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(1) Send in the postage-paid software registration card included in this manual immediately. (Postage must be affixed in Canada.)

(2) If you change your address, you must send us a change of address card (enclosed), listing your old address exactly as it is currently on file with us.

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Keep this card in your manual at all times, and refer to the current version numbers when requesting information or help from us. Thank you.

| APPLICATIONS SOFTWARE VERSION LOG | | | OP. SYSTEM VERSION LOG |
|---|---|---|---|
| 01.00.00 | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## READ CAREFULLY

In order for us to notify you of modifications or updates to this program, you MUST complete this card and return it immediately. This card gets you information only and is NOT a warranty registration. Register one software package per card only. The registration card is postage paid—it costs you nothing to mail.

Two change of address cards have been included (next page) so that you may continue to receive information in the event that you move. Copy all address information from this Registration Card onto the change of address cards prior to sending in the Registration Card. The change of address cards must show your "old address" EXACTLY as you originally registered it with us.

# Software Registration Card

Cat. No. _____ 260-5306 _____

Version _____ 01.00.00 _____

Name _____

Company _____

Address _____

City _____ Phone ( ____ ) ____ - _____

State _____ Zip _____

# BUSINESS REPLY MAIL

FIRST CLASS   PERMIT NO. 138   FORT WORTH, TEXAS

POSTAGE WILL BE PAID BY ADDRESSEE

**Software Registration**
**Data Processing Dept.**
**P.O. Box 2910**
**Forth Worth, Texas 76113-9965**
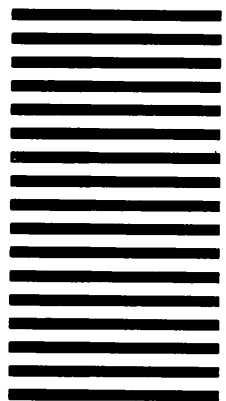
# Change of address

## NEW ADDRESS

Name_____

Company_____

Address_____

City_____ Phone (_____) _____-_____

State_____ Zip_____

## OLD ADDRESS

Name_____

Company_____

Address_____

City_____ Phone (_____) _____-_____

State_____ Zip_____

# Change of address

## NEW ADDRESS

Name_____

Company_____

Address_____

City_____

State_____ Zip_____

## OLD ADDRESS

Name_____

Company_____

Address_____

City_____

State_____ Zip_____

**Software Registration
Data Processing Dept.
P.O. Box 2910
Fort Worth, Texas 76113-2910**

**Software Registration
Data Processing Dept.
P.O. Box 2910
Fort Worth, Texas 76113-2910**

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# USER GROUP ENROLLMENT CARD

## *pfs: report* for Tandy Model 2000

Owner Name: _____  Title: _____

Company Name: _____

Street: _____

City: _____  State/Country: _____  Zip: _____

Tel: Work ( )_____  Home ( )_____

Industry/Profession:
(✔ the one most appropriate)

- ☐ Accounting
- ☐ Agriculture
- ☐ Consulting
- ☐ Education
- ☐ Finance
- ☐ FORTUNE 1000
- ☐ Government
- ☐ Insurance
- ☐ Legal
- ☐ Media
- ☐ Medical
- ☐ Real Estate
- ☐ Science/Engineering
- ☐ Self-Employed
- ☐ Small Business
- ☐ Other

When did you buy PFS:REPORT (year and month): _____

How familiar are you with computers:  ☐ Beginner  ☐ Intermediate  ☐ Expert

Computer Model: _____  Size: ☐128K  ☐>128K  Date Bought: _____

Printer: Make _____  Model _____
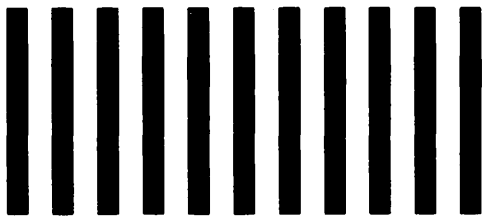
# Floppy Disk Drives:  ☐ 1  ☐ 2+

Comments: _____

# *pfs:*®
# *report*

## *user's manual*

for Tandy Model 2000 Personal Computers

Program Authors: John Page and Jeff Tucker
Manual Author: Chris Doerr

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# *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 further. The best way to learn both FILE and REPORT is to read the manuals and follow along with the examples.

To take advantage of the full capabilities of REPORT, you need a Tandy Model 2000 Personal Computer, a printer, the PFS:REPORT package, and your PFS file. (REPORT can operate in a limited way without a printer.)

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, setting up the program for use with different configurations, the example file used throughout the manual, useful DOS commands, 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.

