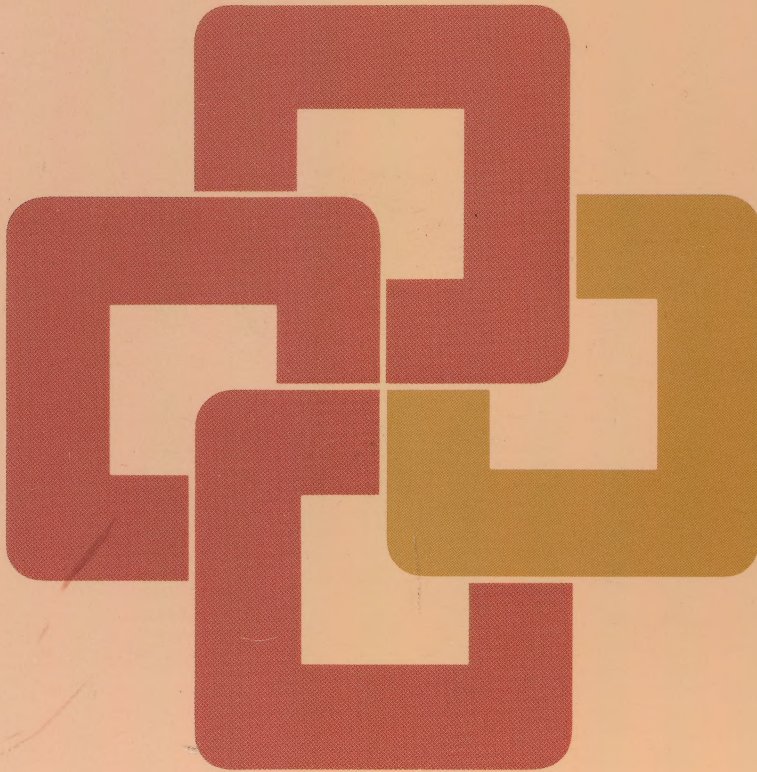


Save \$55
on this PFS package!
Suggested retail price \$195

pfs: file &
pfs: report

Members of the integrated PFS Family of Software



Macintosh

pfs: file & pfs: report

PFS:FILE is an easy-to-use filing system for personal computers. With FILE, you organize information in "forms" you design on the computer screen. Then you can enter data in any order, find it, and print it quickly.

- 32 pages per form; 100 items per page
- Retrieve on first item in 2 seconds
- Search 1,000 typical forms in 55 seconds (depends on form)
- Sort and print labels or items
- Search on any combination of items
- 2,900 forms per diskette (depends on form)

PFS:REPORT produces easy-to-read tables from data you keep with FILE. REPORT automatically sorts information alphabetically or numerically with totals, averages and counts.

- Automatic report formatting
- Calculated columns
- Automatic decimal point alignment
- Alphabetic or numeric sorting
- Automatic page numbering

MORRIS ELECTRONICS
41357 West Shaw Avenue
Petaluma, CA 93711

Parts Inventory

Part #: IQ-125 Minimum Order: 100

Description: Three Position
 Dimmer Switch

Supplier: ABC Inc.
 121 Madison Ave.
 Mountain View, CA 94041

Price: \$1.75 Quantity On Hand: 60

This form is used to maintain an inventory of PARTS.

Here is the same PARTS inventory form re-created with FILE on the Macintosh.

Parts Inventory Control List				
Part #	Description	On Hand	Price Ea.	Value
AA-10	Safety	115	0.75	86.25
B1-11	Coax Cable	1,000 Ft.	1.10	1,100.00
CT-3	Twisted Cable	10 Spools	18.00	180.00
D/3-15	Mailing Jackets	325	6.22	2,021.50
IQ-125	Three Position Dimmer Switch	60	1.75	105.00
Total:				3,492.75
Count:				5

Page 1

This inventory report was printed using REPORT and data from the PARTS file maintained with FILE on the Macintosh.

Designed for maximum ease-of-use, the PFS Family of Software and your Macintosh will get you to work right away, even if you have never touched a computer before.

Required: 128K Macintosh Computer System
Recommended: Second disk drive (for files with 1,000 or more forms)



Software Publishing Corporation

1901 Landings Drive, Mountain View, CA 94043

pfs:[®]

software

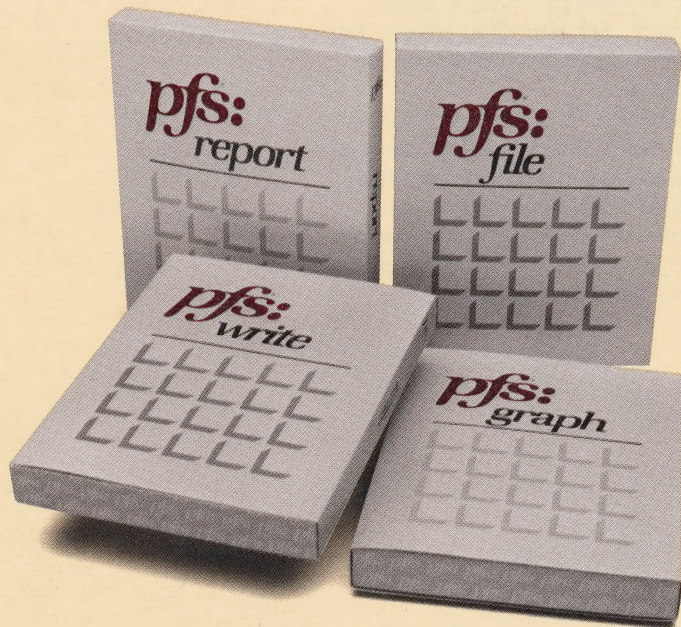


pfs: software

The easy way to greater productivity.

Meet the PFS Family of Software, the best-selling, affordably-priced software that's prized for its remarkable ease of use.

PFS software is a fully-integrated set of tools that can increase your productivity and reduce your paperwork. Each program is designed to handle a specific job. You can purchase only the programs you need now, then add more capabilities when you're ready. Used together, PFS software programs provide a comprehensive, powerful, integrated solution to your business needs.



Take the work out of paperwork.

Designed for simplicity, PFS software puts all the power of the computer at the disposal of the computer novice.

PFS programs speak your language, so you don't have to learn a computer language to use them.

And with PFS software, you won't need to remember a lot of complicated instructions. Just pick the task you want to perform from a multiple-choice menu, and the software tells the computer what to do.

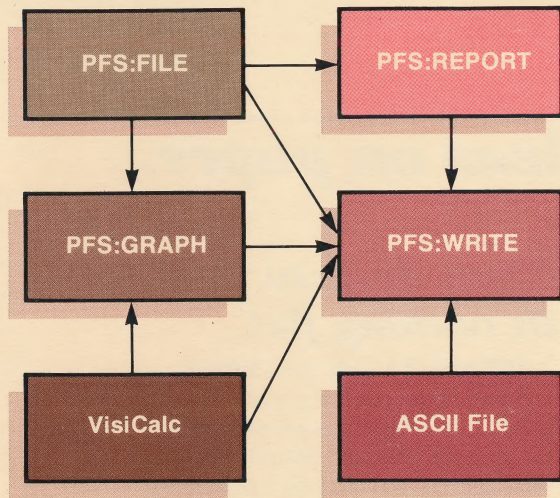
To make learning easy, every PFS software program comes with a clear, step-by-step instruction manual that guides you through each task with examples and illustrations.

Your PFS information management team.

PFS software programs are completely integrated, so the output of one can be the input of another. All programs work with the same data to save you the time and effort of manually re-entering information for different uses.

For example, PFS:WRITE can personalize a form letter with names and addresses from PFS:FILE, or include a chart from PFS:GRAPH.

PFS:GRAPH takes data from PFS:FILE to produce bar, line and pie charts. PFS:REPORT creates tables from information contained in PFS:FILE.



PFS Software Teamwork. PFS software programs work together to give you powerful, integrated solutions to your information management needs.

The PFS Family of Software offers simple but powerful programs that give you the tools you need to accomplish almost anything you might want to do with a personal computer.

The four basic members of the PFS Family of Software are:

- PFS:WRITE – a word processing program that’s as easy to learn and use as a typewriter, but with the power of a computer.
- PFS:FILE – an information management program with comprehensive filing, sorting and searching capabilities.
- PFS:REPORT – a report-generating program that summarizes and performs calculations on data from PFS:FILE and presents it in table form.
- PFS:GRAPH – a graphics program that draws presentation quality bar, line and pie charts from PFS:FILE data, keyboard entry or VisiCalc files.

PFS SOLUTIONS get you off to a fast start and help you make the most of your PFS software. PFS SOLUTIONS give you ready-made answers to recordkeeping problems, with forms and reports already designed for you.

PFS:SCHOOL RECORDKEEPER is a SOLUTIONS software package designed to handle the information management needs of school administrators.

The following pages show you how each member of the PFS Family of Software can help you manage your information more easily and efficiently.

For a free demonstration and additional information, visit your local PFS dealer and see for yourself why PFS software has become the most popular personal software available today.

pfs: write

The simplest way to put your ideas on paper.

PFS:WRITE is ideal for busy people who want to make their writing time more productive.

PFS:WRITE gives you the power of a word processor with the simplicity of a typewriter. It's so easy to learn, you'll probably begin working productively in less than 20 minutes. All functions are in plain English. "Help" instructions appear at the touch of a key. And the instruction manual is clearly written and easy to follow.

With PFS:WRITE, what you see on the screen is what you get when you print. You can see just how your document will look—where the pages will break, how text will appear underlined or boldfaced—right on the screen. So there are no surprises afterwards.

***From draft to final
in nothing flat.***

PFS:WRITE lets you write, correct and revise your business letters, memos and proposals almost effortlessly. As you type, your words appear on the screen, which is designed to resemble a blank piece of paper. You select the task to be performed from a multiple-choice menu.

Should you make a mistake or decide to change the order of your text, you can make changes with just a few keystrokes. The text reformats itself to accommodate the

changes. Later, if revisions are needed, search and replace power at the touch of a key makes it easy.

PFS:WRITE gives your documents a professional touch with features like boldfacing and underlining, centering and justification, page headings and footings, and automatic page numbering. Its flexibility lets you adjust the page length and margins, print single- or double-spaced, even address envelopes. And PFS:WRITE works with all popular printers, so you're not locked into a few printer choices.

Enhances your other software.

PFS:WRITE brings out the best in your other software programs too, whether members of the PFS Family of Software, or other brands.

For example, PFS:WRITE can use your information from PFS:FILE to personalize form letters, including addressing the envelopes. Further, you can illustrate your documents with charts created by PFS:GRAPH. And with the IBM and equivalent personal computers version of PFS:WRITE, you can include tables created with PFS:REPORT, or financial data from VisiCalc, Lotus 1-2-3, or other spreadsheet programs.

To give you a better idea of what you can do with PFS:WRITE, on the following page are a few examples.

March 15, 1983






Mr. Scott D. Cook
1278 Crestwood Avenue
Burlingame, CA 94010

Dear Mr. Cook,

We are very pleased to report that we successfully diversified your investments over the past year. We have changed your holdings from 75% real estate and 25% cash to a less risky portfolio, as detailed below.

COOK INVESTMENT PORTFOLIO
% OF TOTAL



	28% STOCKS
	23% REAL ESTATE
	20% MUNICIPAL BONDS
	18% MONEY MARKET
	11% STAMPS

We are also pursuing setting up the trust account for your daughter. We understand that the trust will be used to fund her education once she reaches the age of eighteen. When the information about the impact that this trust will have on your income taxes comes back from the computer, it will be sent to you.

Please let me know if I can be of further assistance to you.

Sincerely yours,

Joe Darrett
Joe Darrett

With PFS:WRITE and a graphics printer, it's easy to make a good impression. A chart like this produced with PFS:GRAPH can be inserted anywhere, adding drama and clarity to your letters.

All your correspondence can be letter-perfect, because it's so easy to make corrections and revisions with PFS:WRITE. Once revised, text is automatically reformatted right before your eyes.

pfs: file

The simplest way to manage your information.

No matter what kind of information you need to keep track of, there's no easier way than PFS:FILE.

PFS:FILE lets you record your information faster and organize it more efficiently than conventional filing systems. What's more, it lets you retrieve and use your information in ways that just aren't possible with paper and a filing cabinet.

PFS:FILE works like a paper filing system, without the paper. With PFS:FILE, your information is organized in forms you design yourself, to meet your own specific needs.

Once you've designed a form, you just fill in the blanks whenever you want to enter new information or update the old.

If you change your mind about the design of your form, or need to add new categories, you can change the form easily, even after information has been entered.

Keep all your facts at your fingertips.

Because it's so much easier to get at your information with PFS:FILE, you'll spend a lot less time searching files, and more time reviewing and using your information.

With just a few keystrokes, you can select for viewing only the information you need now, and nothing else. For example, you can select and review all the information that is "less than", "more than", "equal to", "between", "not", or any combination you choose. Or,

you can choose “all the people whose last names begin with C” or “all the companies located in Chicago.”

You can look at all the forms that meet your criteria one by one, and print the ones you're interested in with the touch of a button. Or print selected items from your forms, such as names and addresses for mailing labels, sorted alphabetically or by zip code.

PFS:FILE takes the drudgery out of converting your present paper filing system to a computer-based system, because it's so easy to learn and use. Tasks you wish to perform are described in simple English. You won't need to remember a lot of instructions, because you select what you want to do from a menu on the screen. A clearly-written user manual guides you through the learning process with illustrated examples.

Following are just a few examples of the hundreds of different ways in which people have used PFS:FILE to simplify their information management.

ASSET #:
YEAR:
MAKE:
CLASS:
USE:
MUNTAG:
STATETAG:
VINS:
PERSON ASSIGNED:
BUREAU:
DIVISION:
SECTION:

CAR:
COLOR:
MODEL:
STYLE:
RENTAL:

File: B:VEHINV DESIGN Page 1
F5-Date F6-Time F10-Continue

The local government of a major city uses this form to keep track of all vehicles owned by that government. At any point in time, the administrator

can determine where a certain vehicle is, or how many vehicles have been rented to which departments.

VARIETAL NAME:
WINERY:
YEAR:
DATE PURCHASED:
QUANTITY:
REVIEWS:
TASTING COMMENTS:

PRICE:
DATE:

File: B:CELLAR DESIGN Page 1
F5-Date F6-Time F10-Continue

An avid wine connoisseur uses PFS:FILE to keep track of the contents of his wine cellar. This form allows him to check his inventory any time by wine type, name of winery, and quantity of wine on hand. A

form like this can be used for recording many types of household collections, such as art, books, recipes, records or tapes, computer games or software programs.

pfs: report

Reveals the meaning behind your information.

PFS:REPORT is the perfect complement to PFS:FILE. It organizes your data into meaningful tables, providing averages, totals, and counts to assist your decision-making. Fast and easy to learn, PFS:REPORT is a tool that buys you time for analyzing your information.

With PFS:REPORT, you can produce summaries from your PFS:FILE data in a matter of minutes. Organizing your facts,

PFS:REPORT will automatically sort rows of information alphabetically and numerically, generating reports you can use for your own review, for presentations, or for inclusion in written documents.

There are a variety of ways to get at and use the information in your PFS:FILE forms. With PFS:REPORT, you can summarize all of your information in columns to give you an overview of your data. Or you can select specific categories of information to be included in your report. For example, PFS:REPORT could sort your accounts payable information by billing date and give you an up-to-the-minute recap of who's current and who's overdue.

Math made easy.

PFS:REPORT performs calculations on your data that can reveal new relationships among your facts. It figures totals, subtotals, averages, subaverages, counts and subcounts with one or two keystrokes, so you don't have to. If you want to perform arithmetic calculations on columns in your report, just give PFS:REPORT the equation and it will calculate and print the results in a new column!

With just a few keystrokes, you can print professional looking reports with automatic centering, underlining, column alignment, titling and page numbering.

Together, PFS:FILE and PFS:REPORT give you a powerful information management system you can use to analyze, plan and make better-informed decisions.

Information from an invoice file was used to produce this accounts receivable summary that shows how much each customer owes, the invoice

number, and when the item was shipped. As receivables become past due, this report can be forwarded to accounting for use in collections.

ACCOUNTS RECEIVABLE OCTOBER 31, 1982			
CUSTOMER NAME	TOTAL \$	INVOICE #	DATE SHIPPED
J. B. CLARKE	1,975.00	40923	82/10/15
L. F. LAWTON	348.24	45637	82/10/10
L. W. DAYTON	478.32	45880	82/10/25
Average: 900.52			
Total: 2,701.56			

A report like this tabulates sales data to show, by product, how much each salesperson has sold to date, compared with that person's quota. It also computes the average and total

sales by product, and for all products combined. This format provides a quick way to compare the performances of sales reps, or the short-term market success of a product.

MONTHLY SALES STATUS					
Product	Sales Rep #	\$ Quota	\$ Sales	% OF QUOTA	
A	0111	200	150	0.75	
	0112	200	135	0.68	
	0113	175	132	0.75	
	0114	225	175	0.78	
	Average:	200	148		
Total:	800	592			
Count:	4				
B	0111	150	146	0.97	
	0112	75	62	0.83	
	0114	125	120	0.96	
	Average:	117	109		
	Total:	350	328		
Count:	3				
C	0112	50	40	0.80	
	0113	50	50	1.00	
	0114	75	70	0.93	
	Average:	58	53		
	Total:	175	160		
Count:	3				
Average:		133	108		
Total:		1,325	1,080		
Count:	10				

VEHICLE INVENTORY					
ASSET#	YEAR	MAKE	MUNTAG	PERSON ASSIGNED	RENTAL
09885	1980	DODGE	3852	SMITH, JAY	6.00
09894	1981	FORD	8921	JONES	7.00
12330	1982	FORD	7755	AVAILABLE	6.75
Average:					6.58
Total:					19.75
Count:	3		3		

This report is a summary listing of every vehicle owned by a city government, tabulated from information entered and updated with PFS:FILE. It tells at a glance where each vehicle

is currently located. Alternately, PFS:REPORT could have selected from this data a listing of all vehicles over two years old for use in vehicle maintenance planning.

WINE CELLAR INVENTORY				
VARIETAL NAME	WINERY	YEAR	PRICE	QTY.
Cebernet Sauvignon	Fellon Empire	1979	14	4
Champagne (Blanc de Noirs)	Domaine Chandon		14	3
Johannisberg Riesling (BA)	Chateau St. Jean	1977	14	1
Muscat Gonnelli	Chateau St. Jean	1979	6	1
White Riesling (BA)	Fellon Empire	1979	5	7
		1981	11	8
		1979	7	9
Zinfandel	Chateau Montelena	1979	12	2
	Ridge	1977	5	12
		1979	6	1
		1979	6	1
		1979	9	1
		1980	10	1
		1980	7	1
		1980	9	1
Average:				9
Total:				53
Count:	6			

From PFS:FILE information entered whenever a new wine is acquired, the wine connoisseur can use PFS:REPORT to generate this wine cellar summary that shows how many

bottles of each type and year remain in inventory. PFS:REPORT computed the average price of a bottle, the number of varieties, and the total number of bottles in stock.

pfs:[®] *graph*

Get the whole picture fast.

PFS:GRAPH is the ideal tool for the decision-maker who knows a picture is the fastest way to prove a point.

A powerful communication and decision tool, PFS:GRAPH quickly transforms complex facts and figures into easy-to-grasp visuals. Visuals that aid in decision-making, and add eye-opening impact to your presentations and reports.

PFS:GRAPH provides presentation-quality bar, line and pie charts, in color or black-and-white, in just minutes. With no tedious calculations or computer programming. That's why it's been called the easiest-to-use graphics program around for personal computers.

Computer graphics for beginners.

To create your visuals, all you do is specify the kind of graph you want, and enter your information. PFS:GRAPH does the rest.

It's easy to experiment with different types of graphs until you find the best way to display your data. You can change graph types on the screen, right before your eyes, in seconds.

You may want to dramatize comparisons among data by mixing and matching line and bar graphs. Stack bar graphs, or display them side-by-side for comparison. PFS:GRAPH lets you put up to four graphs on a single set of axes.

Automatic formatting, scaling, legend labeling and pattern-fill make it simple to create clear, informative visuals for sales presentations, meetings, reports and documentation.

PFS:GRAPH prints charts in two sizes, 3" x 4" or 8-1/2" x 11", on several popular graphics printers. It also produces color plots on paper or transparencies via a number of popular plotters.

PFS:GRAPH pays its own way.

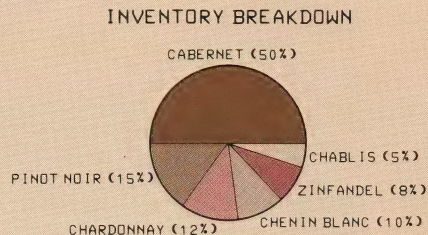
PFS:GRAPH can save you time, because it works hand-in-hand with your other software. It uses information you enter from your keyboard, or retrieves data from PFS:FILE forms or VisiCalc files. And with PFS:WRITE, you can conveniently integrate a chart into the body of a letter or report.

Compared with hand-drawn graphics, PFS:GRAPH can save you enough money on your first set of charts to pay for itself. Over the course of a few months, it could save you enough to pay for the computer it runs on. Including a printer or plotter!

Take a look at what you'll be able to do with PFS:GRAPH.

PFS:GRAPH can plot a pie chart like this from PFS:FILE records of wines purchased for a wine cellar. This inventory breakdown shows at a glance

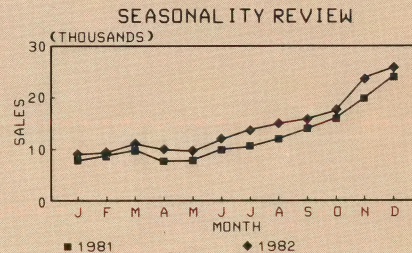
how much each variety of wine contributes to the total wine inventory. The percentages are automatically calculated by PFS:GRAPH.



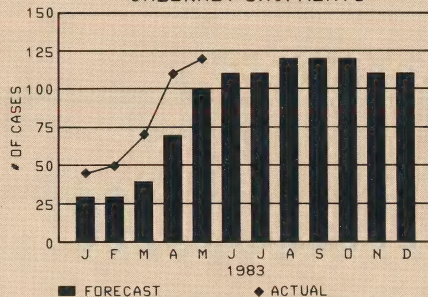
This line chart printout provides a quick comparison of current sales with past sales, month by month. This kind of visual presentation can make the implications of important

data easier to grasp. It can provide a valuable guide for future planning. You can also print the data in columns before the chart.

	1981	1982
1	8000	9000
2	9000	9500
3	10000	11300
4	8000	10000
5	8000	9700
6	10000	12000
7	10500	14000
8	12000	15000
9	14000	16000
10	16000	17500
11	20000	24000
12	24000	26000



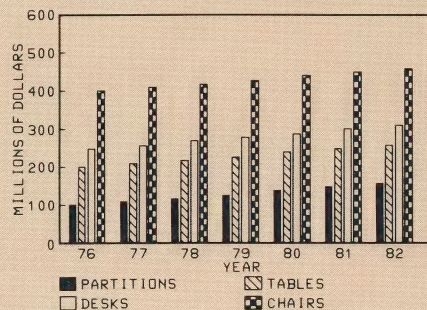
CABERNET SHIPMENTS



PFS:GRAPH allows you to combine graph types, up to four on a single set of axes. The bars in this chart show the projected shipments of cabernet for each

month. The line indicates the actual number of cases shipped to date. Grid lines shown here are optional.

REVENUES OF RENTAL EQUIPMENT

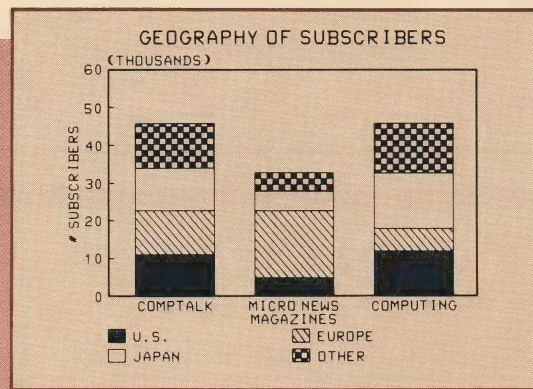


This side-by-side bar chart makes assimilation of a large amount of complex data easy. For each year, this chart shows revenues generated by rental of each of four different items. It highlights the most popular items, and shows how their sales levels increase from year to year. Automatic formatting

and pattern-fill lets PFS:GRAPH produce in seconds a chart that would take hours to produce manually.

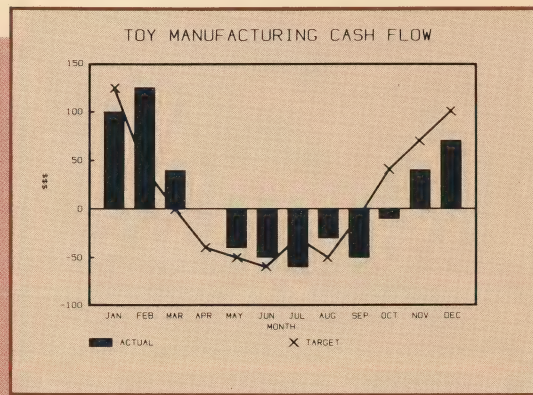
Stacked bars are another effective way to convey the real meaning of numbers. In this chart, stacked bars and contrasting pattern-fill show the geographical distribution of

subscribers to each of three magazines. Automatic scaling and legend labeling, plus instant calculation of data, made this chart a snap to produce.



For a seasonal business like toy manufacturing, a combination bar and line chart like this provides a dramatic visual comparison of actual receipts versus targeted receipts for each month of the year. Data for this chart could

have been entered at the keyboard, or taken directly from PFS:FILE data or VisiCalc files. Plotted output like this can be produced on paper or transparencies for presentations.





The shortest route to success.

What could possibly be faster and easier than PFS software?

Only PFS SOLUTIONS, a new concept in PFS software that saves you time and puts the full power of PFS:FILE and PFS:REPORT to work for you immediately.



PFS SOLUTIONS are field-tested, ready-made applications of PFS:FILE and PFS:REPORT to specific recordkeeping tasks, including:

- MAIL LIST
- CHECKS
- EMPLOYEE
- TICKLER
- INVENTORY
- INVOICES
- LEDGER
- PAYROLL
- HOME BUDGET
- HOME INVENTORY
- STOCKS
- DISK LIBRARY

With each SOLUTIONS package you get a complete form design, and from three to seven predefined reports—everything you'll need to get started streamlining your recordkeeping right away. Like all PFS software, PFS SOLUTIONS forms and reports can be customized to your special needs.

SOLUTIONS are simple to learn and use, too. Each package comes with clear instructions, and gives you sample information to experiment with before you enter your own data.

To find the right PFS SOLUTIONS for you...

	BUSINESS								PERSONAL			
	Mail List	Checks	Employee	Tickler	Inventory	Invoices	Ledger	Payroll	Home Budget	Home Inventory	Stocks	Disk Library
Brokers and Agents Real Estate, Stock, Insurance	•	•	•	•				•	•	•	•	•
Professional Services Lawyer, Doctor, Accountant, Consultant	•	•	•	•		•	•	•	•	•	•	•
Small Business Retail, Wholesale, Manufacturing	•	•	•	•	•	•	•	•	•	•	•	•
Owner/Operator	•	•	•	•	•	•	•	•	•	•	•	•
Administrative Assistant		•	•	•			•	•	•	•	•	•
Supervisor/Manager	•		•	•					•	•	•	•
Sales Representative	•			•	•				•	•	•	•

MAIL LIST.

Making the most of those names and addresses.

MAIL LIST is the easy-to-update alternative to the address book, keeping current addresses and phone numbers always at your fingertips. Whether you're tracking customers, suppliers, sales reps, or friends for Christmas cards, MAIL LIST will help you manage the details, and will even print your mailing labels.

Reports you receive with MAIL LIST include:

- Alphabetic address register
- Phone listing for home, work, and one extra number
- Phone listing organized alphabetically by company name, showing contact names and extensions

CHECKS.

Tracking your cash flow.

CHECKS makes it easy to keep an organized record of your banking transactions, so vital to managing your business. CHECKS also captures invoice and purchase order information that lets you quickly identify the status of each invoice, and see just how much is outstanding in payables at any time.

Reports included with CHECKS are:

- Sorted check list showing date written, payee, and amount
- Summary and total of checks written to each payee
- Summary and total of checks charged to each expense account
- Chronological deposit record, including bank adjustments
- Invoice and purchase order register

EMPLOYEE.

Keeping employee information current.

EMPLOYEE offers a convenient way to organize and maintain vital information about your employees. Information like benefit entitlements, salaries, social security numbers and birthdays, that helps you manage your workforce effectively.

You receive these reports with EMPLOYEE:

- Employee benefits register
- Salary review report
- Employee birthdays chronologically, cross-referenced by supervisor name
- Employee directory with home and work phone

TICKLER.

Getting yourself organized.

TICKLER is the solution for the executive on the go. It helps organize your daily schedule, recording appointments and reminding you of commitments and deadlines. It also provides a handy way to track your business expenses.

These are the reports you'll get with TICKLER:

- Daily appointment schedule organized by date and day of week
- Expense log for travel, meals and other business expenses
- Quick-reference list of tickler file items due for whatever range of dates you specify

INVENTORY.

Taking stock of your business assets.

INVENTORY lets you monitor your stock on hand to help you maintain control over your most important assets. INVENTORY also calculates the profit margin on each inventory item, so you can make timely price changes to protect your profitability.

Reports you'll receive with INVENTORY include:

- Suppliers list by inventory item
- Purchase register showing year-to-date purchases of each item
- Calculation of profit margin on each inventory item
- Price and item number list arranged by product

INVOICES.

Managing your receivables.

With INVOICES you get a general-purpose invoice form for use in billing your customers and in tracking the status of customer orders. You'll find INVOICES data handy when you need to determine your total sales, cash receipts, and outstanding receivables.

Reports provided with INVOICES are:

- Sales tax summary that calculates accrued tax payable to the State
- Customer analysis that shows total sales and number of orders by each customer
- Sales history that lists all your invoices chronologically
- Purchase order register that shows the status of all customer purchase orders
- Cash receipts and receivables report for each invoice

LEDGER.

Managing your business transactions.

LEDGER is the ideal replacement for bulky ledger books. Just make your journal entries at your computer, and you'll be all set to prepare financial statements and trace important transactions.

With LEDGER you'll get these reports:

- A General Journal that shows both sides of each entry, and whether they balance
- Account closings for balance sheet and income statement accounts
- Chart of Accounts for handy reference to all account titles in your bookkeeping system

PAYROLL.

Managing your payroll.

PAYROLL handles the tedious work of tracking withholding and other payroll information for each employee throughout the year. And it organizes your information so that completing government reports is a breeze. The PAYROLL form can also be printed and used as a payroll voucher to accompany payroll checks.

The following reports are included with PAYROLL:

- Summary of taxes withheld/due to Federal, State and local governments
- Calculation and listing of W-2 information for each employee
- Payroll stub with year-to-date information for each employee
- Calculation of regular and overtime earnings for salaried and hourly employees
- Determination of net pay based on earnings and deductions entered

HOME BUDGET.

Managing your money.

HOME BUDGET makes it easy to track your bank and credit card transactions for fast reconciliation of your checkbook and credit card bills. You'll find this information useful in establishing a realistic budget based on actual expenses in the preceding year.

Reports you receive with HOME BUDGET include:

- Year-to-date and monthly expenditures by budget category
- Bank checkbook reconciliation
- Fixed and varying expenses
- Itemized tax deductions

HOME INVENTORY.

Tallying your personal assets.

You'll find HOME INVENTORY the convenient way to keep track of all your personal property, financial asset records and valuable documents. This information can be used for assessing your personal and household insurance requirements, and, with supporting documentation, for filing insurance and warranty claims.

You receive these reports with HOME INVENTORY:

- Household property, documents and assets by location
- Purchase price and estimated current value of personal property
- Tickler reports for review of legal documents and renewal of investments
- Serial numbers and warranty information

STOCK\$.

Keeping your portfolio profitable.

With STOCK\$ you can quickly analyze the value of a stock portfolio, including realized and unrealized gains and losses, effective growth rates, and dividend yields. STOCK\$ maintains a record of all shares you have purchased and sold, showing share location, agent and commissions.

You receive the following reports with STOCK\$:

- Current portfolio information
- Current stock values
- Unrealized gains and losses
- Short and long term realized gains and losses
- Rank by effective growth rate
- Portfolio performance compared with Dow Jones index average
- Portfolio performance compared with any other user-defined index average

DISK LIBRARY.

Managing your hardware/software collection.

DISK LIBRARY gives you instant access to important information about your computer hardware, software, games, original programs, data diskettes and tapes. It's a handy reference for service and warranty information. And it even prints your diskette labels.

Reports you receive with DISK LIBRARY include:

- Hardware/software expenditures
- Diskette labels
- Vendor and maintenance/support information
- Software by filing ID number
- Software by category
- Hardware serial numbers and warranty information

pfs: *solutions* school recordkeeper

Simple software goes to the head of the class.

The PFS:SCHOOL RECORDKEEPER is a PFS SOLUTIONS product that tailors the power and flexibility of PFS:FILE and PFS:REPORT to the record keeping needs of small to medium-sized schools and organizations that offer regularly scheduled classes.

It consists of four ready-to-use forms and over 30 standard reports for:

- student record management
- budget and requisition control
- property and equipment inventories
- room and event scheduling

As easy as ABC.

Used with PFS:FILE and PFS:REPORT, PFS:SCHOOL RECORDKEEPER is a remarkably simple way to computerize your school records. It's so easy to learn and operate, anyone in the office can begin to use it productively within half an hour.

With PFS:SCHOOL RECORDKEEPER, information is simply typed into forms that appear on the computer screen, much like typing information into a standard pre-printed form, only faster and easier.

