R&R Report Writer *Technical Bulletin*

Line and Box Drawing

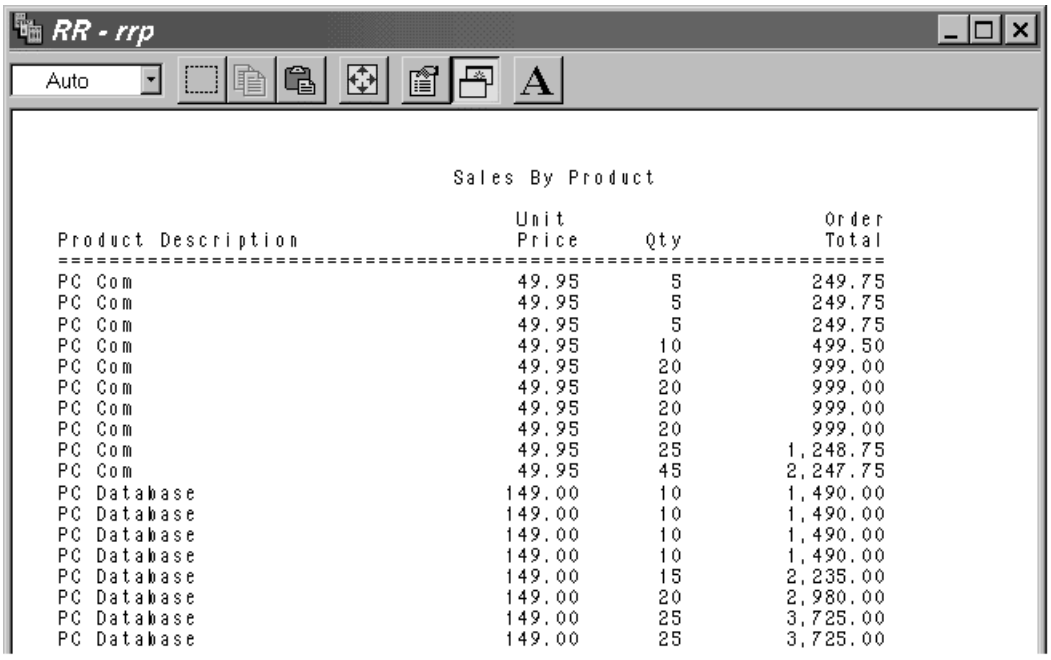
Product: R&R Report Writer® **Oper Sys:** DOS®
Version: All

Summary

This technical bulletin provides help designing forms with lines and boxes. The main problem is getting the lines to continue all the way to the bottom of the page when there aren't enough records to fill the page.

Drawing Lines and Boxes

R&R Report Writer provides two methods to draw lines and boxes on a report layout. This technical bulletin uses the basic columnar report provided in the RRSAMPLE.RP1 report library. It describes a "page makeover" for that report by adding lines and boxes. Figure 1 shows the current report and Figure 2 shows the same report after the page makeover.



Sales By Product

Product Description	Unit Price	Qty	Order Total
PC Com	49.95	5	249.75
PC Com	49.95	5	249.75
PC Com	49.95	5	249.75
PC Com	49.95	10	499.50
PC Com	49.95	20	999.00
PC Com	49.95	20	999.00
PC Com	49.95	20	999.00
PC Com	49.95	20	999.00
PC Com	49.95	25	1,248.75
PC Com	49.95	45	2,247.75
PC Database	149.00	10	1,490.00
PC Database	149.00	10	1,490.00
PC Database	149.00	10	1,490.00
PC Database	149.00	10	1,490.00
PC Database	149.00	15	2,235.00
PC Database	149.00	20	2,980.00
PC Database	149.00	25	3,725.00
PC Database	149.00	25	3,725.00