# table of contents

# *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
F1-Help                                       F10-Continue
```

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:

```
o |                                                                        | o
o |                                                                        | o
o |                    INVENTORY LISTING 3/12/83                           | o
o |                                                                        | o
o |       Part #        Description       Quantity    Price     Supplier   | o
o |       -------       ---------------   --------    -----     ----------- | o
o |       1678          4" lag bolts          200     1.25      Johnson Mfg.| o
o |       2234          cedar shingles      4,000     0.53      Rooftex     | o
o |       3987          4 inch bricks       3,000     0.70      Brickmart   | o
o |       5677          ceramic tile          600     1.07      Tilecomp    | o
o |                                                                        | o
o |                                                                        | o
o |                                                                        | o
o |                                                                        | o
o |                                                                        | o
o |                                                                        | o
```

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:

```
o |                                                                        | o
o |                                                                        | o
o |                         PARTS IN STOCK                                 | o
o |                                                                        | o
o |           Part #        Description       Quantity    Price            | o
o |           -------       ---------------   --------    -----            | o
o |           1678          4" lag bolts          200     1.25             | o
o |           2234          cedar shingles      4,000     0.53             | o
o |           3987          4 inch bricks       3,000     0.70             | o
o |           5677          ceramic tile          600     1.07             | o
o |                                                                        | o
o |       ---------------                                                  | o
o |       Count:       4                                                   | o
o |       ---------------                                                  | o
o |                                                                        | o
o |                                                                        | o
o |                                                                        | o
```

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:

- a Tandy Model 2000 Personal Computer, with

  —at least 128K of memory

  —a video monitor, properly connected to your computer system

  —two disk drives, and

  —a parallel or serial printer

- the PFS:REPORT package, including

  —the PFS:REPORT program diskette

  —the spare copy of the PFS:REPORT program diskette

    Note:  You cannot make a backup copy of the program using the DOS
           DISKCOPY or COPY commands. Instead, this copy is provided
           in case something happens to damage your original program
           diskette. Store it in a safe place.

- your PFS files

PFS:REPORT can display reports on the monitor of your Tandy Model 2000,
but it is really designed to produce printed reports.

## Setting Up REPORT to Run with Your Computer

REPORT comes set up to work with a parallel printer, and to use the diskette
in drive B as a work diskette to store information temporarily when sorting. If
you are using a serial printer, or if you want to use a diskette in a different
drive as the work diskette, you will need to run the SETUP utility program
provided on the REPORT program diskette before using the REPORT
program. See Appendix B for instructions on how to use SETUP.

# Starting the PFS:REPORT Program

Once you have configured REPORT to run with your computer system, you can load the program and begin to use it. The procedure for loading the program is slightly different depending on whether or not the computer is turned on:

—if the computer is turned off, insert the REPORT program diskette and turn on the computer. Enter the date and time when requested, and REPORT loads into memory automatically.

—if the computer is turned on, simply exit from whatever program you are using. When the DOS A> prompt appears, type REPORT and press the ENTER key. REPORT loads immediately into memory.

After loading REPORT, remove the program diskette from the drive and put it back in its protective envelope. You won't need it again until the next time you want to load REPORT. Then insert the diskette that contains your PFS file in the default drive, and a blank, formatted diskette in the work drive (drives A and B, respectively, unless you have changed them).

## 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:


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                   Licensed to Tandy Corporation

                                        F10-Continue
```

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

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

FILE NAME:  Enter the name of your PFS file. This can be a simple file
            name, such as STAFF, 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.

---

### WARNING

**Do not remove the diskette 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 Control Keys

These are the special control keys you use most often when working with REPORT. Others are explained throughout the manual, and all are summarized in Appendix E.

| *Key* | *Function* |
|---|---|
| ESC | **Escape.** Use this key at any point while using REPORT to cancel the current operation and return to the Main Menu. |
| F10 | **Continue.** Use this key to begin or continue the specified function. (CTRL C is an equivalent keystroke.) |
| F1 | **Help.** Use this key to display help screens when filling in forms to perform REPORT's functions. |
| TAB | **Tab.** The Tab key moves the cursor forward from one item to the next on a menu or form. With SHIFT, moves the cursor back to the previous item. |
| BACKSPACE | **Backspace.** 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. |

| ENTER | **Enter.** This key moves the cursor to the beginning of the next line. |

| PG DN | **Next Page.** 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. (CTRL N is an equivalent keystroke.) |

| PG UP | **Previous Page.** This key recalls the previous page of the form to the screen. You can review it and make changes if you wish. (CTRL P is an equivalent keystroke.) |

| CTRL | **Control.** Use this key together with other keys to give special instructions to REPORT. For example, when you see CTRL HOME, it means to press CTRL and, while holding it down, press HOME. |

| CTRL | HOME | **Erase Page.** Use these keys together to clear all entered information from the menu or form, and to move the cursor to the top left-hand corner of the screen. (CTRL E is an equivalent keystroke.) |

| INSERT | **Insert Characters.** 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. |

| DELETE | **Delete Characters.** 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 F1 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 diskette in a safe place.

- To take full advantage of the capabilities of REPORT, you should have a Tandy Model 2000 Personal Computer with at least 128K of memory, two diskette drives, and a printer.

