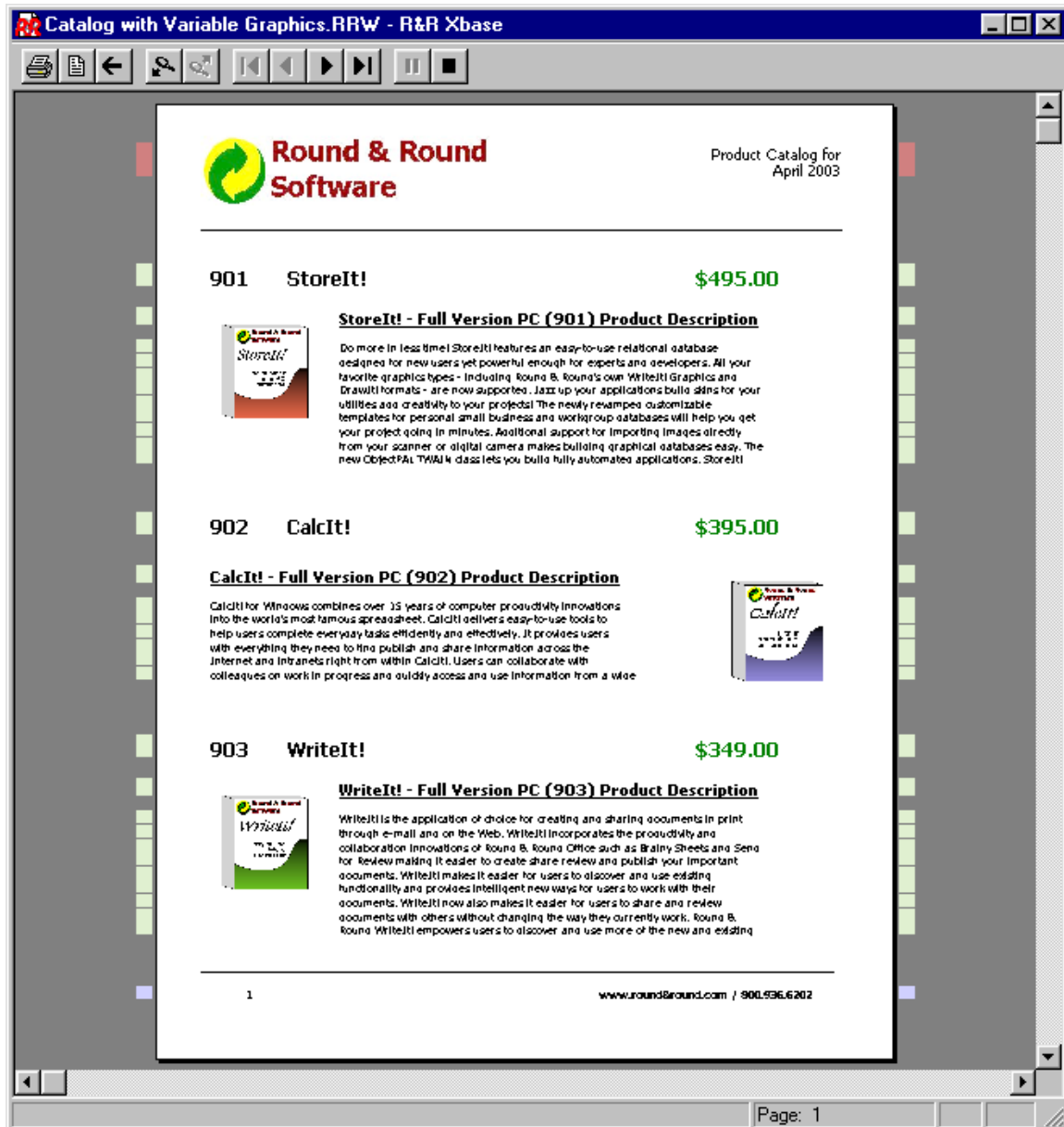
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CATALOG WITH VARIABLE GRAPHICS (continued)

When you add this text file to the report using Insert->Text File the .FIELDNAMES will appear as fields within the report's field lists and can be used anywhere a memo field can be used such as in the ProdDesc field.

Format->Properties (Band Line Logical Field)

Round and Round wanted to improve the look of their catalog by alternating position of the picture and description for each product.



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CATALOG WITH VARIABLE GRAPHICS (continued)

To do this they created two record band lines in the report, one with the image on the left and one on the right. Normally both of these lines would print for each record. But in Band Line Properties you can select a logical field to control printing and have a line print when this field is true or when it is false. Here we want the each odd numbered record to use Band line 6 with the image on the left and each even record to use Band line 5. Conveniently, the Band Line Properties dialog has a Calc Field button that takes you directly to the calculations menu. For this report, a calculated field called EvenProdNo was created with the expression:

$\text{Mod}(\text{Val}(\text{PROD_CODE}), 2) = 0$

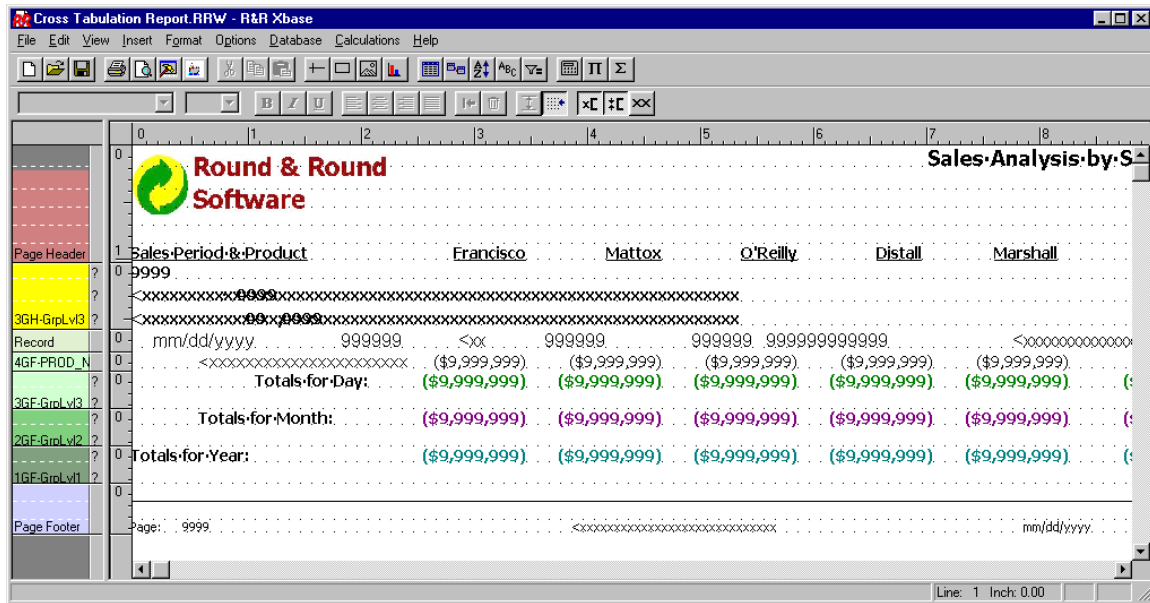
This expression first converts PROD_CODE to a numeric (the inner VAL function) and then divides that number by 2 (the outer MOD function) and checks if the remainder is zero. This will be true for even products and false for odd products. This calculation is then selected as the logical field for line 5 with a print when True and for line 6 with a print when False.

