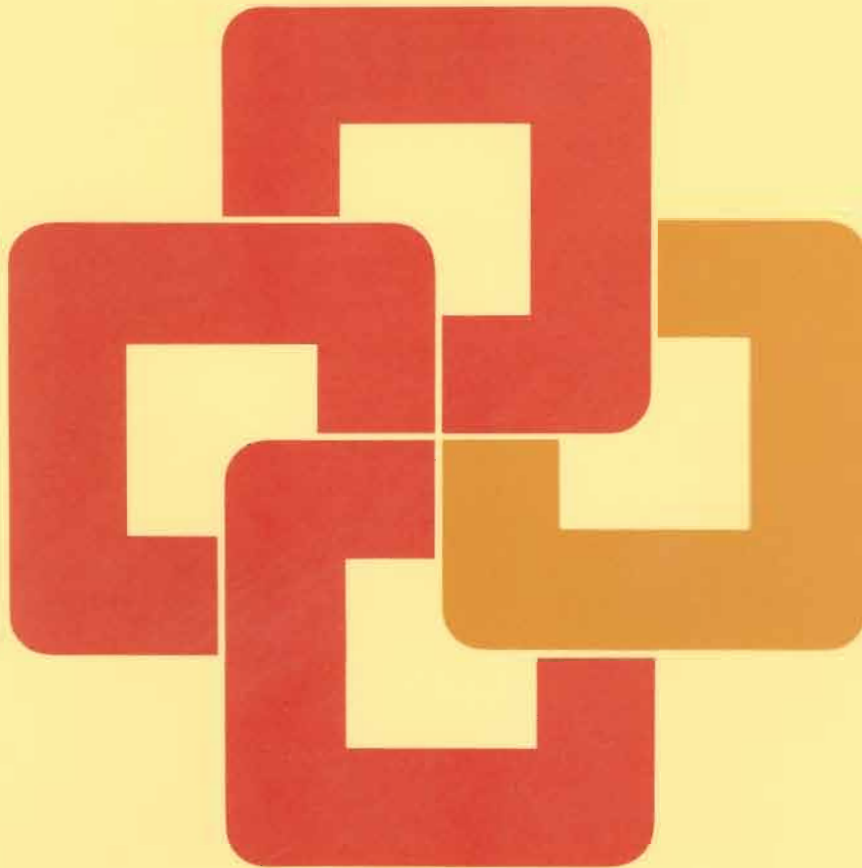


# *pfs:*<sup>®</sup> *report*

*A member of the integrated PFS Family of Software*



*HP 150 Personal Computer*



*pfs:*  
*report*

---

*user's manual*

---

for HP 150 Personal Computer

Program Authors: Jeff Tucker and Lori Cameron  
Manual Author: Connie Burton

---

---

NOTICE

SOFTWARE PUBLISHING MAKES NO WARRANTY OF ANY KIND WITH REGARD TO THIS MATERIAL INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Software Publishing shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

©1984 Software Publishing Corporation  
First Printing, March 1984

Software Publishing Corporation  
1901 Landings Drive  
Mountain View, CA 94043

---

**HP Computer Museum**  
**[www.hpmuseum.net](http://www.hpmuseum.net)**

**For research and education purposes only.**

---

# *preface*

---

This manual explains how to use the PFS:REPORT program with your existing PFS files to produce tabular reports. It assumes that you already know how to create files using PFS:FILE. If you have not used FILE before, please read the FILE manual and work through the examples before continuing. The best way to learn both FILE and REPORT is to read the manuals and follow along with the examples.

To use PFS:REPORT, you need an HP 150 Personal Computer with a printer and the Hewlett-Packard supplied MS-DOS\* operating system. You also need a dual diskette drive or one diskette drive and a fixed disk, the PFS:REPORT program, and your PFS:FILE data files.

The manual is organized in the same way as the FILE manual, with step-by-step instructions on how to get started and how to use each REPORT function. It provides a variety of examples of types of reports that you can create using REPORT and one major example file for you to work with that illustrates how the functions work and allows you to experience REPORT as you are reading about it.

Each chapter proceeds through one function in detail and has a summary section to reinforce what you learn in the chapter. The summary also serves as a quick reference to the important features of REPORT—useful once you are somewhat familiar with the program.

The appendices contain information on error messages and corrective actions, and a summary of REPORT's special control keys and report specifications. A glossary explains words that may not be familiar to you; you may want to look at it before you read the rest of the manual. Finally, there is an index.

If you have not already done so, please take a moment to complete and mail the User Group Enrollment Card. Enrollment in this group entitles you to receive product update information, new product announcements, and tips on using the PFS Family of Software.

\*The MS™ -DOS Disk Operating System is a registered trademark of Microsoft Corporation.

---



---

# *table of contents*

---

<b>INTRODUCTION</b> .....	I-1
The PFS:REPORT Program .....	I-1
Getting Started with PFS:REPORT .....	I-4
What You Need to Use PFS:REPORT .....	I-4
How to Start the Program .....	I-5
Adapting REPORT to Run with your Computer .....	I-5
The PFS:REPORT Main Menu .....	I-7
Keyboard and Touch Screen Control Keys .....	I-8
When You Need Help .....	I-9
Summary .....	I-9
<b>PRINT A REPORT</b> .....	<b>Chapter 1</b>
Selecting PRINT A REPORT .....	1-1
Step 1: Filling in the Retrieve Spec Form .....	1-2
Full Item Match .....	1-3
Partial Item Matches .....	1-4
Numeric Item Matches .....	1-7
The Numeric Range Match .....	1-8
The "NOT" Match .....	1-9
Step 2: Choosing the Print Options .....	1-10
Step 3: Filling in the Report Spec Form .....	1-11
Alphabetic Sorts .....	1-12
Alphabetic Sorts When the Item Contains Numbers .....	1-15
Numeric Sorts .....	1-16
Comparing Numeric Sorts and Alphabetic Sorts with Numbers .....	1-17
Creating an Example File .....	1-18
Example of Printing a Report .....	1-21
Reports with Column Calculations .....	1-24
Using Zeros and Blanks .....	1-29
Example of a Report with Column Calculations .....	1-29
Example of a Report Showing Totals Only .....	1-32
Reports with Derived Columns .....	1-34
Filling in the Derived Columns Forms .....	1-36
Example of a Report with Derived Columns .....	1-36
Example of a Report with an Invisible Column .....	1-39
Reports Using Keywords .....	1-41
Summary .....	1-44

---

---

<b>PRE-DEFINE A REPORT</b> .....	<b>Chapter 2</b>
Selecting PRE-DEFINE A REPORT .....	2-1
Creating a New Report Design .....	2-2
Example of Pre-defining a Report .....	2-2
Printing a Report Using a Pre-defined Report Design .....	2-5
Example of Using a Pre-defined Report Design .....	2-5
Modifying a Pre-defined Report Design .....	2-6
Example of Modifying a Pre-defined Report Design .....	2-7
Removing a Pre-defined Report Design .....	2-8
Summary .....	2-9
<b>SET NEW HEADINGS</b> .....	<b>Chapter 3</b>
Selecting SET NEW HEADINGS .....	3-1
Entering New Headings .....	3-2
Example of Setting New Headings .....	3-2
Modifying Headings .....	3-4
Removing Headings .....	3-4
Summary .....	3-5
<b>SET UP PRINTER</b> .....	<b>Chapter 4</b>
Selecting SET UP PRINTER .....	4-1
Entering Characters .....	4-2
Example of Sending Control Characters .....	4-2
Sending ASCII Numbers .....	4-4
Example of Sending ASCII Numbers .....	4-4
Terminating Special Printing Modes .....	4-4
Leaving SET UP PRINTER .....	4-5
Summary .....	4-5
<b>EXIT</b> .....	<b>Chapter 5</b>
Selecting EXIT .....	5-1
Summary .....	5-2
<b>Appendix A: Messages</b> .....	A-1
<b>Appendix B: Special Control Keys and Commands</b> .....	B-1
<b>Glossary</b> .....	G-1
<b>Index</b> .....	Index-1

---



---

# **I:** *introduction*

---

## The PFS:REPORT Program

PFS:REPORT (or simply REPORT) is a computer program that enables you to produce tabular reports from your existing PFS files. Like PFS:FILE it is designed to be easy to use. If you are familiar with FILE, you already know a lot about how to use REPORT.

A PFS report can have up to twenty vertical columns. In preparing your report, REPORT plans the layout of each page to take the best advantage of the space available. It can sort the information in your files alphabetically or numerically, and it can perform calculations on numerical information.

Suppose you have the purchase history of all the items in your inventory stored in a PFS file. The blank form might look like this:

Part                      Date Purchased:

Description:

Quantity:                      Price:

Supplier:

---

File: PARTLIST                      RETRIEVE SPEC                      Page 1

Continue    [ ]    [ ]    [ ]    [ ]    [ ]    [ ]    Help    Main Menu

The following report lists all items purchased in the last month, and is an example of a report that can be produced from the PARTLIST file using PFS:REPORT:

Inventory Additions - March				
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

Notice the title line. One appears on each page of a PFS report. Notice also that the name at the top of each column of the report corresponds to an item name from the PARTLIST form. Each horizontal row in the report contains information from one form in the PARTLIST file.

Let's look at another report generated from PARTLIST:

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

This is a fairly simple report. PART # again appears as the first column. REPORT has arranged the rows in ascending order (smallest to largest) by part number and has also counted the entries in the first column to give you the number of different parts. (When REPORT sorts the rows of a report alphabetically or numerically, it does so according to the information in the first two columns. If the first column is the same for two or more rows, REPORT sorts those rows by the information in column two.) REPORT can total, average, or count the number of items in a column. It can also give subtotals, subaverages, and subcounts.

The following report contains a vertical column that does not correspond to an item in the PARTLIST form:

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 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.

When designing a report, you may want to change the column names to something other than the item names. This is especially desirable when an item name is substantially longer than any of the entries in the column. REPORT makes it easy to change any column heading in the report. For example, in any of the above reports you might want to change the column heading from QUANTITY to QTY.

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 use them to print periodic, up-to-date reports on your inventory.

## Getting Started with PFS:REPORT

This section provides basic information about starting to use the PFS:REPORT program. It talks about your computer system, loading the program into your computer, the REPORT Main Menu, and the special keys used in REPORT.

### What You Need to Use PFS:REPORT

To take full advantage of all the features of the REPORT program, you need the following:

- an HP 150 Personal Computer with
  - the Hewlett-Packard supplied MS-DOS operating system
  - a dual diskette drive or one disk drive and one fixed disk
  - a printer (the built-in printer or an external printer)

- the PFS:REPORT package, including
  - the disk including the PFS:REPORT program
  - the spare copy of the disk with PFS:REPORT

Note: This copy is provided in case something happens to damage your original program disk. Store it in a safe place.

- your PFS:FILE files

PFS:REPORT can display reports on the screen of your HP 150, but it is really designed to produce printed reports.

