pfs:™

REPORT

User's Manual

requires PFS plus a 48K, 16-sector
disk based APPLE II system

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Rev. C., August 1981

Software Publishing Corporation
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pfs:REPORT™

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WHERE DID YOU PURCHASE PFS:REPORT: _____ WHEN: _____

COMPUTER MODEL: _____ DATE PURCHASED: _____ # OF DISK DRIVES: _____

LANGUAGES: _____ PRINTER (TYPE): _____ COLOR MONITOR (Y/N)

BUSINESS OR PROFESSION: _____ POSITION: _____

HOW FAMILIAR ARE YOU WITH COMPUTERS: ☐ beginner ☐ intermediate ☐ expert

HOW DO YOU PLAN TO USE PFS:REPORT: _____

HOW DID YOU HEAR ABOUT PFS:REPORT: ☐ store ☐ ad in _____ ☐ referral _____

WHAT OTHER PRODUCTS WOULD YOU LIKE: _____

IS PFS:REPORT THE PRIMARY APPLICATION FOR YOUR COMPUTER: (Y/N)

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pfs:™ REPORT

User's Manual

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Manual Author: Jean Seal

preface

This manual explains how to use the PFS:REPORT program together with your existing PFS files to produce tabular reports. It assumes that you already know how to create files using PFS. To take advantage of the full capabilities of PFS:REPORT you will need an APPLE II computer system with two disk drives and a printer, the PFS:REPORT package, and your PFS file. PFS:REPORT can operate in a limited way with a single drive system and without a printer.

If you have not used the PFS program before, please read the PFS manual and work through its examples before continuing further.

This manual is organized in the same way as the PFS manual, and you can use the chapter summaries as quick reference guides. The introduction describes PFS:REPORT and the type of report it produces, and tells you how to get started.

- Chapter 1 is divided into four sections:
  - — in the first you will learn how to print a report from your PFS file
  - — the second shows you how PFS:REPORT can total, count, and average the columns of numbers in the report
  - — the third section shows how you can derive new columns based on the numerical information in one or more existing columns
  - — the fourth section shows how to use the keyword function for applications such as abstracting
- Chapter 2 tells you how to store a report design for future use.
- Chapter 3 explains how to change the column headings.
- Appendix A lists all the messages it is possible to receive while using PFS:REPORT, along with an explanation of what to do if you get one.
- Appendix B summarizes the special keys that are used to control PFS:REPORT, and lists the commands used in report specifications together with their meanings.
- Appendix C describes the PFS file that is used in the major examples throughout this manual.

Finally, there is a glossary to explain words that may be unfamiliar to you.

If you have not already done so, please take a moment to complete and mail the Owner Registration card. It enables us to provide service should your PFS:REPORT program diskette become accidentally damaged, as well as to keep you informed about the PFS Software Series.

STOP:

The example file used throughout this manual is written on the SORTWORK diskette in the PFS:REPORT package. If you want to follow the major examples as you read the manual, use function 3 COPY FILE of PFS to copy the file called SORTWORK onto another diskette and rename it STAFF.

The first time you use the PFS:REPORT SORTWORK diskette the example file will be destroyed. If you accidentally destroy the example file before copying it, you can recreate it using the instructions in Appendix C of this manual.

Table of Contents

Introduction

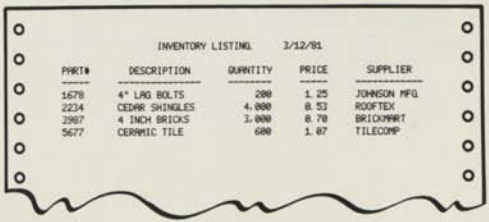
PFS:REPORT

PFS:REPORT is a computer program that enables you to produce reports, in the form of tables, from your existing PFS files. Like PFS, it has been designed to be easy to use. If you are familiar with PFS, you already know a lot about how to use PFS:REPORT.

A PFS report is a table consisting of up to nine vertical columns, each of which corresponds to an item from your PFS file. Each row of the report contains information from a single PFS form. PFS:REPORT can sort the rows alphabetically or numerically. The program can also perform calculations on the numerical information stored in your PFS files.

This is a form from a typical PFS file:

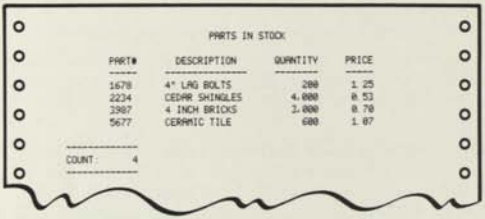
and here are some examples of reports that could be produced from this file using PFS:REPORT:



INVENTORY LISTING 3/12/81

PART#	DESCRIPTION	QUANTITY	PRICE	SUPPLIER
1678	4" LAG BOLTS	200	1.25	JOHNSON MFG.
2234	CEDAR SHINGLES	4,000	0.53	ROOFTEX
2987	4 INCH BRICKS	3,000	0.78	BRICKMART
5677	CERAMIC TILE	600	1.07	TILECOMP

This is a fairly simple PFS report. You can see the title line which will appear on each page of your report. Each row gives information from one PFS form, and the rows are sorted by part number. PFS:REPORT will sort the rows alphabetically or numerically by the information in the first two columns. You can have up to nine columns in a report. As you can see, the column headings match the item names. PFS:REPORT automatically plans the layout of the report to take the best advantage of the space available.

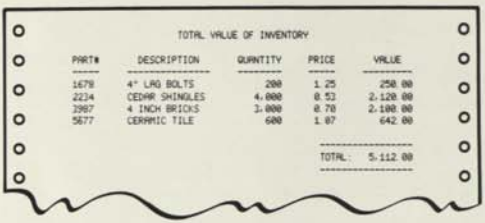


PARTS IN STOCK

PART#	DESCRIPTION	QUANTITY	PRICE
1678	4" LAG BOLTS	200	1.25
2234	CEDAR SHINGLES	4,000	0.53
3987	4 INCH BRICKS	3,000	0.70
5677	CERAMIC TILE	600	1.07

COUNT: 4

In this example, PFS:REPORT has counted the entries in the first column to give you the number of different parts. PFS:REPORT can total, average, or count the number of items in a column. It can also give subtotals, subaverages, and subcounts.



TOTAL VALUE OF INVENTORY

PART#	DESCRIPTION	QUANTITY	PRICE	VALUE
1678	4" LAG BOLTS	200	1.25	250.00
2234	CEDAR SHINGLES	4,000	0.53	2,120.00
3987	4 INCH BRICKS	3,000	0.70	2,100.00
5677	CERAMIC TILE	600	1.07	642.00
			TOTAL:	5,112.00

In this report PFS:REPORT has calculated the 'VALUE' column by multiplying the 'PRICE' and 'QUANTITY' columns together. You can have up to three such derived columns in a PFS report.

If you want to use the same report design more than once, you can store a design for future use. You can store up to eight report designs for each PFS file. For instance, you could store the three report designs shown above and run them whenever you wanted an up-to-date report on your inventory.

You can change the column names for the report. In the inventory example you might want to change the column heading from 'DESCRIPTION' to 'TYPE.'

Example:

PARTS IN STOCK

PART#	TYPE	QUANTITY	PRICE
1678	4" LAG BOLTS	200	1.25
2234	CEDAR SHINGLES,	4,000	0.53
3987	4 INCH BRICKS	3,000	0.70
5677	CERAMIC TILE	600	1.07

COUNT: 4

This example shows the same information as an earlier report, but with the first heading changed from 'DESCRIPTION' to 'TYPE.'

What do I need to use PFS:REPORT?

You need:

- an APPLE II computer system
  - — An APPLE II or an APPLE II PLUS with 48K memory.
  - — a video monitor or standard TV set, properly connected to the APPLE computer
  - — two Disk II drives on one controller, updated for 16 sector operation,* and plugged into slot 6

*Updated for 16 sector operation simply means that PROMs P5 and P6 on the disk controller card have been changed to PROMs P5A and P6A. If you have the Language System installed, or if your computer was manufactured after December 1980, this has already been done. If not, you can get a DOS 3.3 kit from your dealer.

— a printer on an APPLE CONTROLLER CARD, or PASCAL-compatible card plugged into slot 1*

- the PFS:REPORT package
  - — the PFS:REPORT program diskette
  - — the PFS:REPORT SORTWORK diskette
- your PFS files

PFS:REPORT can display your reports on the monitor or TV set of your APPLE system but it is really designed to produce printed reports. It can also work in a limited way with a single disk drive.

How do I get started?

Step 1. Make sure your video monitor or TV set is turned on and that your computer is turned off.

Step 2. Insert the PFS:REPORT program diskette into Drive 1. To do this, first open the drive door by pulling outward on its bottom edge. (As you remove the program diskette from its envelope, take a moment to read the precautions on the back of the envelope. Improper care could cause you to lose information.) Slip the diskette into the slot with the label upwards as shown. The oval cutout in the diskette jacket should enter the drive first. The label should enter the drive last. Gently push the diskette until it is entirely inside the drive. Then close the drive door by pushing it down.

Step 3. Turn on your APPLE computer. The red IN-USE light on the disk drive will come on and you will be able to hear the drive as it loads the PFS: REPORT program. (This takes approximately 20 seconds.) When it is finished, the IN-USE light will go off and PFS:REPORT is ready to use. You should see the PFS:REPORT Menu appear on the screen.**

*PASCAL-compatible means that the card would work with APPLE PASCAL without requiring any software modifications.

**If you do not see the PFS:REPORT Menu, you probably have an earlier version of the APPLE II computer which does not have the AUTOSTART ROM. To load PFS: REPORT press the following keys: RESET, 6, CTRL P, RETURN.

Step 4. Gently remove the PFS:REPORT program diskette from the drive and put it back in its envelope. You won't need it again until the next time you turn the power on.