Figure 1. Report Before Makeover

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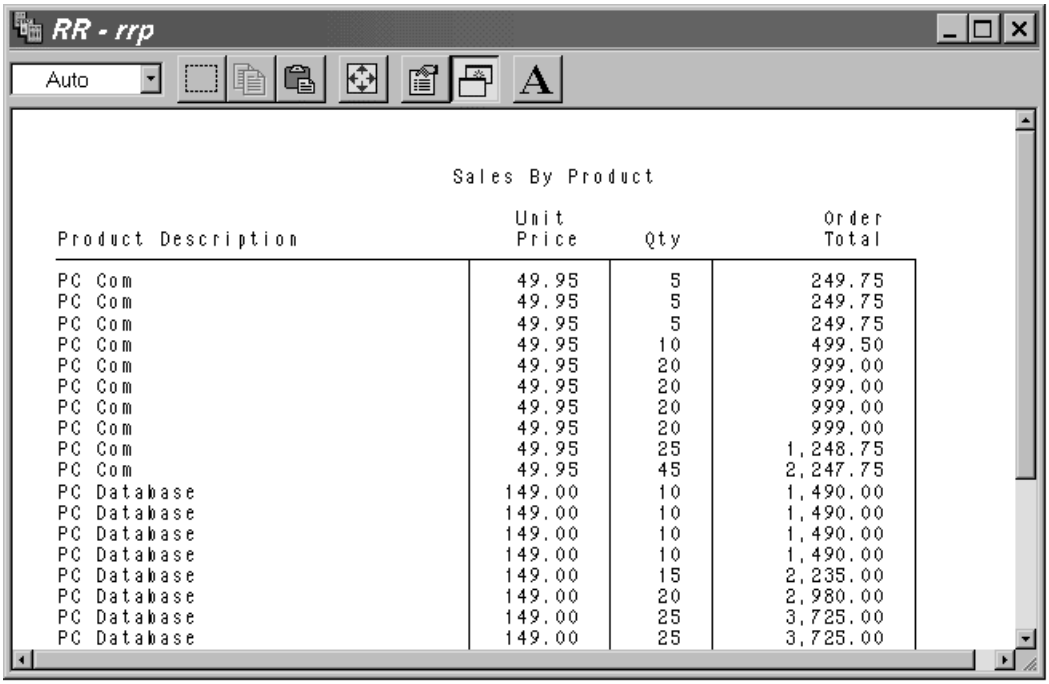

Figure 2. Report After Makeover

In R&R Report Writer version 3 and newer, the Draw Menu [Shift-F3] and Draw Key [F3] make it easy to include line characters in text fields. When you press [Shift-F3] in Ready Mode, R&R Report Writer displays the Draw Menu shown in Figure 3. Place the cursor on the desired character and press [F3]. In Ready Mode, you can draw with this character by pressing [F3].

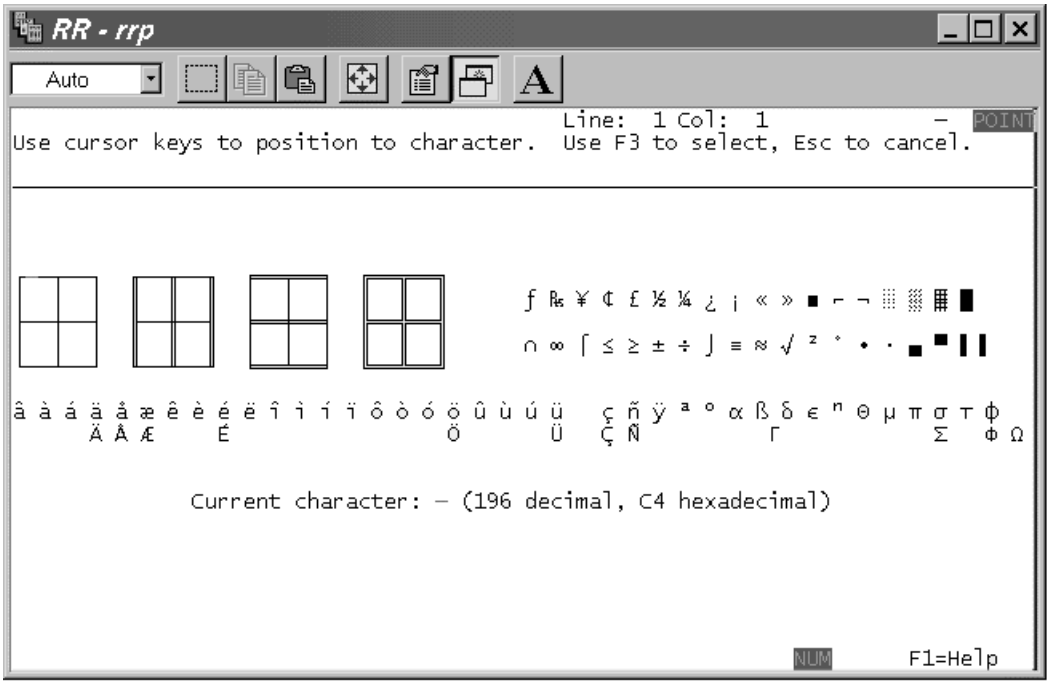

Figure 3. Draw Menu

An alternate method for including line characters in text fields is using your PC's built-in Alt key sequences. This method works with R&R Report Writer version 2 and newer. Just hold down the [Alt] key, type the number of the desired character on the numeric keypad, and then release the [Alt] key.