---

## How to Start the Program

The procedure for starting the program is slightly different depending on whether or not the computer is turned on:

- If the computer is turned off, first turn on the disk drive and insert your HP 150 System Disk in drive A and the disk with the REPORT program in drive B. Turn on the computer. Next you see displayed the P.A.M. list of application programs you have stored on your system. Touch the screen at the name **PFS:REPORT**, and then touch **Start Applic**. You will hear the disk drive as the program loads into memory.
- If the computer is turned on, simply exit from whatever program you are using, making sure the REPORT disk is in a drive. When the list of programs appears on the screen, touch **PFS:REPORT**, and then touch **Start Applic**. REPORT will be loaded immediately into memory.
- You can start REPORT from the MS-DOS prompt instead of from P.A.M. If you choose to start from DOS, first change the default drive (the one the HP 150 assumes you want to use unless you specify another drive) to the drive that contains the program diskette. Enter the drive name followed by a colon, and press Return. When the new drive prompt appears, type REPORT and press Return.

## Adapting REPORT to Run with Your Computer

REPORT comes set up to use the diskette in drive A as a “work disk.” A work disk is used to store information temporarily when sorting. If you want to use a diskette in a different drive or a fixed disk as a work disk, you will need to run the SETUP utility program provided on the REPORT program diskette before using the REPORT program. You also use the SETUP program to move the programs to a fixed disk.

To use the SETUP program, first be sure your disk is not write-protected. Starting at the P.A.M. screen, press **SETUP**. Then press **Start Applic**. The SETUP screen looks like this:

---

1. Select a work drive
2. Move programs to fixed disk
3. Exit this program

SELECTION NUMBER:

You have three options: to select a work drive, to move the programs to a fixed disk, and to exit the SETUP program. Each procedure has on-screen instructions for you to follow. These instructions are summarized below.

Note: You can also start the SETUP program from MS-DOS, but you must first change the default drive to the drive that contains the program diskette. Enter the drive name followed by a colon, like B:, for example, and press Return. When the new drive prompt appears, type SETUP, and press Return. See the *HP 150 Personal Computer Owner's Guide* if you need further instructions.

To select a work drive, choose the first option, and enter the drive you want to designate as your work drive followed by a colon. (If you press the wrong key, use the Escape key to return to the SETUP menu.) Next, specify which programs, PFS:REPORT, PFS:FILE, or both, that you want to change. Press Return and the work drive is changed for you.

To move the programs to a fixed disk, choose the second option of the SETUP program. (Press the Escape key if you need to return to the SETUP menu.) Enter the drive designation of your fixed disk followed by a colon. Press Return and PFS:REPORT, PFS:FILE, and SETUP are moved to the fixed disk. You can only move the programs to a fixed disk five times.

To run the programs on the fixed disk from P.A.M., you need to install them. Follow instructions in the *HP 150 Personal Computer Owner's Guide* carefully.

Note: If you move the programs to a fixed disk, you do not have to change the default drive before starting from the MS-DOS prompt.

---

In addition, you need to configure your system printer using the MS-DOS Configuration Menus described in Appendix A of the *HP 150 Personal Computer Owner's Guide*.

## The PFS:REPORT Main Menu

The REPORT Main Menu lists the five main functions of the REPORT program:

```

                                PFS:REPORT MAIN MENU
                                -----
                                1 PRINT A REPORT      4 SET UP PRINTER
                                2 PRE-DEFINE A REPORT 5 EXIT
                                3 SET NEW HEADINGS

                                SELECTION NUMBER:
                                FILE NAME:

                                Copyright 1984 Software Publishing Corporation, Version A.00

                                Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

```

You see this menu when you first load REPORT, when you complete a function, and whenever you press **Main Menu** or F8. You select functions from the menu by filling in the following two items:

**SELECTION NUMBER:** Enter the number corresponding to the function you want REPORT to perform.

**FILE NAME:** Enter the name of your PFS file. This can be a simple file name, such as STAFF, or it can include the drive name and file name such as B:STAFF, or it can be a complete pathname. If no drive is specified, REPORT assumes that the file is in the default drive, the drive that the REPORT program was started from.

---

**WARNING**

**Do not remove the disk containing your PFS file from the disk drive unless the REPORT Main Menu is displayed on the screen. Removing it at other times may damage the data on the file.**

## Keyboard and Touch Screen Control Keys

PFS:REPORT utilizes the entire touch-sensitive screen of the HP 150 Personal Computer. When you touch a highlighted item on the screen, like SELECTION NUMBER on the Main Menu, for example, the cursor moves to that item, and you are ready to type the required information.



There are also some special control keys you often use when working with REPORT. They are listed below. Throughout the manual, keys that appear at the bottom of the touch-sensitive screen are in boldface print. To use one of these keys, simply touch your finger to the labeled section of the screen. If two keys are listed for a function, use whichever you wish. Appendix B summarizes all the keys used by PFS:REPORT.

<u>Key</u>	<u>Function</u>
<b>Main Menu</b> or F8	<b>Escape.</b> Return to the Main Menu. Use this key at any point while using REPORT to cancel the current operation and return to the Main Menu.
<b>Continue</b> or F1	<b>Continue.</b> Use this key to begin or continue the specified function.
<b>Help</b> or F7	<b>Help.</b> Use this key to display help screens when filling in forms to perform REPORT's functions.
Tab	<b>Tab.</b> The Tab key moves the cursor forward from one item to the next on a menu or form. With Shift, it moves the cursor back to the previous item. In addition to the Tab key, you can also touch the screen where you want to position the cursor.
Backspace	<b>Backspace.</b> This key moves the cursor one space to the left and removes any character in that space. Use this key to correct mistakes made when filling in items on the screen.

---



---

Return	<b>Return.</b> This key moves the cursor to the beginning of the next line.
Next	<b>Next Page.</b> This key brings up the next page of the form, or an attachment page if the page on the screen is the last page of the form.
Prev	<b>Previous Page.</b> This key recalls the previous page of the form to the screen. You can review it and make changes if you wish.
	moves the cursor one space in the direction shown by the arrow. No characters are erased.
	moves the cursor to the first item on the screen.
Clear display	<b>Clear.</b> Use this key to clear all entered information from the menu or form, and to move the cursor to the first item on the screen.
Insert char	<b>Insert Characters.</b> This key switches back and forth between normal and insert mode. In insert mode (shown by a rectangular cursor) REPORT inserts typed characters at the cursor position, moving other characters on that line to the right to make room. If the line is full, nothing happens. Characters inserted do not wrap to the next line.
Delete char	<b>Delete Characters.</b> This key deletes the character at the current cursor location, moving other characters on the line one location to the left to fill up the space.

## When You Need Help

Help screens are available when printing a report, pre-defining a report, or setting new headings. Simply press **Help** or F7 and REPORT displays quick reference information to help you remember what to do.

## Summary

- PFS:REPORT is a computer program that produces tabular reports from the information stored in a PFS file.
  - Keep the spare copy of the REPORT program disk in a safe place.
-

- You see the REPORT Main Menu when you first load REPORT, when you complete a function, and whenever you press **Main Menu**.

- The main control keys for REPORT are:

**Main Menu** or F8   cancels the current operation and returns to the Main Menu.

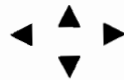
**Continue** or F1   begins or continues the specified function.

**Help** or F7       displays a help screen when filling in forms to perform REPORT's functions.

Tab                moves the cursor from one item to the next on a menu or form. With Shift, moves the cursor back to the previous item. Or you can touch the screen to position the cursor next to an item.

Backspace        moves the cursor one space to the left and removes any character in that space.

Return            moves the cursor to the beginning of the next line.



moves the cursor one space in the direction shown by the arrow. No characters are erased.



moves the cursor to the first item on the screen.

Next              brings up the next page of the form, or an attachment page.

Prev              recalls the previous page of the form to the screen.

Clear display    clears all entered information from the menu or form, and moves the cursor to the first item on the screen.

Insert char      switches between normal and insert mode.

Delete char     deletes the character at the current cursor location.

---

**WARNING**

**Do not remove the disk containing your PFS file from the disk drive unless the REPORT Main Menu is displayed on the screen. Removing it at other times may damage the data on the file.**

---



---

# 1: *print a report*

---

You use the PRINT A REPORT function to prepare and print a report from a PFS file. This function consists of three steps. First, you indicate which forms from the file you want to include on the report. Next, you specify the printer that you want to use, the page size, and the title for the report. Finally, you choose the items from the PFS:FILE form that you want to have appear as columns in the report and the order in which you want them to appear. In this final step, you can also choose to sort the report, total, average or count any column, print derived columns, or identify items by keywords.

## Selecting PRINT A REPORT

Start the REPORT program according to the directions in the "Getting Started with PFS:REPORT" section of the Introduction, and the REPORT Main Menu appears on the screen:

```

PFS:REPORT MAIN MENU
-----
1 PRINT A REPORT      4 SET UP PRINTER
2 PRE-DEFINE A REPORT 5 EXIT
3 SET NEW HEADINGS

SELECTION NUMBER:
FILE NAME:

Copyright 1984 Software Publishing Corporation, Version A.00

Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
```

Remove the REPORT disk from the drive and replace it with the disk containing your PFS file. From this point on, do not remove your file from the disk drive, or turn off the computer unless the Main Menu is on the screen. Place a blank, formatted disk (or a disk with available space at least equal to the size of the PFS file) in the work drive.

On the Main Menu, the cursor should be positioned in the SELECTION NUMBER item. Type in a 1 to select PRINT A REPORT. Press the Tab key or touch the screen to move the cursor to the FILE NAME item, and type in the name of the file you are using. Press **Continue** or F1, and the retrieve spec form appears on the screen for you to choose which forms you want to include on the report. The retrieve spec form from the STAFF file looks like this:

Employee #	Hired:
Name:	
Address:	
City:	State: Zip:
Dept:	Phone Ext.:
Job Title:	
Monthly Salary:	

---

File: STAFF                      RETRIEVE SPEC                      Page 1

Continue						Help	Main Menu
----------	--	--	--	--	--	------	-----------

## Step 1: Filling in the Retrieve Spec Form

You fill in the retrieve spec form to choose which forms from the file you want to include in the report. If you want to include all the forms, leave the retrieve spec form blank and press **Continue**. If you want to include only certain forms, enter retrieve specifications exactly as you would for the PFS:FILE SEARCH/UPDATE function.

---

Note that the items you fill in on the retrieve spec do not appear on the report unless you select them when filling in the report spec form (the third step in the process). Filling in items in this first step is only to select which forms you want included in the report.

There are five categories of retrieve specifications: the full item match, partial item matches, numeric item matches, the numeric range match, and the "not" match. The next few pages summarize these categories.

## Full Item Match

In a full item match, REPORT looks for forms on which the characters in an item exactly match the characters that you entered in that same item on the retrieve spec. (A character can be either a letter or a number.) To determine if there is a match, REPORT uses the following rules:

- REPORT ignores spaces before the first character and after the last character.
- REPORT treats multiple spaces within the items as a single space.
- REPORT ignores the difference between uppercase and lowercase characters.

For example, if you enter the following retrieve specification:

**Name:** Tom Seal

**Address:**

**Phone No.:**

---

File: PHONEBK

RETRIEVE SPEC

Page 1

Continue

Help

Main  
Menu

---

NAME: TOM SEAL                   will be a match.  
NAME: Tom Seal                   will be a match.  
NAME: Tom       Seal             will be a match.  
NAME: TomSeal                   will not be a match.  
NAME: Thomas Seal               will not be a match.  
NAME: Seal, Tom                 will not be a match.