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

- The main control keys for REPORT are:

| ESC | cancels the current operation and returns to the Main Menu. |

| F10 | begins or continues the specified function. |

| F1 | 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. |

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

| ENTER | moves the cursor to the beginning of the next line. |

| ↑ |
| → | move the cursor one space in the direction shown by the arrow. No characters are erased. |
| ← |
| ↓ |

| PG DN | brings up the next page of the form, or an attachment page. |
|---|---|
| PG UP | recalls the previous page of the form to the screen. |
| NUM LOCK | switches the numeric keypad to the right of the main keyboard between numbers and the PG UP, PG DN, and END keys. |
| CTRL HOME | clears all entered information from the menu or form, and moves the cursor to the top left-hand corner of the screen. |
| INSERT | switches between normal and insert mode. |
| DELETE | deletes the character at the current cursor location. |
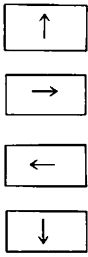
---

**WARNING**

Do not remove the diskette 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 in the file.

# *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* 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:


                                   F10-Continue
```

Remove the REPORT diskette from drive A and replace it with the diskette 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 diskette (or a diskette with available space at least equal to the size of the PFS file) in drive B.

In 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
to move the cursor to the FILE NAME item, and type in the name of the file
you are using. Press F10 to continue, 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
    F1-Help                                    F10-Continue
```

# 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 F10. 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.

# 1.   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
F1-Help                                           F10-Continue
```

| 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. |

# 2.    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:
City:                    State:          Zip:
Phone (Bus):             Phone (Home):
Employer:                Income:
Objectives: ..tax shelter..
Portfolio:

---------------------------------------------------------
File: BROKER           RETRIEVE SPEC              Page 1
F1-Help                                      F10-Continue
```

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:

City:                        State:        Zip:

Phone (Bus):              Phone (Home):

Employer:                 Income:

Objectives: Tax shelter..

Portfolio:


--------------------------------------------------------
File: BROKER            RETRIEVE SPEC              Page 1
F1-Help                                      F10-Continue
```

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

```
Name:                                    Acct #:

Address:

City:                        State:        Zip:

Phone (Bus):              Phone (Home):

Employer:                 Income:

Objectives: ..tax shelter

Portfolio:


--------------------------------------------------------
File: BROKER            RETRIEVE SPEC              Page 1
F1-Help                                      F10-Continue
```

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 specificiation,

**Name:** Dick Anders?n

**Address:**

**Phone No.:**

```
------------------------------------------------------------
File: PHONEBK              RETRIEVE SPEC                Page 1
F1-Help                                           F10-Continue
```

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/??

# 3.  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 item 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:

City:                       State:      Zip:

Phone (Bus):                Phone (Home):

Employer:                   Income: >50000

Objectives: ..tax shelter..

Portfolio:


----------------------------------------------------------
File: BROKER            RETRIEVE SPEC              Page 1
F1-Help                                         F10-Continue
```

## 4.   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:

City:                    State:        Zip:

Phone (Bus):             Phone (Home):

Employer:                Income: =50,000..100,000

Objectives:

Portfolio:

------------------------------------------------------------
File: BROKER           RETRIEVE SPEC              Page 1
F1-Help                                       F10-Continue
```

## 5.   The "NOT" Match

You can include all forms that do NOT match a given specification by preceding the retrieve specification with a slash (/). For example,

| | |
|---|---|
| /John | finds all forms that do not have the word John for this item. |
| /..er | finds all the forms that do not end with the letters "er" for this item. |
| /=33 | finds all forms that do not have the number 33 for this item. |
| /.. | finds all forms that have this item blank. |

When you have entered all the retrieve specifications necessary to identify
the forms you want to include in the report, press F10. The print options form
appears next:

PRINT OPTIONS

TITLE:

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

F10-Continue

# 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:        for a parallel printer. This is the default.

                              AUX:        for a serial printer. Before using a serial
                                          printer, you need to use the SETUP
                                          program to supply REPORT with certain
                                          needed information. See Appendix B.

                              CON:        to print to the display screen. A report up
                                          to 80 characters wide can be sent to the
                                          screen. If you attempt to display a report
                                          wider than 80 characters, REPORT
                                          displays a REPORT TOO WIDE
                                          message. If you then press F10,
                                          REPORT displays as much of the report
                                          as will fit.

                              *filename*    to print the report as a disk file. Include a
                                          drive name if needed to store the file on
                                          the desired diskette.

PAUSE BETWEEN             Type Y to pause at the end of each page of the report.
PAGES (Y/N):              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. (This option is ignored if you
                          enter CON: or a filename in the PRINT TO option.)

LINES                     Enter the number of lines on each page of your printer
PER PAGE:                 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 F10, 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
F1-Help  F7-Derived Columns                        F10-Continue
```

# 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., 2I. When the report is printed, the rows will be sorted according to the contents of the item specified as column 2, 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 F10, 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:

Date of Publication:

Abstract:

```
---------------------------------------------------------
File: CATALOG              RETRIEVE SPEC              Page 1
F1-Help                                           F10-Continue
```

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:

Date of Publication:

Abstract:

```
- ------------------------------------------------------------
File: CATALOG              REPORT SPEC              Page 1
F1-Help   F7-Derived Columns                       F10-Continue
```

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.        Writing Simple Software
                             Peterson, Dorothy    How to Mother a Corporation
                             Rader, C.C.          Technical Writing Made Simple

    Michon Publishing        Butler, Ardith       An Endangered Species
                             White, Susan Dale    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:

Date of Publication:

Abstract:


---------------------------------------------------------------
File: CATALOG              REPORT SPEC                Page 1
F1-Help  F7-Derived Columns                      F10-Continue
```

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 comma 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.

# Example of Printing a Report:

The examples in this manual use the PFS file called STAFF. The STAFF file is stored on the REPORT program diskette. If you have not already copied it onto another diskette using the DOS COPY function, stop and do so now. If you accidentally destroy this file, you can re-create it using the instructions in Appendix C.

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 diskette is in drive B. Remove your REPORT program diskette from drive A and insert the diskette containing STAFF. Enter a

        1

in the SELECTION NUMBER item. Press the TAB key to move the cursor to the FILE NAME item, and type in

        STAFF

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: 1

                    FILE NAME: STAFF



                                          F10-Continue
```

Press F10, 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:

```
     Employee #:                      Hired:

     Name:

     Address:

     City:                   State:        Zip:


     Dept: MANUFACTURING        Phone Ext:

     Job Title:

     Monthly Salary:



     ----------------------------------------------------------
     File: STAFF              RETRIEVE SPEC            Page 1
     F1-Help                                     F10-Continue
```

Press F10, and the print options form appears. Fill in the items as follows:

```
                              PRINT OPTIONS


              TITLE:  MANUFACTURING PHONE DIRECTORY
              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


                                                     F10-Continue
```

Press F10 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
F1-Help   F7-Derived Columns                           F10-Continue
```

Press F10 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
F1-Help                                             F10-Continue
```

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:

```
                      TEST SCORE SUMMARY REPORT

             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              94

                                  Average:       87


                                  --------------------
                                  Average:       81
                                  --------------------
```

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
                            Woolf, 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
F1-Help                                            F10-Continue
```

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 $\dfrac{4+2}{2} = 3$

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

## 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 (press ESC, if necessary), 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 F10, 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 F10 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



                                          F10-Continue
```

Press F10 again, and the report spec form appears. Using the TAB key to move from item to item, 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
    F1-Help  F7-Derived Columns                   F10-Continue
```

When you are finished, press F10. 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          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
                               ----------------------
```

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.

# Example of a Report Showing Totals Only:

Let's use the PRINT TOTALS ONLY option to print a summary of the above report, showing the total salary cost per department without listing the individual employees. First, return to the Main Menu (press ESC, if necessary) and enter

    1

for SELECTION NUMBER. STAFF should still be in FILE NAME, so press F10 to continue.

When the retrieve spec form appears, leave it blank and press F10 again. The print options form appears next. Fill it out as follows, entering

    Y

for the PRINT TOTALS ONLY item:


PRINT OPTIONS

TITLE: SUMMARY OF SALARY COSTS BY DEPARTMENT

PRE-DEFINED REPORT NAME:

PRINT TOTALS ONLY (Y/N): Y


PRINT TO: PRN:

PAUSE BETWEEN PAGES (Y/N): N

LINES PER PAGE: 66          PAGE WIDTH: 80


F10-Continue

Press F10 to 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
F1-Help   F7-Derived Columns                   F10-Continue
```

Press F10 one more time, and REPORT sorts the forms in the file and prints
the report:

```
                    SALARY COSTS BY DEPARTMENT

          Dept              Name          Monthly 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 F7 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 1
        F1-Help  F7-Return to Form              F10-Continue
```

# 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      Enter the column number for your derived column and any
SPEC:       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 F7 again. This key enables you to switch between the two screens. When you have entered both the report specifications and the derived columns information, press F10 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 (press ESC, if necesary), and enter a

1

in SELECTION NUMBER. Enter

STAFF

in the FILE NAME item, if necessary, and press F10. The retrieve spec form appears. Since everyone gets a bonus, leave it blank and press F10 again. When the print options form appears, type in the title

EMPLOYEE BONUS REPORT

Leave the PRE-DEFINED REPORT NAME item blank, change PRINT
TOTALS ONLY to N 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


                                        F10-Continue
```

Press F10, 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:

```
┌─────────────────────────────────────────────────────┐
│                                                       │
│   Employee #:                      Hired:             │
│                                                       │
│   Name: 1                                             │
│   Address:                                            │
│   City:                    State:        Zip:         │
│                                                       │
│   Dept:                    Phone Ext:                 │
│   Job Title:                                          │
│   Monthly Salary: 2                                   │
│                                                       │
│                                                       │
│   -------------------------------------------------   │
│   File: STAFF              REPORT SPEC        Page 1  │
│   F1-Help  F7-Derived Columns             F10-Continue│
│                                                       │
└─────────────────────────────────────────────────────┘
```

Now you are ready to define the derived columns. Press F7, and fill in the derived columns form that appears on your screen as follows:

```
┌─────────────────────────────────────────────────────┐
│                        DERIVED COLUMNS                │
│                                                       │
│                                                       │
│   HEADING: Bonus                                      │
│   FORMULA: #2 + 0.17                                  │
│   REPORT SPEC: 3                                      │
│                                                       │
│   HEADING: Total Pay                                  │
│   FORMULA: #2 + #3                                    │
│   REPORT SPEC: 4T                                     │
│                                                       │
│   HEADING:                                            │
│   FORMULA:                                            │
│   REPORT SPEC:                                        │
│                                                       │
│   -------------------------------------------------   │
│   File: STAFF              REPORT SPEC        Page 1  │
│   F1-Help  F7-Return to Form              F10-Continue│
│                                                       │
└─────────────────────────────────────────────────────┘
```