When a band line has a logical condition, you will see a ? in the band type indicator and when you select that band line, the condition will appear on the status bar in the lower left.

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Cross Tabulation Report

Shows a column for each salesperson and subtotals by day, month or year depending upon user selection when the report is run.



Page Header	1	2	3	4	5	6	7	8
Record	0	mm/dd/yyyy	999999	<xx	999999	999999	999999999999	<xxxxxxxxxxxxxxxx
4GF-PRDD_N	0	<xxxxxxxxxxxxxxxx	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)
3GF-GrpLv3	0	Totals for Day:	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)
2GF-GrpLv2	0	Totals for Month:	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)
1GF-GrpLv1	0	Totals for Year:	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)	(\$9,999,999)
Page Footer	0	Page: 9999	<xxxxxxxxxxxxxxxx				mm/dd/yyyy	

What to see in this report

Text fields on layout

In the page header, the name of each salesperson has been manually entered. You can edit text on the layout by selecting the field and then pressing F2 or you can right click and use the Text tab of the Properties dialog.

Format->Record Layout

Although the report contains a record band including printable fields, the record band will never print since the Suppress Record Lines box is checked.

Calculations->ParameteRR fields

This report has uses a single parameteRR field SlsDispLvl to control whether Daily, Monthly or Yearly totals will be displayed.

Calculations->Calculated fields

The calculated fields OrderDay, OrderMonth and OrderYear use the day(), month() and year() function to separate the ORDRDATE field into its datepart components. The calculated fields GrpLv11, GrpLv12 and GrpLv13 use the CASE() function to test the parameteRR field SlsDispLvl and return one of the Order calculations. Three logical fields ShoDay3, ShoMth3, ShowAnn3 return a true value based on the value of the parameteRR field SlsDispLvl.

Database->Sort and Group Order

The calculated fields GrpLv11, GrpLv12 and GrpLv13 are then used as sort and group fields

Using the R&R ReportWorks Sample Files

CROSS TABULATION REPORT (continued)

Format->Properties (Band Line Logical Field)

Printing of the group footer band lines is controlled by the logical fields ShoDay3, ShoMth3, ShowAnn3.

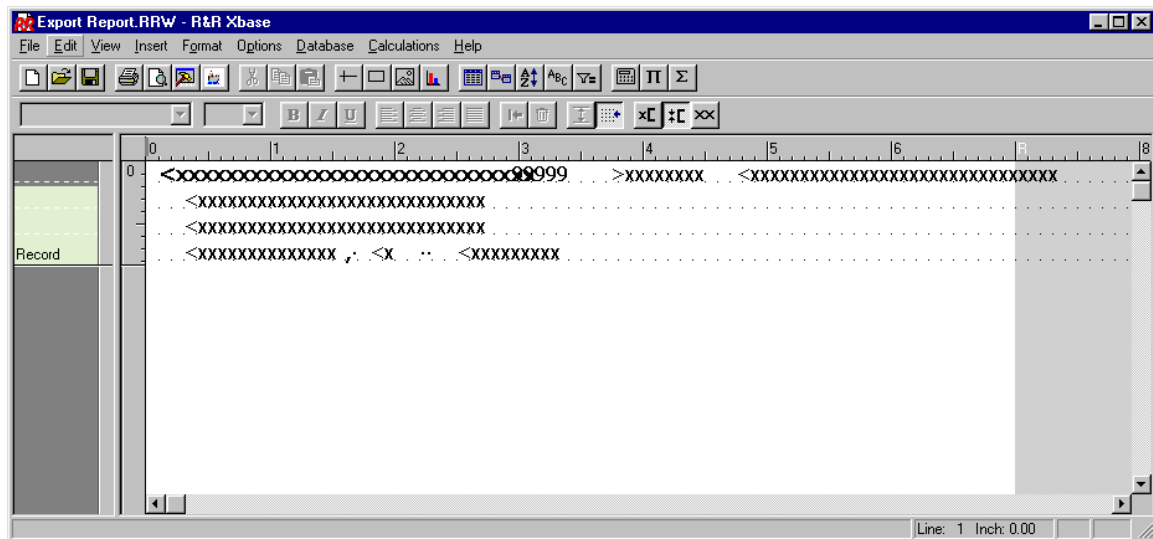
Calculations->Total fields

The totals that are placed on the Group footer and summary band lines beneath the name of each salesperson have the common element that they are all sums of the calculated field SaleAmount whose expression is QUANTITY * PROD_PRICE. The reset level of each total is set depending on the band line on which it is placed. Each total additionally has a condition (which is set using the Options and Condition buttons in the Total dialog) so that it will accumulate for a single salesperson. For example the Total field Sls1DayTot has the condition expression:
SALESPERSO = 101

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Export Report

Exports data from the customer master file to a comma separated text data file. Optionally can export to XML via the Result Set Browser.