## Partial Item Matches

There are two kinds of partial item matches: the ..match.. and the ? match. The ..match.. uses either two or four dots with a word or group of words (number or group of numbers) to search for an occurrence of certain information within an item. It works like this:

..xyz	tells REPORT to ignore whatever characters occur before "xyz".
abc..	tells REPORT to ignore whatever characters occur after "abc".
..abc..	tells REPORT to ignore whatever characters occur before or after abc; i.e., to look for "abc" anywhere in the item.
..	tells REPORT to find all forms with any character entered in this item.

To illustrate the ..match.., suppose you enter the following specification in the retrieve spec form for a stockbroker's customer file:

---



Name: Acct #  
Address: State: Zip:  
City: State: Zip:  
Phone (Bus): Phone (Home):  
Employer: Income:  
Objectives: ..tax shelter..  
Portfolio:

---

File: BROKER RETRIEVE SPEC Page 1

Continue [ ] [ ] [ ] [ ] [ ] [ ] Help Main Menu

You will find a match for all customers with "tax shelter" as an objective. (REPORT ignores any objective listed before or after "tax shelter.")

To find only those customers with "tax shelter" as their first objective, the retrieve specification would look like this:

Name: Acct #  
Address: State: Zip:  
City: State: Zip:  
Phone (Bus): Phone (Home):  
Employer: Income:  
Objectives: Tax shelter..  
Portfolio:

---

File: BROKER RETRIEVE SPEC Page 1

Continue [ ] [ ] [ ] [ ] [ ] [ ] Help Main Menu

Similarly, to find only those customers with "tax shelter" as their last objective, the retrieve specification would look like this:

Name:	Acct #:	
Address:	State:	Zip:
City:		
Phone (Bus):	Phone (Home):	
Employer:	Income:	
Objectives: ...tax shelter		
Portfolio:		

---

File: BROKER	RETRIEVE SPEC	Page 1
Continue		Help Main Menu

The ? match uses the ? mark as a "wild-card" character to search for items that are almost an exact match.

To illustrate the ? match, suppose you have a file that lists phone messages, and you are unsure of the spelling of one person's name for whom you want to retrieve messages. If you enter this retrieve specification,

Name: Dick Anders?n
Address:
Phone No.:

---

File: PHONEBK	RETRIEVE SPEC	Page 1
Continue		Help Main Menu

---

NAME: Dick Andersen                      will be a match.  
NAME: Dick Anderson                      will be a match.  
NAME: DICK ANDERSON                      will be a match.  
NAME: Andersen, Dick                      will not be a match.  
NAME: R.F. Andersen                      will not be a match.

Or, if you have stored dates in a file as year, month, and day, in the form yy/mm/dd, you can find all forms with dates in October of 1982 by entering the following retrieve specification:

82/10/??

## Numeric Item Matches

There are two ways to use numbers as information. One way is to use the number as a set of characters that identify an item. Phone numbers, part numbers, and social security numbers are examples of numbers used as identifiers. When searching for such numbers, use either a full item match or one of the partial items matches.

For example, suppose you want to find the form for part number 14307. The retrieve specification would look like this:

Part #: 14307

The other way to use numbers as information is to use the number to represent an arithmetic value—something associated with the meaning of larger or smaller. Numbers associated with age or money are examples of numbers used to represent arithmetic values. When searching for numbers used in this way, it is possible to look for all items less than, greater than, or equal to that given number. The retrieve specification consists of one of the special symbols (<, >, =) followed by the desired number.

For example, suppose you want to print a report using the BROKER file that lists all customers with incomes over \$50,000 who are interested in tax shelters. This is what the retrieve specification would look like:

---

Name: Acct #:  
Address: State: Zip:  
City: State: Zip:  
Phone (Bus): Phone (Home):  
Employer: Income: >50000  
Objectives: ..tax shelter..  
Portfolio:

File: BROKER RETRIEVE SPEC Page 1

Continue [ ] [ ] [ ] [ ] [ ] [ ] Help Main Menu

## The Numeric Range Match

You can also search for numeric values in a certain range. To do this, give the lowest and highest values, separated by two dots and preceded by the equals sign. The dot-dot with the equals sign means "through."

For example, suppose you want a report to include all the customers in the BROKER file whose incomes fall between \$50,000 and \$100,000. The retrieve specification would look like this:

Name: Acct #:  
Address: State: Zip:  
City: State: Zip:  
Phone (Bus): Phone (Home):  
Employer: Income: = 50,000..100,000  
Objectives:  
Portfolio:

File: BROKER RETRIEVE SPEC Page 1

Continue [ ] [ ] [ ] [ ] [ ] [ ] Help Main Menu



## Step 2: Choosing the Print Options

The second step when preparing a report is to fill in the print options form. You use this form to assign a title, select the printer, and specify the printer page size; or to print the report according to a previously defined report specification. You can also choose to print only the results of any specified calculations. Fill out the form as follows:

- TITLE:** Enter the desired report title (up to 53 characters). This title appears centered at the top of each page of your report.
- PRE-DEFINED REPORT NAME:** If you want to use a report specification that you have previously saved with the PRE-DEFINE A REPORT function, enter its name here. (See Chapter 2 for details.) If not, leave this item blank.
- PRINT TOTALS ONLY (Y/N):** If you answer Y to this prompt, REPORT will print a summary report that lists only the results of calculations and not the individual rows in the report.
- PRINT TO:** Choose whether you want the report printed or displayed, and enter one of the following:
- PRN:** This is the default name of your printer.
  - COM1: or COM2:** for an external printer. If you have not already done so, you need to adjust the MS-DOS Device Configuration Menu to configure your printer. See Appendix A of the *HP 150 Personal Computer Owner's Guide* for details.
  - CON:** to print to the screen.
  - filename** to print the report as a disk file. Include a drive name if needed to store the file on the desired disk.
- PAUSE BETWEEN PAGES (Y/N):** Type Y to pause at the end of each page of the report. This allows you to print the report on single sheet stationery, such as your company letterhead. It also allows you to use a printer that doesn't accommodate continuous-form paper.
-

**LINES PER PAGE:** Enter the number of lines on each page of your printer paper, perforation to perforation. (REPORT automatically leaves a top and bottom margin.) Standard 8-1/2 x 11 fanfold printer paper has 66 lines per page, which is the default value. To print the report as one continuous page, with no page breaks or page numbers, enter 0.

**PAGE WIDTH:** Enter the width of your paper (between 6 and 255 characters). The default value is 80, the width of standard 8-1/2 x 11 fanfold paper. Note that if you enter a width greater than 80 characters or if you want to print a wider than 80-character report in compressed mode so that it fits on an 80-character page, you might have to send special characters to your printer to set it up (see Chapter 4).

When you complete the print options form, press **Continue**, and the report spec form appears (unless you have specified a pre-defined report, as explained in Chapter 2). The STAFF file report spec form looks like this:

Employee #                      Hired:

Name:

Address:

City:                      State:                      Zip:

Dept:                      Phone Ext.:

Job Title:

Monthly Salary:

---

File: STAFF                      REPORT SPEC                      Page 1

Continue                      Derived Columns                      Help                      Main Menu

### Step 3: Filling in the Report Spec Form

The last step before your report starts printing is to fill in the report spec form. This step determines which items appear as columns in the report and in which order they appear. You also define several special features of REPORT at this time.

Each report can have up to 20 columns. They are numbered from 1 to 20, starting with the lefthand column. To print an item as a column in the report, enter the desired column number next to the item name in the report spec form.

REPORT sorts the report into alphabetic or numerical order based on the information in column 1. To sort the report according to a certain item, simply make that item column 1. If the information in column 1 is the same for more than one row, REPORT sorts those rows according to the information in column 2.

If you do not want to sort your report, number your first column as column 3. If your report is long or complex, eliminating the sort in this way can save you some time. However, this does limit your report to 18 columns (numbered 3 through 20).

You may want to sort your report by a particular item, but not include that item as a column in the report. You can do that by specifying that item as column 1 or 2 (the sorting columns), then entering an I (for Invisible) next to the column specification number, e.g., 1I. When the report is printed, the rows will be sorted according to the contents of the item specified as column 1, but that column will not appear in the report. Note that in this case the maximum number of visible columns is 19.

When you finish entering the report specifications, press **Continue**, and REPORT begins preparing the report. First, it selects the forms that match the retrieve specifications. While doing this, it displays a message that says "Selecting Forms." Next, if you specified columns 1 or 2 for the report, REPORT sorts the forms, displaying the message, "Sorting." Finally, it prints the report, displaying the first page of each form as it prints information from that form in the report. When it finishes printing, it returns to the Main Menu.

## Alphabetic Sorts

When you specify that a report have a column 1 and/or column 2, REPORT automatically sorts it alphabetically according to the information in these columns. For example, suppose you have a file that contains abstracts of recent publications. The form looks like this:

---



**Author:**

**Title:**

**Publisher:**

**Price:**

**Abstract:**

---

File: CATALOG

RETRIEVE SPEC

Page 1

Continue

Help

Main  
Menu

You could prepare a report that shows publisher, author and title for each of these publications, by using this report specification:

**Author:** 2

**Title:** 3

**Publisher:** 1

**Price:**

**Abstract:**

---

File: CATALOG

REPORT SPEC

Page 1

Continue

Derived  
Columns

Help

Main  
Menu

Since REPORT sorts the information in the report according to columns 1 and 2, the publications report would look like this:

A LIST OF BOOKS		
Publisher	Author	Title
Edwards and Son, Inc.	Page, John P. Peterson, Dorothy Rader, C.C.	Writing Simple Software How to Mother a Corporation Technical Writing Made Simple
Michon Publishing	Butler, Ardith White, Susan Dale	An Endangered Species Improving Data Entry Accuracy
Newberg Review Press	Baffaro, B.B.	Independent Banking

Now suppose you want the same report, but would like to start a new page whenever the publisher changes. You can do that by entering a P (for page break) next to the column number (P will only work in column 1):

Author: 2

Title: 3

Publisher: 1P

Price:

Abstract:

File: CATALOG

REPORT SPEC

Page 1

Continue

Derived  
Columns

Help

Main  
Menu

The modified report would look like this:

A LIST OF BOOKS		
Publisher	Author	Title
Edwards and Son, Inc.	Page, John P.	Writing Simple Software
	Peterson, Dorothy	How to Mother a Corporation
	Rader, C.C.	Technical Writing Made Simple

Page 1

A LIST OF BOOKS		
Publisher	Author	Title
Michon Publishing	Butler, Ardith	An Endangered Species
	White, Susan Dale	Improving Data Entry Accuracy

Page 2

### Alphabetic Sorts When the Item Contains Numbers

When REPORT is sorting an item alphabetically and that item contains numbers, REPORT automatically treats these numbers non-numerically. The numbers are printed in the report exactly as they are entered in the file, and they are sorted as simple character strings. For this reason, sorting the report into a logical order by numbers when using an alphabetic sort is not usually feasible unless all the numbers are the same length, as with zip codes. (For example, just as AZ is sorted before Z, item 19 will be sorted before 9.) If the numbers are the same length, however, REPORT can sort them into correct ascending order.