Step 5. Insert the PFS:REPORT SORTWORK diskette into Drive 2 in the same way. This diskette is used by PFS:REPORT for temporary storage of information during sorting. It should stay in Drive 2 all the time you are using PFS:REPORT. If you have a single drive, ignore this step. See note on page I-8.

Step 6 Insert the PFS file from which you want to produce reports into Drive 1. Although PFS:REPORT will use the information contained in your PFS file to produce reports, it will not alter or rearrange the existing information on the diskette in any way. When you use functions 2 and 3 to predefine reports and change column headings, the information you enter will be stored on your PFS file diskette.

The special keys you use for PFS:REPORT are the same as those for PFS (with a couple of additions that will be explained as they arise). Here is a brief description of those keys, which you can skip if you are familiar with PFS:

CTRL This key, like **SHIFT**, is used in conjunction with other keys. It is used to control PFS programs. For example, when you see the symbol **CTRL C** it means—press **CTRL** and, while holding it down, press **C**.

CTRL **F** Moves the cursor left one character.

CTRL **G** Moves the cursor right one character.

CTRL T	Moves the cursor up one line.
CTRL V	Moves the cursor down one line.
RETURN	Moves the cursor to the beginning of the next line.
←	Moves the cursor back one space.
→	Moves the cursor forward to the next item.
CTRL N	Displays the next page of the form you are using.
CTRL P	Displays the previous page of the form you are using.
CTRL E	Erases the information from the page you are displaying.
CTRL C	Indicates that PFS:REPORT is to Continue with the next step of the program.
ESC	At any point while you are using PFS:REPORT, you can press ESC and escape back to the PFS:REPORT Menu. Whenever the Menu is displayed, PFS:REPORT is ready to accept a new request from you.
RESET	**THIS KEY SHOULD NEVER BE PRESSED WHILE YOU ARE USING PFS:REPORT.** If you accidentally press it, the computer will try to reset itself by loading the PFS file from the diskette in Drive 1. You may lose some of the information you were entering.

For a more detailed explanation of these keys and their use, see Chapters 1 and 2 of the PFS manual.

The PFS:REPORT Menu

You will see the PFS:REPORT Menu whenever you load PFS:REPORT and whenever you press ESC. You select functions from it just as you do from the PFS Menu. The Menu consists of a numbered list of PFS:REPORT functions, and two items to fill in.

SELECTION NUMBER: Just as in PFS, this is the number corresponding to the function you want performed.

FILE NAME: Here you should enter the name of your PFS file. PFS:REPORT will check to make certain that it matches the one on the diskette in Drive 1. If you omit this name, PFS:REPORT will automatically use whatever file is in Drive 1, provided it is a PFS file.

The following keys are useful when filling in the items:

→ **TAB.** This moves the cursor to the next item, or back to the first when there are no more on the screen.

← **BACKSPACE.** This move the cursor back one character to allow you to correct any mistakes. To correct an error, simply move the cursor to the character that is wrong, and type over it. Pressing the space bar will remove any unwanted characters.

When you have filled in the items you are ready to start the function you selected. The following control key accomplishes this:

CTRL C **CONTINUE.** PFS:REPORT will begin to perform the selected function. For a description of how to use each function, refer to the chapter in this manual corresponding to the function number. If you are using PFS:REPORT for the first time, you should read through the chapters in order.

Warning

Your data diskette should not be removed from the system unless the Menu is displayed on the screen. Removing it at other times may leave the file structurally damaged.

Using PFS:REPORT with a single disk drive

You can use PFS:REPORT with a single disk drive although this does impose some limitations on the program:

— You can't sort the report. This means that the rows of the report will usually be printed in the order of your PFS file, with the most recent form first.

— Columns 1 and 2 (the sorted columns) cannot be used with a single disk system. This means you are limited to seven columns (numbered 3 through 9).

— You can use the column total, average, and count functions, but not the subtotal, sub-average, sub-count, key-word, or page-break, because these are dependent on sorting.

All the other functions of PFS:REPORT, including derived columns, are available to the single disk system user.

SUMMARY

- PFS:REPORT is a computer program that produces tabular reports from your existing PFS files.

- To use PFS:REPORT you should have an APPLE II computer system with 48K memory, a dual disk drive (updated for 16 sector operation), and a printer, although you can use PFS:REPORT in a limited way with a single disk system and no printer.

- The keys used to control PFS:REPORT are the same as those for PFS.

- ESC — always returns to the PFS:REPORT Menu.

- CTRL C — indicates that PFS:REPORT is to continue with its operation.

- RESET — should never be pressed while using PFS:REPORT.

1: PRINT A REPORT

What is a PFS Report?

PFS:REPORT uses the information in your PFS files to produce reports in the form of tables. Each vertical column of a table corresponds with an item on your PFS form, and each horizontal row contains information from a single PFS form. A PFS report can have up to nine columns of information. The columns are numbered 1 through 9, counting from the left. PFS:REPORT can add, count, and average numerical information in the report columns.

You can include up to three derived columns in your total of nine. These are calculated from the information in one or more of the other columns. You can do any calculation that you could do with a four-function calculator: add, subtract, multiply, or divide. The formulae for these columns can also include constants and parentheses.

PFS:REPORT will print the report in sorted order. It will sort the rows based on the information in column 1 either alphabetically or numerically (you decide which when you specify the report). Numeric columns are sorted into descending order (highest number first). Non-numeric columns are sorted alphabetically. Those forms containing the same information in column 1 will be sorted according to the information in column 2. If the information in column 1 or 2 is sorted alphabetically, each new entry will only be printed once and the column will be left blank until that entry changes.

Example:

The regions 'NORTH' and 'SOUTH' are in alphabetical order, and each one is printed only once although there are three rows for each region. Each group of salesmen within a region is also in alphabetical order.

SALES QUOTAS BY REGION

REGION	SALESPERSON	PRODUCT SPECIALTY	QUOTA
NORTH	DAVIES, A	BOLTS	50,000
	MARCUS, S	BOLTS	62,000
	RICHARD, W	IRON RODS	48,000
SOUTH	ADAMS, R	WASHERS	39,000
	BAKER, J	NAILS	45,000
	JONES, J	SCREWS	41,000

If you do not want your report sorted, or if you want to sort on one column only, you can avoid the sort by not using column numbers 1 or 2 in your report specification. In a long or complex report, eliminating the sort can shorten the time it takes the program to prepare your report for printing. However, this limits your report to seven columns (numbered 3 through 9).

SECTION 1: SIMPLE PFS REPORTS

To select the PRINT A REPORT function:

SELECTION NUMBER: This item should contain **1**.

FILE NAME: If you enter the file name here, PFS:REPORT will check that it corresponds with the PFS file in Drive 1. If you leave this item blank, the program will automatically use whatever PFS file is in Drive 1.

Make sure that you have the PFS:REPORT SORTWORK diskette in Drive 2.

CTRL **C** indicates that PFS:REPORT is to continue.

1. The Retrieve Specification

A blank form from your PFS file should appear on the screen. This is the retrieve specification and it is the first of three steps in specifying a report. In this step you identify those forms you want to include in the report. Just as in PFS, if you leave it blank, all the forms in the file will be retrieved. You enter the information in the same way as you would specify a search in PFS. To remind you, there are three categories of retrieve specification, just as in function 4 SEARCH in PFS:

- Full item match
- Partial item match
- Numerical item match

Full item match

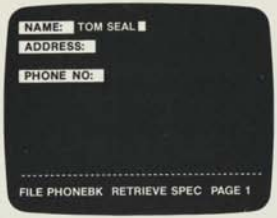
In a full item match, the program will select all forms where the characters following the item name are exactly the same as those in the retrieve specification. In determining whether or not there is a match, PFS:REPORT uses the following rules:

- Spaces before the first character and after the last character are ignored.

- Multiple spaces within the items are treated as a single space.

Example:

With the search specifications shown on the following screen:



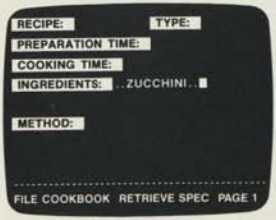
NAME: TOM SEAL	would be a match
NAME: THOMAS SEAL	would not be a match
NAME: TOM□□□SEAL	would be a match

Partial item match

If an item contains several pieces of information, you can isolate only those portions you are interested in. The retrieve specification consists of the characters you are interested in, preceded and/or followed by two periods .. (this tells the program to ignore unwanted characters). PFS:REPORT takes the characters preceding and/or following the two periods and tries to find an occurrence of them anywhere within the item. (Multiple spaces are treated as a single space.)

Example:

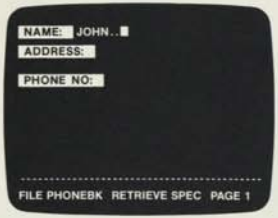
In a recipe file you may want to find all the recipes that use zucchini:



By using the specification shown above, which has two periods before the search word and two periods after it, you will find all the recipes with ZUCCHINI anywhere in the list of ingredients.

If you enter two periods after the search word, PFS:REPORT will find all the forms where that is the first word after the item name.

Example:



This specification will find these entries:	but not these:
JOHN DAVIES	**MR. JOHN DAVIES**
JOHNNY MICHEL	**MICHAEL JOHN RICHARDS**
JOHN D. WATSON, JR.	**R. JOHN ABBOTT**

If you enter two periods before the search word, PFS:REPORT will find all the forms where that is the last word contained in the item.

Example:

This will find these entries:	but not these:
PETER RUTH	**RUTH MARTIN**
DAVID RUTH	**RUTH, DAVID**
MR. RUTH	**COLIN RUTH JR.**

Numerical item match

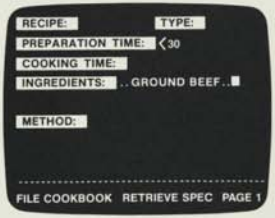
There are two ways to use numbers as information. One way is to use the number as a set of characters that identify something (**PHONE #:** (123) 456-7890, **PART NUMBER:** 14307, **SOC.SEC.#:** 123-45-6789). In this case the number has no arithmetic value—you wouldn't want to calculate an average social security number for example.