Functions are in plain English, and instructions to

remember are few. Menu selection makes it easy to add, search, update, retrieve and print information. A clear, concise instruction guide aids learning with examples and illustrations.

Does more work with less staff time.

Reports that might otherwise take days to compile by hand can be produced in minutes, with a few keystrokes. Useful reports like student lists, budget reports, school and public events schedules and more. Each one automatically formatted, with centered titles,

columns of information tabulated and aligned, and pages numbered.

Selected items of information may also be printed in a variety of useful formats, like mailing labels, alphabetized lists, or index cards.

Excels at almost any task.

PFS:SCHOOL RECORDKEEPER's flexibility lets you customize forms to capture any specific information you may want or tailor reports to print information in whatever order you prefer.

You can also create additional forms and reports to

meet almost any other school information management need. So you can save the money you would have spent on a variety of single-purpose software programs. What's more, with only one set of operating instructions to learn, you cut down the time and expense of training your staff.

PFS:SCHOOL RECORDKEEPER takes the paperwork load off your staff's desks and puts it through the computer, where it belongs.



The Student Record Management component of the PFS:SCHOOL RECORDKEEPER gives you quick access to all basic student information needed for daily school operations, from homeroom and counselor assignments to emergency information, from busing lists to vaccination records, from enrollment and ethnic data to special program registration.

With the Budget and Requisition Control component of the RECORDKEEPER, you'll get detailed status reports on each budget account and subaccount to supplement the monthly district budget printouts with up-to-the-minute information.

Reports include:

- parent mailing labels
- homeroom, counselor and locker information
- student lists
- student/parent information
- teacher/class report
- student emergency data
- vaccinations needed
- student busing report
- test score warnings
- special program registration
- dominant language report

Reports include:

- YTD budget balance for all departments
- YTD budget balance — accounts within a department
- outstanding requisitions YTD
- overdue deliveries
- items returned for credit

STUDENT BUSING INFORMATION						
BUS#	STOP#	STUDENT	PARENT(S)	CONTACT1/TEL	CONTACT2/TEL	
12	03	TAKEYAMA KAZUKO	SEIJI & REIKO TAKEYAMA	MOTHER/802-2938	FATHER/723-0990	
14	03	FIGUEROA CRISTINA	ESTELLA FIGUEROA	MOTHER/804-4300	C. GARCIA/723-0502	
	04	CARDILLO JAIME	CARMEN CARDILLO	MOTHER/723-7300	GRANDMOTHER/283-5718	
15	02	ADAMS BECKY K	JOHN & MARIE ADAMS	FATHER/802-5762	MOTHER/723-5000	
	04	FLINNGAN PAT J	PAT & JANE PERRY	MOTHER/802-4718	P. FLINNGAN/523-5517	
	12	FELIX CHUCK D	JOHN & DENISE FELIX	MOTHER/804-3948	FATHER/723-1700	
COUNT:				6		

OUTSTANDING REQUISITIONS YTD						
REQ#	REQ DATE	PO#	DELIVERY DATE	DESCRIPTION	QUANTITY	ENCUMBERED
5974	03/11/03	27381	04/02/01	APPLE 11" COMPUTER G4K w/MONITOR - 2 DISK DRIVES	1	2,500.00
5981	03/11/07		03/12/15	2" RING BINDERS	10	40.00
5987	03/11/08	49123	03/12/01	CARD READER	1	325.00
TOTAL:				2,865.00		
COUNT:				3		

PROPERTY BY LOCATION					
LOCATION	PROPERTY#	DESCRIPTION	MANUFACTURER/MODEL#	SERIAL#	COST
076	9693	MICROCOMPUTER	ALPHA 2000	72919AKT1	1,598.00
					TOTAL: 1,598.00
STOCK ROOM	0248	FILM PROJECTOR 16MM	BELL & HOWELL 122	728345X	145.00
	0511	FILM PROJECTOR 32MM	BELL & HOWELL 2502	5721935A	322.83
					TOTAL: 467.83
					TOTAL: 2,065.83
TOTAL COUNT:		2	3		

The School Property Management component of the RECORDKEEPER gives you ongoing control of all school property, including audiovisual equipment, P.E. equipment, musical instruments, computers, office machines, and more.

Reports include:

- school property report
- property by location
- property by funding source
- property values by category
- property being repaired
- repair cost analysis
- maintenance cost analysis
- property on loan

TEACHER LOCATOR					
TEACHER	PERIOD	CLASS	BLDG/ROOM	INTERCOM#	
BAILEY J	1	CIVICS	308	159	
	4	US HIST	312	263	
	6	US HIST	307	159	
	7	AM GOVT	307	159	
CAREY D	1	PHYSICS	718	352	
	3	PHYSICS	718	352	
COUNT:		2	6		

With the Room and Event Scheduling component of the RECORDKEEPER, you'll find it easy to get complete scheduling information on classrooms, after-school and sport events, summer and vocational education programs, and community affairs. Also included are revenue reports and operations calendars for AV and custodial staff.

Reports include:

- master room report
- teacher locator by class period
- master report by type of room
- room fixtures locator
- public events calendar
- special events operations schedule
- projected revenues from public events
- event sponsors — accounts receivable

The PFS Family of Software is currently available in the following versions:

	PFS: WRITE	PFS: FILE	PFS: REPORT	PFS: GRAPH	PFS SOLUTIONS	PFS: SCHOOL RECORD- KEEPER
Apple II		•	•	•		•
Apple IIe	•	•	•	•	•	•
Apple III		•	•	•		•
IBM and equivalent personal computers	•	•	•	•	•	
Texas Instruments Professional Computer		•	•	•	•	
TRS-80 Model III and Model 4		•	•			

Additional hardware and software requirements are listed on the back of each PFS software package.

Affordably-priced PFS software, with suggested retail pricing of \$125 to \$175 (\$20 for each PFS SOLUTIONS product except

PFS: SCHOOL RECORD-KEEPER), is available in local computer hardware and software retail stores. For more

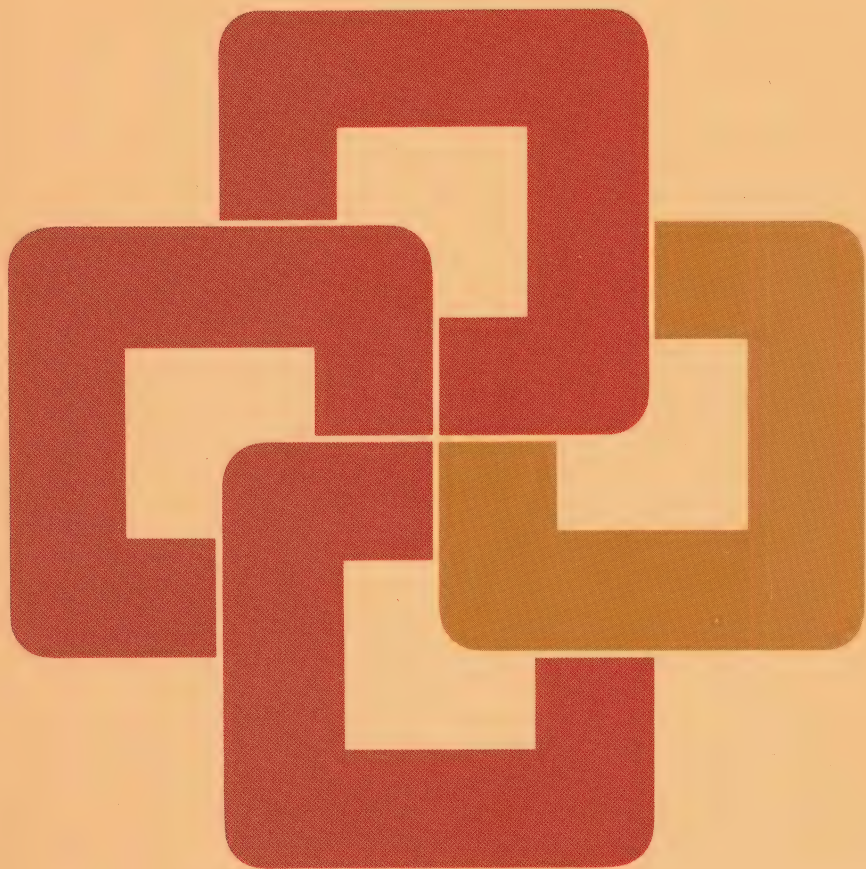
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report

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Macintosh



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***pfs:report* for Macintosh**

Owner Name _____ Title _____

Company Name: _____

Street: _____

City: _____ State/Country: _____ Zip: _____

Daytime Phone Number: _____

I use my computer mostly for Business Personal Both

Industry/Profession: (Circle the one most appropriate)

- | | | | |
|----------------|-------------------|------------------|------------------------|
| 1 Accounting | 6 Finance/Banking | 11 Manufacturing | 16 Retailing |
| 2 Agriculture | 7 Government | 12 Marketing | 17 Sales |
| 3 Construction | 8 Home Management | 12 Medical | 18 Science/Engineering |
| 4 Consulting | 9 Insurance | 14 Membership/ | 19 Small Business |
| 5 Education | 10 Legal | Fundraising | 20 Other |
| | | 15 Real Estate | |

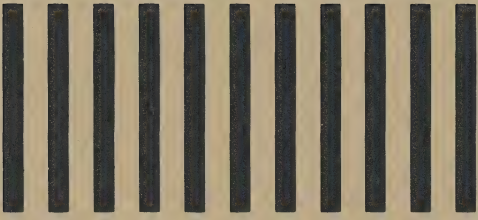


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pfs:
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user's manual

for Macintosh™

Program Authors: Lori Cameron and Jane Stepak
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about this manual

PFS:REPORT is one of a series of easy-to-use programs in the PFS integrated Family of Software. This manual explains how to use PFS:REPORT to prepare and print tabular reports of your own design, using the information you have stored with PFS:FILE.

To learn PFS:REPORT, you first need to know how to use your Macintosh. In particular, you should know how to use the mouse, the keyboard, and pull-down menus; how to drag the pointer; and how to select an icon. You can perform some PFS:REPORT tasks in more than one way using these features of the Macintosh; however, to simplify instructions, this manual suggests one technique for each task. Refer to *Macintosh*, the owner's guide, to learn the full range of its capabilities.

This manual contains six chapters and two appendices. The chapters give detailed instructions and examples for using PFS:REPORT. Information that appears on your Macintosh screen is presented in **boldface** type to distinguish it from other text. The best way to learn PFS:REPORT is to read the manual and work through the examples on your Macintosh.

The appendices contain instructions on correcting errors and the example file used throughout the manual. A quick reference guide and an index are also included.

If you have not already done so, please fill out and return the User Group Enrollment Card. Enrollment in this group entitles you to receive product update information and tips on using the PFS Family of Software.

Introduction to the Study of...

The purpose of this study is to explore the relationship between...

The first objective of this study is to determine the extent of...

The second objective is to identify the factors that influence...

The third objective is to evaluate the effectiveness of...

The fourth objective is to compare the results of this study with...

The fifth objective is to provide recommendations for...

The sixth objective is to discuss the implications of the findings...

The seventh objective is to conclude the study and summarize the...

The eighth objective is to provide a final summary of the study...

The ninth objective is to provide a final summary of the study...

The tenth objective is to provide a final summary of the study...

The eleventh objective is to provide a final summary of the study...

The twelfth objective is to provide a final summary of the study...

The thirteenth objective is to provide a final summary of the study...

The fourteenth objective is to provide a final summary of the study...

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1:

what is pfs:report?

About PFS:REPORT

PFS:REPORT is a computer program that enables you to produce tabular reports from your PFS data files. If you are familiar with PFS:FILE, you already know a lot about how to use PFS:REPORT.

A report can have up to 20 columns. In preparing a report, PFS:REPORT plans the layout of each page to take the best advantage of the available space. It can sort the information in your files alphabetically or numerically, and it can perform calculations on numeric information.

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

The screenshot shows a window titled "PARTLIST" with a menu bar containing "File", "Edit", "Functions", and "Formats". The main area contains the text "Page 1 -- please choose forms for the report." and a "Print report" button. Below this, there are labels for "Part #:", "Date Purchased:", "Description:", "Quantity:", "Price:", and "Supplier:". The window has a scroll bar on the right side.

The following report (listing all items purchased in the last month) is just one example of a report that can be produced from the PARTLIST file using REPORT.

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

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

Let's look at another report generated from PARTLIST:

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

Count: 4

This is a fairly simple report. Part # again appears as the first column. REPORT has arranged the rows in ascending order (smallest to largest) by part number and has also counted the entries in the first column to give you the number of different parts in stock. 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 information in the first column is the same for two or more rows, PFS:REPORT sorts those rows by the information in column two. PFS: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 name (Value) that does not correspond to an item name 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 report.

How PFS:REPORT Works

The PFS:REPORT program has three main capabilities. These are **Print a report**, **Create a report format**, and **Change headings**. To print a report or change headings, you pull down the **Functions** menu and choose the command you want. To create a report format you pull down the **Formats** menu and choose the **Create a report format** command.

You use the **Print a report** function to produce reports from your PFS files. The three-step operation lets you choose which forms from the file you want in the report, set up your printer to your specifications, and then specify which items of information go in which columns and how they are to be treated. When you have completed these three steps, your report is printed.

If you want to use the same report format more than once, **Create a report format** lets you store the third step of the above process so that you do not have to repeat this step every time you print a report. For instance, you could store the three report formats shown above and use them to print periodic, up-to-date reports on your inventory. You give the stored report format a name, and from then on just choose the name of the predefined format and immediately print the report. You can store up to eight report formats for each PFS file.

Headings are automatically generated from the item name in your file. The **Change headings** function enables you to alter the headings on your report to something other than the item names. This change 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 shorten the column heading from Quantity to Qty.

The remaining chapters of the PFS:REPORT manual give you detailed explanations and examples of how to prepare reports, from simple ones to more complex ones with column calculations and derived columns. You also learn how to save your report formats and set the headings you want on your reports.

2: *getting started*

This chapter explains how to get started using PFS:REPORT. It describes the equipment you need and explains how to start and leave the program. The chapter also explains how to choose commands from the pull-down menus, how to use the **Edit** and **Help** menus and the desk accessories, and how to use REPORT's special keys. When you have finished reading the chapter, and have followed its instructions, you will be ready to begin using the REPORT program.

What You Need to Use REPORT

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

- a Macintosh computer
- an Apple Imagewriter printer, properly connected to your computer
- the program disk (A spare copy is also provided, in case the original disk is damaged. Store the spare copy in a safe place.)
- your PFS files
- (optional) an additional disk drive or a hard disk unit

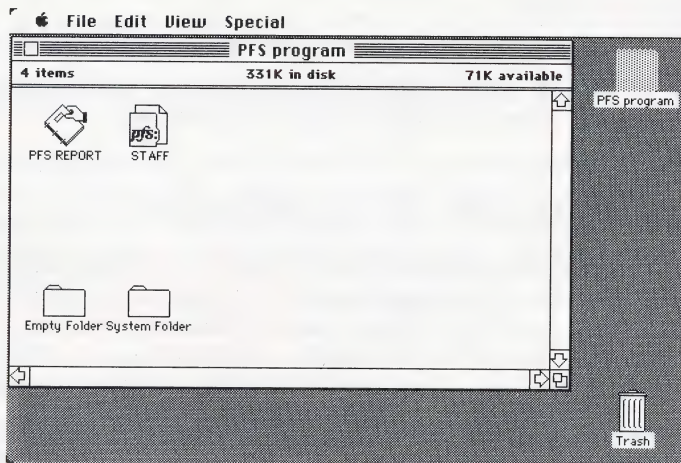
PFS:REPORT can display reports on the screen of your Macintosh, but it is really designed to produce printed reports. If you do not have an additional disk drive, you may find that there are some limitations on sorting information for your report. See the section, *Sorting Reports with a Single Disk Drive*, in Chapter 3 for a complete explanation of these limitations.

Note: This manual assumes that you do not have an additional disk drive connected to your Macintosh. Where procedures differ for two-drive systems, they are discussed separately.

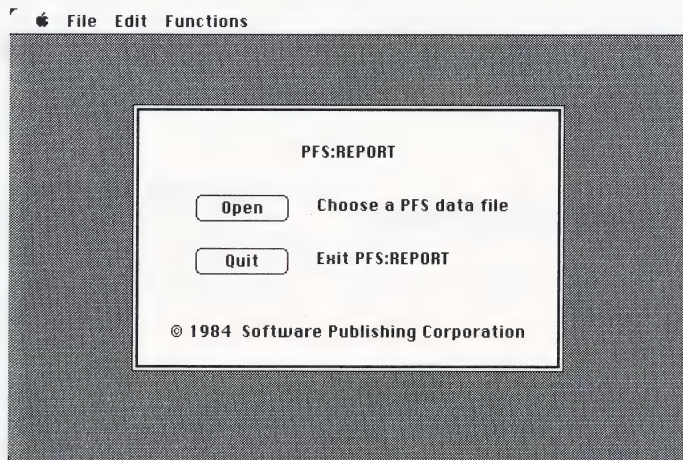
Starting PFS:REPORT

You are now ready to begin using the program. The procedure for starting REPORT is slightly different depending on whether or not your Macintosh is already turned on:

- If your Macintosh is turned on, exit whatever program you are using and eject the disk. Then insert the PFS program disk and double-click the icon when it appears on the desktop. (Alternatively, click the icon and choose the command **Open** from the **File** menu.) The Finder illustrated below appears on the screen.
- If your Macintosh is turned off, first turn on the power. When the icon with the blinking question mark appears, insert the PFS program disk. Double-click the PFS disk icon now showing on your desktop, (or click the icon and choose the command **Open** from the **File** menu). The Finder appears on your screen:



To begin the program, double-click the PFS:REPORT icon. Next you see the PFS:REPORT title window asking you to choose a PFS data file or exit PFS:REPORT.



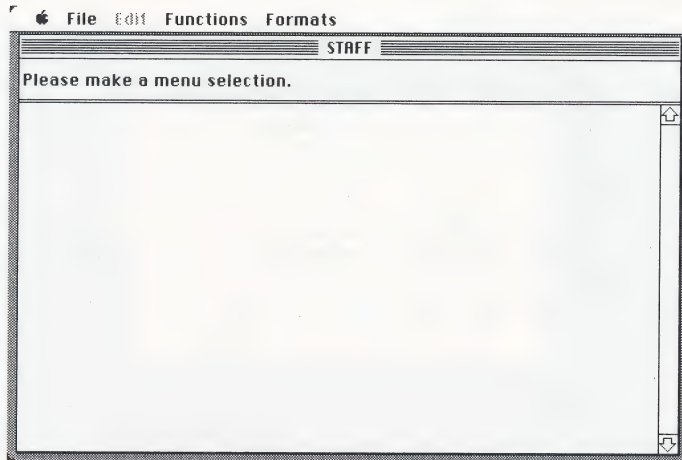
Notice the oval buttons next to the options in the title window. Buttons appear on numerous REPORT windows. To make a selection using a button, position the pointer on it and click.

If you choose a PFS data file, another window opens, listing the data files on your disk. If the file you want to use is on the program disk (the STAFF file, for example), click the file name and the **Ok** button (or simply double-click the file name). Otherwise, click the **Eject** button and insert your PFS file disk. A list of PFS files on the disk appears.

Note: The window can only display six files at a time, so if your file disk contains more than six files, click one of the scroll arrows or drag the scroll box until the file you wish to use appears.

2-4 pfs:report

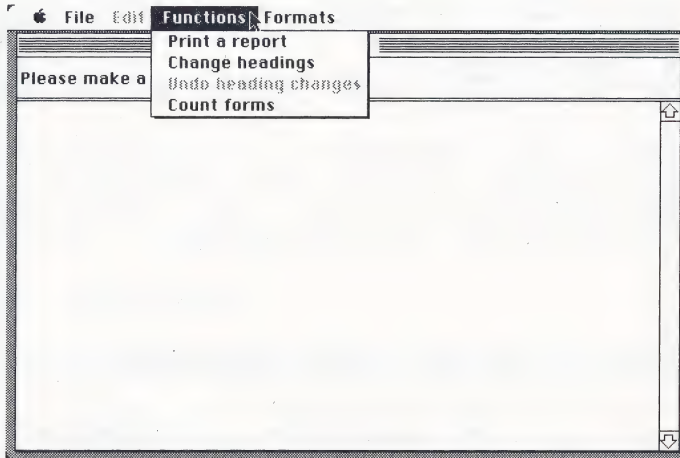
Double-click the file name you want to use. The following window appears, showing the name of the file you have selected, and directing you to make a menu selection:



While you are using REPORT, you will often see this window. REPORT displays it when you are starting up the program and returns to it after completing many of the commands on the menus.

PFS:REPORT Menu

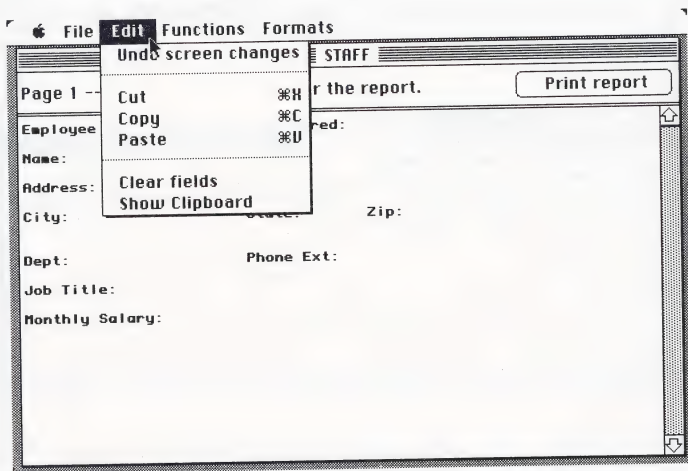
At the top of your Macintosh desktop is a set of titles on the menu bar: **File**, **Edit**, **Functions**, **Formats**, (and sometimes, **Help**). These are the menus available to you when you are using REPORT. To see the commands on each menu, position the pointer on the menu title (**Functions**, for example) and drag it down. The **Functions** menu looks like this:



To choose a menu command, drag the pointer down and release the mouse button on the line of your choice. Notice that most of the commands on the **Functions** menu appear in highlighted letters while the command **Undo heading changes** is dim. Highlighted commands are those you can perform at a particular stage of the program; dimmed commands are those you cannot choose at that time.

Using the Edit Menu with REPORT

When you enter search information, change headings, or edit a report format with REPORT, you may find it convenient to use some of the **Edit** menu features. The PFS:REPORT **Edit** menu looks like this:



You can cut one item of information at a time, store it temporarily in the Clipboard, and then paste it into another location. Or, you can copy the information you have cut. To see the contents of the Clipboard, choose the last menu command, **Show Clipboard**.

If you review changes you have made to a page of a form and find them unacceptable, you can choose the command **Undo screen changes** to restore that page to its original state.

Suggestions for using the **Edit** menu features appear in chapters where they may be helpful. You can learn more about the full set of **Edit** features from *Macintosh*, your owner's guide.

Using the Help Menu

When you are designing a report format, creating a predefined report format, and defining derived columns, the **Help** menu title appears on the menu bar. It contains all the column calculation commands that are available when creating report formats. To choose a column calculation command, click on the item you want to include as a column in your report and enter a column number. Then pull down the **Help** menu and choose the command you want. It appears automatically beside the number you just entered. (The commands for Page break and Keyword reports already include the number since they only function in column 1.)

Special Keys Used by REPORT

As you work with REPORT, you usually use the mouse to move the pointer and to perform other desired tasks. Sometimes, however, it may be more convenient to keep your fingers on the keyboard and perform specific actions from there. The keys you can use are described below:

Key	What It Does
Enter	Confirms whatever entry you've made on a window so that REPORT moves on to the next step. In an alert box, pressing the Enter key is the same as clicking the heavily outlined button (for example, Ok).
Return	Moves the insertion point to the beginning of the next line. Using Return in an alert box is the same as clicking the heavily outlined button.
Tab	When filling in a form, Tab moves the insertion point forward to the next item. With the Shift key pressed, Tab moves the insertion point back to the previous item. On the print options window, pressing Tab moves the insertion point from box to box and highlights the text so that you can type over it if you wish.
Backspace	Moves the insertion point to the left one space and erases the character in that location.



Used in combination with the following keys, Command is a shortcut to choosing a command from the **Edit** menu.

X = Cut
C = Copy
V = Paste

Option

Used in combination with certain keys lets you enter accented and special characters. These are illustrated in Appendix A of your Macintosh owner's guide.

Using the Macintosh Desk Accessories with REPORT

The full range of Macintosh desk accessories is available for you to use with REPORT. For example, you might want to decrease the speed at which your Macintosh interprets your double clicks to select icons or open files. Or, you might want to adjust the keyboard action to produce repeating characters with only a very light touch. With PFS:REPORT, you choose a desk accessory in the same manner you choose any menu command. Pull down the Apple menu at the far left of the menu bar, and choose any desk accessory command.

Note: With REPORT, you may only use one desk accessory at a time. If you have a data disk in the drive when you choose a desk accessory, the disk is ejected, and you are asked to insert the PFS program disk.

Choosing Another File

When you want to stop using one PFS file and start working with another, pull down the **File** menu and choose the command **Choose another file**. The dialog box listing the PFS data files on the disk appears. If the file you want to use is on the list, double-click the file name. Otherwise, click the **Eject** button and insert the disk containing the file you want. When the PFS files on that disk appear in the dialog box, double-click the file name of the file you wish to use.

Note: Sometimes, when you choose the command **Choose another file**, REPORT automatically ejects your data disk and asks you to insert the program disk. Insert the program disk, click the **Eject** button when the dialog box appears, and insert the data disk containing the file you want to use.

Stopping Work

When you want to stop using PFS:REPORT, you can either quit work altogether or move to another program. To quit work on your Macintosh altogether, pull down the **File** menu and choose **Quit PFS:REPORT**. Then close all files, eject the disk, and turn the Macintosh off.

WARNING: Never turn off your Macintosh unless you have quit PFS:REPORT. IF YOU DO, YOUR PFS DATA FILE MAY BE PERMANENTLY DAMAGED.

You can stop using REPORT and start work on PFS:FILE or on another program. To do so, pull down the **File** menu and choose **Quit PFS:REPORT**. After a short pause, the Finder will display all the programs on the disk in the drive, and you can select another one to work on.

If the program you want to use is not on the disk in the drive, you can click the close box or choose the **Close All** command from the **File** menu. Either action will close the files on the disk. After closing the files, choose the **Eject** command from the **File** menu and remove the disk from the drive. Then replace the disk with the one you want to use and begin work.

Note: If you eject the disk without closing all files, the PFS:REPORT disk becomes an "alternate" disk, displayed as a shaded icon on the desktop. If the Macintosh needs the ejected disk later, it asks for it.

In this chapter you have learned how to start and quit PFS:REPORT. You have also learned how to use some of the special Macintosh features and menus with the program. In the next chapter you will learn to use the program to choose forms for your report, and to decide how you want your report to be printed and formatted.



3: *creating a simple report*

This chapter explains how to use the **Print a report** command to prepare and print a report from a PFS:FILE data file. To print a report, you proceed through three windows. The first lets you choose which forms from the file you want to include on the report. The second lets you specify the settings for printing, such as where you want to print the report, the report title, page size, and so on. The third window lets you choose which items from the file will appear as columns in the report and the order in which they will appear.

A sample file named STAFF is stored on the REPORT program disk. You will use this file as you go through the chapter to produce a simple report with your own Macintosh.

Choosing Print a Report

Let's use the STAFF file to prepare a simple report listing names and addresses of all the people in the file. To begin, start the REPORT program according to the instructions in Chapter 2.

Click the **Open** button to use an existing file. At the next window, select STAFF and click the **Ok** button.

REPORT then asks you to make a menu selection. Pull down the **Functions** menu and choose the command **Print a report**. A blank form from the STAFF file appears, with a message asking you to choose the forms you want in the report. The window looks like this:

The screenshot shows a Macintosh-style window titled "STAFF". At the top is a menu bar with "File", "Edit", "Functions", and "Formats". Below the menu bar is a title bar with "STAFF". The main content area has a header "Page 1 -- please choose forms for the report." and a "Print report" button on the right. The form contains the following fields:

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

Choosing Forms

The first step when preparing a report is to indicate which forms from the file you want to include in the report. You choose the forms by filling in search information next to the item names.

If you want to include all the forms from the file, leave the window as it is and click the **Print report** button.

If you want to include only certain forms from the file, enter search information exactly as you would for the **Find forms** function in PFS:FILE. The types of search information are summarized below. For a complete explanation of search information, refer to Chapter 5 of the PFS:FILE manual.

If you enter PFS:REPORT finds

abc	abc only (uppercase or lowercase)
..xyz	any entry ending xyz
abc..	any entry starting abc
..pqr..	any entry containing pqr

When you click the **Start counting** button, REPORT searches for the forms and tells you how many forms it counted.

To continue preparing the name and address report, pull down the **Functions** menu and choose **Print a report** again. You won't need to enter any search information because you want to include all the employees in the STAFF file in the sample report. Click the **Print report** button and this window appears:

The screenshot shows a dialog box titled "Report Title" within the "pfs:report" application. The application's menu bar includes "File", "Edit", "Functions", and "Formats". On the right side of the dialog box, there is a "Print" button. The dialog box contains the following elements:

- A text input field for "Report Title".
- "Print to" options: Printer, Screen, and Disk File.
- A checkbox for "Pause between pages".
- Input fields for "Lines per page" (value: 66) and "Page width" (value: 80).
- A text input field for "Printer codes".
- "Ok" and "Cancel" buttons at the bottom.

Choosing the Report Title and Print Options

The second step when preparing a report is to give your report a title and to choose printing options. You can print the report to the screen, to a disk file, or to a printer. Indicate here the lines per page and page width. This window also lets you print the report according to a previously defined report format (See Chapter 6).

The window initially shows common settings, called default values, for the print options. To select the default values, simply give your report a title and click **Ok**. To change a print option, either click an alternate button or press the Tab key to move the insertion point to each box and highlight it so that you can enter a new value. The different options are described below:

Report Title

Enter the title you wish to assign to the report. Although the box on the print options window only displays about 48 characters, including spaces, your title can be as long as the width of your paper. If you continue entering a title once the box is full, each character you type will cause a character to disappear at the other end of the box. All the characters, however, will appear in the report title when the report is printed.

Print to

If you want to print the report to a printer, leave the default setting of **Printer**.

If you want to review the report on your screen, click **Screen**.

If you want to print the report to a disk file, click **Disk File**. Later, you can use a word processor to access the report and include it in a document.

Pause between pages

Click the button if you want the printer to pause at the end of each page of the report. This pause allows you to print the report on single sheet stationery, such as your company letterhead. (This setting is ignored if you click **Screen** or **Disk File**.)

Lines per page

Enter the number of lines on each page of your printer paper, perforation to perforation. Position the perforation line exactly at the printer's print head. 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. You can adjust this value to accommodate the size of your printer paper. The minimum number of lines you can enter for a report with page breaks and page numbers is 12.

To print the report without page breaks or page numbers, enter 0. This is particularly useful when printing a report to a disk file, to be included later in a word processing document.

If you are printing to the screen, the maximum length of a page of a report is 23 lines. To display another page, click the **Next page** button.

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. If you enter a width greater than 80 characters or if you want to print a wider than 80-character report in condensed mode so that it fits on an 80-character page, you might have to send special characters to your printer to set it up.

Note: The Apple Imagewriter's maximum page width in ultracondensed mode is about 136 characters on standard fanfold paper.

If you are printing to the screen, the maximum width of the report that can be displayed is 68 characters. If the report is too wide, an alert box will appear on the screen. If you wish to review an item that you know is in the first few columns, click **Ok** and part of your report will appear. Otherwise, click **Cancel** and start over, revising the format of your report so that it will fit on the screen.

Printer codes

Enter any special codes you want to send to your printer. Consult the owner's manual that comes with your printer to learn the complete range of your printer's settings and the ASCII codes that control them. When **REPORT** starts printing, the ASCII numbers you enter are sent to the printer and cause it to print in the special mode for as long as the printer is on or until you enter another code. You can send up to 20 special codes.

For example, suppose you want to set the Imagewriter printer to print in ultracondensed mode (17 characters per inch), and in boldfaced mode. You would fill in the **Printer codes** box as shown below:

File Edit Functions Formats

Report Title

Print to Printer Screen Disk File

Pause between pages

Lines per page 66 Page width 80

Printer codes 27 81 27 33

Ok Cancel

Special printing codes remain in effect until you exit REPORT *and* turn off your printer. If you wish to print another report using a different printing mode, follow either of these procedures:

- Turn your printer off and on again. Then enter the codes you wish to send for your new report (or leave the box empty if the default setting is satisfactory).
- Send the codes necessary to return to normal printing. (In the above example you would enter 27 34 to cancel the boldface mode and 27 78 to return to 10 characters per inch.)

When you have chosen the settings for your report, click **Ok** to continue. If you choose to print to a disk file, a dialog box will appear. Enter the name of the file where you want the report printed and then click **Ok**.

Note: REPORT only temporarily stores any changes you make to the print options. The next time you start the program, the default values are again in effect.

For the STAFF example report, just type the title **Employee Name and Address Report** and click the **Ok** button without making any other changes to the window. The report format window appears next for you to choose the items you want to include as columns in the report:

File Edit Functions Formats Help

STAFF

Fill in page 1 of the report format. Print report

Employee #: | Hired:

Name:

Address:

City: State: Zip:

Dept: Phone Ext:

Job Title:

Monthly Salary:

Choosing and Organizing the Report Columns

The last step before your report starts printing is to enter the specifications for your report format. This step determines which items appear as columns in the report, and in which order they appear. REPORT automatically uses the first line of the item as a column heading.

