Fujitsu Software
PowerFORM V13.0

Getting Started

Windows

Preface

PowerFORM is a tool for designing graphical reports using NetCOBOL print files.

Audience

This manual is for anyone intending to use PowerFORM. It assumes the reader has a reasonable understanding of COBOL.

How this Manual is Organized

This manual consists of the following chapters and appendixes:

Chapter	Contents
Chapter 1. Introduction to PowerFORM	Gives an overview of the PowerFORM product, a description of Outline of Additional Functionality.
Chapter 2. Understanding PowerFORM Concepts	Explains the key concepts you need to know to use PowerFORM.
Chapter 3. Getting Started with PowerFORM.	Describes all parts of the PowerFORM interface and walks you through the creation of your first form.
Chapter 4. Programming with PowerFORM.	Explains how use the forms created with PowerFORM from COBOL programs.
Chapter 5. Using PowerFORM	Tips on using a number of PowerFORM features.

How to Use This Manual

First-time users of PowerFORM should read the introductory comments in Chapter 1, then proceed through Chapters 2 to 5.

Experienced PowerFORM users should review the new features list and upgrading notes in Chapter 1, review the new interface details in Chapter 3, and check the topics of interest in Chapter 5.

Conventions Used in this Manual

This manual uses the following typographic conventions.

Example of Convention	Description
setup	Characters you enter appear in bold.
<u>Program-name</u>	Underlined text indicates a place holder for information you supply.
ENTER	Small capital letters are used for the name of keys and key sequences such as ENTER and CTRL+R. A plus sign (+) indicates a combination of keys.
...	Ellipses indicate the item immediately preceding can be specified repeatedly.
Edit, Literal	Names of pulldown menus and options appear with the initial letter capitalized.
[def]	Indicates that the enclosed item may be omitted.
$\left\{ \dfrac{ABC}{DEF} \right\}$ or {<u>ABC</u>|DEF}	Indicates that one of the enclosed items (delimited by |) is to be selected. If items are omitted the underlined item is assumed.

CHECK WITH PASCAL LINKAGE ALL PARAGRAPH-ID COBOL <u>ALL</u>	Commands, statements, clauses, and options you enter or select appear in uppercase. Program section names, and some proper names also appear in uppercase. Defaults are underlined.

``
PROCEDURE DIVISION:
 ADD 1 TO POW-FONTSIZE OF LABEL1.
 IF POW-FONTSIZE OF LABEL1 > 70 THEN
  MOVE 1 TOW POW-FONTSIZE OF LABEL1.
 END-IF.
``
	This font is used for examples of program code.

The *sheet* acts as an application creation window.	Italics are occasionally used for emphasis.
"NetCOBOL Language Reference" Refer to "Compile Options" in Chapter 5.	References to other publications or sections within publications are in quotation marks.

Product Names

Product Name	Abbreviation
Microsoft(R) Windows Server(R) 2025 Datacenter Microsoft(R) Windows Server(R) 2025 Standard	Windows Server 2025
Microsoft(R) Windows Server(R) 2022 Datacenter Microsoft(R) Windows Server(R) 2022 Standard	Windows Server 2022
Microsoft(R) Windows Server(R) 2019 Datacenter Microsoft(R) Windows Server(R) 2019 Standard	Windows Server 2019
Windows(R) 11 Home Windows(R) 11 Pro Windows(R) 11 Enterprise Windows(R) 11 Education	Windows 11

In this manual, when all the following products are indicates, it is written as "Windows".

- Windows Server 2025

- Windows Server 2022

- Windows Server 2019

- Windows 11

Related Manuals

Other manuals of particular relevance to PowerFORM users:

NetCOBOL Language Reference
NetCOBOL User's Guide
PowerFORM Runtime Reference

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Revision History

Change Description	Affected Section	Edition
Added Windows Server 2025 to supported systems.	Preface / Chapter 1.1	Version 2.0

Contents

Chapter 1 Introduction to PowerFORM

This chapter introduces you to the latest version of PowerFORM. It gives:

- An overview of how you can use PowerFORM.

- Lists of new features for those upgrading from earlier versions.

1.1 Overview of PowerFORM

PowerFORM is a tool designed to help you produce good-looking reports that can be printed in a number of environments. It is tailored to work with COBOL applications. Programming for PowerFORM is almost identical to writing a regular print file.

PowerFORM gives highly flexible formatting and helps you include most graphics that would otherwise have to be printed on pre-printed forms.

With little effort you can convert character-based reports like that shown in Figure 1.1, to a report with the fonts of your choice, graphical borders, dividing lines and colors, like that shown in Figure 1.2.

Figure 1.1 A Character-based Report

Figure 1.2 A Report Created with PowerFORM

Consider the possibilities of using PowerFORM, compared to regular print files that have few formatting options and often require special pre-printed forms for any graphics.

Better, Faster, Easier Reports with PowerFORM

PowerFORM helps you:

- Create forms with ruled and curved lines, shading, and graphics.

- Tailor character size, density and printing pitch.

- Incorporate color into your reports.

- Create professional looking reports

- Ease the creation and maintenance of reports.

PowerFORM Environments

PowerFORM runs in Windows (Windows 11, Windows Server 2019, Windows Server 2022 and Windows Server 2025 environments and supports development of forms to run on Windows and UNIX environments. Check with your PowerFORM sales representative for the latest list of supported platforms.

Getting Started with PowerFORM

This manual aims to give you a quick start to using PowerFORM while covering all the key facts you need to be fully productive with the product.

It guides you through the product and its concepts, helps you create your first report and uses a sample program to show you how to program with PowerFORM. It is arranged as follows:

The remainder of **Chapter 1** provides information on the latest features added to PowerFORM.

Chapter 2 introduces you to the key PowerFORM concepts on which your reports will be built.

Chapter 3 explains the various parts of the PowerFORM main window and guides you through the creation of a professional report.

Chapter 4 tells you how to program with PowerFORM.

Chapter 5 lists a number of suggestions for becoming more productive with PowerFORM and provides help on commonly asked questions.

Have fun discovering the power of PowerFORM!

1.2 Outline of Additional Functionality

PowerFORM V13 has no added functionality from PowerFORM V11.

PowerFORM V11. contains a number of significant enhancements over V6, making the form design easier and increasing your options for creating excellent printed reports.

The enhancements in PowerFORM V11 are:

Features that Enhance the Printed Forms

Improvements of Expressions on Forms

- You can specify values for barcodes: the intercharacter gap (the gap between the characters), the ratio of the width of narrow bars and wide bars, and the drawing methods for the quiet zone (margins on a barcode's left and right ends).

- You can specify [Suppress any Decimal Places] for the numeric field.

- The visible fields can now include radio buttons and checkboxes.

- You can specify strikethroughs for fields.

- The maximum value of the data length for the following fields has been expanded.

  - UCS2 fields: 998 to 2994

  - Block UCS2 fields: 998 to 9998

- Mixed fields: 999 to 2997

- Block mixed fields,Block alphanumeric fields,Record fields: 999 to 9999

- You can define the barcodes for EAN-128 (Convenience Store).

- You can define the forms in free frame format.

- You can define a barcode for Code 3 of 9 (EIAJ Compliant).

- You can specify the orientation of a string for the following fields: static fields, numeric fields, alphanumeric fields, UCS2 fields, mixed fields, OCR-B fields, date fields, and time fields, as well as overlay text.

- You can specify word wrap for block alphanumeric fields, block UCS2 fields and block mixed fields

- You can specify the text shrinking of block alphanumeric fields, block UCS2 fields and block mixed fields

- You can specify the automatic expansion of block alphanumeric fields, block UCS2 fields, block mixed fields and partitions.

- You can specify multiple byte size for currency symbols in the numeric fields.

- You can specify the following for currency symbols: [$--,---9], [ZZZ,ZZ9$], [ZZZ,ZZ9$CR], [ZZZ,ZZ9CR$], [ZZZ,ZZ9$DB], [ZZZ,ZZ9DB$], [ZZZ,ZZ9$-], [ZZZ,ZZ9-$], [-ZZZ,ZZ9$], [---,--9$].

- You can specify the edit format for decimal places of numeric fields.

- You can specify [Float Sign/Currency Symbol Before Value] for the edit format.

- You can specify [Use Native Resolution] or [Transparency] for image fields.

- The value of a character pitch can be specified to 1.5 for the following: static fields, UCS2 fields, mixed fields, date fields and time fields.

- You can specify [OutputID] for static fields.

- The number of digits for numeric fields has been expanded to 31 digits.

Improvements on the Form Designing Support Functions

- When preparing the field information (names, data lengths, digits, types) in INI files beforehand, you can easily define the fields by dragging and dropping items from the field entry list on the edit window.

- You can use wizard to add block UCS2 fields, block alphanumeric fields, block mixed fields, OCR-B fields, radio buttons, and checkboxes.

- You can change the following fields from record to visible fields: block UCS2 fields, block alphanumeric fields, block mixed fields, OCR-B fields, and radio buttons, as well as checkboxes.

- When creating graphical content such as a table,it is possible to automatically connect the created line with the one lying on its extension.

- Multiple fields or graphics can be placed together to fit into the constraint spacing of the grid.

- You can easily create a horizontal/vertical line by defining a line while the [Shift] key is held down.

- The improved shortcut key functions enable you to define forms more efficiently than ever before.

- The quick handle to expand/close down fields is added to enlarge the size of the edit area with a single operation.

- The zoom function of the edit window has been improved.

- The shape of the mouse cursor when placed over the selectable objects has been revised so that the operations on the edit window are visually more understandable.

Other Improvements

- The command is available to convert the form descriptor (.pmd) created by PowerFORM to the one handled in UTF-32.

1.3 Upgrading from PowerFORM V1,V2,and V6

The format of the form descriptor created by PowerFORM V1,V2 or V6 is converted when imported by PowerFORM V13.0.0.

The conversion does not affect the output form or a COBOL application.

However, the converted form descriptor cannot be handled in PowerFORM V1,V2 or V6.

Take note of the following below when importing the form descriptor with PowerFORM V13.

- The text field of the form descriptor when imported with PowerFORM V1, V2, or V6 is a Mixed Text Field.

- Because font information is not included in the form descriptor when imported with Power-FORM V1, the font face default is already set.

Chapter 2 Understanding PowerFORM Concepts

PowerFORM is a straightforward tool to use both for designing and programming printed reports. You only need to understand a few simple concepts to master the tool and reap the full benefits. The key concepts are:

- How PowerFORM fits into your development and execution processes

- PowerFORM descriptor and overlay files

- PowerFORM partitions

This chapter explains these concepts and the next chapter shows you how to put them into action to create a print report.

2.1 Understanding PowerFORM in the Development and Execution Processes

PowerFORM provides an interactive environment for designing print reports. It creates:

- COPY text to be included in your COBOL programs at compile time,

- Form descriptors and overlays that define the appearance and contents of the reports, and are used at execution time.

Figure 2.1 shows how PowerFORM fits into the COBOL development and execution environments. The numbers show the parts involved in the steps listed following the figure.

Figure 2.1 PowerFORM and the Development and Execution Processes

The steps in the development and execution processes are:

1. Design the print report using PowerFORM

2. Confirm the appearance of the report either by viewing it on-line or printing it on a printer. PowerFORM creates the descriptor, and overlay required for printing by the PowerFORM runtime.

3. Create the code to manage the printing. The COBOL compiler accesses a COPY library containing the record definitions for interfacing with the form descriptor. The COPY library is held in the form descriptor file.

4. Create printer information files for each environment in which the application will run.

5. Execute the application. The COBOL runtime recognizes the PowerFORM print file and invokes the PowerFORM runtime. The PowerFORM runtime uses the form descriptor, overlay and printer information files to prepare and print the information output by the COBOL application.

Using PowerFORM for UNIX Applications

You can use PowerFORM to design print reports for use with UNIX applications. The development environment only runs on Windows, but the runtime supporting files can be taken to the UNIX environment for use with UNIX applications.

PowerFORM supports PostScript and PCL printers in the UNIX environment.

The diagram below illustrates using PowerFORM for UNIX applications.

Figure 2.2 Using PowerFORM for UNIX Applications
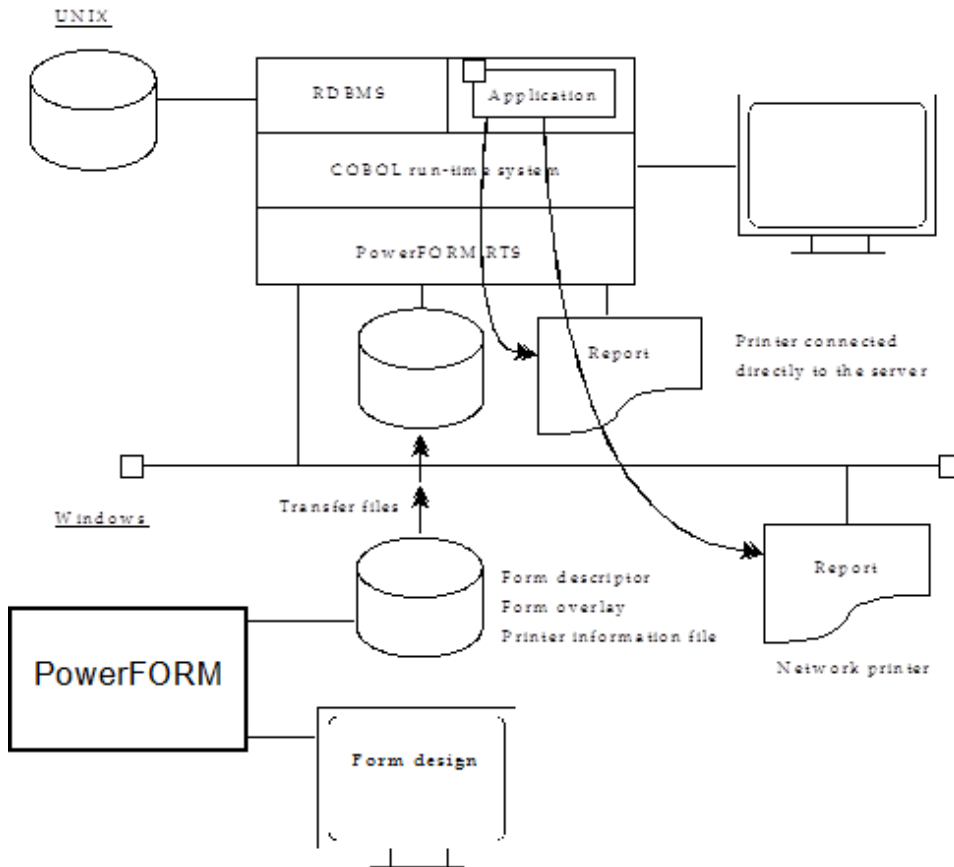
2.2 Understanding PowerFORM Descriptors and Overlays

PowerFORM stores the layouts of your print reports in two files: the descriptor file and the overlay file. The descriptor file has a .PMD extension and the overlay file has a .OVD extension.
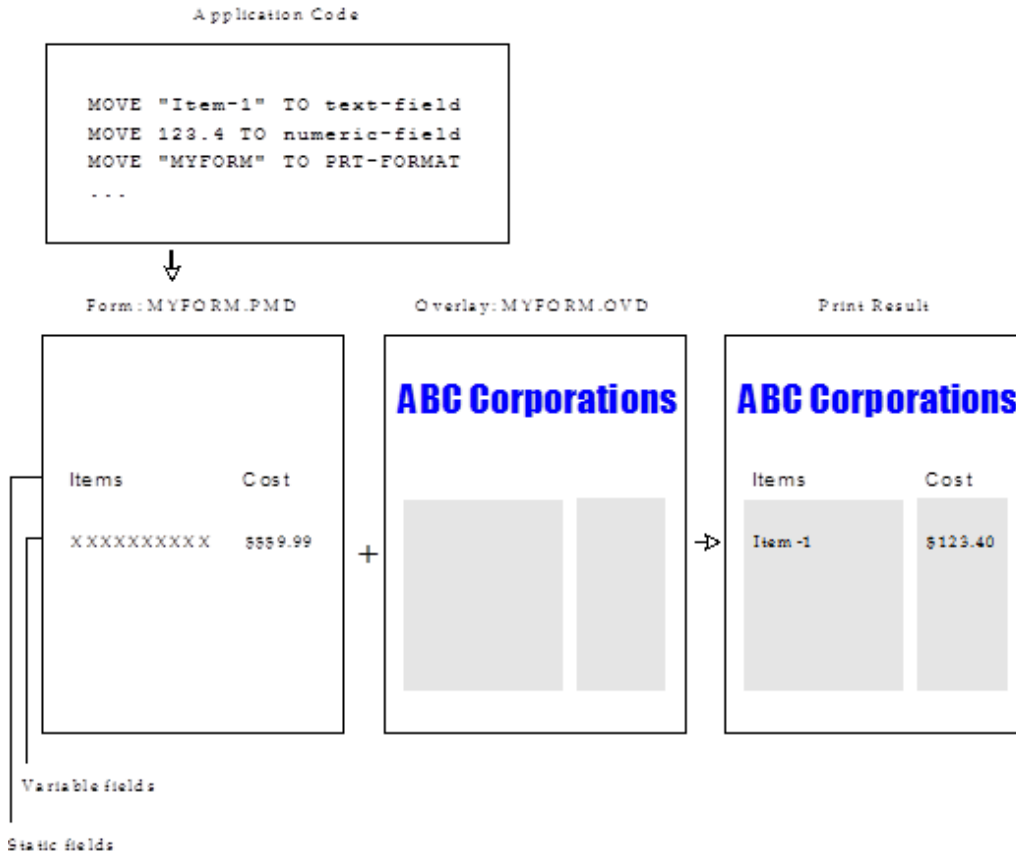
The overlay file is best thought of as a background on which the information contained in the descriptor file is printed. The overlay contains static text and graphics that are fixed in position on the page. The descriptor contains all the variable information and can also contain static text and graphics that have variable positions or are more conveniently kept with the variable information.