The other way is to use the number to represent an arithmetic value—something that has a meaning of larger or smaller associated with it (**QUANTITY:** 36, **COST:** $15.95, **AGE:** 47).

When the item is a number that represents an arithmetic value, you can look for all items less than, greater than, or equal to a given number. The retrieve specification consists of one of the special symbols (**<** **>** =) followed by the desired number.

Example:

In the recipe file you want to find all the recipes that include ground beef and take less than 30 mins to prepare. This is how the retrieve specification screen would look:

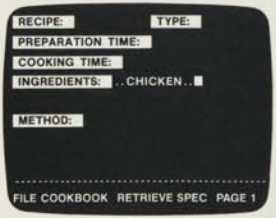


For a more detailed explanation of how to fill out a retrieve specification, see Chapter 4 of your PFS manual.

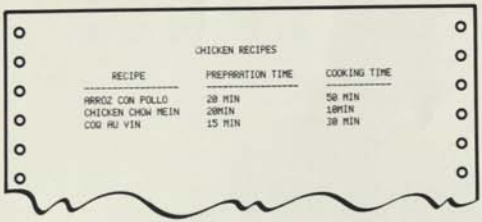
You decide which forms will be included in your PFS report by filling out the retrieve specifications. The items you fill out in the retrieve specification need not necessarily be included in the final report, unless you want them.

Example:

You may want a list, with preparation and cooking times of all the chicken recipes in your file. Your retrieve specification would look like this:



and the final report could look like this:



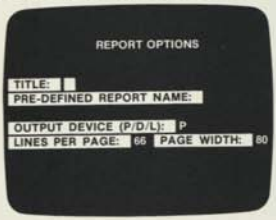
CHICKEN RECIPES

RECIPE	PREPARATION TIME	COOKING TIME
ARROZ CON POLLO	20 MIN	50 MIN
CHICKEN CHOW MEIN	20MIN	10MIN
COQ AU VIN	15 MIN	30 MIN

You can see that the INGREDIENTS item is not included in this report.

When you have completed your retrieve specification, you press **CTRL C** to indicate that PFS:REPORT is to continue.

The following screen should appear:



2. The Report Options

This is the second of the three steps. The options on this screen enable you to decide how you want your report presented. You can use the → key to move between the items, just as in PFS. The first item is **TITLE:** the title of your report. The title you enter, which can be up to 32 characters long, will appear centered at the top of each page of your report. The next item is **PRE-DEFINED REPORT NAME:**. If you want to use a report specification that you have previously saved using function 2 (this is fully described in Chapter 2), you enter the name of the report here, otherwise you leave this item blank.

You will see that the other three items on the screen are already filled in. If you leave the items just as they are, PFS:REPORT will assume that the printer paper is 80 columns wide (the width of the most popular printers), and 66 lines long (the length of standard 8.5x11 inch fan-fold printer paper). You can change any of these items simply by typing over the characters.

The **OUTPUT DEVICE P/D/L:** item allows you to choose where the report is presented. There are three possible choices:

P Printer (with auto-linefeed). This is the default.

D Display. A report up to 80 characters wide can be sent to the display screen by entering a D in this item.

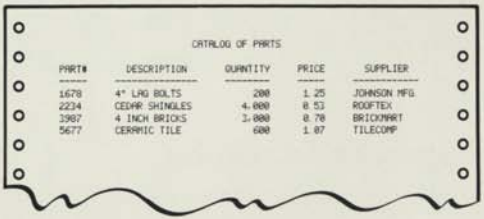
L Printer without auto-linefeed. If your printer does not produce a line-feed character automatically when sent a Carriage Return character, select L here. PFS:REPORT will send an explicit linefeed character after each Carriage Return.

You can allow for any page width between 40 and 160 characters, and you can have any number of lines on each page. PFS:REPORT will take the page width you have chosen and plan the page layout according to the space available.

The display on your monitor is 40 characters wide and 24 characters long. If you try to display a report more than 40 characters wide, the left-hand side of the report will initially appear on the screen, but you can display the right-hand side by pressing **CTRL A**. This key allows you to switch back and forth between the two sides of the report. In this way, reports up to 80 columns wide can be displayed.

Example:

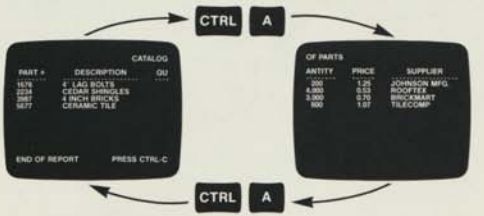
This report:



CATALOG OF PARTS

PART#	DESCRIPTION	QUANTITY	PRICE	SUPPLIER
1678	4" LAG BOLTS	200	1.25	JOHNSON MFG
2234	CEDAR SHINGLES	4,000	0.53	ROOFTEX
3987	4 INCH BRICKS	3,000	0.70	BRICKMART
5677	CERAMIC TILE	600	1.07	TILECOMP

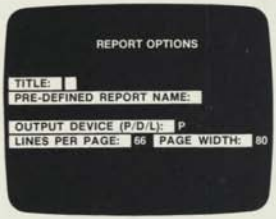
would be displayed like this;



CTRL **A** alternates the display between these two screens.

Selecting Report Options

Here is the Report Options Screen as it appears when you first see it:



TITLE: Here you enter the title of your report. It can be up to 32 characters long, and will appear centered at the top of each page of your report.

PRE-DEFINED REPORT NAME: Leave this item blank unless you are using a report design you previously saved using function 2.

OUTPUT DEVICE P/D/L: **P** means printer with auto-linefeed, **D** means display, and **L** means printer without auto-linefeed.

LINES PER PAGE: You can enter any number you choose. The program will use 66 lines if you do not enter anything. (This is standard 8.5 x11 inch fan-fold printer paper.)

PAGE WIDTH: You can enter any number between 40 and 160 (or the maximum width of your printer, whichever is less).

When you have completed the report options form, you press **CTRL C** to indicate that PFS:REPORT is to continue.

You should see a blank form from your PFS file on the screen.

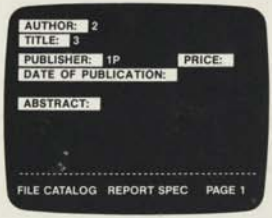
3. The Report Specification

This is the third and last step in specifying a report. You use this screen to describe which items you want in your report. You can have up to nine columns in a PFS report, and each column shows information from one item in the PFS file. You indicate the order in which you want the columns printed by entering the numbers 1 through 9 in the desired items.

PFS:REPORT sorts the rows into alphabetical or numeric order according to the information in column 1. Those rows having the same value in column 1 will be sorted according to the information in column 2.

You can also choose to start a new page of the report each time the item in column 1 changes, by entering a P next to the 1.

Example:



The specification shown on the screen above would define a report with these column headings:

PUBLISHER AUTHOR TITLE

Because the letter P is entered beside the 1, each publisher would appear on a new page. The P command only has an effect in column 1.

If an item in your PFS file contains numbers, you can choose to have PFS:REPORT treat that item numerically by entering the letter N next to the column number on the specification form. PFS: REPORT uses the same rules for numbers as PFS:

- All characters (including spaces) other than -, ., 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are ignored.
- A minus sign (-) appearing before the first digit or after the last gives the number a negative value.
- If multiple decimal points (.) are encountered, all but the first are ignored.

Examples:

The items on the left, shown as they appear in the PFS files, would have the values in the right-hand column.

Item	Value	
$1,706.22	1706.22	**$** and **comma** are ignored.
13 MAY 1980	131980	**MAY** is ignored.
70-06-29	700629	This number is positive: to be negative, a minus sign must appear before the first digit or after the last.
20:45	2045	**:** is ignored. This is a convenient way for numerically expressing time.
FIVE		letters are ignored. If no digits are found, the item has no numeric value.

If you put an N in the specification, the program will line up all the decimal points in the columns, and insert commas, as shown in this example:

PFS file entry	Numerical report	Non-numerical report
$1000	1,000.00	$1000
112.5	112.50	112.5
1.37 dollars	1.37	1.37 dollars
2,000,137	2,000,137.00	2,000,137

PFS:REPORT will adjust all the entries in the same column to the highest number of decimal places it finds.

If the number in the PFS item is used as an identifier (such as a phone number) rather than a quantity, you will probably want to treat it non-numerically.

Example:

In an inventory control system where the part numbers consist of a letter followed by numbers, you might have the following parts: A1679, B0334, B1772, C0009.

A numeric report would show these values:

1,772
1,679
334
9

but a non-numeric report would show this:

A1679
B0334
B1772
C0009

which is what you really want.

Usually you would use numeric values for numbers representing quantity and non-numeric values for numbers used as identifiers.

Example:

If you had an item called PRICE in the inventory control system, you would probably want to treat it numerically. The entries in the PFS file might look like this:

$1,000
87 Dollars
33.75
100

If you chose to treat these numbers numerically by entering an N beside the column number on the report specification, the items would appear in the report like this:

1,000.00
87.00
33.75
100.00

If you treated them non-numerically, they would appear just as they do in your PFS file.

EXAMPLE:

The major examples in this manual use the PFS file called STAFF described in Appendix C. This file is written on the SORTWORK diskette in your PFS:REPORT package and named SORTWORK. Copy it onto another diskette using function 3 of PFS, and rename it STAFF. If you accidentally destroy this file, you can re-create it using the instructions in Appendix C of this manual.

Let's use the PFS STAFF file to produce a printed phone directory for the manufacturing group.

First make sure that the PFS:REPORT Menu is displayed, the printer is switched on, and that the PFS:REPORT SORTWORK disk is in Drive 2. Insert your PFS STAFF file in Drive 1.

Enter 1 as the selection number and STAFF as the file name.