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

REPORT sorts the report into alphabetical 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 have an additional disk drive, insert a blank disk in it for REPORT to use temporarily when sorting the forms for your report.

If you do not need or 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).

For example, to print the names in alphabetical order in the example report, number the items as shown on the following screen:

The screenshot shows a window titled "STAFF" with a menu bar containing "File", "Edit", "Functions", "Formats", and "Help". Below the menu bar is a title bar with "STAFF". The main area of the window contains the text "Fill in page 1 of the report format." and a "Print report" button. Below this, there is a list of fields with their corresponding column numbers:

Employee #:	Hired:	
Name: 1		
Address: 2		
City: 3	State: 4	Zip: 5
Dept:	Phone Ext:	
Job Title:		
Monthly Salary:		

When you click the **Print report** button, REPORT begins preparing the report. First, it selects the forms that match the search information and sorts them (if you specified columns 1 and 2 in the report format window). While doing this, it displays the message "Preparing report - make a menu selection to stop." Then 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 informs you how many forms were printed and asks you to make a menu selection.

If you change your mind and do not wish to print the report, you can stop printing at any time. Simply choose another command to stop. Although REPORT stops printing, the printer will continue printing information from forms until it reaches the end of the form that was displayed on the screen at the moment you stopped the report.

The printed name-and-address report looks like this:

Employee Name and Address Report				
Name	Address	City	State	Zip
Bennet, Liza	754 Granville Place	Ridgewood	Ca	93132
Calvin, Curt	254 Greentree Lane	Woodville	Ca	93137
Fawley, Susan	5634 Ridgewood Way	Woodville	Ca	93137
Peters, Marvin	3224 Valley View Road	Ridgewood	Ca	93132
Sanchez, Enrico	7831 Parkside Place	Ridgewood	Ca	93132
Thomson, John	869 Valley View Road	Ridgewood	Ca	93132
Woodhouse, Emma	425 Oakview Way	Ridgewood	Ca	93132
Wolf, James	9732 Sunrise Place	Ridgewood	Ca	93132

Sorting Reports with a Single Disk Drive

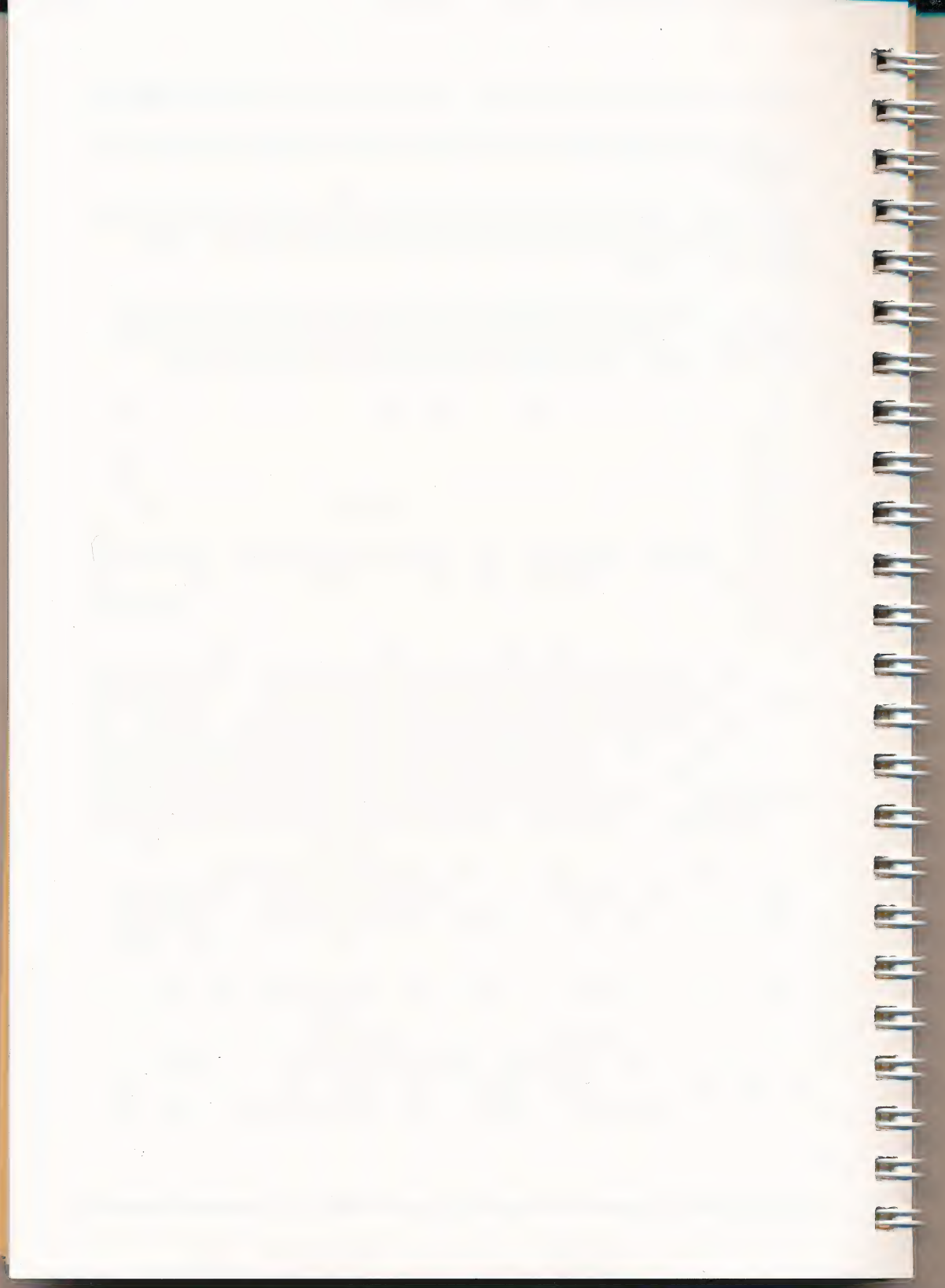
You can use REPORT with a single disk drive, but it may impose certain limitations on the report, depending on the amount of available space on the disk that contains your PFS file. If you are not sure whether the report can be sorted, simply try it. You should experience no problems if the available space on the disk is at least as large as your file. If there isn't enough room on the disk to sort the report, REPORT will display the message **The disk is full**. Try modifying the specifications for the report in one or more of the following ways, until you can produce a satisfactory report:

- You can eliminate column 2, thus sorting on column 1 only. This allows you to continue using the subtotal, subaverage, subcount, keyword, and page break functions explained in Chapters 4 and 5, yet it saves space when sorting.
- You can enter different search information, so that fewer forms from the file are used in the report.
- You can eliminate both columns 1 and 2, so that sorting does not occur. This means you are limited to eighteen columns (numbered 3 through 20). You can use the column total, average, and count functions, but not the subtotal, subaverage, keyword, or page break functions.

The other functions of REPORT, including derived columns, are always available.

If you do not want to modify your report, you can copy the forms you need to another disk by using the commands **Copy design only** and **Copy forms** in PFS:FILE.

In this chapter you have learned how to print simple reports. In the next chapter you will learn how REPORT uses various sorting methods, column calculations and different headings to produce more complex reports.



4: *creating more complex reports*

This chapter explains how to sort reports in various ways, how to perform calculations on the values in a column, and how to change the headings that are printed at the top of each column. The examples lead you through each of these tasks.

Different Ways of Sorting Reports

There are different ways to sort your reports depending on your needs. Alphabetic sorts put items in alphabetical order from A to Z. If you specify a numeric sort, then the items will be sorted in numerical order from the highest number to the lowest. The following sections describe the various ways of sorting in more detail.

Alphabetic Sorts

When you specify that a report have a column 1, a column 2, or both columns, REPORT automatically sorts it alphabetically according to the information in these columns.

4-2 pfs:report

For example, suppose you have a file that contains abstracts of recent publications. You could prepare a report that shows publisher, author, and title for each of the publications by using this report specification:

The screenshot shows a window titled "Catalog" with a menu bar containing "File", "Edit", "Functions", "Formats", and "Help". Below the menu bar, the text "Fill in page 1 of the report format." is displayed on the left, and a "Print report" button is on the right. The main area contains the following labels: "Author: 2", "Title: 3", "Publisher: 1|", "Date of Publication:", and "Abstract:". The "Price:" label is positioned to the right of the "Publisher: 1|" label. The window has a standard scroll bar on the right side.

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

The report is titled "A LIST OF BOOKS" and is enclosed in a decorative border of small circles. The table below lists three publications, sorted alphabetically by publisher and author.

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

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 lower case l, and the zero, not the letter o.
- a minus sign (-) before the first digit or after the last digit 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 you how you might fill in the same information on different 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 a comma and two decimal places.
112.5	112.50	it adds one decimal place.
1.37 dollars	1.37	it ignores the word 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 two decimal places.

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

Using 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. You specify column calculations by entering the following commands (in uppercase or lowercase) beside the column number on the form:

- T** **Total.** The program automatically treats this item numerically, adds all the numbers in the column, and prints the total at the end.
-

Click **Print report** to produce the following report:

Average Salaries by Department			
Dept	Name	Job Title	Monthly Salary
Administration	Bennet, Liza	Secretary	1,200
	Thomson, John	Company President	5,000
	Woodhouse, Emma	Purchasing Manager	3,200
	Wolf, James	Personnel Clerk	1,000
			Average:
Manufacturing	Calvin, Curt	Process Engineer	3,600
	Fawley, Susan	Engineering Associate	2,100
	Peters, Marvin	Technician	1,100
	Sanchez, Enrico	Design Engineer	3,250
			Average:
			Average: 2,556

Column Calculation Commands

Let's examine how these column calculation commands are used. Suppose **Dept: 1C** and **Phone Ext: 3SC** are specified in the STAFF file report format window as shown here:

The screenshot shows a window titled "STAFF" with a menu bar (File, Edit, Functions, Formats, Help) and a "Print report" button. The main area contains the following field definitions:

```

Employee #:           Hired:
Name: 2
Address:
City:                State:           Zip:
Dept: 1C             Phone Ext:3SC]
Job Title:
Monthly Salary:
    
```


This produces the following report:

Department Phone Count		
Dept	Name	Phone Ext
Administration	Bennet, Liza	119
	Thomson, John	155
	Woodhouse, Emma	179
	Woolf, James	143
	Count:	4
Manufacturing	Calvin, Curt	188
	Fawley, Susan	195
	Peters, Marvin	167
	Sanchez, Enrico	189
	Count:	4
Count:		8

The use of Count and Subcount shows you that there are two departments with four phones each, and a total of eight phones. Notice that REPORT only prints the department names once although there are four phones listed in each department. This is because REPORT will not print the same information repeatedly in column 1 if it is the same for more than one row. If you want REPORT to repeat the same information on another row, (for example, you might want to create a phone list that includes several people with the same last name), eliminate column 1 and sort on column 2.

When you use T, ST, A, or SA, REPORT automatically assumes that the information in the column is numeric. As a result, any non-numeric characters are ignored, the decimal points are lined up, trailing zeros are added to make each entry the same length, and the numbers are right justified.

When you use C and SC, however, you must also enter N if you want the column treated numerically, since C and SC can 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
<hr/>	
Count: 3	Count: 3
<hr/>	

You can have REPORT perform more than one calculation in the same column; for instance, you can have it total, average, and count the same column. 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, entering either 4 ST C or C ST 4 would 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. If you are calculating average test scores, for example, the difference between a score of zero and no score is very significant. It is especially important when using average or count. An item that contains no information is not included in the calculation, but an item that contains a zero is included. For example:

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

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

Starting a New Page

Suppose you want the Average Salaries by Department report to start on a new page whenever the department changes. You can do so by entering a **P** (for page break) next to the column number. (P will only work in column 1.) The following report format window, differing only in adding the P, produces the same report, but with a separate page for each department.

The screenshot shows a window titled "STAFF" with a menu bar containing "File", "Edit", "Functions", "Formats", and "Help". Below the menu bar is a header area with the text "Fill in page 1 of the report format." and a "Print report" button. The main area contains a form with the following fields:

Employee #:	Hired:	
Name: 2		
Address:		
City:	State:	Zip:
Dept: 1P	Phone Ext:	
Job Title: 3		
Monthly Salary: 45R		

Changing the Column Headings

Normally, REPORT uses the first line of the item name as a column heading. It determines column widths for the report by the number of characters in the heading or by the widest entry in the column (whichever is greater). You may want to substitute a more appropriate column heading, or shorten the column headings in order to fit more columns across the page.

Choosing the Change Headings Command

Let's use **Change headings** to change a column heading for the STAFF file. Pull down the **Functions** menu and choose **Change headings**. The window displays the form design from the STAFF file:

The screenshot shows a window titled "STAFF" with a menu bar containing "File", "Edit", "Functions", and "Formats". Below the menu bar, the text "Page 1 -- change the column headings." is displayed. The form design area contains the following fields:

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

Setting New Headings

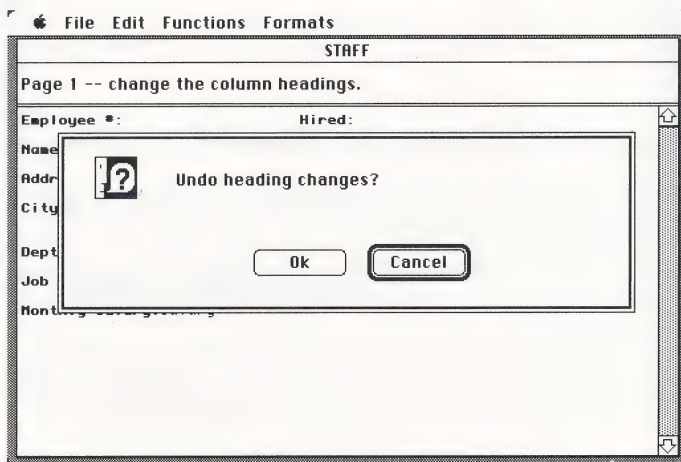
You enter a new heading for an item by typing the heading on the form in the same way you type information when adding information to the file. Usually you will want to shorten a heading to fit more columns in your report.

Editing Heading Changes

If you want to go back to the original item name as a column heading, or if you want to compress your column headings still further, you can modify the new headings. To modify headings that you have already entered, choose the command **Change headings** again. The window shows column headings previously stored for this file.

You can change a heading by double-clicking on the item you want to change, to highlight it. As soon as you begin typing in the new heading, the highlighted text disappears.

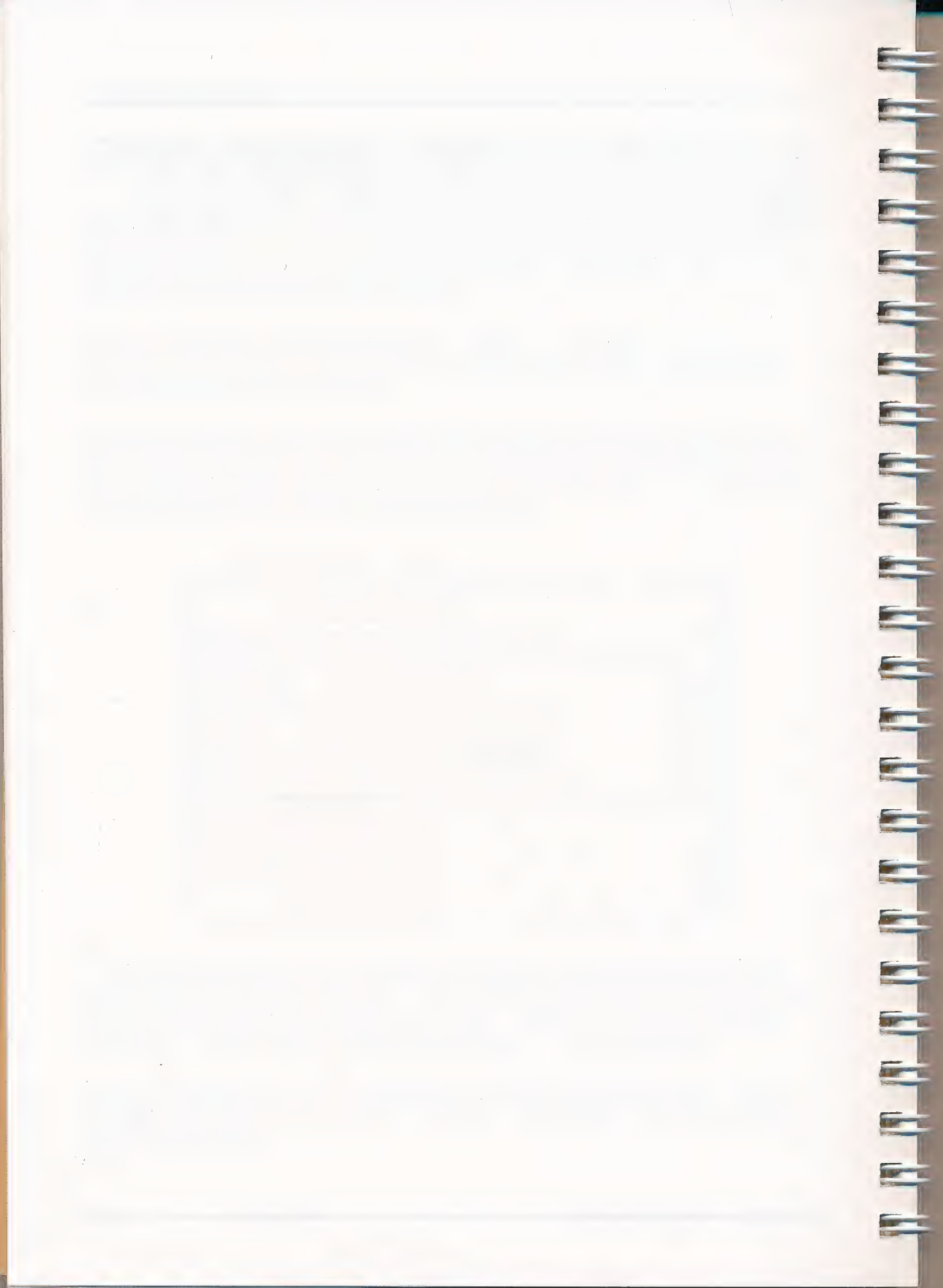
You can delete all the column headings stored in a file and return to the item names as they are on the form by pulling down the **Functions** menu and selecting **Undo heading changes**. An alert box appears, warning that REPORT is about to remove the new headings:



If you want to remove the headings, click **Ok** and REPORT removes the headings from the file. REPORT returns you to where you were before you chose **Undo heading changes** unless you were at the change headings window (in which case it will ask you to make a menu selection).

If you change your mind and decide not to remove the headings, click **Cancel**. REPORT returns you to where you were before you chose **Undo heading changes**.

This chapter has been about creating more complex reports by sorting in different ways, using column calculations and changing headings. The next chapter tells you how to produce two kinds of special reports, one with columns derived from information in other columns, and the other with information identified by subject keywords.



5: *special types of reports*

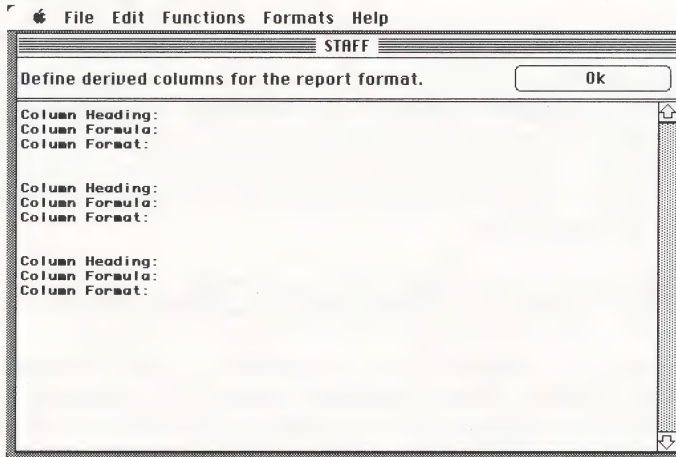
REPORT provides two special types of reports that are very useful. The derived columns capability enables you to produce columns in your report that are computed from the information in other columns, rather than taken directly from your data file. You can also produce reports from files containing a lot of text, using subject keywords to identify information that is important for your report.

Reports Using 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 name 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 fill in the derived columns while you are designing your report format. First, you decide on the columns you want in your report, and then choose the command **Define derived columns** from the **Formats** menu. The derived columns window looks like this:



Filling in the Derived Columns Window

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

- Column Heading:** Enter the heading you want printed in the derived column. If you leave this option blank, the formula of the column is used as a heading.
- Column Formula:** Enter the formula for your derived column. Columns in the formula are identified with a # preceding the column number.
- Column Format:** Enter the column number for your derived column and any column calculations you want. For example, entering a 7T tells REPORT to print this column in column 7 and total it. You can even put the derived column in column 1, which means that the program sorts on the results of the derived column calculation.
-

Creating the Derived Column Formula

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 the value in column 1 minus the value in 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 two 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 are derived columns, column 1 is calculated before column 4. If column 1 tries to use the derived value in column 4 in its calculation, there will 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 the value in column 3).

When you have entered the derived columns information, click **Ok** to return to the report format window. You can make revisions to your format if you wish or have REPORT prepare and print your report.

Note that REPORT always rounds derived columns to two decimal places before printing. Also, when REPORT produces a report containing derived columns, its performance may be somewhat slower.

Let's prepare the employee bonus report mentioned earlier. If you are already working with the STAFF file, pull down the **Functions** menu and choose **Print a report**. Since everyone gets a bonus, leave the choose forms window blank and click the **Print report** button. Next, type in the title **Employee Bonus Report** and leave the default settings for the other items as they are. The window should look like this:

File Edit Functions Formats

Report Title
Employee Bonus Report

Print to Printer Screen Disk File

Pause between pages

Lines per page 66 Page width 80

Printer codes

Ok Cancel

Click **Ok**, and the report format window 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. The window should look like this:

File Edit Functions Formats Help

STAFF

Fill in page 1 of the report format. Print report

Employee #: Hired:

Name: 1

Address:

City: State: Zip:

Dept: Phone Ext:

Job Title:

Monthly Salary: 2

Now you are going to define the derived columns. Pull down the **Formats** menu to choose the command **Define derived columns**. Fill in the derived columns form as follows:

Define derived columns for the report format. Ok

Column Heading: Bonus
 Column Formula: #2 * 0.17
 Column Format: 3

Column Heading: Total Pay
 Column Formula: #2 + #3
 Column Format: 4T

Column Heading:
 Column Formula:
 Column Format:

This form defines a column 3 with the heading Bonus and with a calculated value that is 17% of the amount in column 2. The second derived column, column 4, has the heading Total Pay and adds the salary amount in column 2 to the calculated bonus amount in column 3.

Click **Ok** and REPORT returns to the report format window. Click the **Print report** button to print your report. It should look like this:

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

Reports Using Keywords

When you store text information in your files, you may want to identify such information by means of subject keywords. You might identify the same form by several different keywords, if it is of interest for several different reasons. When you print a report using these keywords, the information from each form is printed once for each identified keyword.

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 Keyword for your keywords. The Keyword 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 format, you specify columns 1, 2, and 3 and identify column 1 as a keyword sort (by clicking on the Keyword item and choosing the command **1K** from the **Help** menu).

The screenshot shows a window titled "ABSTRACT" with a menu bar containing "File", "Edit", "Functions", "Formats", and "Help". The main content area contains the text "Fill in page 1 of the report format." and a "Print report" button. Below this, there are three lines of text: "Magazine: 2", "Keyword: 1K", and "Abstract: 3". The window has a scroll bar on the right side.

The result is a report alphabetically sorted for every different keyword entered in your file. It looks like this:

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.
RAMs	Data News	This article describes the use of a new ECL process to fabricate 16K RAMs for less than \$4 each.
	Elec Times	An unsuspected cause of RAM failure has been traced. People have found that gamma radiation causes random temporary bit faults.

As you can see, REPORT prints each abstract once for each keyword entered on the form. If you make the Keyword item column 1 but omit the K command, you 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.

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).

In this chapter you have learned to produce special reports using derived columns and keywords. In the next chapter you will learn how to save report designs that are more complicated or that you use repeatedly.

6: *storing a report format*

REPORT allows you to design report formats and save them for repeated use. Any report you design can be saved. For example, if you design a complex report, or one using derived columns, you will probably want to save this report design.

You can save up to eight different report formats for each PFS file and use them to print periodic reports in the same format. Once you have created eight formats, the command **Create a report format** is no longer available, and you will have to remove a format if you want to create a new design.

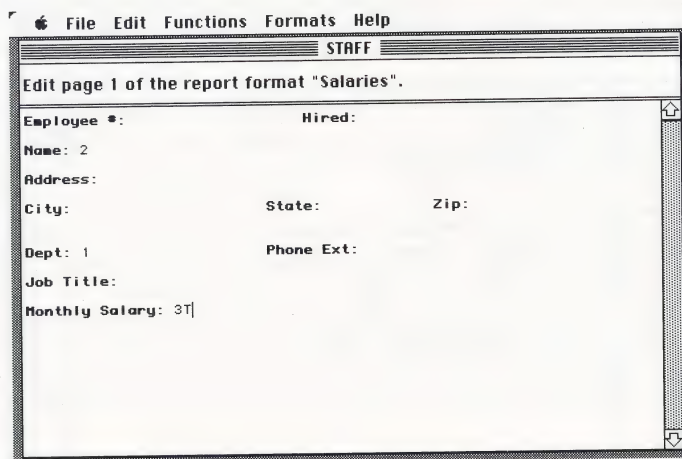
You give each format a name up to ten characters long, and REPORT stores the format in the file. When you want to use one of these formats, you select the report format you wish to use at the same time as you give your report a title and decide upon the settings for your printer. REPORT then produces the report without your having to fill in the report format window.

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

Creating a New Report Format

To create a report format, select the PFS data file you wish to use for your report, pull down the **Formats** menu and choose the command **Create a report format**. Then give your report format a name. When the blank form from your file appears, enter the same type of format specifications for your report as you did in the previous chapters. When you have finished, choose another command from one of the menus and REPORT saves your report format in the file you selected. You can now print the report or perform another activity.

You fill in this form the same way you fill in any report format. To produce the Salaries report, enter a **2** in the **Name** item, a **1** in the **Dept** item, and a **3T** in the **Monthly Salary** item. The window should look like this:



The screenshot shows a window titled "STAFF" with a menu bar containing "File", "Edit", "Functions", "Formats", and "Help". The window title bar also says "STAFF". Below the title bar, it says "Edit page 1 of the report format 'Salaries'". The form contains the following fields:

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

Notice that the **Help** menu is available to make entering the report format easier.

When you have finished, make a menu selection (for example, choose **Print a report**). REPORT saves the report format named Salaries in the STAFF file. You can now print the report or perform another activity in PFS:REPORT.

Printing With a Predefined Report Format

Once you have stored a report format in a file, you can use this format repeatedly to print reports from that file. To print a report, pull down the **Functions** menu and choose the command **Print a report**. Choose the forms you wish to include in the report and click the **Print report** button. When the next window appears, type in a title for the report and click the button next to the report format you wish to use. Then click **Ok** when you have decided on the settings for your printer. REPORT skips the report format window and immediately prints the report.

Let's print a report using the format you just stored in the STAFF file. Pull down the **Functions** menu and choose **Print a report**. Since you want to include all the forms from the file in your report, leave the choose forms window blank and click the **Print report** button. Fill in the print options window as follows, making sure that you click the **Salaries** button:

Click **Ok**, and the program uses the report format from your STAFF file to prepare the report. The report looks like this when printed:

SALARIES REPORT, MARCH		
Dept	Name	Salary
Administration	Bennet, Liza	1,200
	Thomson, John	5,000
	Woodhouse, Emma	3,200
	Wolf, James	1,000
Manufacturing	Calvin, Curt	3,600
	Fawley, Susan	2,100
	Peters, Marvin	1,100
	Sanchez, Enrico	3,250

		Total: 20,450

Modifying a Predefined Report Format

To change a predefined report format, choose the command **Edit "report format name"** from the **Formats** menu. When the format appears, you can change it by double-clicking on a single item (to select it), and then typing in a new entry, or you can choose **Clear fields** from the **Edit** menu to erase all the specifications on a displayed page and start over. If your predefined report format contains a derived column formula, you may want to modify that, too. Choose **Define derived columns** from the **Formats** menu and use the same techniques to edit the derived columns.

Suppose you want to revise the Salaries report format to have it include the **Job Title** item and to have it subtotal the salaries by department. To do so, pull down the **Formats** menu, choose the command **Edit "Salaries"**, and your report format "Salaries" appears. Click on the **Job Title** item and type **3** to put this item in column three of the report. Double-click on **Monthly Salary** to highlight the entry. Then type **4ST** to indicate that you now want this item to be column four, with subtotals by department.

When you have made the changes, the window should look like this:

File Edit Functions Formats Help

STAFF

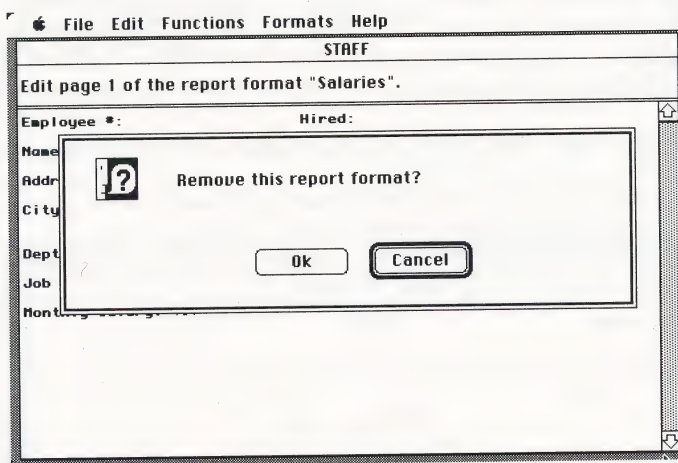
Edit page 1 of the report format "Salaries".

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

Pull down a menu and choose another activity. REPORT stores the revised format in the STAFF file and you can now print the report or perform another activity.

Removing a Predefined Report Format

If you want to remove the Salaries report format, pull down the **Formats** menu. Notice that the command **Remove this report format** is dimmed and is therefore not available. To highlight it, first choose the command **Edit "Salaries"**. When the report format appears, pull down the **Formats** menu again. The command **Remove this report format** is now available. Choose it to remove the format currently displayed. The following warning appears, giving you a chance to change your mind:



If you want to remove the report format, click **Ok**. REPORT removes it and asks you to make a menu selection. The next time you look at the **Formats** menu, you see that the command **Edit "Salaries"** has been removed. The format name is also removed from the print options window.

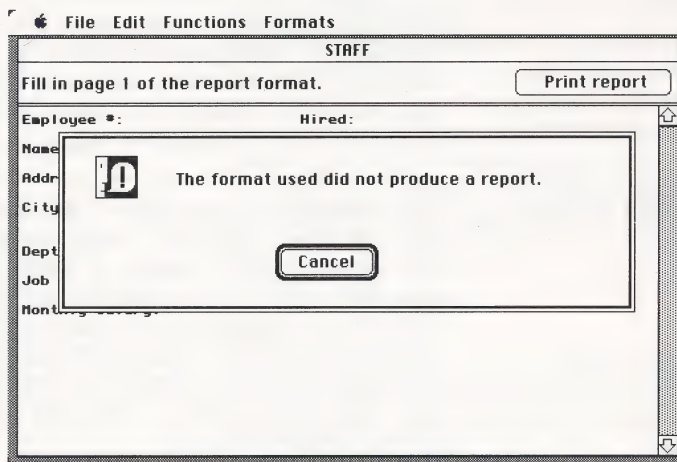
If you want to keep the format after all, click **Cancel** to redisplay the predefined report format.

This chapter has told you how to save report formats in your PFS files. Return to any of the preceding chapters when you need suggestions on creating different types of reports. Turn to the *Quick Guide to PFS:REPORT* for quick reminders on using the program.

a:

messages

REPORT displays a message whenever it encounters an error condition. Certain errors are the result of mistakes made when you enter information (such as filling in search information, the print options, or the report format specifications). Other errors are the result of physical limitations or problems with certain components of your Macintosh. Error messages are displayed like this:



In most cases, error messages are displayed in alert boxes with buttons you click to indicate your choice of action. For further explanation of causes of errors and suggested solutions, refer to the alphabetical list below.

Message**Corrective Action**

Can't print to your PFS data file

You tried to print to a disk file using the same name as the PFS file you are currently using. REPORT does not allow you to replace your current data file with a disk file. Enter a different name for the disk file.

Message

Corrective Action

Clipboard contents are too big to fit in memory

REPORT cannot be loaded into memory because the contents of the Clipboard are too big. If you click **Ok**, REPORT continues loading into memory but erases the contents of the Clipboard. If you click **Cancel**, you return to the Finder. Use another application to edit the contents of the Clipboard before loading REPORT.

Correct error in formula

The formula for a derived column is incorrect due to an unrecognizable or out-of-sequence character, or parentheses nested more than two deep. The insertion point is in back of the first character causing the trouble. Retype the formula to correct it and try again.

Insert a blank disk for sorting

This message only appears if you have more than one drive. REPORT needs temporary work space to sort a report. If there isn't sufficient space on the disk in your drive, REPORT prompts you with this message. Insert a blank disk in the empty drive and click **Ok**. (If you don't insert a blank disk in your other drive and you click **Ok**, REPORT will try to sort anyway.)

IO error

It is unlikely that you will see the IO error message. If you do, it is the result of a system problem involving either your Macintosh or your disk or both. Begin using your most recent backup disk immediately. Check the section *If Something Goes Wrong in Macintosh*, your owner's guide, for solutions to problems with the Macintosh. If IO error persists, see your Apple dealer.

Remove this report format?

This message gives you a chance to change your mind when you tell REPORT to remove a predefined report format from a file. Click **Ok** to proceed or **Cancel** to stop the process.