When creating a print file you can use different overlays for different pages, but once the overlay is selected the background for a particular page is set. The foreground is then determined by which parts (partitions - see the next section) of the descriptor file are output by the program.

You will see descriptors referred to as "form descriptors" or just "forms", and overlays as "form overlays" and sometimes as "overlay descriptors".

What is actually printed is the combination of the background form overlay and the foreground form descriptor, as illustrated in Figure 2.3. The application supplies the variable information, which the PowerFORM runtime adds to the static fields in the form descriptor. Then the runtime merges these with the form overlay to produce the final print result.

Figure 2.3 How Form Descriptors and Overlays Combine.

Application Code

```
MOVE "Item-1" TO text-field
MOVE 123.4 TO numeric-field
MOVE "MYFORM" TO PRT-FORMAT
...
```

Form: MYFORM.PMD   Overlay: MYFORM.OVD   Print Result

ABC Corporations   **ABC Corporations**

Items   Cost   Items   Cost

XXXXXXXXXX $$$9.99   +   Item -1 $123.40

Variable fields

Static fields

When you design your reports in PowerFORM you place descriptor and overlay objects on the same work surface. Thus you can be sure that alignments are correct. When you save your report PowerFORM creates both the descriptor (.PMD) and overlay (.OVD) files.

All the fields, partition lines and partition rectangles are stored in the form descriptor. All the other drawing objects, such as overlay characters, lines and ellipses, are stored in the form overlay.

# 2.3 Understanding PowerFORM Partitions

In PowerFORM you create reports, or forms, as combinations of partitions. A simple form may have a single, fixed-position partition. A complex form may have many partitions some fixed in position, others of variable position. A partition is a group of lines that are output together by your program. Partitions can be either fixed or floating.

A **fixed partition** has a fixed location on the page. Whenever it is printed it will always appear in the same place on the page - for example at the top or at the bottom. Fixed partitions are therefore mostly used for page headers and footers.

A **floating partition** is printed below the last partition that was printed. You can therefore print many instances of a floating partition on a single page - each instance is printed below the previous instance. Floating partitions are used for information such as detail lines, sub-total and total lines.

Figure 2.4 below shows a report with heading, detail, sum and total lines. The left hand block shows the partitions set up in PowerFORM, the right hand block shows the actions taken by the program, and the middle block shows, schematically, the print output.

Figure 2.4 Example Showing Fixed and Floating Partitions
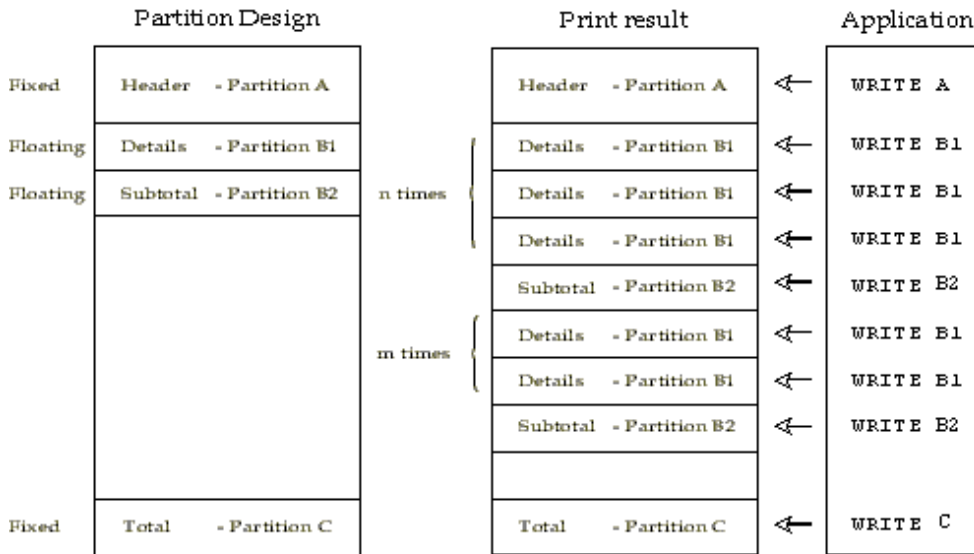
PowerFORM uses an anchor symbol, ⚓, to denote fixed partitions, and a life belt symbol, 🛟, to denote floating partitions.

Partitions and the PowerFORM Wizard

The PowerFORM Wizard offers you the choice of four report patterns:

- Free Frame

- Fixed

- Head/Body/Tail

- Labels

- Multiple Parts

Essentially these are different combinations of partition types, so the Wizard gives you a quick way of creating reports based on one of these patterns.

The **Fixed** report pattern consists of a single fixed partition. Use this pattern for reports that have no repeating lines.

The **Head/Body/Tail** report pattern lets you select from:

- a single fixed partition for your report heading,

- a single floating partition for repeated lines, and

- a single fixed partition for the report tail.

The Wizard places headings for the repeated lines in the Head partition and sizes each partition according to the amount of data you place in that partition.

The **Labels** patterns consist of a single fixed partition, but take advantage of the repeating rectangle feature to provide horizontal and vertical repeating data.

The **Multiple Parts** report pattern lets you select from:

- a single fixed partition for your report heading (offered after the other partitions in the wizard's sequence),

- a single fixed partition for your page heading,

- one or more control header floating partitions

- a single floating partition for detail lines

- one or more control footer floating partitions, and

- a single fixed partition for your report or page footer.

The Wizard places headings for the repeated lines in a control header partition and sizes each partition according to the amount of data you place in that partition.

The **Free Frame** lets you select from:

- Multiple parts that outputs in steps by class

- A part that outputs repetitive detailed horizontal lines

- A part that outputs the details of a different layout to one slip.
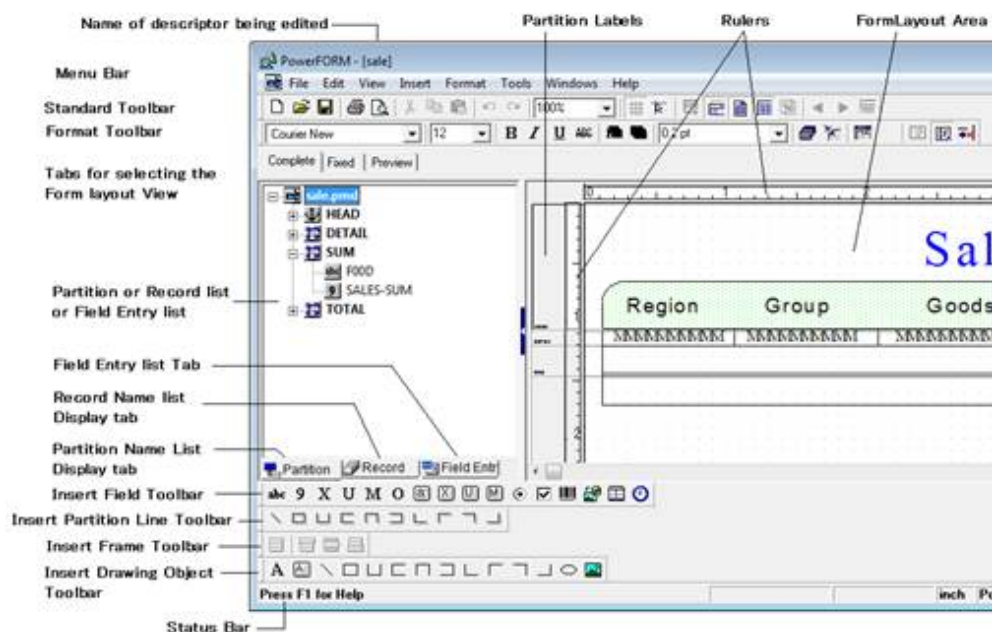
Chapter 3 Getting Started with PowerFORM

This chapter introduces you to the components of the PowerFORM main window and guides you through the creation of a report.

3.1 The PowerFORM Interface

3.1.1 Overview

Figure 3.1 shows the components of the PowerFORM interface.

Figure 3.1 The PowerFORM Interface

The main design or work area is the Form Layout Area. You can configure what is shown in the Form Layout Area using the All, Fix and Preview tabs and by selecting certain details from the View menu.

The Partition Name List and Record Name List pane lets you control how the report is segmented and how the data items are grouped.

The menu bar gives access to all PowerFORM functions through menus and dialog boxes. The functions are grouped logically and have full text descriptions. The menu bar is therefore the best place to explore PowerFORM's functions.

The toolbars give one-click access to most of the frequently used functions. Once you feel confident in using a particular function, or find that you are accessing a function frequently from the menu bar, you will want to learn the toolbar button for that function. This will speed your work.

Use Tooltips to discover or check the function of each toolbar button. Hover the mouse pointer over the button for a second or more, and PowerFORM displays a tooltip describing the button's function.

The status bar displays various settings and provides helpful messages.

3.1.2 Interface Details

The components of the interface shown in Figure 3.1 are explained in detail in the sections below. The explanations are in alphabetical order, using the terms shown in Figure 3.1.

The explanations also include the pop-up menu, not shown in Figure 3.1.

3.1.2.1 Form Layout Area

This is the main work area where you design your forms. Fields and graphic objects are placed in this area.

Use the tabs to change the view presented in the Form Layout Area. You can display both fixed and floating partitions (All), only fixed partitions (Fixed) or create a mock-up of how your report will appear using Preview.

The following View menu functions also affect what is shown in the Form Layout Area: Show/Hide Partition, Hide All Partitions, Show Overlay, Show Partition Lines, and Grid.

3.1.2.2 Format Toolbar

The Format Toolbar provides functions for formatting the currently selected text or graphics object:

 - Select Font for currently selected field. Note that not all fonts are displayed in the form layout area so the field may continue to be displayed in the default font. The font is applied when the report is printed.

Full font details, including color, width and characters per inch, can be configured using the field properties dialog (displayed by double clicking on the field in the Form Layout Area).

 - Select Point Size for currently selected field.

B - Toggle Text Bold/Not

I - Toggle Text Italic/Not

<u>U</u> - Toggle Text Underline/Not

ABC - Selected String:Cross-out Line Set / Release

 - Field Color - sets the color for the currently selected field, from the custom palette.

 - Overlay Color - sets the border (left mouse button) and fill (right mouse button) colors of graphics objects.

 - Line Weight and Style - changes line weight or line style.

 - Pattern - Sets the fill pattern for the currently selected graphic object.

 - Round corners - Selects a round-corners tool that you can use to round the corners of partition and overlay rectangles.

You can alter the curvature of the corners in the Properties dialog for rectangle objects or by changing the default values for drawing objects from the Tools menu.

 - Properties - Displays the properties dialog box for the currently selected object.

 - Sets a frame link.

 - Field font size cannot be changed by resizing a field with the mouse.

 - Turns line auto-connection on/off.

3.1.2.3 Insert Field Toolbar

The Insert Field Toolbar lets you place fields in partitions. To insert a field:

1. Click on the appropriate button.

2. Move the mouse pointer to the intended top left position of the field in the Form Layout Area.

3. Click the left mouse button and drag the pointer to the intended bottom right position of the field.

4. Releasing the mouse button places the field on the form.

Supported fields are:

abc   Static Text Field

9   Numeric Field

X   Text Field

U   UCS2 Field

M   Mixed Text Field

O   OCR-B Field

a   Block Static Field

X   Block Text Field

U   Block UCS2 Field

M   Block Mixed Text Field

⊙   Radio Button Field

☑   Check Box Field

‖‖‖   Barcode Field

  Bitmap Field (referred to as a "built-in" field)

  Date Field

🕐   Time Field

3.1.2.4 Insert Partition Object Toolbar

The Insert Partition Object Toolbar lets you place drawing objects in the Form Partition Layout Area. To place a drawing object on your form:

1. Click on the toolbar button

2. Move the pointer to the starting position for the object.

3. Click to start drawing the object and drag to set the extent of the object.

4. Releasing the mouse button places the object on the form.

Drawing objects automatically become part of the form overlay, so place them exactly where you want them to appear on the page.

The drawing objects are:

⬚ Line

⬚ Rectangle

⬚ Three sides of a rectangle (right, bottom, left)

⬚ Three sides of a rectangle (bottom, left, top)

⬚ Three sides of a rectangle (left, top, right)

⬚ Three sides of a rectangle (top, right, bottom)

⬚ Two sides of a rectangle (bottom, left)

⬚ Two sides of a rectangle (left, top)

⬚ Two sides of a rectangle (top, right)

⬚ Two sides of a rectangle (right, bottom)

3.1.2.5 Insert Overlay Object Toolbar
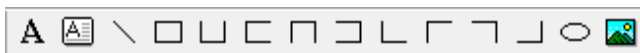
The Insert Overlay Object Toolbar lets you place drawing objects in the Form Overlay Layout Area. To place a drawing object on your form:

1. Click on the toolbar button
2. Move the pointer to the starting position for the object.
3. Click to start drawing the object and drag to set the extent of the object.
4. Releasing the mouse button places the object on the form.

Drawing objects automatically become part of the form overlay, so place them exactly where you want them to appear on the page.

The drawing objects are:

A Overlay character - inserts static text in the overlay

⬚ Overlay Block Text

⬚ Line

⬚ Rectangle

⬚ Three sides of a rectangle (right, bottom, left)

⬚ Three sides of a rectangle (bottom, left, top)

⬚ Three sides of a rectangle (left, top, right)

⬚ Three sides of a rectangle (top, right, bottom)

⌞ Two sides of a rectangle (bottom, left)

⌜ Two sides of a rectangle (left, top)

⌝ Two sides of a rectangle (top, right)

⌟ Two sides of a rectangle (right, bottom)

▱ Ellipse

🖼 Picture - inserts a bitmap of the object currently held in the clipboard.

3.1.2.6 Menu Bar

🖳 File Edit View Insert Format Tools Windows Help
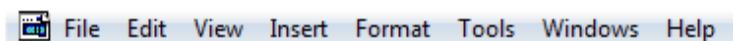
Provides access to all of PowerFORM's functions through drop-down menus and dialog boxes. PowerFORM also provides access to many of these functions by other means such as toolbars and pop-up menus.