Now press **CTRL C** to indicate that PFS:REPORT is to continue.

You should see the following screen:

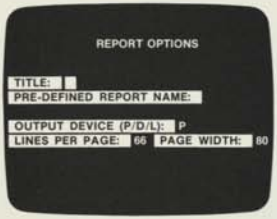
Since this is a Manufacturing Department directory, we want to retrieve all the forms with 'MANUFACTURING' in the DEPT: item.

to DEPT: and enter MANUFACTURING.

This completes our retrieve specification, so press **CTRL C** to indicate that PFS:REPORT is to continue.

You should see the REPORT OPTIONS screen.

Fill out the items as follows:



TITLE: Enter **MANUFACTURING PHONE DIRECTORY.**

PRE-DEFINED REPORT NAME:
This item should be left blank since we are not using a pre-defined report.

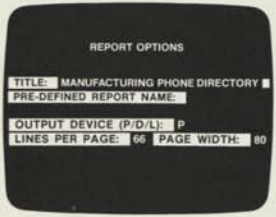
These items should be left as they are, assuming we are using an 80 column printer with regular fan-fold printer paper, and auto-linefeed.

OUTPUT DEVICE P/D/L: P

LINES PER PAGE: 66

LINE WIDTH: 80

The screen should look like this:



Press:

CTRL **C** to indicate that PFS:REPORT is to continue.

Your PFS form should appear on the screen with the words REPORT SPEC at the bottom:

We want to print a report with employee names in alphabetical order in the first column, with job title and phone extension next to each name.

→ to NAME: Enter 1 (This will be the first column.)

→ to PHONE EXT: Enter 3 (This will be the third column.)

→ to JOB TITLE: Enter 2 (This will be the second column.)

Press:

CTRL C to indicate that PFS Report Writer is to continue.

PFS:REPORT will now prepare the report: first it will select forms for inclusion in the report, according to the retrieve specification, and then it will sort the forms ready for printing. This process should take less than a minute in this example, but it could take several minutes for a long and complicated report.

When this is done your report will be printed:

MANUFACTURING PHONE DIRECTORY

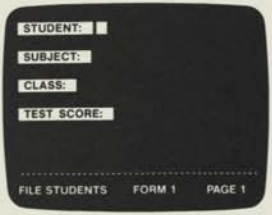
NAME	JOB TITLE	PHONE EXT
CALVIN, CURT	PROCESS ENGINEER	188
FRALEY, SUSAN	ENGINEERING ASSOCIATE	195
PETERS, MARVIN	TECHNICIAN	167
SANCHEZ, ENRICO	DESIGN ENGINEER	189

The first page of each form selected will be shown on the screen as the report is being printed. When the printer has completed the report, the program will return you to the PFS:REPORT Menu.

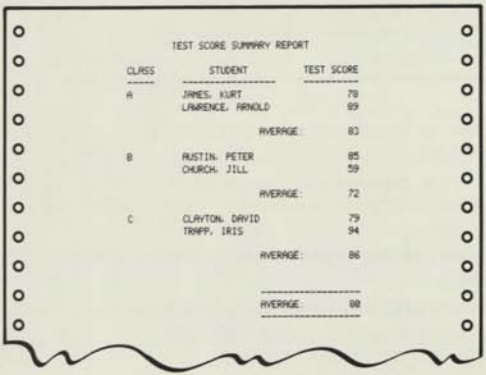
SECTION 2: PFS REPORTS WITH COLUMN CALCULATIONS

PFS:REPORT can total, count, or average the numbers in a column. It can also give a subtotal, subcount, or subaverage every time the item in column 1 changes.

Example:



If you had three classes of students who all took the same test, you could get the average score for each class and the average score for all the students like this:



TEST SCORE SUMMARY REPORT

CLASS	STUDENT	TEST SCORE
A	JAMES, KURT	78
	LAWRENCE, ARNOLD	89
	AVERAGE:	83
B	AUSTIN, PETER	85
	CHURCH, JILL	59
	AVERAGE:	72
C	CLAYTON, DAVID	79
	TRAPP, IRIS	94
	AVERAGE:	86
	AVERAGE:	80

You specify the column calculations by entering the following commands right beside the column number in the desired item:

T Total. The program will automatically treat this item numerically, add all the numbers in the column, and print the total at the end.

ST Subtotal. This produces a subtotal for each new item in column 1, and a grand total at the end of the report.

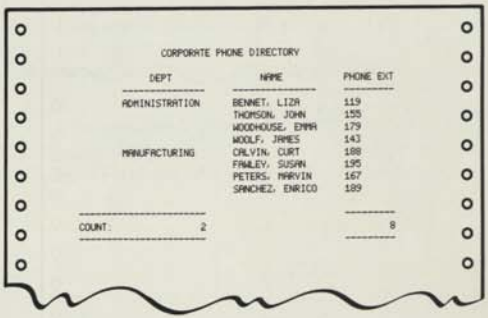
A Average. The program will automatically treat this column numerically and print the average at the end.

SA Subaverage. This produces a subaverage for each new item in column 1, and prints an average of all the numbers at the end.

C Count. This counts the number of entries in a column (whatever their value).

SC Subcount. This gives a subcount for each new item in column 1, and a complete count at the end.

The count and subcount commands count the number of items actually printed in a column. For example, in the following report:



CORPORATE PHONE DIRECTORY

DEPT	NAME	PHONE EXT
ADMINISTRATION	BENNET, LIZA	119
	THOMSON, JOHN	155
	WOODHOUSE, EMMA	179
	WOOLF, JAMES	143
MANUFACTURING	CALVIN, CURT	188
	FRALEY, SUSAN	195
	PETERS, MARVIN	167
	SANCHEZ, ENRICO	189
COUNT: 2		8

Only two items are counted in the DEPT column because each department name was only printed once. The EXT column has an entry for every line so the count for that column is eight. This report, therefore, tells you that you have two departments and eight phones.

When you use T, ST, A, or SA, the program automatically assumes that the information in the column is numeric. However, because you can use C and SC with non-numeric information, you must enter N if you want the column treated numerically. For example:

This specification:

PRICE: 3C

might get this result:

but this specification:

PRICE: 3CN

would get this result from the same file:

When you plan to use these functions, you should think carefully about the difference between 0 (zero) and a blank in your PFS file. In the test score example, for instance, the difference between a score of zero and no score is very significant. It is especially important when using average or count. An item that contains no information is not included in the calculation, but an item that contains a zero will be included. For example:

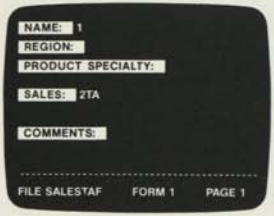
The average of 4 and 2 is $\frac{4+2}{2} = 3$

The average of 4, 2, and 0 is $\frac{4+2+0}{3} = 2$

You can specify more than one of these functions in the same column. For example, you could have the total and the average of a column.

Example:

You may have a file containing information on your sales that looks like this:



By entering 1 in the **NAME:** item, and 2TA in the **SALES:** item on your report specification, you could get a report that looks like this:

SALESTAF

NAME	SALES
ABRAMS, ART	12,001.00
BEACHAMP, FRED	34,007.50
BUTTON, L	56,120.00
STILL, STANLEY	0.00
WILKES, JIM	20,987.00
AVERAGE:	24,623.19
TOTAL:	123,115.98

showing the average sales per salesman and the total sales. If you use more than one of the column calculations, they will appear in the following order:

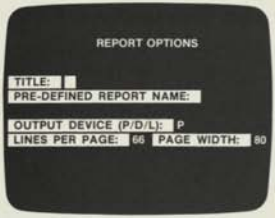
AVERAGE
TOTAL
COUNT

The commands can be entered in any order. For example, 4AST, A4ST, and 4STA would all produce the same result.

EXAMPLE:

- Let's use the STAFF file to produce a report on total salaries, subtotalled by department.
- Make sure that the PFS:REPORT Menu is displayed on the screen. (Press **ESC** to return to it if necessary.)
- Enter 1 as the selection number.
- Press **CTRL C** to indicate that PFS:REPORT is to continue.
- The PFS STAFF form should appear on your screen.
- Since we want all the forms, we do not need to enter any information in the retrieve specification. Press **CTRL C** to indicate that PFS:REPORT is to continue.

The following screen should appear.
Fill out the items as follows:



TITLE: **SALARY COSTS BY DEPARTMENT.**

PRE-DEFINED REPORT NAME: This item should be left blank since we are not using a pre-defined report.

These items should be left as they are, assuming we are using an 80 column printer with regular fan-fold printer paper, and auto-linefeed.

OUTPUT DEVICE P/D/L: **P**

LINES PER PAGE: **66**

PAGE WIDTH: **80**

Press:

CTRL **C** to indicate that PFS:REPORT is to continue.

You should see the PFS STAFF form on your screen ready for the report specification.

→ to

DEPT: Enter 1. (This will be the first column of the report and will be sorted alphabetically.)

→ to

NAME: Enter 2. (This will be the second column of the report and will be sorted alphabetically within each entry in column 1.)

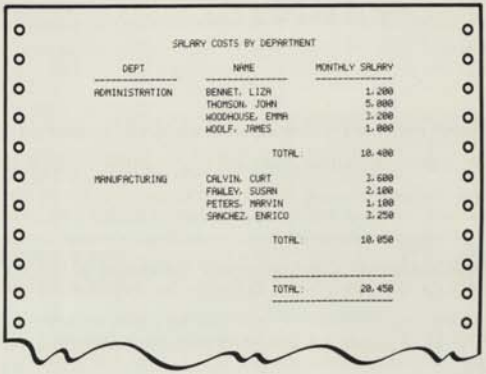
→ to

MONTHLY SALARY: Enter 3ST. (This will be the third column of our report and it will be subtotalled for each department.)

Your Report Specification should look like this:

CTRL C Indicates that PFS:REPORT is to continue.

