Perfect Filer T.M.

Perfect Filer [T.M.]

For Joyce, Allison and David

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TRADEMARK

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PERFECT FILER USER'S GUIDE

PREFACE

Welcome to Perfect Filer! In today's modern office computers are playing an increasingly more important role in word processing, financial analysis, and numerous other tasks. One of the most important areas where computers are used is office records management.

Perfect Filer is designed to assist you in the effective management of information. Essentially Perfect Filer allows you to build a computerized records management system where data on clients, customers or other case records can be stored. No more typing and retyping the same information, searching through file drawers, or hand copying or typing information stored in a file. With Perfect Filer your computer can do these tasks and more. You enter information in the file only once, Perfect Filer retrieves it, prints it where and how you want it—on invoices, shipping labels, monthly statements, form letters, etc. Perfect Filer's uses in the modern office are unlimited.

Perfect Filer is equipped with two simple mailing list records forms. With these forms you can build and maintain mailing lists. As you become familiar with how extremely easy Perfect Filer is to use, you'll be building your own customized data bases. Plus, you'll be tapping into the full potential of computers to aid you in more effectively performing your work.

The premier feature of Perfect Filer is 'ease of use.' In the past, use of any records management systems has required extensive training. Perfect Filer changes all this. With Perfect Filer you simply design your own data base and it puts all the parts together for you.

Who can use Perfect Filer?
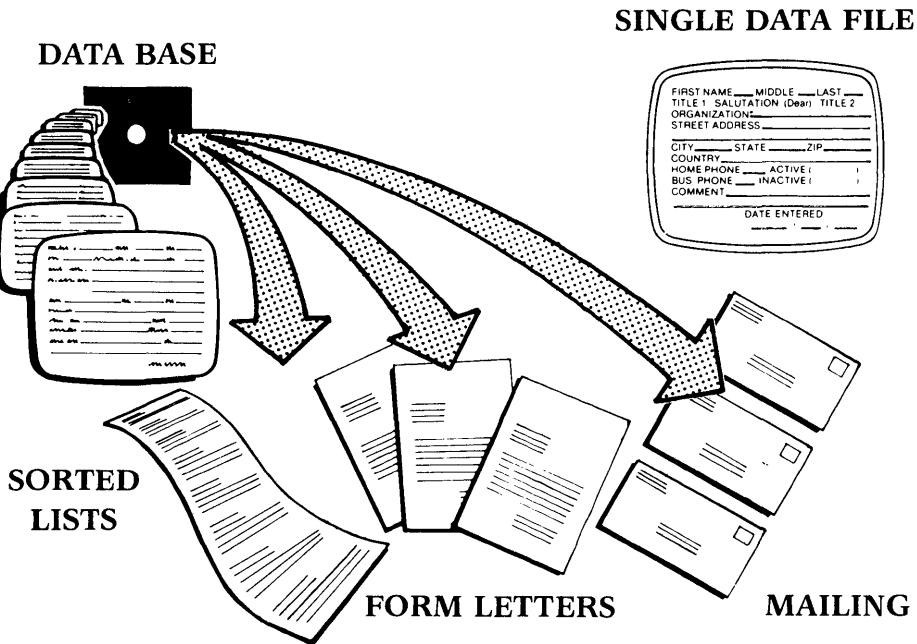
• The person in business—real estate, sales, contracting, automotive service, stocks, financial, consulting, insurance—anyone who needs to keep track of service records, clients, merchandise.

• The scientist, doctor, pharmacist, lab technician in need of a simple, easy means of recording, updating, and accessing scientific data.

• The professional—attorney, architect, consulting engineer, writer—whose clientele need to be reached en masse, yet individually. (Perfect Filer will generate form letters, envelopes, and mailing labels, all presorted.)

• The scholar with special interests and activities—e.g. antiques, books, records, prints, articles—things that require some means of cataloging. (Perfect Filer will create and maintain easily accessible, sorted files.)

• Even the hobbiest who wants to keep track of collected or created items: stamps, rocks, butterflies, coins.

What features does Perfect Filer offer?

• Two pre-structured mailing list data that allow you—within minutes—to begin compiling individual data records from which to generate individualized form letters, mailing labels, sorted lists.

• Easy, menu-guided programs that allow you to create your own customized data base.

• Versatile sort routines that permit up to five consecutive sorts.

• Subset definitions that allow up to 20 selective subsets for a single data base.

• Easy list format procedures for generating lists and reports to meet any specialized format requirement.

• A command structure integrated with the Perfect Writer word processing system, eliminating the need for relearning oft-used commands.

How does Perfect Filer work?

1. You enter individual member information onto blank 'data records', which Perfect Filer supplies, or you custom design and create.

2. Perfect Filer gathers the various individual data records into a single 'data base'.

3. Perfect Filer then generates, upon command, form letters, mailing labels, specialized forms, and sorted and formatted lists—whatever information you need in whatever form you need.

SINGLE DATA FILE

DATA BASE

FIRST NAME____ MIDDLE ____LAST____
TITLE 1 SALUTATION (Dear) TITLE 2
ORGANIZATION____
STREET ADDRESS____
CITY____ STATE ____ZIP____
COUNTRY____
HOME PHONE ____ ACTIVE (
BUS PHONE ____ INACTIVE (
COMMENT____
DATE ENTERED
____ · ____ · ____

SORTED LISTS

FORM LETTERS   **MAILING**

The Perfect Filer System Programs

Perfect Filer is essentially a set of three software programs:

The CREATE program

Allows you to create and modify a standard data record, the basic element of a data base.

The FILER program

Provides the routines to add and delete individual data records to and from a data base. As well, FILER generates form letters, mailing labels, and sorted lists and reports.

The MOVE program

A utility program, MOVE allows the easy transfer of individual record data between data bases.

Understanding Perfect Filer

Everything you need to know about Perfect Filer is contained in this user's manual—uncomplicated and structured toward your needs.

For example, if you want to use Perfect Filer as a simple mailing list program, you need consult only the first two sections, the "Introduction" and "Using Perfect Filer." If you have more specialized needs, you should continue on to "Creating Your Own Data Base."

Throughout the manual, clear, easy-to-understand tutorials guide you step-by-step through all the processes and procedures of using Perfect Filer. Appendices include a Command Summary, a Glossary, an Index, and discussions of several miscellaneous operations you may find helpful. Complete system installation instructions are given in Appendix A.

Chapter I
INTRODUCTION

This chapter introduces all the working parts of Perfect Filer, the nuts and bolts you need to know in order to make full use of the system. Here you'll learn about data records, data fields, templates, tag names, numeric limits, and much more. Though at first some of this material may seem unfamiliar and technical, it's really quite easy. These are the basics that will serve you in understanding the remainder of the manual.

We recommend that you read the Introduction through once, understanding as much as possible, but don't be concerned if something is not completely clear. Then continue on to the tutorials, where you will learn how to USE Perfect Filer. As you proceed through the tutorials, refer back as needed to the Introduction to consolidate your understanding of the material.

We're sure you'll agree Perfect Filer is an easy record management system to use. And, welcome to another member of the Perfect Software family!

What is a Data Record?

All member information that you store in Perfect Filer is entered onto a formatted screen called a 'data record'. A typical data record might look like this:

```
First Name:_____Middle:_____Last:_____
Title: _____ Salutation (Dear) _____ Title 2: _____
Organization: _____
Address1:  _____
Address2:  _____
City: _____ State: _____ Zip: _____
Country:_____Phone: (____) _____ - _____
Birthdate: ____/____/____   Number of Dependents: _____
Social Security:  ____ - ____ - _____   Salary:  $_____.____   Profit Sharing Plan:[ ]
Date Hired: ____/____/____
Position:  _____
Department:  _____
                            EDUCATION
Degree:_____Field:_____
Comment:  _____
                                        Date Entered: ____/____/____
```

Figure 1.1 Sample Data Record

After data is entered onto the data record, it is stored by Perfect Filer in a 'data base'. A data base is defined solely by the single format of the data records it contains.

The ideal format for a data record is, of course, one which will best accommodate the member information you need to record. Some data bases will require a simple data record, while others will naturally be more complex. Once created, the data record is used again and again to store all of the individual records which comprise a data base.

A data record occupies no more than one screen on your video display. It can hold a maximum of 70 individual 'data fields' of information (e.g. name, street address, city, phone, etc.), for a total of 1,024 data entry spaces as indicated by the underscores. These individual fields can be anything you wish, and of any conceivable arrangement.

ELEMENTS OF A DATA RECORD

A data record consists of several basic elements:

The Data Field

The data field is the basic storage unit of a data record, capable of holding a single piece of information. Every slotted space in the data record is a data field: First name, Middle, Last name, State, Birthdate, Comment, etc. Data fields are of four types, depending on the type of data stored in the field:

Alphabetic   This type of data field accepts only alphabetic characters, a-z, A-Z. Data entered into this field cannot include periods, (.), or other punctuation, or any numeric characters. In Figure 1.1. 'First name', 'City' are examples of alphabetic data fields.

Alphanumeric   This type of data field accepts any printable characters: a-z, A-Z, 0-9, !, ?, '' ', &, #, etc. Examples of alphanumeric fields include 'Street address' and 'Comment'.

Numeric   A numeric field holds only digits, 0-9. 'Zip', 'Salary', and 'Social Security number' are examples of numeric fields.

Status   Represented on the screen as a blank space between square brackets, '[ ]', the status field is used to indicate a 'choice' or 'status'. For example, a data record might contain the following group of status fields:

Single [X] Married [ ] Divorced [ ]

When empty the status field is said to be turned 'OFF'. An 'X' indicates that that particular status applies to the individual recorded on that data record.
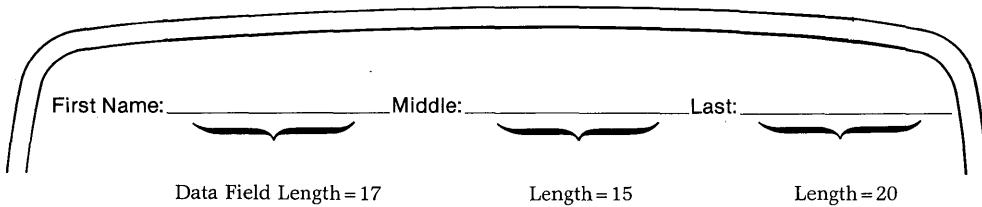
Why four types of Data Fields?

Four distinct types of data fields are provided to help insure that data will be correctly entered. For example, while entering a Social Security number you could inadvertently type:

&62-96-4773

If the data field for recording a member's Social Security number were not strictly numeric, Perfect Filer would accept this as a valid Social Security number. However, since 'Social Security' is always a numeric field, Perfect Filer refuses to accept the ampersand, &, in place of a digit. This provides you with increased accuracy in data collection.

Data Field Length

With the exception of the 'status field', every data field on a data record is given a 'field length', which is the amount of space (in column spaces) that the field occupies. For example:

First Name:_____Middle:_____Last:_____

Data Field Length = 17   Length = 15   Length = 20

Note that the data field length for 'First Name' is 17 spaces. Since data entered into a field cannot exceed the length of the field, no first name longer than 17 letters can be entered. If a first name has more than 17 letters only part of it can be entered.

In general, it is important to make data fields long enough to hold the largest data item you expect to enter. If would be impractical, for example, to make a data field intended for 'Comments' only five spaces long.
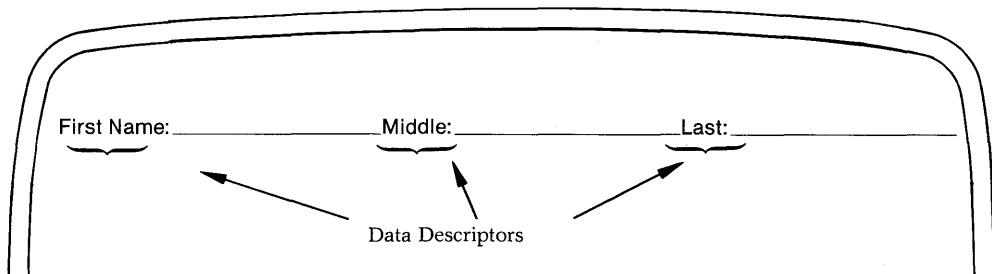
Numeric Field Limits

Numeric fields with a field length of less than five spaces require upper and lower numeric limits. All numeric data entered into such fields are checked against these limits. If the number entered does not fall within these limits, Perfect Filer will alert you to improper entry. Again, this helps to insure the accuracy of data entry.

For example, in the grouping of data fields that records a date, the data field for 'month' has a lower limit of '1' and an upper limit of '12' (because there are 12 months in a year). If you enter a number greater than 12 for the month, it will not be accepted.

Numeric limits are general safeguards, and although they may not seem necessary in a wide variety of situations, Perfect Filer will, nevertheless, always require that you supply them. When you have no particular limits, specify – 9999 as the lower limit, and 9999 as the upper.

Data Descriptors

Nearly all data fields have words specifying what information the field is to hold. These 'data descriptors' are for user convenience in identifying fields, and are NOT part of the actual data field discussed earlier, which begins at the underscore. As you will see, a data field can be deleted while its data descriptor will remain on the screen. The data descriptor is only a visual aid to assist in the process of data entry.

First Name:_____Middle:_____Last:_____

Data Descriptors

TEMPLATES

Constructing even a simple data record could be a laborious process were it not for a device which Perfect Filer provides called a 'template'. A template is simply a collection of related data fields, used to facilitate the creation of data records. Templates automatically supply data descriptors, field lengths, and field tags for each of the data fields they include. Perfect Filer offers the following templates:[1]

DATE
____/____/____ (i.e., month/day/year)

DATE ENTERED Template
This is a date template with a special tag 'dtenter'. Perfect Filer will automatically enter the current date into an individual data record when it is created. Convenient to use as a sort key, it is recommended that the 'Date Entered' template be included in the lower right corner of each data record you define.

NAME
First Name: _____ Middle: _____ Last: _____
Title:_____Salutation: (Dear)_____Title 2:_____

ADDRESS
Organization: _____
Address1: _____
Address2: _____
City: _____ State: _____ Zip: _____
Country: _____

PHONE NUMBER
Phone: (____) _____ - _____

TIME
____:____ AM [ ] PM [ ]

MONEY
$_____.____

SOCIAL SECURITY NUMBER
_____ - ____ - _____

---

[1] Appendix E explains the use and characteristics of these templates in detail.

TAGS

When you have stored data records in Perfect Filer you can later access the data, using it in a wide variety of ways.

- Print address labels to everyone in your data base.
- Write a form letter and send it to selected members of your data base.
- Print invoices for those records entered today.
- Produce sales reports and specialized lists.

However, to do all of this you need to know how to specify the information that the records hold. In Perfect Filer this is easily accomplished using field and template 'tags'.

Data Field Tags

Every data field is given a 'tag name', or 'tag', which identifies it to Perfect Filer. The tag should be a string of **no more than 15 lower case alphanumeric characters written as a single word,** and should in some way be descriptive of the field it represents. Some tag names for the fields of our sample data record might be:

Data Fields	Possible Tags
First Name:	firstname
Comment:	comment
Salary:	salary
Date Hired:	datehired
Number of Dependents:	dependents

The tag names can be identical to the data descriptors, though not always. Notice that the field tags for "First Name" and "Date Hired" are written as single words: 'firstname' and 'datehired'. No blank spaces may appear in a data field tag.