The functions are grouped on the menus as follows:

🖳

- Control menu button. Provides functions for manipulating form windows in the multiple document interface. For example, you can have several forms open, each in its own document window, and use these functions for working with these windows.

File

- File level functions such as creating, opening, closing, printing, form properties and applying different overlay patterns.

Edit

- Editing functions such as undo, cut, copy, paste, and aligning items. Includes the ability to add common records and create multiple copies of an item.

View

- Functions to configure what you see in PowerFORM's window. You can show or hide interface elements such as the toolbars, and select which parts of the form definition are displayed in the Form Layout Area, such as the overlay and partition lines.

Insert

- Functions to add the available objects, such as text fields, partition lines, and partitions, to your form design.

Format

- Functions for editing the format of objects including their properties, the available colors, the order for overlapping objects, and whether changes to one item's properties become the default for the next item that is inserted.
Four functions (Field Fonts, Overlay Character Fonts, Partition Lines Format, and Drawing Objects Format) provide the ability to set properties when more than one object is selected.

Tools

- Functions for configuring defaults and the PowerFORM options.

Windows

- Functions for selecting and arranging windows when you have more than one form open.

Help

- Access to the PowerFORM help.

3.1.2.7 Name of Descriptor being Edited

PowerFORM - [sale]

PowerFORM displays the name of the descriptor currently being edited in the window title bar. You can edit multiple descriptors within the same PowerFORM session, using the Window menu to switch between descriptors.

3.1.2.8 Partition Name List

The Partition Name List lists the partitions that make up the descriptor.

The anchor symbol, ⚓, indicates fixed partitions, and the life belt symbol, 🛟, indicates floating partitions.

Click on the + sign to expand the list to show the fields contained in that partition. On the View menu you can unselect "Show Static Fields" so that PowerFORM only displays variable data items.

In Preview view you drag partitions from the partition list to the Form Layout Area to show them in the Preview.

3.1.2.9 Partition Labels

The Partition Labels show the name and extent of the partitions displayed in the Form Layout Area.

3.1.2.10 Pop-up Menus

When the mouse pointer is over the Form Layout Area or the Partition/Record Name List pane, you can click the right mouse button to bring up a pop-up menu.

| Delete |
Rename
Hide Partition
✔ Show Static Fields
Lock
Unlock
Properties...

Partition Name List Pop-up

| ✂ Cut |
| 📋 Copy |
| 📋 Paste |
Delete
Align Selection...
Snap to Grid ▶
Group ▶
Lock ▶
Move ▶
Properties...

Form Layout Pop-up

| Delete |
| Rename |
Change Level...
Insert Record
Insert Group Item
Properties...
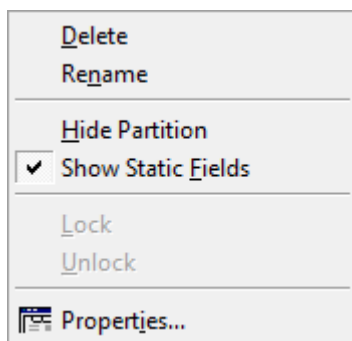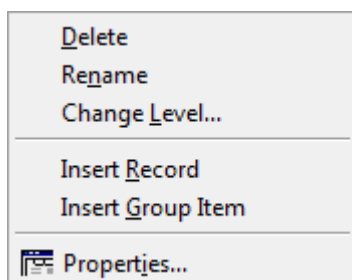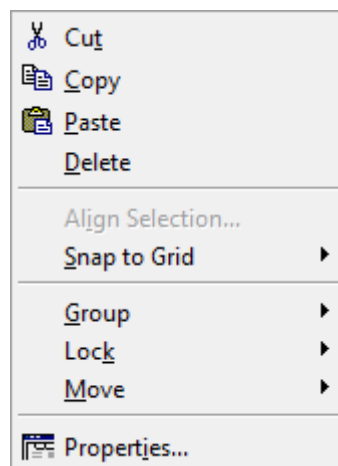
Record Name List Pop-up

The pop-up menu provides quick access to common functions. Only those functions that apply to the current selection are enabled.

3.1.2.11 Rulers

The Rulers show your position in the page measured from the top left corner.

You can turn the display of the rulers off or on by selecting or unselecting "Rulers" from the View menu.

You configure the units of measurement (inches or millimeters) using the View, Grid menu function.

3.1.2.12 Standard Toolbar
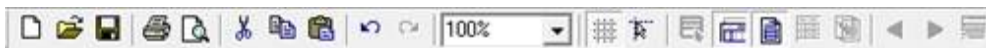
The Standard Toolbar provides the standard functions:

- New File

- Open File

- Save File

- Print

- Print Preview

- Cut

- Copy

- Paste

- Undo

- Redo

- Zoom Control - adjusts the enlargement factor for the form layout area.

- Gridlines On/Off

- Snap-to-Grid On/Off

- Toggle lock/unlock of frames/partitions for editing.

- Show Overlay On/Off

- Show Partition Lines On/Off

- Show/Hide Lines Between Layout Areas

- Show/Hide Template Image

- Show Preceding Report Page

- Show Next Report Page

- Allows Arrangement of the Layout Area When in Preview

Mode

3.1.2.13 Status Bar
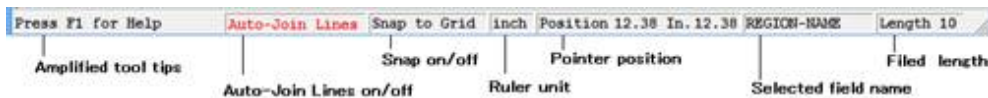
The Status Bar gives information about the items selected or pointed at:

Amplified tool tips - gives an expanded explanation of the button or function under the pointer.

Auto-Join Lines on/off - displays "Auto-Join Lines" when Auto-Join Lines is turned on, otherwise is blank.

Snap on/off - displays "Snap to grid" when snap to grid is turned on, otherwise is blank.

Ruler unit - displays "Inch" when the ruler units are inches, and "mm" when the ruler units are centimeters, and "dot" when the ruler units are dots.. (Set in the View, Grid menu function.)

Pointer position - horizontal and vertical position of the pointer, or of the top left corner of the object being dragged.

Selected field name - the name of the currently selected field.

Field length - length, in bytes, of the currently selected field.

3.1.2.14 Tabs for Selecting the Form View

Use these tabs to change the information presented in the Form Layout Area.

Complete - Shows all partitions stacked immediately underneath one another. For example, a fixed footer partition that is printed at the bottom of the page is displayed after the last floating partition - even if it is half-way up the page.

Fixed - Shows only fixed partitions, in the positions they will be printed on the page. If two or more fixed partitions overlap only the last displayed partition is shown. To display one of the other partitions, hide the currently displayed partition and show the other partition.

Preview - Lets you get a feel for how your report will look by providing the ability to repeat floating partitions many times. Drag partitions from the Partition List to have the partition displayed in the Preview.

PowerFORM displays the form overlay in all views of the report. The horizontal alignment of overlay objects with partition objects is best checked in either the Fix or Preview views. The All view does not place partitions in their expected vertical positions.

You can drag the dividing lines between partitions in the Form Layout Area to change the heights of partitions.

You can change the positions of fixed partitions by dragging the partition label in either the Fix or Preview views.

3.2 Creating a Report

This section takes you through all the steps to create a typical report. Figure 3.2 shows the end result.

Figure 3.2 The report you create in this section

Sales Summary

Region	Group	Goods	Date	Customer	Sales
Washington	GOLF	Shoes	20/01/96	Fujitsu Green Inc.	200,000
		Bag	20/02/96	Fujitsu Blue Co.,Ltd.	600,000
		Wear	20/02/96	Fujitsu Cyan Trading	500,000
		Ball	20/03/96	Fujitsu White Inc.	5,000
		Shoes	20/03/96	Fujitsu Yellow Inc.	200,000
		Wear	20/04/96	Fujitsu Black Trading	500,000
		Club Set	20/05/96	Fujitsu Brown Co.,Ltd.	1,800,000
		Bag	20/06/96	Fujitsu Gray Trading	600,000
		Ball	20/06/96	Fujitsu Pink Inc.	5,000
		Wear	20/06/96	Fujitsu Light Blue Inc.	500,000
		Shoes	20/07/96	Fujitsu Red Business	200,000
		Club Set	20/08/96	Fujitsu Magenta Co.,Ltd	1,800,000
				Sum	$6,910,000
Washington	FOOTBALL	Shoes	20/01/96	Fujitsu Green Inc.	200,000
		Bag	20/02/96	Fujitsu Blue Co.,Ltd.	600,000
		Wear	20/02/96	Fujitsu Cyan Trading	500,000
		Ball	20/03/96	Fujitsu White Inc.	5,000
		Shoes	20/03/96	Fujitsu Yellow Inc.	200,000
		Wear	20/04/96	Fujitsu Black Trading	500,000
		Club Set	20/05/96	Fujitsu Brown Co.,Ltd.	1,800,000
		Bag	20/06/96	Fujitsu Gray Trading	600,000
				Sum	$4,405,000
Washington	SKI	Shoes	20/01/96	Fujitsu Green Inc.	200,000
		Bag	20/02/96	Fujitsu Blue Co.,Ltd.	600,000
		Wear	20/02/96	Fujitsu Cyan Trading	500,000
		Ball	20/03/96	Fujitsu White Inc.	5,000
		Shoes	20/03/96	Fujitsu Yellow Inc.	200,000
		Wear	20/04/96	Fujitsu Black Trading	500,000
				Sum	$2,005,000
Washington	TENNIS	Shoes	20/01/96	Fujitsu Green Inc.	200,000
		Bag	20/02/96	Fujitsu Blue Co.,Ltd.	600,000
		Wear	20/02/96	Fujitsu Cyan Trading	500,000
		Ball	20/03/96	Fujitsu White Inc.	5,000
		Shoes	20/03/96	Fujitsu Yellow Inc.	200,000
		Wear	20/04/96	Fujitsu Black Trading	500,000
		Club Set	20/05/96	Fujitsu Brown Co.,Ltd.	1,800,000
		Bag	20/06/96	Fujitsu Gray Trading	600,000
		Ball	20/06/96	Fujitsu Pink Inc.	5,000
		Wear	20/06/96	Fujitsu Light Blue Inc.	500,000
		Shoes	20/07/96	Fujitsu Red Business	200,000
				Sum	$5,110,000
				Total Sum	$41,070,000

3.2.1 Step-by-Step Instructions

A.Start PowerFORM

1. Select Start from the Windows task bar, then select Programs, Fujitsu NetCOBOL, PowerFORM.

B.Use the PowerFORM wizard to setup your starting layout.

1. From the File menu select New, or click the New button, ☐ , on the Standard toolbar.

   PowerFORM displays the Create New Descriptor dialog box:
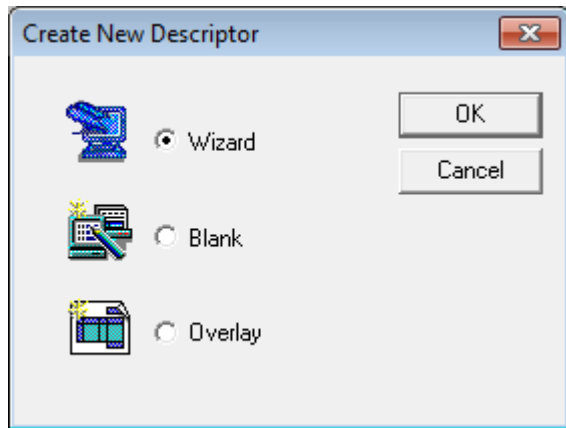
2. Select Wizard.
   This brings up the Wizard's introductory window.

3. Select Next.
   You progress to the paper size and orientation window.
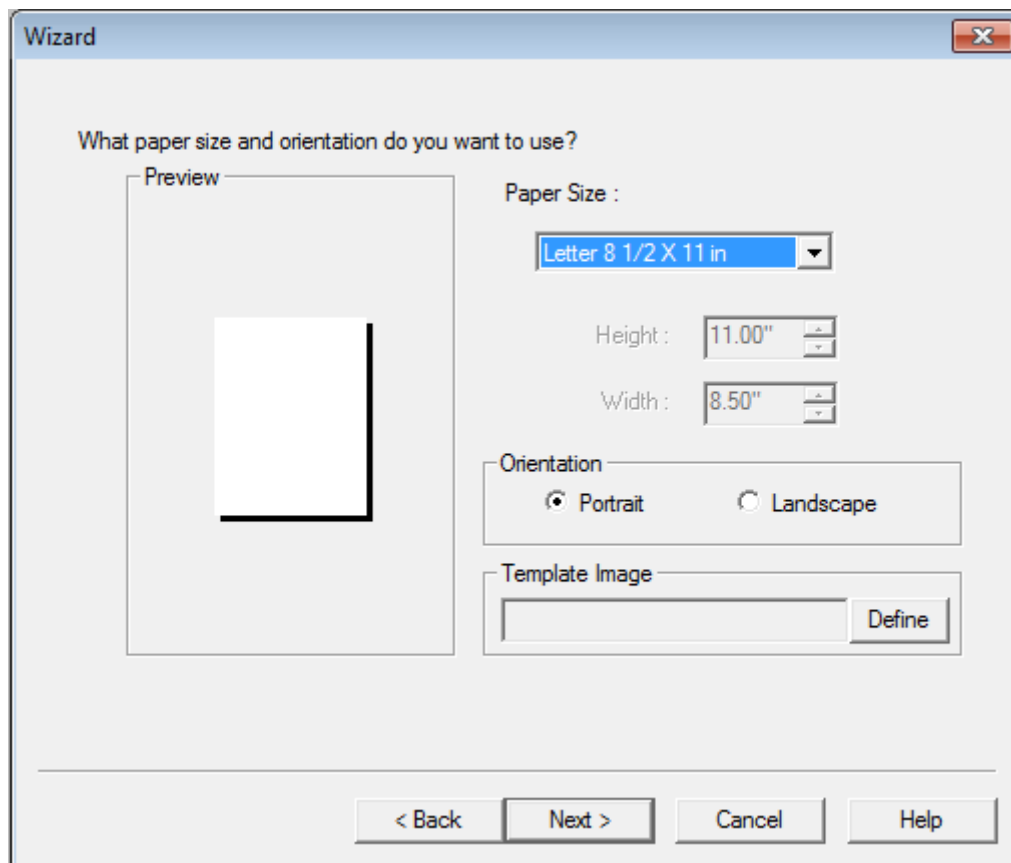
4. Confirm the selections:
   Paper size: Letter
   Orientation: Portrait
   and select Next.

   The Wizard now asks you to select the pattern for your report.
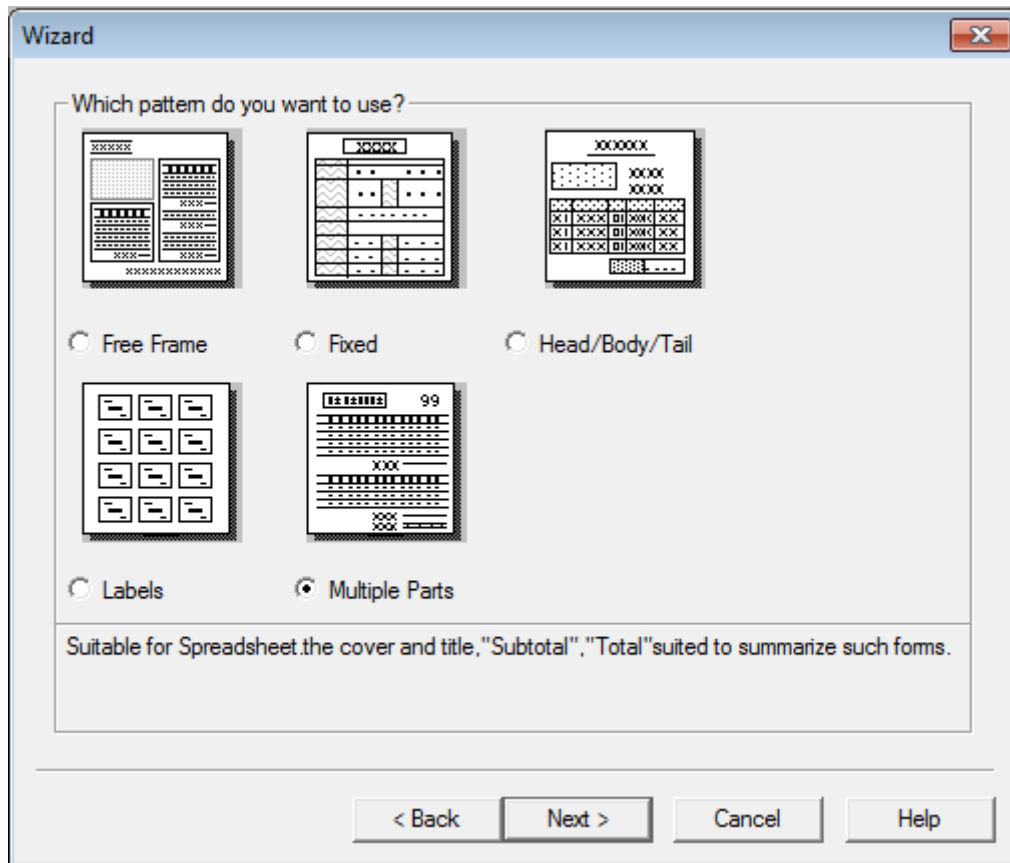
5. Select the Multiple Parts pattern, as our report requires several different partitions and select Next.