Your PFS report should look like this:



SALARY COSTS BY DEPARTMENT

DEPT	NAME	MONTHLY SALARY
ADMINISTRATION	BENNET, LIZA	1,200
	THOMSON, JOHN	5,800
	WOODHOUSE, EMMA	1,200
	WOOLF, JAMES	1,800
	TOTAL:	10,400
MANUFACTURING	CALVIN, CURT	3,600
	FRALEY, SUSAN	2,100
	PETERS, MARVIN	1,100
	SANCHEZ, ENRICO	3,250
	TOTAL:	10,050
	TOTAL:	20,450

You can see that the subtotal is printed in the MONTHLY SALARY column every time the item in the first column changes. This gives us the total salaries for each department. When you specify ST in a column, you also get a grand total at the end of the column.

SECTION 3: PFS REPORTS WITH DERIVED COLUMNS

You can have up to three derived columns in the total of nine in your PFS report. Derived columns are calculated from information in other columns (including other derived columns).

You specify the formulae for these columns using column numbers preceded by # (column one is #1, column five is #5), constants, and the following mathematical expressions:

- + add
- - subtract
- * multiply
- / divide
- ( ) parentheses

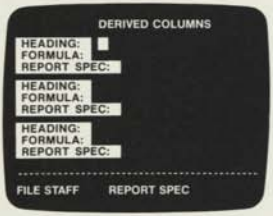
PFS:REPORT evaluates the formula from left to right, and evaluates the expressions in parentheses first, so you should use parentheses to make your meaning clear.

Example:

#3 + 4*#1 means add 4 to column 3 and multiply the result by column 1.

#3 + (4*#1) means multiply column 1 by 4 and add the result to column 3.

To specify derived columns, you press **CTRL D** when the report specification screen is showing. You should then see the following screen.



There are three sets of items to fill out: one for each possible derived column.

HEADING: Here you enter the heading you want printed in the derived column. If you leave this blank, PFS:REPORT will print the formula of the column as a heading.

FORMULA: Here you enter the formula for your derived column using the following symbols +, -, *, /, ( ). Columns in the formula are identified by # followed by the column number. Example: #1-#5 means column 1 minus column 5. The # symbol enables you to differentiate between column numbers and constants.

REPORT SPEC: Here you enter the column number for your derived column, and any column calculations you want. Example 7T (Print in column seven and total.) You can even put a derived column in column 1, which means that the program will sort on the results of the derived column calculation, although this may take much longer to sort than a less complex report.

If you want to return to the main report specification screen, press **CTRL D**, again. This key enables you to switch between the two screens.

When you have completed your specification, press **CTRL C**, and PFS:REPORT will prepare and print your report.

EXAMPLE:

Let's use the PFS STAFF file to calculate a 17% bonus for each employee, and produce a report showing MONTHLY SALARY, BONUS, and TOTAL PAY for each employee.

Make sure that the PFS:REPORT Menu is showing on the screen. Select item 1 and press **CTRL C** to continue.

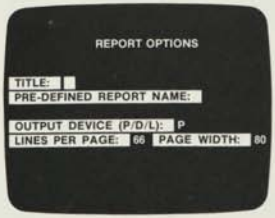
Your PFS STAFF form should appear:

Since we plan to give a bonus to everyone, this can be left blank, thus selecting every form in the file.

Press:

CTRL C to continue.

The Report Options screen should appear.
Fill out the items as follows:



TITLE: **EMPLOYEE BONUS REPORT**

PRE-DEFINED REPORT NAME:
This item should be left blank since we are not using a pre-defined report.

These items should be left as they are, assuming we are using an 80 column printer with regular fan-fold printer paper, and auto-linefeed.

OUTPUT DEVICE P/D/L: P

LINES PER PAGE: 66

PAGE WIDTH: 80

Press:

CTRL C to continue.

You should now see the STAFF form on the screen ready for you to enter the report specification.

→ to

NAME: Enter 1 (This item will appear in column 1.)

→ to

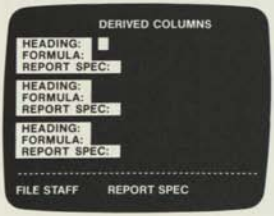
MONTHLY SALARY: Enter 2 (This item will appear in column 2.)

Now you are ready to specify the derived columns.

Press:

CTRL **D**

The following screen should appear:



The cursor will be at the first set of items. Enter the following information:

HEADING: Enter BONUS

FORMULA: #2*0.17 (Calculate 17% of the MONTHLY SALARY column.)

REPORT SPEC: 3 (Print in column 3.)

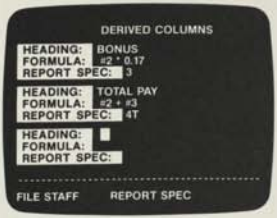
Now complete the second set of items as follows:

HEADING: Enter TOTAL PAY

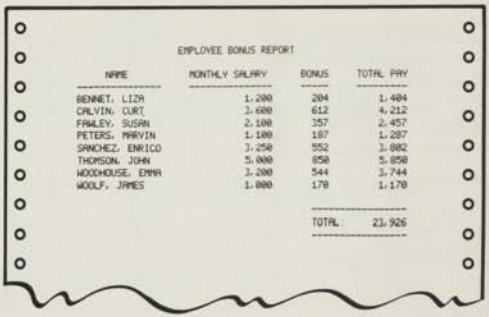
FORMULA: #2 + #3 (Add the MONTHLY SALARY and BONUS columns together.)

REPORT SPEC: 4T (Print in column 4 and total this column.)

The screen should now look like this:



Now press **CTRL C** to indicate that the program is to prepare your report, which should look like this.



EMPLOYEE BONUS REPORT

NAME	MONTHLY SALARY	BONUS	TOTAL PAY
BENNET, LIZA	1,200	204	1,404
CALVIN, CURT	3,600	612	4,212
FAWLEY, SUSAN	2,100	357	2,457
PETERS, MARVIN	1,100	187	1,287
SANCHEZ, ENRICO	3,250	552	1,802
THOMSON, JOHN	5,000	850	5,850
WOODHOUSE, EMMA	3,200	544	3,744
WOOLF, JAMES	1,000	170	1,170
		TOTAL:	23,926

When PFS:REPORT calculates derived columns, it works from left to right across the report. If columns 1 and 4 were derived columns, column 1 would be calculated before column 4 in each row. This means that a formula must not use the values of any derived columns that are printed to its right.

Derived columns are rounded to two decimal places before printing.

A formula can include a reference to itself. For example, the formula used in column 7 may be #3 + #7. In these cases, the value used will be that from column 7 of the *previous* row in the report. The example above would produce, in column 7, a running total of whatever was in column 3. (At the start of the report, all derived columns have a value of zero.)

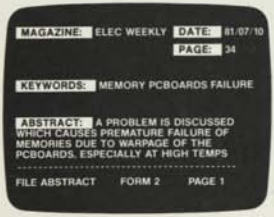
When PFS:REPORT produces a report containing derived columns, its performance, especially during the form selection stage, will be noticeably slower.

SECTION 4: PFS REPORTS USING KEYWORDS

When you store information in the form of text in your PFS files you may want to identify the information by means of subject keywords. Often the same form is identified by several different keywords because it is of interest for several different reasons. The K command in PFS:REPORT enables you to print a report, sorted alphabetically by keyword, in which a particular form would appear once for every keyword listed.

EXAMPLE:

Suppose you kept track of technical information from the magazines you read by using a PFS form like this:



The KEYWORDS item includes all the subjects for which the article is of interest. The ABSTRACT item gives a brief description of the article.

By using the following report specification:

you could get this report:

KEYWORD SORT OF ABSTRACTS

KEYWORDS	MAGAZINE	ABSTRACT
ECL	DATAMATION	THIS ARTICLE DESCRIBES THE USE OF A NEW ECL PROCESS TO FABRICATE 16 K RAMS FOR LESS THAN $4 EACH.
FAILURE	ELEC TIMES	AN UNSUSPECTED CAUSE OF RAM FAILURE HAS BEEN TRACED: PEOPLE HAVE FOUND THAT GAMMA RADIATION CAUSES RANDOM TEMPORARY BIT FAULTS.
	ELEC WEEKLY	A PROBLEM IS DISCUSSED WHICH CAUSES PREMATURE FAILURE OF MEMORIES DUE TO WARPAGE OF THE PC BOARDS. ESPECIALLY AT HIGH TEMPS
MEMORY	DATAMATION	THIS ARTICLE DESCRIBES THE USE OF A NEW ECL PROCESS TO FABRICATE 16 K RAMS FOR LESS THAN $4 EACH.
	ELEC WEEKLY	A PROBLEM IS DISCUSSED WHICH CAUSES PREMATURE FAILURE OF MEMORIES DUE TO WARPAGE OF THE PC BOARDS. ESPECIALLY AT HIGH TEMPS
PCBOARDS	ELEC WEEKLY	A PROBLEM IS DISCUSSED WHICH CAUSES PREMATURE FAILURE OF MEMORIES DUE TO WARPAGE OF THE PC BOARDS. ESPECIALLY AT HIGH TEMPS
RAMS	DATAMATION	THIS ARTICLE DESCRIBES THE USE OF A NEW ECL PROCESS TO FABRICATE 16 K RAMS FOR LESS THAN $4 EACH.
	ELEC TIMES	AN UNSUSPECTED CAUSE OF RAM FAILURE HAS BEEN TRACED: PEOPLE HAVE FOUND THAT GAMMA RADIATION CAUSES RANDOM TEMPORARY BIT FAULTS.

As you can see, the abstract that appeared on the first screen in this section is printed three times: once for each keyword.