One frequent application of using an alphabetic sort with numbers is having REPORT sort rows in a report by date. To make this possible, when you initially enter the data using PFS:FILE, enter year, month, and day in the form yy/mm/dd. Always use two digits in each position. For example, 79/06/12 stands for June 12, 1979.

## Numeric Sorts

If you choose to have REPORT treat a column of numbers numerically, you put a letter N next to the column number (any column) on the report spec form. If you put the numeric column in column 1 or 2, REPORT then sorts the numbers into descending order (largest numbers first). When printing numeric columns, REPORT observes the following rules:

- it ignores all characters (including spaces) other than -, ., 0,1,2,3,4,5,6,7,8, and 9 (be sure to use the number 1, not lowercase l, and zero, not the letter o).
- a minus sign (-) before the first digit or after the last gives the number a negative value.
- if there are multiple decimal points, it ignores all but the first.
- when printing, it inserts commas where necessary.
- it adjusts all entries in a column to the highest number of decimal places found in that column.

The following example shows how you might fill in the same item on several forms in a file, and how REPORT would list the information from those same forms in a numeric column:

File Item	Numeric Column	
\$1000	1,000.00	it ignores the \$ and adds the commas and 2 decimal places.
112.5	112.50	it adds 1 decimal place.
1.37 dollars	1.37	it ignores DOLLARS. This item has the highest number of decimal places. All other entries are adjusted to it.
2,000,137	2,000,137.00	it adds 2 decimal places.

The numbers are not sorted in this example; however, if they appeared in column 1 or column 2, they would be sorted in descending order.

---

## Comparing Numeric Sorts and Alphabetic Sorts with Numbers

When you are dealing with numbers used as identifiers, you need to use an alphabetic sort, so that REPORT treats the column of numbers alphabetically. For 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. Compare the following numeric and alphabetic sorts of the part numbers. Notice the associated treatment of the numbers:

Numeric	Alphabetic
1,772	A1679
1,679	B0334
334	B1772
9	C0009

You would want to use an alphabetic sort in this situation, but if you had an item called PRICE in the inventory control system, you would probably want REPORT to sort and treat it numerically.

The columns below show how some entries in a file for the same item are sorted both numerically and alphabetically. Notice the difference in the numeric and alphabetic treatment of the numbers. Also notice that the numbers appear in a different order in the two columns and that the numbers in the numeric column are right-justified, whereas the numbers in the alphabetic column are left-justified.

File Item	Numeric	Alphabetic/non-numeric
\$1,000	1,000.00	\$1,000
87 dollars	100.00	100
33.75	87.00	33.75
100	33.75	87 dollars

In this case, having REPORT sort and treat the numbers numerically makes it easier to compare the prices of the items in the inventory.

Occasionally, there will be an item in column 1 or 2 that contains numbers, but for some reason you need the report sorted in ascending order. You can accomplish this by NOT treating the column numerically. Remember when entering the numbers with PFS:FILE to place zeros to the left of the numbers to make them the same length. Thus, if the largest number is 999, enter all other numbers with three digits, e.g., 007 for the number 7.

---

## Creating an Example File

The examples in this manual use a PFS file called STAFF. You need to create a STAFF file using PFS:FILE in the following way. First, load PFS:FILE into your computer. When the Main Menu appears, remove the program disk and put a blank, formatted disk in the default drive. Select the DESIGN FILE function, enter STAFF as the file name, and press **Continue**. Then, type in the following design:

Employee #:	Hired:
Name:	
Address:	
City:	State: Zip:
Dept:	Phone Ext.:
Job Title:	
Monthly Salary:	

---

File: STAFF	DESIGN	Page 1
Continue	Date	Time
		Help
		Main Menu

When you have completed the form design, press **Continue**. You should see the Main Menu on the screen. Select the ADD function and enter information for the eight employees listed below:

EMPLOYEE #: M8877	HIRED: 74/11/05
NAME: Calvin, Curt	
ADDRESS: 254 Greentree Lane	
CITY: Woodville	STATE: CA ZIP: 93137
DEPT: Manufacturing	PHONE EXT: 188
JOB TITLE: Process Engineer	
MONTHLY SALARY: \$3600	

---

EMPLOYEE #: M3245 HIRED: 78/06/22  
NAME: Sanchez, Enrico  
ADDRESS: 7831 Parkside Place  
CITY: Ridgewood STATE: CA ZIP: 93132

DEPT: Manufacturing PHONE EXT: 189  
JOB TITLE: Design Engineer  
MONTHLY SALARY: \$3,250

EMPLOYEE #: A3476 HIRED: 80/10/15  
NAME: Thomson, John  
ADDRESS: 869 Valley View Road  
CITY: Ridgewood STATE: CA ZIP: 93132

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: 93132

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: 93137

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: 93132  
DEPT: Manufacturing PHONE EXT: 167  
JOB TITLE: Technician  
MONTHLY SALARY: \$1100

EMPLOYEE #: A1265 HIRED: 76/04/23  
NAME: Woodhouse, Emma  
ADDRESS: 425 Oakview Way  
CITY: Ridgewood STATE: CA ZIP: 93132  
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: 93132  
DEPT: Administration PHONE EXT: 143  
JOB TITLE: Personnel Clerk  
MONTHLY SALARY: 1,000

---



## Example of Printing a Report

Let's use the STAFF file to produce a printed phone directory for the employees in manufacturing. First, make sure that the REPORT Main Menu is on the screen and that a blank, formatted disk is in the work drive (drive A in this case). Insert the disk containing STAFF in the default drive (drive B in this case). Enter a

1

in the SELECTION NUMBER item. Press Tab or touch the screen to move the cursor to the FILE NAME item, and type in

STAFF

The screen should look like this:

The screenshot shows a terminal window titled "PFS:REPORT MAIN MENU". The menu contains five options: 1 PRINT A REPORT, 2 PRE-DEFINE A REPORT, 3 SET NEW HEADINGS, 4 SET UP PRINTER, and 5 EXIT. Below the menu, the "SELECTION NUMBER:" field is set to "1" and the "FILE NAME:" field is set to "STAFF". At the bottom, there are two rows of input fields; the first row starts with the label "Continue" followed by four empty boxes, and the second row consists of four empty boxes.

Press **Continue**, and the retrieve spec form appears. Since you want to include only manufacturing employees in the directory, enter

**MANUFACTURING**

in the DEPT item. The screen should look like this:

<b>Employee #:</b>	<b>Hired:</b>	
<b>Name:</b>		
<b>Address:</b>		
<b>City:</b>	<b>State:</b> <b>Zip:</b>	
<b>Dept:</b> MANUFACTURING	<b>Phone Ext.:</b>	
<b>Job Title:</b>		
<b>Monthly Salary:</b>		
<hr/>		
<b>File:</b> STAFF	<b>RETRIEVE SPEC</b>	<b>Page 1</b>
<b>Continue</b>		<b>Help</b> <b>Main Menu</b>

Press **Continue**, and the print options form appears. Fill in the items as follows:

<b>PRINT OPTIONS</b>	
<b>TITLE:</b> MANUFACTURING PHONE DIRECTORY	
<b>PRE-DEFINED REPORT NAME:</b>	
<b>PRINT TOTALS ONLY (Y/N):</b> N	
<b>PRINT TO:</b> prn:	
<b>PAUSE BETWEEN PAGES (Y/N):</b> N	
<b>LINES PER PAGE:</b> 66	<b>PAGE WIDTH:</b> 80
<b>Continue</b>	<b>Main Menu</b>

---

Press **Continue** again, and the report spec form appears. You want the directory to have the employees' names in alphabetic order in the first column, with job title and phone extension next to each name. To accomplish this, enter a

1

in the NAME item, a

3

in the PHONE EXT item, and a

2

in the JOB TITLE item. Your screen should look like this:

Employee =                      Hired:

Name: 1

Address:

City:                      State:                      Zip:

Dept:                      Phone Ext.: 3

Job Title: 2

Monthly Salary:

---

File: STAFF                      REPORT SPEC                      Page 1

Continue                      Derived Columns                      Help                      Main Menu

Press **Continue** one more time, and REPORT prepares and prints the directory. The selecting and sorting processes should take less than a minute in this example, but it would take longer for a long and complicated report.

When the printer completes the report, the program returns to the REPORT Main Menu. Your directory should look like this:

MANUFACTURING PHONE DIRECTORY		
Name	Job Title	Phone Ext
Calvin, Curt	Process Engineer	188
Fawley, Susan	Engineering Associate	195
Peters, Marvin	Technician	167
Sanchez, Enrico	Design Engineer	189

## Reports with Column Calculations

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.

For example, a teacher with three classes of students in the same subject could set up a file in which the form looks like this:

Class:

Student:

Test Score:

File: STUDENTS

RETRIEVE SPEC

Page 1

Continue

Help

Main  
Menu

When all these students took the same test, the teacher could get the average score for each class and the average score for all the students. The report would look like this:

Summary of Test Scores		
Class	Student	Test Score
A	James, Kurt	78
	Lawrence, Arnold	89
	Average:	84
B	Austin, Peter	85
	Church, Jill	59
	Average:	72
C	Clayton, David	79
	Trapp, Iris	87
	Average:	83
	Average:	80

You specify the column calculations by entering the following commands beside the column number on the report spec form:

- T Total. The program automatically treats this item numerically, adds all the numbers in the column, and prints 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 automatically treats this column numerically and prints 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. (It does not consider 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, look at the following phone directory prepared from the entire STAFF file:

Corporate Phone Directory		
Dept	Name	Phone Ext
Administration	Bennet, Liza	119
	Thomson, John	155
	Woodhouse, Emma	179
	Wolf, James	143
Manufacturing	Calvin, Curt	188
	Fawley, Susan	195
	Peters, Marvin	167
	Sanchez, Enrico	189
Count:	2	8

Only two items were counted in the DEPT column because each department name was only printed once. The PHONE 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. When you use C and SC, however, you must also enter N if you want the column treated numerically, since C and SC can also be used with non-numeric information. For example, compare these two specifications,

PRICE: 3C

PRICE: 3CN

and then compare their results:

PRICE	PRICE
\$100	100.00
4 DOLLARS	4.00
3.99	3.99
-----	-----
COUNT: 3	COUNT: 3
-----	-----

You can have REPORT perform more than one calculation in the same column; i.e., you can have it total, average, and count the same column.

---

For example, if you have a file containing information on sales, the form might look like this:

Name:

Region:

Product Specialty:

Sales:

Comments:

File: SALESTAF

RETRIEVE SPEC

Page 1

Continue

Help

Main

Menu

By entering a 1 in the NAME item, and a 2TA in the SALES item on your report spec form, you can get a report that looks like this:

Sales Report	
Name	Sales
Abrams, Art	12,001.00
Beachamp, Fred	34,007.98
Button, L.	56,120.00
Still, Stanley	0.00
Wilkes, Jim	20,987.00
-----	
Average:	24,623.20
Total:	123,115.98
-----	



This report shows the average sales per salesperson and the total sales. Notice the order in which REPORT prints the two calculations at the bottom of the report. If you use more than one of the column calculations, the average appears first, the total next, and the count last. You can enter the commands themselves in any order. For example, 2AT, A2T, and 2TA would all produce the same result.