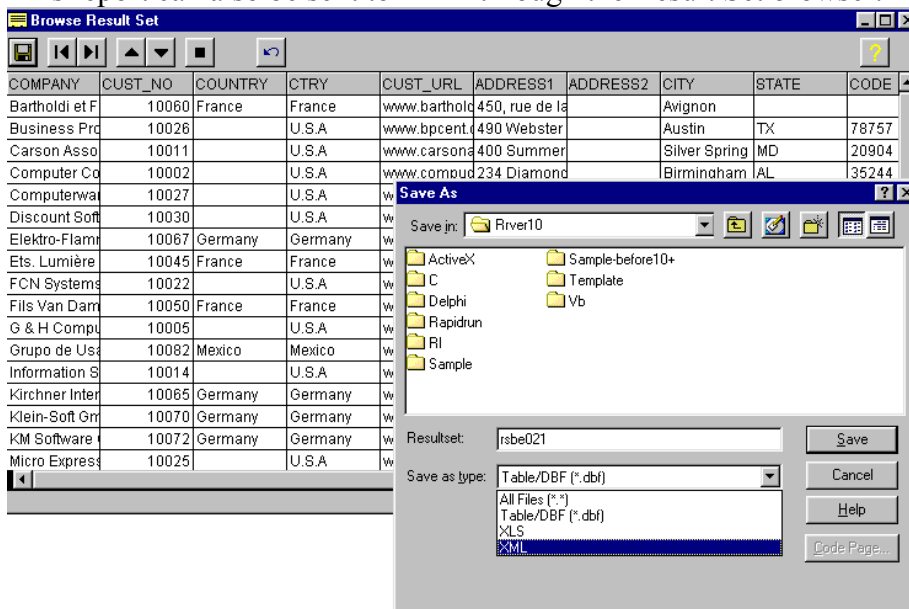
What to see in this report

File->Export

From the Export menu you can send your report to a variety of export format. This report uses Text Data as its export type. Text data is a band oriented export format where you select a particular band line for output. In this case it is the record band which is also the only band on the layout.

Database->View Result Set

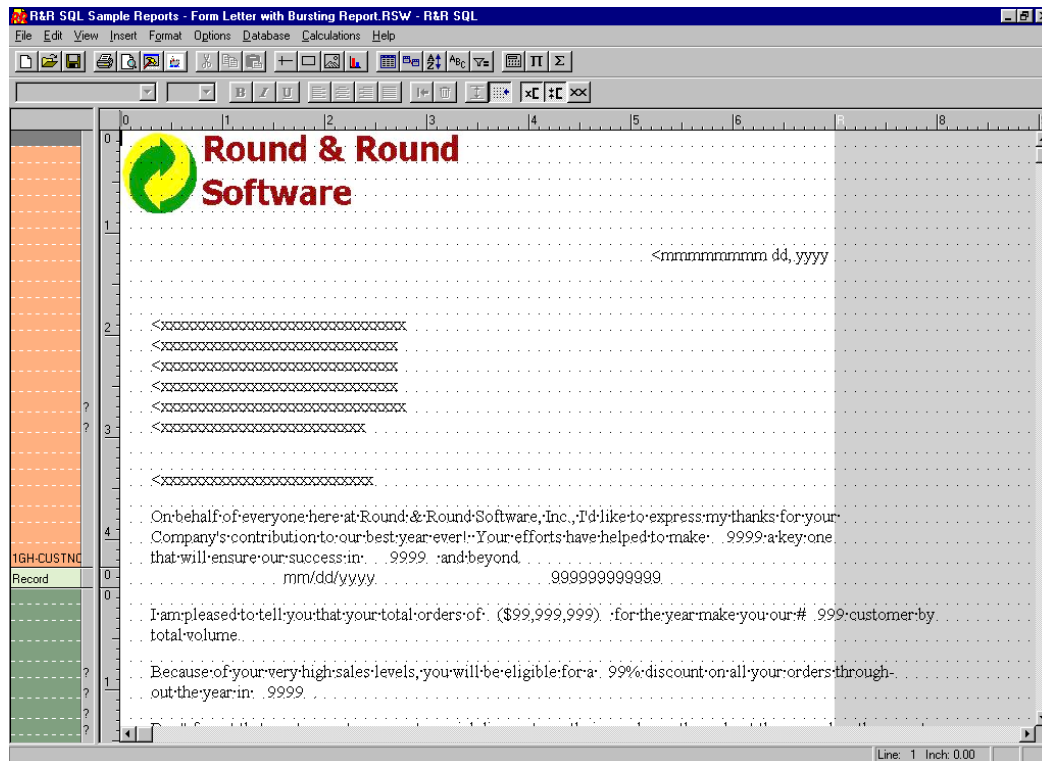
This report can also be sent to XML through the Result Set browser.



Using the R&R ReportWorks Sample Files

Form Letter with Bursting Report

Report layout is formatted as a year-end customer letter that summarizes sales for that year. Can be printed or can use bursting to email each letter to the appropriate customer email address.



What to see in this report

Text fields on layout

The text of this letter has been typed line by line onto the report layout.

Where required, data fields have been inserted. Alternatively, an ASCII text file could have been attached to the report and placed as a single word wrapped field on the layout with the data fields embedded into the text file using \FIELDNAME\ tags.

Database->Group Order

The report is grouped by CUSTNO. To print each customer letter on a separate page, the Reset Page box has been checked.

Calculations->Total Field (Pre-processed total)

In the second paragraph of the letter, the customer's total order volume for the year is listed. This total has been made pre-processed by clicking the Options button in the Total dialog and changing the processing radio button from running to pre-processed. The total resets at group1 to get a total for each CUSTNO. When a report contains a pre-processed total, R&R makes an initial pass through the database to collect the total and then a second pass to process the records.

Using the R&R ReportWorks Sample Files

FORM LETTER WITH BURSTING REPORT (continued)

Database->Sort Order

R&R allows you to sort on pre-processed totals.

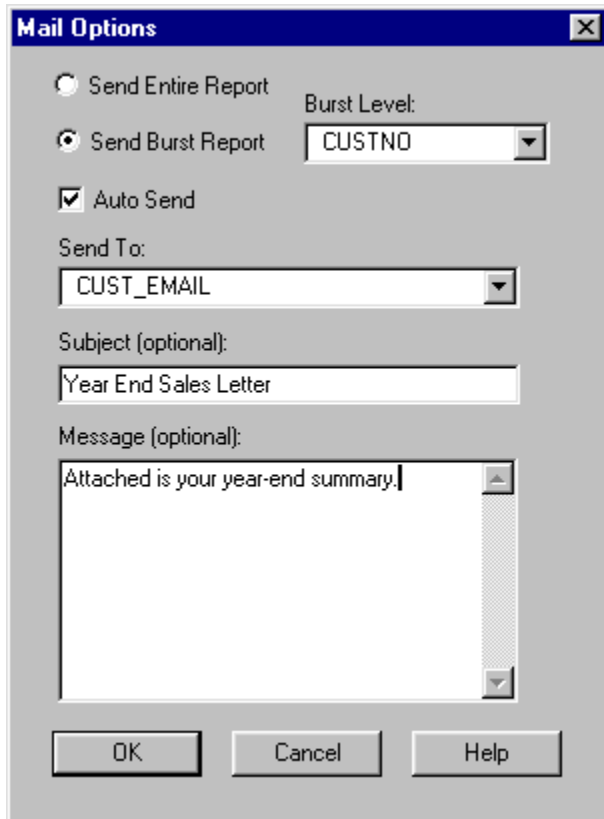
The report has a single sort field, the pre-processed total field CustOrders. The ascending box is un-checked so the customer with the highest total will be sorted first in the report.