Press F10, and REPORT prepares and prints your report. It should look like this:

```
EMPLOYEE BONUS REPORT

     Name          Monthly 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 (press ESC, if necessary) and enter

1

in SELECTION NUMBER. STAFF should still be in FILE NAME, so press F10 to continue.

The retrieve spec form is displayed next. Again, everyone gets a bonus, so leave it blank and press F10. When the print options form appears, enter the same title:

EMPLOYEE BONUS REPORT

and leave the other default values. Press F10, and the report spec form appears on the screen. Fill it in as follows:

```
Employee #:                           Hired:

Name: 1

Address:

City:                    State:        Zip:

Dept:                    Phone Ext:

Job Title:

Monthly Salary: 2I

---------------------------------------------------------
File: STAFF                  REPORT SPEC              Page 1
F1-Help  F7-Derived Columns                      F10-Continue
```

Now press F7 to define the derived columns. Fill out the derived columns form as shown below:

```
                              DERIVED COLUMNS


          HEADING: Bonus
          FORMULA: #2 * 0.17
          REPORT SPEC: 3


          HEADING: Total Pay
          FORMULA: #2 + #3
          REPORT SPEC: 4T

          HEADING:
          FORMULA:
          REPORT SPEC:



          ------------------------------------------------------------
          File: STAFF                    REPORT SPEC              Page 1
          F1-Help  F7-Return to Form                         F10-Continue
```

When you have filled in both formulas, press F10, and REPORT prepares and prints your report. It looks 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:

Magazine:

Keywords:

Abstract:

```
----------------------------------------------------------------
File: ABSTRACT            RETRIEVE SPEC                  Page 1
F1-Help                                              F10-Continue
```

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,

Magazine: 2

Keywords: 1K

Abstract: 3

```
------------------------------------------------------------
File: ABSTRACT              REPORT SPEC                Page 1
F1-Help  F7-Derived Columns                    F10-Continue
```

you could get this report:

```
                         KEYWORD SORT OF ABSTRACTS

    Keywords      Magazine                      Abstract
    ---------    -----------    ----------------------------------------------
    ECL          Data News      This article describes the use of a new ECL
                                process to fabricate 16K RAMs for less than $4 each.

    Failure      Elec Times     An unsuspected cause of RAM failure has
                                been traced.  People have found that gamma radiation
                                causes random temporary bit faults.

                 Weekly News    A problem is discussed which causes premature
                                failure of memories due to warpage of the PC boards,
                                especially at high temperatures.

    Memory       Data News      This article describes the use of a new ECL
                                process to fabricate 16K RAMs for less than $4 each.

                 Weekly News    A problem is discussed which causes premature
                                failure of memories due to warpage of the PC boards,
                                especially at high temperatures.

    PCboards     Weekly News    A problem is discussed which causes premature
                                failure of memories due to warpage of the PC boards,
                                especially at high temperatures.
```

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. Uses an item for sorting or calculation purposes, but does not print it as a column in the report.

■ F7           Switches between the report spec form and the derived columns form.

■ To print a summary report that shows only the results of any specified column calculations, enter Y for the PRINT 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.

# *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 (press ESC, if necessary). Then enter a 2 in the SELECTION NUMBER item and the name of your file in the FILE NAME item. Press F10, 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:

                                         F10-Continue
```

# 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 F10. 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 F10, 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 (press ESC, if necessary), 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



                                        F10-Continue
```

Press F10, 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

                                F10-Continue
```

Press F10 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│
    │  F1-Help   F7-Derived Columns           F10-Continue │
    └──────────────────────────────────────────────────────┘
```

Press F10, and REPORT saves the report design named Salaries in the
STAFF file and returns to the REPORT Main Menu.

# Printing a Report Using a Pre-defined Report Design

Once you have a design for a report stored in a file, you can use this design
repeatedly to print out reports from that file. You choose the PRINT A

REPORT function and enter the name of the design in the PRE-DEFINED REPORT NAME item on the print options form. REPORT then skips the report spec form and prints the report.

# Example of Using a Pre-defined Report Design:

Let's print a report called 'MONTHLY SALARIES, MARCH' using the design you just stored in the STAFF file.

Return to the Main Menu (press ESC, if necessary), and enter a

> 1

in the SELECTION NUMBER item. Enter

> STAFF

in the FILE NAME item, if necessary. Press F10, and the retrieve spec form appears. Since you want to include all the forms from the file in your report, leave the retrieve spec blank and press F10 again. The print options form appears, and you should fill it in so your screen looks like this:

PRINT OPTIONS

**TITLE:** MONTHLY SALARIES, MARCH

**PRE-DEFINED REPORT NAME:** SALARIES

**PRINT TOTALS ONLY (Y/N):** N

**PRINT TO:** PRN:

**PAUSE BETWEEN PAGES (Y/N):** N

**LINES PER PAGE:** 66          **PAGE WIDTH:** 80

F10-Continue

Press F10, 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:

```
                    MONTHLY SALARIES, MARCH

         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 F10.