Message	Corrective Action
The data file is at maximum size	REPORT is unable to continue working on a file that has reached the maximum size of 4 megabytes. If the file size is too big, use the Copy design only command in FILE to copy the design to a new file and then choose Copy forms to add the forms you want to include in your report.
The disk is full	<p>EITHER</p> <p>REPORT attempted to write some information (such as new headings or a predefined report) in your PFS file, and found there was no room on the disk. If you have some unnecessary forms or predefined report formats in the file, make space by removing them (see Chapter 9 in your FILE manual for information on removing forms). If the disk has an unneeded file on it, you could remove it, or copy it to another disk.</p> <p>OR</p> <p>REPORT is trying to sort a report and has run out of space. Try modifying the report specifications in the following ways:</p> <ul style="list-style-type: none">■ If you have two drives, place a blank disk in the other drive.■ You can eliminate column 2 and sort on column 1 only. This lets you continue using subtotal, subaverage, subcount, keyword, and page break, yet saves space when sorting.■ You can enter different search information, so that fewer forms from the file are used for the report.■ You can eliminate both columns 1 and 2, so that sorting is not performed.

Message

Corrective Action

If you don't want to modify your report, you can always use the **Copy design only** command in PFS:FILE to make a copy of your file design on another disk. Then choose **Copy forms** to move the forms you wish to use in your report. Check the Finder on the other disk first, to make sure that the space available is at least twice the size of the file you are about to create. (REPORT usually needs at least as much space as the file you want it to sort.)

The format used did not produce a report

REPORT couldn't produce a report because there were no column numbers in the report format. Choose **Print a report** again and reenter your search information. If you used a predefined report format, choose **Edit "report format name"** from the **Formats** menu and check that it contains column numbers. Otherwise, enter column numbers when you reach the report format window.

The report is too wide for the page. Print anyway?

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. To shorten column headings, use the **Change headings** command (see Chapter 4).

To change the Page width, choose **Print a report** and enter the search information again. When the print options window appears, specify a wider page.

To print out as much of the report as will fit, click **Ok**.

Message	Corrective Action
Unable to create a work file	<p>REPORT cannot create a work file to use as temporary storage when sorting forms for printing. This is either because there is very little free space on the disk or because the disk is damaged. Check the Finder to see how much space there is on the disk. Remove or copy files to another disk to create space equal to the size of the file you are using.</p> <p>If this message appears again when you try to sort forms for a report, your disk is probably damaged. Use the Finder to copy your files to a blank disk.</p>
Undo heading changes?	<p>To prevent removal of your headings accidentally, this message appears when you choose the command Undo heading changes. Click Ok to return to the item names as they are on the form or Cancel to keep them in the file.</p>
Use fewer characters to choose forms	<p>The search information you entered will not fit in REPORT's internal storage area. Specify search information with fewer characters.</p>
** (in the report)	<p>REPORT was unable to calculate the numeric value of this item for one of the following reasons:</p> <ul style="list-style-type: none"><li data-bbox="571 1115 1142 1200">■ The value to be printed exceeded 20 digits either in its original form in the file or during processing. Use smaller numbers.<li data-bbox="571 1222 1142 1335">■ The value could also exceed 20 digits due to an error in a derived column specification. Check the formula, and correct it if necessary.

Message

Corrective Action

- Another possible cause is that one form in the file has an exceptionally large number of trailing decimal places which causes all values to be given that number of places and possibly to exceed 20 digits. Reduce the number of decimal places in the exceptional item in the file.
 - A derived column formula referred to a value in a derived column to the right in the same row. Since the columns are evaluated from left to right for each row, the value is not yet known. Rearrange the derived columns so that they can be calculated from left to right.
 - An attempt was made to divide by zero in a formula. Correct the data or change the formula.
-

b: *example file*

This manual uses a series of examples based on a PFS:FILE data file named STAFF. When you receive your PFS:REPORT package, you will find this file stored on the REPORT program disk. If for any reason you need to recreate the STAFF file, you can do so by following the instructions below:

To create the STAFF file, start PFS:FILE. Click **Create a new file**, type **STAFF** in the **New file name** box and click the **Ok** button. When the form design window appears, type in the following design:

The screenshot shows a window titled "STAFF" with a menu bar containing "File Edit Functions Formats". The main area of the window contains the following text:

Fill in page 1 of the design.

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

When you have completed the form design, pull down the **Functions** menu and choose **Add forms**. When the new form window appears, enter information for the eight employees listed below. Enter the information exactly as it is shown, even though some of the items are inconsistent. The examples in this manual can then show how REPORT deals with these inconsistencies.

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

a quick guide to pfs:report

Special Keys

Enter

Confirms whatever entry you've made on a window so that REPORT moves on to the next step. In an alert box, it is the same as clicking the heavily outlined button (for example, **Cancel**).

Return

Moves the insertion point to the beginning of the next line. In an alert box, it is the same as clicking the heavily outlined button (for example, **Cancel**).

Tab

Moves the insertion point to the next item on the form. With the Shift key pressed, Tab moves the insertion point back to the previous item on the form. On the print options window, pressing Tab moves the insertion point from box to box and highlights text so that you can type over it if you wish.

Backspace

Moves the insertion point to the left one space and erases the character in that location.

Option

Lets you enter accented and special characters. Refer to Appendix A of your Macintosh owner's guide.

⌘

Used in combination with the following keys:

X

Cuts highlighted text and places it on the Clipboard.

C

Copies highlighted text and places it on the Clipboard.

V

Pastes text from the Clipboard at the insertion point on your screen.

Printing a Report

Steps

1. Insert the PFS file and open it.
2. Pull down the **Functions** menu and choose **Print a report**.
3. Fill in search information if necessary. Use **Count forms**, if desired, to find out how many forms match your search information.
4. Choose the print options.
5. Fill out the report format window. To include a derived column, choose **Define derived columns** from the **Formats** menu.
6. Click the **Print report** button to prepare and print the report.

Search Information

- leave window blank to print all forms
 - abc finds abc only (upper or lower case)
 - ..xyz finds any entry ending xyz
 - abc.. finds any entry starting abc
 - ..pqr finds any entry containing pqr
 - .. finds all nonblank letters
 - ?and finds any four letter word ending with and (band, land, etc.)
 - <10 finds any number less than 10
 - >99 finds any number greater than 99
 - =33 finds the number 33
 - =1..5 finds any number between 1 and 5
 - /=25 finds any number not equal to 25
 - /A.. finds any entry not starting with A (or a)
 - /.. finds all blank entries
-

Print Options

- Type the title you want in the **Report Title** box.
- Choose your report destination (click either **Printer**, **Screen** or **Disk File**).
- If you are using single sheet paper, click the **Pause between pages**.
- Enter the lines per page (66 for a standard 11-inch page, for most printers). Enter a 0 for a report with no page breaks or page numbers.
- Choose the page width (80 for an 8 1/2 by 11 inch page when printing in regular print mode; 136 to print in ultracondensed mode on the same size page).
- Enter special codes to set up your printer. Refer to the owner's manual that comes with your printer to learn the complete range of settings available and the codes that control them. You may enter up to 20 special codes.
- If you are using a predefined report format, click the button beside its name.

Report Specifications

- n make this column n (maximum 20 - sorts on columns 1 and 2)
 - nT totals all numbers in column n.
 - nST subtotals column n whenever the item in column 1 changes.
 - nA averages all numbers in column n.
 - nSA subaverages column n whenever the item in column 1 changes.
 - nC counts all items in column n.
 - nSC subcounts column n whenever the item in column 1 changes.
 - nN treats the column numerically, lining up decimal points and ignoring non-numeric characters.
 - 1K sorts column 1 by keyword, with every form printed once for each keyword entry (column 1 only).
 - 1P begins a new page whenever the item in column 1 changes (column 1 only).
-

Derived Columns

- Choose **Define derived columns** from the **Formats** menu when you have finished filling in the report format window.
- Type the heading you want to appear at the top of the new column.
- Type the formula that will be used to calculate the values in the derived column.
- Allowed operators are:
 - + add
 - subtract
 - * multiply
 - / divide
 - () evaluate terms in parentheses before other terms. You can nest parentheses two deep.
 - #n use the value in column n.
- Enter the column number for the derived column, and any commands to produce calculations on the new column.

Storing a Report Format

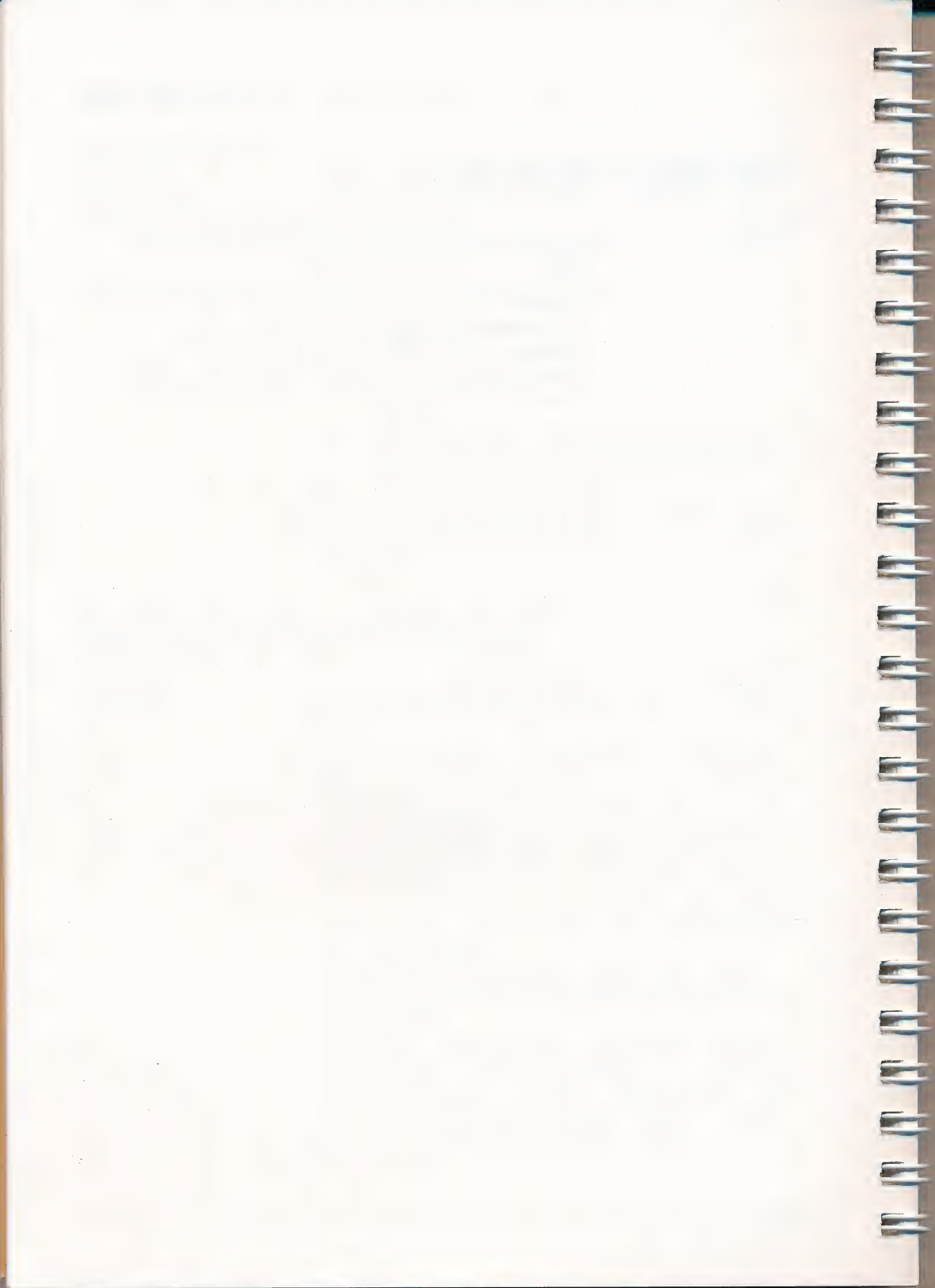
Steps

- Choose **Create a report format** from the **Formats** menu.
 - Enter a name (up to 10 characters) in the dialog box.
 - Fill out the report format window. If desired, define one or more derived columns.
 - To use a predefined report format, follow the steps for printing a report. On the print options window, click the button beside the name of the predefined report you want to use. REPORT skips the report format window and prints the report according to the stored format.
 - To modify a report format, choose **Edit "report format name"** from the **Formats** menu and enter your changes.
 - To remove a report format, choose **Edit "report format name"** from the **Formats** menu. When the form appears, pull down the **Formats** menu again and choose **Remove this report format**. In the alert box, click **Ok** to remove the format.
-

Changing Headings

Steps

- Choose **Change headings** from the **Functions** menu.
 - Type the new heading beside each item you wish to change.
 - To remove headings choose **Undo heading changes** from the **Functions** menu.
 - When the alert box appears, click **Ok** to remove headings.
-



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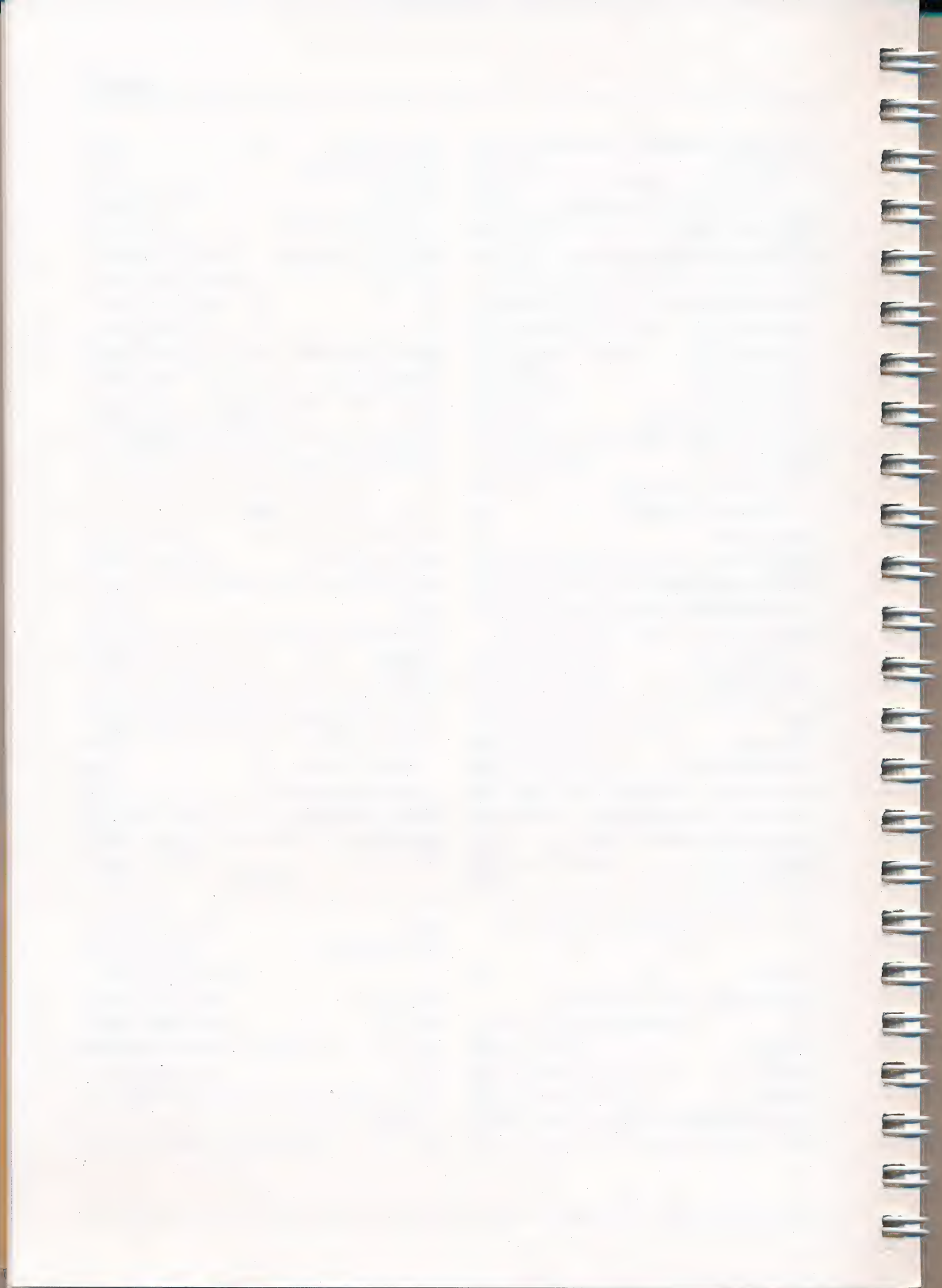
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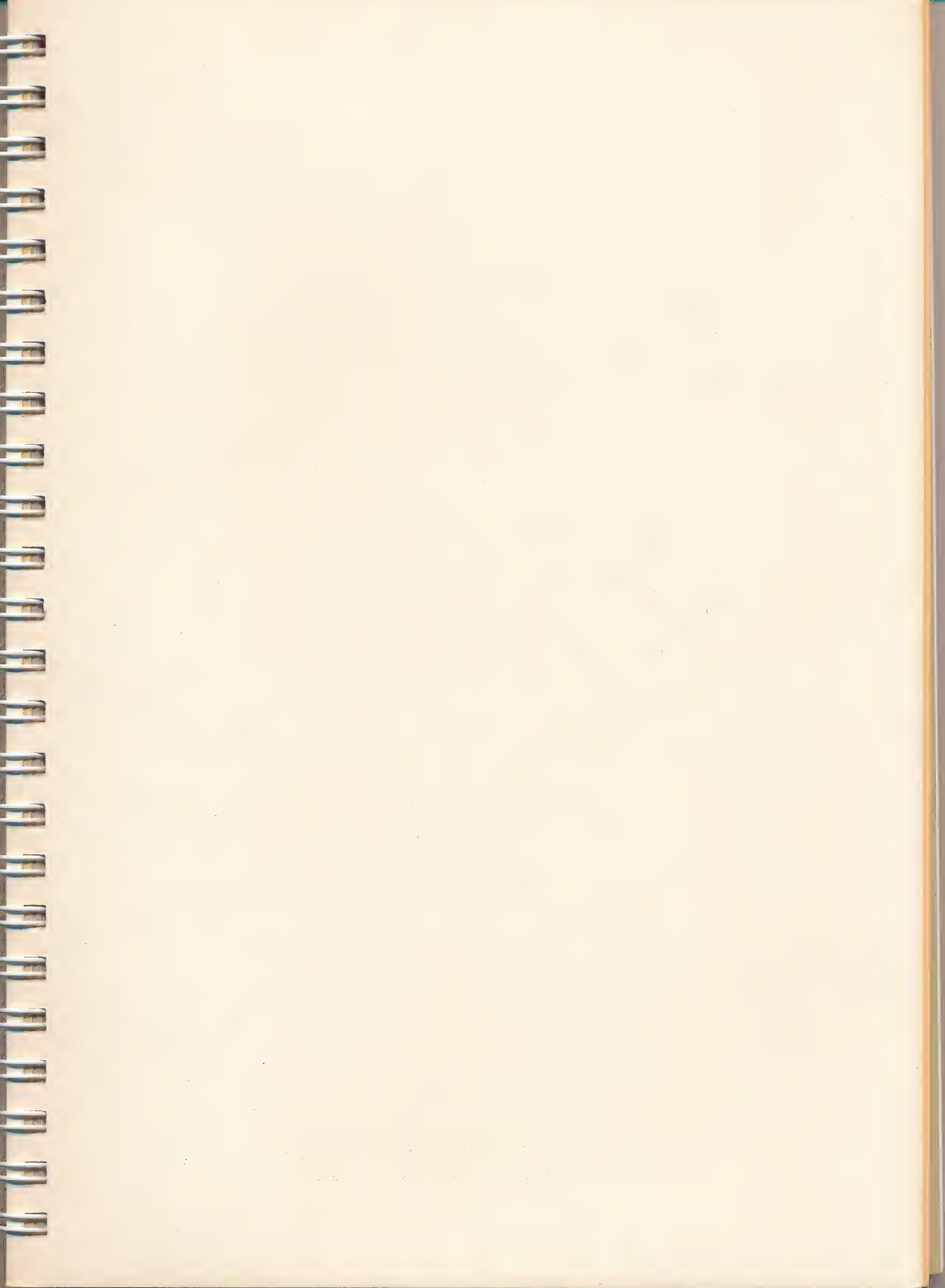
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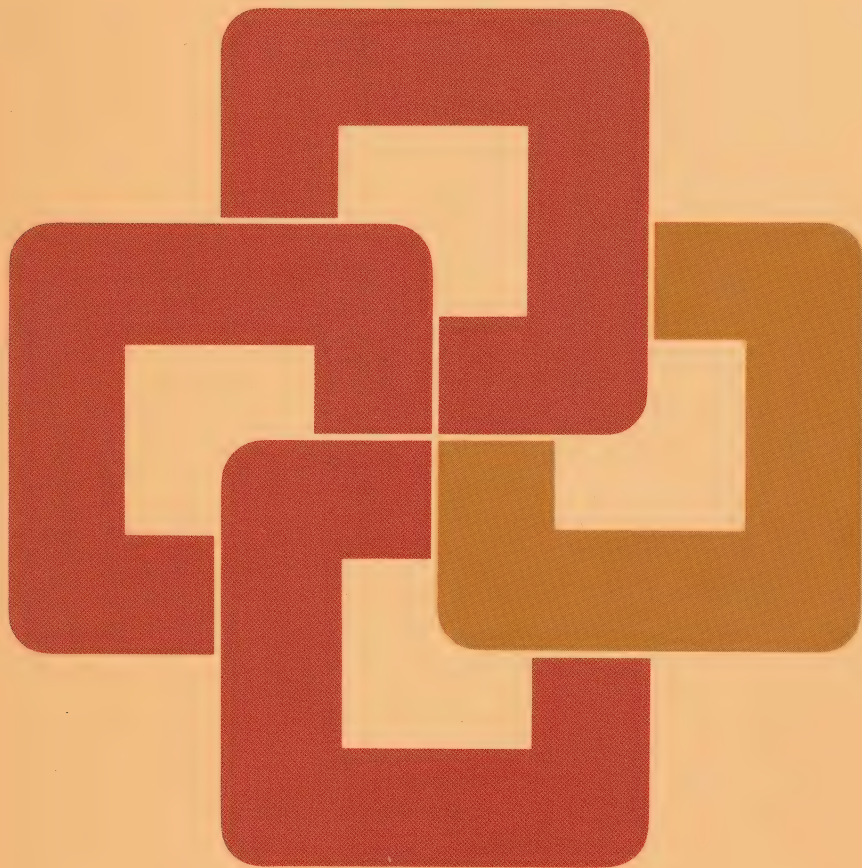
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user's manual

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about this manual

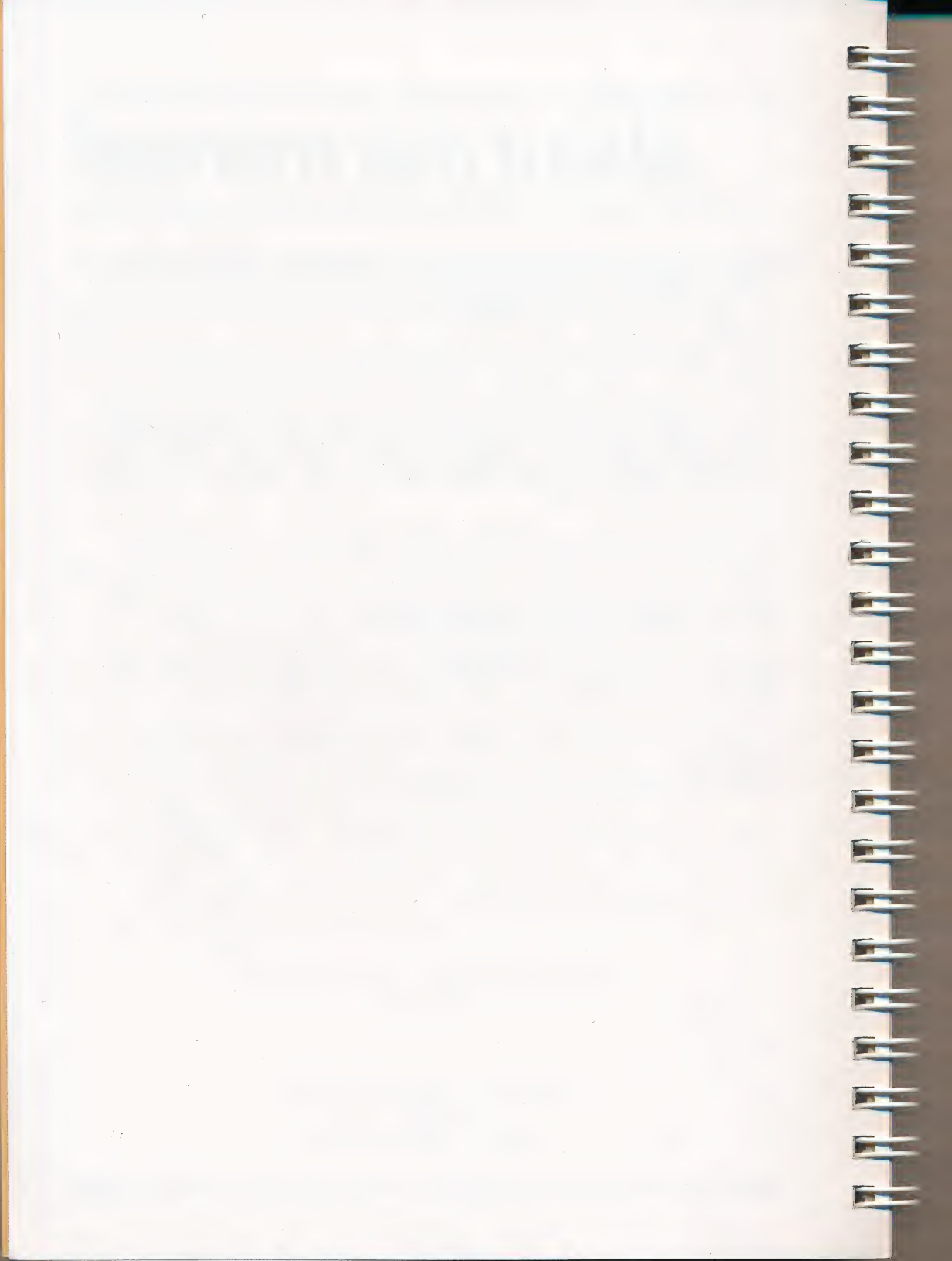
PFS:FILE is one of a series of easy-to-use programs in the PFS integrated Family of Software. This manual explains how to use PFS:FILE with your Macintosh computer to help organize and manage the information you use every day.

To learn PFS:FILE, you first need to know how to use your Macintosh. In particular, you should know how to use the mouse, the keyboard, and pull-down menus; how to drag the pointer; and how to select an icon. You can perform some PFS:FILE tasks in more than one way using these features of the Macintosh; however, to simplify instructions, this manual suggests one technique for each task. Refer to *Macintosh*, the owner's guide, to learn the full range of its capabilities.

This manual contains nine chapters and two appendices. The chapters give detailed instructions and examples for using PFS:FILE. Information that appears on your Macintosh screen is presented in **boldface** type to distinguish it from other text. The best way to learn PFS:FILE is to read the manual and work through the examples on your Macintosh.

The appendices contain instructions for correcting errors and for estimating how many forms can be stored in your file. A quick reference guide and an index are also included.

If you have not already done so, please fill out and return the User Group Enrollment Card. Enrollment in this group entitles you to receive product update information and tips on using the PFS Family of Software.

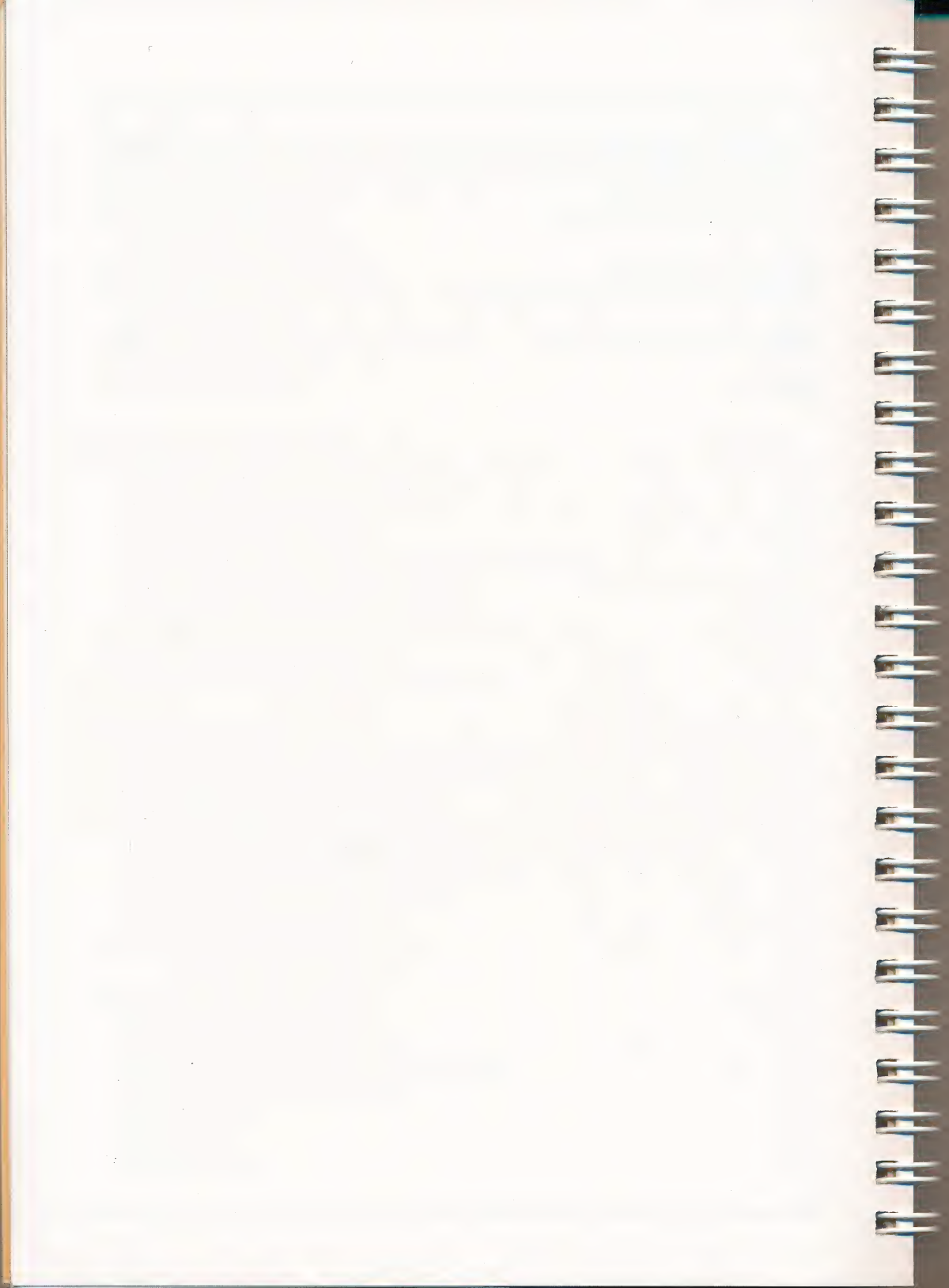


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1: *what is pfs:file?*

PFS:FILE is a computer program that you can use to store and recall information you deal with every day. PFS:FILE, or simply FILE, works with all kinds of information about people, places, ideas, objects, or events. FILE is useful in a wide range of applications, such as business, professional environments, home, and education. FILE organizes and stores information efficiently, providing easy access to any information you want. Retrieval is fast and reliable, and it is not limited by the order in which the information is stored.

When you use FILE, your information is kept in forms of your own design. A form can have as much or as little structure as you wish. Using the Macintosh keyboard, mouse, and screen, you design the form you want, save it in a file on a disk, and then use it to store your information.

Here are some examples of the kinds of forms you can design:

Personnel Information

Personnel Record Form		
Employee #:	Hired:	
Name:		
Address:		
City:	State:	Zip:
Job Title:		
Salary:		

File Edit Functions Formats

STAFF

Fill in page 1 of the design.

Employee #:	Hired:	
Name:		
Address:		
City:	State:	Zip:
Job Title:		
Salary:		

Customer List

CUSTOMERS			
ACCOUNT #:			
NAME:			
ADDRESS:			
CITY:	STATE:	ZIP:	
PHONE:			
CREDIT RATING:			
METHOD OF PAYMENT:			
DATE OF LAST PURCHASE:			
PURCHASES:			
COMMENTS:			

File Edit Functions Formats

CUSTOMER LIST

Fill in page 1 of the design.

Name: Account #:
 Address: State: Zip:
 City: State: Zip:
 Phone: State: Zip:
 Credit Rating:
 Method of Payment:
 Date of Last Purchase:
 Purchases:
 Comments:

Patient Records

AZUKI MEDICAL GROUP
 1357 W. SHAW AVE.
 PETALUMA, CA 93711

Patient Record

Soc. Sec. # 565-66-2730 Age 67

Name Mr. San Miguel

Address 3199 Frisco Drive

City Palo Alto State CA Zip 94025

Chronic Conditions Arthritis

Last Office Visit

9/30/78 *San Miguel*
 7/16/79 *San Miguel*

File Edit Functions Formats

PATIENT RECORDS

Fill in page 1 of the design.