Field tags should not be confused with the data descriptors that are displayed on the screen. After you supply a field tag it is recorded internally by Perfect Filer and thereafter is not visible on the screen. However, as you will see, the field tags will be used later in defining list formats, form letters, and sort keys. (Appendix D explains how the field tags of a data record can be displayed.)

Template Tags

Like data fields, each template must be supplied with a 'tag' of no more than 15 lower case characters written as one word. A template cannot have a tag name that has already been used for a data field.
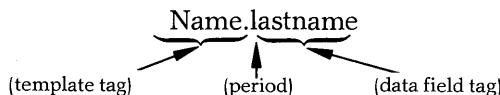
Within a template, each data field has its own tag that has been pre-assigned by Perfect Filer. In the 'Name' template below, the tags for each data field are displayed:[2]

First Name:_____Middle:_____Last:_____

Title: _____ Salutation: (Dear) _____ Title 2: _____

Field	Tag
First Name	firstname
Middle	middlename
Last	lastname
Title	title1
Salutation: (Dear)	salutation
Title 2	title2

Referencing Data Fields within Templates

When referencing data fields contained within templates, the data field tag must be preceded by the tag of the template which contains it, as follows:

Name.lastname

(template tag)   (period)   (data field tag)

The Tag List File "db.txt"

A listing of all template and data field tags is generated each time a data base is created or modified. This list can be found in the file 'db.txt' or generated using the instructions in Appendix D.

[2] The data field tags for the various templates are given in Appendix E.

ACCESSING DATA RECORDS (MEMBER ID)

Perfect Filer provides a procedure that gives you instant access to all records in your data file. To assist you in finding records, Perfect Filer automatically assigns a 'Member ID' to each data record that you add to your data base. To retrieve a record all you need to do is to give the data record's Member ID.

Perfect Filer generates three types of Member ID depending upon the type of data base involved.

Data Bases of People

For data bases that are essentially personnel files, containing the records of individuals, the Member ID is composed of the first letter of the first name and the first three letters of the last name. For example:

Name	Member ID
Abraham Lincoln	ALIN (or 'alin')

This ID option is selected when the 'Name' template is placed in the FIRST position on the data record.

Serial Numbers as Member IDs

Sometimes it is appropriate to identify a record using a serial number, as with a data base containing objects rather than people. In such a case Perfect Filer will automatically generate consecutive serial numbers for each data record.

To invoke this serial number option, the first field of the data record must be a numeric field with the tag **'serialno'** (for serial number), and a field length of four. Perfect Filer sets the first serial number at 1 and will continue as high as 9,999. To change the initial number, enter any positive number of four digits or less into the file called 'serial.sav'. Simply call up the file 'serial.sav' using your Perfect Writer word processor; change the serial number accordingly, afterwards saving the file under the same name.

Organizations and Other Member IDs

For data records in which neither the 'name' template nor the 'serial number' field appear in first position, the ID number will be generated from the first four characters of whatever data is entered in the first data field. For example, if the first field holds the name of a company or organization, the ID code would be comprised of the first four letters of the company's name:

ORGANIZATION: Acme Company _____
ADDRESS: 123 Any Street _____
CITY: Any City _____ STATE: Any State _____ ZIP: 00000 _____

Member ID code is: ACME

Duplicate Member IDs

Suppose that a data base contained more than one record with the same Member ID. For example, suppose that besides 'John Smith' there existed another man named 'Joseph Smiley'. Both would have the same Member IDs: 'jsmi'. In such a case, Perfect Filer would retrieve the first record it found on the data base. If that record was 'Smiley' and we wanted 'Smith', we would type the FIND OTHER MEMBER command:

Perfect Filer would display the next record with the Member ID, 'jsmi'. The FIND OTHER MEMBER command can be used to examine all members in a data base with the same Member ID. When all have been presented, Perfect Filer responds with the message 'No more members'.
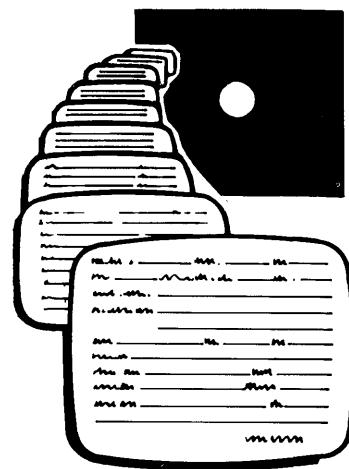
The 'X' ID

Occasionally a situation arises when a record must be entered without a name, as when a company must be listed without any person's name. Here, enter the letter 'x' in the first name field of the 'name' template, followed by a 'serial number' in the last name field. The Member ID then becomes, for example, 'X999'. To retrieve the serial number of this record, generate a list that displays the name of the company in the left column and the name of the person associated with it in the right column. The serial number is easily spotted among the list of names. (See the tutorial on How to Format a List, Chapter VI for details of this operation.)

THE DATA BASE

As we have mentioned Perfect Filer collects the individual data records that you enter, each holding information concerning a single individual, organization, object or other item, into a data base.

```
FIRST NAME: __ MIDDLE: __ LAST: __
TITLE 1   SALUTATION: (Dear)   TITLE 2
ORGANIZATION: _____
STREET ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____
COUNTRY: _____
HOME PHONE: ____ ACTIVE (        )
BUS. PHONE: ____ INACTIVE (        )
COMMENT: _____

            DATE ENTERED:
            _____/_____/_____
```

Individual Data Record   Data Base

What determines a Data Base?

A data base is defined solely by the format of its data record. No more than one data record design can be used for any one data base. Once created, the blank data record is used again and again to record information regarding the individual members that comprise the data base.

Perfect Filer stores each data base in a disk file called 'database'. Since a single disk cannot hold more than one file with the same name, **each data base must occupy its own diskette**. If a single diskette was used for more than one data base, the first would be erased and over-written by the second!

The Pre-Structured Data Bases

To help you begin using the system quickly, Perfect Filer offers two pre-structured data bases. Each data base comes supplied with pre-defined sort keys and list formats. In the distribution package that you received, these data bases are on the diskettes labeled "Individual Member Data Base" and "Organizational Data Base" respectively.

The Individual Member Data Base

The Individual Member Data Base is used when the individual members of a data base are people. The data record of this data base looks like this:

```
FIRST NAME: _____ MIDDLE: _____ LAST: _____
TITLE 1:_____SALUTATION: (DEAR)_____TITLE 2:_____
ORGANIZATION: _____
ADDRESS1:_____
ADDRESS2:_____
CITY:_____STATE _____ ZIP: _____
COUNTRY: _____
HOME PHONE: (____) _____ - _____          ACTIVE ( )
BUSINESS PHONE: (____) _____ - _____      INACTIVE ( )
COMMENT:_____
_____
                                    DATE ENTERED: ____/____/____
```

The tag names for the data fields and templates of the individual member data record are:

Member Elements
  1: name; name template; size = 90
  2: address; address template; size = 234
  3: homephone; phone template; size = 12
  4: active; Status Field field; size = 1
  5: busphone; phone template; size = 12
  6: comment1; Alphanumeric Field field; size = 60
  7: comment2; Alphanumeric Field field; size = 60
  8: dtenter; date template; size = 9
  TOTAL MEMBER SIZE = 481 [of 1024 Available]
  TOTAL FIELDS USED = 23 [of 70 Available]

Logical Field Tags
  Field 1: name.firstname
  Field 2: name.middlename
  Field 3: name.lastname   } name template
  Field 4: name.title
  Field 5: name.salutation
  Field 6: name.title2
  Field 7: address.organization
  Field 8: address.address1
  Field 9: address.address2
  Field 10: address.city   } address template
  Field 11: address.state
  Field 12: address.zip
  Field 13: address.country
  Field 14: homephone.areacd   } phone template
  Field 15: homephone.phnum
  Field 16: active
  Field 17: busphone.areacd   } phone template
  Field 18: busphone.phnum
  Field 19: comment1
  Field 20: comment2
  Field 21: dtenter.month
  Field 22: dtenter.day   } date template
  Field 23: dtenter.year
  TOTAL TAG LENGTH = 322 [of 1024 Available]

The Organizational Data Base

The Organizational Data Base should be used when the data base members are primarily companies or organizations.

```
ORGANIZATION: _____
ADDRESS1:_____
ADDRESS2:_____
CITY:_____STATE _____ ZIP: _____
PHONE: (___) _____ - _____          ACTIVE ( )
                                       INACTIVE ( )
CONTACT PERSON:_____
COMMENT:_____
_____
                              DATE ENTERED: ___/___/___
```

The tag names for the data fields and templates for the Organizational Data Record are:

Member Elements
1: address; address template; size = 234
2: phone; phone template; size = 12
3: contact; Alphanumeric Field field; size = 30
4: active; Status Field field; size = 1
5: comment1; Alphanumeric Field field; size = 65
6: comment2; Alphanumeric Field field; size = 73
7: dtenter; date template; size = 9
TOTAL MEMBER SIZE = 428 [of 1024 Available]
TOTAL FIELDS USED = 16 [of 70 Available]

Logical Field Tags

Field 1: address.organization
Field 2: address.address1
Field 3: address.address2
Field 4: address.city   } address template
Field 5: address.state
Field 6: address.zip
Field 7: address.country
Field 8: phone.areacd   } phone template
Field 9: phone.phnum
Field 10: contact
Field 11: active
Field 12: comment1
Field 13: comment2
Field 14: dtenter.month
Field 15: dtenter.day   } date template
Field 16: dtenter.year
TOTAL TAG LENGTH = 207 [of 1024 Available]

Designing your own Data Base

Perfect Filer's pre-structured data bases will prove more than adequate for a variety of personal, professional, and business applications. However, sooner or later you will want to design and construct your data base. In the long run this is a wise approach, because it will insure a data base that will meet your particular needs. Details for creating your own data base are presented in Chapter V.
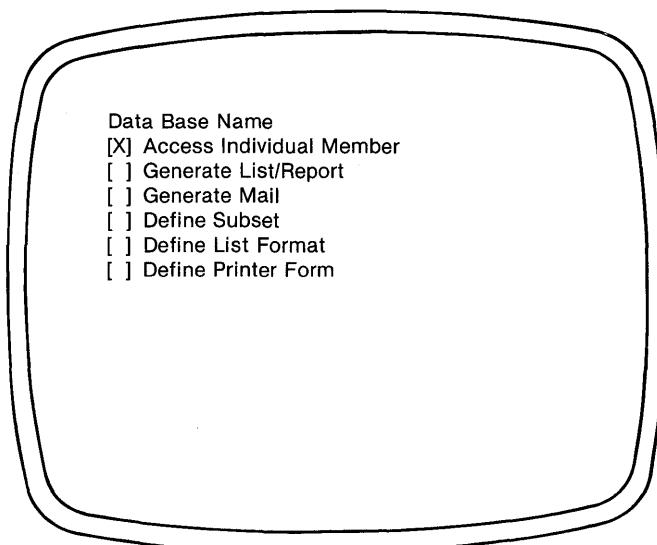
SYSTEM MENUS

To promote ease and simplicity of use, Perfect Filer relies not upon commands, but upon an integrated system of 'menus'—successive sets of options that guide you step-by-step through any given procedure.

Using a Menu

To select an option on any menu, position the cursor before the desired option and type the letter 'x' on the keyboard. The 'x' can be moved DOWN the list of options using the carriage return or NEXT LINE command (Control-N), and can be moved back UP the list with the backspace key. (See Cursor Commands, Appendix A.)

A typical menu looks like this:

```
        Data Base Name
        [X] Access Individual Member
        [ ] Generate List/Report
        [ ] Generate Mail
        [ ] Define Subset
        [ ] Define List Format
        [ ] Define Printer Form
```
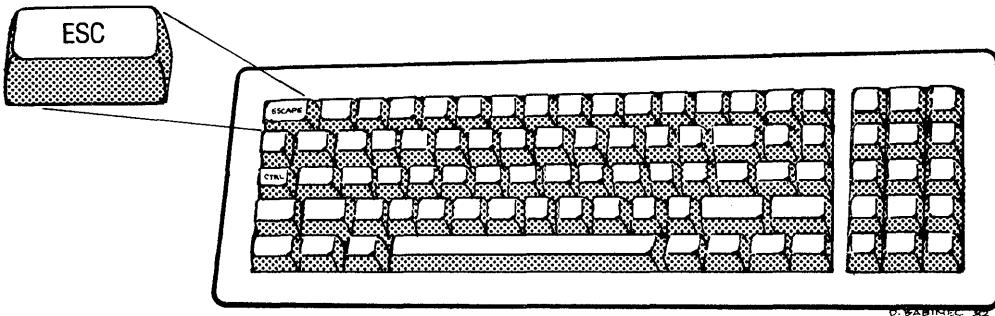
THE ESCAPE KEY

The Escape key (labeled 'ESC' on many keyboards) is a special key in Perfect Filer. It allows you to 'back up' or to 'escape' to a previous level of program execution. It is normally used when a command procedure has been completed.

Also, the Escape key is used to exit Perfect Filer and to return to the operating system.

Finally, the Escape key will abort output, either to the CRT, the printer, or to a file.

The Escape Key

PART I
USING PERFECT FILER

In This Section

- Entering Data

- Generating Mail

- Generating Lists and Reports

Chapter II
ENTERING DATA ON A DATA RECORD

As you have seen, a data record is simply a formatted screen onto which member information can be entered. Each time a member is added to the data base, Perfect Filer displays another blank record ready to receive data on another new member.

Entering information on a data record is a simple, straightforward procedure. The following tutorial will illustrate the steps involved, using Perfect Filer's pre-structured Individual Member Data Base. (All commands presented in this tutorial are summarized in Appendix A.)
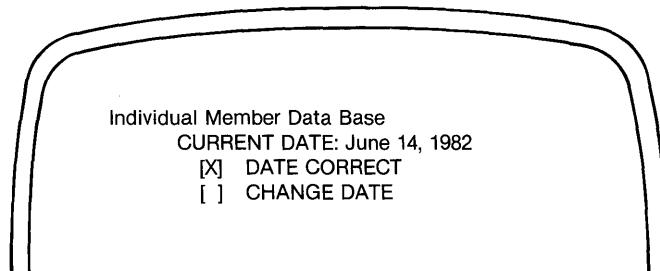
ENTERING DATA
TUTORIAL

1. Insert the Perfect Filer program diskette into drive A of your computer, and the diskette containing the pre-structured Individual Member Data Base into drive B.