Calculations->Total Field (Running)

The customer letter also includes a “you are our Nth customer”. The total field CUSTRANK returns this Nth value. CUSTRANK is a running total that is created on the second pass through the database. It counts the field CUSTNO, accumulates once per CUSTNO (so we only count each customer once) and resets at the grand level.

File ->Export (Send via MAPI Mail Options)

Instead of printing and mailing each letter, *Round and Round* can also use Email Bursting to send each letter to the appropriate customer. By checking the Send via MAPI box in the File Export dialog, the Mail Options button is enabled. The Send Burst Report button is available because the report contains a group field having Reset Page enabled. The Send to field is the customer email field that is contained in the RRCUST.DBF. This could have alternatively been a calculated field created within the report if email information was not available in a report table.



The image shows a 'Mail Options' dialog box with a blue title bar and a close button. It contains several settings for email bursting:

- ☐ Send Entire Report
- ☒ Send Burst Report
- ☒ Auto Send
- Burst Level: CUSTNO (dropdown menu)
- Send To: CUST_EMAIL (dropdown menu)
- Subject (optional): Year End Sales Letter (text field)
- Message (optional): Attached is your year-end summary. (text area)
- Buttons: OK, Cancel, Help

Using the R&R ReportWorks Sample Files

GROUPED COLUMNAR REPORT (continued)

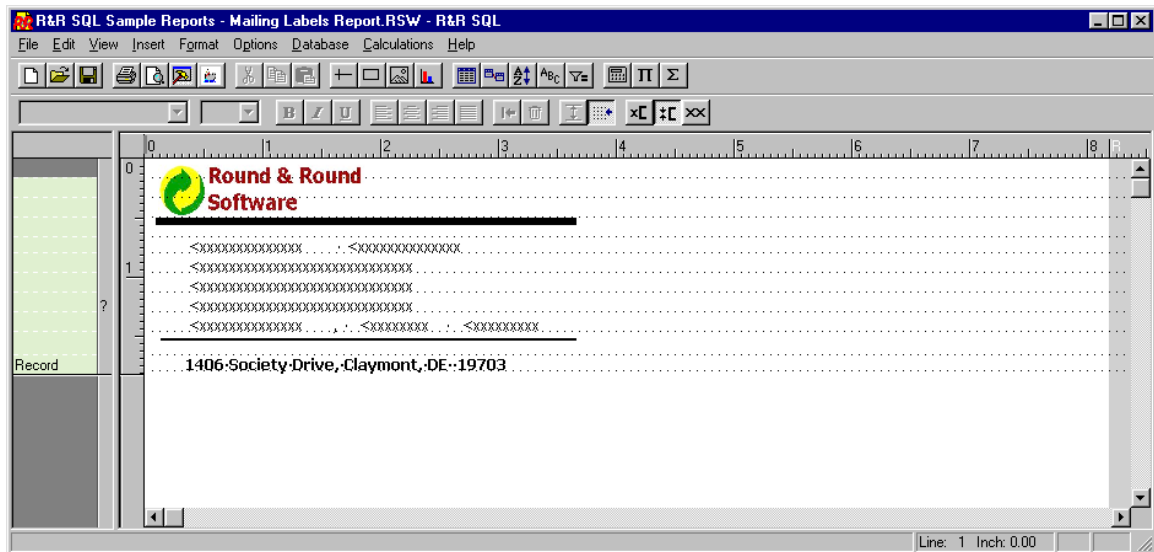
Database->Relations (FlexLink Index Xbase Only)

The RRORDERS.DBF contains a numeric SALEPERSO field with the ID number of the person who sold that order. The RRSLSEMP.DBF contains the numeric field SALESNO. But it does not contain a corresponding index based on the SALESNO. R&R Xbase needs to have an index in order to create the relation but this index can be built on the fly. By checking the FlexLink box in the Relate Through section of the Relation dialog you can use the Define Key button to create an index expression using the fields from the related table. When the report is run, R&R will built this index on the fly.

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Mailing Labels Report

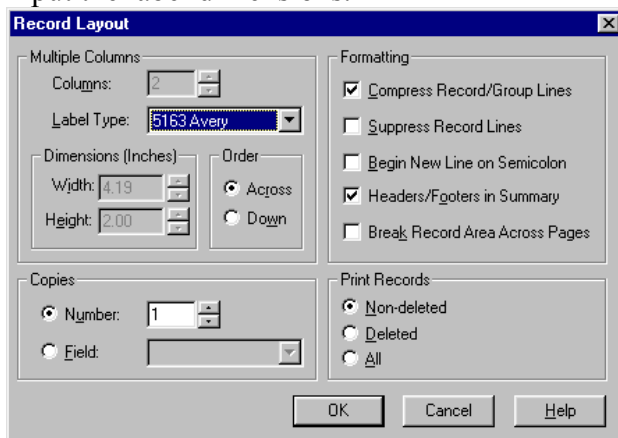
Creates an Avery 5163 address label for each customer.



What to see in this report

Format->Record Layout

To produce mailing labels, on the report layout you create the format for a single label and then in Format->Record Layout you can choose a label type from the list to have R&R automatically determine the number of columns and the dimensions of the label (as done here) or you can select User Defined from the list and manually input the label dimensions.