SS#: Age: Date:
 Name:
 Address:
 City: State: Zip:
 Home Phone:
 Business Phone:
 Occupation:
 Insurance:
 Bill To:
 Last Treatment Date:

File Edit Functions Formats

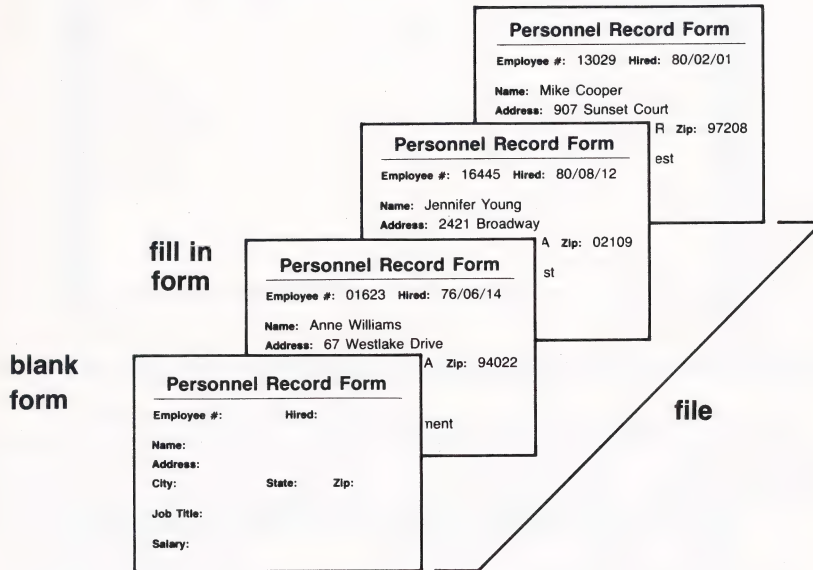
PATIENT RECORDS

Fill in page 2 of the design.

Drug Allergies:
 Chronic Conditions:
 History:
 Treatment Record:

How PFS:FILE Works

The PFS:FILE program uses menus that list the functions of the program. You indicate the command you want to give by pulling down a menu and selecting your choice. Start by creating a new file to store your forms. Design a blank form, save it in the file on the disk, and then use it to store your information.



Once you store the information in the file, you can find it in a variety of ways. You indicate what information you want to find by filling in a special copy of the form. You can ask for all items that exactly match a given set of characters, for example:

“Find the employee record for Peggy E. Miller”

File Edit Functions Formats

STAFF

Page 1 -- please choose forms to find. Find first form

Employee #: Hired:

Name: Peggy E. Miller

Address:

City: State: Zip:

Job Title:

Salary:

or all items that contain a certain set of characters:

“Find all customers who have purchased a computer from us”

File Edit Functions Formats

CUSTOMER LIST

Page 1 -- please choose forms to find. Find first form

Name: Account #: Address: City: State: Zip: Phone:

Credit Rating: Method of Payment:

Date of Last Purchase: Purchases: ..computer..

Comments:

If the item is a number, the request can be for all items less than, greater than, or equal to a given number:

“Find all patients over 65”

File Edit Functions Formats

PATIENT RECORDS

Page 1 -- please choose forms to find. Find first form

SS#: Age: >65 Date:

Name:
Address:
City: State: Zip:
Home Phone:
Business Phone:

Occupation:
Insurance:
Bill To:

Last Treatment Date:

FILE allows you to enter search information for as many items as you wish. Only those forms meeting all your requirements are found. This feature gives you access to complex relationships among different items of information. For example:

“Find all patients over 65 living in Palo Alto, who suffer from arthritis”

File Edit Functions Formats

PATIENT RECORDS

Page 1 -- please choose forms to find. Find first form

SS#: Age: >65 Date:

Name:
Address:
City: Palo Alto State: Zip:
Home Phone:
Business Phone:

Occupation:
Insurance:
Bill To:

Last Treatment Date:

The screenshot shows a window titled "PATIENT RECORDS" with a menu bar containing "File", "Edit", "Functions", and "Formats". The window content includes the text "Page 2 -- please choose forms to find." and a "Find first form" button. Below this are four sections: "Drug Allergies:", "Chronic Conditions: ..arthritis..", "History:", and "Treatment Record:". The window has a standard Mac OS-style border with a scroll bar on the right side.

You can display the requested forms on a window for quick viewing (and updating, if you wish) or print them for a more permanent record. You can print the entire form or selected portions of it, formatted to your specifications. For example, you can print name and address information on mailing labels.

The remaining chapters of the PFS:FILE manual give you detailed explanations and examples of how to create, store, and find forms. You also learn how to print information and how to change the design of existing forms. Finally, you learn helpful file management functions such as copying and removing forms from a file.

2: *getting started*

This chapter explains how to get started using FILE and lists the equipment you need. It also explains how to start and leave the program, how to choose commands from the pull-down menus, how to use the **Edit** menu and desk accessories with FILE, and how to use FILE's special buttons. Finally, it offers our recommendations for protecting your data files by frequent backing up. When you have finished reading the chapter, and have followed its instructions, you will be ready to use the FILE program.

What You Need to Use FILE

To use FILE, you need the following equipment:

- a Macintosh computer with at least 128K memory
- an Apple Imagewriter printer, properly connected to your computer
- the PFS program disk (A spare copy is also provided, in case the original disk is damaged. Store the spare copy in a safe place.)
- several blank disks for file storage
- (optional) an additional disk drive or a hard disk unit

Note: This manual assumes that you do not have an additional disk drive connected to your Macintosh. Where procedures differ for two-drive systems, they are discussed separately.

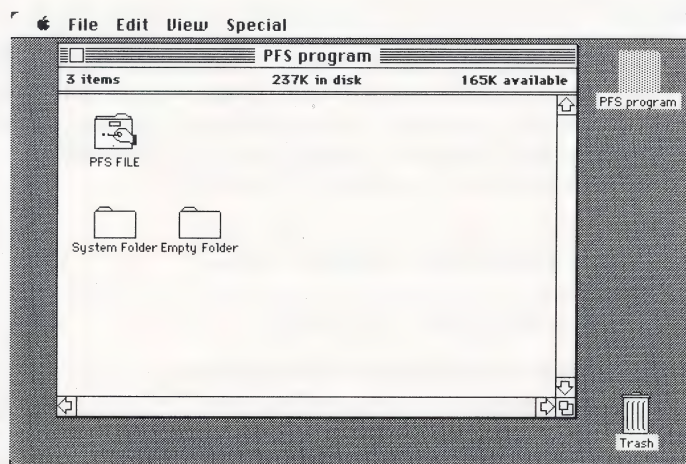
Starting FILE

You are now ready to begin using the program. The procedure for starting FILE is slightly different depending on whether or not your Macintosh is already turned on:

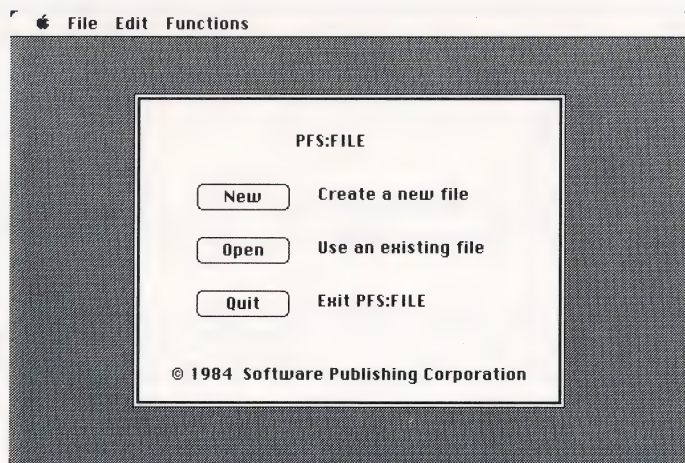
- If the computer is turned on, exit whatever program you are using and eject the disk. Then insert the PFS program disk and double-click the icon when it appears on the desktop. When you see the Finder, select the PFS:FILE icon.
-

2-2 pfs:file

- If the computer is turned off, first turn the power on. When requested to insert a disk, insert the PFS program disk. At the next window, double-click the active disk icon, and when you see the Finder, double-click the PFS:FILE icon:



Next you see a window asking if you want to create a new file, use an existing file, or exit PFS:FILE. This is the PFS:FILE title window:



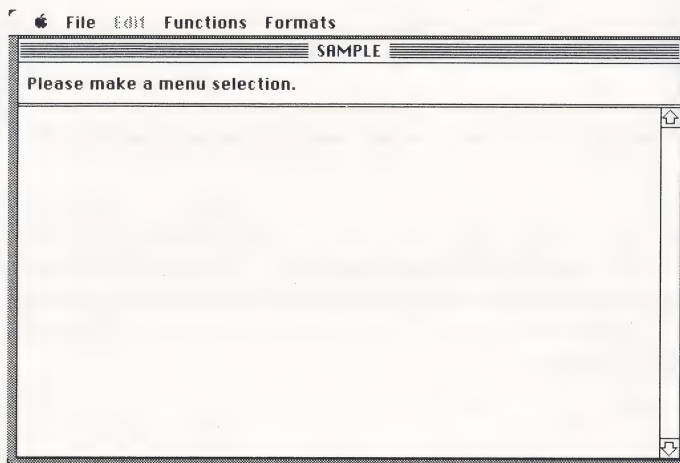
Notice the oval buttons next to the options in the title window. These oval buttons appear on numerous FILE windows. To make a selection using a button, position the pointer on it, and click.

In this situation, if you choose to create a new file, click the button marked **New**. When the next box appears, eject the PFS program disk and insert a new disk for data. (If it is an uninitialized disk, you are asked to initialize it and give it a name.) Next, type a name for your new file, and click the **Ok** button.

If you choose to use an existing file, a directory window opens, listing the data files on your disk. If the file you want to use is on the program disk, click the file name and the **Ok** button (or simply double-click the file name). Otherwise, click the **Eject** button and insert your data disk.

Note: The directory window can only display six files at a time. If your file disk contains more than six files, click and drag the scroll box until the file you wish to use appears.

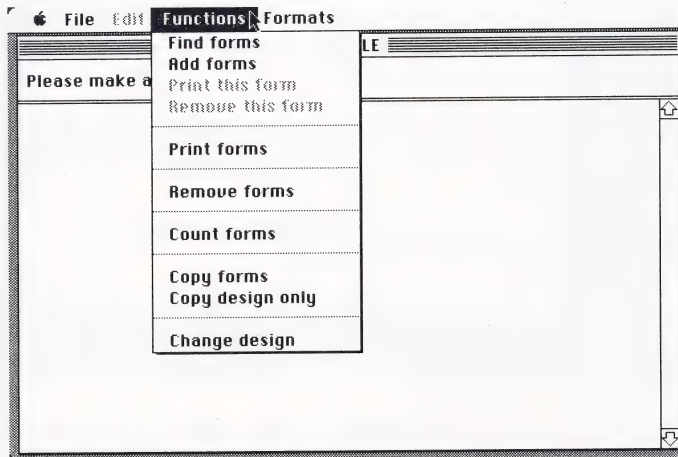
The following window appears, showing the name of the file you have selected, and directing you to make a menu selection:



When you are using FILE, you often see this window. FILE displays it when you are starting up the program and returns to it after completing functions on the **Functions** menu.

PFS:FILE Menu

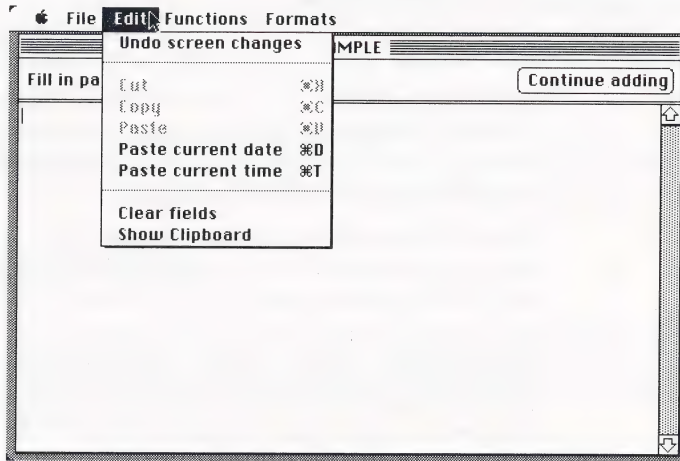
At the top of your Macintosh desktop is a set of titles on the menu bar: **File**, **Edit**, **Functions**, **Formats** (and sometimes **Help**). These are the menus available to you when you are using FILE. To see the commands on each menu, position the pointer on the menu title (**Functions**, for example) and drag it down. The **Functions** menu looks like this:



To choose a menu command, drag the pointer down and release the mouse button on the line of your choice. Notice that some of the commands on the **Functions** menu appear in highlighted letters; others are dim. Menu commands you can perform at a particular stage of the program are highlighted; commands you can't use at that time are in light letters. (FILE won't let you choose an inactive menu command.)

Using the Edit Menu with FILE

When you enter or update information with FILE, you may find it convenient to use some of the **Edit** menu features. The PFS:FILE **Edit** menu looks like this:



You can cut one item of information at a time, store it temporarily on the Clipboard, and then paste it into another location. Or, you can copy the information you have cut. To see the contents of the Clipboard, choose the last menu command, **Show Clipboard**.

If you review changes you have made to a form and find them unacceptable, you can choose the **Undo screen changes** command to restore the form to its original state.

Suggestions for using the **Edit** menu features appear in chapters where they may be helpful. You can learn more about the full set of **Edit** features from *Macintosh*, your owner's guide.

Special Keys Used by FILE

As you work with FILE, you usually use the mouse to move the pointer and to perform other desired tasks. Sometimes, however, it may be more convenient to keep your fingers on the keyboard and perform specific actions from there. The keys you can use are described below:

Key	What It Does
Enter	Confirms whatever entry you've made on a window so that FILE moves on to the next step. In an alert box, pressing the Enter key is the same as clicking the heavily outlined oval button (Ok for example).
Return	Moves the insertion point (the blinking bar) to the beginning of the next line. Using Return in an alert box is the same as clicking the heavily outlined oval button.
Tab	When filling in a form, Tab moves the insertion point forward to the next item. With the Shift key pressed, Tab moves to the previous item. (You can also click on an item once to move the insertion point automatically to that item.)
Backspace	Moves the insertion point to the left one space and erases the character in that location.
⌘	Used in combination with the following keys, Command is a shortcut to choosing a command from the Edit menu. X = Cut C = Copy V = Paste D = Paste current date T = Paste current time
Option	Used in combination with certain keys, Option lets you enter accented and special characters. These are discussed in Appendix A of your Macintosh owner's guide.

Using the Macintosh Desk Accessories

The full range of Macintosh desk accessories is available for you to use with FILE. For example, you might want to decrease the speed at which the Macintosh interprets your double clicks to select icons or open files. Or, you might want to adjust the keyboard action to produce repeating characters at only a very light touch. With PFS:FILE, you choose a desk accessory just as you choose any menu command. Pull down the Apple menu at the far left of the menu bar, and choose any desk accessory command.

Note: With FILE, you may use only one desk accessory at a time. If you have a data disk in the drive when you choose a desk accessory, the disk is ejected, and you are asked to insert the PFS program disk.

Stopping Work

When you want to stop using PFS:FILE, you can either quit work altogether or move to another program. To quit work on your Macintosh altogether, pull down the **File** menu and choose **Quit PFS:FILE**. Then close all files, eject the disk and turn the Macintosh off.

You can stop using FILE and start work on PFS:REPORT or on another program. To do so, pull down the **File** menu and choose the **Quit PFS:FILE** command. After a short pause, a window will display all the programs on the disk in the drive, and you can select another one to work on.

If the program you want to use is not on the disk in the drive, you can click the close box or choose the **Close All** command from the **File** menu. Either action will close the files on the disk. After closing the files, choose the **Eject** command from the **File** menu and remove the disk from the drive. Then replace the disk with the one you want to use and begin work.

Note: If you choose to eject the disk without closing all files, the PFS:FILE disk becomes an "alternate" disk, displayed as a shaded icon on the desktop. If the Macintosh needs the alternate disk later, it asks for it.

Protecting Your Data Files

By the time you have created a file and entered information into it, you will have invested a good deal of your time. To avoid losing the data stored in that file (and the time you have spent entering it), follow these guidelines:

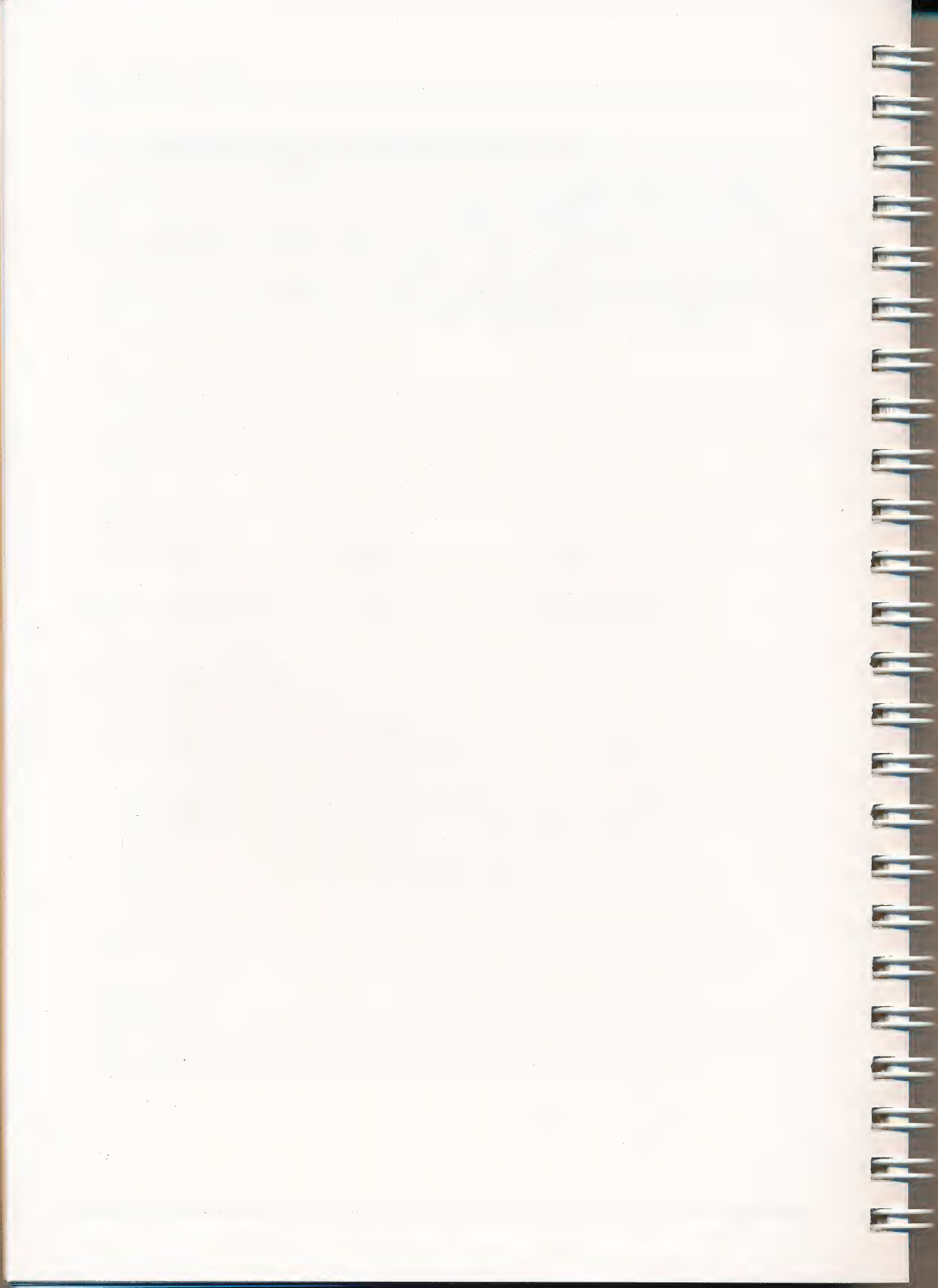
- Never turn your Macintosh off unless you have exited PFS:FILE. IF YOU DO, THE FILE MAY BE PERMANENTLY DAMAGED.
- Use only high-quality disks.
- Handle your disks carefully. Although your 3-1/2 inch disks are sturdier than floppy diskettes, they do require care. Store them away from heat, sunlight, and devices with strong magnetic fields (TV's, etc.). In addition, avoid touching the exposed disk under the metal covering.
- Always keep at least one extra, or backup, copy of each file. See our backup recommendations below.
- Print a copy of your files from time to time. See Chapter 6 for instructions.

Recommended Backup Procedure

1. Procedures for copying files vary depending on whether your Macintosh system has one or two drives. Both copy procedures involve selecting the icon that represents the file you want to copy and dragging the icon to where you want to copy the file. These are the principle differences in the procedures (see *Macintosh*, the owner's manual for details):
 - With a single disk drive, you are asked to alternate the original disk and the destination disk as many times as necessary to copy the complete file. Screen instructions prompt you each step of the way.
 - With two disk drives, the file is copied without prompting for disk swapping.
 2. Back up your data files on a regular basis. If you update them daily, then back up daily. If you update less often, back up whenever you update.
 3. After creating a new data file, make two backup copies. Thereafter, alternate their use. The first time you back up, use the first disk; the next day, use the other disk; and so on. This way, if a problem develops while making a backup, you still have the data on the other backup disk.
-

4. If you encounter problems with a file or get an IO error message (see Appendix A), remove the disk at once and use the backup disk. (Make a copy of the backup disk first.) If the problem recurs with the backup disk, ask your Macintosh dealer for help.

In this chapter you have learned how to start and exit PFS:FILE. You have learned how to use some of the special Macintosh features and menus with the program and have received suggestions on protecting your data files. In the next chapter you will learn how to design a file for your data.

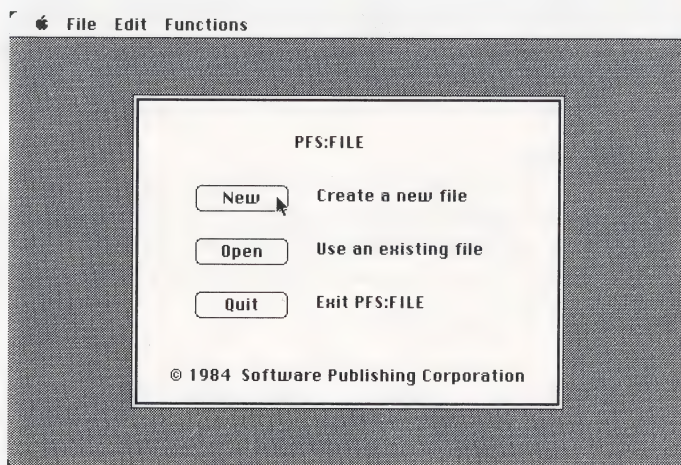


3: *creating a new file*

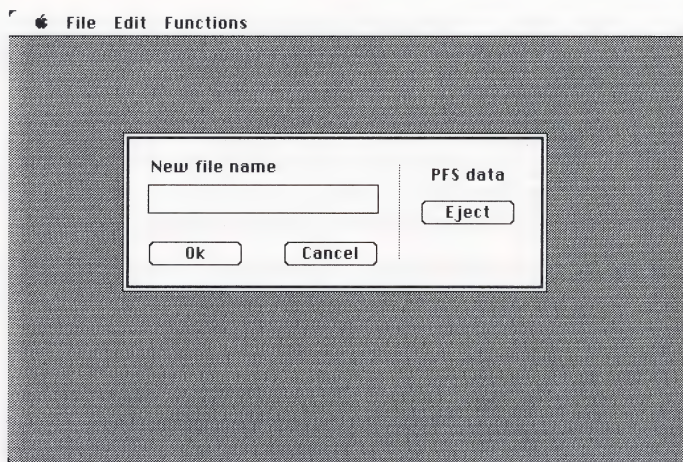
This chapter explains how to create a file to store information. By following along with the example, you create a sample file that stores typical personnel information for six employees.

You create a file by giving it a name and opening the disk on which you wish to store it. Next, you design the form by typing the names of items as you wish them to appear and then store your design in the file. Later, you fill in the form with information, and FILE stores that information in the same file.

To create a file for storing information, start the FILE program according to the directions in Chapter 2. When the PFS:FILE title window appears on the screen, move the pointer to the **New** button and select it.



A dialog box appears next. Eject the PFS program disk and insert another disk on which to create your data file. (Initialize and name the data disk, if necessary.) The dialog box you use looks like this:



Naming Files

PFS file names follow the same rules as for other Macintosh files: A file name can be from one to 40 characters long, and it can include any characters on the keyboard except a colon (:). It cannot begin with a period (.). Here are several sample file names:

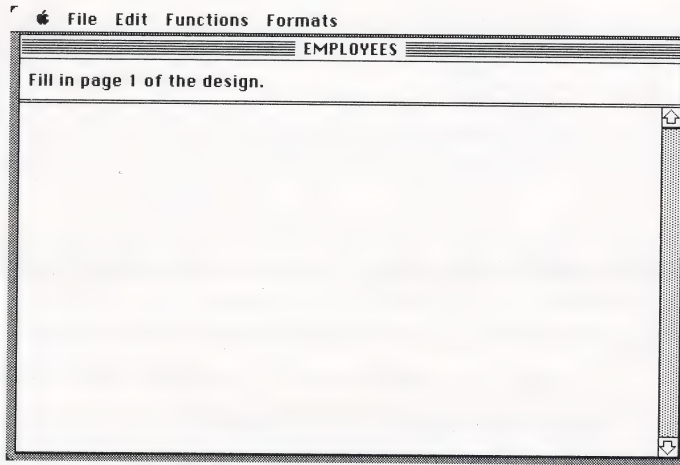
- index
- RED WINES
- Dr. Smith's Patient Records (1984)
- Bibliography for Article "Oceanography"

Remember that no two documents on a disk can have the same name and that the Finder does not distinguish between upper and lower case letters. For example, Macintosh would consider RED WINES to be the same file name as red wines.

At the dialog box, type **EMPLOYEES**, to give the sample personnel file its name. Then, click the **Ok** button.

Designing the File

As soon as you open the disk for your new file, a window opens on which you can enter your design:



FILE uses the title bar and the area above it to tell you:

- the name of the file you are creating (EMPLOYEES)
- the page number of the form design
- the titles of the pull-down menus you can choose from

Entering the Design

When you design a form, you create a place to put your information. Using the mouse, keyboard and screen, you create an image of the form you want. When you design forms of your own, you can model them on familiar paper forms you have on hand, or you can use the following guidelines to set up new forms:

- Decide how to arrange the information you wish to store in your file.
- Choose names that best describe each item of information.
- Determine approximately how much space you should leave for each item of information.

Editing the Form Design

While you are designing your form, you may find it helpful to use the **Edit** menu. It contains several commands to help you correct mistakes or rearrange the format of the items on the window.

To move an item, drag the pointer across it. Then choose **Cut** from the menu. Next, select the insertion point by clicking where you want the item to go, and choose **Paste** from the menu.

To copy an item, drag the pointer across it and choose **Copy** from the menu. Next, select the insertion point by clicking where you want the item to go, and choose **Paste** from the menu.

To replace an item, drag the pointer across it and type in your new text, or choose **Paste** from the menu to replace the item with what was last cut or copied.

To remove an item, drag the pointer across it and press the Backspace key or choose **Cut** from the menu.

When you design your form, you may find that you need to add or delete lines. Since FILE comes set to work automatically in the insert typing mode, simply press the Return key to add a line. Any characters to the right of the cursor move down. To delete a line, select the line by dragging across it and press the Backspace key.

Note: If the bottom line of your form contains information, FILE cannot insert text or blank lines elsewhere in the form. To enter another item or another line, you need to delete the bottom line or remove blank lines elsewhere on the form.

Some Further Suggestions on Form Design

Each section set aside for information (and later the filled-in section) is called an *item*. As you are designing your form, keep in mind these important points about items:

- Leave plenty of space for each item. This practice does not take more space on your disk and is important because your form is used for both storing and retrieving information. When you use the form to retrieve something, your instructions for retrieval may actually require more character positions than the data itself.
-

For example, an item named Page may be designed to store a maximum of three digits. If you design your form with only three spaces following Page, you cannot ask for "all pages numbered lower than 100," because the required format requires four spaces. The format looks like this: < 100.

- Make the first item in your form the one you will look for most frequently. This provides the fastest possible retrieval. When FILE is searching for the first item on a form, it can go directly to the desired form in the file. When FILE is searching for other items in the form, it searches through each form in the file from the end of the file forward. This type of search takes longer.
- When FILE prints out information from your files, it prints items in the order in which they appear on the form. Design your form with this in mind. For example, suppose you want to print mailing labels from a file. Your forms must be set up in the order of a standard mailing address (name, address, city, state, zip code), or you will not be able to print a mailing label with the items in that order. Note that the items you choose for printing do not have to be adjoining, just in the proper order on the form.
- If you would like to have the same information stored in two different ways for different purposes, set up two items with different names. For example, have a Last Name item for fast searching and sorting customers by last name, and have a Name item for keeping names in the format you would use in a mailing address.
- Terminate each item name with a colon. Any character entered on the window during the design process is part of some item name, and the colon identifies characters as item names for the FILE program. For example, suppose the form from the PATIENT RECORDS file mentioned in Chapter 1 looked like this:

The screenshot shows a window titled "PATIENT RECORDS" with a menu bar containing "File", "Edit", "Functions", and "Formats". Below the title bar, the text "Fill in page 1 of the design." is displayed. The form contains several fields, each terminated with a colon:

SS#:	Age:	Date:

Name:		
Address:		
City:	State:	Zip:
Home Phone:		
Business Phone:		

Occupation:		
Insurance:		
Bill To:		

Last Treatment Date:		

SS# is an item name, and so are Age and Date. The line of dashes inserted between the first and second lines of the form is a part of the Name item. (Every non-blank character between the colon ending the Date item and the colon ending the Name item is part of the Name item.)

Designing Multiple-Page Forms

A form can consist of more than one page, though the window can only show one page at a time. Each page can contain a maximum of 100 items. If you need more than one page for a form, you can create up to 31 additional pages. Then you can move back and forth between pages, like turning pages in a booklet, by clicking the arrows at the right side of the window in the direction of what you want to see:



Clicking this arrow brings up the next page of the form (in this case, a blank page). You can continue to type more item names.



Clicking this arrow recalls the previous page of the form to the window. You can review it and make changes, if you wish.

As you move through your multiple-page form, you'll see the current page number displayed in the message area at the top of the window. An asterisk (*) appearing to the right of the page number indicates that the form has additional pages containing data.

Erasing a Page of the Form Design

If you want to erase a page of the form design, display that page, pull down the **Edit** menu, and select the **Clear fields** command. The currently-displayed page of the form is erased, while other pages remain unchanged. Erasing a page does not remove the page from the form design, but merely turns it into a blank page. To remove it, you need to redesign the form. See Chapter 7 for information on changing the design of a file.

Storing the Form Design

FILE stores your form design automatically as you enter it on the window. When you are satisfied that the blank EMPLOYEES form has all the right items in the right places, you are ready to start adding information in your file. Should you want to leave PFS:FILE at this point, you can do so by pulling down the **File** menu and selecting the **Quit PFS:FILE** command. Your file design is saved for you and you can begin adding forms at another time.

In this chapter you learned to design a form for the information you want to have on file. In the next chapter you will learn how to enter and store information in the file.

4: *adding forms to the file*

This chapter explains how to enter information in a file using the **Add forms** command on the **Functions** menu. Using **Add forms**, you fill in the blank form with the information you want to keep, and that filled-in form is stored in the file. In this chapter, you use the personnel form you designed for the sample EMPLOYEES file for practice.

The number of forms that can fit on a disk depends on the capacity of the disk, how many pages are in the form, how many items there are per page, and how much data is entered in each item. See Appendix B for an explanation of how to calculate the approximate number of forms that fit on a disk in a given situation.

Starting to Add Forms

Let's add information to the EMPLOYEES file. First, pull down the **Functions** menu and choose the **Add forms** command. Page 1 of the new form appears, displaying a blank form in the EMPLOYEES file:

The screenshot shows a window titled "EMPLOYEES" with a menu bar containing "File", "Edit", "Functions", and "Formats". The window content includes a title bar "EMPLOYEES", a subtitle "Fill in page 1 of the new form.", and a "Continue adding" button. The form fields are:

Employee#:	Hired:
Name:	
Address:	
City:	State: Zip:
Job Title:	
Salary:	

When you enter information on this window, FILE protects item names so you cannot accidentally write over and destroy them.

Filling in the Form

Now you are ready to add information to the EMPLOYEES file. The insertion point is positioned in the **Employee #** item. Type **01623**. Then press Tab to move to the next item **Hired** and type **76/06/14**. Continue pressing Tab to move to each item, and type in the rest of the information shown below.

File Edit Functions Formats

EMPLOYEES

Fill in page 1 of the new form. Continue adding

Employee #: 01623 Hired: 76/06/14

Name: Anne Williams

Address: 67 Westlake Drive

City: Los Altos State: CA Zip: 94022

Job Title: Manager

Salary: \$3500.00

Click the **Continue adding** button and FILE allows you to add another form. (Note that pressing the Enter key performs the same function as clicking the button). The blank form now reappears and you are ready to fill in the information for the next form. Type the following information into the form:

Employee #: 13029 Hired: 80/02/01

Name: Loren Herbert

Address: 907 Sunset Court

City: Portland State: OR Zip: 97208

Job Title: Salesperson-West

Salary: \$1900

Fill in the next three forms with the information shown here. When you have finished a form, move to the next form by clicking the **Continue adding** button.