## Using Zeros and Blanks

When you plan to use the calculation commands, think carefully about the difference between a 0 (zero) and a blank in your 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 is included. For example:

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

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

## Example of a Report with Column Calculations

Let's use some column calculations with the STAFF file to produce a report on total salaries, subtotaled by department.

Return to the Main Menu and enter a

1

in the SELECTION NUMBER item. If you have been working with the example file, STAFF should still remain in FILE NAME. If it does not, enter it. Press **Continue**, and the STAFF retrieve spec form should appear on your screen. Since you want all the forms in the file included in the report, leave the retrieve spec blank and press **Continue** again. The print options form should appear. Fill in the items as follows:

---

PRINT OPTIONS

TITLE: SALARY COSTS BY DEPARTMENT

PRE-DEFINED REPORT NAME:

PRINT TOTALS ONLY (Y/N): N

PRINT TO: prn:

PAUSE BETWEEN PAGES (Y/N): N

LINES PER PAGE: 66 PAGE WIDTH: 80

Continue         Main Menu

Press **Continue** again, and the report spec form appears. Using the Tab key or touching the screen, move the cursor and enter the report specifications shown below:

Employee :	Hired:
Name: 2	
Address:	
City:	State: Zip:
Dept: 1	Phone Ext.:
Job Title:	
Monthly Salary: 3ST	

---

File: STAFF	REPORT SPEC	Page 1
Continue <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Derived Columns <input type="checkbox"/>	Help <input type="checkbox"/> Main Menu <input type="checkbox"/>

When you are finished, press **Continue**. REPORT sorts the forms in the file and begins printing the report. The printed report should look like this:

Salary Costs by Department		
Dept	Name	Salary
Administration	Bennet, Liza	1,200
	Thomson, John	5,000
	Woodhouse, Emma	3,200
	Woolf, James	1,000
	Total:	10,400
Manufacturing	Calvin, Curt	3,600
	Fawley, Susan	2,100
	Peters, Marvin	1,100
	Sanchez, Enrico	3,250
	Total:	10,050
	Total:	20,450

You can see that REPORT prints the subtotal in the MONTHLY SALARY column every time it prints a new department in column 1. This gives the total salaries for each department. You also get a grand total at the end of the column.



Press **Continue** and fill in the report spec form as you did before:

Employee #	Hired:
Name: 2	
Address:	
City:	State: Zip:
Dept: 1	Phone Ext.:
Job Title:	
Monthly Salary: 3ST	

---

File: STAFF                      REPORT SPEC                      Page 1

Continue				Derived Columns		Help	Main Menu
----------	--	--	--	-----------------	--	------	-----------



Press **Continue** one more time, and REPORT sorts the forms in the file and prints the report:

Salary Costs by Department		
Dept	Name	Salary
-----		
Administration		
	Total:	10,400
Manufacturing		
	Total:	10,050
-----		
	Total:	20,450
-----		

## Reports with Derived Columns

A derived column is calculated from information in other columns of a report (including other derived columns). It does not correspond to an item in a file, as do other report columns. You can have up to three derived columns in a report.

For example, suppose you want to calculate a 17% bonus for each employee in the STAFF file. You can prepare a report in which REPORT calculates 17% of the monthly salary of each employee from a MONTHLY SALARY column and puts this amount in a new column called BONUS. Then, REPORT can add the amount of the bonus to the monthly salary and place this amount in another derived column called TOTAL PAY.

You tell REPORT what calculations to perform for a derived column by developing a formula using these rules:

1. Columns in the formula are identified by # followed by the column number. For example, #1 – #5 means column 1 minus column 5.
2. Use a combination of the following mathematical operators and numbers to tell REPORT what calculations to perform:
  - +        add
  - subtract
  - \*        multiply
  - /        divide
  - ( )      perform this calculation first. Parentheses can only be nested three deep.
3. REPORT evaluates the formula from left to right, evaluating the expressions in parentheses first. For 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.

---

4. Since REPORT works from left to right across the report, a formula must not use the values of any derived columns that are printed to its right. For example, if columns 1 and 4 of a report were derived columns, column 1 would be calculated before column 4. If column 1 tried to use the value in column 4 in its calculation, there would not yet be a value in that column to use.
5. A formula can include a reference to itself. For example, a formula used in column 7 is #3 + #7. In such a case, the value used for #7 is that from column 7 of the previous row. This calculation produces, in column 7, a running total of whatever is in column 3 (its value for the first row is 0).

You tell REPORT where and how to create a derived column by filling in a special derived columns form. To reach this form, press **Derived Columns** or F5 when the report spec form is showing. The form looks like this:

DERIVED COLUMNS

HEADING:	
FORMULA:	
REPORT SPEC:	

HEADING:	
FORMULA:	
REPORT SPEC:	

HEADING:	
FORMULA:	
REPORT SPEC:	

---

File: STAFF                      REPORT SPEC                      Page 2

Continue					Return to Form	Help	Main Menu
----------	--	--	--	--	----------------	------	-----------

## Filling in the Derived Columns Form

Since you can have a maximum of three derived columns in one report, there are three identical groups of items on the derived columns form. You fill in one of these groups for each derived column on a report. The items are:

**HEADING:** Enter the heading you want printed above the derived column. If you leave this blank, REPORT prints the formula of the column as a heading.

**FORMULA:** Enter the formula for your derived column.

**REPORT SPEC:** Enter the column number for your derived column and any column calculations you want. For example, entering a 7T tells REPORT to print this column in column 7 and total it. You can even put a derived column in column 1, which means that the program sorts on the results of the derived column calculation. Note that this takes much longer to sort than a less complex report.

If you want to return to the report spec form, press **Return to Form** again. When you have entered both the report specifications and the derived columns information, press **Continue** to have REPORT prepare and print your report.

Note that you can use the I (for Invisible) specification to use an item in a derived column calculation but not print that item as a column in the report.

## Example of a Report with Derived Columns

Let's prepare the employee bonus report discussed earlier. Return to the Main Menu and enter a

1

in SELECTION NUMBER. Enter

STAFF

in the FILE NAME item, if necessary, and press **Continue**. The retrieve spec form appears. Since everyone gets a bonus, leave it blank and press **Continue** again.

---



When the print options form appears, type in the title

EMPLOYEE BONUS REPORT

Leave the PRE-DEFINED REPORT NAME item blank, and leave the other default values. Your screen should look like this:

```

          PRINT OPTIONS
          TITLE: EMPLOYEE BONUS REPORT
          PRE-DEFINED REPORT NAME:
          PRINT TOTALS ONLY (Y/N): N
          PRINT TO: prn:
          PAUSE BETWEEN PAGES (Y/N): N
          LINES PER PAGE: 66   PAGE WIDTH: 80
          Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Main
                                     Menu

```

Press **Continue**, and the report spec form appears. Enter a

1

in the NAME item to make it the first column of the report and a

2

in the MONTHLY SALARY item to make it the second column. Your screen should look like this:

---



Press **Continue**, and REPORT prepares and prints your report. It should look like this:

EMPLOYEE BONUS REPORT				
Name	Salary	Bonus	Total Pay	
Bennet, Liza	1,200	204.00	1,404.00	
Calvin, Curt	3,600	612.00	4,212.00	
Fawley, Susan	2,100	357.00	2,457.00	
Peters, Marvin	1,100	187.00	1,287.00	
Sanchez, Enrico	3,250	552.50	3,802.50	
Thomson, John	5,000	850.00	5,850.00	
Woodhouse, Emma	3,200	544.00	3,744.00	
Woolf, James	1,000	170.00	1,170.00	
			-----	
			Total: 23,926.50	
			-----	

Note that REPORT rounds derived columns to two decimal places before printing.

When REPORT produces a report containing derived columns, its performance is somewhat slower.

### Example of a Report with an Invisible Column

Let's produce the same report as above, but not include the Monthly Salary item as a column. First, return to the Main Menu and enter

1

in SELECTION NUMBER. STAFF should still be in FILE NAME, so press **Continue**.

The retrieve spec form is displayed next. Again, everyone gets a bonus, so leave it blank and press **Continue**.



When you have filled in both formulas, press **Continue**, and **REPORT** prepares and prints your report. It would look like this:

Employee Bonus Report		
Name	Bonus	Total Pay
Bennet, Liza	204.00	1,404.00
Calvin, Curt	612.00	4,212.00
Fawley, Susan	357.00	2,457.00
Peters, Marvin	187.00	1,287.00
Sanchez, Enrico	552.50	3,802.50
Thomson, John	850.00	5,850.00
Woodhouse, Emma	544.00	3,744.00
Woolf, James	170.00	1,170.00
Total:		23,926.50

## Reports Using Keywords

When you store information in the form of text in your PFS files, you may want to identify that information by means of subject keywords. You can identify the same form by several different keywords if it is of interest for several different reasons.

To identify text using subject keywords, create an item on your file form to contain your keywords. When you enter more than one keyword into the item, separate them from each other with a space (Smith Jones Brown). If you have a keyword that is really more than one word, either use an underscore between the words (Personal\_Computers) or do not space between them (PersonalComputers).

To print a report using keywords, make the item containing your keywords column 1 of the report and enter K as part of the report specification for the item. (The K specification only works for column 1.) **REPORT** then prints the report, sorted alphabetically by keyword, with each form appearing once for every keyword listed.

Note that processing a keyword report can be a fairly time-consuming task, depending on the complexity of your form and the number of keywords entered for each form.

Suppose you keep a file of technical information from the magazines you read and use an item named KEYWORDS for your keywords. The form might look like this:

The image shows a terminal window with a form. The form has three input fields: "Magazine:", "Keywords:", and "Abstract:". Below the form is a menu bar with the following items: "File: ABSTRACT", "RETRIEVE SPEC", "Page 1", "Continue", "Help", and "Main Menu".

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,



As you can see, REPORT prints the abstract once for each keyword. If you made the KEYWORDS item column 1 but omitted the K command, you would get this report from the same information:

A NORMAL REPORT		
Keywords	Magazine	Abstract
ECL Memory RAMs	Data News	This article describes the use of a new ECL process to fabricate 16K RAMs for less than \$4 each.
Failure Memory PCboards	Weekly News	A problem is discussed which causes premature failure of memories due to warpage of the PC boards, especially at high temperatures.
Failure RAMs	Elec Times	An unsuspected cause of RAM failure has been traced. People have found that gamma radiation causes random temporary bit faults.

## Summary

- Use the PRINT A REPORT function to create a report from a PFS file.
- There are three steps in creating a report:
  1. Fill in the retrieve spec form to choose the forms you want to include in the report.
  2. Fill in the print options form to describe how the report is to be presented. If you enter the name of a pre-defined report in the print options form, the report spec form (Step 3) does not appear.
  3. Fill in the report spec form to choose the items you want to appear as columns in the report, the order in which you want them to appear, and the calculations to be performed on them. You also specify derived columns at this point.
- You can have up to 20 columns in one report.