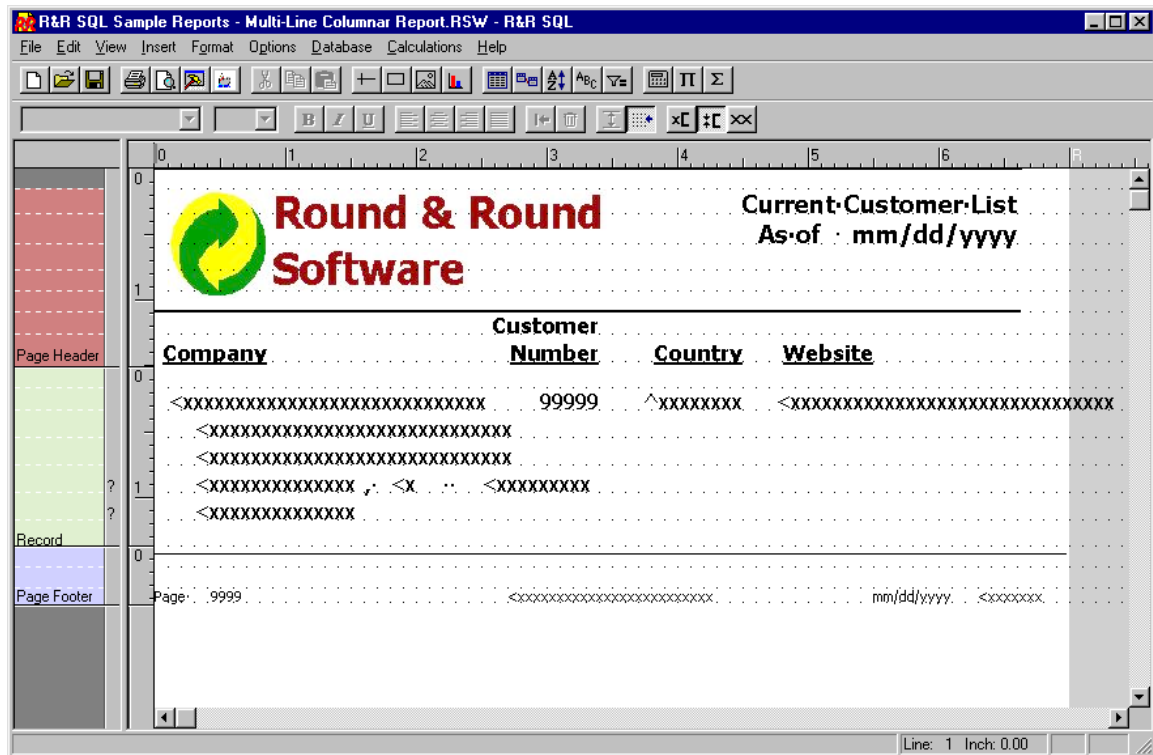
Auto Trim Alignment

Sometimes you want adjacent fields on the layout to print right after each other. In this label we want to print the first name field, a single space and then the last name. The same holds true for the city/state/zip line. If you select a field, the properties dialog contains an alignment tab that includes a Trim button that can be toggled to print at current position or print at end of previous field. On line 5 of the layout between the first and the last name is a single "hard space" field (created by holding down the spacebar once and then pressing enter. This field and the following last name field are both aligned to print at the end of the previous field.

Using the R&R ReportWorks Sample Files

Multi-Line Columnar Report

Current customer list including name, address and website.



What to see in this report

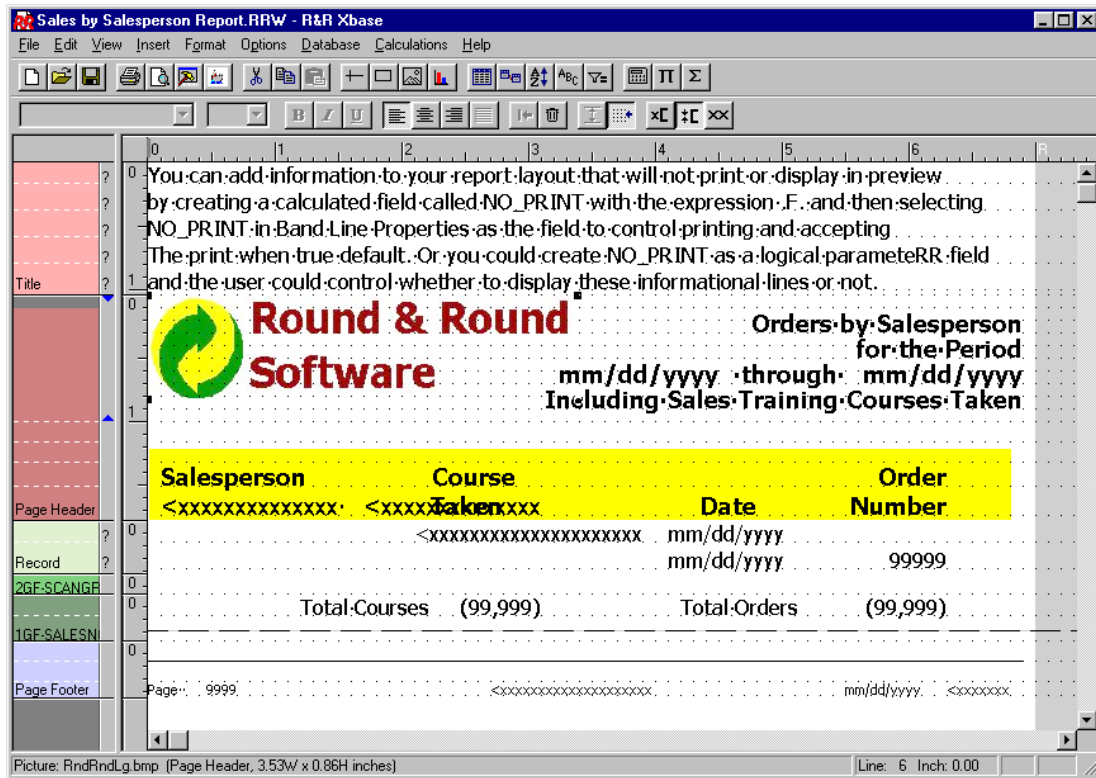
Format->Properties (Band Line Logical Field)

Printing of the record band lines 13 and 14 is controlled by the CODE field which is a character field. In this context print when true means print when the CODE field contains a value. Print when false means print when the CODE field is empty.

Using the R&R ReportWorks Sample Files

Sales by Salesperson Report (Xbase)

Multiple scan report listing all training courses and customer orders by salesperson for a given time period. This is the only sample report where there are significant differences in design techniques between the Xbase and the SQL versions. The end result of each report is however the same.