Employee #: 09883

Hired: 76/04/15

Name: Ted Russell

Address: 437 Oak Street

City: Palo Alto

State: CA

Zip: 94301

Job Title: Engineer

Salary: \$2500

Employee #: 07531

Hired: 77/06/29

Name: Sara Brown

Address: 1552 Bay Road

City: Menlo Park

State: CA

Zip: 94025

Job Title: Secretary

Salary: \$1200

Employee #: 10764

Hired: 79/10/23

Name: John Andrews

Address: 6811 Cypress Lane

City: Dayton

State: OH

Zip: 45401

Job Title: Salesperson-Midwest

Salary: \$1850

Correcting Mistakes

If you make a mistake while entering data into a form, you can easily correct it. If the mistake is in the same item as the insertion point, use the Backspace key to erase the last few characters and retype the correct information.

If the mistake is in another item on the same page, use the Tab key or mouse to move the pointer to the first or last character in the mistake, drag across it, and then type in the correct information. If the mistake is on another page, click the scroll arrow in the direction you wish to go and when you reach the page you want, move the pointer to the item and correct it.

To erase an entire item, move the pointer to the first or last character, drag across it and press the Backspace key. (You can also double-click the item name and press Backspace to erase its contents.) If you want to keep the item on the Clipboard instead of deleting it altogether, use the **Cut** command from the **Edit** menu. To erase the information in all the items on the current page of a form, pull down the **Edit** menu and choose the **Clear fields** command. This erases all the information on the page and returns the pointer to the first item.

Guidelines for Filling in Forms

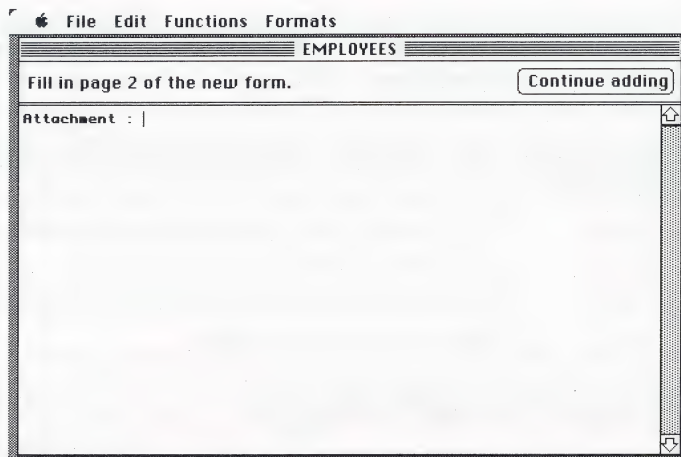
You can add forms to files in any order you like. There is no need to enter them in alphabetical or numerical order. FILE takes care of finding the desired information when you need it. When you are creating your own files, keep the following points in mind:

- If you know that your data will require more than one disk, presort it into groups according to your needs. For example, if you want to sort your forms by zip codes, make sure that all forms with zip codes beginning with 0 are in one file, and all those beginning with 1 are in another, etc.
- Enter last names first to have FILE search your files or sort and print them in alphabetical order by last names. See Chapter 6 for details.
- Enter numbers after determining the longest number you are likely to use. Then enter numbers so that they are all the same length. You may need to use leading zeroes as placeholders. For example, if your highest numbers are in the thousands, enter 9 as 0009. When sorting, FILE looks at numbers as simple character strings; thus, 1000 would be sorted before 9 and after 0009.
- If you plan to use your data file with PFS:REPORT, limit the size of numeric items to twenty digits, since that is the maximum number of digits PFS:REPORT processes.

Entering Dates and Times

FILE has a special way of working with dates and times entered into a form. You entered dates of hire into each personnel form you created in the EMPLOYEES file. These dates were in a YY/MM/DD format with two digits in each component. This format makes it easier for FILE to search for specific dates and manipulate them.

Similarly, times are best stored in a 24-hour format, HH:MM, as in 13:45 for 1:45 p.m. Minutes must be entered with two digits; the hours 1:00-9:00 may be represented with only one digit, if you choose.



Type in the following additional information at the insertion point:

Has had two years of European experience.

If you want to review the information entered on the previous page, you can click the upward scroll arrow to return to Page 1. You can store the filled-in form regardless of which page is displayed on the window. Click the upward scroll arrow, and notice that there is an asterisk to the right of the page number. The asterisk indicates that this form has an additional page containing data.

You can add Attachment pages to a form until you run out of room on the disk. Use this attachment feature when you need to add some special information to a particular form. If you forgot to include an item needed on many forms when you designed the form, use the **Change design** command on the **Functions** menu (see Chapter 7).

Adding Information to Multiple-Page Forms

If your original form design was two or more pages, you can move through a multiple page form with the same scroll arrows you used to move to Attachment pages.

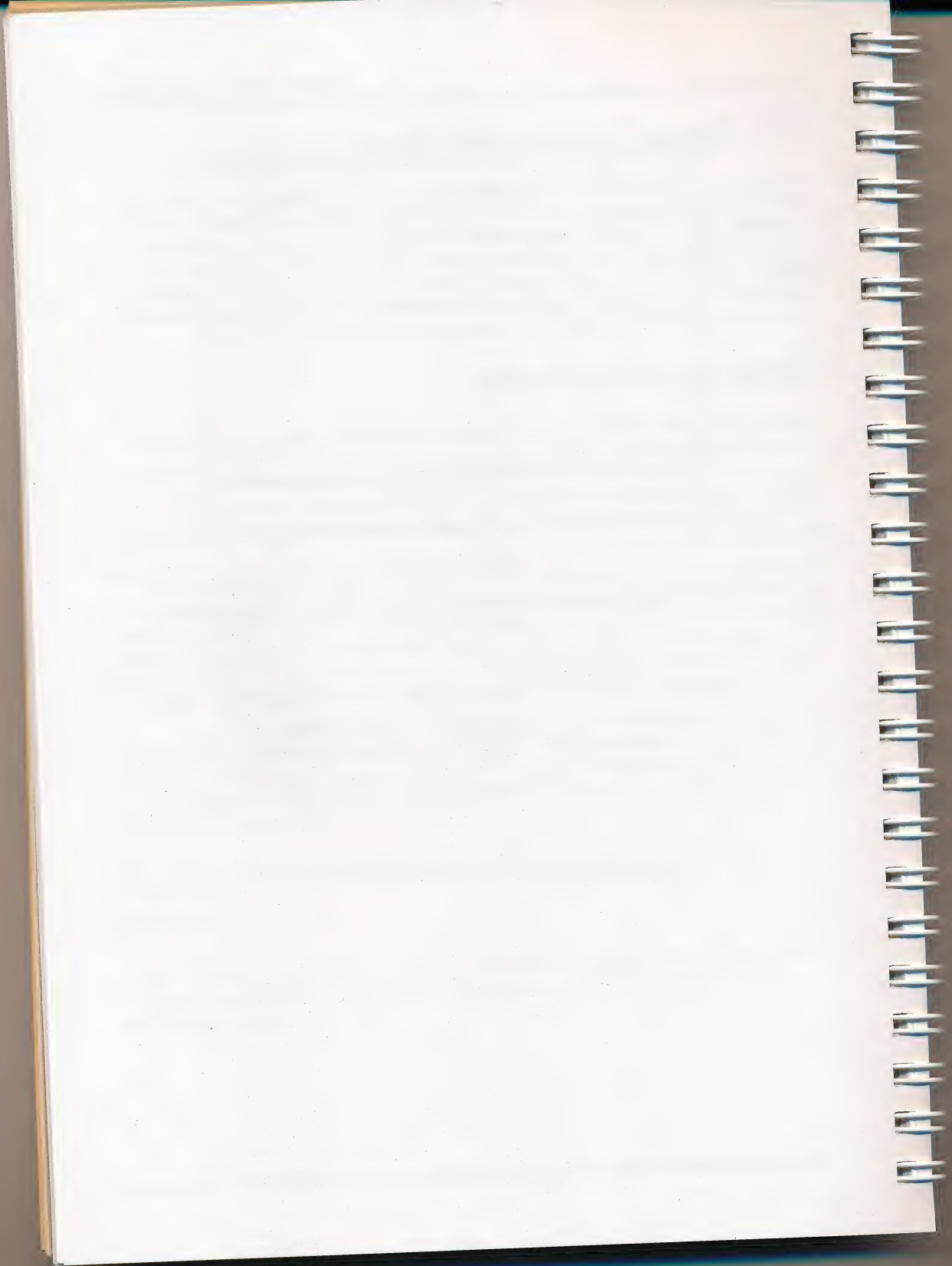
Printing a Copy of the Form

If you want to print a copy of the information you have entered on a form, pull down the **Functions** menu and choose the **Print this form** command when any page of the form is on the window. You might want to use this option to print a copy of your blank form, or to print a copy of each form that you fill in and add to an already established file. When FILE displays the print options, click **Ok**. FILE begins printing the form (all pages), using the default values for those options. (See Chapter 6 for a description of the print options.)

Finishing Add Forms

You may pull down another menu and choose another command at any time, to stop the **Add forms** process. FILE saves all the information that you enter, including incomplete forms, if you decide to stop the **Add forms** process before finishing a page. If you wish to erase an incomplete form before stopping the **Add forms** process, choose **Remove this form** from the **Functions** menu.

This chapter has told you how to add forms to a file. In the next chapter you will learn to use the program to find, update, and count the forms in your file.



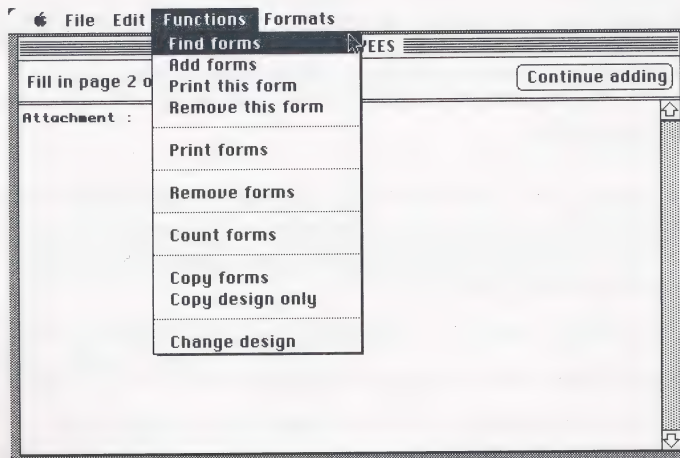
5:

finding and updating forms

This chapter explains how to find and update and count information in a file. Using the **Find forms** command, you indicate which forms you want to review. FILE searches for the forms that qualify, and displays them on the window. FILE also tells you the number of forms that meet your specifications. When a form is on the window, you can remove it, print a copy of it, or update the information previously entered.

Choosing the Find Forms Command

Let's search for information from the EMPLOYEES file in several ways. Start by selecting PFS:FILE, as you have done before. Then choose to open the existing file, EMPLOYEES. Pull down the **Functions** menu and choose the **Find forms** command. Your window looks like this:



When you see the following form, you specify items you want FILE to search for, so that you can review and update them:

The screenshot shows a window titled "FILE" with a menu bar containing "File", "Edit", "Functions", and "Formats". The window title bar reads "EMPLOYEES". Inside the window, the text "Page 1 -- please choose forms to find." is displayed on the left, and a "Find first form" button is on the right. Below this, there are several labeled fields: "Employee#:" followed by a vertical bar, "Hired:" followed by a vertical bar, "Name:", "Address:", "City:", "State:", "Zip:", "Job Title:", and "Salary:". The form is enclosed in a rectangular border with a scroll bar on the right side.

Searching for Information in the File

FILE can search for information in five ways: full item searches, partial item searches, numeric item searches, numeric range searches, and the "Not" search. Each of these search methods is discussed in detail below.

Full Item Searches

In a full item search, FILE looks for forms on which the characters in an item exactly match the characters that you entered in the same item on the window. (A character can be a letter, a number, or a punctuation mark; letters may be entered in upper or lower case.)

To determine whether there is a match, FILE uses the following rules:

- FILE ignores spaces before the first character and after the last character.
- FILE treats multiple spaces within the items as a single space.
- FILE does not distinguish between upper and lower case.

If you do not enter any search information, FILE displays all the forms in the file, starting with the form you most recently entered. You may enter search information in as many items as you wish; FILE finds only those forms that match the information in all respects.

For example, let's recall the John Andrews form of the EMPLOYEES file to the window. Type **John Andrews** in the **Name** item, as shown below:

The screenshot shows a window titled "EMPLOYEES" with a menu bar containing "File", "Edit", "Functions", and "Formats". The window content includes a search form with the following fields and values:

- Employee#:
- Hired:
- Name: John Andrews
- Address:
- City:
- State:
- Zip:
- Job Title:
- Salary:

A "Find first form" button is located in the top right corner of the form area. The window title bar reads "Page 1 -- please choose forms to find." There are also small navigation icons in the top right and bottom right corners of the window frame.

Now click the **Find first form** button, and FILE searches through the EMPLOYEES file for forms that exactly match the information you have entered. In this case, FILE searches for forms with John Andrews in the **Name** item. When FILE finds the match, it displays the form for you to review and update.

FILE's full item search would also find the following entries:

Name: John Andrews

Name: JOHN ANDREWS

On the other hand, the following entries would not be matches, because they do not contain exactly the same information as you entered.

Name: Mr. John Andrews

Name: John Andrews, Jr.

Name: John

Name: Andrews, John

Name: JohnAndrews

Keep these pointers in mind when searching for forms to update: For the fastest possible retrieval, use the full item search. If you use a full item search in the first item of your form, FILE can find any form in 2 seconds.

Then click the **Find first form** button, and FILE begins searching for partial items that match. If you had these forms stored in the EMPLOYEES file, all of them would be displayed as partial item matches:

Name: Jenny

Name: Jennifer Young

Name: Jenny Jones

However, the following entry would not be a match:

Name: Ms. Jennifer Young

Another way to search for Jennifer's form is to enter this search information:

The screenshot shows a window titled "EMPLOYEES" with a menu bar containing "File", "Edit", "Functions", and "Formats". Below the menu bar, it says "Page 1 -- please choose forms to find." and has a "Find first form" button. The search fields are:

Employee#:	Hired:	
Name: .. Young		
Address:		
City:	State:	Zip:
Job Title:		
Salary:		

All of the following would match:

Name: Ms. Young

Name: J. Young

Name: Ms. Jennifer Young

Name: Jenny Young

Name: Steven Young

The third way is to enter this search information:

File Edit Functions Formats

EMPLOYEES

Page 1 -- please choose forms to find. Find first form

Employee#:

Hired:

Name: ..Young..

Address:

City: State: Zip:

Job Title:

Salary:

These three entries would be found:

Name: JENNIFER YOUNG

Name: Ms. Jennifer Young

Name: Jennifer Younger, C.P.A.

Now suppose you want to look at the forms of all the employees who have work experience in Europe. You know that this information was entered on an attachment page. If you enter search information so that your screen looks like this,

Attachment: ..Europe..

both of the following forms would match:

Attachment: Has had two years of European experience.

Attachment: Worked in Europe for two years.

The ? search uses the question mark as a "wild card" character to search for items that are almost an exact match. This symbol can be entered on the window to represent any single character. When FILE searches, it accepts any character in that same position as a match.

For example, suppose the second digit of a part number indicates its color, and you want to find all forms listing the part regardless of color. If you enter the following search information,

PART NUMBER: 3?711

FILE retrieves all forms listing the part with any color.

As another example, assume that you know that there are two people in the EMPLOYEES file who were hired in June of 1977, and you want to find their forms. You would use the following search information:

The screenshot shows a window titled "EMPLOYEES" with a menu bar containing "File", "Edit", "Functions", and "Formats". The window content includes a status bar at the top that reads "Page 1 -- please choose forms to find." and a "Find first form" button. Below this, there are several search criteria fields:

Employee#:	Hired: 77/06/??	
Name:		
Address:		
City:	State:	Zip:
Job Title:		
Salary:		

Numeric Item Searches

There are two ways to use numbers as search information. One way is to use the number as a set of characters that identifies an item. In this case, the number has no numeric value — one number is not typically thought of as larger or smaller than any other. Phone numbers, part numbers, and social security numbers are examples of numbers used as identifiers. FILE treats the numbers as it would treat a word or any string of identifying letters. You use either a full item search or one of the partial item searches to look for such a number.

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For example, if you want to search through the EMPLOYEES file for employee number 13029, the window would look like this:

The screenshot shows a window titled "EMPLOYEES" with a menu bar containing "File", "Edit", "Functions", and "Formats". Below the menu bar, the text "Page 1 -- please choose forms to find." is displayed, followed by a button labeled "Find first form". The main area of the window contains the following search criteria:

Employee#:	13029	Hired:	
Name:			
Address:			
City:	State:	Zip:	
Job Title:			
Salary:			

The other way is to use the number to represent a numeric value — something that has a meaning of larger or smaller associated with it. Numbers associated with quantity or cost are examples of numbers used to represent arithmetic values. When searching through forms for such a number, it is possible to look for all items less than, greater than, or equal to that given number. When you want to search for a numeric value, enter one of three special symbols (<, >, and =) followed by the desired number.

For example, suppose you want to search through the EMPLOYEES file for all the employees with salaries greater than \$2000.00. The search information should look like this:

File Edit Functions Formats

EMPLOYEES

Page 1 -- please choose forms to find. Find first form

Employee#:

Hired:

Name:

Address:

City: State: Zip:

Job Title:

Salary: >2000.00

In determining the value of a number, FILE uses the following rules:

- FILE ignores all characters other than -, ., 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. (Be sure to use the number 1 rather than lower case l and the number 0, not the letter O.)
- A minus sign (-) appearing before the first digit or after the last makes the value negative. FILE ignores multiple minus signs.
- If FILE encounters multiple decimal points (...), it ignores all but the first.

Below are some examples of how FILE assigns an arithmetic value to a number following one of these symbols (<, >, or =).

Item	Value	Explanation
\$1,706.22	1706.22	\$ and , are ignored
13 MAY 1980	131980	MAY is ignored
70-06-29	700629	- is ignored; the - must be before or after the number to be interpreted as a minus sign
20:45	2045	: is ignored
FIVE	0	letters are ignored

Numeric Range Searches

The numeric range search allows you to search for numeric values within a certain range. To do this, use an equals sign followed by the lowest of the numeric values, two dots, and then the highest numeric value. The dot-dot with the equals sign means "through."

For example, to find all employees in the EMPLOYEES file hired between January 1, 1982, and December 31, 1983, the search information should look like this:

The screenshot shows a window titled "EMPLOYEES" with a menu bar containing "File Edit Functions Formats". Below the menu bar, it says "Page 1 -- please choose forms to find." and has a "Find first form" button. The search criteria are as follows:

Employee*:	Hired: =82/01/01..83/12/31	
Name:		
Address:		
City:	State:	Zip:
Job Title:		
Salary:		

Note: You can put spaces anywhere except between the dots.

The “Not” Search

Any of the searches can have its intent reversed by preceding it with a slash (/). For example, suppose you want to search through the EMPLOYEES file for all employees with salaries less than \$1500.00 or more than \$2000.00. The search information would look like this:

The screenshot shows a window titled "EMPLOYEES" with a menu bar (File, Edit, Functions, Formats) and a status bar (Page 1 -- please choose forms to find.). A "Find first form" button is in the top right. The search criteria are entered as follows:

Employee#:	Hired:
Name:	
Address:	
City:	State: Zip:
Job Title:	
Salary: /= 1500..2000	

Here are some other examples of FILE's “Not” search:

- | | |
|------------|--|
| /= 3.1 | Finds all those values which are NOT equal to 3.1 |
| /JOHN | Finds all those items that are NOT JOHN |
| /B.. | Finds all those items that do NOT begin with B |
| /..er | Finds all those items that do NOT end with er |
| /= 31..100 | Finds all those items less than 31 or greater than 100 |
| /.. | Finds all those items that are blank |

How FILE Searches

When you have entered all your search information, click the **Find first form** button, and FILE searches for the desired forms, starting with the form most recently added.

What to Do with a Form that FILE Finds

When FILE finds a form that meets the search information, it displays it on the window and waits. You can do any of the following:

Update the Form

You can make any changes to information stored in the form by positioning the insertion point in the item you want to change and entering new information. Then click the **Find next form** button, and FILE stores the updated form in the file and continues its search.

If you make changes to a form, but decide that you do not want to save the changes, move the pointer to the **Edit** title on the menu bar. Pull down the **Edit** menu and choose **Undo screen changes**. The form on the window is restored to its previous, unchanged state.

Review the Form

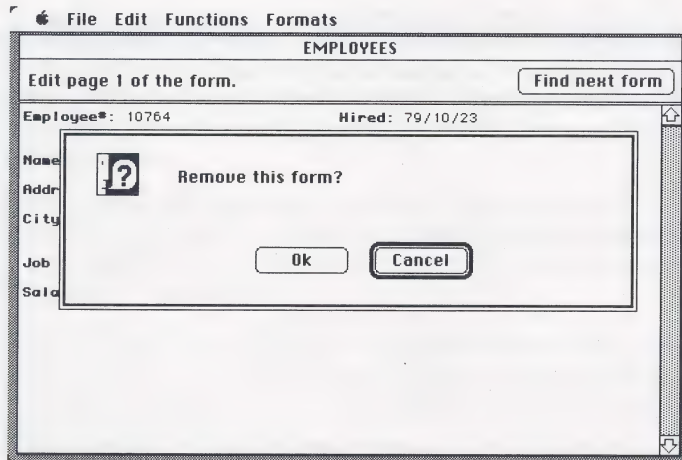
If your form has multiple pages, you can browse through the form, using the up and down scroll bars on the right-hand side of the form. When you finish, click the **Find next form** button, and FILE continues its search.

Print the Form

You can print all pages of the form displayed on the window. After reviewing a form, choose **Print this form** from the **Functions** menu. FILE prints a copy of the form, using the default print options. (See Chapter 6 for a description of the print options.)

Remove the Form

You can remove all pages of the form displayed on the window. Simply move the pointer to the **Functions** menu, and drag to the **Remove this form** command. Before the form is removed, the following message appears:



Click **Ok** to remove the form. If you change your mind, click **Cancel** instead.

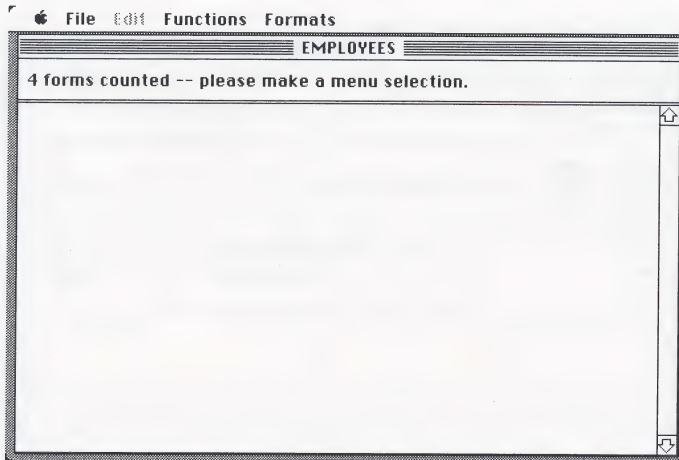
Canceling Find Forms

You can cancel the **Find forms** command at any time. Simply move the pointer to a title on the menu bar, pull down any menu, and choose another command. If you are updating a form when you leave the **Find forms** command, those changes to the form are recorded in the file.

Counting Forms

A related command to **Find forms** is the **Count forms** command. Like **Find forms**, **Count forms** uses search information. However, it uses the information to count the number of forms you have in a specified group without allowing you to update the individual forms that match.

For example, using the EMPLOYEES file once again, let's quickly count the number of people living in a zip code region that starts with the number 9. Choose **Count forms** from the **Functions** menu. In the Zip item, enter 9., and click the **Start counting** button. When all the forms have been counted, you see this message:



In this chapter you have used FILE to find, update, and count forms. The next chapter tells you how to print information from selected groups of forms.

6: *printing forms from a file*

There are two ways to print your forms. First, when you are working with a particular form, you can print that form only by choosing **Print this form** from the **Functions** menu. Second, you can print all of the forms or a group of forms by selecting **Print forms**.

You can also print selected items from forms in a file according to a format that you specify. This format might include printing the forms in sorted order; for example, in alphabetical order for an item named City. You can also save a print format for use at a later time.

Starting with the **Print forms** command on the **Functions** menu, you choose which forms you want to print, which items of each form you want to print, and how you want to print them. FILE then searches through the file, automatically printing all the selected information.

Starting to Print

To practice printing, open the EMPLOYEES file, if it is not already open. Move the pointer to the **Functions** title on the menu bar, and choose **Print forms**. The first window you see contains the EMPLOYEES file form design, just like the one you used for entering search information in Chapter 5.

To illustrate the printing process, let's print mailing labels for all the employees in the EMPLOYEES file. (For the purposes of the exercise, use ordinary printer paper instead of mailing labels, if you wish.) You can practice all three of the steps in the printing process: choosing which forms to print, choosing among print options, and setting up your print format. A separate window appears for each step.

Choosing Which Forms to Print

When you choose the **Print forms** command, the form design for the EMPLOYEES file appears, ready for you to enter search information:

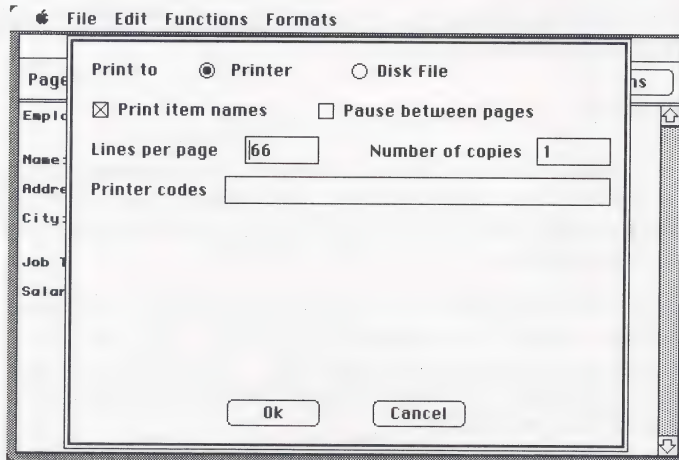
The screenshot shows a window titled "EMPLOYEES" with a menu bar containing "File", "Edit", "Functions", and "Formats". The main area of the window displays a form design for "Page 1 -- please choose forms to print." In the top right corner of the form area is a button labeled "Print forms". Below this, the form contains several input fields arranged in two columns. The left column includes "Employee*", "Name:", "Address:", "City:", "Job Title:", and "Salary:". The right column includes "Hired:", "State:", and "Zip:". There are also small up and down arrow icons on the right side of the form area.

Since you want to print mailing labels for all the employees in the EMPLOYEES file, leave the form blank and click the **Print forms** button to continue.

Note: If you want to print only some of the forms in your file, fill in the form according to the instructions in Chapter 5. You can enter search information in any item on a form.

Filling in the Print Options

Next, FILE displays a window for you to decide among several print options:



This form initially shows common settings, called default values, for the print options. To select the desired print options, use Tab to move the insertion point to a value if you want to change it, and enter a new value. Or, move the pointer past an option you want to leave as it is. The following explanations may be helpful later when you enter print options for printing forms of your own:

Print to

This option allows you to print to your printer or to a disk file. FILE assumes that you typically print to your printer, so the **Printer** button is highlighted. To print to a disk file instead, click the **Disk File** button. Then type the name of the disk file in the next box you see.

Print item names

This option specifies whether or not the item names are to be printed along with the information in the items. If you do not want the item names printed, click the button until it is empty.

Pause between pages

If you click this option, FILE pauses after printing each page of information (as defined by the **Lines per page** option) so you can insert a new sheet of paper. This pause allows you to print forms on single sheet stationery, or print mailing addresses on individual envelopes. After each page is printed, a message prompts you to insert the next page.

Lines per page

This option specifies how many lines you want to have between the first line of one form and the first line of the next form. The default value of 66 is the full size of a normal printer page. You can adjust this value to accommodate the size of your printer paper and the size of your form.

For example, if you want to print one form per printer page, and have printer paper with 66 lines, leave the **Lines per page** at 66. If you want two forms per printer page, change the **Lines per page** to 33. The number you enter should divide evenly into the total number of lines on your printer page, or your printing will cover the perforation.

Number of copies

This option specifies how many copies FILE prints of each form. If you specify more than one copy, FILE prints all copies of the first form, then all copies of the second form, etc.

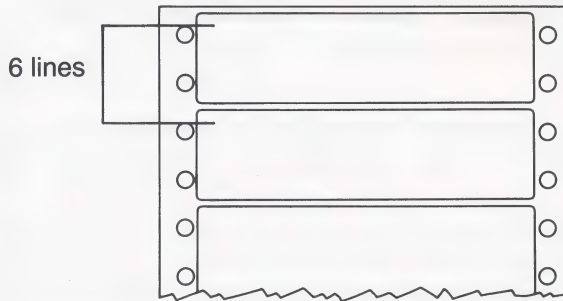
Printer codes

You fill in this option to send codes to your printer to initiate or terminate special printing modes. For example, you might want to print your forms in compressed or bold type, since the Imagewriter printer has these print capabilities. See the section later in this chapter on "Using Special Printer Codes" for details.

Note: FILE only temporarily stores any changes that you make in the print options. The next time you start the program, the default values are again in effect. The print options can be updated at any time.

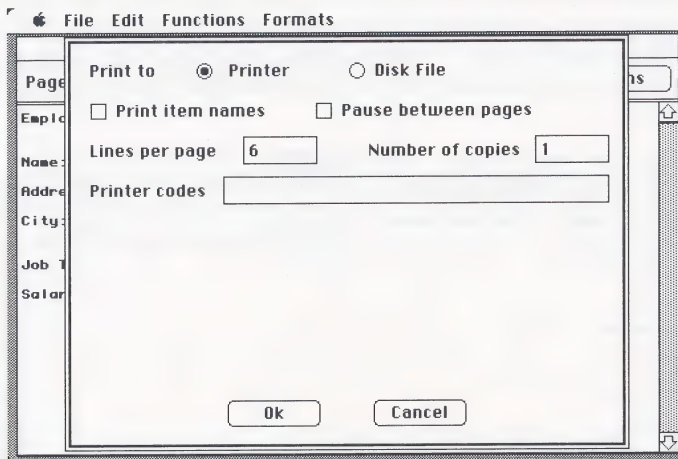
To continue with the example, move the pointer beyond the first line since you want to print to your printer. Click **Print item names** to clear the box, indicating that you do not want to print the item names on your mailing labels. Move past the **Pause between pages** option, since it is not necessary to change paper in this exercise.

Next, move the pointer to the **Lines per page** option. At this point, you need to determine the spacing between your mailing labels. (If you have questions about inserting paper or mailing labels, refer to your printer's reference manual or see your dealer.)



For the mailing labels in this example, there are six lines from the start of one label to the start of the next. This is the number you want to enter in the **Lines per page** option, so change **Lines per page** to 6.

Leave the **Number of copies** option as it is, and for now, leave the **Printer codes** option blank. Your window should look like this:



Finally, click the **Ok** button, and FILE stores the print options and moves to the third window you fill out before starting to print:

File Edit Functions Formats Help

EMPLOYEES

Fill in page 1 of the print format. Start printing

Employee#: Hired:

Name:

Address:

City: State: Zip:

Job Title:

Salary:

Setting Up a Print Format

The third window also contains the form design. You use this window to specify which items you want to print, and the way you want them printed. (If you leave this form blank, each form is printed exactly as it appears on the window, using the print options you just selected.) The menu bar displayed with this window contains a **Help** menu. When the **Help** menu is pulled down, you see the commands that you can enter to set up the order and format for printing your forms.

File Edit Functions Formats Help

EMPLOYEES

Fill in page 1 of the print format. Start printing

Print this item "H"
Print on same line .. "+"
Sort item "\$"

Employee#: | Hired:

Name:

Address:

City: State: Zip:

Job Title:

Salary:

To select items for printing, use these two characters as defined:

- X Print this item; then advance the printer to the next line.
- + Print this item, but do not advance the printer to the next line after printing it. Skip 2 spaces instead. (The plus sign allows you to print more than one item per line.)

In addition, you can print the forms in a particular order by combining the following character with the X or + :

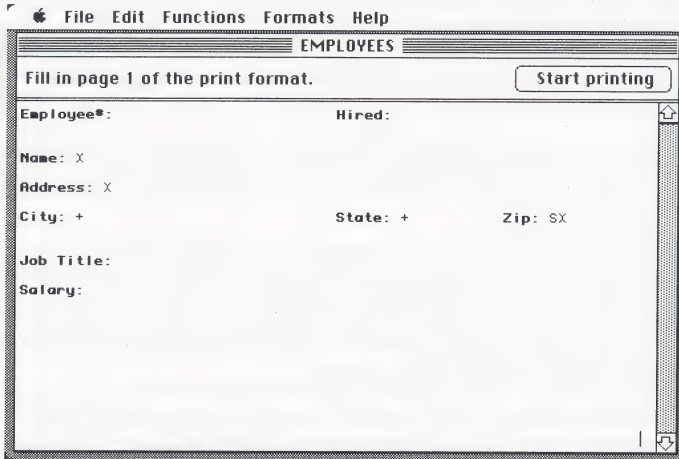
- S Sort the printout based on this item. Using the first ten characters in this item, FILE sorts the printout into ascending order. You can sort on one item only.

Note: If your file is large, and you do not have an additional disk drive, you may not be able to sort your forms for printing. This is because FILE requires additional disk space in which to work during sorting. If you frequently need to sort, copy some of the forms to another file and sort each file separately. See Chapter 8 for details.

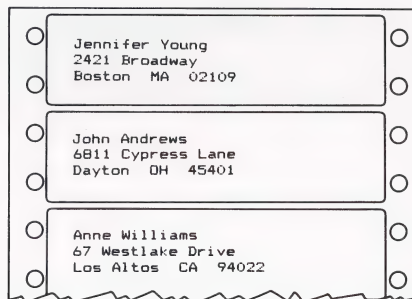
For the purposes of sorting, FILE treats numbers as character strings. Just as AZ is sorted before Z, 19 is sorted before 9. For this reason, sorting the printout into numerical sequence is not feasible unless all the numbers are the same length, as with zip codes. To sort numbers of different lengths, enter zeroes to the left of the numbers to make them the same length. For example, 09 sorts before 19, not after.