   The wizard asks you to setup the descriptor details.

6. Enter "**Sales Summary**" in the Title field.

7. Change the number by Control Header to 0, confirm that Page Header and Page Footer are checked and that the number of Control Footers is set to 1.

8. Select Next.

The Wizard displays the second descriptor details dialog, offering a report header. Our report does not have a report header, so...

9. Uncheck the Report Header and Footer checkboxes.

10. Click Next.

The Wizard now asks you to populate your report with data items.

11. Select the category Sample.
The item list changes to show the items in the Sample category.
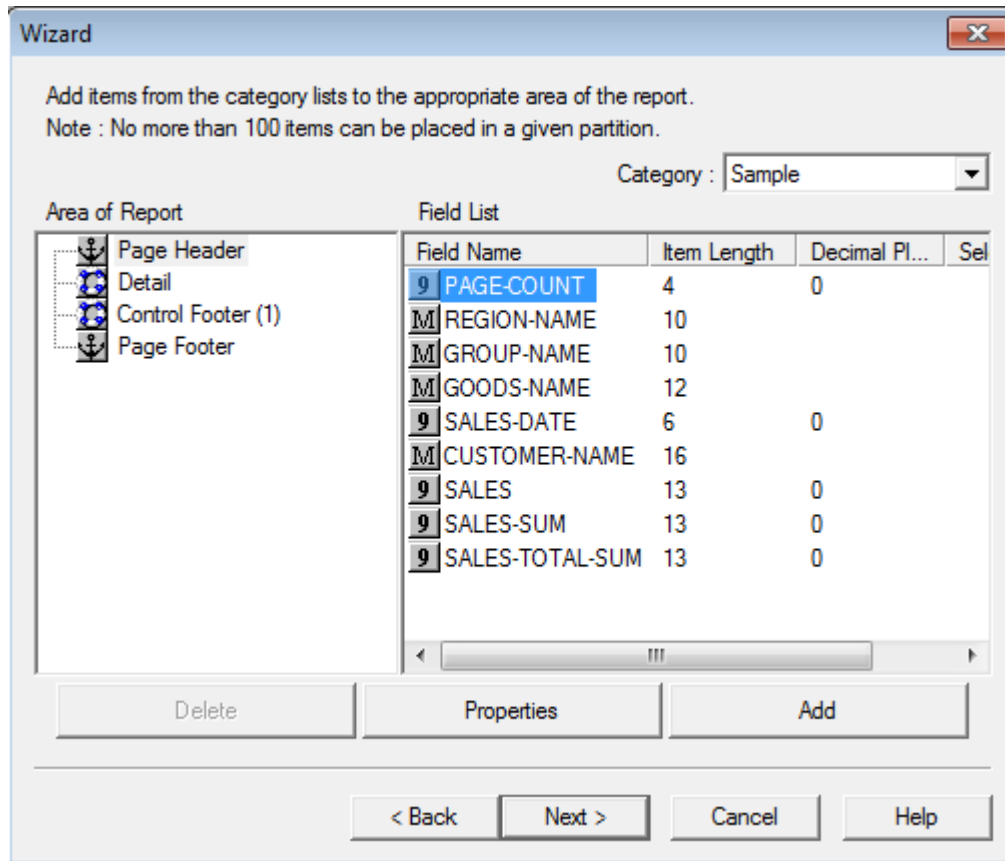
12. Place fields in the partitions by dragging (or double clicking) them from the item list and dropping them on the target partition. Place the Sample items in the partitions as shown in the following picture.
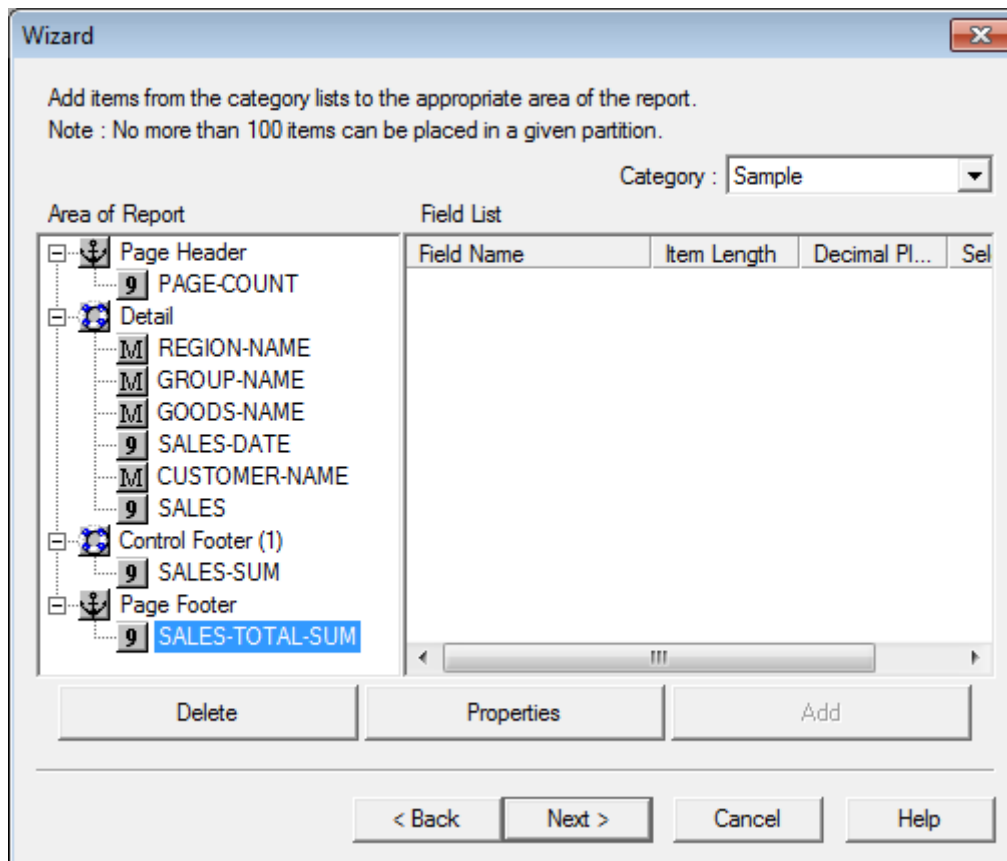
You can edit field information at this point.

13. Select PAGE-COUNT and click on the Property button to open the Property dialog box.
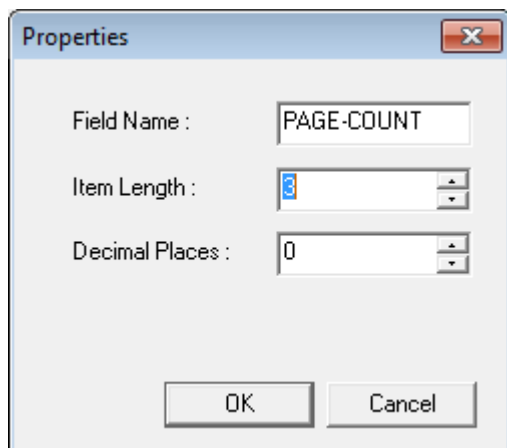
14. Change the field length from 4 to 3 and click OK.

15. Select Next.

16. On the Wizard concluding screen, check the Freeform Option checkbox. This will allow us to rename the partition names and change the partition type. Then select the Finish button.
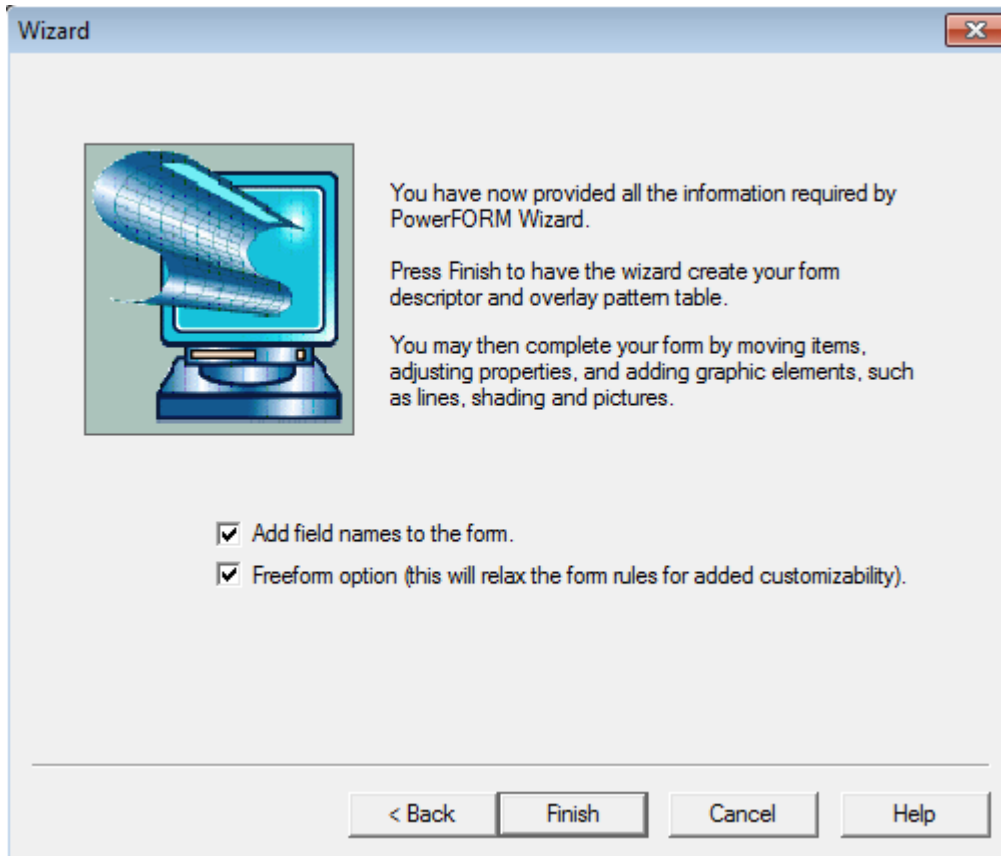
PowerFORM generates a descriptor with your selected partitions and data. It creates static text labels, based on the data item names, for all the data items. Labels for the detail line items are placed in the Page Header partition.
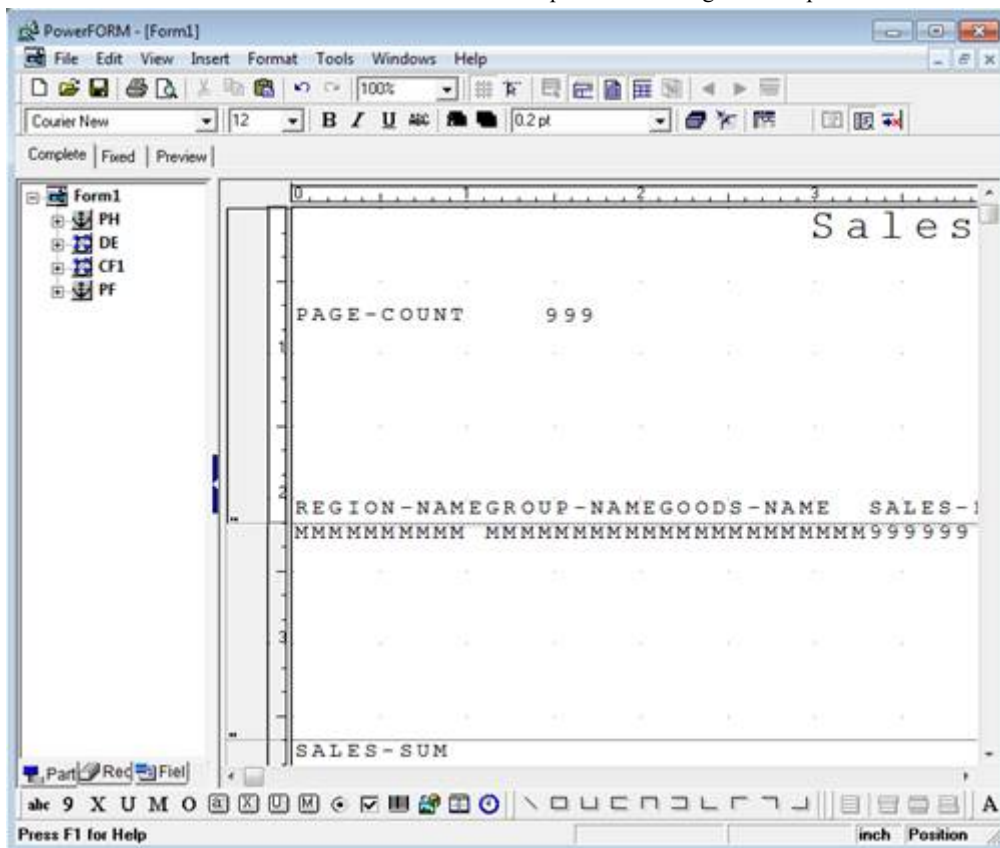
C. Roughly position fields

We first want to edit the partitions to be the desired size for our report, but PowerFORM will not let us reduce the height of a partition if all or part of a field will be excluded by the reduction. Therefore, before editing the partition sizes, we need to move and resize some fields.

1. Select all the data name labels ("REGION-NAME", "GROUP-NAME" etc) in the PH partition by positioning the mouse pointer above and to the right of the last field ("SALES"), then click and drag the pointer so that the displayed box surrounds all the labels.
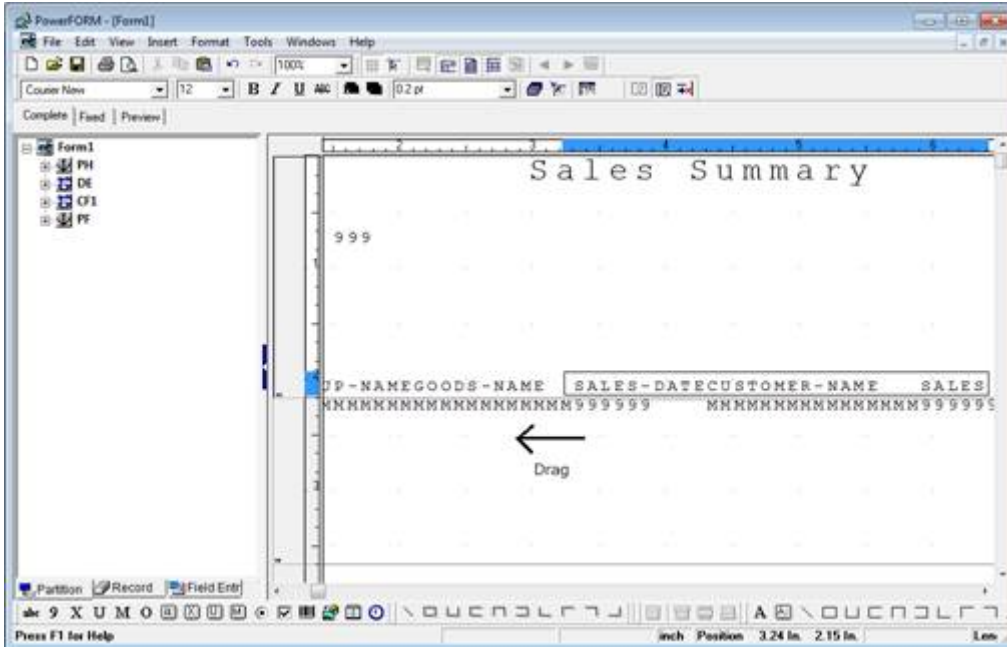
When you release the mouse button all the fields that are completely enclosed in the rectangle are selected.