If you omitted the K command, you would get this report from the same information:

A NORMAL REPORT

KEYWORDS	MAGAZINE	ABSTRACT
FAILURE RAMS	ELEC TIMES	AN UNSUSPECTED CAUSE OF RAM FAILURE HAS BEEN TRACED: PEOPLE HAVE FOUND THAT GAMMA RADIATION CAUSES RANDOM TEMPORARY BIT FAULTS.
MEMORY PCBOARDS FAILURE	ELEC WEEKLY	A PROBLEM IS DISCUSSED WHICH CAUSES PREMATURE FAILURE OF MEMORIES DUE TO WARPAGE OF THE PC BOARDS. ESPECIALLY AT HIGH TEMPS
RAMS MEMORY ECL	DATAMATION	THIS ARTICLE DESCRIBES THE USE OF A NEW ECL PROCESS TO FABRICATE 16 K RAMS FOR LESS THAN $4 EACH.

Keywords are separated from each other by one or more blanks. For example:

Smith□Jones□Brown	are three keywords
Smith,Jones,Brown	is one keyword

SUMMARY

- The PRINT A REPORT function is used to specify a report which may include any of the forms and any of the items in a PFS file.

- There are three steps in specifying the report:
  - — the retrieve specification that identifies the forms to be included in the report.
  - — the report options that describe how the report is to be presented.
  - — the report specification that identifies the items to be included in the report, and the order in which they are to be arranged.

- CTRL A — This key enables you to switch between the two sides of a displayed report that is more than 40 characters wide.

- CTRL D — This key enables you to switch between the main report specification screen and the derived column specification screen.

- The following is a summary of the commands used in the report specification, to control each column of the report:

N Numeric. Treats the column numerically, and lines up the decimal points.

A Average. Treats the column numerically and prints an average at the end.

SA Subaverage. Gives a subaverage whenever column 1 changes.

C Count. Counts the number of entries printed in a column. This command can be used with alphabetical or numeric items.

SC Subcount. Gives a subcount whenever column 1 changes. This command can be used with alphabetical or numeric items.

T Total. Treats the column numerically and prints a total at the end.

ST Subtotal. Gives a subtotal whenever column 1 changes.

P Page break. Indicates that a new page is to be started each time the entry in column 1 changes. This command can only be used in column 1.

K Keyword. Can only be used in column 1. It will print the same form once for every string of characters (keyword) in the item selected. Keywords are separated by blanks.

Column number. Used to differentiate between column numbers and constants in defining formulae for derived columns.

2: PRE-DEFINE A REPORT

Pre-defining reports

You can use this function to pre-define up to eight different report designs. This means that if you plan to run the same report at regular intervals—for monthly statistics, for example—it only has to be designed once. You give each report design a name up to eight characters long, and the designs are then stored right on your PFS file diskette. When you want to use one of these reports, you enter the name in the **PRE-DEFINED REPORT NAME:** item of the report options form: PFS:REPORT will then go directly from the report options form to produce the report.

Function 2 is especially useful if you like to try out a report specification before you decide to use it. You can refine your specification until you are satisfied with it, because saved report specifications can be changed just like any other PFS form.

When you select function 2, the program will display the names of any reports that you may have already designed. You can modify an existing report by entering its name in the **REPORT NAME:** item. PFS:REPORT will display the pre-defined report specification and you can change it just as you would any other PFS form. Alternatively, you can press **CTRL E**, which will erase all the entries on that page of the report specification, and start again.

You can also delete a pre-defined report specification by first selecting it and then pressing **CTRL R**. The following warning screen will appear (giving you an opportunity to change your mind).

Then, if you press **CTRL C**, the report specification will be deleted and you will return to the PFS: REPORT Menu.

EXAMPLE:

Let's use the STAFF file and define a report design that will show total salaries by department. We can use this to track changes in the monthly salary bill.

Make sure that the PFS:REPORT Menu is displayed.

SELECTION NUMBER: 2

Press:

CTRL **C** to indicate that the program is to continue.

You should see the following screen:

REPORT NAME: Enter **MONTHLY**

Press:

CTRL **C** to indicate that the program is to continue.

You should now see the PFS STAFF file screen with the new report name (MONTHLY) at the bottom. You fill out the items in the same way as the report specification stage of function 1.

We want a report showing department, name, and salary, with the salaries subtotalled by department.

→ to **DEPT:** Enter 1

→ to **NAME:** Enter 2

→ to **MONTHLY SALARY:** Enter 3T

This completes your report specification, so press **CTRL C** to indicate that PFS:REPORT is to continue.

The program will save your report design named MONTHLY on your PFS file diskette and return you to the PFS:REPORT Menu.

Now let's print a report using this saved specification.

Make sure that the PFS:REPORT screen is displayed.

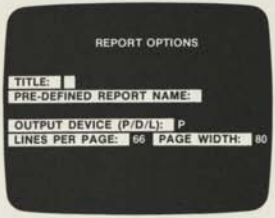
SELECTION NUMBER: Enter 1

Press **CTRL C** to indicate that PFS:REPORT is to continue. The STAFF form should appear, ready for your retrieve specification. Since we want to include all employees in our report, we leave this blank, thus selecting every form.

Press:

CTRL **C** to indicate that PFS:REPORT is to continue.

You should see the report options screen, which you should fill out as follows:



TITLE: Enter **MONTHLY SALARIES, MARCH**

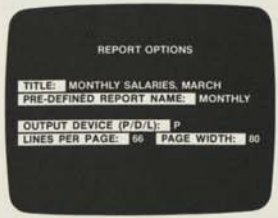
PRE-DEFINED REPORT NAME: Enter **MONTHLY**

OUTPUT DEVICE P/D/L: P

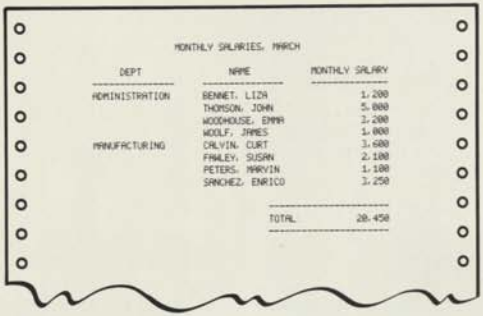
LINES PER PAGE: 66

PAGE WIDTH: 80

The screen should look like this:



Press **CTRL C** to indicate that PFS:REPORT is to continue. Instead of displaying the report specification screen, the program will take the pre-defined specification from your PFS diskette and prepare the report which should look like this.



MONTHLY SALARIES, MARCH

DEPT	NAME	MONTHLY SALARY
ADMINISTRATION	BENNET, LIZA	1,200
	THOMSON, JOHN	5,000
	WOODHOUSE, EMMA	1,200
	WOOLF, JAMES	1,000
MANUFACTURING	CALVIN, CURT	3,600
	FRALEY, SUSAN	2,100
	PETERS, MARVIN	1,100
	SANCHEZ, ENRICO	3,250
	TOTAL	28,450

To demonstrate that saved report specifications can be changed, let's add JOB TITLE to the MONTHLY report so that we can see how people earn their salaries.

Make sure that the PFS:REPORT Menu is displayed.

SELECTION NUMBER: Enter 2

You should see the Report Names screen with MONTHLY shown as a pre-defined report.

REPORT NAME: Enter MONTHLY

Press:

CTRL C to indicate that PFS:REPORT is to continue.

Your MONTHLY report specification should be displayed.

→ to **JOB TITLE:** Enter 3

→ to **MONTHLY SALARY:** Change the entry to 4T by over-typing.

Press:

CTRL C to indicate that PFS:REPORT is to continue. You will return to the PFS:REPORT Menu.

Let's produce the new MONTHLY report using the display instead of the printer.

Make sure the PFS:REPORT Menu is displayed.

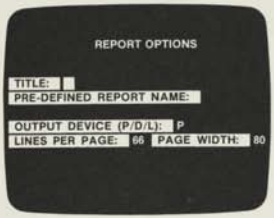
SELECTION NUMBER: Enter 1 here.

Press:

CTRL **C** to continue.

You should see the STAFF screen ready for your retrieve specification. Leave this blank to indicate that you want to select all the forms in the file. Press **CTRL C** to indicate that PFS:REPORT is to continue.

You should now see the REPORT OPTIONS screen:



TITLE: Enter **MONTHLY SALARIES, MARCH**

PRE-DEFINED REPORT NAME: Enter **MONTHLY**

OUTPUT DEVICE P/D/L: D Change from printer to display by overtyping the P with D.

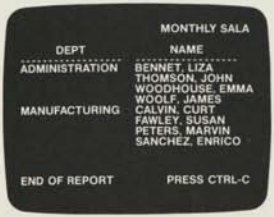
LINES PER PAGE: 66 When you select the display, the program will assume a page length of 24 lines (the number of lines on the display), regardless of the number appearing in this item.

PAGE WIDTH: 80 We can leave this at 80 columns and use **CTRL A** to see the two parts of the report.

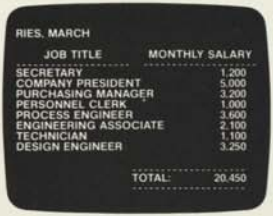
Now press:

CTRL **C** to continue.

When PFS:REPORT has finished preparing your report, the following screen should appear:



Now press **CTRL A** to see the other part of the report. You should see the following screen:



If the report had been more than 24 lines long you would have seen the words **CTRL C FOR MORE** at the bottom of the screen. Each screen of information is displayed only once, so this gives you an opportunity to read it before going on to the next.

SUMMARY

- The PRE-DEFINE A REPORT function is used to specify a report that you want to use more than once.
- You can store up to eight different report specifications for any PFS file. They are stored right on your PFS file diskette and can be updated or removed.
- Each report specification is identified by a unique name up to eight characters long.