Note: Remember, an S does not automatically cause an item to be printed. It must always be used with an X or a + .

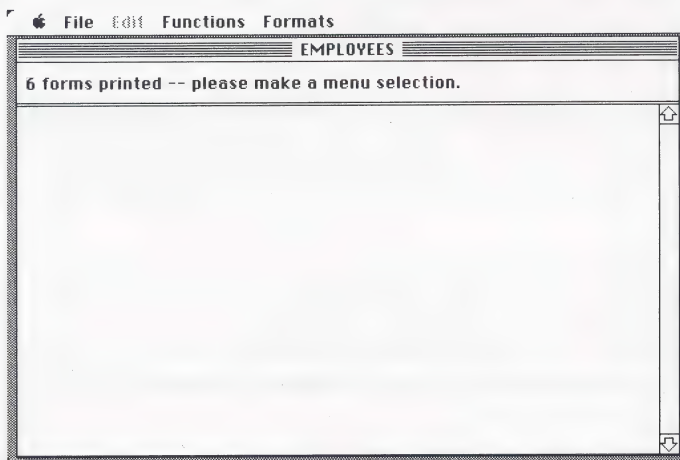
For this example, you want to select just the Name, Address, City, State, and Zip items for printing. Use the Tab key to move from item to item, and fill in the following information:



The + in City and State causes the item to print, but does not move the printer to the next line. The SX in Zip causes forms to be printed in numerical order based on the Zip item. Click the **Start printing** button, and FILE prints all the desired mailing labels. The mailing labels for the EMPLOYEES file look like this:



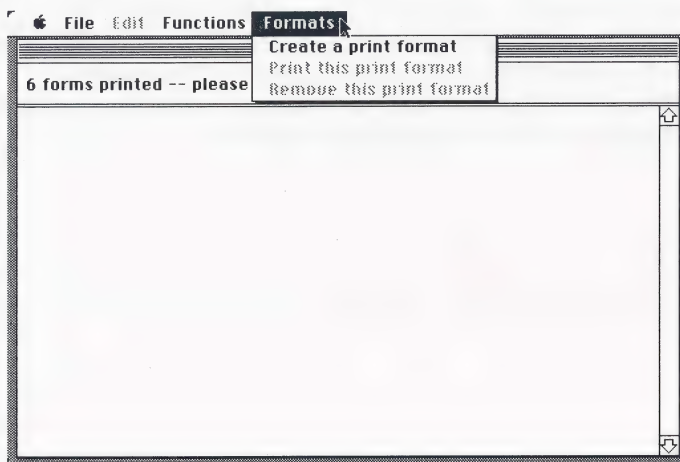
When printing is complete, the window looks like this:



You are now ready to choose another command.

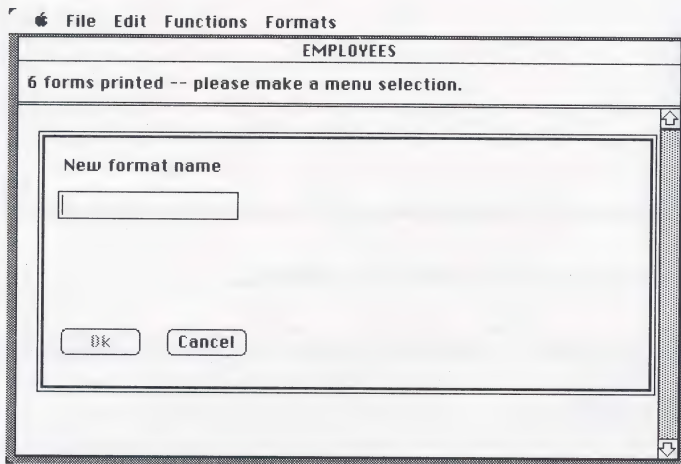
Creating and Saving a Print Format for Future Use

Next to the **Functions** menu on the menu bar is a menu titled **Formats**. The **Formats** menu looks like this:

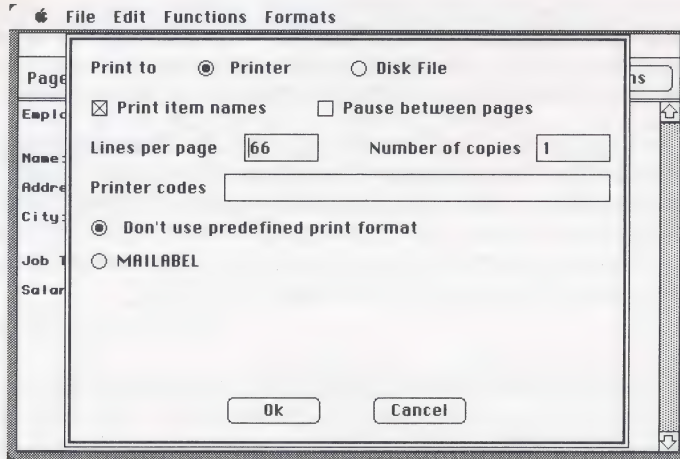


The **Create a print format** command allows you to specify the way you routinely want to print forms from a particular file, give a name to that format, and repeatedly use it to print forms by simply referencing its name. You can store eight formats in a file at one time.

Let's create a print format to print the mailing labels you produced in the previous exercise. To select **Create a print format**, move the pointer to the **Formats** menu, pull down to the first command, and release. The first time you choose this command for the EMPLOYEES file, the following box appears:

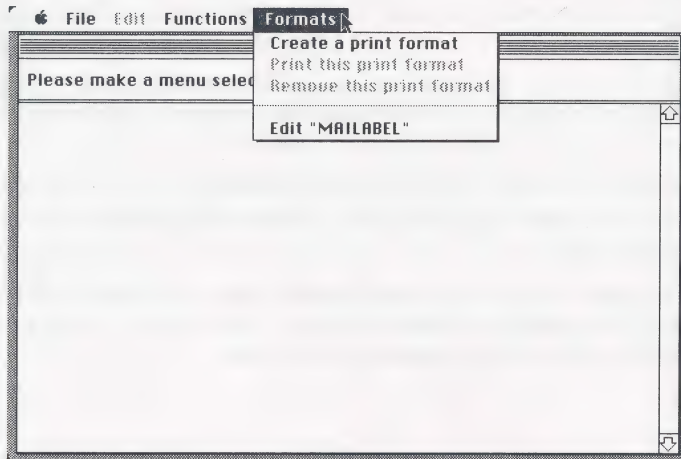


Enter a name of one to ten characters for the print format that you want to create. For this exercise, name the print format **MAILABEL**. Click **Ok**, and a print format window from EMPLOYEES appears. Fill in the items just as you did in the mailing label exercise. The print format and its name are automatically stored in the file to use for future printings. The next time you see the print options window, a new option appears:



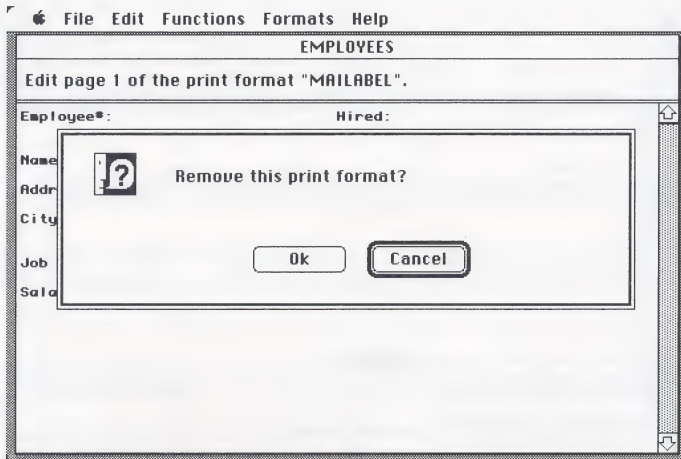
Editing or Removing a Print Format

To edit or remove a print format, pull down the appropriate choice from the **Formats** menu. For the EMPLOYEES file, the menu now looks like this:



To edit a format, choose the stored print format name from the **Formats** menu. FILE displays the stored print format. You can make changes by typing over any entries on the form, or you can choose **Clear fields** on the **Edit** menu to erase all the entries on that page of the print format and start over.

To remove the print format from the file, pull down the **Formats** menu. Notice that the command **Remove this print format** is dimmed and therefore is not available. To make it available, first choose the command **Edit "MAILABEL"**. When the print format appears, pull down the **Formats** menu again, and select the **Remove this print format** command which is now available. An alert box appears, giving you an opportunity to change your mind:



If you go ahead and remove the print format, the next time you look at the **Formats** menu, you see that it has been removed. It is removed on the print options window, also.

There is one other command on the **Formats** menu, **Print this print format**. To keep a hard copy record of the formats you have set up, choose this command and the format is automatically printed.

Printing with a Stored Print Format

Using a stored print format for forms you routinely print saves one step in the printing process. When you use a print format, you do not enter format information item-by-item. Instead, you click the name of your print format on the print options window. Then when you click **Ok** to continue, the format window is skipped and FILE begins to print your forms with no further instructions.

Canceling Print

If at any time you want to stop printing, move the pointer to any menu and choose any command. Hold down the mouse button until the menu highlights. Doing so interrupts printing; however, if FILE is in the middle of printing a form, it finishes printing that form before stopping altogether.

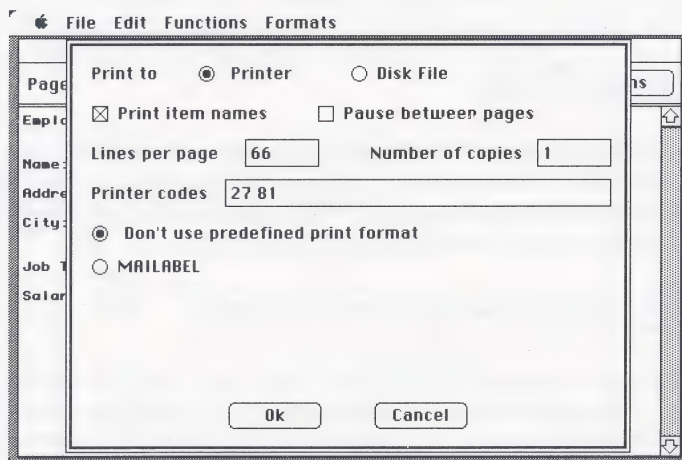
Using Special Printer Codes

In the mailing label exercise you just completed, you used the standard print settings of your Imagewriter printer. However, your printer has other print capabilities that you may want to use in the future. To learn the complete range of your printer's settings and the codes that control them, consult the Imagewriter owner's manual.

To use a special setting, enter the necessary ASCII numbers in the **Printer codes** option on the print options window. When you finish the print sequence and tell FILE to start printing, the ASCII numbers you entered are sent to the printer, causing it to print in the special mode for as long as the printer is on.

For this example, suppose that you want to set the printer to print in ultracondensed mode, or 17 characters per inch. The required ASCII number sequence is 27 81.

First, choose the **Print forms** command from the **Functions** menu. At the first window, enter any search information necessary to select the forms you want to print. Click the **Print forms** button, and the print options window appears. Accept or change information as necessary, until you come to the **Printer codes** option. Type **27**, press the space bar and then type **81**. When you type a series of codes, be sure to follow each code with a space. (If you fail to leave a space, FILE ignores the entire code.) The screen should look like this:



Now click the **Ok** button, enter print format information at the next window, and click the **Start printing** button. When printing begins, it is in ultracondensed characters.

Turning Off Special Printing Codes

Special printing codes remain in effect until you exit FILE and turn off your printer. If you wish to print again using a different printing mode, follow either of these procedures:

- Simply turn your printer off and on again. Then enter the codes you wish to send for your next print (or leave the box empty if the default setting is satisfactory.)
- Send another code which cancels the previous one, such as 27 34 to cancel boldface mode or 27 78 to return to Pica (10 characters per inch).

In this chapter you have learned how to print information from a file, with or without using special print formats. The next chapter tells you how to change the design of a file.

7:

changing the design

After you have created and used your file, you may want to redesign the form to suit your needs better. With the **Change design** command on the **Functions** menu, you can add more items, delete some items, or rearrange the items of your form, whether your file is empty or contains data. Always be sure to make a backup copy of your file before beginning.

Changing Design with a Single Disk Drive

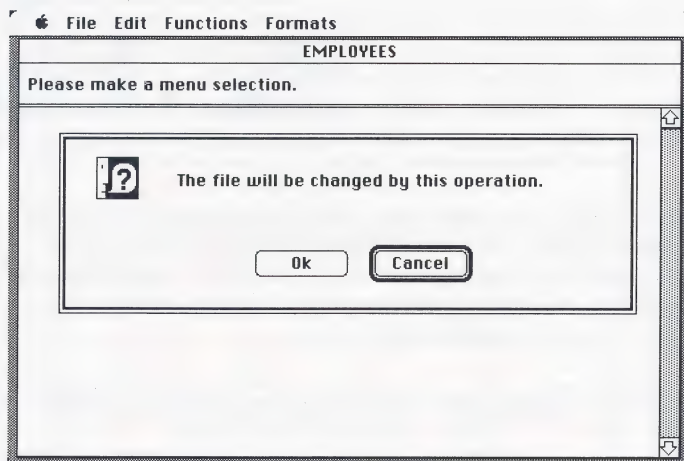
You can use **FILE** to change a design when you have no additional disk drives connected to your Macintosh, but the process requires available space on the disk that contains your file. If the disk does not contain available space equal at least to half the size of the file, you will not be able to change a design.

Choosing the Change Design Command

To use the **Change design** command, choose it from the **Functions** menu as you have done before. To continue the example, let's redesign the **EMPLOYEES** form using the **Change design** command.

If you are already working with the **EMPLOYEES** file, pull down the **Functions** menu and choose **Change design**. If you are not currently using the **EMPLOYEES** file, return to the window listing the files by choosing the command **Choose another file** from the **File** menu and selecting **EMPLOYEES** from the list of files. Then choose **Change design** from the **Functions** menu.

The following alert box appears:



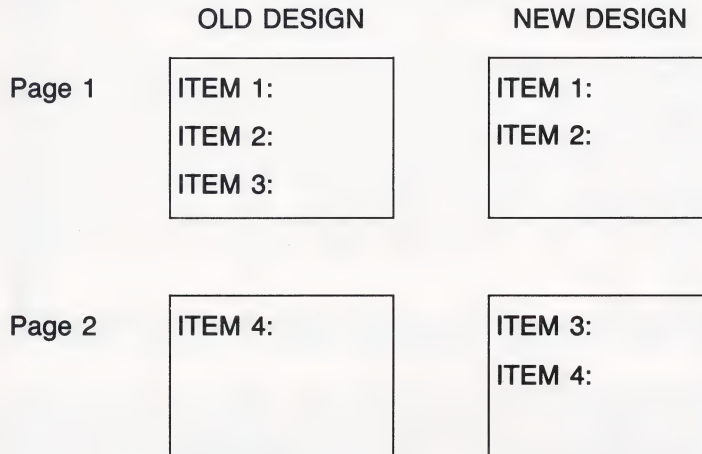
If you do not want to change the design of your form now for some reason, you can click **Cancel** and choose another activity from the menus. To continue, click **Ok**, and the EMPLOYEES file appears as you originally designed it. The item names are no longer in boldface because they are no longer protected from overwriting.

Guidelines for Changing Design

When changing the design of a form, remember these points:

- First make a backup copy of your file in case you change your mind later, or inadvertently damage the file during the redesign process.
- Leave enough space for the information in the item on the original form to fit into the item on the redesigned form. (See "Editing Data to Fit the New Design" in this chapter.)
- Only four pages (maximum) can be redesigned at one time. (See "When the Form Has More Than One Page" in this chapter.)
- It may take a long time for FILE to reorganize your files. Depending on the complexity of the file and the amount of data in it, the reorganization can take from five minutes to a few hours.

- When transferring data, FILE looks for the item name first on the equivalent page of the new form, then on the other pages consecutively, so the data is transferred regardless of the page the item appears on. For example, in the redesign shown in the diagram below, the data in Item 3 now appears on the second page of the new form, while the data in Item 1 and Item 2 remains on the first page.



Adding, Deleting, or Moving Items

When you are changing a form's design, item names are no longer protected from being overwritten. You can type in new items, delete items by typing spaces over them, or move items.

To move items on a single line, use the space bar or the Backspace key. To move an item elsewhere on the window, cut it from its original location and paste it into a new location. If you insert an item on a line containing other items, the current items are moved to the right. You may need to cut some space to restore the moved items to acceptable locations.

Let's delete the **Salary** item on the EMPLOYEES form and add an **Experience** item. Before you begin, make a backup copy of the EMPLOYEES file, if you have not already done so.

Note: When you change the design of a form from a file that contains data, FILE assumes that it has temporary work space on the disk. If there is not enough room on the disk, FILE displays a message telling you that you cannot change the design of the form.

FILE displays the form from the EMPLOYEES file as you originally designed it:

The screenshot shows a window titled "EMPLOYEES" with a menu bar containing "File", "Edit", "Functions", and "Formats". Below the menu bar, the text "Edit page 1 of the design." is displayed on the left, and a "Start changing" button is on the right. The main area of the window contains a form with the following fields:

Employee#:	Hired:	
Name:		
Address:		
City:	State:	Zip:
Job Title:		
Salary:		

To change the EMPLOYEES form, move the pointer down the window to the **Salary** item. Replace it by dragging across the item and typing **Experience**. Since you are not making any further changes, click the **Start changing** button to continue. FILE deletes the item named **Salary** along with its data and adds a new, blank item named **Experience**.

WARNING: Although you will probably choose to cut and paste an item from one location to another on a form, you can also type it into a different position. If you do type an item, be very careful to spell it exactly as you first spelled it. If you do not, you will lose the data stored in that item on each form.

Keep in mind these points when adding, deleting, or moving items:

- The item names in the old and new designs of the form must match exactly in order for the data to be copied. If they do not, FILE does not transfer the data belonging to the item to the redesigned form, and that data is permanently lost. For example, if the Name item on the PATIENT RECORDS form mentioned in Chapter 3 is moved to a new location during the redesign process, the line of dashes which is a part of the item name must also be moved, or the data belonging to that item cannot be transferred. (FILE ignores leading and trailing blanks when matching names, and treats more than one blank between words as a single blank. See Chapter 3 for a complete explanation of item names.)

- You can move items to different places on the form without affecting the data for those items (as long as the names match exactly).
- The redesigned form can have more or fewer items than the original form. When you delete items from the form, however, the data for those items is not copied. It is permanently lost from the file.

Entering Data in Redesigned Forms

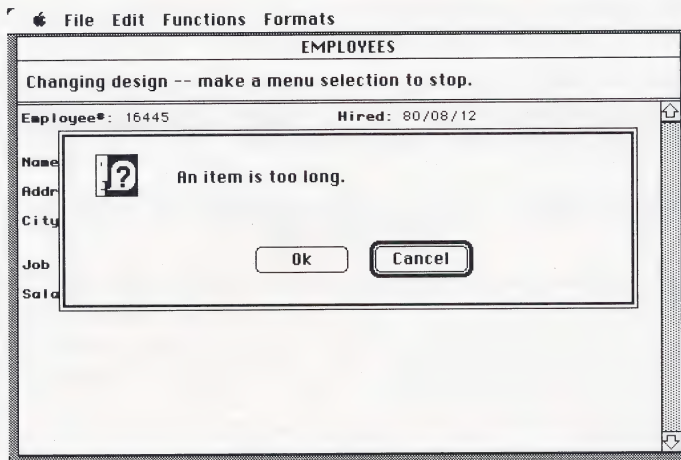
You can use the **Find forms** command from the **Functions** menu to enter information in an item that you added to a form in the redesign process. As each form appears on the window, enter the new information into the new item and click the **Find next form** button to find the next form. Repeat this procedure until every form in the file has been updated. After you find the last form, FILE displays a message to tell you how many forms it found. FILE is now ready for you to make another menu selection.

When the Form Has More Than One Page

You can change only four pages of a multiple-page form at any one time. Thus, if you want to change six pages, you have to change four of them first, complete one of the redesign functions, then repeat the operation for the other two pages.

Editing Data to Fit the New Design

Sometimes when you transfer data from an original form to a form with items moved to different places, the information in an item no longer fits into the space provided on the redesigned form. FILE stops and displays the following message:



You have two choices. If only one form has an item that is too long, it is probably better to shorten the information in that item so that it fits in the new design. Or, if the form is not vital to the new file, delete it.

If you click **Ok**, the form with the overlong data item appears with the pointer located at the first character that does not fit into the redesigned form. You can then edit the information in the overlong item. When you finish, click the **Continue copy** button to continue transferring data.

If many of the forms in the file have an item that is too long for the redesigned form, you might want to cancel the operation and redesign the form again to accommodate the data. Click the **Cancel** button in the alert box. FILE does not save the redesigned form. The file remains in its original state, and you must begin again.

Changing the Order of Forms

Since FILE recopies the forms starting with the last form entered in the file, **Change design** reverses their order in the file. If this reversed order is not acceptable for some reason (perhaps you search the most recently entered forms most often, and having them at the beginning of the file slows down the search process), choose the **Change design** command again, but this time do not make any changes to the form. Click **Start changing** to return the forms to their original order.

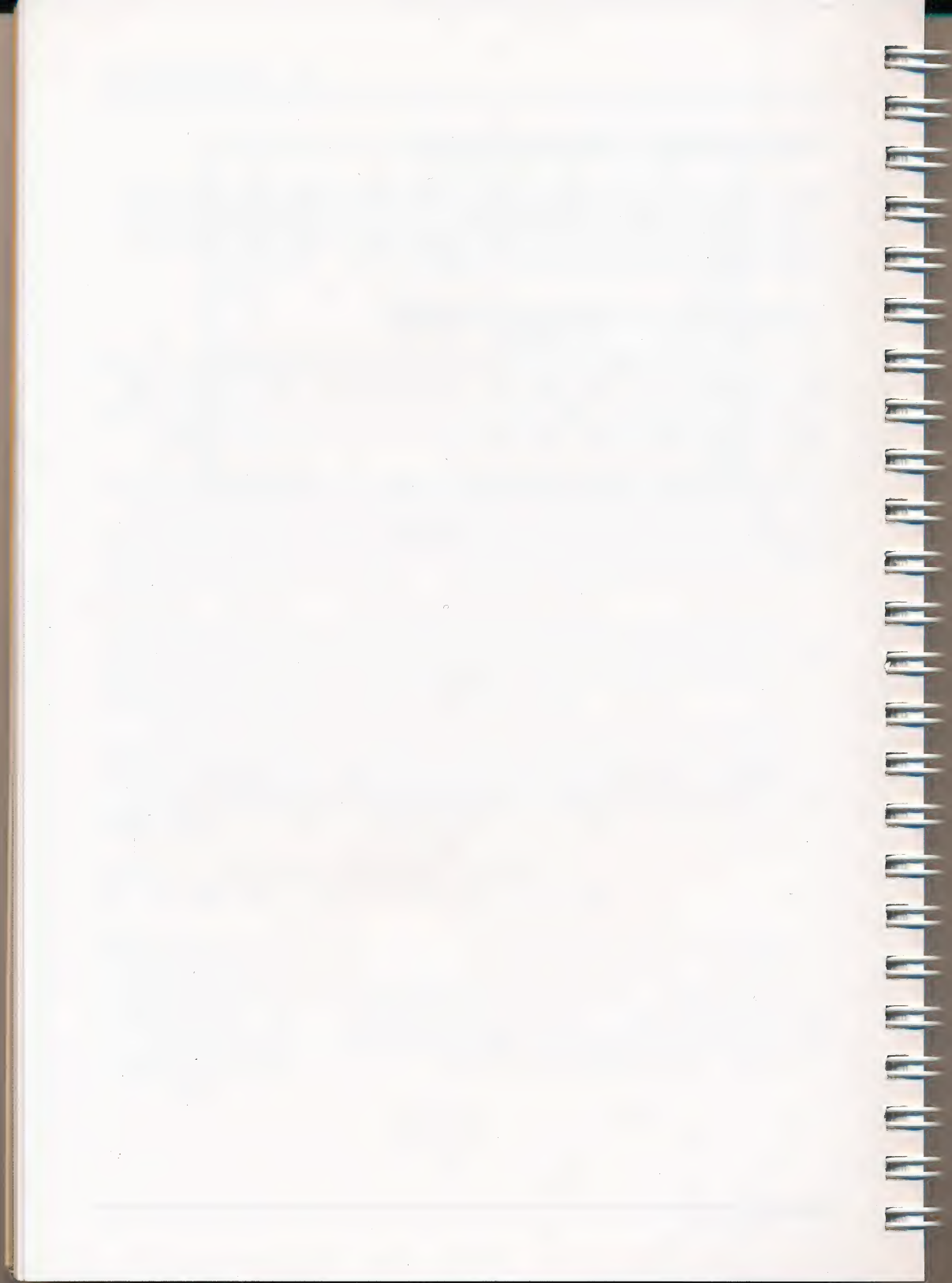
Removing a Blank Page

When designing or redesigning a form, if you remove all the item names from a page, the blank page continues to exist. To remove the blank page, type the contents of the page following it onto the blank page, and so forth, until you have brought forward all subsequent pages.

Canceling Change Design

If at any time you want to terminate **Change design**, move the pointer to any title on the menu bar and press the mouse button. In a few moments the menu title is highlighted. Pull down the menu and choose a command. **FILE** stops changing the design and your form remains in its original state.

This chapter told you how to change the design of a file, whether or not the file contains data. The next chapter is about copying part of a file to another file and about copying the design of a form to start a new file with the same form design.



8: *copying forms from the file*

Once you have created a file and have information in it, you can copy part of the file or just the form design. You can start a new file with the same form design, divide one large file into two smaller files, or merge two files into one.

There are two copy functions:

1. **Copy design only** allows you to copy just the form design from the file.
2. **Copy forms** allows you to choose among the filled-in forms in your file and copy these selected forms to another file. This option does not copy the form design.

Choosing a Copy Command

To select a copy command, open an existing file and pull down the **Functions** menu to the command of your choice. Since FILE's copy processes are each different, they are covered separately below.

Copying the Form Design Only

In the example that follows, you make a copy of the form design from the EMPLOYEES file. Later you can use the copied form design for another exercise. To begin, start up your Macintosh, if it is not already on, and open the EMPLOYEES file. At the **Functions** menu, choose the **Copy design only** command.

Next, you see a box in which to name the new file. To avoid confusion, give the new file a distinct name like NEW EMPLOYEES. To keep you from unintentionally writing over an existing file with the copied form design, FILE displays an alert box if you try to give the new file the same name as another file on the disk.

Click **Ok**, and the form design from the file is copied to a file named NEW EMPLOYEES. During the copy process, a message tells you that copying is under way. When it is over, you see the message, "Copy completed — please make a menu selection."

Although you have just created a file named NEW EMPLOYEES, you are still actually using the EMPLOYEES file. To use NEW EMPLOYEES, you must go to the **File** menu and pull down to **Choose another file**. At the next window, NEW EMPLOYEES appears in the list of files on the disk. Click **Ok** to begin using it.

Suggestions for Using Copy Design Only

With **Copy design only**, you can copy just the form design of an existing file to a new file (called the destination file). You use this command when your file becomes full, and you want to start a new file with the same form design. You also use it to provide a file with a form design before copying selected filled-in forms to it.

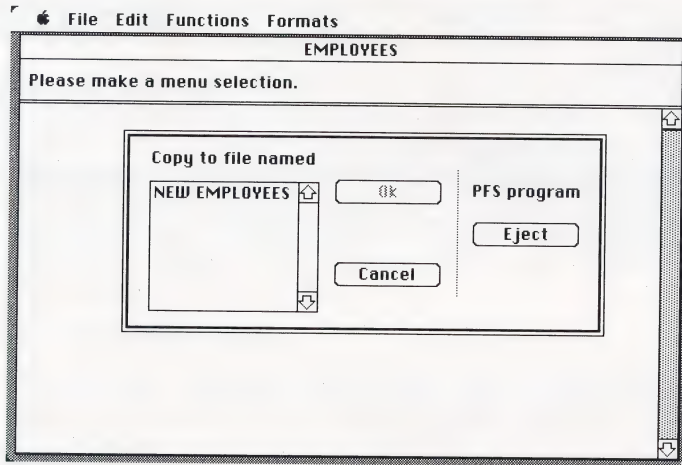
Remember that selected forms must be copied to an existing file containing a form design. You can create a destination file by copying the form design using **Copy design only** first, or you can copy the selected forms to a partially-filled file. Note that the **Copy design only** option destroys any information that exists in the destination file.

The layout of the forms from the source file and the destination file need not be identical (the items can be arranged differently), but the item names must be identical in order for information to be copied. For example, if your source file has an item called Employee Name, and the equivalent item in the destination file is called Name of Employee, the names of the employees are not copied.

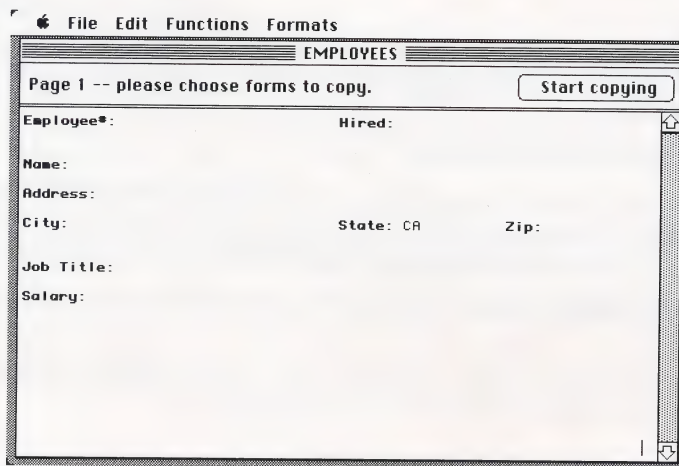
Copying Forms from the File

The **Copy forms** option allows you to choose among the filled-in forms in your file and copy selected ones to another file. You might want to use this option when a file becomes too large and you want to split it into two files, or you might want to move a special interest group of forms to a new file. Also, you can use **Copy forms** to merge parts of several small files into one new file.

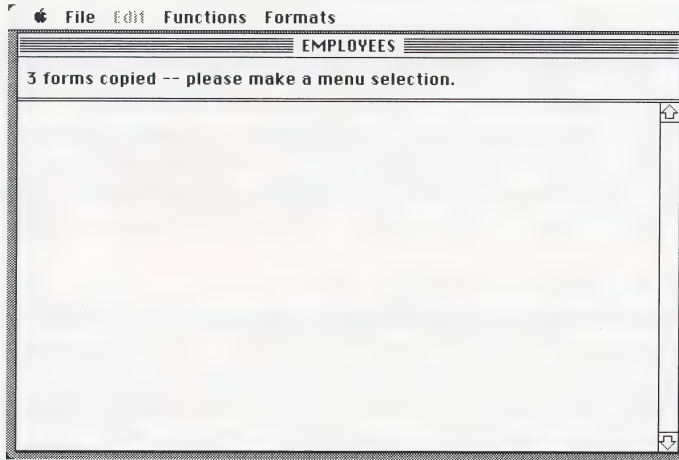
Let's copy some forms from EMPLOYEES to the file named NEW EMPLOYEES that you just created using the **Copy design only** command. With the file name **EMPLOYEES** in the window, choose **Copy forms** from the **Functions** menu. Next you see the following box, where you specify the file where the forms are to be copied:



Click **NEW EMPLOYEES** and **Ok**, and the blank **EMPLOYEES** form design appears. You are now ready to indicate which forms you want copied. Suppose you want to create a separate file for your California office, so you want to copy the forms for these employees to **NEW EMPLOYEES**. Type **CA** in the **State** item. Your window should look like this:



Click **Ok**, and FILE copies the appropriate forms from EMPLOYEES to NEW EMPLOYEES. Then the following window appears to show you how many forms were copied:



Dividing a File

When a file has grown in size, you may want to divide the file or split off part of it to form a new file. Or, you may want to separate a special interest group of forms to a new file.

To divide a file, follow these steps:

1. Copy the form design (using **Copy design only**) to a new file. If you change the design of the form in the new file, remember to keep the item names identical. FILE only copies information for items that have identical names.
 2. Use **Copy forms** to select and copy the filled-in forms you want into your new file.
 3. Select the **Remove forms** command and use the same search information to delete the copied forms from the original file.
-

Merging Files

At some time, you may want to combine two small files into one, or parts of two or more files into one new file. For example, suppose you have two customer files (A to L and M to Z). You want to form a new file containing information for customers that have not made any purchases for the last three months. You can copy the form design from your present customer file, or design a new form that uses only some items from the present file. (Items that you do not use are not copied.) Then you can copy the filled-in forms (and the items) you want into the new file from the other two files.