2. Move the selected fields above the 1 inch ruler mark by clicking in the selected area and dragging.
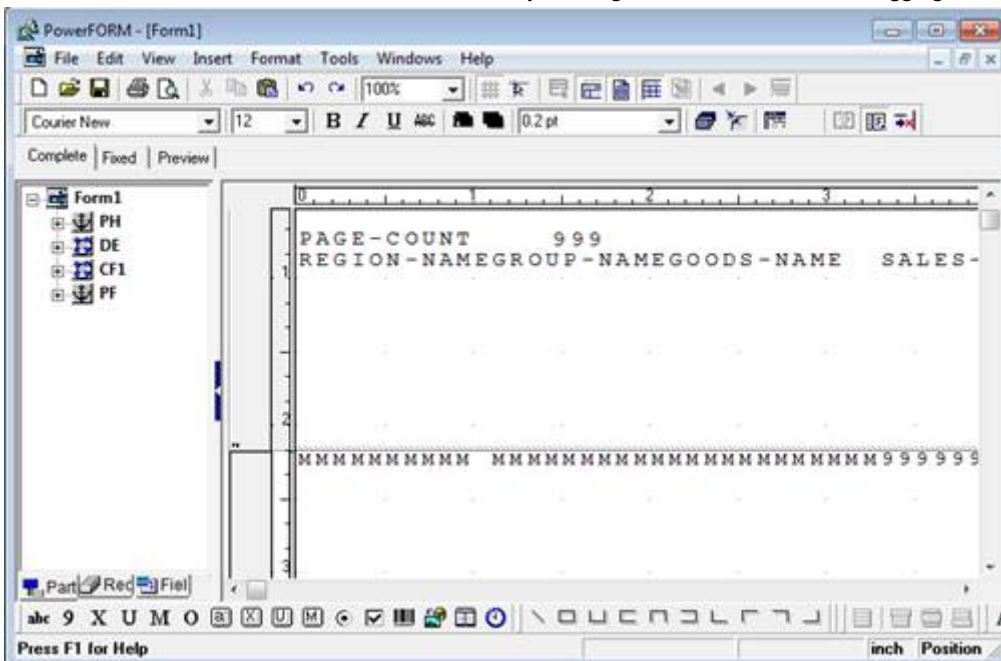
3. Using the same technique as in step 1, select all the fields in the DE partition.

4. From the menu bar select Format, Fonts, Field. This function lets you select the font for several fields at one time.

5. Set the font to Times New Roman, Style - Regular, Size - 10 points, and click OK.

6. In the CF1 partition select the SALES-SUM numeric field (the string of "9"s) and drag it up so that it is at the same horizontal level as the "SALES-SUM" text.

The fields are now positioned so that the partitions can be sized correctly.
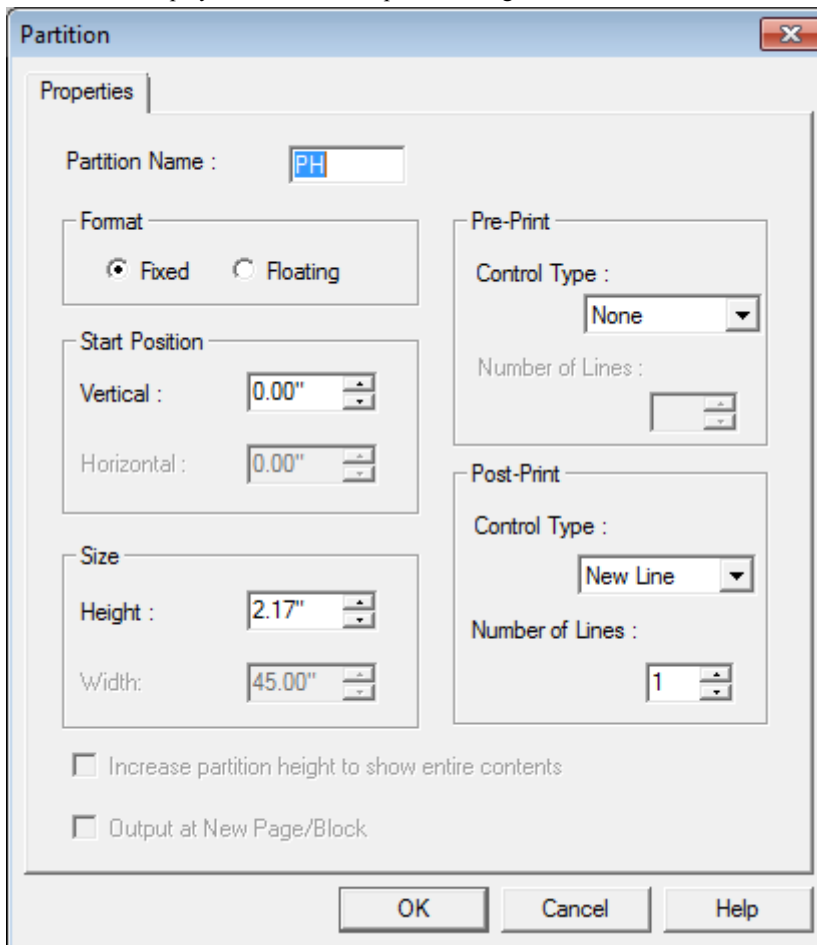
D. Edit the partition properties

We will now edit the partition properties to give them the names and exact sizes required.

1. Select the first partition "PH" in the Partition Name List and right click to bring up the pop-up menu.
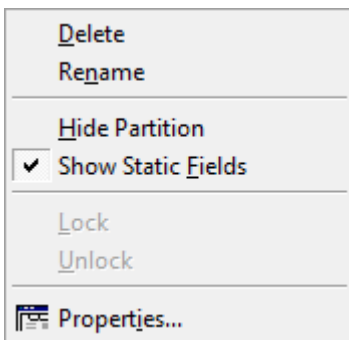
2. Select Properties from the pop-up menu.

PowerFORM displays the Partition Properties dialog box.

Partition

Properties

Partition Name : PH

Format
- ⦿ Fixed   ○ Floating

Start Position
Vertical : 0.00"
Horizontal : 0.00"

Size
Height : 2.17"
Width: 45.00"

□ Increase partition height to show entire contents

□ Output at New Page/Block

Pre-Print
Control Type : None
Number of Lines :

Post-Print
Control Type : New Line
Number of Lines : 1

OK   Cancel   Help

3. Edit the PF partition properties to match the details in the table below.

Partition Name Created by Wizard	New Partition Name	Format	Height
PH	**HEAD**	Fix	1.07
DE	**DETAIL**	Float	.14
CF1	**SUM**	Float	.26
PF	**TOTAL**	Float	1.59

4. Repeat steps 1 to 3 for the other partitions.

E. Add a date field.

1. Select the Date Field button, [ ] , from the Insert Fields toolbar.

2. Place the date in the top right of the HEAD partition by clicking the starting point for the date field and dragging to indicate the extent of the field. Press enter to place MM.DD.YYYY in the form.

F. Save your work to this point.

This is a good time to save your work.

1. From the File menu select Save As. PowerFORM displays the Save As dialog for you to select a folder and provide a name for the file. Save it as "**Salesamp**".

PowerFORM saves the descriptor as Salesamp.pmd and the overlay as Salesamp.ovd.

You may want to save your work after each step. To do this use the Save button, 🖫 , on the Standard Toolbar.

G. Arrange the fields as desired and choose alternative data editing.

You are now going to tailor the report by deleting unwanted static fields, moving fields to the desired locations and changing the data editing. After following these steps your layout should look like this:

1. Delete the static field (the text) "PAGE-COUNT" by selecting the field and pressing the Delete key.

2. Change the format of SALES-DATE in the DETAIL partition from "999999" to "99/99/99". To do this:
   - double click on the field to bring up the properties dialog box
   - change the field length to 0.70"
   - select the Formatting tab
   - In the Type dropdown listbox, select Separator
   - select 99.99.99
   - enter "/" as the Separator
   - click OK.

3. In like manner change the editing format of:
   - PAGE-COUNT in the HEAD partition from "9999999" to "ZZZ,ZZ9"
   - SALES in the DETAIL partition from "9999999" to "ZZZ,ZZ9"
   - SALES-SUM in the SUM partition, change the Type to Currency and the Number Format to "$$$,$$$9"
   - Likewise, change SALES-TOTAL-SUM in the TOTAL partition Type to Currency and the Number Format to "$$$,$$$9".

4. Arrange the fields in the HEAD, DETAIL, SUM, and TOTAL partition so they have the fonts, positions and widths indicated in the table below. You can do this by dragging, using the toolbar drop-down lists and/or editing the field properties. (Alternatively use the picture at the beginning of section G, and use the Edit, Auto Alignment function to achieve good alignment without worrying about the exact positions.)

Field	Font	Point Size	Field Length	Vertical Position	Horizontal Position
Date0001	Times New Roman	10	1.5"	0.02"	6.17"
PAGE-COUNT	Times New Roman	10	0.37"	0.26"	6.74"
REGION-NAME	Times New Roman	10	0.90"	0.00"	0.20"
GROUP-NAME	Times New Roman	10	0.90"	0.00"	1.15"
GOODS-NAME	Times New Roman	10	1.05"	0.00"	2.21"
SALES-DATE	Times New Roman	10	0.68"	0.00"	3.44"
CUSTOMER-NAME	Times New Roman	10	1.36"	0.00"	4.36"

SALES	Times New Roman	10	1.38"	0.00"	5.92"
SALES-SUM	Times New Roman	10	1.45"	0.06"	5.86"
SALES-TOTAL-SUM	Times New Roman	10	1.45"	0.06"	5.87"

5. Also for the Date0001 field, in the Properties dialog, select the Alignment tab, and select the Reverse selection button. This aligns the field to the right instead of the left.

6. Select the "SALES-SUM" text field and click on the Properties button, 📇 , on the Format toolbar.

   - Set the font to Times New Roman, the point size to 10 and the color to dark green.
   - Make the Field length .46", the Horizontal position 4.32", the Vertical position to 0.04".
   - Set the Character Alignment to Normal.
   - Enter the string "Sum" in the String text box.

7. Select the "SALES-TOTAL-SUM" text field and click on the Properties button on the Format toolbar.
   - Set the font to Times New Roman, the point size to 10 and the color to dark green.
   - Make the field length 1.00, the Horizontal position to 4.32, the Vertical position to 0.04.
   - Set the Character Alignment to Normal.

8. Edit the other static text fields in the HEAD partition to read: "**Region**", "**Group**", "**Goods**", "**Date**", "**Customer**" and "**Sales**". Change the fonts of these static text items to Arial, 12 point, and center them over the data items in the DETAIL partition by dragging.

Your report should now look like the picture at the beginning of section G.

H. Place the background graphics

Now we put some shading behind the column headings and place a graphic at the base of the page. Without PowerFORM some of these features may have been preprinted on special paper.

1. Make sure snap to grid is on. The snap to grid button, 🔾 , should be depressed, 🔾 .

2. Select the Rectangle button, ▢ , from the Insert Drawing Objects toolbar. (If the buttons are disabled, make sure that the Show Overlay button on the Standard toolbar is depressed, 📇 .)

3. Click above and to the left of the Region heading in the HEAD partition. Hold the mouse button down and drag to create a rectangle surrounding the heading text. Release the mouse button to place the rectangle.
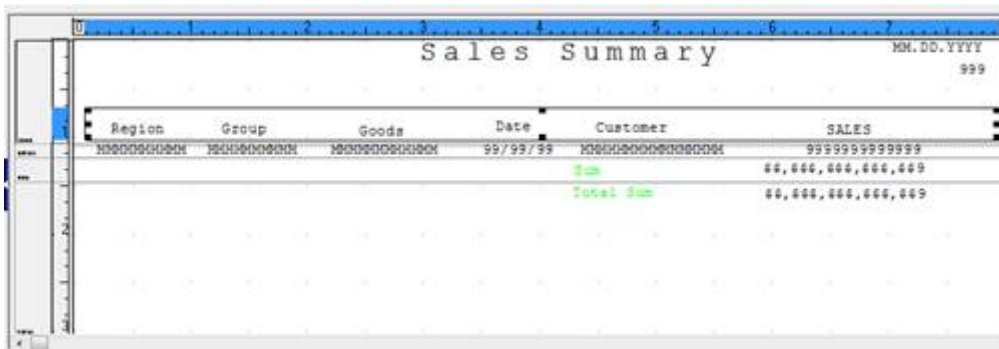
4. Click on the fill button, 🖌 , on the Format toolbar. This brings down a pattern palette. Hold the mouse button down until you are over the 12.5% pattern, then release the mouse button to select that pattern.

5. Next, select the overlay color button, ■ , to display the overlay color palette. Select the colors for the rectangle. Use the left mouse button to select the color of the border (we will leave it as black). Use the right mouse button to select the color of the interior -

select green.
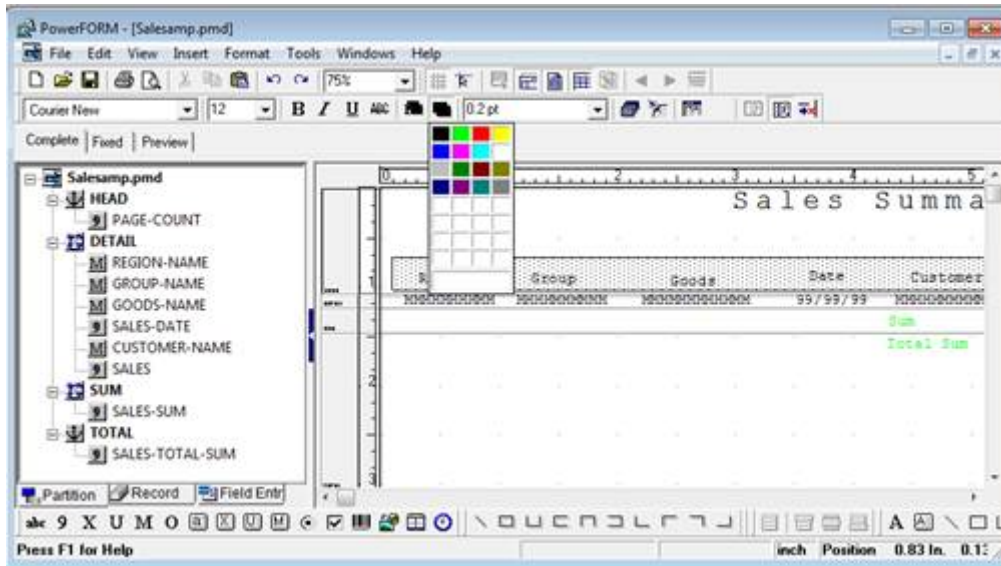
6. Now round the corners by selecting the round corners button, , on the Format toolbar. The pointer changes to the round corner pointer. Click on the two top corners to round them.
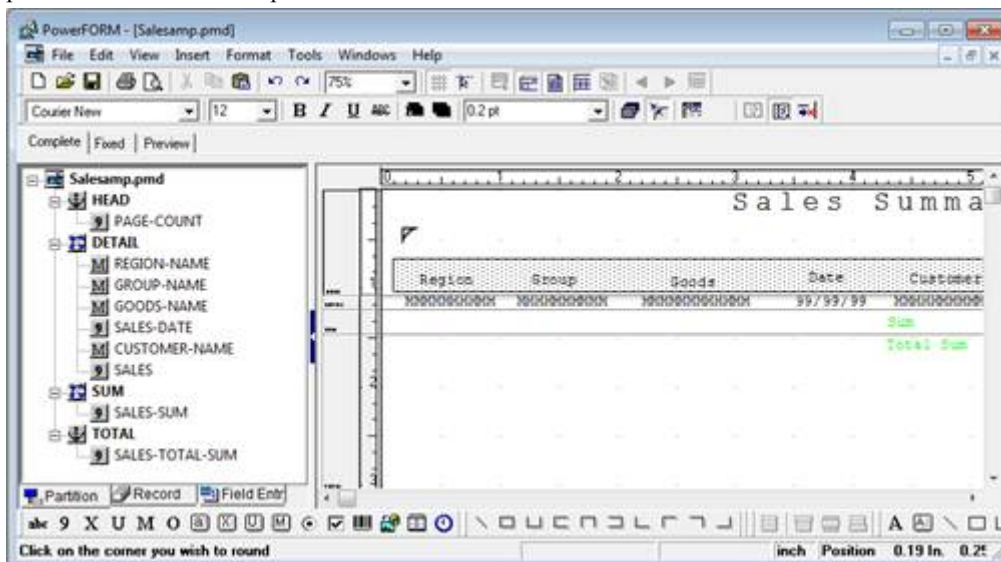
Next we place the graphic designs at the bottom of the page.