The report specifications appear on the screen for you to modify. You can add new specifications, type over existing ones, or press CTRL HOME to erase all the specifications on the displayed page and start over. When you have entered all the modifications you want to make, press F10, 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. Return to the Main Menu (press ESC, if necessary), and enter a

    2

in the SELECTION NUMBER item. Enter

    STAFF

in the FILE NAME item, if necessary. Press F10, and the following screen appears:

PRE-DEFINED REPORTS

Salaries

REPORT NAME:

F10-Continue

Enter Salaries in the REPORT NAME item, and press F10. 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
F1-Help   F3-Remove   F7-Derived Columns            F10-Continue
```

Press F10, 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 F10. After the report specifications appear
on the screen, press F3. The following warning appears, giving you a chance
to change your mind:

```
                    REPORT 'SALARIES'

                    ABOUT TO BE REMOVED


                     Press F10 if OK

                    Press SPACE to keep
```

If you decide not to remove the design, you can press either ESC (to return to the Main Menu) or the space bar (to redisplay the pre-defined design).

If you want to remove the pre-defined report design, press F10, 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 eight 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.

■ CTRL HOME Erases all entries from the currently displayed page.

■ F3 Removes the currently displayed report design.

# *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 (press ESC, if necessary). Enter a 3 in the SELECTION NUMBER item and the name of your file in the FILE NAME item. Press F10, 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 looks like this:

```
Employee #:                      Hired:

Name:

Address:

City:              State:    Zip:

Dept:              Phone Ext:

Job Title:

Monthly Salary:



----------------------------------------------------------------
File: STAFF                  HEADINGS                    Page 1
F1-Help  F3-Remove                              F10-Continue
```

# 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 F10, 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 (press ESC, if necessary), and enter a

     3

in SELECTION NUMBER. Enter

     STAFF

in the FILE NAME item, if necessary. Press F10, and the headings form from the STAFF file appears. Use the TAB key to move the cursor from item to item 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
F1-Help   F3-Remove                               F10-Continue
```

Press F10, and REPORT stores your changed headings in 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:

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

# 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 CTRL HOME, 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 F3.
The following warning screen appears to give you a chance to change
your mind:

HEADINGS

ABOUT TO BE REMOVED

Press F10 if OK

Press SPACE to keep

If you change your mind and decide not to remove the headings, you can press ESC (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 F10, 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.

- F3          removes the currently-displayed headings.

# 4:   *set up printer*

You use the SET UP PRINTER function to send up to 20 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 these special modes.

If your printer supports any special printing modes, they will be listed in the Owner's Manual for the printer. Typically, the manual either instructs you to send special characters (such as ESC CTRL-T) or the ASCII number that corresponds to those characters (such as the number 15). The SET UP PRINTER function accommodates both characters and ASCII numbers.

## Selecting SET UP PRINTER

First, return to the Main Menu (press ESC if necessary), 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:


                                          F10-Continue
```

Press F10, 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 F10
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 send the characters to the default printer or 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 F6 to return to the
Main Menu without storing any characters. Any previously stored characters
remain in effect. To enter the correct characters, just start again.

# Example of Sending a Control Character:

For example, let's send the characters necessary to set the DMP-500 into
condensed mode. The required character sequence is ESC, then CTRL-T.
First, return to the Main Menu (press ESC, if necessary) and enter

      4

for SELECTION NUMBER. Press F10, and REPORT displays the instruction
screen, with a colon next to which you enter the first character. 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 F10 to send
the entered characters.  If you make a mistake, press F6 and start
again.

▮

Now, to enter the ESC character, just press the ESC key. Then, to enter the
CTRL-T, press the CTRL key and, while holding it down, press T. 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 F10 to send
the entered characters.  If you make a mistake, press F6 and start
again.

▮ Escape
▮ Ctrl-T

Since those are the only characters needed for this example, press F10, and
REPORT sends the character and returns to the Main Menu.

# Sending ASCII Numbers

If your printer manual lists ASCII (decimal) numbers rather than control characters, you can enter those instead. Just precede the number with a left parenthesis, (, and press ENTER to indicate the end of the number. If you wish, you can enter a combination of control characters and ASCII numbers.

# Example of Sending an ASCII Number:

Let's send the ASCII numbers that correspond to ESC CTRL-T, again setting the DMP-500 into condensed type. Return to the Main Menu and select SET UP PRINTER as before. When the instruction screen appears, type a

(

then type

27

(the decimal equivalent of ESC), and press ENTER. Repeat that sequence but this time type

20

(the ASCII number for CTRL-T) instead. Notice that, for each number, REPORT places parentheses around the number to remind you that it is an ASCII number.

Enter any special characters that you want to send to your
printer.  You can enter up to 20 characters.  Press F10 to send
the entered characters.  If you make a mistake, press F6 and start
again.

▌ (27)
▌ (20)

# Terminating Special Printing Modes

To terminate a special printing mode, you can either send the character or
ASCII number that turns off the printing mode or, more simply, just turn your
printer off and back on.

# Leaving SET UP PRINTER

You can leave the SET UP PRINTER function at any time to return to the
Main Menu by pressing F6. 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 F10 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 ENTER after typing the number.

# exit

When you are finished using the REPORT program, or when you want to
leave REPORT to perform DOS commands, you use the EXIT function.

## Selecting EXIT

To select EXIT, return to the Main Menu (press ESC, if necessary) 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:



                                          F10-Continue
```