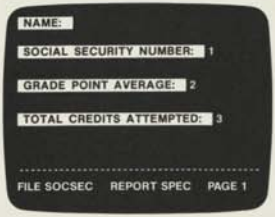
3 SET NEW HEADINGS

Changing the column headings

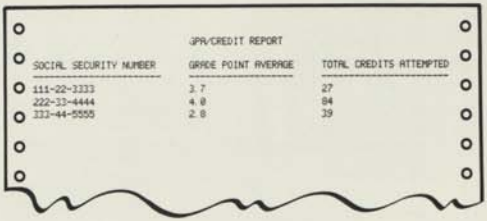
If you go straight to function 1 when you specify a report, PFS:REPORT will use the first line of each item name as a column heading. Since the column widths on the report are determined by the number of characters in the heading or by the widest entry in that column, you may want to change the headings. By using the SET NEW HEADINGS function you can retain the full item name on the form, but store a different version right on your PFS file diskette to be used every time you print reports.

Example:

If you printed a report from the PFS file shown on this screen:



It would look like this:



GPA/CREDIT REPORT

SOCIAL SECURITY NUMBER	GRADE POINT AVERAGE	TOTAL CREDITS ATTEMPTED
111-22-3333	3.7	27
222-33-4444	4.0	84
333-44-5555	2.0	39

You can shorten the headings on the report in the following way:

To select the SET NEW HEADINGS function:

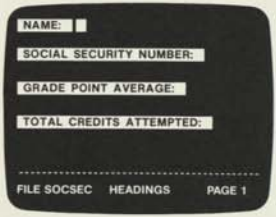
Make sure the PFS:REPORT Menu is displayed.

SELECTION NUMBER: Enter 3

FILE NAME: This item will contain the name of the PFS file in drive 1.

CTRL C indicates that PFS:REPORT is to continue.

A blank form from the file will appear on the screen:



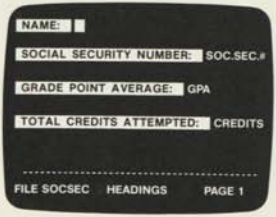
You enter the new column headings in the same way as you enter ordinary information into your PFS file.

→ to **SOCIAL SECURITY NUMBER:** Enter SOC.SEC.#

→ to **GRADE POINT AVERAGE:** Enter GPA

→ to **TOTAL CREDITS ATTEMPTED:** Enter CREDITS

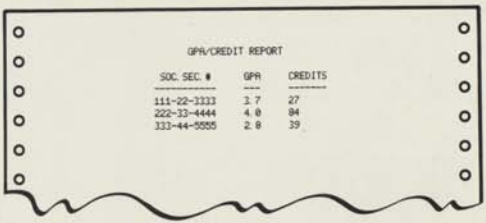
The screen will look like this:



Press:

CTRL C to return to the PFS:REPORT Menu.

Next time you print the report it will look like this:



GPA/CREDIT REPORT

SOC. SEC. #	GPA	CREDITS
111-22-3333	3.7	27
222-33-4444	4.0	84
333-44-5555	2.8	39

These column headings will be used in all future reports from that PFS file unless you change them again. The next time you use function 3 with the same PFS file, your new column headings will appear on the screen. You change them just as you would change any PFS form. You can also use **CTRL R** in function 3 to remove all the heading changes and revert to the original item names in your PFS file.

EXAMPLE:

Let's look at the STAFF file and see if we want to change any headings.

Make sure that the PFS:REPORT Menu is displayed on the screen, (Press **ESC** to return to it, if necessary), and make sure that the STAFF file is in Drive 1.

SELECTION NUMBER: Enter 3

Press:

CTRL **C** to continue.

You should now see the STAFF file on your screen with the word HEADINGS at the bottom.

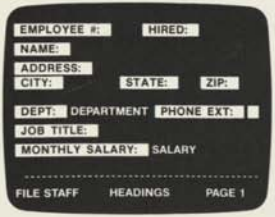
The entries in the **MONTHLY SALARY:** item are all short, so we could change the column heading to SALARY.

→ to **MONTHLY SALARY:** Enter SALARY

Since the departments have long names anyway, we could spell out DEPT in full.

→ to **DEPT:** Enter DEPARTMENT

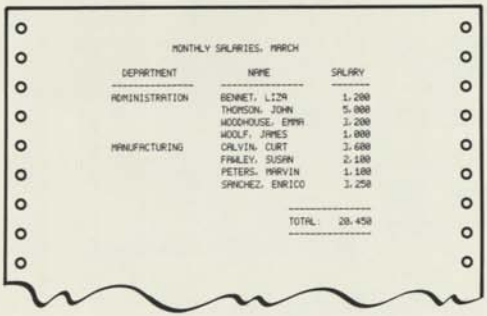
The screen should now look like this:



Press:

PFS:REPORT will return you to the PFS:REPORT Menu and store the new headings for use in future reports.

If we print the monthly salary report called MONTHLY, that we stored using the PRE-DEFINE A REPORT function, it should now look like this:



MONTHLY SALARIES. MARCH

DEPARTMENT	NAME	SALARY
ADMINISTRATION	BENNET. LIZA	1.200
	THOMSON. JOHN	5.000
	WOODHOUSE. EMMA	2.200
	WOOLF. JAMES	1.000
MANUFACTURING	CALVIN. CURT	3.600
	FRALEY. SUSAN	2.100
	PETERS. MARVIN	1.100
	SANCHEZ. ENRICO	3.250
	TOTAL.	20.450

Note the new headings.

SUMMARY

- The NEW COLUMN HEADINGS function is used when you want to have column headings that are different from the item names in your PFS file.

- You enter the new column headings on a PFS form that is stored right on your PFS file, and PFS:REPORT will use these new headings on all future reports. You can change or remove these headings in the same way as you change any PFS form.

- If you have previously changed any of the headings, this will be shown on the function 3 PFS form when you select it again.

Appendix A: MESSAGES

PFS:REPORT messages are displayed whenever an error condition is encountered. Certain errors are the result of mistakes made when you enter information (filling out the PFS:REPORT Menu items or the report specifications). These messages are displayed in the message area at the bottom of the screen:

When you encounter one of these errors, simply find the message in the alphabetical list below and follow the instructions in the Corrective Action column.

Other errors are the result of physical limitations or problems with certain elements of your computer system. These messages are displayed on a separate screen that looks like this:

When you encounter one of these errors, find the message in the alphabetical list below and follow the instructions in the Corrective Action column. To restore normal PFS:REPORT operation, press **ESC**.

The following list of PFS:REPORT messages is arranged in alphabetical order.

Message	Description	Corrective Action
CAN'T FIND FILE IN DRIVE 1	(a) The file name entered in the FILE NAME: item of the main menu did not match the name of the file in Drive 1.	Enter correct name or insert correct diskette.
	(b) Drive 1 was empty.	Insert correct diskette.
	(c) The FILE NAME: item on the menu was left empty, but no PFS file could be found in Drive 1.	Put a PFS file in Drive 1.
	(d) An I/O error occurred in Drive 1.	See "I/O ERROR" in this appendix.
CAN'T FIND WORK DISK IN DRIVE 2	(a) You specified a report that uses column 1 and/or column 2. PFS: REPORT sorts the information in columns 1 and 2, and it needs the SORTWORK diskette (supplied with the program) to be in Drive 2 in order to perform the sort.	Specify a report that does not use columns 1 or 2, or insert the SORTWORK diskette in Drive 2.
	(b) You only have one drive connected to your computer.	You cannot produce sorted reports. Avoid using columns 1 and 2.
	(c) The SORTWORK diskette has become damaged, worn out or overwritten—making it impossible for PFS: REPORT to read the diskette name.	You can prepare a replacement SORTWORK diskette. Use PFS to CREATE an ordinary PFS file called SORTWORK. You need only enter a colon (:) for the form design.
CAN'T FIND REPORT "xyz"	You requested a report using the predefined report "xyz" on the REPORT OPTIONS screen. PFS:REPORT cannot find this report on the PFS file.	Make sure the report you request is one of those listed on the PRE-DEFINED REPORTS screen.

Message	Description	Corrective Action
DISKETTE FULL	PFS:REPORT attempted to write information on a diskette and found that there was no room left.	If you have some unnecessary forms in the file, you can free up some space by removing them using PFS.
DISKETTE IS WRITE PROTECTED	PFS:REPORT cannot use diskettes that are write protected because it uses certain areas of the diskette to store temporary information (it stores the retrieve specifications on the diskette).	Remove the write protect tab. To protect your information you can use the COPY FILE function of PFS to make a duplicate copy of your diskette file.
ERROR IN FORMULA	The formula for a derived column is incorrect due to: **(a)** an unrecognizable or out-of-sequence character. **(b)** parentheses nested more than two deep. Correct 1+(2-(3)) Incorrect 1+(2+(3+(4)))	The cursor is over the character causing the trouble. Over-type the formula to correct it and try again.
INTERNAL ERROR x	Unknown. This should never happen. It is usually associated with a hardware malfunction or a power line fluctuation.	1. Have your system checked out by a dealer. 2. If you suspect power problems, fit a stabilizer unit.
INVALID SELECTION NUMBER	The number entered for the **SELECTION NUMBER:** item of the menu is invalid. The number must be 1, 2 or 3.	Re-enter a number between 1 and 3 for the **SELECTION NUMBER:** item of the menu.