7. Scroll the Layout Area so that the bottom of the print area is visible - it should be around the 10" ruler mark.

8. Use the Line button, , to draw four lines under the picture and use the Border point size pull-down, 0.2 pt, on the Format toolbar to vary the line weights from 0.5 points to 2.0 points.

The result should look something like this:
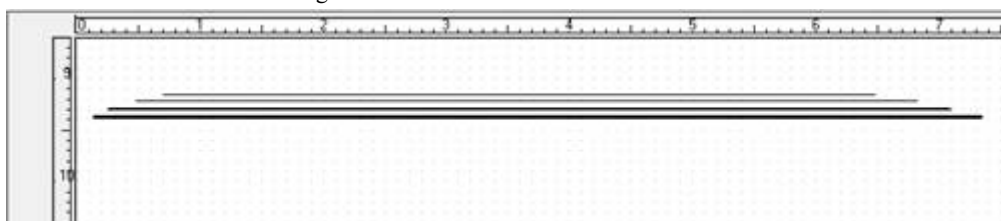
I. Place ruled lines in the floating partitions.

If you check Figure 3.2, the picture of the final report, you will see there are lines framing the data printed from the DETAIL, SUM, and TOTAL partitions. Because variable amounts of data are printed for each group it would be impossible to pre-print these lines on a form. These lines are therefore placed in the floating partitions.

To do this you use the buttons on the Insert Partition Line toolbar:
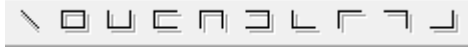
If the buttons are disabled (the black lines in the above picture of the toolbar are colored gray), look for the "Show Partition Lines" button, , on the standard toolbar and click it to turn on the partition lines functionality.

You can draw the lines using whatever shapes you feel are most appropriate. One arrangement is to draw:

- 7 vertical lines in the DETAIL partition

- 1 rectangle and 1 line in the SUM partition

- 1 rectangle and 1 line in the TOTAL partition

A quick way to draw the 7 vertical lines in the DETAIL partition is:

1. Draw the first line to the left of the REGION-NAME field, lining up with the outside of the box surrounding the column titles. Edit the line properties to make sure it is in the correct position with the correct height.

2. Set the Grid (from the menu select View, Grid) ruler divisions to 20 for both Width and Height. (This makes it easier to drag the copies to the correct positions while giving a reasonably fine granularity.

3. Select 200% for the Zoom factor (This gives you greater control of positions.)

4. Select the vertical line you have drawn and from the Edit menu select Repeat Copy. Set the number of Horizontal copies to 7 (the copy numbering includes the item being copied) and "Horizontal Space" to 1" and click OK.
   PowerFORM makes 6 copies of the vertical line.

5. Select each line in turn and drag them into position between the fields.
   You will find that some of the lines overlap the fields and that your first click selects the field. Simply keep the pointer in the same position and click again - PowerFORM selects the line.

When placing the rectangles switch snap-to-grid off. The snap-to-grid function is not sensitive to partition boundaries so can cause you to draw the rectangle in the wrong partition.

With the lines drawn your partitions should look like this:
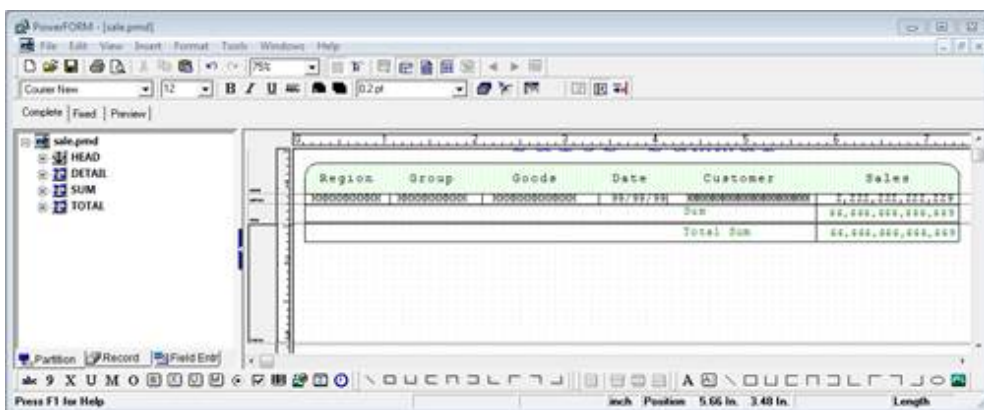
J. Confirm the layout of your report by using Preview.

1. If you have turned off the partition list, display it again by selecting "List Frame" from the View menu.

2. Select the Preview tab to change to the Preview view.

3. Notice that the overlay fields are already displayed.

4. In the partition list, click on HEAD, and drag and drop it to onto the Form Layout Area. PowerFORM adds the contents of this partition to the display.

5. Similarly drag the DETAIL partition onto the Form Layout Area. Because this is a floating partition that can be printed several times, PowerFORM displays a dialog asking how many copies of the partition you want to place in the preview.

6. Enter 15 and click OK.

7. Place one copy of the SUM partition in the Form Layout Area.

8. Make the preview close to an actual print image by dragging several groups of DETAIL and SUM partitions to the Layout Area.

9. PowerFORM displays the partitions in the order they are dropped in the Layout Area.

10. Finally drag the TOTAL partition to the Layout Area.

The result should look like this:

K. Print the preview image.

To confirm how the report will look when printed you can have PowerFORM print the Preview image.

1. From the File menu select Print Preview if you want to check what will be printed.

2. Select Print (or File, Print if you did not preview the print).

L. Save the descriptor

From the File menu select Save.

M. Adapt Sale.cob to use your descriptor

You can adapt the Sale.cob program shown in the next chapter to use the form created in this chapter. The steps to do this are:

1. Create a copy of Sale.cob called Salesamp.cob.

2. Edit Salesamp.cob. Wherever "SALE" is used on its own (i.e. not as part of another word like "SALES-SUM") change it to SALESAMP.

3. Add entries to COBOL85.CBR to give a file assignment for PRTFILE. For example:

```
[SALESAMP]
PRTFILE=salesamp.prt
```

"salesamp.prt" would be the printer information file, described in Chapter 4. Although you must have the file assignment statement for PRTFILE in COBOL85.CBR, the file salesamp.prt does not have to exist. If PowerFORM cannot find the file, it uses its default behaviors.

4. With these changes you should be able to compile and run Salesamp.cob and create a print file with the test data contained in that program.

Chapter 4 Programming with PowerFORM

This chapter covers all the key points you need to know to write programs that use PowerFORM. It provides information on:

- Coding

- Compiling

- Linking

- Running

- Debugging

- Running on UNIX platforms

and gives a sample program that illustrates the syntax discussed.

4.1 Overview

Programming with PowerFORM is exactly like working with any other print file. You OPEN and CLOSE the file and WRITE records to it. The main difference from regular print files is that instead of writing one line at a time you write partitions.

There are a few details that you need to understand in programming, compiling, debugging and running programs using PowerFORM. The following sections cover all the information you need to know.

All the coding samples are taken from the program SALE.COB that is in your Sample directory and is listed in Figure 4.1 towards the end of this chapter.

4.2 Coding for PowerFORM

ENVIRONMENT DIVISION

You define the PowerFORM print file in a SELECT statement. The format of the SELECT statement for working with PowerFORM descriptors is:

SELECT file-name ASSIGN TO file-identifier

    ORGANIZATION IS SEQUENTIAL

    ACCESS MODE IS SEQUENTIAL

    FORMAT IS prt-format-name

    GROUP IS prt-group-name

    [FILE STATUS IS *data-name-1* [*data-name-2*]]

Where:

file-name is the name used within the COBOL program for the print file. It is the name used in the FD, OPEN and CLOSE statements.

file-identifier is the name used externally to locate the file. The COBOL runtime expects an environment variable set up to map this name to a physical file name. The physical file name is that of the printer information file (see below). The print data is written to your default printer.

prt-format-name must be an 8 character alphanumeric data item defined in the WORKING-STORAGE or LINKAGE section. The PowerFORM runtime uses the descriptor specified in *prt-format-name* when your program executes a WRITE statement.

prt-group-name must be an 8 character alphanumeric data item defined in the WORKING-STORAGE or LINKAGE section. The PowerFORM runtime uses the partition specified in *prt-group-name* when your program executes a WRITE statement.

data-name-1 and *data-name-2* are used for referencing the I-O status as for any other file.

Example:

```
000140      SELECT   PRINT-FILE          ASSIGN TO PRTFILE
000150               ORGANIZATION        IS SEQUENTIAL
```

```
000160               ACCESS MODE         IS SEQUENTIAL
000170               FORMAT              IS PRT-FORMAT
000180               GROUP               IS PRT-GROUP
000190               .
```

Examples of other code in this chapter will be based on this SELECT statement and will show the key parts (PRINT-FILE, PRTFILE, PRT-FORMAT and PRT-GROUP) being used.

DATA DIVISION

Print File Record Definition

You define the layout for the PowerFORM print file in the FILE SECTION. The format for the FD is:

<u>FD</u> file-name.

    <u>COPY</u> form-descriptor-name <u>OF XMDLIB</u>.

Where:

file-name is the internal name defined in the SELECT statement.

form-descriptor-name is the name of your PowerFORM descriptor file. The compiler adds the extension specified in the FORMEXT compiler option to this name and extracts the record definition from a file of that name in the folder specified in the FORMLIB compiler option.

XMDLIB is a key name of the compiler. It tells the compiler to extract the record definition from the PowerFORM descriptor file.

Example:

```
000250 FD   PRINT-FILE.
000260      COPY  SALE OF XMDLIB.
```

This copies in the record description to be used from the descriptor SALE.PMD. (Assuming the program is compiled with the option FORMEXT(PMD) .)

Other Data Definitions

The other data items you need to define in your program are:

- item to contain the descriptor name, *prt-format-name*

- item to contain the partition name, *prt-group-name*

- item to hold the page count (optional).

prt-format-name and *prt-group-name* must be defined as 8 character alphanumeric items. For example:

```
000320 01   PRT-PARAM.
000330      03  PRT-FORMAT     PIC X(08)   VALUE space.
000340      03  PRT-GROUP      PIC X(08)   VALUE space.
```

Your program is responsible for tracking and outputting the page count so, obviously, you need to define an item for that purpose.

PROCEDURE DIVISION

Opening and Closing the Print File

Open and close the PowerFORM print file like any other file. The formats for the statements are:

<u>OPEN OUTPUT</u> *file-name*

<u>CLOSE</u> *file-name*

Note that although you ASSIGN the file-name to an external name that in turn is mapped to the printer information file, the print data is actually output to your default printer.

Examples:

```
001980      OPEN  OUTPUT  PRINT-FILE
```

```
002560        CLOSE PRINT-FILE
```

Specifying the Descriptor

Before writing to the PowerFORM print file you need to specify the name of the descriptor file to be used. For example, move a literal to *prt-format-name*.

```
002040        MOVE  "SALE"    TO  PRT-FORMAT
```

Specifying the Partition

Before writing to the PowerFORM print file you must also specify the name of the partition to be used. For example, move a literal to *prt-format-name*.

```
002050        MOVE  "HEAD"    TO  PRT-GROUP
```

and

```
002130         MOVE  "DETAIL"   TO  PRT-GROUP
```

Moving Data to Partitions

Before you execute a WRITE statement you need to ensure that all the data required in the partition is in the print-file record.

The data record that PowerFORM creates contains five-byte fillers. You therefore need to move the data items separately or use MOVE CORRESPONDING to populate this record.

Although PowerFORM creates only one record to contain the data for all the partitions you only need to populate the items required for the next WRITE.

Writing Partitions

You output data to the PowerFORM print file by executing WRITE statements. The format for the WRITE statements is identical to handling normal print files except that the PowerFORM runtime knows to write partitions, not just the data specified in the print-file record.

The format for the write statement is:

$$\underline{WRITE} \quad \textit{print-file-record-name} \quad \underline{AFTER} \ \underline{ADVANCING}$$
$$\left\{ \begin{array}{l} \left\{ \begin{array}{l} \textit{identifier-1} \\ \textit{literal-1} \end{array} \right\} \quad \begin{array}{l} \underline{LINE} \\ \underline{LINES} \end{array} \\ \underline{PAGE} \end{array} \right\}$$

(Check the "Language Reference" for the full details of the WRITE statement)

AFTER ADVANCING PAGE

Use AFTER ADVANCING PAGE when writing the first partition in a report and whenever you want to force a new page. For example:

```
002050        MOVE  "HEAD"    TO  PRT-GROUP
                   ...
002070        WRITE SALE AFTER ADVANCING PAGE
```

AFTER ADVANCING n LINES

Use AFTER ADVANCING 0 LINES when you want PowerFORM to slightly overlap the current partition with the last printed partition. For example if you have used vertical bars to provide a dividing line between columns of data this ensures that the bars give a continuous line. It also gives more compact printing for the lines in your report.