- REPORT sorts your report, alphabetically or numerically, according to the information in columns 1 and 2.
  - Use the following commands on the report spec form to have REPORT perform calculations on a column:
    - 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, as well as an overall average.
    - C      Count. Counts the number of entries printed in a column, whether the information in the column is numeric or alphabetic.
    - SC     Subcount. Gives a subcount whenever column 1 changes, and a total count, whether the information in the column is numeric or alphabetic.
    - T      Total. Treats the column numerically and prints a total at the end.
    - ST     Subtotal. Gives a subtotal whenever column 1 changes, as well as a grand total.
    - P      Page break. Starts a new page each time the entry in column 1 changes (can only be used in column 1).
    - K      Keyword. Prints the same form once for every keyword in the item containing keywords (can only be used in column 1).
    - I      Invisible Column. Use this item for sorting or calculation purposes, but do not print it as a column in the report.
  - **Derived Columns** or F5    Switches to the derived columns form.
  - **Return to Form** or F5    Returns to the report spec form.
  - To print a summary report that shows only the results of any specified column calculations, enter Y for the TOTALS ONLY item on the print options form.
-

- REPORT can sort a file according to special “keywords” used to identify different subjects within the file.
  - REPORT can calculate up to three derived columns in a report. Use the following symbols to create the formula for a derived column:
    - +      add
    - subtract
    - \*      multiply
    - /      divide
    - #      identifies a column number
    - ( )    perform this calculation first. Can only be nested three deep.
  - To print a report without page breaks or page numbers, enter 0 in the LINES PER PAGE item on the print options form.
  - To print on single sheet stationery, enter Y in the PAUSE BETWEEN PAGES item on the print options form.
  - If you want to return to the report spec form, press **Return to Form**. When you have entered both the report specifications and the derived columns information, press **Continue** to have REPORT prepare and print your report.
-

---

# 2: *pre-define a report*

---

You use the PRE-DEFINE A REPORT function to save a report design for repeated use. You can save up to eight different report designs for each PFS file and use them to print periodic reports in the same format. You give each design a name up to ten characters long, and REPORT stores the design in the file. When you want to use one of these report designs, you enter the name in the PRE-DEFINED REPORT NAME item of the print options form. REPORT then produces the report without your having to fill in the report spec form.

This function is also useful for experimenting with a variety of report designs before you decide which one you want to use. Since REPORT saves the report designs in the file, you can try out several different ones, using different names, until you find one that you like. Then, you simply remove the unwanted designs.

## Selecting PRE-DEFINE A REPORT

To select the PRE-DEFINE A REPORT function, first return to the Main Menu. Then enter a 2 in the SELECTION NUMBER item and the name of your file in the FILE NAME item. Press **Continue**, and REPORT displays, on a pre-defined reports form, the names of any pre-defined report designs stored for that file. The form for the STAFF file looks like this:

---

...

PRE-DEFINED REPORTS

(None)

REPORT NAME:

Continue Main Menu

## Creating a New Report Design

To create a new report design, enter the name you want to give the design in the REPORT NAME item on the pre-defined reports form, then press **Continue**. The report spec form from your file appears, with the design name written in the message area at the bottom of the form. Enter the report specifications exactly as you would if you were using the PRINT A REPORT function. When you finish, press **Continue**, and REPORT stores the report design in the file and returns to the Main Menu.

### Example of Pre-defining a Report:

Let's create a report design for STAFF that shows total salaries by department. You can use this to track your monthly salary expenses.

Return to the Main Menu and enter a

2

in the SELECTION NUMBER item. If you have been working with the example file, STAFF should still remain in FILE NAME. If it does not, enter it. Your screen should look like this:

---

PFS:REPORT MAIN MENU

- 1 PRINT A REPORT      4 SET UP PRINTER
- 2 PRE-DEFINE A REPORT   5 EXIT
- 3 SET NEW HEADINGS

SELECTION NUMBER: 2

FILE NAME: STAFF

Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Press **Continue**, and when the pre-defined reports form appears, enter

Salaries

in the REPORT NAME item. This screen should look like this:

PRE-DEFINED REPORTS

(None)

REPORT NAME: Salaries

Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Main Menu

Press **Continue** again, and a form from the STAFF file with REPORT 'Salaries' at the bottom appears. You fill in this form the same way you fill in a report spec form. For Salaries, enter a

2

in the NAME item, a

1

in the DEPT item, and a

3st

in the MONTHLY SALARY item. Your screen should match the following screen:

Employee #	Hired:
Name: 2	
Address:	
City:	State: Zip:
Dept: 1	Phone Ext.:
Job Title:	
Monthly Salary: 3st	

---

File: STAFF                      REPORT 'Salaries'                      Page 1

Continue				Derived Columns		Help	Main Menu
----------	--	--	--	-----------------	--	------	-----------

Press **Continue**, and REPORT saves the report design named Salaries in the STAFF file and returns to the REPORT Main Menu.

---



Press **Continue**, and the program takes the pre-defined report design from your STAFF file and prepares the report according to that design. It should look like this:

Dept	Name	Monthly Salary
Administration	Bennet, Liza	1,200
	Thomson, John	5,000
	Woodhouse, Emma	3,200
	Woolf, James	1,000
	Total:	10,400
Manufacturing	Calvin, Curt	3,600
	Fawley, Susan	2,100
	Peters, Marvin	1,100
	Sanchez, Enrico	3,250
	Total:	10,050
	Total:	20,450

## Modifying a Pre-defined Report Design

To modify an existing report design, first select the PRE-DEFINE A REPORT function. When the pre-defined reports form appears, enter the existing design's name in the REPORT NAME item and press **Continue**.

The report specifications appear on the screen for you to modify. You can add new specifications, type over existing ones, or press Clear display to erase all the specifications on the displayed page and start over. When you have entered all the modifications you want to make, press **Continue**, and REPORT stores the revised design in the file.



## Example of Modifying a Pre-defined Report Design

Suppose you want to revise the Salaries report design to have it include the JOB TITLE item and to have it subtotal the salaries by department.

Return to the Main Menu and enter a

2

in the SELECTION NUMBER item. Enter

STAFF

in the FILE NAME item, if necessary. Press **Continue**, and the following screen appears:

PRE-DEFINED REPORTS

Salaries

REPORT NAME:

Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] Main Menu

Enter

Salaries

in the REPORT NAME item, and press Continue. Your Salaries report design should appear. Change the form to look like this:

---

---

Employee #	Hired:
Name: 2	
Address:	
City:	State: Zip:
Dept: 1	Phone Ext.:
Job Title: 3	
Monthly Salary: 4st	

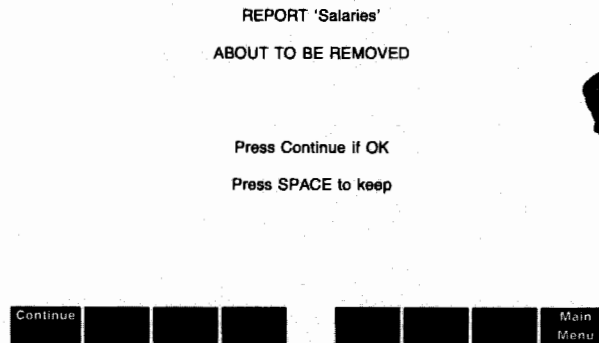
---

File: STAFF	REPORT 'Salaries'	Page 1
Continue	Derived Columns	Help Main Menu

Press **Continue**, and REPORT stores the revised design in the STAFF file and returns to the Main Menu.

## Removing a Pre-defined Report Design

To remove a pre-defined report design, first select the PRE-DEFINE A REPORT function. When the pre-defined reports form appears, enter the name of the report design that you want to remove from your file in the REPORT NAME item and press **Continue**. After the report specifications appear on the screen, press **Remove**. The following warning appears, giving you a chance to change your mind:



If you decide not to remove the design, you can press either **Main Menu** or the space bar to redisplay the design.

If you want to remove the pre-defined report design, press **Continue**, and REPORT removes it and returns to the Main Menu.

## Summary

- Use the PRE-DEFINE A REPORT function to save the design of a report that you want to use more than once.
- You can store up to eight different report designs for any PFS file. REPORT stores them in the file under a name that you assign.
- The name of a pre-defined report design can be up to ten characters long.
- Each of the stored designs must have a unique name.
- You can modify any pre-defined report design in the same way that you change any information in a PFS:FILE form.
- **Clear display** Erases all entries from the currently displayed page.
- **Remove** or F4 Removes the currently displayed report design.



---

## 3: *set new headings*

---

You use the SET NEW HEADINGS function to change the headings that are printed at the top of each column of a report. By using this function, you can retain the full item name on the form, but store a different version of the item name to use when you print reports.

When you print a report without using this function, REPORT uses the first line of each item name as a column heading. Since REPORT determines the width of a column in a report by the widest entry in that column (heading or column entry), changing a heading can sometimes save space.

For example, suppose you have an item in a file named SOCIAL SECURITY NUMBER and REPORT uses it as a column heading in a report. This item name is 22 characters long. A social security number itself is only 11 characters long. Unless the heading is shortened, this column would be twice as wide as it needs to be to accommodate the numbers.

### Selecting SET NEW HEADINGS

To select the SET NEW HEADINGS function, return to the Main Menu. Enter a 3 in the SELECTION NUMBER item and the name of your file in the FILE NAME item. Press **Continue**, and a form from your file appears on the screen with the word 'HEADINGS' in the message area at the bottom of the screen. The headings form from the STAFF file look like this:

---

---

Employee #	Hired:	
Name:		
Address:		
City:	State:	Zip:
Dept:	Phone Ext.:	
Job Title:		
Monthly Salary:		

---

File: STAFF	HEADINGS	Page 1	
Continue		Help	Main Menu

## Entering New Headings

You enter a new heading for an item by simply typing it in on the headings form the same way you type information in an item in a PFS:FILE form.

When you have entered all the new headings, press **Continue**, and REPORT stores them in the file and returns to the Main Menu. REPORT then uses these column headings in all future reports from that file, unless you change them again.

## Example of Setting New Headings

Let's make some changes to the column headings for the STAFF file. The entries in the MONTHLY SALARY item are typically only a few characters, so let's change that item to SALARY. Also, let's change DEPT to DEPARTMENT, since the names of the departments are typically quite long.

First, return to the Main Menu and enter a

3

in SELECTION NUMBER. Enter

STAFF

---

in the FILE NAME item, if necessary. Press **Continue**, and the headings form from the STAFF file appears. Use the Tab key or touch the screen to move the cursor and enter the changes in column headings so that your screen looks like this:

Employee #	Hired:
Name:	
Address:	
City:	State: Zip:
Dept: Department	Phone Ext.:
Job Title:	
Monthly Salary:	Salary

---

File: STAFF	HEADINGS	Page 1
Continue	Remove	Help Main Menu

Press **Continue**, and REPORT stores your changed headings on the STAFF file. Now, every time you print a report from the STAFF file, REPORT uses these headings. For example, if you print the revised pre-defined report named Salaries, it will look like this:

Department	Name	Job Title	Salary
Administration	Bennet, Liza	Secretary	1,200
	Thomson, John	Company President	5,000
	Woodhouse, Emma	Purchasing Manager	3,200
	Woolf, James	Personnel Clerk	1,000
Total:			10,400
Manufacturing	Calvin, Curt	Process Engineer	3,600
	Fawley, Susan	Engineering Associate	2,100
	Peters, Marvin	Technician	1,100
	Sanchez, Enrico	Design Engineer	3,250
Total:			10,050
Total:			20,450

## Modifying Headings

To modify headings that you have already entered once, select the SET NEW HEADINGS function again by typing a 3 in SELECTION NUMBER on the Main Menu and your file name in FILE NAME. When the headings form appears on the screen, column headings previously stored for this file will appear.