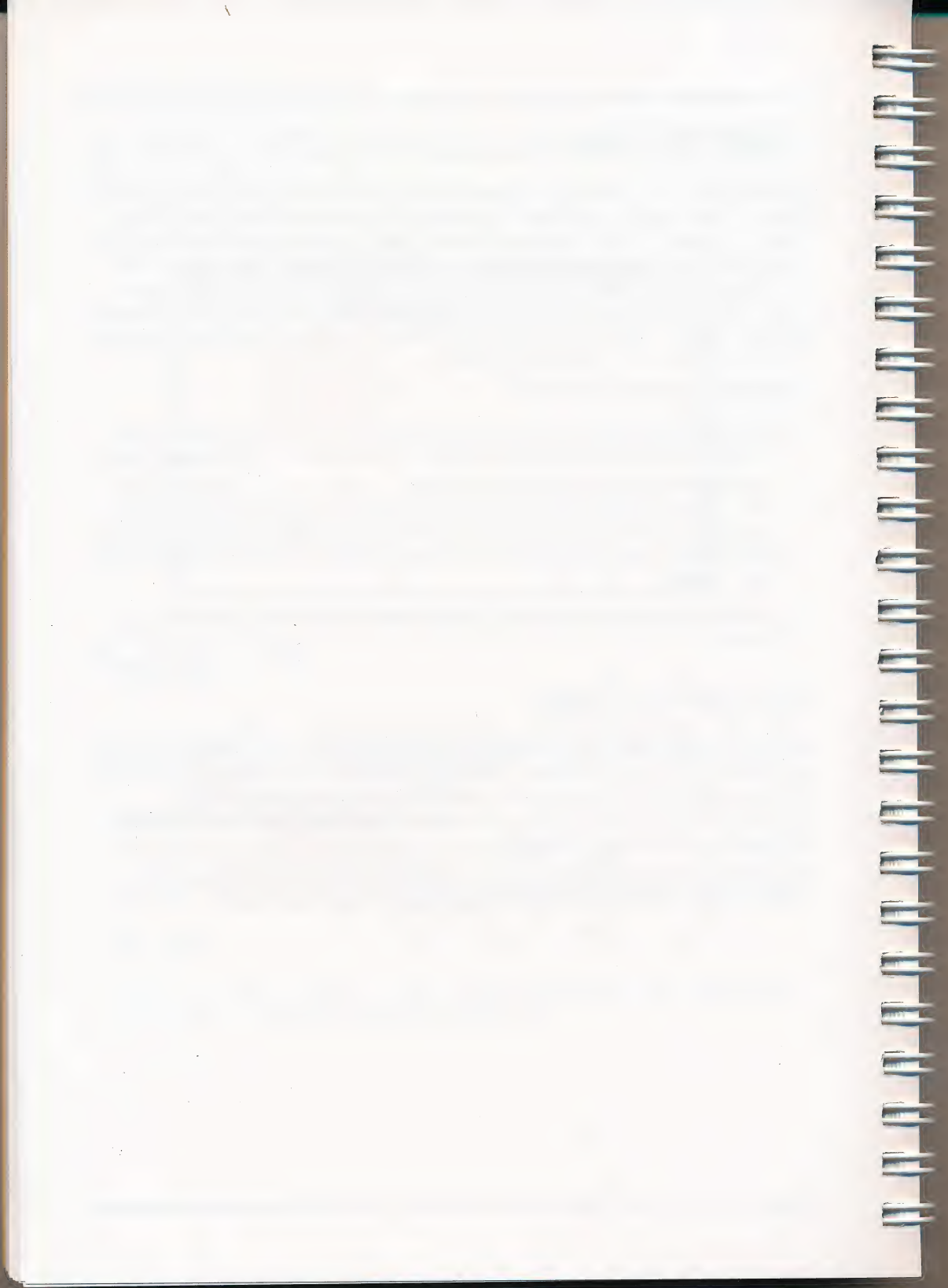
To merge files, follow these steps:

1. Before merging files, make sure you estimate their combined size so that you do not exceed the storage capacity of the disk used (see Appendix B).
2. Use a file that already has a form design, or create a new file by copying a form design or designing a new form. If you do not want some items to be copied to your new file, do not include the names of those items in the new form design. Make sure that item names are identical for items that you do want copied.
3. Use **Copy forms** to select and copy the filled-in forms you want into your new file.

Canceling Copy

If at any time you want to terminate a copy process, move the pointer to a menu on the menu bar and pull down a selection. (Hold down the mouse button until the menu highlights.) If you do so while FILE is copying, however, the destination file receives only the information transferred from the source file before you pulled down a selection.

This chapter has been about copying forms and form designs. The next chapter tells how to remove selected groups of forms from a file.



9: *removing forms from the file*

There are two ways to remove forms you no longer want from your file. First, when you are working with a particular form, you can remove just that form by choosing **Remove this form** from the **Functions** menu. Second, you can remove all of the forms or a group of forms by selecting **Remove forms**. In this case, you indicate which forms you want to remove, and FILE searches, removing the appropriate ones. (To see each form before it is removed, use the **Find forms** command as explained in Chapter 5.)

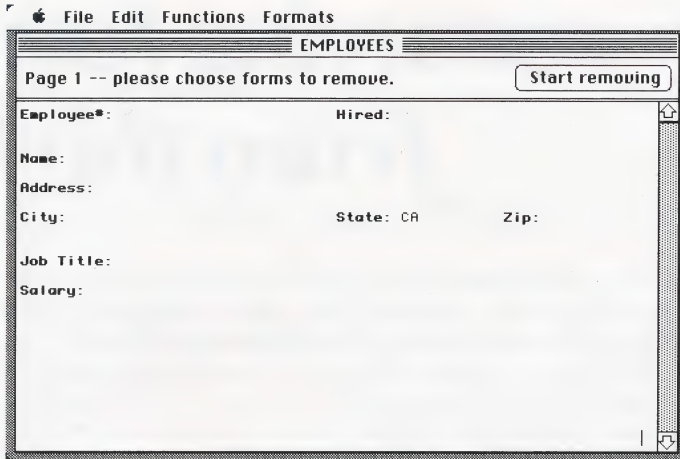
Choosing the Remove Forms Command

To use the **Remove forms** command, open an existing file and choose the **Remove forms** command from the **Functions** menu. The form design appears, and you fill in search information to identify the forms you want to remove.

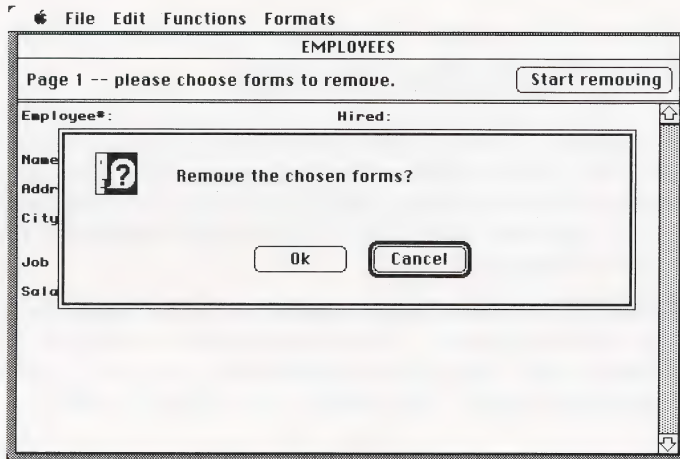
Removing Selected Forms

Let's try removing forms from the EMPLOYEES file. Since you have created a separate file for the California sales office, you now want to remove any California employees from the EMPLOYEES file. First, start FILE as you have done before, and select the EMPLOYEES file. Choose the **Remove forms** command from the **Functions** menu.

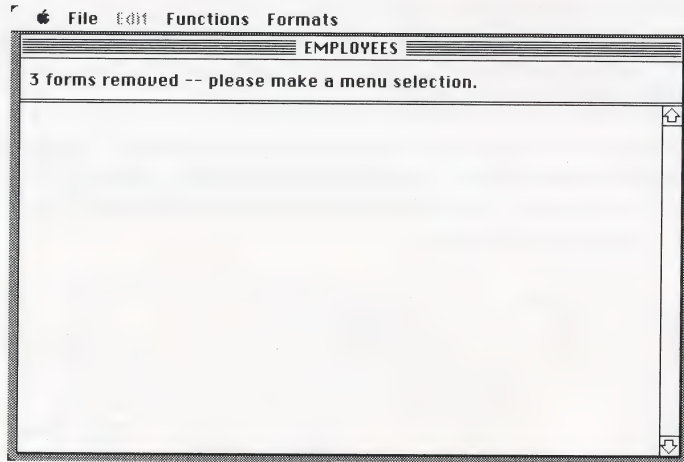
The blank EMPLOYEES form design appears with the message 'Page 1 — please choose forms to remove' in the message line. Using the Tab key, move to the **State** item. Enter **CA** to indicate that you want to remove all California employees' forms. The window should look like this:



Next, click the **Start removing** button, and FILE displays the following message, giving you the opportunity to change your mind before it removes any forms:



Click the **Ok** button to proceed, and FILE removes all forms with **CA** in the **State** item. When it finishes, you see this message:



Note: Removing a form involves erasing information from your file. Before FILE removes any forms, it gives you the opportunity to change your mind. If you click **Cancel**, FILE removes no forms. If you click **Ok**, FILE removes all the forms matching the search information you entered. After the last form is removed, FILE displays a message, indicating the number of forms that have been removed.

Once a form is removed, the disk space previously occupied by the form is automatically reused as soon as FILE stores another form.

Removing All Forms

If you want to remove all forms from a file, leave the form blank, and click the **Start removing** button. FILE tells you that it is about to remove all forms, and gives you a chance to change your mind.

If you change your mind at this point, click **Cancel** to stop the process. Otherwise, click **Ok**, and FILE removes all the filled-in forms, leaving just the form design in the EMPLOYEES file.

Note: Even when the file contains no forms, the design remains. The only way to remove a file from the disk is to use the Finder to throw it in the trash, and then empty the trash.

Canceling Remove Forms

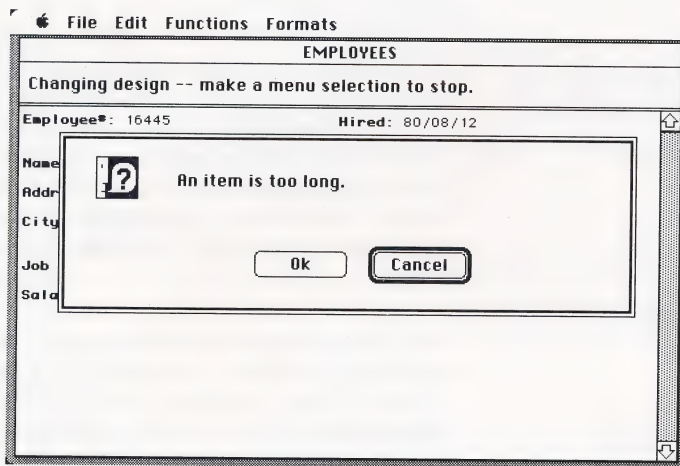
You can decide not to remove the forms you have selected. If the dialog box is displayed, simply click **Cancel** and no forms are removed. Your file is left intact. If the dialog box is not yet displayed, you can stop the **Remove forms** process by choosing another command. In this instance, move the pointer to any menu and choose any command. No forms are removed.

In this chapter you have learned to remove forms from a file. Return to any of the preceding chapters when you need suggestions on creating and maintaining your own file. Turn to the Quick Guide to PFS:FILE for quick reminders on using the program.

a:

messages

PFS:FILE displays a message whenever it encounters an error condition. Certain errors are the result of mistakes made when you entered information (such as filling in **Print forms** or **Copy forms** information). Other errors are the result of physical limitations or problems with certain elements of your Macintosh. Error messages are displayed like this:



In most cases, error messages are displayed in alert boxes with buttons you click to indicate your choice of action. For further explanation of errors and suggested solutions, refer to the alphabetical list below.

Message

Corrective Action

An item is too long

When transferring data from an original form to a redesigned form, an item does not fit into the space set aside on the redesigned form. Either edit the information in the overlong item or redesign the form.

Can't print to your PFS data file

You tried to print to a disk file using the same name as the PFS file you are printing from. FILE does not allow you to replace the existing data file with a disk file. Enter a different name for the disk file.

Clipboard contents are too big to fit in memory

FILE cannot be loaded into memory because the contents of the Clipboard are too big. If you click **Ok**, FILE continues loading into memory, but the contents of the Clipboard are erased from memory in the process. If you click **Cancel**, you return to the Finder. Use another application to edit the contents of the Clipboard before loading FILE.

IO error

It is unlikely that you will see the IO error message. If you do, it is a result of a system problem involving either your Macintosh or your disk or both. Begin using your most recent backup disk immediately. Check the section "If Something Goes Wrong" in your Macintosh owner's guide for solutions to problems with the Macintosh. If IO error persists, see your Apple dealer.

Only 4 pages can be changed at one time

You have tried to change the form design of more than four pages of the form at one time. Complete the redesign process for no more than four pages of a form design at once. Repeat the process for each additional four pages.

Remove all of the forms?

This message gives you a chance to change your mind when you tell FILE to remove all forms from a file. Click **Ok** to proceed or **Cancel** to stop the process.

Message	Corrective Action
Remove the chosen forms?	You have the opportunity to stop removing the forms you chose by clicking Cancel . You can specify different forms to remove or correct your original search information by choosing Remove forms from the Functions menu again and starting over.
Remove this form?	Once you have located a form using the Find forms command, you can remove it, edit it, or print it. To prevent removal of forms accidentally, this message appears. Click Ok to remove it or Cancel to keep it in the file.
Remove this print format?	To prevent removal of a print format accidentally, this message appears when you choose Remove this print format . Click Ok to remove it or Cancel to keep it in the file.
The data file is at maximum size	You have attempted to add a form to a file that has reached the maximum size of four megabytes. Use the Copy design only command to copy the design to a new file and add forms to the new file.
The disk is full	FILE attempted to write to the file and found that there was no room on the disk. If you have some unnecessary forms in the file, make space by removing them (see Chapter 9). If the disk has an unneeded file, you could remove it, or copy it to another disk. You could also use the Copy design only command to copy the design from the current file to a new file, then continue adding information to the new file.
The disk is write-protected	FILE cannot use disks that are write-protected (or locked). FILE uses certain areas of the disk to store temporary information, even when you select Find forms or Count forms . To correct this situation, slide the red disk tab to cover the hole.

Message

Corrective Action

The file will be changed by this operation

Your file and the data it contains will be changed during the **Change design** process you are about to undertake. Make a backup copy before continuing, in case you don't like the results of the design change or in case you lose data.

The PFS data file is broken

Broken data files are the result of several possible factors: power fluctuations, excessive heat exposure to the disk, magnetic fields near drives, etc. Begin using your most recent backup immediately.

Unable to create the work file

There is insufficient space on the disk to use for temporary storage when changing design, copying selected forms, or when sorting forms for printing. Remove or copy files to another disk to release space equal at least to half the size of the file you are using.

Use fewer characters to choose forms

The search information you entered will not fit in FILE's internal storage area. Specify search information with fewer characters.

b: *disk storage capacity*

A standard, single-sided disk can hold up to 2900 very simple forms, assuming there is only one file on the disk, although the actual number of forms that will fit on a particular disk depends on the amount of available space, how many pages there are in the form, how many items there are per page, and how much data is entered in each item. For example, the form for an average mailing list would only allow about 1500 forms on one single-sided disk, assuming that the file was the only file on the disk.

A file is divided into blocks of 128 bytes (characters) per block. Some of this space is used to store the form design, directory information and other internal information. 3100 of these 128-byte blocks, on a single-sided disk, are used to store your information.

Each page of every form stored in a PFS:FILE data file uses at least one 128-byte block, even if the page is blank. The actual number of forms that you can fit into one of your files is a function of how much data is entered in each individual form.

Use the following rules to estimate how many bytes are used by a page of a form:

- PFS:FILE uses the first 14 bytes of every page.
- Each item name entered on a page takes 5 bytes (FILE internal parameters).
- Each character entered in an item takes one byte.
- Each blank space in a filled-in item takes one byte, but no blanks are counted at the beginning or end of an item.
- A string of three or more blanks inside a filled-in item takes three bytes, as shown in the following example.

NAME: Jeff Stribling 1970
5 +4 +1 +9 +3 +4 = 26 characters

- A blank item takes six bytes (five for the FILE internal parameters plus one blank character).
-

After figuring the total number of bytes used by each page of a form, use these steps to estimate how many forms will fit in a file:

- Divide the total number of bytes for a page by 128.
- Round up to the next largest whole number. (This gives you the number of 128-byte blocks used by the page.)
- Add the number of blocks for all pages of the form to give you the total number of blocks required for an average form.
- Divide the total number of blocks on your disk used to store data (3100 for single-sided) by the total number of blocks required by one form.
- Multiply the result of your calculations by twelve-thirteenths to arrive at the approximate number of forms you can fit on the disk.

It is necessary to figure page by page because FILE uses space on a per-page basis. For example, if you use 30 bytes on a page, FILE assigns 128 bytes to that page in that file, and those 98 empty bytes are not used anywhere else. Estimating an entire form at once, instead of each page individually, will cause you to think that you have more empty space in your file than you actually do. Let's use the following example to estimate space on a form:

The screenshot shows a Macintosh-style window titled "PHONE LIST". The window has a menu bar with "File", "Edit", "Functions", and "Formats". Below the menu bar is a title bar with "PHONE LIST". The main content area contains the text "Fill in page 1 of the new form." followed by a "Continue adding" button. The form fields are as follows:

Name: Anastasia C. Doerr		
Home Phone: 408-923-8269		
Business Phone:		
Address: 130 Piazza Way		
City: San Jose	State: CA	Zip: 95127

- 14 - FILE uses the first 14 bytes on a page
- 35 - 7 items using 5 bytes each (FILE internal parameters)
- 19 - Anastasia C. Doerr = 17 characters, 2 spaces
- 12 - 408-923-8269 = 12 characters, 0 spaces
- 1 - Business Phone: empty item = 1 space
- 14 - 130 Piazza Way = 12 characters, 2 spaces
- 8 - San Jose = 7 characters, 1 space
- 2 - CA = 2 characters, 0 spaces
- 5 - 95127 = 5 characters, 0 spaces

110 - TOTAL number of bytes used by this form

$$110 / 128 = .86$$

Step 1. The total number of bytes for the page divided by 128.

$$.86 = 1$$

Step 2. Round .86 up to the next largest whole number, which is 1.

1

Step 3. Since this form has only one page, there is nothing to add to the 1. This form will require one storage block.

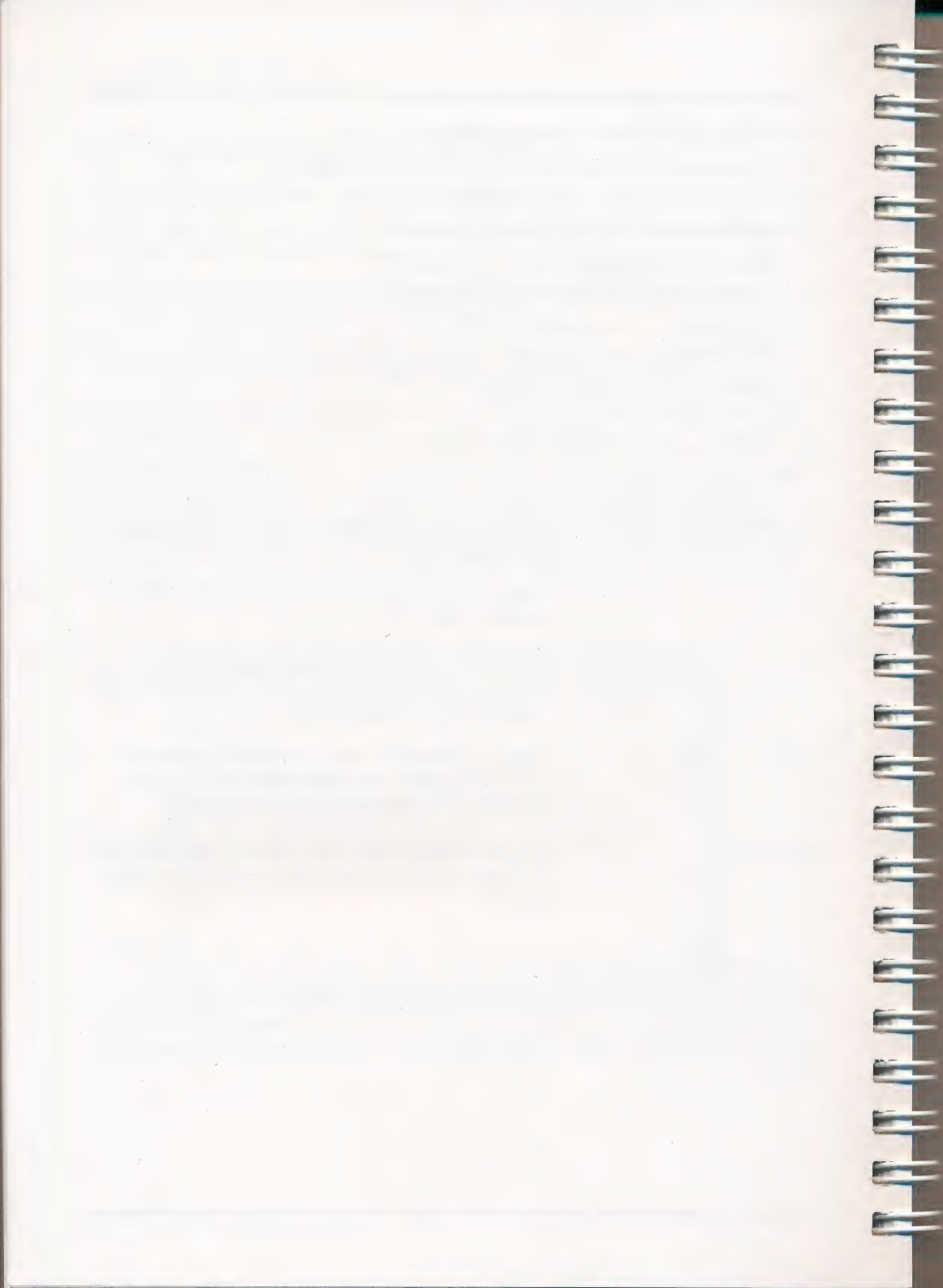
$$3100 / 1 = 3100$$

Step 4. Divide the total number of blocks on your disk (3100 for single-sided) by the total number of blocks required by one form.

$$3100 \times 12/13$$

Step 5. Multiply the result of your calculations by 12/13 to determine the number of forms you can store.

If you put more than one FILE data file on a disk, they will compete with each other for space until the disk is full. When a file is initially built, it takes 128 blocks of 128 bytes each, for a total of 16384 bytes. When that space is used, it takes space 64 blocks at a time, as it needs more room. To find out how much space is available on a disk, check the directory line at the top of the data disk window.



a quick guide to pfs:file

Special Keys

- | | |
|-----------|--|
| Enter | Confirms whatever entry you've made on a window so that FILE moves on to the next step. In an alert box, it is the same as clicking the heavily outlined button (like Ok , for example). |
| Return | Moves the insertion point to the beginning of the next line. In an alert box, it is the same as clicking the heavily outlined button (for example, Cancel). |
| Tab | Moves the insertion point to the next item on the form. With the Shift key pressed, Tab moves the insertion point back to the previous item on the form. On the print options window, pressing Tab moves the insertion point from box to box and highlights text so that you can type over it if you wish. |
| Backspace | Moves the insertion point to the left one space and erases the character in that location. |
| Option | Lets you enter accented and special characters. Refer to Appendix A of your Macintosh owner's guide. |
| ⌘ | Used in combination with the following keys: |
| X | Cuts highlighted text and places it on the Clipboard. |
| C | Copies highlighted text and places it on the Clipboard. |
| V | Pastes text from the Clipboard at the insertion point on your screen. |
| T | Pastes current time at the insertion point. |
| D | Pastes current date at the insertion point. |
-

Creating a File

Steps

1. Click the **New** button on the PFS:FILE title window to create a new file. Eject the disk, if necessary, and insert a data disk.
2. Type a name for the new file at the next window and click **Ok**.

Notes

- Type in the design, following these guidelines:
- Make the first item the one you will search for most frequently.
- Place a colon at the end of each item name.
- Leave plenty of space for each item.
- To design additional pages of the same form, press the down scroll arrow and continue typing items.
- Maximum # of items per page = 100
- Maximum # of pages per form = 32
- FILE stores the form as you design it.

Adding Information to the File

Steps

1. Choose **Add forms** from the **Functions Menu**.
2. Fill in the form (all pages).
3. To add another form, click the **Continue adding** button.
4. Click the down scroll arrow to create an attachment page for the form you are adding.

Copying from the File

Options

1. Choose **Copy design only** from the **Functions** menu to copy the form design to a new file.
 2. Choose **Copy forms** from the **Functions** menu to copy selected filled-in forms from a file to another existing file (particularly useful for splitting or merging files).
-

Notes

- Items must have identical names to be copied from one file to another, but they do not have to be in the same location on the two forms.
- Before merging files, estimate their combined size so you will not exceed the storage capacity of the disk.

Search Information

If you enter: FILE will find:

abc	abc only (upper or lower case)
..xyz	Any entry ending xyz
abc..	Any entry starting abc
..pqr..	Any entry containing pqr
..	Any nonblank entry
?and	Any four-letter word ending with and (band, land, etc.)
< 10	Any number less than 10
> 99	Any number greater than 99
= 33	The number 33
= 1..5	Any number between 1 and 5
/ = 25	Any number not equal to 25
/A..	Any entry not starting with A
/..	Any blank entry

Printing Forms

Options

- Use **Print forms** from the **Functions** menu to print a copy of all or part of a form.
- Use **Create a print format** from the **Formats** menu to create a set of print instructions and store them for repeated use (maximum eight print formats per file)..

Steps

1. Fill in search information to tell FILE which forms in the file you want printed.
 2. Fill in the print options window to tell FILE how you want the information printed. (If you enter the name of a pre-defined print format in the print options window, the third print window does not appear.)
-

3. Fill in the third print window with format instructions that tell FILE which items in the form to print, whether to put items on the same or a different line, or whether to sort the forms according to a certain item.

Print Specifications

Use these characters to fill in the print format:

- X print this item and advance the printer to the next line.
- + print this item but do not advance the printer to the next line - skip 2 spaces instead.
- S sort printout based on this item.

Notes

- If you do not enter any print information, FILE prints forms just as they appear on the screen.
- FILE always prints items in the same relative order in which they appear on the form.

Changing Design

Steps

1. Make a backup copy before you change the form.
2. Item names in the redesigned form must match exactly the item names in the original form, but can be in different places on the forms.
3. Leave enough space for the information in an item on the original form to fit into the item on the redesigned form, or edit the information to fit.
4. Only four pages of a multiple-page form can be changed at one time.

Notes

- With a single disk drive, and if a disk does not contain available space equal to at least half the size of the file, you cannot use **Change design**.
-

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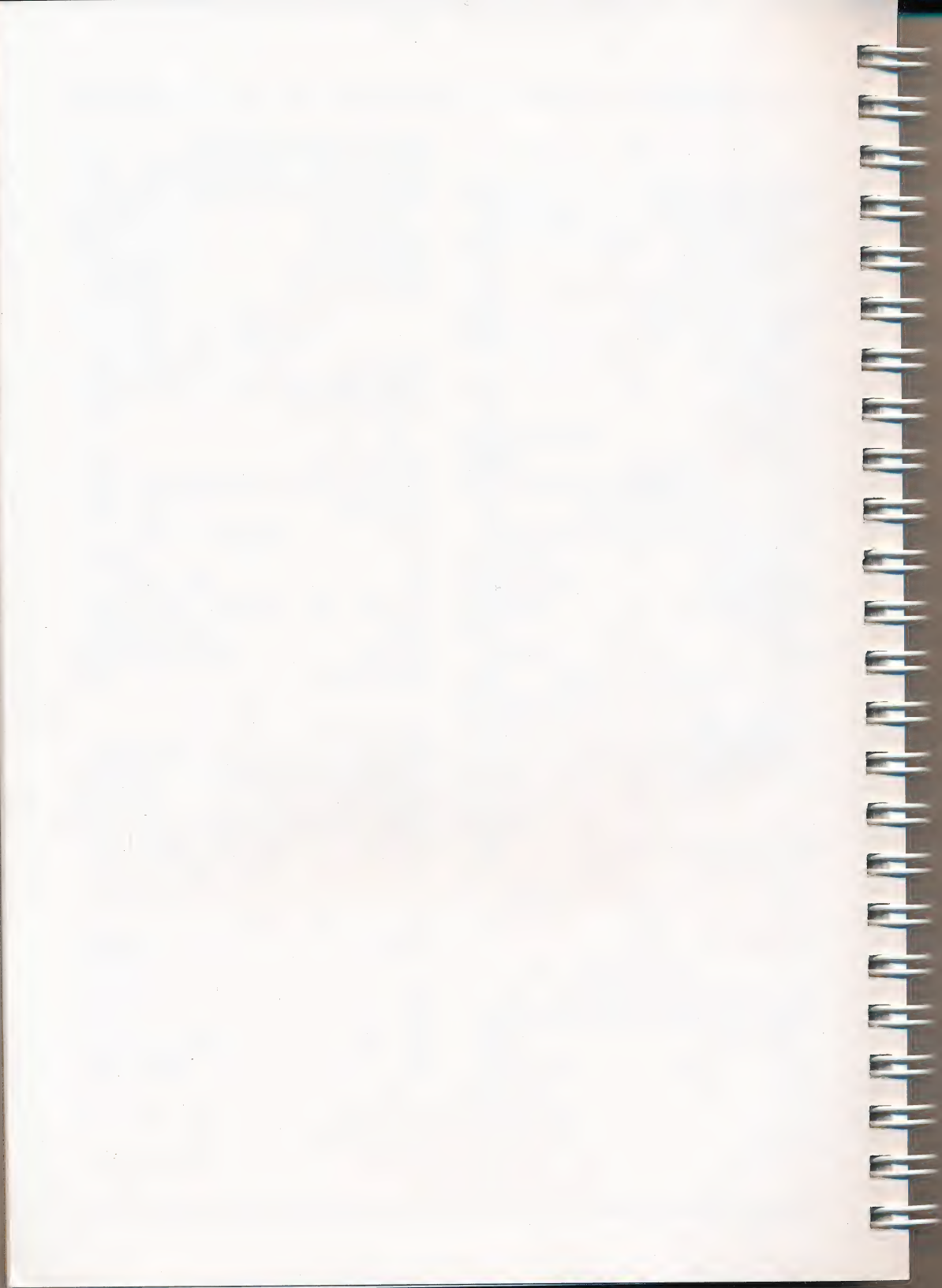
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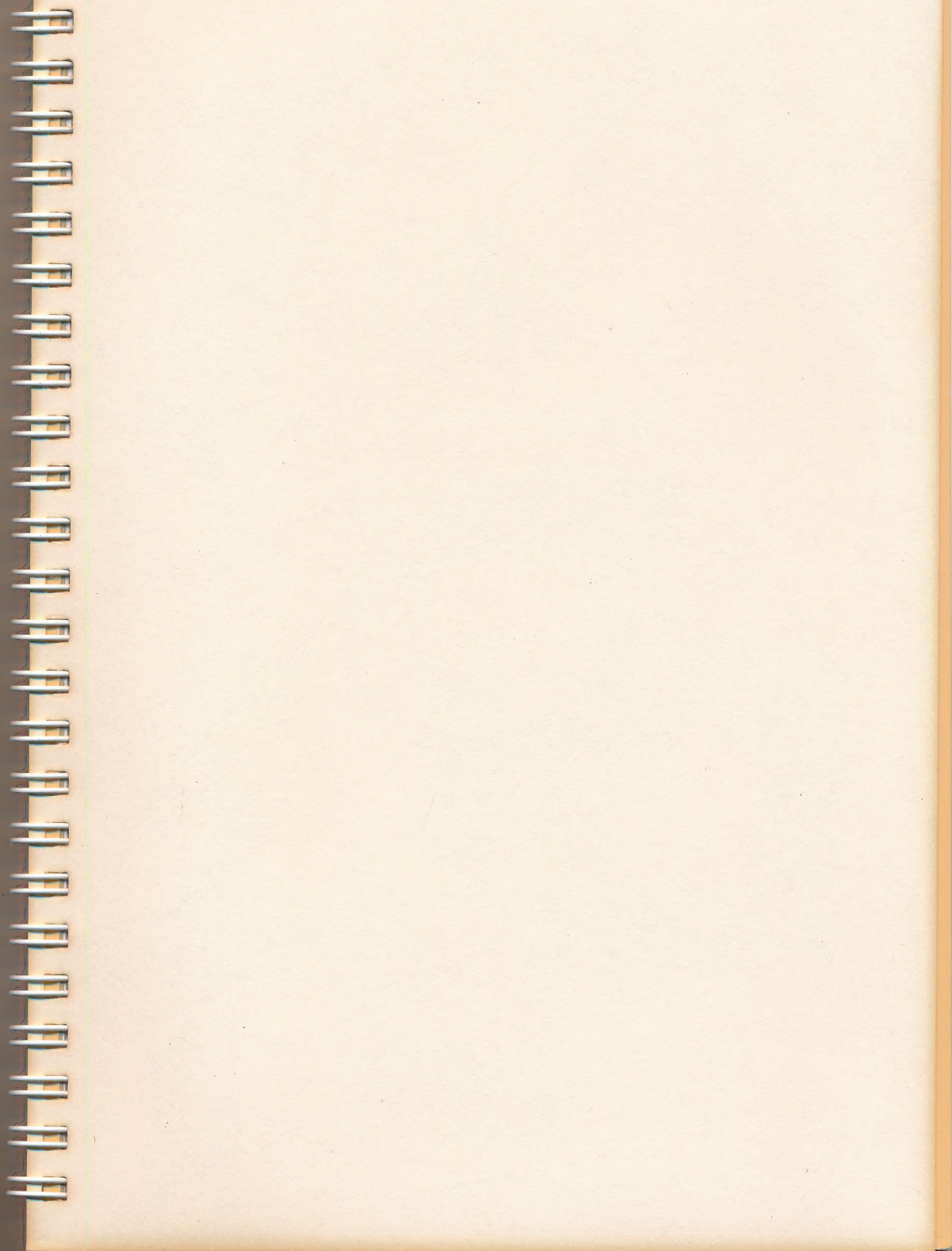
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Handwritten decorative border consisting of a repeating pattern of stylized, interlocking geometric shapes, possibly representing the letter 'A' or a similar motif, running vertically along the left edge of the page.





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