2. When the command-prompt 'A>' appears, call up Perfect Filer's 'FILER' Program by typing:

<div align="center">A>filer   <CR></div>

Perfect Filer comes on-line and responds with:
<div align="center">'Enter disk drive containing data base:_____'</div>

3. Type 'B' followed by a carriage return, <CR> to indicate that the disk holding the Individual Member Data Base is located on disk drive B.
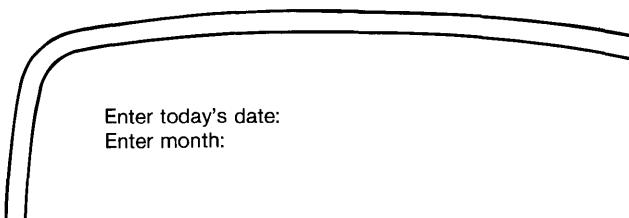
Perfect Filer responds with the following display:

```
   Individual Member Data Base
          CURRENT DATE: June 14, 1982
              [X]  DATE CORRECT
              [ ]  CHANGE DATE
```

It is important to enter the correct date each time you work with your data base, since Perfect Filer will automatically enter this date into specified fields of new data records.
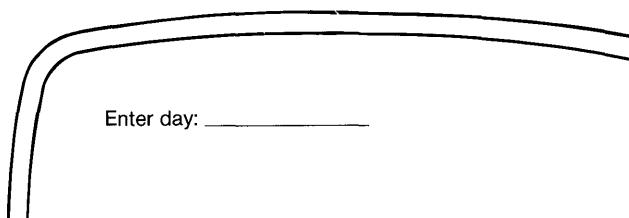
4. If the date is not correct, move the 'x' down to the 'change date' option, using the carriage return or Next Line command [Control-N]. Select this option by typing the 'x' key on the keyboard.
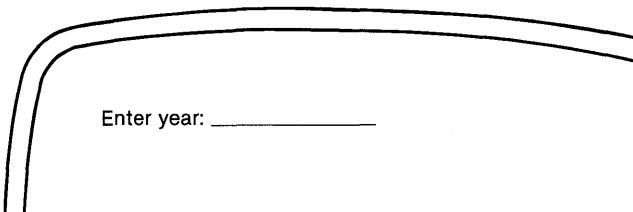
Perfect Filer responds with:

Enter today's date:
Enter month:

[Enter the month by typing a number (1 to 12) followed by a carriage return, <CR>]

Perfect Filer responds:

Enter day: _____

5. Enter the day of the month by typing a number (1 to 31), followed by a carriage return, <CR>.

Perfect Filer responds with:

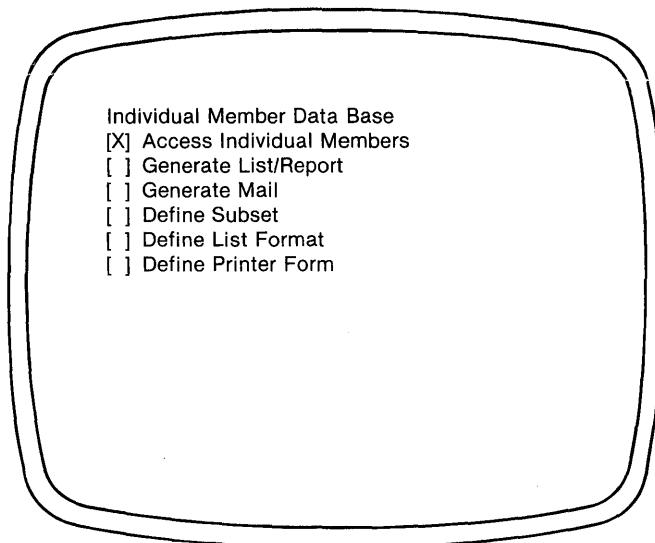Enter year: _____

[Enter any value between 80 and 88
followed by a carriage return, <CR>]

6. Perfect Filer presents you with the previous display showing the new date, written now, for example, as June 14, 1982. If the date is now correct, select the 'Date Correct' option by typing the 'x' key.
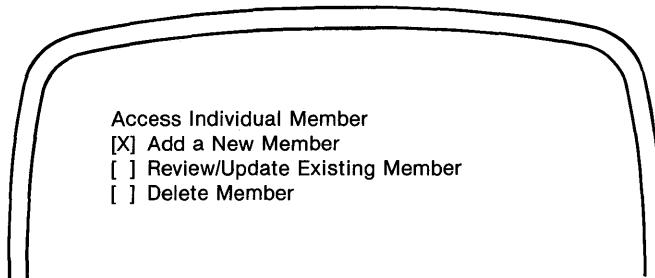
Perfect Filer now presents the following display:

```
Individual Member Data Base
[X] Access Individual Members
[ ] Generate List/Report
[ ] Generate Mail
[ ] Define Subset
[ ] Define List Format
[ ] Define Printer Form
```

7. This display represents the entry level of Perfect Filer's FILER program. It lists the principal options available when accessing the data base. Notice that the name 'Individual Member Data Base' is displayed at the top of the screen, a reminder of the data base we are working with. Since this tutorial is concerned only with adding new members to the data base, select the first option: 'Access Individual Members'.

8. Since the 'x' is already positioned before Access Individual Members, simply type the character 'x' on the keyboard.

Perfect Writer responds with the display:

```
Access Individual Member
[X] Add a New Member
[ ] Review/Update Existing Member
[ ] Delete Member
```
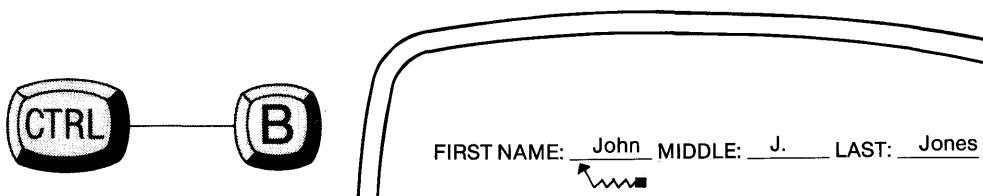
9. In this menu select the first option, 'Add a New Member'.

Perfect Filer immediately displays the data record that has been created for the Individual Member Data Base. It is empty and ready to receive whatever information you wish to enter. The cursor is positioned at the beginning of the first 'field'. (Remember, a 'field' consists of the underscored spaces immediately following the data descriptors First name, city, state, etc.
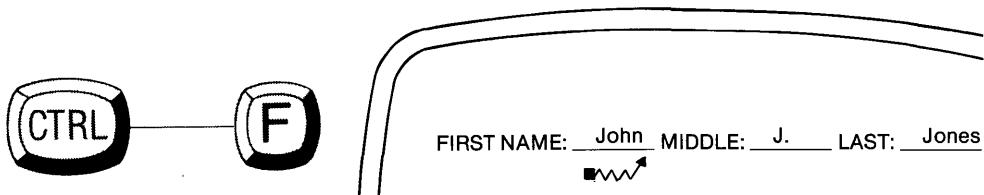
Moving the Cursor

Before beginning to add data let us examine how the cursor moves:

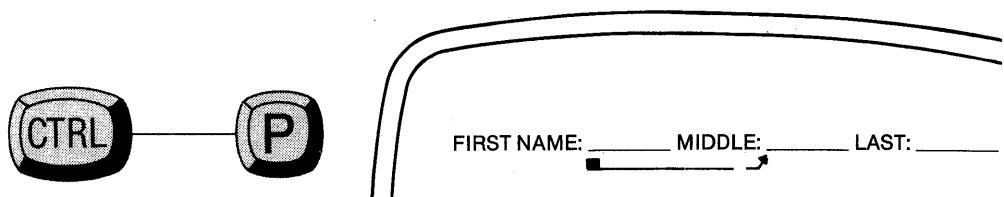**BACKWARD CHARACTER:** Causes the cursor to move back one space on a line.

FIRST NAME: __John__ MIDDLE: __J.__ LAST: __Jones__
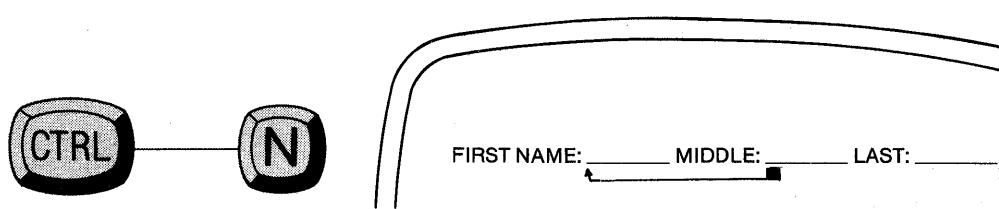
FORWARD CHARACTER: Causes the cursor to move forward one space on a line.

FIRST NAME: __John__ MIDDLE: __J.__ LAST: __Jones__
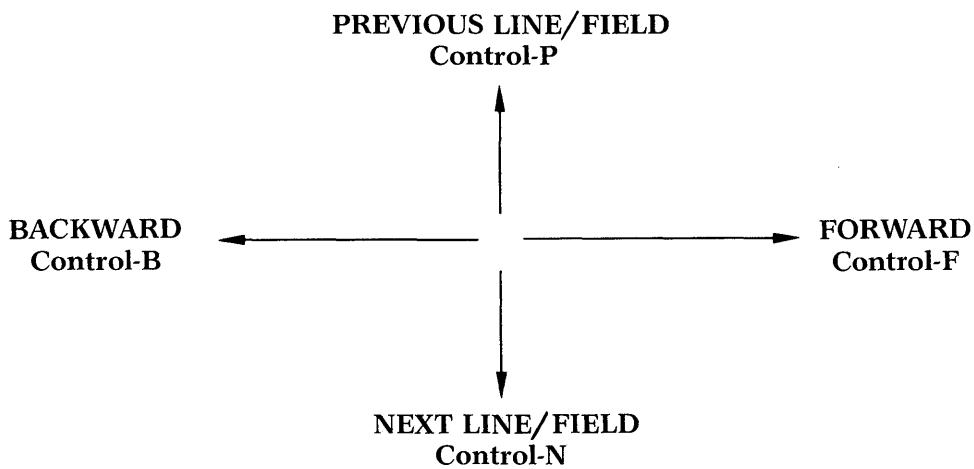
PREVIOUS LINE (or FIELD): Causes the cursor to move to the previous field.

FIRST NAME: _____ MIDDLE: _____ LAST: _____

NEXT LINE (or FIELD): Causes the cursor to move down one line, or to the next field.

FIRST NAME: _____ MIDDLE: _____ LAST: _____

For a few minutes practice using these commands to move the cursor back and forth within a field, and back and forth between fields.

PREVIOUS LINE/FIELD
Control-P

BACKWARD   **FORWARD**
Control-B   **Control-F**

NEXT LINE/FIELD
Control-N

We are now ready to begin entering member data. The basic rule is that data is entered at the position of the cursor. Should typing errors occur, move the cursor back and retype. **Delete unwanted characters using the space bar.**

10. Enter the following member data into the empty data record:
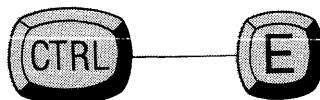   Mr. Howard H. Wade, Jr., President
    H & J Construction Company
    3385 University Street
    Hometown, Oregon 97405
    Home Phone: (719) 343-0921
                (active)
    "Specializes in custom-built solar homes"

11. As you do so, note the following:
    - 'Mr.' will be placed in the field marked 'Title 1'.

    - 'Jr.' will be entered in the field marked 'Title 2'.

    - 'Howard' should be placed in the field designated 'Salutation: (Dear)'. This salutation will be used when when form letters are generated. Perfect Filer automatically constructs the salutation Dear Howard:. If the salutation field is left blank, Perfect Filer will construct a salutation using the 'Title1' field and the 'last name' field—Dear Mr. Wade.

    - 'Oregon' must be abbreviated to the Postal code 'OR' before entering it in the 'State' field, as it contains only two characters.

    - 'Zip', and 'Home Phone' are numeric fields. Any attempt to enter any character other than a digit into these fields will cause a bell to sound (if your terminal has one) indicating an error. Remember, only digits can be entered into these fields.

    - 'Active' and 'Inactive' are status fields that can either be turned 'ON' or 'OFF'. To turn a status field ON place the cursor between the brackets and type any key. An 'x' will appear. To turn the field OFF, clear the 'x' using the space bar.[1]

    - Perfect Filer automatically inserts the current date into the 'Date entered:' field.

---

[1] **NOTE:** It is often more desirable to include these status fields than it is to delete inactive members. By preserving inactive members, records can be maintained until such time as the member becomes active again. As you will see, subset definition can easily extract either the active or inactive members from a data base. Of course, preserving inactive records presents the disadvantage of increasing the time needed to process a larger data file.

12. When you have finished typing the information onto the data record, give the ENTER MEMBER command:

    Perfect Filer automatically adds the new member record to the data base, afterwards presenting you with a new blank data record to input information on another new member.

13. For the purpose of the remaining tutorials in this section continue adding members to the data base until you have six or seven members total. Specifically, create members that will later demonstrate the various sort and list format options, such as:

    • Two members that live in different cities of the same state.

    • Two members that live in the same city.

    • Two members that share the same zip code.

14. When you have finished inputting new members type the Escape key to end the process. Note that if you attempt to 'escape' before saving a new member, Perfect Filer will ask whether you wish to discard the information you have input. Only after you decide whether to save or discard the new member record can you 'escape' to the previous level menu.

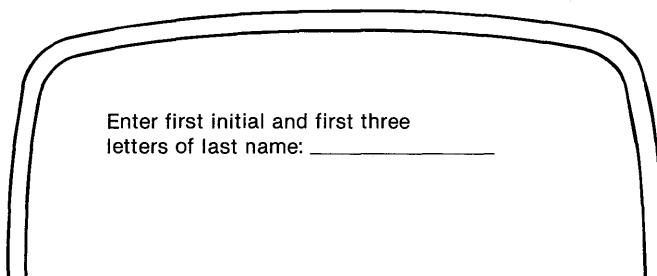—————————— **END OF TUTORIAL** ——————————

UPDATING A MEMBER RECORD

The procedure for revising member records is as simple as adding a new member, except that to find and retrieve the member record you wish to revise, you must supply a Member ID.

————————— **TUTORIAL** —————————

1. Insert the Perfect Filer system diskette into drive A, and the diskette holding the Individual Member Data Base into drive B. Call up the FILER program. Is the date correct? If not, change it.

2. Select the 'Access Individual Members' option of the entry level menu.

3. When the second-level menu appears, select the option 'Review/Update Existing Members'.

   Perfect Filer responds with the message:

   Enter first initial and first three
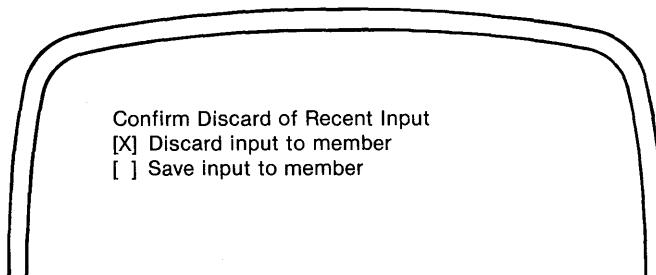   letters of last name: _____

4. Suppose you are revising the data record of Howard H. Wade, Jr., of H & J Construction Company. You want to add his middle name, Hugh. First, retrieve his data record by typing the Member ID:

   <div align="center">hwad <CR></div>

   Perfect Filer displays the Wade record, positioning the cursor under the first character in the first field.