At this time, you can change headings by typing over them, or insert new ones by typing them in. You can erase headings by either typing spaces over them or by pressing Clear display, which erases all the headings entered on the page.

## Removing Headings

To remove all the report headings stored in a file and revert to the item names as they are on the form, first select the SET NEW HEADINGS function. When the filled-in headings form appears on the screen, press **Remove**. The following warning screen appears to give you a chance to change your mind:



## HEADINGS

ABOUT TO BE REMOVED

Press Continue if OK

Press SPACE to keep



If you change your mind and decide not to remove the headings, you can press **Main Menu** to return to the Main Menu or press the space bar to redisplay the new headings form.

If you want to remove the headings, press **Continue**, and REPORT removes the headings from the file and returns to the Main Menu.

## Summary

- Use the SET NEW HEADINGS function to enter column headings for a report that are different from the item names in your file.
  - You enter new column headings on a headings form.
  - REPORT stores column headings in the file and uses them on future reports for that file until they are changed or removed.
  - You can change or remove stored headings in the same way that you change any information in a PFS:FILE form.
  - **Remove** removes the currently-displayed headings.
  - **Clear display** erases all entries from the currently-displayed page.
-



---

# 4: *set up printer*

---

You use the SET UP PRINTER function to send special characters or codes to your printer to initiate or terminate special printing modes. For example, you might want to print your forms in condensed or bold type.

If your printer supports special printing modes, they will be listed in the operations manual for the printer. Typically, the manual either instructs you to send special characters (such as ESC&k2S) or the ASCII number that corresponds to those characters (such as the numbers 27 38 107 50 83). The SET UP PRINTER function accommodates both characters and ASCII numbers.

## Selecting SET UP PRINTER

First, return to the Main Menu and enter a 4 in SELECTION NUMBER. You do not need to enter a file name in the FILE NAME item. The screen looks like this:

```

PFS:REPORT MAIN MENU
-----
1 PRINT A REPORT      4 SET UP PRINTER
2 PRE-DEFINE A REPORT 5 EXIT
3 SET NEW HEADINGS

SELECTION NUMBER: 4
FILE NAME:

Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
```

Press **Continue**, and REPORT displays an instruction screen with an area for you to enter the characters or codes that you want to send to your printer.

---

## Entering Characters

To enter a character, simply press the key on the keyboard that corresponds to the desired character. REPORT echoes the character on the screen, so you can verify that you pressed the correct key. If you need to enter a control character, such as CTRL B, press CTRL and, while holding it down, press B. The cursor automatically moves to the next line on the screen as soon as you press a key. To send several characters in a row, just press the keys in the correct sequence. When you have entered all the characters, press **Continue** to store the characters and return to the Main Menu. The next time you print a report, REPORT first sends the stored characters.

Note: REPORT sends up to 20 characters to the default printer PRN: or to the printer whose name you entered last in the PRINT TO item of the print options screen.

If you should enter a wrong character by mistake, press **Main Menu** to return without storing any characters. Any previously stored characters remain in effect. To enter the correct characters, just start again.

## Example of Sending Control Characters

For example, let's send the characters necessary to set the HP2674A internal printer into condensed mode. The required character sequence is ESC, then &, k, 2, and S. First, return to the Main Menu and enter 4 for SELECTION NUMBER. Press **Continue**, and REPORT displays the instruction screen, with a colon next to which you will begin entering characters. That screen looks like this:

---

Enter any special characters that you want to send to your printer. You can enter up to 20 characters. Press Continue to send the entered characters the next time you print. If you make a mistake, press Main Menu and start again.

:

Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Main Menu

Now, to enter the ESC character, just press the ESC key. Then, to enter &, k, 2, and S, press each key in sequence. Notice that REPORT echoes the characters on the screen:

Enter any special characters that you want to send to your printer. You can enter up to 20 characters. Press Continue to send the entered characters the next time you print. If you make a mistake, press Main Menu and start again.

: Escape  
: &  
: k  
: 2  
: S

Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Main Menu

Since those are the only characters needed for this example, press **Continue**, and REPORT stores the character and returns to the Main Menu.



## Leaving SET UP PRINTER

You can leave the SET UP PRINTER function at any time to return to the Main Menu by pressing **Main Menu**. However, any characters or ASCII numbers that you have entered will not be stored for later transmission to the printer. To store the characters, you must press **Continue** to complete the function.

### Summary

- SET UP PRINTER allows you to send special characters or the corresponding ASCII numbers to your printer to initiate or terminate special printing modes.
  - To enter a character, press the corresponding key.
  - To enter an ASCII number, type a left parenthesis, then type the number. Press Return after typing the number.
  
  - **Main Menu**                      cancels the SET UP PRINTER function, returning to the Main Menu without storing characters or ASCII numbers entered.
-





---

# 5:

# exit

---

When you are finished using the REPORT program, or when you want to leave REPORT to perform file management tasks with the Personal Applications Manager (P.A.M.), you use the EXIT function.

## Selecting EXIT

To select EXIT, return to the Main Menu and enter 5 in the SELECTION NUMBER item. You need not enter a file name in the FILE NAME item. The screen should look like this:

```
PFS:REPORT MAIN MENU
-----
1 PRINT A REPORT      4 SET UP PRINTER
2 PRE-DEFINE A REPORT 5 EXIT
3 SET NEW HEADINGS

SELECTION NUMBER: 5
FILE NAME:

Continue [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
```

Press **Continue** and you are now out of the REPORT program and under control of P.A.M. If you have removed the REPORT program diskette from a drive, reinsert it and press **Reread Discs** to see the applications stored on the diskette.

To return to the REPORT program from P.A.M., simply press **PFS:REPORT** on the screen, and then press **Start Applic**. You could also press **PFS:FILE** or another program name on the screen, press **Start Applic** and begin work.

---

## Summary

- EXIT allows you to leave the REPORT program and return to the Personal Applications Manager.
  - You do not need any entry in the FILE NAME item of the Main Menu when you select EXIT.
  - To return to the REPORT program from P.A.M., simply press **PFS:REPORT** when it is on the screen and press **Start Applic.**
-

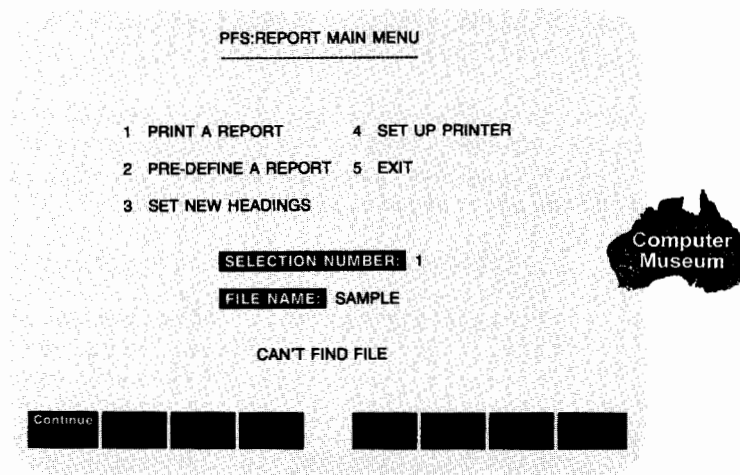
---

# A: *appendix*

---

## Messages

PFS:REPORT displays a message whenever it encounters an error condition. Certain errors may occur when you enter information (filling in the Main Menu items, the print options, etc.). These messages are displayed in the message area at the bottom of the screen:



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:

---

**P R O B L E M**

**DISK IS WRITE-PROTECTED**

Press Main Menu to return to PFS:REPORT Main Menu

(See manual Appendix A)



When you encounter one of these messages, simply locate the message in the following list and use the instructions in the Corrective Action column. To restart normal REPORT operation, press **Main Menu**. Following is the list of REPORT error messages, arranged in alphabetical order:

<b>MESSAGE</b>	<b>DESCRIPTION</b>	<b>CORRECTIVE ACTION</b>
BAD FILE NAME	You entered an illegal file name.	Make sure you have entered the name correctly, including (if appropriate) the correct drive name.
CAN'T FIND FILE	REPORT cannot find the PFS file specified in the FILE NAME item of the Main Menu.	Check to make sure you entered the name of the file correctly in the FILE NAME item and that the corresponding disk is properly inserted in the specified drive. (Pull disk out and re-insert.) If the file you want to use is in a drive other than the default drive, the file name must be preceded by a drive name.

---

---

<b>MESSAGE</b>	<b>DESCRIPTION</b>	<b>CORRECTIVE ACTION</b>
CAN'T FIND REPORT "xyz"	You requested a report using the pre-defined report name "xyz". REPORT cannot find a report with that name in the PFS file.	Make sure the report you request is one of those listed on the PRE-DEFINED REPORTS screen.
DIRECTORY FULL	You have too many files in your directory.	Use the DOS ERASE command or P.A.M.'s File Manager to remove some files, or put a group of files into a subdirectory.
DISK FULL	REPORT attempted to write information in a file and found that there was no room left on the disk.  There is not enough room on the disk in the work drive to temporarily store information from the file while sorting. REPORT needs room for sorting that is at least as large as the PFS file (keyword sorts may require more space.)	If you have an unnecessary forms in the file, use the PFS:FILE REMOVE function to remove them.  Or, if you have an unnecessary file on the disk, erase the file.  Insert a disk with more space or specify a shorter report by including fewer forms in the report or by using only one column for sorting.  Or, free up some space on the disk by removing unneeded files from the disk.
DISK HAS BEEN MOVED	You have removed the disk that contains the PFS file.	Re-insert the disk with the PFS file on it.

---

---

MESSAGE	DESCRIPTION	CORRECTIVE ACTION
DISK IS WRITE- PROTECTED	REPORT cannot use diskettes that are write-protected because it uses certain areas of the disk to store temporary information (such as retrieve or report specifications).	Remove the write-protect tab. To protect your information you can use the DOS or P.A.M. COPY command to make a backup copy of your file.
	You attempted to print the report to a disk file, but the disk is write-protected.	Remove the write-protect tab.
DRIVE NOT READY	The disk drive door is open.	Close the door.
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 three deep. Allowed: (#4 * (1 + (2-3))) +4 Not Allowed: 1 + ((2/(3+(4 * 3))) * #2)  (c) more than 20 digits in a number.	The cursor is over the character causing the trouble. Over-type the formula to correct it and try again.
INVALID SELECTION NUMBER	The number you entered for the SELECTION NUMBER item of the Main Menu is invalid.	Re-enter a number between 1 and 5.