What to see in this report (Xbase version)

Format->Properties (Band Line Logical Field)

The title band of the report contains self-explanatory text describing this feature.

Database->Relations

There are two relations in this report. Each relation start from the salesperson master file. The first scans the training database to find all of the courses taken by each salesperson. The second relation scans the orders file to find all of the orders taken by a salesperson. In a multiple scan relation, each detail record always has data from the master file but only has data from ONE of the scanned tables.

Database->Relations (Flexlink Indexes)

Both relations in this report use FlexLink indexes.

Calculations->Calculated Field

In order to be able to create a group break on the layout between the training and the sales details, a calculated field called SCANGROUP with the expression IIF(SCAN(RRSLSEDU),1,2). This calculation returns a 1 for records derived from the training file and a 2 for records derived from sales.

Using the R&R ReportWorks Sample Files

SALES BY SALESPERSON REPORT-XBASE (continued)

Database->Sort Order/Database Group->Order

The report has 5 sort fields but only two group fields. Sorting orders the records and grouping determines when group breaks will occur.

Sort Order	Group Order
Sort Fields	Group Fields
1) SALENAME	1) SALESNO
2) SALESNO	2) SCANGROUP
3) SCANGROUP	3)
4) CRS_DATE	4)
5) ORDRDATE	5)
6)	6)

Insert->Create Band Line (New Page)

The second SALESNO group footer line is a new page line. It is shown as a dashed line across the layout and causes a new page to occur for each change in SALESNO.

Format->Properties (Scan Table)

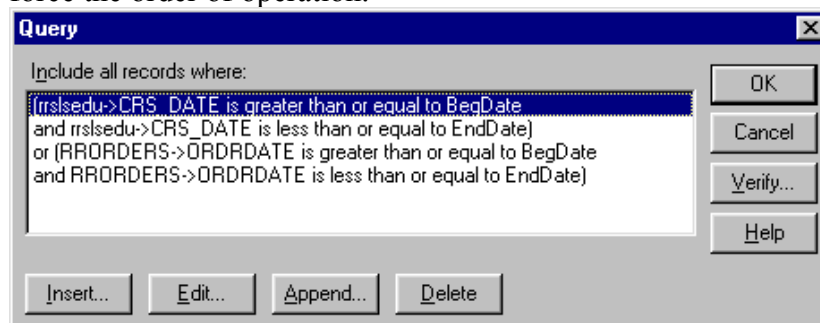
The report has two record band lines, the first with fields from the training file and the second with fields from the sales file. If you look at the properties for each line you will see that each one has the appropriate scan table selected. Note that the scan table selection in Band Line Properties is only available when a report contains multi scan relations (more than one scan at the same relation level).

Calculations->ParameterRR fields

Two date parameterRR fields are used to select the date range for the report.

Database->Query

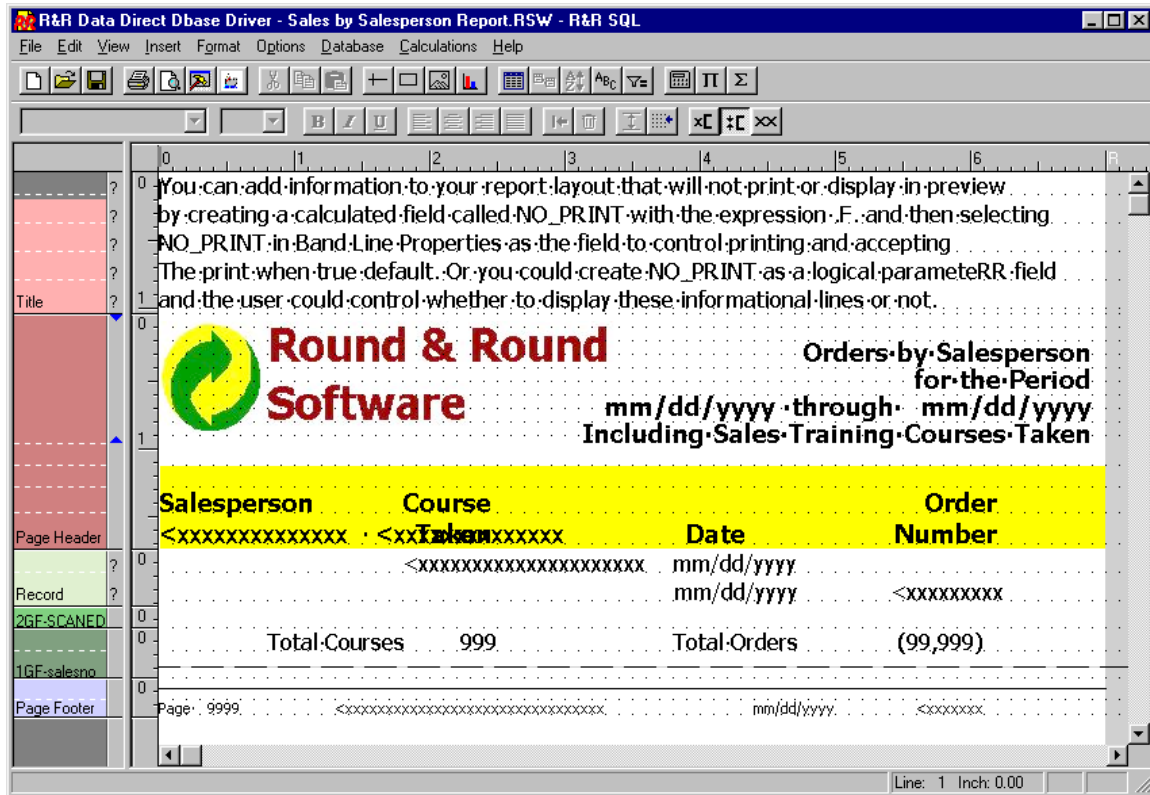
The training table has a date field showing when a course was taken. The sales table has a date field that shows when an order was placed. We want to select all courses taken within the date range and all orders placed in the date range. Because the query has 4 individual clauses, it might at first seem appropriate to use the AND connector for each. But what we really need is two AND's and one OR. Because this is a multiple scan, no one record will have a training date within the range and an order date within the range. So if we use all AND's we will get no records found. What is needed is for a record to meet either the first two conditions (within the training date range) OR the second two conditions (within the sales date range). And to force this evaluation to occur as stated, the query needs additional parentheses to force the order of operation.