5. Move the cursor to the second field by typing the return key. Overtype the initial 'H' with the name 'Hugh'.

6. Type the Escape key.

   Perfect Filer presents the display:

```
Confirm Discard of Recent Input
[X] Discard input to member
[ ] Save input to member
```

7. Select the option 'Save input to member'. Perfect Filer saves the changes you have made to the Wade record and returns you to the previous menu to add new members, or continue revising or deleting old members.

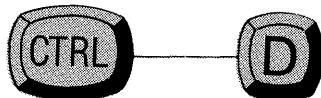─────────── **END OF TUTORIAL** ───────────

DELETING A MEMBER DATA RECORD

To delete a member record select the 'Delete Member' option of FILER's second-level menu. Perfect Filer asks for the Member ID of the record you wish to delete. You may have to use the FIND OTHER MEMBER command, if more than one record share the same Member ID. (See Duplicate Member IDs, Chapter I, page 14.)

After you enter the Member ID Perfect Filer responds with the message:

"You will be shown a data display screen—to delete the member displayed type Control-D (the Delete command). Hit any character to continue."

When the member record you wish to delete appears on the screen, type the DELETE MEMBER command:

Perfect Filer automatically deletes the member record from the data base. Should you decide not to delete the member, type Escape. Perfect Filer will return you to the previous level menu.

Chapter III
GENERATING MAIL

Perfect Filer will format and print form letters, envelopes, and labels for any or all of the members of your data base. To generate a form letter you must first create a file containing the letter or document to be reproduced. For envelopes and labels, an 'address specification', which indicates how the address will be printed, is required.[1] This chapter explains how to create form letters and address specifications, and how to use them for generating mail.

CREATING A FORM LETTER

You must use the Perfect Writer text editor to create the form letter that Perfect Filer will address and send to the various members of the data base. In formatting this letter you may use either Perfect Writer's VERBATIM environment (the letter will be reproduced exactly as you have created it on the screen), or you may use the few simple formatting commands provided by Perfect Filer, presented in Appendix B. The finished letter should be stored on the disk containing the data base of members to whom the letter will be sent.

---

[1] Address specifications have already been created for Perfect Filer's two pre-structured data bases, and are located on the respective disks under the file name 'label.txt'.

Using Member Data in a Form Letter

To insert member information into a form letter we need to specify what information is to be pulled from the fields of each member record. We do this by inserting into the form letter the 'tag names' which identify the various fields and templates on the data record. (See Chapter I, pages 11-12.)

For example, in the following sentence, the tag 'address.organization', enclosed in angle brackets, will cause the consecutive insertion into the form letter of the names of the various organizations, or companies, as recorded in the 'organization' field of the member records:

Furthermore, we wish to emphasize that
<**address.organization**> will greatly benefit by the introduction
of this new product line. Specifically, . . . etc.

For the "Wade" record of Chapter I, this becomes:

Furthermore, we wish to emphasize that **H & J Construction Company** will greatly benefit by the introduction of this new product line. Specifically, . . . etc.

Note here that the 'organization' field is actually part of the 'address' template. The tag must be written showing the template tag FIRST, followed by the data field tag. (See Chapter I, page 12.)

CREATING A FORM LETTER
TUTORIAL

Suppose you wish to send the following form letter to the members that you entered onto the Individual Member Data Base in Chapter II's tutorial.

(Today's date)

(Member's name)
(Member's Company or organization)
(Member's Street Address)
(City, State & Zip)

Dear (Mr., Mrs., Ms., Miss . . .)

    Perfect Filer is here! Yes, one of the most advanced, versatile, easy-to-use file management systems for micro-computers today is at last available. Complete with mail and list capabilities and integrated with the Perfect Writer word processor, Perfect Filer offers numerous applications for your business activities.

    Two pre-structured data bases allow you to begin using the system immediately.

    Easy menu-guided programs allow the creation of individualized data bases to meet all of your file management needs.

    Versatile sort routines, multiple subset definition, easy list format procedures make file management an undreamed of convenience!

    We are sure that you will find Perfect Filer an indispensable administrative and management tool for (Name of Member's Company).

    For further information, please call or write us at:

                        Perfect Software, Inc.
                        1400 Shattuck Avenue
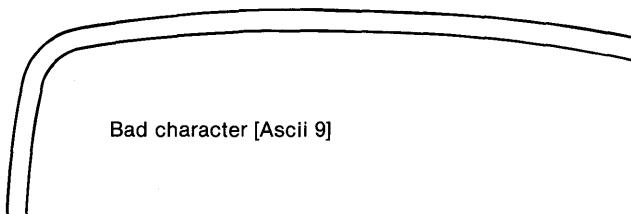   Berkeley, CA 94709
                        (415) 644-3644

                        Sincerely,

                        Perfect Software, Inc.

In the positions indicated by parentheses, "( )", we wish to insert the member's name, his or her organization, etc.

Steps:

1. Insert your Perfect Writer program disk into drive A, keeping the Individual Member Data Base diskette in drive B.

2. Into a new file begin typing the form letter, inserting the appropriate field tag names, **enclosing each tag name within angle brackets,** '< >'. (The field tags for the Individual Member Data Base are shown on page 19 of Chapter I. Instructions for displaying the field tags for other data bases are given in Appendix D.)

Note: Perfect Filer will not allow the use of Perfect Writer's specialized formatting commands, beginning '@. . .' You must format your letter either by positioning its elements on the screen, or by using Perfect Filer's formatting commands (see Appendix B).

Note also: Perfect Filer will not accept a 'tab' character to indent paragraphs. Using a tab character will result in the error message:

Bad character [Ascii 9]

To indent paragraphs, use the space bar.

Your completed letter should look like this:

```
                    <today>


                    <name>
angle bracket       <address>
used to
enclose
tag name            <salutation(name)> ,

                        Perfect Filer is here! Yes, one of the most advanced,
                    versatile, easy-to-use file management systems for
                    micro-computers today is at last available. Complete with mail
                    and list capabilities and integrated with the Perfect Writer word
                    processor, Perfect Filer offers numerous applications for your
                    business activities.

                        Two pre-structured data bases allow you to begin using
                    the system immediately.

                        Easy menu-guided programs allow the creation of
                    individualized data bases to meet all of your file management needs.

                        Versatile sort routines, multiple subset definition, easy
                    list format procedures make file management an undreamed of
                    convenience!

                        We are sure that you will find Perfect Filer an
                    indispensable administrative and management tool for
                    <address.organization>.

template                For further information, please call or write us at:
tag
                                                Perfect Software, Inc.
                                                1400 Shattuck Avenue
                                                Berkeley, CA 94709
                                                (415) 644-3644

                                                Sincerely,


                                                Perfect Software, Inc.
```
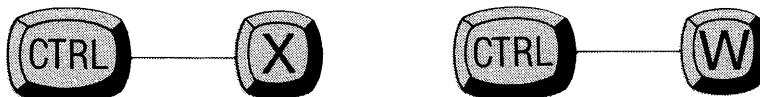
NOTE:

- All tags are enclosed with ANGLE BRACKETS, < > .

- Today's date is represented by <today> , a special tag that automatically inserts the current date, as you specified it at the beginning of the FILER program, into the form letter.

- The member's name is represented solely by the name template tag, <name> , which causes the first, middle, and last names of each individual to be extracted and printed.

- The tag <address> will cause the entire <address> template for each member to be inserted. However, only the address information actually present on the data record will be included. For example, if there is no 'organization', the street address will be the first line printed.

- The salutation is invoked by the special tag form:

    <salutation(tag of 'name' template)>

    This tag automatically generates a salutation, preceded by "Dear", using whatever nickname, first name, or title plus last name that has been specified in the salutation field of the data record. In cases where no salutation has been specified for a member record, the default salutation that is specified on the printer form will be used. (See Chapter VIII on Printer Forms.)

- Punctuation is not included with the salutation. You must add the appropriate colon, ":", or comma, ",".
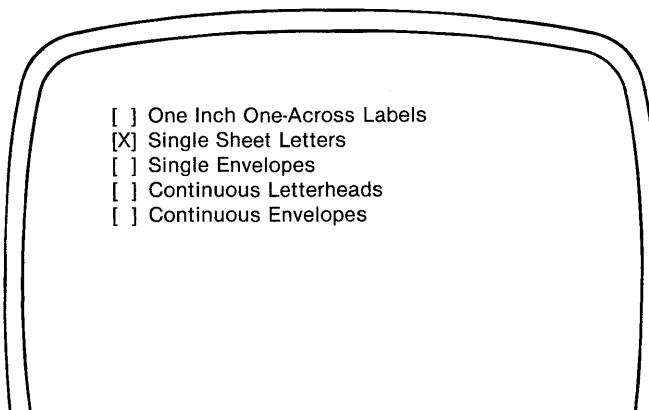
3. When you have finished entering the form letter, store it on the same diskette that contains your data base. Do this using Perfect Writer's WRITE FILE command (Control-X, Control-W) followed by an appropriate filename. For example:

followed by:
b:formlet.mss <CR>

4. Remove the Perfect Writer diskette and re-insert the Perfect Filer system diskette on drive A. Call up Perfect Filer's FILER program. Is the current date correct? If not change it.

5. At the entry level menu of the FILER program, select the Generate Mail option.

   Perfect Filer responds with the following display:


```
[ ] One Inch One-Across Labels
[X] Single Sheet Letters
[ ] Single Envelopes
[ ] Continuous Letterheads
[ ] Continuous Envelopes
```
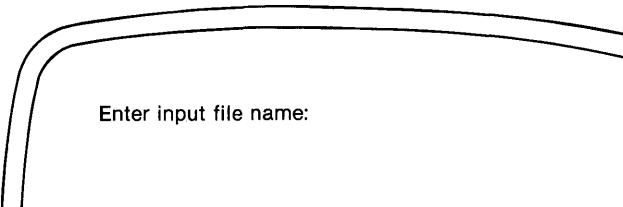
This display presents the five standard 'printer forms' that are pre-defined in Perfect Filer. A printer form is the paper, envelope, label or other paper medium onto which letters and addresses will be printed.[2]

[2] Printer forms and instructions for creating them are discussed in Chapter VIII.

6. For this exercise, select the first option, Single Sheet Letters. (Here single sheets of paper are fed to the printer as each sheet is generated. The paper should be adjusted in the printer so that each letter will begin printing the desired number of lines from the top of the page.)
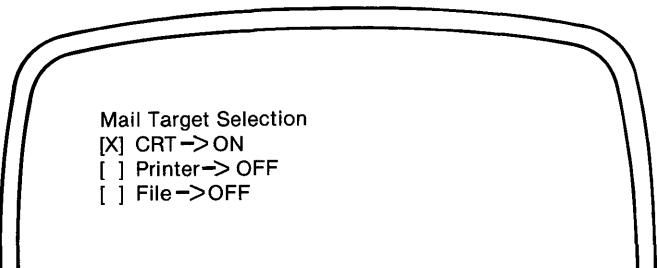
Perfect Filer responds with the message:

```
Enter input file name:
```

7. Type the name of the file in which the form letter has been stored, followed by a carriage return, <CR>:

<p style="text-align:center">b:formlett.mss <CR></p>

Perfect Filer responds with the display:

```
Mail Target Selection
[X] CRT -> ON
[ ] Printer-> OFF
[ ] File ->OFF
```

8. Here Perfect Filer is asking where the output should be sent. Any combination of these three mail 'targets' may be specified.

CRT   The letters will be displayed on the screen as they are generated.

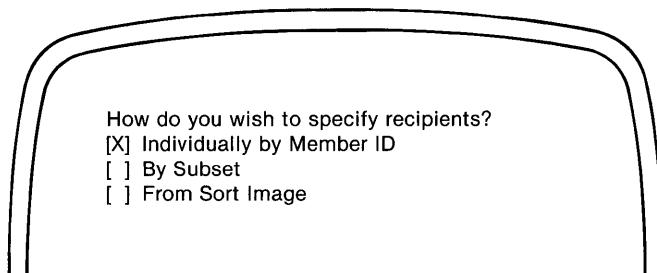**Printer**   The letters will be output on the printer as they are generated.

File   The letters will be stored in a disk file for subsequent printout.[3]

Selecting an option on this menu requires turning the option 'ON'. (The CRT option is already ON.)

To turn an option ON (or OFF), position the 'x' beside it and type the 'x' key. When you have selected the options you wish, type Escape to signal the end of the selection process.

9. For this exercise select (i.e., turn ON) the first two options: CRT and Printer.

Perfect Filer responds with the display:

```
How do you wish to specify recipients?
[X] Individually by Member ID
[ ] By Subset
[ ] From Sort Image
```

[3] Selecting 'File' gives you the option of creating a new file for the output, or of appending it to an existing file. It is recommended that you create a separate file for each printer form you are using. Each time you generate any output for a particular form, you should append it to the appropriate file. Then you can load the printer form once and print all the output that has been set up for it. After the entire file is printed, you can copy it to an archive disk as a permanent record.

In this display Perfect Filer wants to know how you will identify the members that will receive letters.

By Individual Member ID
If you are sending mail to a group of **unrelated individual members,** you must specify each of them individually by Member ID. If a record is found with the Member ID you specify, the data record will be displayed. If you want to send to that member, type 'y' (yes); if not, type 'n' (no). When you have finished specifying members, type Escape.

By Subset
If the mail recipients share some common characteristic(s), you may want to specify them by subset. Mail will be generated to subset members in the order they are found in the data base.[4]

From Sort Image
If you are sending mail to a subset of members and you want to have the recipients sorted, you must first use the List/Report Generation option of the FILER program to produce a 'Sort Image' (see Chapter IV, page 62). Once a sort image is created, you need only specify the name of the file containing the sort image to produce sorted mail.

[4] See Chapter VII for a discussion of subsets.

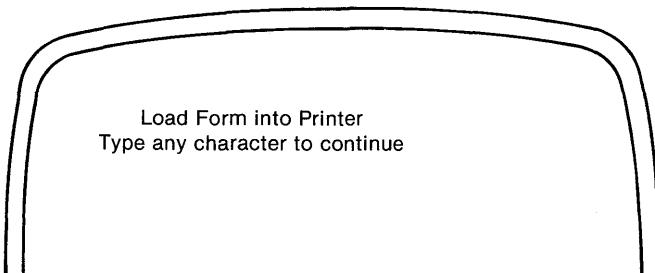10. For this tutorial, select the first option, By Individual Member ID:

    Perfect Filer asks for the Member ID of the first record for which you wish to generate a form letter.

11. Enter the Member ID for the Wade record, 'hwad'.

    Perfect Filer responds by displaying the Wade record.

12. If this is the correct record type 'y'. If it is not the correct record (i.e. it is a member record with a duplicate Member ID), type 'n'. Perfect Filer will search the data base for other records with the same Member ID. When at last the correct member record is displayed, type 'y' again.