---

MESSAGE	DESCRIPTION	CORRECTIVE ACTION
I/O ERROR	There is a physical problem with either the disk drive, the disk controller, or the disk itself. Some possible causes are:	
	Disk inserted wrong.	Remove the disk, then re-insert properly.
	Worn out disk.	After 40-50 hours of use, the disk may need replacing. Try using a different disk.
	Malfunction.	See your computer dealer for service. DO NOT USE THIS DISK AGAIN. First, make a copy of your backup disk (not the disk causing the problem), then use that copy to re-enter any necessary information.
MUST GIVE A FILE NAME	You have left the FILE NAME item of the Main Menu blank.	Enter the name of the PFS file you want to use to prepare a report.
MUST GIVE A REPORT NAME	You have left the REPORT NAME item of the Pre-defined Reports screen blank.	Enter the name you want to give to a new pre-defined report specification, or the name of an existing report specification that you want to modify or remove.
MUST SPECIFY OUTPUT DESTINATION	You have left the PRINT TO: item of the print the options form blank. REPORT doesn't know where to print the report.	Enter the name of the destination device for report. The choices are: COM1:, COM2:, PRN:, CON:, or the name of a disk file.

---

MESSAGE	DESCRIPTION	CORRECTIVE ACTION
PRINTER NOT READY	Your printer is not turned on, on-line, or plugged in.	Check to see that your printer is properly connected and on-line, then press <b>Continue</b> to try again.
REPORT IS TOO LONG TO SORT	The disk in the work drive you indicated does not have enough space.	Specify a shorter report by including fewer forms in the report, or start again, this time inserting a disk in the work drive that has more free space than before.
REPORT TOO WIDE	The report you specified will not fit in the page width. A frequent cause of this is that the item names are very long, which forces the columns to be correspondingly wide.	Press <b>Main Menu</b> . This returns you to the Main Menu, and you can restart the report, this time specifying a wider page.  Press <b>Continue</b> . The program will print out as much of the report as fits in the page width that you specified.
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 using <b>Remove</b> .

---



---

MESSAGE	DESCRIPTION	CORRECTIVE ACTION
** (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).
	(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.	Correct the formula.

---



---

# **B:** *appendix*

---

## Special Control Keys and Commands

### Cursor Control Keys

- ◀ Move the cursor to the left one space.
- ▶ Move the cursor to the right one space.
- ▲ Move the cursor up one line.
- ▼ Move the cursor down one line.
- ▷ Move the cursor to the first item on the form or menu.

- Backspace Move the cursor one space to the left and remove any character in that space.
- Return Move the cursor to the beginning of the next line.
- Tab Move the cursor forward to the next item on the menu or form. (You can also touch the screen to move the cursor.)
- Shift Tab Move the cursor back to the previous item on a form or menu. (You can also touch the screen to move the cursor back.)

### REPORT Control Keys

- Help** or F7 Display a Help screen.
  - Continue** or F1 Begin or proceed with the specified function.
  - Next** Display the next page of the form.
  - Prev** Display the previous page of the form.
  - Clear display** Erase all entries from the currently displayed page.
-

<b>Remove</b> or F4	Remove the currently displayed pre-defined report specification or new column headings.
<b>Derived Columns</b> or F5	Switch from the report spec form to the derived columns form.
<b>Return to Form</b> or F5	Switch to the report spec form from the derived columns form.
Insert char	Switch between normal and insert mode. When in insert mode, a typed character is inserted at the cursor location, moving other characters on the line one place to the right to make room. Characters inserted do not wrap to the next line.
Delete char	Delete the character at the cursor location, moving other characters on the line one space to the left to fill up the space.
<b>Main Menu</b> or F8	Return to the REPORT Main Menu.

## Special REPORT Commands

(n stands for any column number from 1 to 20)

## Report Specification Commands

nT	Total all numbers in column n.
nST	Subtotal column n whenever the item in column 1 changes.
nA	Average all numbers in column n.
nSA	Subaverage column n whenever the item in column 1 changes.
nC	Count all items in column n.
nSC	Subcount column n whenever the item in column 1 changes.
nl	Consider this item a column for calculation or sorting purposes, but do not print it as a column in the report.
1K	Sort column 1 by keyword (column 1 only).

---

- 1P      Begin a new page whenever the item in column 1 changes (column 1 only).
- nN      Treat the column numerically (line up decimals, ignore other characters, etc.).

### Derived Column Formula Operators

- +      Add
- Subtract
- \*      Multiply
- /      Divide
- ( )    Evaluate terms in parentheses before other terms.
- #n    Use the value in column n.
-



---

**G:****glossary**

---

byte	the space taken up by one character in a computer's memory or in a disk storage area.
character	a letter, number, or symbol.
cursor	the blinking underline displayed on the screen. It indicates where the next character typed will appear. (In insert mode, the cursor is a blinking rectangle.)
default drive	the drive the HP 150 assumes you want to use unless you specify another drive.
default value	a value that is automatically assigned to something if no other value is chosen to replace it.
disk	removable magnetic recording media used to store information. Disks can contain programs (the PFS:REPORT program disk) or data (your PFS files). Disks should be treated with care.
file	a collection of forms that are of the same type. (In PFS:FILE, it is a disk that contains the form design, along with all the forms that you fill in with data.)
form	any combination of items arranged in a chosen order, and created to store information about one particular thing, person, or subject area. (In PFS:FILE, you design a form then use it to store and retrieve information. Forms are kept in a file.)
format	the general layout or arrangement of something, such as the design of a form from a PFS file or the design of a report.
item	the basic element of a form. An item consists of a name, followed by a colon, then followed by an area where information is entered.

---

load	the process of transferring a program from a disk into the computer's memory.
menu	the list of functions that you can choose at a given time. (The Main Menu appears when you first load the REPORT program.)
work drive	a drive used to store information temporarily when sorting.
write-protect	to prevent a disk from being written on. See the <i>HP 150 Personal Computer Owner's Guide</i> for instructions on write-protecting micro flexible disks. Other diskettes are write protected by placing an adhesive tab over the small notch on the side.

---



---

# *index*

---

- A**
- alphabetic sorts ..... 1-12  
ascending order ..... 1-15  
ASCII numbers ..... 4-4  
average ..... 1-24, 1-26
- B**
- Backspace key ..... I-8  
blank items ..... 1-9  
blanks in calculations ..... 1-29  
byte ..... G-1
- C**
- calculation order ..... 1-29  
change  
    column names ..... I-3, 3-1, 3-4  
    default printer ..... 1-10  
    work drive ..... I-6  
character ..... G-1  
Clear display key ..... I-9, I-10  
column calculations ..... 1-24  
column width ..... 3-1  
COM1: ..... 1-10  
COM2: ..... 1-10  
command summary ..... B-2  
comparison of sorts ..... 1-17  
CON: ..... 1-10  
Continue key ..... I-8  
copy file ..... 1-24  
count ..... 1-24, 1-26  
create a report design ..... 2-1  
cursor ..... G-1
- D**
- dates ..... 1-7, 1-15  
decimal points ..... 1-16  
default  
    drive ..... G-1  
    printer ..... 1-10  
    value ..... G-2
- delete characters ..... I-9  
delete headings ..... 3-4  
Delete char key ..... I-9  
derived columns ..... I-3, 1-34  
disk drives ..... I-4  
disk/diskette ..... G-1  
“dot-dot” match ..... 1-4  
drive name ..... I-7
- E**
- eliminate sort ..... 1-12  
enter new headings ..... 3-2  
“equal to” match ..... 1-7  
error messages ..... A-1  
exact match ..... 1-3  
examples  
    modifying a report design ..... 2-6  
    pre-defining a report ..... 2-2  
    printing a report ..... 1-21  
    report with column  
        calculations ..... 1-29  
    report with derived columns ... 1-36  
    report with invisible column ... 1-39  
    report with totals only ..... 1-32  
    sending control characters ..... 4-2  
    sending ASCII numbers ..... 4-4  
    setting new headings ..... 3-2  
    using a pre-defined report  
        design ..... 2-5  
EXIT function ..... 5-1
- F**
- F1 key ..... I-8  
F4 key ..... 2-9  
F5 key ..... 1-45  
F7 key ..... I-8  
F8 key ..... I-8  
file ..... 9-1  
file name ..... I-7
-

- 
- filling in forms  
  retrieve spec ..... 1-2  
  derived columns ..... 1-36  
  report spec ..... 1-11  
form ..... G-1  
format ..... G-1  
formula for derived column . 1-34, 1-36  
full item match ..... 1-3
- G**
- getting started ..... 1-4  
"greater than" match ..... 1-7
- H**
- headings ..... 1-36, 3-1  
Help key ..... I-8, I-9
- I**
- Insert char key ..... I-9  
insert characters ..... I-9  
invisible column ..... 1-36, 1-39  
item ..... G-1
- K**
- keys used by REPORT ..... I-8, B-1  
keyword report ..... 1-41
- L**
- "less than" match ..... 1-7  
lines per page ..... 1-9, 1-10  
load REPORT ..... 1-5, G-2  
lowercase characters ..... 1-3
- M**
- Main Menu ..... I-7  
Main Menu key ..... I-7  
maximum  
  number of columns ..... I-1, 1-12  
  number of report designs ..... 2-1  
menu ..... G-2  
messages ..... A-1  
minus sign ..... 1-16  
modify  
  headings ..... 3-1, 3-4  
  pre-defined report design ..... 2-6
- N**
- new page ..... 1-14  
Next key ..... I-9
- next page ..... I-9  
"not" match ..... 1-9  
numeric item matches ..... 1-7  
numeric range match ..... 1-8  
numeric sorts ..... 1-16
- O**
- operators for derived columns ... 1-34  
order of calculations ..... 1-29
- P**
- page break ..... 1-14  
page size ..... 1-11  
partial item matches ..... 1-4  
pause between pages ..... 1-10  
PRE-DEFINE A REPORT function . 2-1  
pre-defined report name .... 1-10, 2-4  
Prev key ..... 1-10, 2-4  
previous page ..... I-9  
PRINT A REPORT function ..... 1-1  
print options ..... 1-10  
  in special modes ..... 4-1  
  single sheets ..... 1-10  
  to a disk file ..... 1-10  
  to the screen ..... 1-10  
  with pre-defined report ..... 2-5  
PRN: ..... 1-10
- R**
- remove  
  headings ..... 3-4  
  pre-defined report design ..... 2-8  
retrieve specifications ..... 1-2
- S**
- SELECTION NUMBER item ..... I-7  
send ASCII numbers to printer .... 4-4  
send characters to printer ..... 4-2  
SET NEW HEADINGS function ... 3-1  
SET UP PRINTER function ..... 4-1  
set up REPORT ..... I-5  
SETUP utility program ..... I-5  
Shift Tab key ..... I-8  
slash character ..... 1-9  
sort order ..... I-3, 1-12, 1-16  
spaces ..... 13  
spare copy ..... I-4
-

---

STAFF file ..... 1-18  
start REPORT ..... 1-5  
store report designs ..... 1-4  
subaverage ..... 1-24, 1-26  
subcount ..... 1-24, 1-26  
subtotal ..... 1-24, 1-26  
summary report ..... 1-8

**T**

Tab key ..... 1-8  
terminate special printing ..... 4-4  
title ..... 1-9, 1-10  
total ..... 1-24, 1-26  
totals only report ..... 1-10

**U**

uppercase characters ..... 1-3  
User Group ..... preface

**W**

warning ..... 1-8, 1-11  
"wild-card" character ..... 1-6  
work drive ..... 1-5, G-2  
write-protect ..... G-2

**Z**

zeros in calculations ..... 1-29

---







***Software Publishing Corporation***  
1901 Landings Drive, Mountain View, CA 94043