Press F10 and the screen clears. If the message "Insert disk with batch file"
appears, insert your program diskette and strike any key. You are now out of
the REPORT program and under MS-DOS control. The DOS prompt appears
on the screen.

You can, at this point, insert the DOS diskette to perform any commands you
wish. (See Appendix D for instructions on the DOS commands you are most
likely to use while using REPORT.)

To return to the REPORT program after using DOS, you would insert the
REPORT program diskette in Drive A again, type REPORT, and press the
ENTER key. You could also insert PFS:FILE or another program diskette,
simply type in the name of the new progrm, and press ENTER.

# Summary

■ EXIT allows you to leave the REPORT program and return to DOS.

■ 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 DOS, simply type REPORT when the DOS prompt is on the screen and press ENTER.

*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, or the report spec). These messages are displayed in the message area at the bottom of 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:  1

              FILE NAME:  SAMPLE


           CAN'T FIND FILE

                                        F10-Continue
```

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 ESC to return to 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 ESC. Following is the list of
REPORT error messages, arranged in alphabetical order:

| MESSAGE | DESCRIPTION | CORRECTIVE ACTION |
|---|---|---|
| BAD FILE NAME | You entered an illegal file name. | Make sure you have entered the name correctly, including (if appropriate) the correct drive name or path 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 diskette is properly inserted in the specified drive. (Pull diskette 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 or path name. |

| MESSAGE | DESCRIPTION | CORRECTIVE ACTION |
|---|---|---|
| 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 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. | If you have some unnecessary forms in the file, use the PFS:FILE REMOVE function to remove them.<br><br>Or, if you have an unnecessary file on the disk, erase the file. |
|  | 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.) | 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.<br><br>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 diskette to store temporary information (such as retrieve or report specifications). | Remove the write-protect tab. To protect your information you can use the DOS COPY function of to make a backup copy of your file. |
| | You attempted to print the report to a disk file, but the diskette 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: $1+((2/(3+(4\cdot3)))\cdot\#2)$ (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: | |
| | Diskette inserted wrong. | Remove the diskette, then re-insert properly. |
| | Worn out diskette. | After 40-50 hours of use, the diskette may need replacing. Try using a different diskette. |
| | Malfunction. | See your computer dealer for service. DO NOT USE THIS DISKETTE 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 options form blank. REPORT doesn't know where to print the report. | Enter the name of the destination device for the report. The choices are: AUX:, 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 F10 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 (See Appendix B for details). |
| 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 ESC. This returns you to the Main Menu, and you can restart the report, this time specifying a wider page.<br><br>Press F10. 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 in your file. | Delete an unwanted report design by using F3. |

| 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 14 digits to the left of the decimal point, either in its original form in the file, or during processing. | Use smaller numbers (less than 14 digits to the left of the decimal point). |
| | (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. |

# appendix

# Setting Up the PFS:REPORT Program

Sometimes you will need to give REPORT special instructions, depending on the exact configuration of your computer system. These special instructions fall into two categories:

■ selecting a work drive

■ configuring REPORT to work with a serial printer

The REPORT program diskette includes a utility program, SETUP, that you can use as needed to give REPORT these special instructions. This appendix describes this program.

# Starting the SETUP Program

To use the SETUP Program, insert the REPORT program diskette in drive A, and exit from whatever program you have been using. When the DOS prompt appears on the screen, type SETUP and press the ENTER key. The following menu is displayed:

```
1  SELECT A WORK DRIVE
2  SET SERIAL CARD PARAMETERS
3  EXIT THIS PROGRAM

SELECTION NUMBER:
```

# Selecting the Work Drive

When you prepare a report that involves sorting, REPORT needs temporary workspace at least as large as the size of the file. Unless you indicate otherwise by selecting another drive with this function, REPORT assumes that the diskette in drive B is to be used for this purpose. If you want to use another drive, select this function before starting REPORT.

To change the work drive, enter 1 for SELECTION NUMBER and press ENTER to continue. SETUP asks you for the name of the drive you want to use:

```
Type a letter corresponding to the drive you
want to use as a work drive.