Now that you know how to draw, we'll discuss where and what we need to draw to design the new invoice. Refer to Figure 4 to see the report layout used to generate the new invoice.

Let's begin with the simple stuff. In our page makeover, we removed the equal signs that had been put in to represent lines.

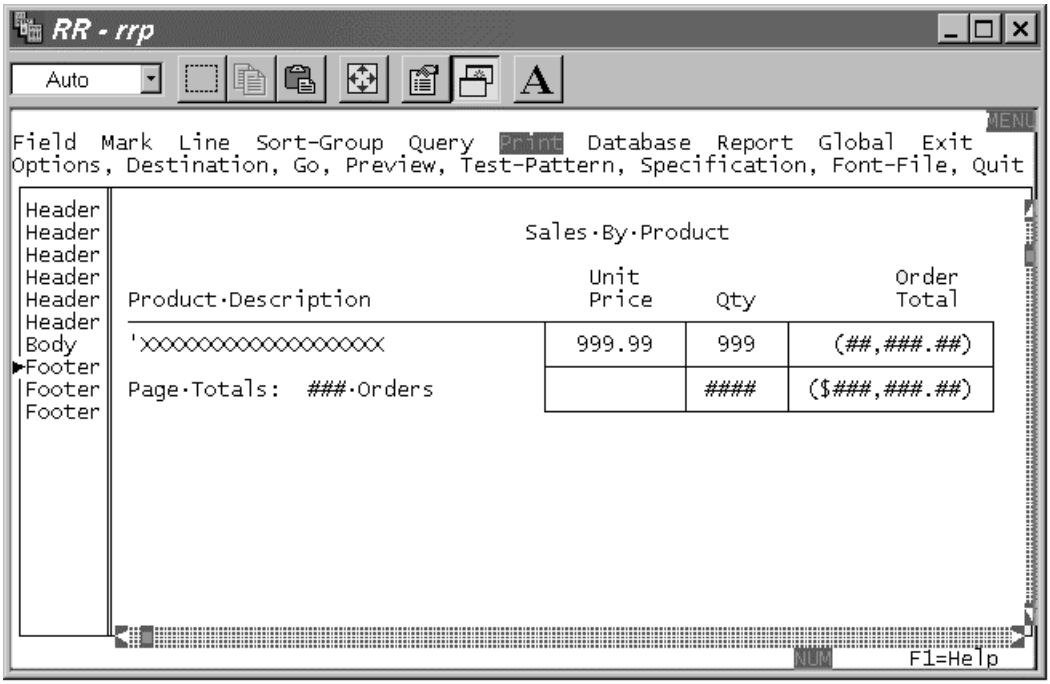

Figure 4. Layout after Makeover

In the page header, we added one text field below the column headings, using the proper line characters. We also made sure we added the proper line characters to connect to the vertical lines that run parallel to the data on the report. We then added vertical lines in the appropriate places on the body line.

As the next step, we added a text field with the line characters that connect to the vertical lines on the first line of the page footer. On the second footer line, we inserted individual text fields consisting of just the vertical line character between the fields.

Then, we added an additional footer line and created one text field with the line characters needed to finish up the box surrounding the footer data.

Finally, we added the filler lines. Typing /Print Preview at this point illustrates the need for filler lines. Notice in Figure 5 below that the area between the body and the page footer is blank. This is as you would expect, but not as you would want for this type of report. The following four steps explain how filler lines are created.