    Perfect Filer responds with the message:

```
            Load Form into Printer
        Type any character to continue
```

13. After you load and adjust the first sheet of paper in your printer, type any character. Perfect Filer generates a form letter for the Wade record, afterwards returning to the previous menu to ask for another Member ID.
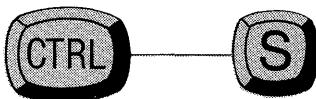
    In this manner you can continue generating form letters for various random members of the data base.

_____ END OF TUTORIAL _____

Two Useful Output Commands:

PAUSE COMMAND

To temporarily halt the output, use the PAUSE command,

ABORT PRINTING

To abort output entirely, use the Escape key.

GENERATING LABELS

The steps for labeling envelopes and generating mailing labels are similar to those for generating form letters, except that instead of a form letter, an 'address specification' is created telling Perfect Filer what information is to be printed on the label or envelope.

Pre-defined Address Specifications

For Perfect Filer's two standard data bases, two address specifications have been predefined and stored in files called 'label.txt' and 'label2.txt' on each of the diskettes containing the data bases.

label.txt   This address specification is used for continuous labels and single envelopes which can be individually positioned in the printer.

label2.txt   This address specification is used for continuous envelopes.

These two label specifications are identical except the label2.txt specification insures that the address will be printed in the proper position on continuous envelopes. Both specifications generate addresses as follows:

Sample **Individual Member Data Base** Address Specification

   <name>   John Q. Doe, President
   <address>   Any Company, Inc.
                Anywhere, U.S.A. 09021

Sample **Organizational Data Base** Address Specification

                Any Company, Inc.
   <address>   123 Any Street
                Any Town, U.S.A. 00000

Creating an Address Specification

To create an address specification for a customized data base, enter into a file, using your Perfect Writer text editor, the tags of the fields containing the information you want in the address. The tags should be enclosed in angle brackets,

   <name>
   <mailaddress>
   <mailcity> , <mailstate> <mailzip>

Name and store this small file on the disk containing your data base. When generating labels or envelopes, Perfect Filer will ask for the name of this file in order to use the address specification it contains.

GENERATING LABELS
TUTORIAL

1. Insert the Perfect Filer diskette into drive A of your computer, and the data base diskette into drive B. Call up Perfect Filer's FILER program, selecting the Generate Mail option of the top-level menu.

2. Select the printer form One Inch One-Across Labels. (Be sure the labels have been properly inserted in your printer.)

3. When Perfect Filer asks you to 'Enter input file name:', enter the name of the file that contains the address specification:

<div align="center">Label.txt   <CR></div>

4. For this exercise select as the mail target both the CRT and the Printer, afterwards typing the Escape key to signal the end of this selection.

5. In the subsequent menus select By Subset and All Members.

   Perfect Filer begins generating labels for each member of the data base according to the address specification defined in Label.txt.

END OF TUTORIAL

LABELING CONTINUOUS ENVELOPES
TUTORIAL

1. Insert the Perfect Filer diskette into drive A of your computer, and the data base diskette into drive B. Call up Perfect Filer's FILER program, selecting the Generate Mail option of the top-level menu.

2. Select the printer form Continuous Envelopes. (Be sure the envelopes have been properly inserted in your printer.)

3. When Perfect Filer asks you to 'Enter input file name:', enter the name of the file that contains the address specifications for continuous envelopes:

<p align="center">Label2.txt   <CR></p>

4. For this exercise select as the mail target both the CRT and the Printer, afterwards typing the Escape key to signal the end of this selection.

5. In the next two menus select By Subset and All Members.

   Perfect Filer begins labeling envelopes for each member of the data base according to the address specification defined in Label2.txt.

END OF TUTORIAL

Chapter IV
GENERATING LISTS

Introduction

Eventually you may need to generate lists and reports of some or all of the members of your data base. You may simply list them in order, print invoices or other special forms, or produce a complex display of columns and tables, such as Figure 4.1. Whatever kind of list or report you wish to produce, you must specify only three things to Perfect Filer: the format the list will take, the subset of members to be listed, and where the lists are to be printed.

System Specification Table for Microcomputer Systems   February 23, 1981

Company	System	Operating System	Bus	Multi-User	Hard Disk (Mb)
Accountdata Corporation Ltd.	Zeus-80	CP/M	S-100		
Action Computer Enterprise, Inc.	Discovery	CP/M, dpos/2	S-100		
Alpha Micro	AM-1030	AMOS	S-100	x	10
Altos Computer Systems	ACS-8000	CP/M	None	x	15
Apple Computer	Apple	CP/M, Apple DOS	IEEE 488 A		
Applied Data Cmomunications	Event 2000	Microdos			14
Applied Digital Data Systems Inc.	Multivision	CP/M, Muon		x	5
Archives Incorporated	Archives	CP/M	S-100		10
Associated Computer Industries	ACI-90	UCSD Pascal			
Billings Computer Corp.	BC12FD2000				
CADO Systems	CAT	CADOL			
Chrislin Industries	CI-103				
Codata Systems Corporation	CTS-100	CP/M	Multibus		6
Colonial Data Services Corporation	SB/70	CP/M			
Commodore Business Machines, Inc.	CBM8000	CP/M	IEEE-488		
COMPAL Computer Systems	8200	CP/M	S-100		
Computhink	MINIMAX	MDOS			
Cromemco Incorporated	System x	CP/M, Cromix	S-100	x	11
Datapoint Corporation	1500	Databus			
Digital Microsystems	DSC-4	CP/M	Multibus		
Durango Systems	Colt	CP/M			
Dynabyte Inc.	5200	CP/M, MP/M, DDOS	S-100		9
Heath Company	WH89-CA	CP/M			
Industrial Micro Systems	Series 5000	CP/M	S-100	x	16
Integrated Business Computers	System 40	FAMOS, OASIS			17
Intelligent Systems Corp.	Intecolor	CP/M			
International Business Machines	5120	APL			
Intertac Data Systems	Compustar	CP/M		x	
Ithaca Intersystems	Intersystems	CP/M	S-100	x	
MCM Computers Limited	MCM	AVS, APL			8
MicroDaSys	Dual Millie	APL	S-100		
NEC Information Systems, Inc.	Astro 205	Astra/US			
NNC Electronics	System 80	CP/M	S-100		
North Star Computers, Inc.	Horizon	CP/M	S-100	x	18
Ohio Scientific	Challenger	CP/M, USS65-U			74
Onyx Systems, Inc.	C8001	CP/M, MP/M, OASIS		x	10
Personal Micro Computers, Inc.	PMC-80	CP/M, TRSDOS	TRS		
Pertec Computer Corporation	PCC2000	CP/M	P-100		
Plessey Peripheral Systems	SYST2VX	DIBOL	DEC		
PolyMorphic Systems	System 8813	EXEC	S-100		
QT Computer Systems, Inc.	QT System +	CP/M			
Quasar Data Products	QDP 100	CP/M	S-100		
Quay Corporation	Quay 500	CP/M			
Radio Shack, A Division of Tandy Co.	TRS-80	CP/M, TRSDOS	TRS		
Scientific Data Systems	420				10
Smoke Signal Broadcasting	9822	DOS69	SS-50		20
Southwest Technical Products Corp.	S/09	UniFLEX			40
Systel Computers, Inc.	Report 80	CP/M			
Systems Engineering Enterprises	6684	LISP, RPS II			12
Technico, Inc.	SS16				11
Texas Instruments Incorporated	DS990/1	TPL			
Vector Graphic, Inc.	VIP	CP/M, APL	S-100		
Xerox/Shasta General Systems	Diablo 3200	DACL			10
Zenith Data Systems Corporation	Z89-48	CP/M, HDOS			
Zilog, Inc.	MCZ/150	PL/Z	Z-Bus		10
Zobex	Zs-System	CP/M	S-100	x	

Figure 4.1 Sample List

THE LIST FORMAT

As many as 20 separate list formats (or list descriptions) may be defined for any particular data base. Four have been defined for each of the two pre-structured data bases that Perfect Filer provides. Since a list format includes sort keys, the four are described here principally by the sort routines they provide.[1]

The Pre-Defined List Formats

A NAME SORT Format

Name 1
Name 2
Name 3

Members of the data base are sorted and printed alphabetically by name.

A NAME/ADDRESS SORT Format

Name 1
Address 1

Members of the data base are sorted and printed alphabetically by name. Address is included.

Name 2
Address 2

[1] For details on defining your own list format, see Chapter VI.

A CITY/NAME SORT Format

Aberdeen
   Name 1
   Address 1   Members are sorted
                      first by city, then
                      within each city
   Name 2   by name.
   Address 2

Austin
   Name 1
   Address 1

   Name 2
   Address 2

Bakersfield
   Name 1
   Address 1

   Name 2
   Address 2

STATE/CITY/NAME SORT Format

California
  Bakersfield
      Name
      Address

  Pasadena
      Name 1
      Address 1

      Name 2
      Address 2

  San Francisco
      Name
      Address

Members are sorted first
by state, then by city,
then alphabetically
by name.

A ZIP/NAME SORT Format

  01071
    Name 1
    Address 1

    Name 2
    Address 2

  04030
    Name 1
    Address 1

    Name 2
    Address 2

Members are sorted by
zip code. (This format sort
is not usually printed as
a list, but rather is used
to generate presorted mail.)

SUBSETS

A subset is a group of members of the data base who share a common character-istic. For example, in a data base containing members from throughout the United States, those living just in New York state would be a subset of the total data base. Members living in Buffalo would be a further subset.

The Predefined Subsets

Three predefined subsets have been included for use with the pre-structured data bases:[2] All Members, Active Members, and Inactive Members.

Note: Perfect Filer automatically generates the subset 'All Members' for every data base you create.

THE LIST TARGET
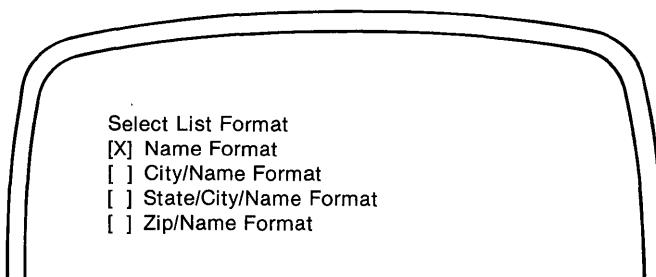
The list target specifies the 'destination' of the output. There are four possible destinations:

CRT   Causes the list to be displayed on the screen.

Printer   Causes the list to be printed.

File   Causes the list to be stored in a disk file for later review and/or printout. You will be asked to specify the filename. This op-tion is convenient if the printer is unavailable, or if you want to collect a number of lists for subsequent output.

Sort Image   This option causes the sort order of the list to be saved in a disk file, for use with other programs, such as the mail generating program (see Chapter III, page 50). A sort im-age will be created merely by specifying a filename in which to put the sort order.

---
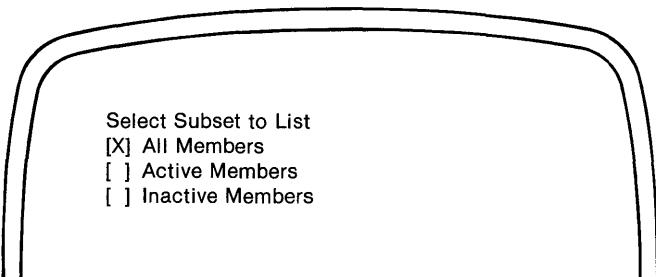
[2] The procedures for defining subsets are presented in Chapter VII.

GENERATING A SIMPLE LIST
TUTORIAL
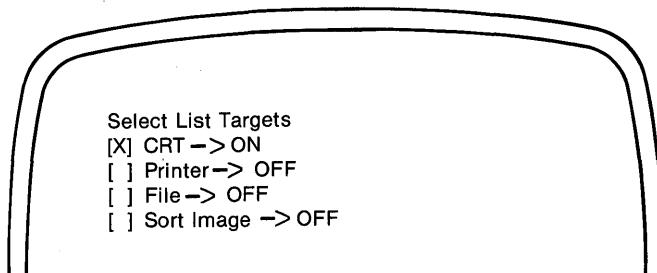
1. Insert the Perfect Filer system and data base diskettes into drive A and B of your computer respectively. Call up the FILER Program and select the Generate List/Report option of the entry-level display.

2. For this exercise select the first option, Name Format:

```
Select List Format
[X] Name Format
[ ] City/Name Format
[ ] State/City/Name Format
[ ] Zip/Name Format
```

3. Select the option 'All Members':

```
Select Subset to List
[X] All Members
[ ] Active Members
[ ] Inactive Members
```

Perfect Filer responds with the display:

```
Select List Targets
[X]  CRT —> ON
[ ]  Printer—> OFF
[ ]  File —> OFF
[ ]  Sort Image —> OFF
```
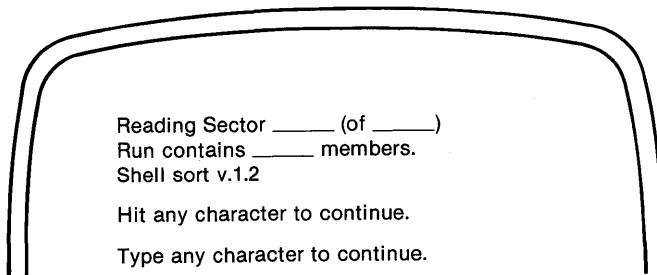
This display asks you to specify where the output should be routed. Any combination of these four list targets may be specified. Only CRT output is initially specified as a list target.

4. When you have finished specifying list targets, type the Escape key.

Perfect Filer begins extracting and sorting the members according to the subset and list format you have specified. When this process is complete, Perfect Filer displays the message:

```
Reading Sector _____ (of _____)
Run contains _____ members.
Shell sort v.1.2

Hit any character to continue.

Type any character to continue.
```

5. Typing any character causes Perfect Filer to begin generating the list of the member subset you have chosen, outputting to the list target you have specified.

——————————— **END OF TUTORIAL** ———————————

PART II
CREATING A RECORD FILE

In This Section

- Create a Data Record
- Format a List
- Define a Subset
- Define a Printer Form
- Move Records

Chapter V
CREATING A DATA RECORD

Why create a Data Record?

Though you may begin by using the predefined data records supplied with Perfect Filer, you will soon want to expand beyond the limits of these simple records—you will need to include more comprehensive and detailed information on the members of your data base. To accomplish this you can design a data record that will effectively meet **all** of your data management needs. Perfect Filer gives you the capability to create your own customized data record.

Perfect Filer's major achievement is its amazingly simple process of creating your own custom data record. Using menu guided self-instruction techniques, Perfect Filer guides you step-by-step through the data base design process. In a short time you can quickly and easily construct a data record tailored to meet your personal, professional, or business needs.

After constructing your own data record you can begin using all of the powerful records management capabilities Perfect Filer offers: printing invoices, printing special reports and lists, printing form letters, and generating mail.

The First Step

The crucial first step in creating a data record lies in carefully designing a record format that will accommodate all the information you wish to record. It would be a mistake to quickly and haphazardly put together a few data fields and templates without thoroughly analyzing the long term needs of your data base. Though such a data record might prove adequate for several entries (even several hundred), it may eventually prove inadequate for storing all of the kinds of information you wish to record.