DRIVE NAME:
```

Enter the drive name and press ENTER to return to the SETUP Menu.

# Using a Serial Printer

If you have a serial printer, you will need to give information about its settings before REPORT can print correctly to that printer. SETUP stores the information on the REPORT program diskette and REPORT uses it whenever you choose the PRINT function. If you change to a different serial printer, run SETUP again to enter the new information.

To set up your serial printer, enter 2 for SELECTION NUMBER and press ENTER to continue. SETUP displays the following prompts, one at a time:

>    Baud rate:
>    Parity (Odd/Even/None):
>    Byte Length (7 or 8):
>    Number of Stop Bits (1 or 2):
>    XON/XOFF Protocol (Y or N):

Enter the following information:

>    Baud Rate:      Enter the baud rate setting for your printer.

Check your printer manual for the correct values for the other prompts.

When you have entered the correct information, press ENTER to return to the SETUP Menu.

# Leaving the SETUP Program

When you have finished with the appropriate SETUP functions, enter 3 in SELECTION NUMBER and press ENTER to exit from the SETUP program and return to DOS.

# *C:*  *appendix*

## Example File

This manual uses a series of examples based on a PFS file named STAFF.
When you receive your PFS:REPORT package, you will find this file stored
on the REPORT program diskette. You need to copy it to another diskette, to
protect the program diskette from overuse. (For instructions on how to copy a
file see Appendix D.) If you do accidentally destroy the file before copying it,
you can create another like it by following these instructions:

First, load PFS:FILE into your computer. When the Main Menu appears,
select the DESIGN FILE function, enter Staff as the file name, and press
F10. 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
F1-Help  F5-Date  F6-Time                       F10-Continue
```

When you have completed the form design, press F10 to 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

*D:*                                            *appendix*

# Useful DOS Commands

This appendix describes briefly how to issue three different DOS commands
that you might find useful when working with the REPORT program. These
commands are:

FORMAT          for preparing diskettes for use

DIR             for listing the files on a disk

COPY            for copying a file from one disk to another.

For a detailed description of these commands, see your DOS manual.

# Formatting Diskettes

You must format new diskettes before they can be used in the computer.
Formatting makes magnetic tracks on a diskette so that the computer system
can write data to it and read data from it. We recommend formatting a supply
of diskettes at one time and marking them on the label so you know they
have been formatted.

To format a diskette, follow these steps:

1. Insert the program diskette in the default drive (probably drive A), and exit
   from PFS:REPORT.

2. Insert the diskette that you want to format in the other drive (drive B).

3. Type the command

        FORMAT B:

   and press the ENTER key.

4. When DOS displays the message

> Insert disk for drive B and
> Strike any key when ready

strike any key.

5. When DOS displays the message

> Formatting Complete
> Format another (Y/N)?

you can go on to format another diskette, or answer N to return to the
DOS prompt.

# Listing Files

The DIR command gives you a listing of the files stored on your diskettes.
The list of file names includes any extension that you assigned to each file
name, the date the file was last written to, and its size in bytes.

To list your files, follow these steps:

1. Insert the program diskette in the default drive, and exit from
   PFS:REPORT.

2. Insert the diskette whose files you want to list in one of the drives.

3. Type the command

> DIR *diskname:*

and press the ENTER key. DOS displays your files, in the order in which
they were stored in the diskette. The DOS prompt appears below the last
entry in the list. At this point, you may enter another command, reload
REPORT, or run another program. For example, to list the files on drive B,
enter the command

> DIR B:

and DOS lists the files on the disk in drive B.

# Copying a File

Sometimes, you will need to make a copy of a file for backup or other purposes. To copy a file, follow these steps:

1. Insert the program diskette in drive A and exit from the REPORT program.

2. Replace the program diskette with the diskette that contains the file you want to copy. Insert the diskette to which you want to copy the file in drive B.

3. Type the command

   COPY *filename* B:

   and press the ENTER key. For example, to copy a file named SALES from the disk in drive A to the disk in drive B, you would type

   COPY SALES B:

   and press the ENTER key. The file named SALES would be copied onto the diskette in drive B; the new file would also be named SALES.

# *E:*    *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. |

| ENTER | Move the cursor to the beginning of the next line. |

| TAB | Move the cursor forward to the next item on the menu or form. With SHIFT, move the cursor back to the previous item on the form or menu. |

## REPORT Control Keys

| F1 | Display a Help screen. |

| F10 | Begin or proceed with the specified function. |

| PG DN | Display the next page of the form. |

| PG UP | Display the previous page of the form. |

| CTRL ||HOME | Erase all entries from the currently displayed page. |

| F3 | Remove the currently displayed pre-defined report specification or new column headings. |

| F7 | Switch between the report spec form and the derived columns form. |

| ESC | Return to the REPORT Main Menu |
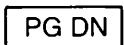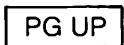
# Special REPORT Commands

(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. |
| | |
| nI | 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. |

# *glossary*

| | |
|---|---|
| byte | the space taken up by one character in a computer's memory or in a diskette 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 value | a value that is automatically assigned to something if no other value is chosen to replace it. |
| disk/diskette | a removable magnetic recording media used to store information. Diskettes can contain programs (the PFS:REPORT program diskette) or data (your PFS files). Diskettes should be treated with care. |
| file | a collection of forms that are of the same type. (In PFS:FILE, it is a diskette 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 diskette 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.)

write-               to prevent a diskette from being written on. A diskette is
protect              write-protected by placing an adhesive tab over the small
                     notch on its side.

# *index*