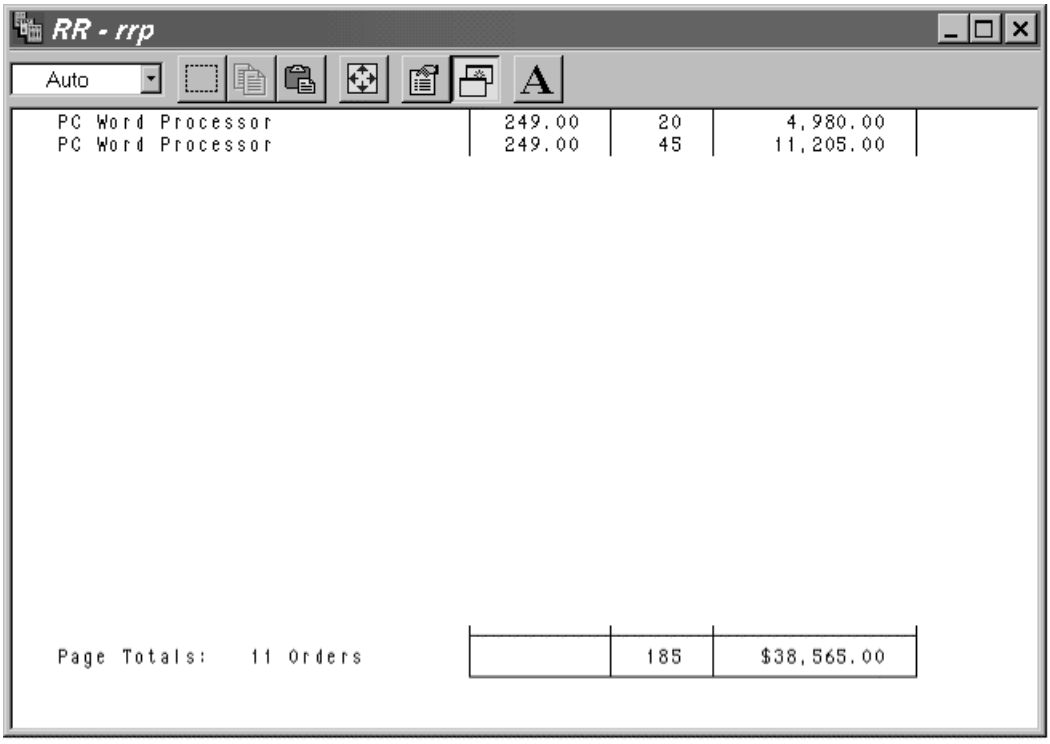

Figure 5. Invoice without Filler Lines

1. Calculate how many sets of filler lines are required. By counting the number of lines between the page header and page footer, then dividing by the number of body lines, you can determine the maximum number of line items that fit on a page. Subtract one from this number (since every invoice has at least one line item) to arrive at the number of sets of filler lines required.

   The basic columnar report may have a number of blank lines to fill. In this document, we explain how to do this, assuming there are three blank lines to fill. The process can easily be expanded to cover more lines.

2. Create the filler lines. Filler lines are placed in the group footer area so they print after all the line items. The first set of filler lines is created by copying the body area into the group footer area, then erasing the fields. Remaining sets of filler lines are created by replicating the first set.

   In this example, we copied both body lines using the /Line Replicate Footer 1 command. Then we erased the fields using the /Field Erase command. Finally, we replicated both group footer lines two more times to give a total of three sets of filler lines.

3. Create print conditions for the filler lines. Each set of filler lines must print only on the condition that there are fewer line items than fit on a page. The first set of filler lines should print only if there is one line item, the second set only if there are one or two line items, and the third set only if there are three or fewer line items.

In this example, we first created a line item count using the /Field Total Create Count command. We selected page as the reset level so that the count resets for each page. We called this field Item_Count.

Next, we created three calculated fields that define the conditions for printing each of the three sets of filler lines. Using the /Field Calculate Create command, we defined the three filler conditions as follows.

```
FillCond_1 = INRANGE(MOD(Item_Count,4),1,1)
FillCond_2 = INRANGE(MOD(Item_Count,4),1,2)
FillCond_3 = INRANGE(MOD(Item_Count,4),1,3)
```

Ignoring the MOD() function for a moment, here is how the expressions work. The INRANGE() function checks whether the number of line items on the invoice warrants inclusion of the corresponding set of filler lines. The expression INRANGE(Item_Count,1,1), for example, checks whether there is only one line item because, if so, we want the first set of filler lines to print.

The MOD() function is included to allow for multi-page invoices (those that contain more than four line items). The remainder after dividing the line item count by four tells you how many items are on the last page, and therefore how many sets of filler lines to insert. In your own applications, replace the number 4 with the maximum number of line items that fit on a page.

4. Apply print conditions to the filler lines. Use the /Line Print Logical command to apply the fields created in step three to the filler lines.

   In this example, we applied FillCond_1 to the first set of filler lines (the first two group footer lines). We then applied FillCond_2 to the second set of filler lines (the third and fourth group footer lines). Finally, we applied FillCond_3 to the third set of filler lines (the last two group footer lines).

   The line type indicator is displayed in bold, to indicate that a print condition is associated with the line. You can press [Shift-F4] in Ready Mode to display the condition associated with the current line.

This completes the page makeover. From the example given, you ought to be able to adapt this technique to your existing reports and give them a more business-like appearance.

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