Though the format of a data record can later be modified, the process is not as easy as getting the record format right the first time. Sketch with pencil and paper several sample data record formats that you think might fit your needs.

Data Record size

As was mentioned in Chapter I, a data record can be of any configuration. As well, it can:

- Occupy the full screen of the video display.
- Contain up to 70 data fields (including those contained within templates).
- Hold up to 1,024 data entry spaces (indicated by underscores).
- Have field and template tag lengths totaling up to 1,024.

These limits are large enough that you will probably never need to go beyond them. The only important limiting note to remember is that each data record you create **must reside on its own diskette!** (See Chapter I, page 17.)

CREATING A DATA RECORD
TUTORIAL
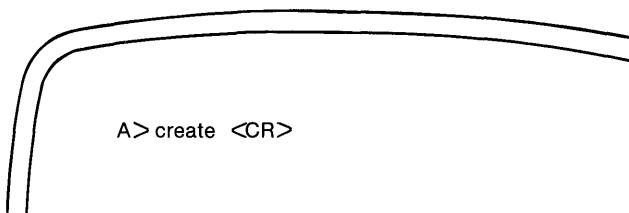
This tutorial illustrates the steps of constructing a data record. For example, take the hypothetical situation of an organization that wishes to compile a data base of current U.S. Congresspersons, both senators and representatives. The data base will be used for generating mail and other sorted lists for distribution to the congresspersons and to the organization's members.

After some preliminary sketching of various record formats we decide on the following design:
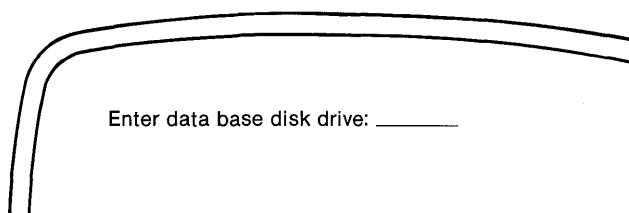
```
FIRST NAME _____ MIDDLE _____ LAST _____
TITLE _____ SALUTATION (DEAR) _____ TITLE 2 _____
AGE_____HOME STATE_____
SENATOR [ ]   HOUSE REPRESENTATIVE [ ]
PARTY _____
MAILING ADDRESS _____
CITY _____ STATE _____ ZIP _____
PHONE _____-_____-_____
YR ELECTED_____UP FOR REELECTION_____
COMMENTS _____
```

Steps:

1. Insert the Perfect Filer diskette into drive A of your computer. Into drive B insert a blank, formatted diskette to hold the data base you are about to create.

2. Call up Perfect Filer's CREATE program by typing 'create' after the command-prompt:
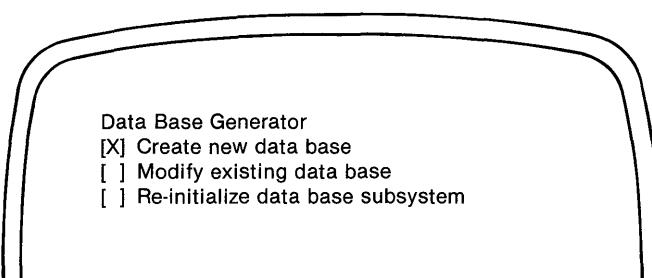
        A> create <CR>

    Perfect Filer comes on-line and responds with:

        Enter data base disk drive: _____
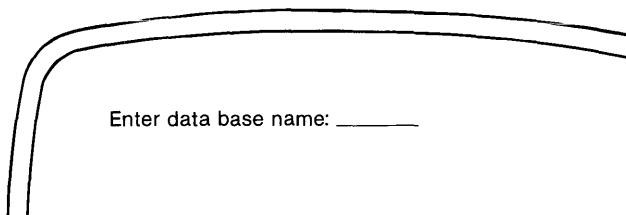
3. Type 'B' followed by a carriage return to indicate that the disk to hold the data base is located on drive B.

    Perfect Filer responds with the following display:

        Data Base Generator
        [X] Create new data base
        [ ] Modify existing data base
        [ ] Re-initialize data base subsystem

4. Select the option 'Create new data base' by typing the 'x' key on the keyboard.

   Perfect Filer responds with:
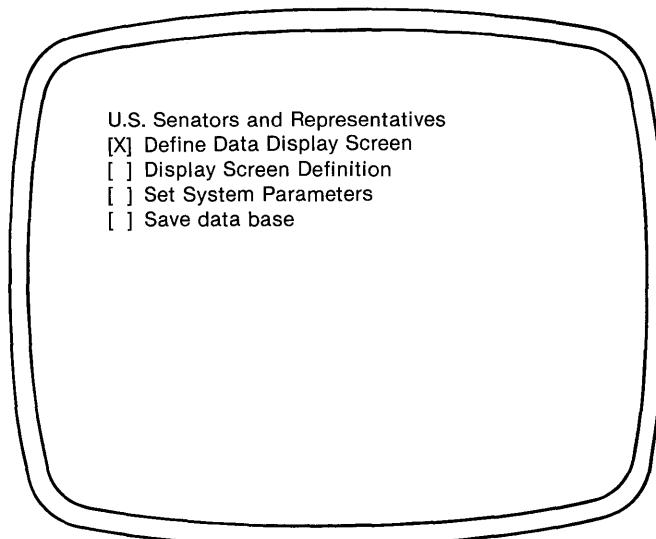
   Enter data base name: _____

5. Perfect Filer wants to know the name you will give your data base. Any reasonably descriptive name will do:

   <div align="center">U.S. Senators and Representatives <CR></div>

   Perfect Filer responds with the following display:

   ```
   U.S. Senators and Representatives
   [X]  Define Data Display Screen
   [ ]  Display Screen Definition
   [ ]  Set System Parameters
   [ ]  Save data base
   ```

In this display note that the data base name is displayed at the top of the screen—a reminder. Below it are listed several options:

Define Data Display Screen
This option will lead you through the process of constructing the data record. Select this option.

Display Screen Definition
This option presents you with a running tally of how many and what kind of data fields you have used in creating the data record, and how much space you have left. Perfect Filer displays this information to the screen, or prints it in hard copy.

Set System Parameters
This option allows you to set certain system parameters that will determine the size of the data base. (See Appendix C.)
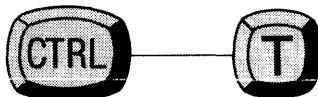
Save Data Record
You will select this option after you have finished creating your new data record. Perfect Filer will store the data record, and present it later when, using FILER, you begin entering information about the various senators and representatives.
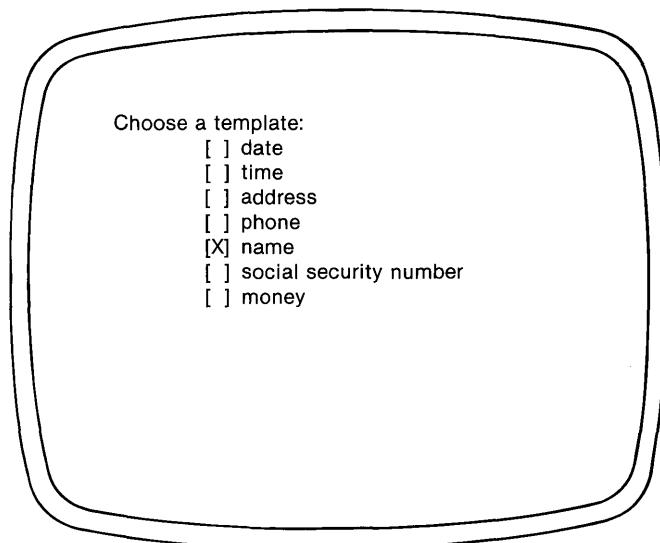
6. Select the first option, 'Define Data Display Screen'.

Perfect Writer responds with a blank screen, the cursor positioned at the top left corner. You are now ready to begin adding data fields and templates, which will be inserted at the position of the cursor. Referring to the sketch of your data record, the first element is the 'name' template.

7. To enter the 'name' template type the INSERT TEMPLATE command:
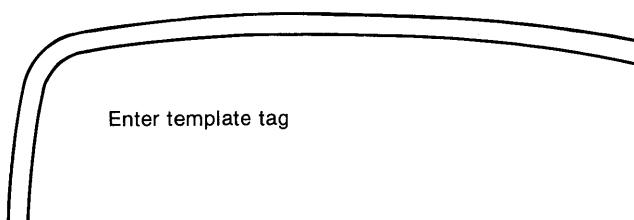
Perfect Filer displays a list of possible templates:

```
Choose a template:
        [ ] date
        [ ] time
        [ ] address
        [ ] phone
        [X] name
        [ ] social security number
        [ ] money
```

8. Select the 'name' template.

   Perfect Filer responds with:

   Enter template tag

9. The 'template tag' is the name Perfect Filer uses to identify the template. A good tag for this template might be simply 'name'. Type this, followed by a carriage return. Perfect Filer immediately inserts the name template onto the screen at the original position of the cursor. Easily and quickly you have created the first template in the first portion of your data record.
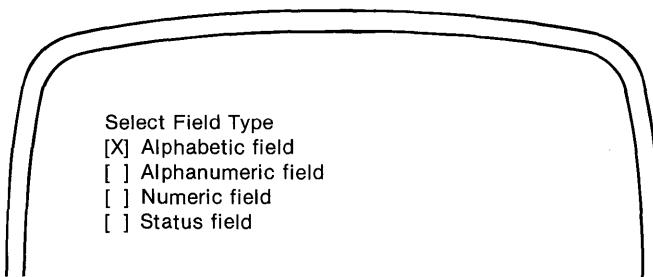
   Next comes a field that will hold the 'Home State'—an alphabetic data field about 20 spaces long.

10. Before inserting this data field, we must first position the cursor, which is still at its original position at the top left corner of the screen. Using the carriage return, move the cursor down two lines below the 'name' template, leaving a blank line between the 'name' template and the next data field.

11. Type the words Home State: at the left margin. This is a **data descriptor,** which serves no other purpose than to identify the field on the screen. (If you make a typing error, back up using Control-B, and retype it.)

12. With the cursor now at the end of the words Home State:, type the INSERT FIELD command:

Perfect Filer responds with the display:

```
Select Field Type
[X] Alphabetic field
[ ] Alphanumeric field
[ ] Numeric field
[ ] Status field
```
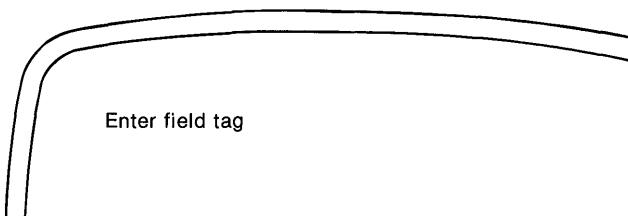
Here are the possible data field types. Choose 'Alphabetic field' because states are spelled with only alphabetic characters, and exclude the possibility of using abbreviations, which would require periods (e.g., No. Carolina).

13. Select the option Alphabetic Field.

    Perfect Filer responds with:

    Enter field tag

14. Make all field tags as representative as possible of the field they identify. Call this **field tag:**

                        'homestate'

    Type this tag name in lower case letters, **as one word,** followed by a carriage return.
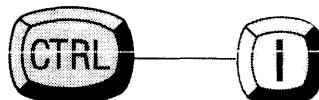
15. Perfect Filer next asks you to specify the length of this data field. No state is longer than 20 spaces—enter the number '20' followed by a carriage return. Perfect Filer immediately inserts an underscored alphabetic data field 20 spaces long after the data descriptor 'Home State'.

16. The next line of your data record contains two 'status fields' that will indicate whether the individual being recorded is a:

    Senator [ ]   House Representative [ ]

    Move the cursor down one line and type the data descriptor 'senator' at the left margin.
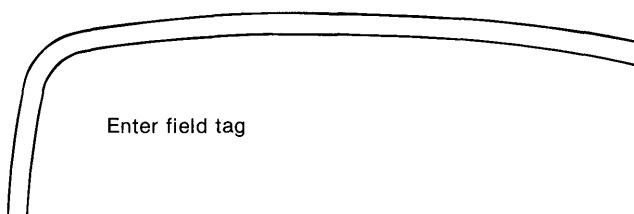
17. With the cursor positioned at the end of the word senator, give the INSERT FIELD command:

    Perfect Filer responds with the display showing possible data fields (see Step 12).
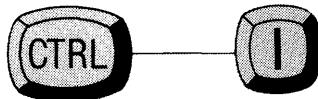
18. Select the 'status' field by moving the 'x' down to this position and typing the 'x' key on the keyboard.

Perfect Filer responds with:

    Enter field tag

19. Tag this field 'senator', followed by a carriage return. Perfect Filer inserts a status field enclosed in brackets on the screen after the data descriptor 'senator'.

20. Keeping the cursor on the same line, move it about 10 spaces to the right, and type the data descriptor 'house representative', followed by the INSERT FIELD command:
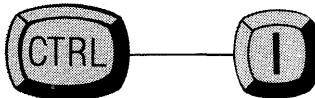
21. Again, select 'status' field.

22. A tag of 'houserepresentative' would be too long. Abbreviate it to 'houserep', followed by a carriage return.

    Perfect Filer inserts a status field after house representative.

23. The next line of the data record includes a 30 character, alphabetic field for party. Move the cursor to the next line and insert this field, using the same command procedure as with home state:. Tag this field 'party'.

    The next several lines of the data record contain address information. The 'address' template will not work exactly the way we want here because it contains two fields that we do not need—'organization' and 'country'. Thus, we must construct each field of our address independently.

24. Move the cursor two lines below the data field 'party', and type the words 'Mailing Address:', followed by the INSERT FIELD command:

    Make Mailing Address an aphanumeric field with the tag 'mailaddress'. Give it a field length of 50.

25. On the next line following Mailing Address, insert alphanumeric and numeric fields for city, state, and zip. Use 'mailcity', 'mailstate', and 'mailzip', respectively, as tags. (Use these specific tag names because city, state, and zip have already been reserved as field tags in the 'address' template and, therefore, cannot be used again.) Space these fields for easy readability. Give them appropriate field lengths. Remember that 'mailzip' will be a numeric field.

26. The next line after city, state, and zip holds a field containing 'Phone', which is a template. Place this template against the left margin, as the sketch shows. Tag the field 'phone'.

27. Skip two lines and enter the following numeric fields on the same line:

    Year Elected: 19_____   Up for Reelection: 19_____

    Give these fields the tags 'elected' and 'reelect' respectively. (Note that the field length in both cases will be **two,** because '19' is already part of the data descriptor.) Enter appropriate upper and lower numeric limits for both of these fields, say 20 and 82 for year elected and 84 and 98 for up for reelection.

28. For our last field, 'Comment:' skip one line and enter a single alphanumeric field of 60 spaces tagged 'comment'.

29. Finally, just beneath the comment field and near the right margin add the special field for 'Date Entered:' which will indicate when the record for the particular Congressperson was entered. For this field use the date 'template' **together with the special reserved tag** 'dtenter'. When a date template uses the tag dtenter, Perfect Filer will, at the same time the record is added to the data base, automatically insert the current date into the template. This can be a convenient bookkeeping device. The information can be used, for example, to generate mail for individuals who have been added to the data base after a certain date. We recommend that, whenever possible, the 'Date entered' field be included in the lower right corner of each data record you create.