Use AFTER ADVANCING n LINES (n > 0) when you want more space between your partitions. You may need to experiment with some partition arrangements, as the PowerFORM runtime may not advance the printer pointer to the end of the last printed partition if there was blank space at the bottom of that partition. For example printing the DETAIL partition after the HEAD partition in the SALE.PMD sample descriptor.

```
002130          MOVE  "DETAIL"  TO  PRT-GROUP
                    ...
002240               WRITE SALE AFTER ADVANCING 1 LINE
```

4.3 Sample Program Source

Figure 4.1 Source of Sample Program "Sale.cob"

```
000010 IDENTIFICATION    DIVISION.
000020 PROGRAM-ID.       SALES.
000030 ENVIRONMENT       DIVISION.
000040 CONFIGURATION     SECTION.
000050 SPECIAL-NAMES.
000060      SYMBOLIC CONSTANT
000070      NORMAL      IS " "
000080         .
000090*
000100* Define sequential file for printing
000110*
000120 INPUT-OUTPUT      SECTION.
000130 FILE-CONTROL.
000140      SELECT  PRINT-FILE          ASSIGN TO PRTFILE
000150              ORGANIZATION        IS SEQUENTIAL
000160              ACCESS MODE         IS SEQUENTIAL
000170              FORMAT              IS PRT-FORMAT
000180              GROUP               IS PRT-GROUP
000190                  .
000200 DATA              DIVISION.
000210 FILE              SECTION.
000220*
000230* Copy print record from format descriptor
000240*
000250 FD   PRINT-FILE.
000260      COPY  SALE OF XMDLIB.
        01   SALE.
             02  FILLER                     PIC X(5).
             02  PAGE-COUNT
                     PIC 9(3).
             02  FILLER                     PIC X(5).
             02  REGION-NAME
                     PIC X(10).
             02  FILLER                     PIC X(5).
             02  GROUP-NAME
                     PIC X(10).
             02  FILLER                     PIC X(5).
             02  GOODS-NAME
                     PIC X(12).
             02  FILLER                     PIC X(5).
             02  SALES-DATE
                     PIC 9(6).
             02  FILLER                     PIC X(5).
             02  CUSTOMER-NAME
                     PIC X(16).
             02  FILLER                     PIC X(5).
             02  SALES   PIC 9(13).
             02  FILLER                     PIC X(5).
             02  SALES-SUM
                     PIC 9(13).
             02  FILLER                     PIC X(5).
             02  SALES-TOTAL-SUM
                     PIC 9(13).
             02  FILLER                     PIC X(5).
```

```
            02  LOGO-AREA
                         PIC X(8).
000270*              ~~~~~name of the format descriptor
000280 WORKING-STORAGE SECTION.
000290*
000300* Control Area
000310*000320 01   PRT-PARAM.
000330      03  PRT-FORMAT     PIC X(08)   VALUE SPACE.
000340      03  PRT-GROUP      PIC X(08)   VALUE SPACE.
000350*
000360* Print Data
000370*
000380 01   SAMPLE-DATA.
000390* --- These data being loaded from DB in the actual program. ---
000400   02   DETAIL-LINE.
000410      03  REGION-NAME-DATA-TABLE.
000420         04               PIC X(10)  VALUE "New York".
000430         04               PIC X(10)  VALUE "Washington".
000440         04               PIC X(10)  VALUE "Boston".
000450         04               PIC X(10)  VALUE "San Jose".
000460         04               PIC X(10)  VALUE "Chicago".
000470         04               PIC X(10)  VALUE "Los angels".
000480         04               PIC X(10)  VALUE "Sacramento".
000490         04               PIC X(10)  VALUE "Honolulu".
000500         04               PIC X(10)  VALUE "Tokyo".
000510         04               PIC X(10)  VALUE "HongKong".
000520      03  REDEFINES REGION-NAME-DATA-TABLE.
000530         04  REGION-NAME-DATA   PIC X(10) OCCURS 10.
000540      03  GROUP-NAME-TABLE.
000550         04               PIC X(10)  VALUE "GOLF".
000560         04               PIC X(10)  VALUE "FOOTBALL".
000570         04               PIC X(10)  VALUE "SKI".
000580         04               PIC X(10)  VALUE "TENNIS".
000590      03  REDEFINES GROUP-NAME-TABLE.
000600         04  G-NAME      PIC X(10) OCCURS 4.
000610      03  GOODS-NAME-DATA-TABLE.
000620         04               PIC X(12)  VALUE "Shoes".
000630         04               PIC X(12)  VALUE "Bag".
000640         04               PIC X(12)  VALUE "Wear".
000650         04               PIC X(12)  VALUE "Ball".
000660         04               PIC X(12)  VALUE "Shoes".
000670         04               PIC X(12)  VALUE "Wear".
000680         04               PIC X(12)  VALUE "Club Set".
000690         04               PIC X(12)  VALUE "Bag".
000700         04               PIC X(12)  VALUE "Ball".
000710         04               PIC X(12)  VALUE "Wear".
000720         04               PIC X(12)  VALUE "Shoes".
000730         04               PIC X(12)  VALUE "Club Set".
000740         04               PIC X(12)  VALUE "Shoes".
000750         04               PIC X(12)  VALUE "Ball".
000760         04               PIC X(12)  VALUE "Bag".
000770         04               PIC X(12)  VALUE "Club Set".
000780      03  REDEFINES GOODS-NAME-DATA-TABLE.
000790         04  GOODS-NAME-DATA   PIC X(12)  OCCURS 16.000800      03   DATE-DATA-TABLE.
000810         04               PIC 9(6)  VALUE 200196.
000820         04               PIC 9(6)  VALUE 200296.
000830         04               PIC 9(6)  VALUE 200296.
000840         04               PIC 9(6)  VALUE 200396.
000850         04               PIC 9(6)  VALUE 200396.
000860         04               PIC 9(6)  VALUE 200496.
000870         04               PIC 9(6)  VALUE 200596.
000880         04               PIC 9(6)  VALUE 200696.
000890         04               PIC 9(6)  VALUE 200696.
```

```
000900          04                    PIC 9(6)  VALUE 200696.
000910          04                    PIC 9(6)  VALUE 200796.
000920          04                    PIC 9(6)  VALUE 200896.
000930          04                    PIC 9(6)  VALUE 200996.
000940          04                    PIC 9(6)  VALUE 201196.
000950          04                    PIC 9(6)  VALUE 201296.
000960          04                    PIC 9(6)  VALUE 201296.
000970       03  REDEFINES DATE-DATA-TABLE.
000980          04  DATE-DATA          PIC 9(6)  OCCURS 16.
000990       03  CUSTOMER-NAME-DATA-TABLE.
001000          04                    PIC X(16) VALUE "Fujitsu Green Inc.".
001010          04                    PIC X(16) VALUE "Fujitsu Blue Co.,Ltd.".
001020          04                    PIC X(16) VALUE "Fujitsu Cyan Trading".
001030          04                    PIC X(16) VALUE "Fujitsu White Inc.".
001040          04                    PIC X(16) VALUE "Fujitsu Yellow Inc.".
001050          04                    PIC X(16) VALUE "Fujitsu Black Trading".
001060          04                    PIC X(16) VALUE "Fujitsu Brown Co.,Ltd.".
001070          04                    PIC X(16) VALUE "Fujitsu Gray Trading".
001080          04                    PIC X(16) VALUE "Fujitsu Pink Inc.".
001090          04                    PIC X(16) VALUE "Fujitsu Light Blue Inc.".
001100          04                    PIC X(16) VALUE "Fujitsu Red Business".
001110          04                    PIC X(16) VALUE "Fujitsu Magenta Co.,Ltd".
001120          04                    PIC X(16) VALUE "Fujitsu Purple Inc.".
001130          04                    PIC X(16) VALUE "Fujitsu Silver Business".
001140          04                    PIC X(16) VALUE "Fujitsu Orange Trading".
001150          04                    PIC X(16) VALUE "Fujitsu Golden Inc.".
001160       03  REDEFINES CUSTOMER-NAME-DATA-TABLE.
001170          04  CUSTOMER-NAME-DATA  PIC X(16) OCCURS 16.
001180       03  SALES-DATA-TABLE.
001190          04                    PIC 9(13) VALUE    200000.
001200          04                    PIC 9(13) VALUE    600000.
001210          04                    PIC 9(13) VALUE    500000.
001220          04                    PIC 9(13) VALUE      5000.
001230          04                    PIC 9(13) VALUE    200000.
001240          04                    PIC 9(13) VALUE    500000.
001250          04                    PIC 9(13) VALUE   1800000.
001260          04                    PIC 9(13) VALUE    600000.
001270          04                    PIC 9(13) VALUE      5000.
001280          04                    PIC 9(13) VALUE    500000.
001290          04                    PIC 9(13) VALUE    200000.
001300          04                    PIC 9(13) VALUE   1800000.
001310          04                    PIC 9(13) VALUE    200000.
001320          04                    PIC 9(13) VALUE      5000.
001330          04                    PIC 9(13) VALUE    600000.
001340          04                    PIC 9(13) VALUE   1800000.
001350       03  REDEFINES SALES-DATA-TABLE.
001360          04  SALES-DATA          PIC 9(13) OCCURS 16.
001370    02  SUM-LINE.
001380       03  SALES-SUM          PIC 9(13) VALUE  0.
001390    02  TOTAL-SUM-LINE.
001400       03  SALES-TOTAL-SUM    PIC 9(13) VALUE  0.
001410    02  WORK-TABLE.
001420       03  GROUP-1-TABLE.
001430          04            PIC 9(2) VALUE  16.
001440          04            PIC 9(2) VALUE  12.
001450          04            PIC 9(2) VALUE   5.
001460          04            PIC 9(2) VALUE   9.
001470          04            PIC 9(2) VALUE  15.
001480          04            PIC 9(2) VALUE   8.
001490          04            PIC 9(2) VALUE   7.
001500          04            PIC 9(2) VALUE   5.
001510          04            PIC 9(2) VALUE  13.
001520          04            PIC 9(2) VALUE  10.
```

```
001530      03  GROUP-2-TABLE.
001540         04          PIC 9(2) VALUE    7.
001550         04          PIC 9(2) VALUE    8.
001560         04          PIC 9(2) VALUE    9.
001570         04          PIC 9(2) VALUE   14.
001580         04          PIC 9(2) VALUE    5.
001590         04          PIC 9(2) VALUE    9.
001600         04          PIC 9(2) VALUE   10.
001610         04          PIC 9(2) VALUE    7.
001620         04          PIC 9(2) VALUE    5.
001630         04          PIC 9(2) VALUE   13.
001640      03  GROUP-3-TABLE.
001650         04          PIC 9(2) VALUE    9.
001660         04          PIC 9(2) VALUE    6.
001670         04          PIC 9(2) VALUE    9.
001680         04          PIC 9(2) VALUE   12.
001690         04          PIC 9(2) VALUE    8.
001700         04          PIC 9(2) VALUE   13.
001710         04          PIC 9(2) VALUE    5.
001720         04          PIC 9(2) VALUE    8.
001730         04          PIC 9(2) VALUE   11.
001740         04          PIC 9(2) VALUE    8.
001750      03  GROUP-4-TABLE.
001760         04          PIC 9(2) VALUE   10.
001770         04          PIC 9(2) VALUE   11.
001780         04          PIC 9(2) VALUE    9.
001790         04          PIC 9(2) VALUE   13.
001800         04          PIC 9(2) VALUE    7.
001810         04          PIC 9(2) VALUE   10.
001820         04          PIC 9(2) VALUE   12.
001830         04          PIC 9(2) VALUE    6.
001840         04          PIC 9(2) VALUE    4.
001850         04          PIC 9(2) VALUE    7.
001860    02  REDEFINES WORK-TABLE.
001870      03            OCCURS 4.
001880        04  GROUP-N  PIC 9(2) OCCURS 10.
001890* Counters
001900 77 CNTI        PIC 9(2) BINARY.
001910 77 CNTJ        PIC 9(2) BINARY.
001920 77 PAGEN       PIC 9(3) BINARY.
001930*
001940****************************************************************
001950 PROCEDURE    DIVISION.
001960*
001970* Open Print File
001980     OPEN   OUTPUT   PRINT-FILE
001990     INITIALIZE   SALE
002000       .
002010* Header
002020*  (fixed positional partition : HEAD)
002030     PERFORM VARYING PAGEN FROM 1 BY 1 UNTIL PAGEN > 2
002040       MOVE  "SALE"   TO  PRT-FORMAT
002050       MOVE  "HEAD"   TO  PRT-GROUP
002060       MOVE  PAGEN    TO  PAGE-COUNT OF SALE
002070       WRITE SALE AFTER ADVANCING PAGE
002080*                         ~~~~~~~~~~~~~~~~~~~~ form feed
002090       PERFORM  VARYING CNTI FROM 1 BY 1 UNTIL CNTI > 4
002100* Detail line printing
002110*  (floating positional partition : DETAIL)
002120*   Set sample data
002130         MOVE  "DETAIL"   TO  PRT-GROUP
002140         PERFORM VARYING CNTJ FROM 1 BY 1 UNTIL CNTJ > GROUP-N(CNTI PAGEN)
002150           MOVE GOODS-NAME-DATA(CNTJ)   TO GOODS-NAME   OF SALE
```

```
002160            MOVE DATE-DATA(CNTJ)        TO SALES-DATE    OF SALE
002170            MOVE CUSTOMER-NAME-DATA(CNTJ) TO CUSTOMER-NAME OF SALE
002180            MOVE SALES-DATA(CNTJ)       TO SALES         OF SALE
002190            ADD  SALES-DATA(CNTJ)       TO SALES-SUM     OF SUM-LINE
002200            IF  CNTJ = 1     THEN
002210              MOVE REGION-NAME-DATA(PAGEN)  TO REGION-NAME   OF SALE
002220              MOVE G-NAME(CNTI)             TO GROUP-NAME    OF SALE
002240              WRITE SALE AFTER ADVANCING 1 LINE
002250*                                ~~~~~~~~~~~~~~~~~~~~~ form feed
002300              MOVE  SPACE                 TO REGION-NAME   OF SALE
002310              MOVE  SPACE                 TO GROUP-NAME    OF SALE
002320            ELSE
002330              WRITE SALE AFTER ADVANCING 1 LINE
002340*                                ~~~~~~~~~~~~~~~~~~~ no form feed
002350            END-IF
002360          END-PERFORM
002370* Sum printing
002380*   (floating positional partition : SUM)
002390          MOVE  "SUM"   TO   PRT-GROUP
002400          MOVE CORR SUM-LINE OF SAMPLE-DATA TO SALE
002410          WRITE SALE AFTER ADVANCING 1 LINE
002420          ADD  SALES-SUM OF SUM-LINE TO SALES-TOTAL-SUM OF TOTAL-SUM-LINE
002430          MOVE 0 TO SALES-SUM OF SUM-LINE
002440        END-PERFORM
002450* Total sum printing
002460*   (floating positional partition : TOTAL)
002470        MOVE  "TOTAL"   TO   PRT-GROUP
002480        MOVE  "LOGO.BMP" TO   LOGO-AREA  OF SALE
002490        MOVE  "B"       TO   EDIT-MODE OF LOGO-AREA  OF SALE
002500        MOVE CORR TOTAL-SUM-LINE OF SAMPLE-DATA TO SALE
002510        WRITE SALE  AFTER ADVANCING 1 LINE
002520      END-PERFORM
002530*****************************************************************
002540      CLOSE PRINT-FILE
002550      STOP RUN
002560      .
002570 END PROGRAM SALES.
```

4.4 Building and Running with PowerFORM

Compiling

When the compiler encounters a "COPY descriptor-name OF XMDLIB" statement it looks for the file "descriptor-name.PMD" and picks up the COPY library from there. It looks in the folder containing the COBOL source unless you specify the following compiler option:

```
FORMLIB(folder-name-1[;folder-name-2][...])
```

If you specify this option the compiler looks for the file in folder-name-1 then, if specified, folder-name-2 etc.

If you chose to override PowerFORM's default extension for descriptor files (.PMD) you need to set the compiler option:

```
FORMEXT(XXX)
```

Where XXX is the extension you used. This tells the compiler that the extension being used for PowerFORM descriptor files is .XXX. By default the compiler looks for extensions .PMD and .SMD (the latter was used in the earlier FORM product).

Linking

There are no special requirements for linking programs that use PowerFORM print files.

Running

The Printer Information File

The PowerFORM run-time system accepts printer and run-time behavior information from a file called the printer information file. For example, you can specify that a dialog should be displayed when the report is printing or the paper supply that should be used. Figure 4.2 shows an example of the printer information file.

Figure 4.2. A Sample Printer Information File

```
*
*   Printer Information File
*
PRTDIALG  Y              * Print Dialog : YES
PRTID     "Sales Summary"    * Title displayed by Print Manager
FORMKIND C              * Kind of form : cut paper
```

See the PowerFORM runtime on-line help (pformapi.hlp) for full details of the printer information file parameters. Note that PowerFORM V2 no longer requires the font number mapping as the font names are defined within the PowerFORM descriptor file.

By using different Printer Information Files you can run the same PowerFORM application in different environments.

The file-identifier in the ASSIGN clause needs to be mapped to the name of a printer information file. See the next topic, "Runtime Environment Variables", for details.

If a file name is not provided the COBOL run-time system will give an error. However, if a file of the given name does not exist, the PowerFORM run-time system will still execute using its defaults.

Note that the COBOL User Guide describes a file called the "print information file" - this is a different file for print files that do not have the "FORMAT" clause in the ASSIGN statement.

Runtime Environment Variables

You need to include the following mapping in your runtime environment variables:

```
file-identifier=printer-information-file-name
```

Where:

file-identifier is the name defined in the ASSIGN TO phrase of the SELECT statement

printer-information-file-name is the name of the printer information file.