Using the R&R ReportWorks Sample Files

Sales by Salesperson Report (SQL)

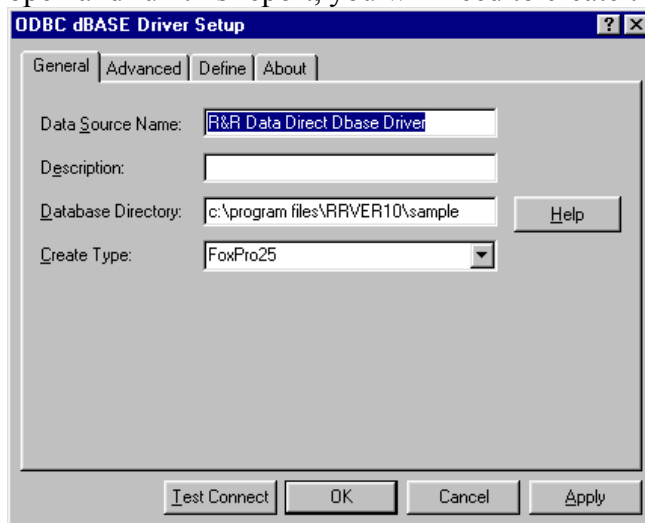
Report listing all training courses and customer orders by salesperson for a given time period. The SQL version of this report is a User SQL report where the SELECT statement is explicitly entered rather than being automatically generated.



What to see in this report (SQL version)

File->Data Source Connections

Unlike all of the other sample reports, the Sales By Salesperson Report uses a custom Data Source based on the Data Direct dBase ODBC driver. Before you can open and run this report, you will need to create this datasource on your machine.



Using the R&R ReportWorks Sample Files

SALES BY SALESPERSON REPORT-SQL (continued)

Database Menu



Because this report was created as a User SQL report, the Database menu choices are different than those that are displayed in Auto SQL reports where R&R creates the SQL statement for you. Here there is a SQL select menu item in place Master table. You can also see that the Join and Sort Order items have been made inactive. This is because all relations and sorting are done as part of the User SQL

Database->SQL select

Here is the SELECT statement that was created for this report

```
DEFINE REPORTVIEW MSCAN (salesno,salefname,salelname,item,itemdate,scantbl)
AS
SELECT EMP.salesno, EMP.salefname,EMP.salelname,
EDU.COURSE, EDU.CRS_DATE, 'SCANEDU'
from RRSLSEMP EMP, RRSLSEDU EDU
where EMP.salesno=EDU.salesno
UNION ALL
SELECT EMP2.salesno, EMP2.salefname,EMP2.salelname,
STR(ORD.ORDNO),ORD.ORDERDATE, 'SCANORD'
from RRSLSEMP EMP2, RRORDERS ORD
where EMP2.salesno=ORD.salesperso
ORDER BY 3,1,6,5
```

Define Reportview is a R&R construct that allows you to name the result table and columns for the information that is returned by the SQL statement. Two SELECT statement are joined using the UNION all operator so that we have a set of rows that join salesperson to the training table and a second set of rows that join salesperson to the orders table. In each SELECT the last field is a text string that is used to identify which SELECT that row has come from. The order by clause (that sorts the results) uses numbers that reference the field position in the Reportview name list. So the results are sorted by salelname, salesno, itemdate, scantbl (the text field identifier.)

Calculations->Group Order

The report is grouped by SALESNO and SCANTBL. Although sorting is done through the SELECT, grouping is performed internally by R&R.

Using the R&R ReportWorks Sample Files

SALES BY SALESPERSON REPORT-SQL (continued)

Calculations->Calculated Field

A logical field SCANEDU was created with the expression `scantbl="SCANEDU"`

Format->Properties (Logical field)

The report has two record band lines, the first with fields from the training file and the second with fields from the sales file. The logical field SCANEDU controls the printing of each of these lines. This is the equivalent to the Scan table control that was used in the Xbase version of this report.

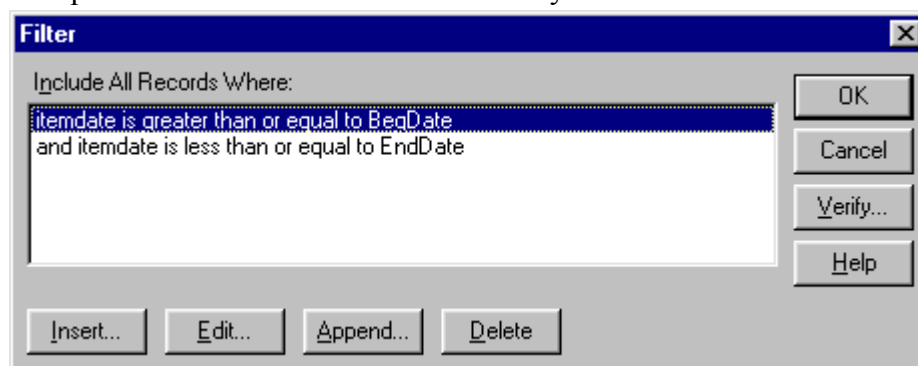
Calculations->Total Field

The report has two totals in the SALESNO group footer that count the number of courses and the number of orders for each sales person. The course total counts the calculated field CourseName. This calculation returns the descriptive course name for all course records and a blank for each order record. The order total counts the field ITEM that is part of the result set. Because ITEM has a value for each record (it is the course number or the order number depending on the source table) an additional condition of `.not.SCANEDU` has been applied to this total so that only order records are counted.

Database->Filter

In a User SQL report, the SELECT statement can contain a WHERE clause that will filter the result set records. But you can additionally use the R&R filter to qualify records. When a filter is used in an auto SQL report, R&R will first try to send the selection condition to the SQL engine for evaluation so that it will become part of the WHERE clause in the SELECT. In a User SQL report, any filter selection that is made is performed by R&R locally against the result set that is returned by the SELECT.