    This completes the creation of a data record for U.S. senators and representatives. The only remaining task is to save what you have created. To do this, type the Escape key, which takes you to the previous level menu, where you select the fourth option, 'Save data base'.

    After saving our data base, Perfect Filer returns us to the entry level menu of the CREATE program.

    Type Escape to return to the disk operating system.

————————————— **END OF TUTORIAL** —————————————

MODIFYING A DATA RECORD

Modifying a data record is done using the same commands used to create the record originally. **There is one very important difference:**

When changes to a data record are saved, the entire data base is 'reinitialized'—shuffled about to accommodate the changes to the data record.[1] During this reinitialization all member information on the data base is erased. To avoid loss of member records **you must make a backup copy of the original data base, before you begin revising the data record.** After the data base has been reinitialized, the information from the backup can be transferred to the revised data base using the MOVE program. (See Chapter IX for instructions on making backups and transferring data using MOVE.)

MODIFYING A DATA RECORD
TUTORIAL

IMPORTANT: If member information has already been entered into the data base, you must make a backup copy of the data base before you begin modifying the data record. (See Chapter IX.)

Suppose that immediately after saving your new data record you realize that it needs to be modified. The top-level menu of the CREATE program provides such an option Select:

'Modify Existing Data Base'

Perfect Filer presents the second level menu again, where you select:
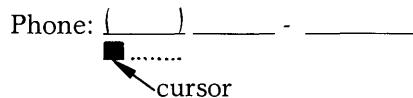
'Define Data Record'

The data record is immediately redisplayed.

---
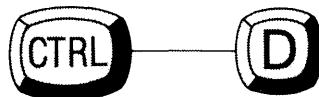
[1] The data base will not be reinitialized if you are only adding or deleting lines or data descriptions from the screen to improve clarity.

You want to make only two changes—to delete a line and to add a field.

1. Position the cursor beneath the 'phone' field:

Phone: (_____) _____ - _____
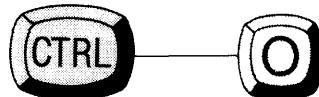
cursor

2. Give the DELETE LINE command:

Perfect Filer deletes one blank line and moves all lower lines up one line.

3. Next, you want to add another data field, one for Age.

   Move the cursor to the line beneath the 'name' template and give the OPEN LINE command:

Perfect Filer opens and inserts a blank line at the position of the cursor, forcing all remaining lines down one line.[2]

_____

[2] It is possible when inserting lines to encounter an 'error'. If the last line on the screen already contains a data field, an error message will be produced, since Perfect Filer will not push the last line off the screen in order to insert a new line elsewhere. In such a case, an existing line below the proposed insertion will have to be deleted before Perfect Filer will insert a new line.

5. At the left margin type the data descriptor Age:. Insert a numeric field with a field length of '2'. Tag this field 'age'.

   This completes modification of the data record.

6. Save this modified record by escaping to the previous menu, and selecting the option Save data base.

Note here that Perfect Filer WARNS that the data base is about to be reinitialized. This will result in a loss of whatever data about individual congresspersons you might already have entered. Since in these tutorials you have not yet entered any member records, you can now save your modified data record.

Display Screen Definition

At this time you can see exactly how much space was used in creating the data record. To do this select the second option on the entry level menu of CREATE:

'Modify Existing data base'

followed by the second-level menu option:

'Display Screen Definition'

This will list the various fields (identified by tag name) that you have used in creating the data record, together with a summary of the total space they occupy.

You have the choice of either viewing this 'Screen Definition' on the CRT, or of printing it out. If you choose to have it displayed on the screen, it will be scrolled rapidly—too rapidly to be read. Use the PAUSE command (Control-S) to temporarily halt output.

The display will look like this:

Member Elements
1: name; 3/4 template; size = 32422
TOTAL MEMBER SIZE = 463 [of 1024 Available]
TOTAL FIELDS USED = 23 [of 70 Available]

Data Field Tags
Field 1: name.firstname
Field 2: name.middlename
Field 3: name.lastname
Field 4: name.title
Field 5: name.salutation
Field 6: name.title2
Field 7: age
Field 8: homestate
Field 9: senator
Field 10: houserep
Field 11: party
Field 12: mailaddress
Field 13: mailcity
Field 14: mailstate
Field 15: mailzip
Field 16: phone.areacd
Field 17: phone.phnum
Field 18: elected
Field 19: reelected
Field 20: comment
Field 21: dtenter.month
Field 22: dtenter.day
Field 23: dtenter.year
TOTAL TAG LENGTH = 344 [of 1024 Available]

———————————— END OF TUTORIAL ————————————

Chapter VI
HOW TO FORMAT A LIST

One of the most powerful features of Perfect Filer is its flexible list generation capability. If you think of a list as more than a sorted sequence of members' names, you realize it has many applications. For, in fact, a list can be almost anything you want it to be.

Formatting a list is nothing more than arranging selected member information on a page. It doesn't matter whether the page has been preprinted with other information or not. It is very simple, for example, to create a 'list format' that will print member information at selected positions on invoice forms, packing slips, sales reports, or any specialized form that must be generated for the members of a data base. You simply need to know a few facts about the form to be used, and you can easily specify what member information will be pulled from the data base to be inserted on the form.

This chapter presents a discussion of the various components of a typical list format, followed by a tutorial that illustrates the steps in building a list. For the sake of completeness, the example chosen is a 'formal' list, which includes all of the elements that such lists normally require—a list heading, a page heading, a member format, etc. Understanding the elements and procedures that are involved in formatting a complete list makes it an easy matter to create formats for other uses, such as invoices, packing slips, etc.
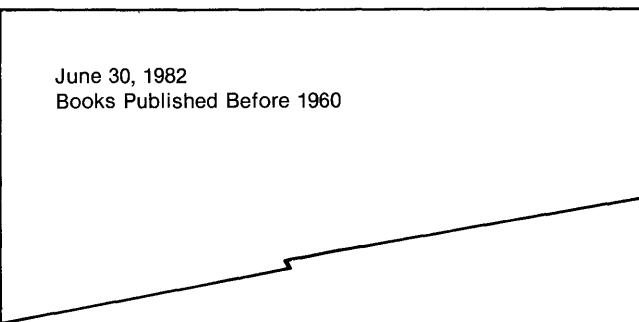
ELEMENTS OF A LIST FORMAT

Every list contains the following basic elements:

The List Heading

This is the heading that appears at the beginning of the list. Typically it contains the report title and the date. For column-oriented lists like tables, the list heading may also include the headings for each column. (When the list will occupy more than one page, column headings are placed in the 'Page Heading'.)
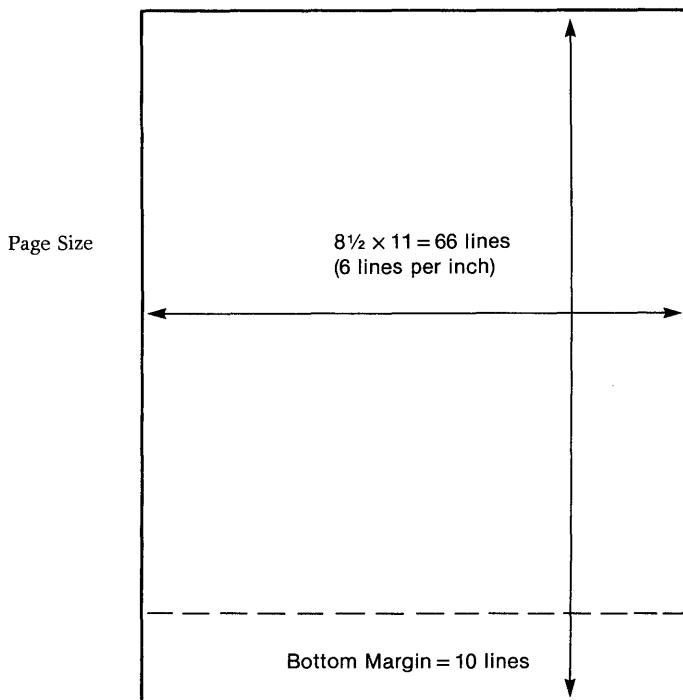
The list heading can hold up to 20 'list format fields', i.e., strings, data fields, templates, etc. The list heading in the figure below contains two list format fields: the 'Date of Report', a special formatted field into which Perfect Filer will automatically insert the current date (in this case, June 30, 1982), and the list title 'Books Published Before 1960.'


```
June 30, 1982
Books Published Before 1960
```

The Page Format

The page format includes three items: the 'Page Size' (length only), the 'Bottom Margin', and the 'Page Heading'.

If page size and bottom margin are not specified, the list will run across page boundaries. A normal page size (8½ × 11 paper) is 66 lines, at six lines per inch. A good bottom margin is 10 lines.

Page Size

8½ × 11 = 66 lines
(6 lines per inch)

Bottom Margin = 10 lines
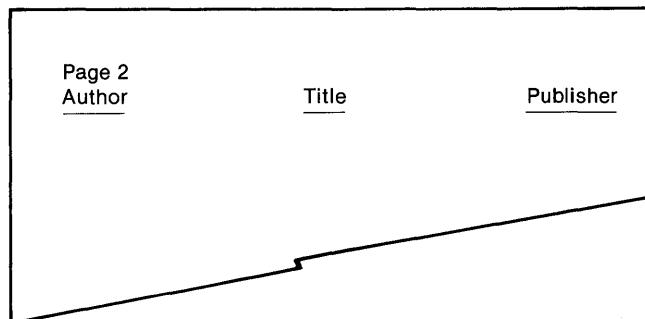
The Page Heading

The page heading consists of whatever information you want to appear at the top of every page. Typically, this will include a page number, and, for column-oriented lists, the headings for each column.

The page heading may contain up to 20 list format fields. The page heading below contains several:

- A special field called 'Page Number', into which Perfect Filer automatically inserts the appropriate page number;

- Three character strings consisting of the words 'Author', 'Title', and 'Publisher', all of which are underlined.

```
Page 2
Author            Title              Publisher
```

The Member Format

The member format must be constructed in order for a list to be generated. It specifies how the data extracted from each individual data record will be displayed in the list.

The member format may contain up to 40 list format fields. The sample list below is specified by three list format fields: an 'author' field into which Perfect Filer has successively inserted the names of authors, and two format fields for 'title' and 'publisher', into which have been inserted titles and publishers respectively.

Subheadings

```
20th Century
John Cheever      Falconer            Signet
William Faulkner  As I Lay Dying      Random House
John Fowles       The Magus           Modern Library
19th Century
Charles Dickens   David Copperfield   Harper
Mark Twain        Huckleberry Finn    Dell
18th Century
Alexander Pope    Rape of the Lock    Modern Library
Jonathon Swift    Gulliver's Travels  Modern Library
```

Sort Keys

Sort keys order the output of member data. Without them data would be output randomly, in the order that Perfect Filer encountered the various members in the data base.

Perfect Filer provides a set of versatile sort routines. Up to five consecutive sort keys may be specified for a list format. Members are sorted by each sort key in turn, so that all members who share one sort key are sorted as a group by the next sort key, and then the next, and so on. The list members in the previous example have been sorted first by century and then within each century by last name.

Subheadings

A subheading may be specified for each sort key. The subheading can contain one or more list format fields, and appears as a heading for each sub-group of members which share the characteristics designated by the sort key. The subheadings in the previous example are 20th Century, 19th Century, etc., which appear before each set of authors.

FORMATTING A LIST
TUTORIAL

As in defining the data record itself, the first step in devising a list format is to visualize what the list will look like. In this tutorial we will devise a list format to accommodate the U.S. Senators and Representatives data base we created in Chapter V. It will illustrate most of the options Perfect Filer provides in devising list formats.

Suppose you want to extract and print a list of senators sorted by home state, together with their age and political party. After a bit of sketching, we decide that our list should look like this:

Date of Report

CURRENT U.S. SENATORS

Page 1
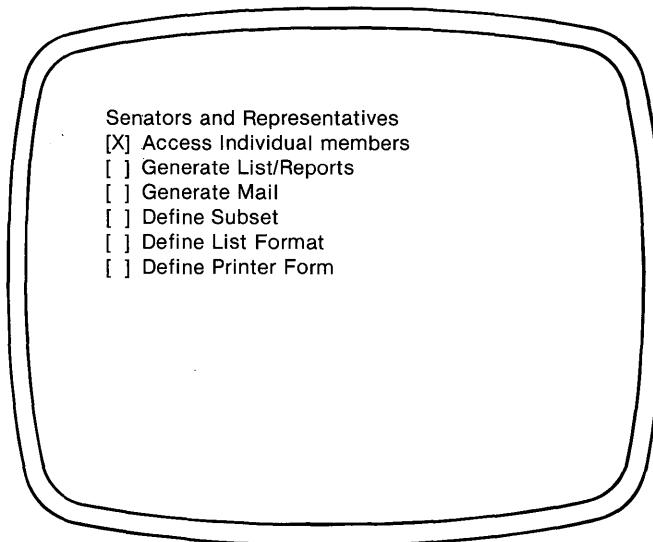
SENATORS	AGE	PARTY
ALABAMA		
James B. Allen	70	Democrat
John J. Sparkman	83	Democrat
ALASKA		
Mike Gravel	52	Democrat
Ted Stevens	59	Republican
ARIZONA		
Paul J. Fannin	75	Republican
Barry M. Goldwater	73	Republican
etc.		

STEPS:

1. Insert the Perfect Filer system diskette into drive A of your computer, and the disk containing the data base U.S. Senators and Representatives created in Chapter V into drive B.

2. Call up Perfect Filer's FILER program.
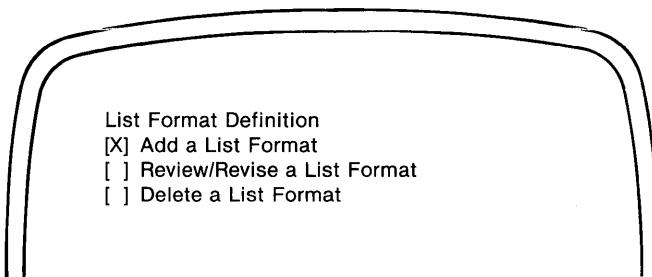
   Perfect Filer comes on-line and asks for the name of the disk drive containing the data base, followed by a display asking for data verification.

3. Perfect Filer then presents the following display which represents the entry level menu of the FILER program:

```
          Senators and Representatives
          [X] Access Individual members
          [ ] Generate List/Reports
          [ ] Generate Mail
          [ ] Define Subset
          [ ] Define List Format
          [ ] Define Printer Form
```
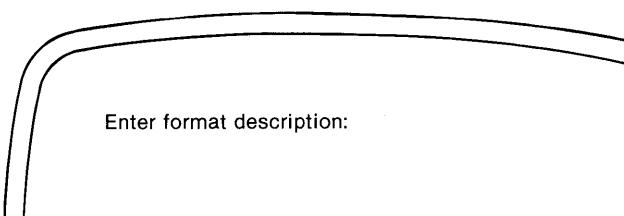
4. Select a fifth option, 'Define List Format'.