Message	Description	Corrective Action
I/O ERROR	Some physical problem has been encountered with either a disk drive, the disk controller or the diskette. Some possible causes are:	
	Diskette inserted incorrectly	Remove the diskette, then re-insert it properly.
	Worn out diskette	After 40-50 hours of use, the diskette may need replacing. Try using a different diskette.
		If you get an I/O ERROR on a SORTWORK diskette in Drive 2, you should prepare a new one as follows: Use PFS to CREATE a file called SORT-WORK and enter a colon (:) as the design of the form.
	Dirty head	If the disk drive has been in use for some time, the head may need cleaning. Refer to the disk drive manual or see your dealer to determine how to do this.
	Loose cables	Check to make sure that all the cables between the computer and the disk drives are properly connected.
	Malfunction	See your dealer for service.
	WARNING! Once an I/O ERROR has occurred, your file is probably damaged. The file contains extensive data that you do not normally see which PFS and PFS:REPORT use to control access to the forms and to manage free disk space. An I/O ERROR usually corrupts this data and causes unpredictable results the next time you try to use the file. IT IS ESSENTIAL, therefore, to make regular backup copies of your files, and to switch to a backup file as soon as an I/O ERROR occurs.	
NO REPORT NAME ENTERED	You did not enter a report name when attempting to use a pre-defined report.	Enter a name. If a report of that name exists, it will be displayed for editing or removal. If no report of that name exists,

Message	Description	Corrective Action
		a blank form will be displayed so that you can design it.
REPORT IS TOO LONG TO SORT	The SORTWORK diskette filled up. This diskette is filled with a file of key value pairs, one pair per form selected. The keys are variable length.	Specify a shorter report by filtering out un-needed forms using the Retrieve Specification. Do not use column 2. By sorting on a single key, (column 1) the SORTWORK diskette will not fill up so quickly.
REPORT TOO WIDE	The report you have specified will not fit in the PAGE WIDTH you have specified. A frequent cause of this is that the item names are very long, which forces the columns to be correspondingly wide.	Press ESC. This returns you to the main menu and abandons the report. Press RETURN. The program will then print out only as much of the report as will fit in the PAGE WIDTH that you specified. If the column headings are too long, you can use function 3 to substitute shorter ones for your report. (See chapter 3).
SEARCH LIST TOO LONG	The retrieve specifications will not fit in the internal storage space.	Specify fewer requests in the retrieve specifications.
YOU CAN PRE-DEFINE 8 REPORTS MAXIMUM	You attempted to create a pre-defined report when eight were already stored on your file.	Delete an unwanted report design by displaying it and pressing **CTRL R**.
****(in the report itself)**	PFS:REPORT was unable to calculate the numeric value of this item because: (a) OVERFLOW. The value to be printed exceeded 20 digits either in its original form in the file, or during processing.	Use smaller numbers (less than 20 digits).

Message	Description	Corrective Action
	This can be due to an error in a derived column specification, or to a form in the file having an exceptionally large number of trailing decimal places which causes all values to be given that number of places and possibly to exceed 20 digits.	Correct the formula. Reduce the number of decimal places.
	(b) A derived column formula referred to another derived column printed to its right. Since they are evaluated from left to right across the report, its value is not yet known.	Re-arrange the derived columns so that they can be calculated from left to right.
	(c) An attempt was made to divide by zero in a formula.	
CODE▲C392D	Printer overprints information on same line and does not feed.	Select **L** in **OUTPUT DEVICE P/D/L:** on REPORT OPTIONS screen.

Appendix B: SPECIAL CONTROL KEYS AND COMMANDS

Cursor Control	Meaning
CTRL F	**cursor left.** Move the cursor left one character.
CTRL G	**cursor right.** Move the cursor right one character.
CTRL T	**cursor up.** Move the cursor up one line.
CTRL V	**cursor down.** Move the cursor down one line.
RETURN	**return.** Move the cursor to the beginning of the next line.
←	**backspace.** Move the cursor back one space.
→	**tab.** Move the cursor forward to the next item.

Form Control	Meaning
CTRL N	**next page.** Displays the next page of the form you are using.
CTRL P	**previous page.** Displays the preceding page of the form you are using.
CTRL E	**erase page.** Erases the information displayed on the screen.

CTRL R — **remove form.** In function 2, **CTRL R** removes the currently displayed predefined report design. In function 3, it removes all the new column headings and reverts to the PFS item names. This key has no effect in function 1.

CTRL A — **alternate.** Although your monitor or TV display is only 40 characters wide, PFS:REPORT can produce reports up to 80 characters wide for display. This key enables you to switch the display between the left and right-hand sides of the report.

CTRL D — **derive.** Allows you to specify up to three derived columns in a report. These can be calculated from other columns in the report.

PFS:REPORT Control	Meaning
CTRL C	**continue.** Proceed with the selected function.
ESC	**escape.** Return to the PFS:REPORT Menu. Here PFS:REPORT is ready to accept a new function selection.

Out of Control	Meaning
RESET	NEVER USE THIS KEY!!! When this key is pressed, the computer tries to load a program from the diskette in Drive 1. You may lose some of the information you were entering.

Report Specification Commands

N Numeric. Treats the column numerically, and lines up the decimal points.

A Average. Treats the column numerically and prints an average at the end.

SA Subaverage. Gives a subaverage whenever column 1 changes.

C Count. Counts the number of entries printed in a column. This command can be used with alphabetical or numeric items.

SC Subcount. Gives a subcount whenever column 1 changes. This command can be used with alphabetical or numeric items.

T Total. Treats the column numerically and prints a total at the end.

ST Subtotal. Gives a subtotal whenever column 1 changes.

P Page break. Indicates that a new page is to be started each time the entry in column 1 changes. This command can only be used in column 1.

K Keyword. Can only be used in column 1. It will print the same form once for every string of characters (keyword) in the item selected.

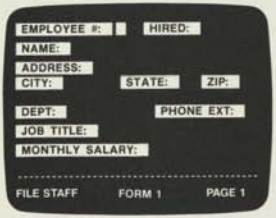
Column number. Used to differentiate between column numbers and constants in defining formulae for derived columns.

Appendix C:
EXAMPLE FILE

We have used the same PFS file in all the major examples throughout this manual. When you receive your PFS:REPORT package, the file is written on the SORTWORK diskette and is called 'SORTWORK.' Copy this file onto another diskette and rename it STAFF. For instructions on how to copy a file see Chapter 3 COPY FILE in your PFS manual.

The first time you use the SORTWORK diskette you will destroy the example file. If you accidentally do so, you can recreate the file for use in following the examples in the following way.

Load PFS and select function 1 CREATE FILE. Call the file 'STAFF,' and enter the following design:



When you have completed the form design, press **CTRL C** to continue. You should see the PFS menu on your screen. Select function 2 ADD FORM and enter information for the following eight employees as shown. Enter the information exactly as it is shown, even though some of the items are inconsistent. This file can then show you how PFS:REPORT deals with these inconsistencies.

EMPLOYEE #: M8877 HIRED: 74/11/05

NAME: CALVIN, CURT

ADDRESS: 254 GREENTREE LANE

CITY: WOODVILLE STATE: OR ZIP: 97137

DEPT: MANUFACTURING PHONE EXT: 188

JOB TITLE: PROCESS ENGINEER

MONTHLY SALARY: $2600

EMPLOYEE #: M1245 HIRED: 78/06/22

NAME: SANCHEZ, ENRICO

ADDRESS: 7821 PARKSIDE PLACE

CITY: RIDGEWOOD STATE: OR ZIP: 97132

DEPT: MANUFACTURING PHONE EXT: 189

JOB TITLE: DESIGN ENGINEER

MONTHLY SALARY: $3,250

EMPLOYEE #: R1476 HIRED: 80/10/15

NAME: THOMSON, JOHN

ADDRESS: 869 VALLEY VIEW ROAD
CITY: RIDGEWOOD STATE: CA ZIP: 91132

DEPT: ADMINISTRATION PHONE EXT: 155

JOB TITLE: COMPANY PRESIDENT

MONTHLY SALARY: 5,000

EMPLOYEE #: A0765 HIRED: 76/09/21

NAME: BENNET, LIZA

ADDRESS: 754 GRANVILLE PLACE
CITY: RIDGEWOOD STATE: CA ZIP: 91132

DEPT: ADMINISTRATION PHONE EXT: 119

JOB TITLE: SECRETARY

MONTHLY SALARY: 1,200

EMPLOYEE #: M0934 HIRED: 77/09/30

NAME: FAWLEY, SUSAN

ADDRESS: 5634 RIDGEWOOD WAY
CITY: WOODVILLE STATE: CA ZIP: 91137

DEPT: MANUFACTURING PHONE EXT: 195

JOB TITLE: ENGINEERING ASSOCIATE

MONTHLY SALARY: 2100

EMPLOYEE #: M5524 HIRED: 81/04/27

NAME: PETERS, MARVIN

ADDRESS: 3224 VALLEY VIEW ROAD
CITY: RIDGEWOOD STATE: CA ZIP: 91132

DEPT: MANUFACTURING PHONE EXT: 167

JOB TITLE: TECHNICIAN

MONTHLY SALARY: #1100

EMPLOYEE #: R1265 HIRED: 76/04/22

NAME: WOODHOUSE, EMMA

ADDRESS: 425 ORVIEW WAY
CITY: RIDGEWOOD STATE: CA ZIP: 91132

DEPT: ADMINISTRATION PHONE EXT: 179

JOB TITLE: PURCHASING MANAGER

MONTHLY SALARY: #3,200

EMPLOYEE #: A0139 HIRED: 72/09/16

NAME: WOOLF, JAMES

ADDRESS: 9732 SUNRISE PLACE
CITY: RIDGEWOOD STATE: CA ZIP: 91132

DEPT: ADMINISTRATION PHONE EXT: 143

JOB TITLE: PERSONNEL CLERK

MONTHLY SALARY: 1,000

Glossary

cursor the blinking white square displayed on the screen. It indicates where the next character typed will appear.

diskette a removable magnetic recording medium used to store information. Diskettes can contain programs (the PFS:REPORT program diskette) or data (your PFS files). Diskettes should be treated with care.

file a collection of forms that are of the same type. Physically, it is a diskette that contains the blank form you designed along with all the forms that have been filled in with data. New headings and report specifications are also stored on your PFS file.

form any combination of items in any order. You design a form, then use it to store and retrieve your information. Forms are stored in a file.

item the basic element of a form. An item consists of a name which is highlighted on the screen (black characters on a white background), followed by an area where the information is entered.

load the process of transferring a program from a diskette into the computer's memory where it can be initiated.

menu the list of functions that a particular program can perform. It appears when you first load the program. In PFS programs you can always return to the menu by pressing the **ESC** key.

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NOTES

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