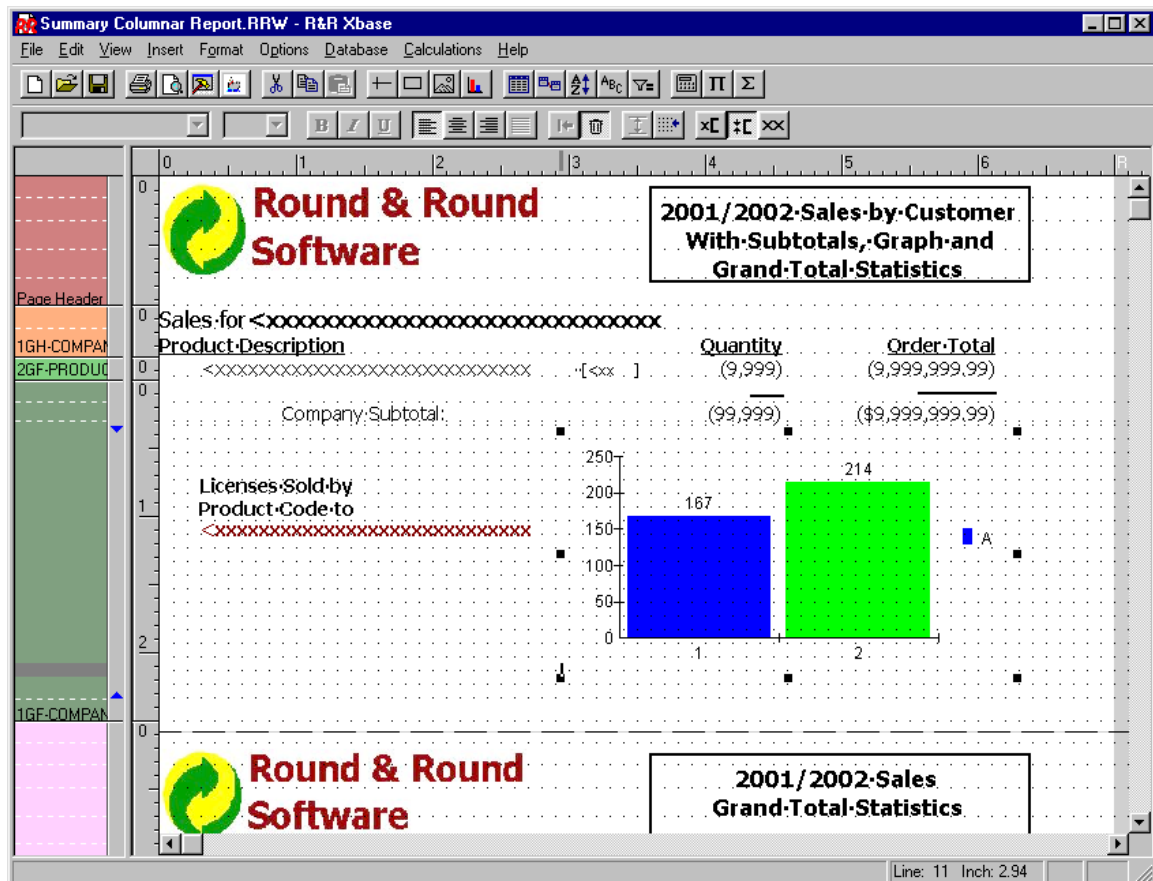
Unlike the Xbase version of the report where each record had either a training date or an order date, in the SQL version the date is contained in a single field. The filter for this report is then a simple 2 clause date selection that compare the itemdate to the date parameteRR values that are entered by the user.



Using the R&R ReportWorks Sample Files

Summary Columnar Report

Lists 2001/2002 sales by customer with subtotals and graphs for each customer and a summary page listing grand total order statistics.



Calculations->Calculated Field

A calculated FLAG field prints "Low volume customer. Review discount offered." on the page footer for any customer with a total order volume of less than 100 units. Because there is a Customer group field setting of Reset page, each page will contain records for only one customer.

Format->Record Layout (Headers/Footers in Summary)

The summary area of this report begins with a new page line. This forces the ending summary to appear on a new page. Because Headers/Footers in Summary has not been checked in Format->Record layout, the Page Header and Footer will not appear in the Summary. The logo and boxed text was then placed in the Summary so that it will appear at the top of the summary page.

Calculations->Total Fields

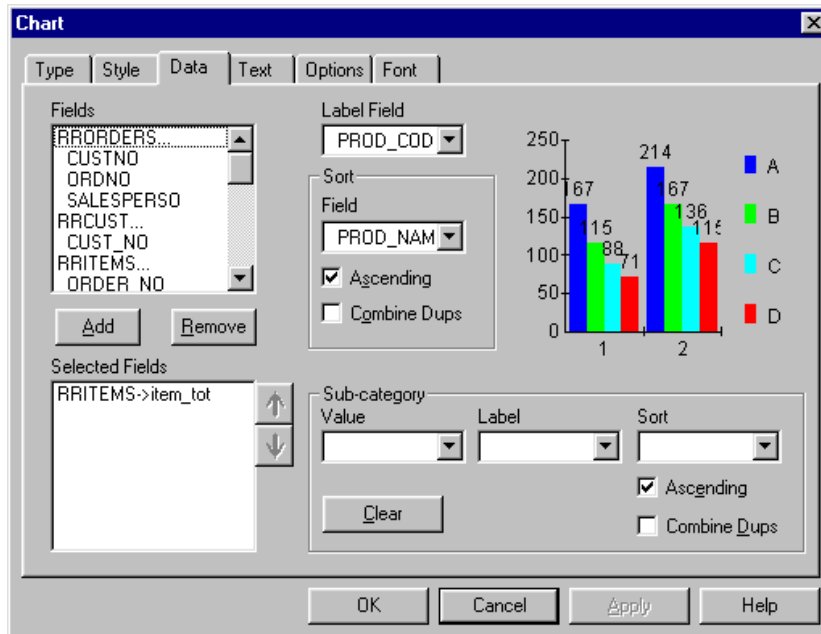
The average, largest and smallest order total fields are all based on the same source field but use different total types. You can create a total and then in the total dialog use the Copy button to create a new total based on the original. In this case the average was copied and then the type was changed from average to maximum.

Using the R&R ReportWorks Sample Files

SUMMARY COLUMNAR REPORT (continued)

Insert->Chart

A simple vertical bar chart has been inserted in the Company footer. After placing the chart on the layout, the only settings that were made in Chart Properties were done in the data tab.



The Selected Field list shows the field(s) whose data values will appear in the graph. In this case it is item_tot that is the sum of quantity that resets by product code and is the field that prints in the Quantity column on the report layout. The label field PROD_CODE is the field that prints on Y-axis of the chart. The sort field Prod_Name controls the order in which the data points are displayed across the Y-axis. Note that this is the same as the second level Database sort in the report.