For example with a printer information file called "SALE.PRT" and an ASSIGN TO name of "PRTFILE" you need the following in your environment variables:

```
PRTFILE=SALE.PRT
```

The environment variables for your program can either be specified in the COBOL85.CBR file or at run time if the environment variable "@EnvSetWindow" is set to "USE".

Default Printer

The PowerFORM runtime writes the completed report to your system's default printer.

Debugging

You can debug PowerFORM applications using the standard COBOL debugger.

If your form descriptors are stored in a different folder from the main program, or if you have used an extension other than .PMD for your form descriptors, make sure you specify the following information on the Descriptor tab of the Start Debugging dialog box:

- Screen form descriptor folder. This is the folder that contains your form descriptor files. You only need to specify this folder if it is different from the folder containing the main program. (This can also be specified in the /M option when invoking the debugger from the command line.)

- Screen form descriptor extension. Set this to the extension you used. (This can also be specified in the /E option when invoking the debugger from the command line.)

4.5 UNIX Considerations

You can develop PowerFORM reports in the Windows environment that are executed in the UNIX environment. When you do this take note of the following Printer Information File points:

- The supported fonts are likely to be different so you need to edit the font list.

- The key word PRTDEV is required. If it is omitted the runtime displays an error message when your program opens the print file. PRTDEV specifies the printer model name of the printer device.

- The overlay descriptor must be stored in a directory called "Kol5". The keyword OVLPDIR specifies the parent directory of the "Kol5" directory.

Chapter 5 Using PowerFORM

This chapter provides guidelines on using some detailed features of PowerFORM and answers some common questions relating to using PowerFORM.

5.1 Populating Wizard Data Item Categories

When you use the Wizard to create a new form one of the windows lets you populate your partitions with data items. The data items are selected from a number of categories. PowerFORM provides a number of useful categories and data items but you also need to create and populate your own categories.

The PowerFORM Wizard reads the categories and data items from a file called pformwiz.ini stored in the PowerFORM folder. You can add your own categories and edit the existing categories. To do this:

1. Exit PowerFORM.

2. Load pformwiz.ini into a text editor, such as Notepad.

3. To create a new category, insert your category name into the list under the [GROUP] tag. Put your new category where you would like it to appear in the drop down list in the Wizard window and renumber the other groups.

    The format for the category lines is:

    ```
    category-name = n
    ```

    Where:

    category-name is the name you want to use for the list of data items

    n is a number reserved for future use (but is best made to reflect the order of the categories).

    For example, to insert the category "My data" at the head of the list, edit the [GROUP] items to read:

    ```
    [GROUP]
    My data=1
    Code=2
    Number=3
    Name=4
    Date&Time=5
    Money=6
    Address=7
    Etc.=8
    Sample=9
    ```

    Note: Do not use tabs in the pformwiz.ini file. Separate items by spaces.

4. Add your data item entries to pformwiz.ini. The format for data item lists is:

    ```
    [category-name]
    numeric-name = Numeric, num-length, decimal-digits
    text-name = Text, text-length
    Block text-name = RectText, Block text-length
    UCS2-name = JText, UCS2-length
    Block UCS2-name = RectJText, Block USC2-length
    Mixed text-name = MText, Mixed text-length
    Block Mixed text-name = RectMText, Block Mixed text-length
    Radio button-name = Radio, valu for Selected State
    Check box-name = Check, valu for Selected State
    bitmap-name = Bitmap, Bitmap, height, width
    barcode-name = Barcode, height, width
    ...
    ```

    Where:

    category-name is the string you entered under the [GROUP] tag

"Numeric", "Text", "RectText", "JText", "RectJText", "MText", "RectMText", "Radio", "Check", "Bitmap", and "Barcode" are keywords used to identify the field type.

numeric-name is the name you wish to give a numeric field

num-length is the **total** number of digits (including the decimal digits) in the field, in the range 1 to 18

decimal-digits is the number of digits after the decimal point for the numeric field, in the range 0 to 18

text-name is the name you wish to give a text field

text-length is the text field length in bytes, in the range 1 to 256

Block text-name is the name you wish to give a block text field

Block text-length is the block text field length in bytes, in the range 1 to 256

UCS2-name is the name you wish to give a USC2 field

UCS2-length is the UCS2 field length in bytes, in the range 2 to 256

Block UCS2-name is the name you wish to give a block UCS2 field

Block UCS2-length is the block UCS2 field length in bytes, in the range 2 to 256

Mixed text-name is the name you wish to give a mixed text field

Mixed text -length is the mixed text field length in bytes, in the range 3 to 256

Block Mixed text-name is the name you wish to give a block mixed field

Block Mixed text-length is the block mixed field length in bytes, in the range 1 to 256

Radio button-name is the name you wish to give a radio button field

Check box-name is the name you wish to give a check box field

valu for Selected State is the Selected State with a value of up to 255 characters. At least one character is needed.

bitmap-name is the name you wish to give a bitmap field

barcode-name is the name you wish to give a barcode field

height is the height occupied by the bitmap or barcode, expressed in lines, in the range 1 to 12 (6 lines per inch)

width is the width occupied by the bitmap or barcode, expressed in columns, in the range 1 to 20 (12 columns per inch)

You can insert the items in any order. The Wizard displays them in the order entered.

The list is terminated by the next category tag or the end of the file.

For example, to create a category "My data" consisting of three items:

- a numeric field with COBOL description:

03 MY-DATA-NUMBER PIC 9(5)V99.

- a text field with COBOL description:

03 MY-DATA-TEXT PIC X(15).

- and a field called MY-BITMAP to contain a bitmap,

you would add the following to the pformwiz.ini file:

```
[My data]
MY-DATA-NUMBER = Numeric, 7, 2
MY-DATA-TEXT = Text, 15
MY-BITMAP = Bitmap, Bitmap, 6, 12
```

Note: Do not use tabs in the pformwiz.ini file. Separate items by spaces.

5. Save the pformwiz.ini file and restart PowerFORM. Bring up the wizard and check that your entries have been added to the category list.

6. If there are problems with your additions to the pformwiz.ini file the Wizard displays error messages.

5.2 Editing Wizard Data Items

To edit an item's properties within the PowerFORM Wizard select the item and click on the Property button.

5.3 Choosing the Default Date Format

When you insert a date field using either Insert, Date or the button on the Insert Field toolbar, PowerFORM displays a default date format such as MM.DD.YYYY. Your country, or company, may use a different format most of the time. To change the default format:

1. From the Tools menu select "Fields Default Value". This displays the "Default Values for Fields" dialog box.

2. Select the String tab.

3. In the "Date Field" group box you can select you would like from the "String Sample" drop down list.
   Alternatively you can enter your own string that includes normal characters with the key strings DD, MM, MMM, MMMM, YY, YYYY. For example, to make MM/DD/YY the default enter "MM/DD/YY" in the String field.

4. Click OK. Your string becomes the default for future date insertions.

5.4 Selecting Borders and Shading Colors

For graphic objects such as rectangles, ellipses, and overlay characters you can use the Overlay Color button, , on the Format toolbar.

To select the border color of an object:

1. Select the object.

2. Click the button.

3. Move the mouse over the color you wish to select and click the left mouse button.

To select the shading color of an object:

1. Select the object.

2. Click the button.

3. Move the mouse over the color you wish to select and click the right mouse button.

   If the shading color does not appear, select the Patterns button, , and select a shading from the palette of patterns offered. Note that the first 18 patterns include a border, the last 17 patterns do not include a border. Clicking on the pattern, and not releasing the mouse button, displays the shading density percentage.

5.5 Configuring the Color Palettes

The palettes shown by the and buttons, and in the Color drop down lists, contain 16 system colors and 16 custom colors. To change the custom colors select either "Field Color Palette" or "Overlay Color Palette" from the Format menu. This brings up a dialog displaying the 16 configurable colors.

To change one of these colors:

1. Click on that color (or on the white box below a number if no custom colors have been configured).
   PowerFORM displays the Color selection dialog with 48 basic colors and 16 custom colors (which may all be white if no custom colors have been set up).

2. Select a basic color or a custom color and click OK.

   To add or change one of the custom colors:

3. Select the custom color box by clicking on it.

4. Click on the "Define Custom Colors >>" button.
   This widens the Color dialog, displaying a rainbow box, luminosity scale and editable fields for hue, saturation, luminosity, red, green and blue values.

5. Select the color you want by doing one of the following:
   - Drag the pointer in the rainbow box and slide the luminosity pointer (if the pointer is at the top, i.e. luminosity is 240, click below the slider to start it sliding).
   - Directly edit the Hue, Saturation and Luminosity values.
   - Directly edit the Red, Green, and Blue values.
   The selected color is shown in the box labeled "Color|Solid".

6. Click the "Add to Custom Colors" button.
   The selected Custom Color box is updated with your configured color.

7. You can repeat steps 5 and 6 to set up more of the Custom Color boxes. Each time you click "Add to Custom Colors", the next Custom Color box is updated.

   Note: The Custom Colors shown in the Color dialog are NOT the colors in the Field or Overlay Color Palettes. They are colors from which you can select the field or overlay palette colors.

5.6 Clearing the Preview Layout Area

To clear the preview layout area, right click in the layout area to display the pop-up menu. Select "Hide All Partitions" from the pop-up menu. This clears all displayed partitions from the preview layout area.

5.7 Repeating Fields and Objects

When designing forms you often have repeating patterns of data or design elements (such as lines). PowerFORM V2 provides two ways of creating repeating patterns in horizontal and vertical directions: the "Repeat Copy" function and Repeat property for fields.

Repeat Copy

Repeat Copy, on the Edit and pop-up menus, lets you make several copies of one or more selected objects. The copies are spaced horizontally or vertically or both, according to the spacing you specify in the Repeat Copy dialog.

Each new object is given a new name - numbering left to right, top to bottom or top to bottom, left to right depending on whether you selected the Direction to be Right or Down.

After the repeat copy has been performed, the fields are not linked to each other. Their names are similar but may not be consecutively numbered if other objects in the form have names of the same format using intervening numbers.

Repeating Occurrence of a Field

You can define text, numeric and bar code fields to be repeating fields.

To do this:

1. Select the field and display the Properties dialog (right click on the field and select "Properties" from the pop-up menu).

2. Select the "Record Properties" tab.

3. Check the "Repeat" checkbox.
   The group boxes in the lower half of the tab are enabled.

4. Select the number of horizontal and vertical occurrences of the field, and set the total number of occurrences if not equal to the product of the vertical and horizontal occurrences.

5. Edit the vertical and horizontal spacing.

6. Determine whether you want the indexing of the items to proceed left to right, top to bottom (the "Right" Direction option) or top to bottom, left to right (the "Down" Direction option).
   PowerFORM displays arrows in the Preview box confirming the numbering direction.

7. Click OK.

PowerFORM displays the repeated fields in a lighter shade than the main field. The figure below shows a repeating field. Although there are six items in the report layout, only one field is shown in the field list.

Unlike repeat copies, the repeated fields are strongly linked to the main field. You cannot edit the repeated fields, and if you move the main field in the layout, the other fields move with it.

You reference the repetitions in your COBOL program by using subscripts. For example, to set the third item in the above array to 55 you would code:

```
MOVE 55 TO REPEATING(3)
```

5.8 Partition and Overlay Lines

In V1, you could only draw lines in the form overlay - the part that forms the background on which partitions are printed. If you wanted to draw lines or rectangles in partitions, you had to use the underscore and vertical bar characters.

In V2, you can now draw lines and rectangles in partitions using the buttons on the Insert Partition Line toolbar:
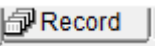
Simply select the type of line or rectangle you want to draw and click and drag to create it in the layout area.

Note:

1. "Show Partition Lines" must be selected for the buttons to be enabled and the lines to be visible. "Show Partition Lines" can be selected on the View menu, or using the "Show Partition Lines" button, [icon], on the Standard toolbar.

2. Partition line drawing will not work if you attempt to draw outside a partition.

5.9 Defining Record Layouts

In PowerFORM V2 you have the ability to define the layout of the record that is copied into your COBOL program.

To do this you select the Record Name List tab, [Record], at the base of the field list pane. PowerFORM displays the fields in the order they will appear in the record.

In the Record Name List view you can:
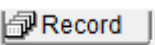
- Drag and drop items to change their order in the record.

- Insert group items - use the Group function on the pop-up menu or select Insert, Group Field from the PowerFORM menu.

- Insert filler items - use the Record function on the pop-up menu or select Insert, Record from the PowerFORM menu.

- Change the level numbers - use the Change Level function on the pop-up menu or select Edit, Change Level from the PowerFORM menu.

- Rename the fields - click on the name and enter your new name.

5.10 Using Common Records

PowerFORM V6 lets you establish multiple fields that share a common data item in the record layout. Numeric fields and text fields can share common data.

You establish that the fields are common data fields when you create them.

You can create common data fields using one of the following operations:

- Select an item in the Record Name List (Record Name List tab, [Record], selected in the field list pane), drag it and drop it onto the form layout. PowerFORM creates a field that shares the same data item.

- Select a field in the form layout area and select Edit, Add Common Record from the PowerFORM menu. PowerFORM creates a field that uses the same data item as the selected field.

When you have defined common record fields, you can select all the common records by double clicking on the data item in the record name list.

Editing Common Record Fields

PowerFORM allows you to define different display formats for common record fields, as long as those formats are compatible. Fields are compatible if they have:

- Identical field names

- Identical item lengths

- Identical decimal place settings

- Identical 'Display "+" Positive' settings

For example, fields with editing styles Z9:Z9:Z9 and 999999 are compatible, whereas fields with editing styles Z9:Z9:Z9 and 999999 with decimal places set to 2 are not compatible.

PowerFORM ensures that common data record fields are consistent. It does this by:

- Ensuring that if any of the above attributes are changed for one field in a common data group, they are changed for all items in the group. If necessary, the editing format will also be changed to maintain compatibility. For example, if you change the decimal places on a 999999 field, the other common data fields may be changed to 999999 format.

- Deleting all common data record fields if the common data item (in the record name list) is deleted.

- Allowing deletion of common data record fields until there is only one common data record field left, in which case the field is no longer considered to be a common data record field.

5.11 Using the Wizard Label Patterns

The settings in the Wizard for this pattern is self-explanatory.

When the fields are displayed in PowerFORM, note that PowerFORM only shows you the area inside the print margins; it does not show you the whole page. Consequently, PowerFORM displays the labels and fields aligned with the top and left edges of the layout area. Expect to perform a few trial generate and test print runs before creating your final version.

The Wizard creates repeating groups for the duplicated areas in this pattern. You can edit the properties of the first item in the group and the other items in the group conform to those properties. In your COBOL program you populate the data using subscripted data items.

5.12 PowerFORM Questions

Why do Fonts Appear Not to Change?

Sometimes when you select a new font for a field PowerFORM does not reflect that change in the layout area. If the field is selected the Format toolbar displays the font you selected, but the layout area shows the field in the default font.

This is because PowerFORM lets you create forms using fonts not currently available on your machine.

You can configure the font used in place of non-available fonts by selecting PowerFORM Options from the Tools menu and changing the Alternative Font.

How do I Position and Size Fixed Partitions?

Because the All view shows all the partitions it is tempting to think that it is showing all the partitions in their expected positions. With this misunderstanding you might drag the borders between the partitions expecting to alter the position of the fixed partitions. However, All view shows the partitions stacked one under the other in the order they are defined in the partition list. It does not show fixed partitions in their true positions.

To size and position fixed partitions it is best to switch to the Fix view. This shows the partitions in their true positions. In Fix view you can reposition the partition by dragging the partition label in the vertical ruler, and alter the height by dragging the bottom divider line.

Alternatively you can edit the partitions' position and height in the Partition Properties dialog box. To do this:

1. Select the partition in the partition list.

2. Right click to bring up the pop-up menu.

3. Select Properties from the pop-up menu.

4. Enter the desired values for Position and Height.

5. Click OK.

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