   After a few moments Perfect Filer responds with the display:

   ```
   List Format Definition
   [X] Add a List Format
   [ ] Review/Revise a List Format
   [ ] Delete a List Format
   ```
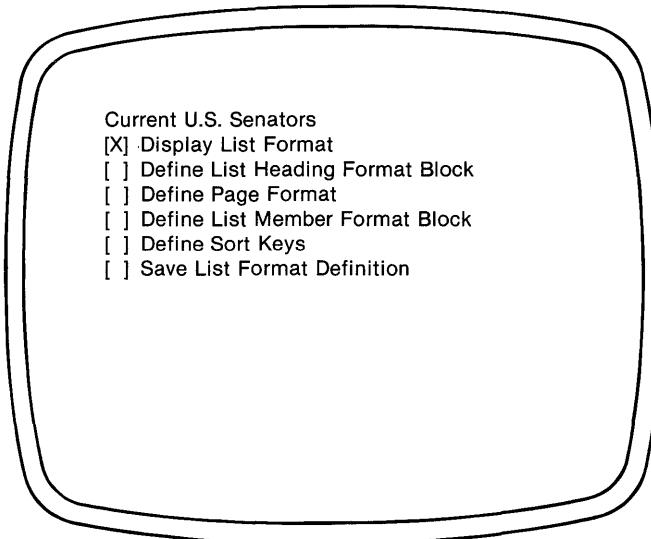
5. Select the first option, 'Add a List Format'.

   Perfect Filer responds with:

   ```
   Enter format description:
   ```

   Here Perfect Filer is asking for the name of the list format you are about to create. Hereafter, when generating lists, this name will appear as a menu selection. For the name of the list type Current U.S. Senators, followed by a carriage return, <CR>.

Perfect Filer presents the display:

```
Current U.S. Senators
[X] Display List Format
[ ] Define List Heading Format Block
[ ] Define Page Format
[ ] Define List Member Format Block
[ ] Define Sort Keys
[ ] Save List Format Definition
```
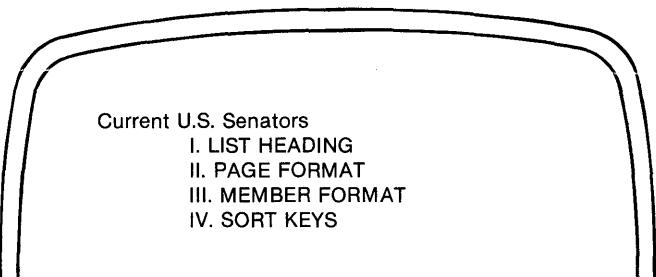
All of these selections, except the first, represent operations that you must perform in order to 'define' a list format.

6. Before you actually begin defining the list format, select the first option, 'Display List Format'.

   Perfect Filer responds by asking if you want the list format printed in hard copy, or displayed on the screen. Later it will be convenient to have the list format printed out, but for the present you will view it on the CRT. Select: 'No —Print on Screen Only'.

Perfect Filer responds with the display:
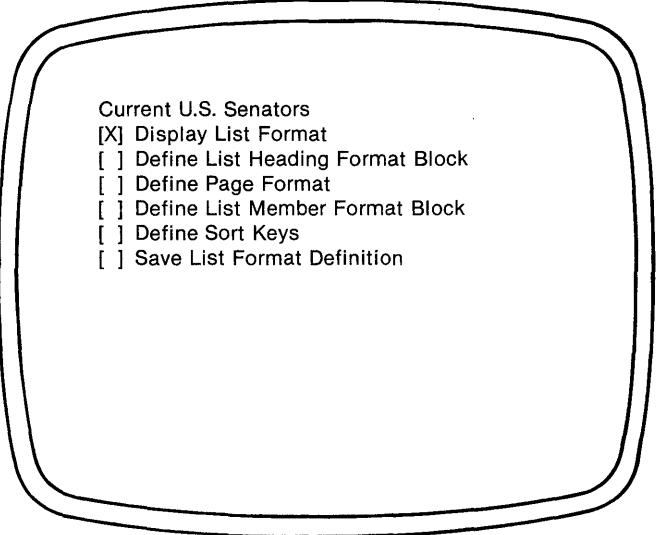
```
Current U.S. Senators
        I. LIST HEADING
        II. PAGE FORMAT
        III. MEMBER FORMAT
        IV. SORT KEYS
```

These are the four elements of the list format you will have to define. At present, each is undefined, or empty. However, as you proceed with the list format definition, this display will record each of the list format fields that you add, thereby providing a continual summary of what you accomplish.
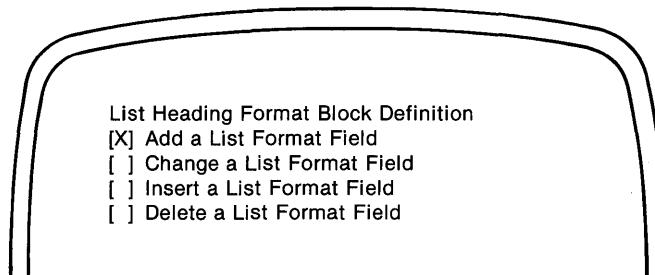
Continue by typing any character on the keyboard.

Perfect Filer responds with the display:
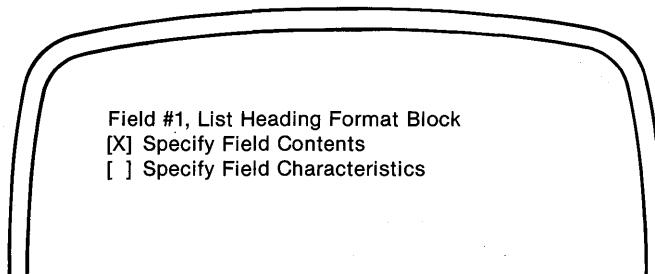
```
Current U.S. Senators
[X] Display List Format
[ ] Define List Heading Format Block
[ ] Define Page Format
[ ] Define List Member Format Block
[ ] Define Sort Keys
[ ] Save List Format Definition
```

7. Select the second option, 'Define List Heading Format Block'. Perfect Filer presents this display:

```
List Heading Format Block Definition
[X] Add a List Format Field
[ ] Change a List Format Field
[ ] Insert a List Format Field
[ ] Delete a List Format Field
```
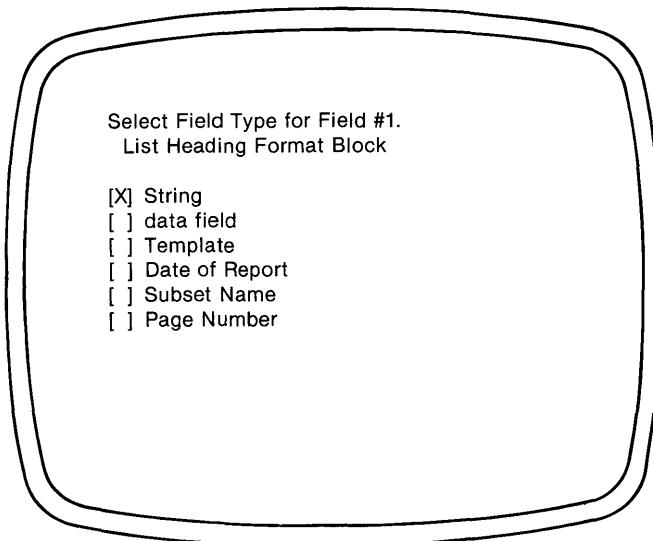
8. The words at the top of this display indicate you are defining a 'list heading'. Below it are the possible operations you can perform. Since no list format fields yet exist in the heading, select the first option, 'Add a List Format Field'. The first field of the list heading will be 'Date of Report' to be positioned at the top left margin.

   Perfect Filer responds with the display:

```
Field #1, List Heading Format Block
[X] Specify Field Contents
[ ] Specify Field Characteristics
```

9. The top line of this display indicates you are defining Field #1 of the list heading. The first thing you must do is specify the type of field. Select the option, 'Specify Field Contents'.

    Perfect Filer responds:

```
Select Field Type for Field #1.
  List Heading Format Block

[X] String
[ ] data field
[ ] Template
[ ] Date of Report
[ ] Subset Name
[ ] Page Number
```

10. This list represents the types of 'list format fields' that are available. You are already familiar with two of them: 'data fields' and 'templates'.
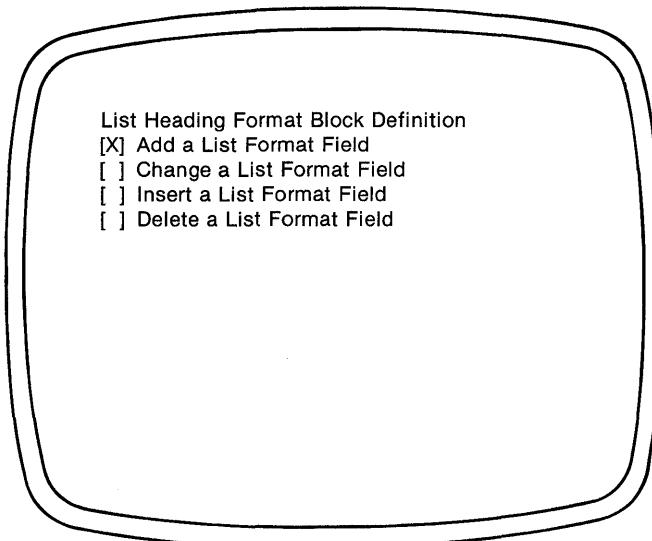
    A 'string' is simply a group of characters that you want to appear on the list. You will use this frequently in your definition.

    The last three options, 'Date of Report', 'Subset Name', and 'Page Number' are special list format fields, similar to templates, that insert into the list the date, the name of the subset, and the page number respectively. As it happens, the first field, Date of Report, is one of these. Select:

    'Date of Report'
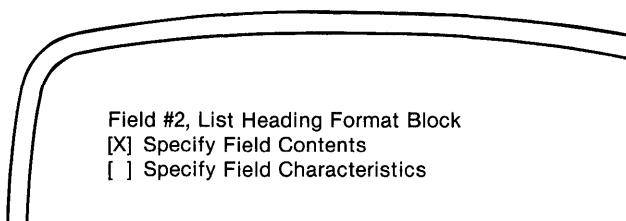
11. Perfect Filer switches back to the previous display (Step 8). Although you
    might think that nothing has happened, Perfect Filer has added the list format
    field, Date of Report. You may now specify 'field characteristics'. This is op-
    tional, and though you will be doing it for other fields, you do not need to
    specify any field characteristics for the Date of Report list format field. Type
    the Escape key to end the process of defining the first list format field of the
    list heading.

    Perfect Filer jumps us back to the menu we started with:

```
List Heading Format Block Definition
[X] Add a List Format Field
[ ] Change a List Format Field
[ ] Insert a List Format Field
[ ] Delete a List Format Field
```

12. Perfect Filer asks if you have any other fields to define in the list heading. The answer is yes. Select the first option again, Add a List Formats Field.

    Notice that when Perfect Filer responds 'Field #2' is indicated in the top line:

    Field #2, List Heading Format Block
    [X] Specify Field Contents
    [ ] Specify Field Characteristics
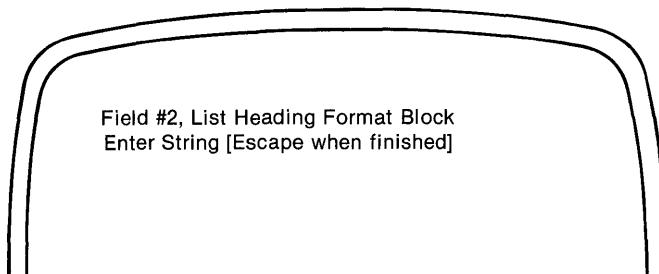
13. You now want to insert two blank lines to separate the 'Date of Report' and the coming list title. To insert these blank lines, proceed as before, selecting the option Specify Field Contents.

    Perfect Filer displays the same selection of list format fields (step 9).

14. Select 'string'.

Perfect Filer responds with:

```
    Field #2, List Heading Format Block
    Enter String [Escape when finished]
```

Perfect Filer wants you to know what this 'string' of characters will be—a word or words, a row of "x's", or what? Actually it will be two blank lines following immediately after the 'Date of Report' field. You specify these by typing the carriage return three times:[1]
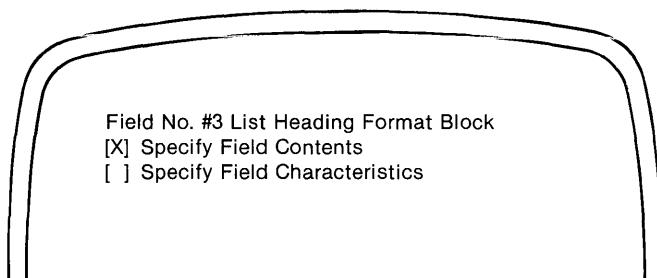
<CR> <CR> <CR>
followed by Escape

Perfect Filer returns to the previous screen. You have just entered 'field contents', and since blank lines have no 'characteristics', type Escape again to end this process of defining the second list format field of three blank lines.

Perfect Filer backs up to the original menu (step 7), where, in effect, you are asked if you wish to add yet another field to the list heading. You still need to specify the list title so again select Add a List Format Field.

---
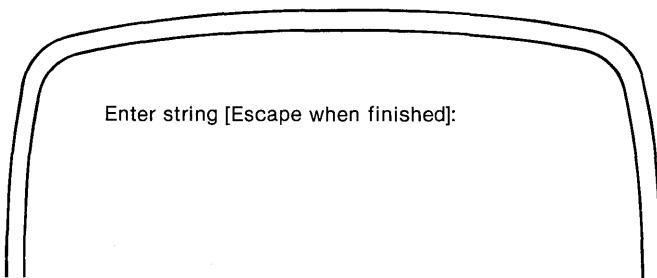
[1] This procedure will insert only two lines, since one of the carriage returns is used in moving OFF the line holding the Date of Report.

In the top line of the next display you see that you are now defining 'Field #3 of the List Heading.'

```
Field No. #3 List Heading Format Block
[X] Specify Field Contents
[ ] Specify Field Characteristics
```

15. The procedure is the same as before. Select the first option, Specify Field Contents.

16. The title of our list will be a string.

    Perfect Filer responds by asking you to:

```
Enter string [Escape when finished]:
```
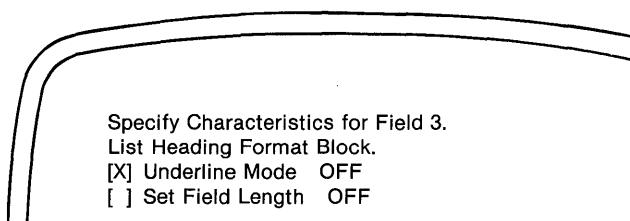
17. Enter 'CURRENT U.S. SENATORS', followed by the Escape key. Perfect Filer jumps back to the previous display.

18. This time you must specify 'field characteristics'. Select the option, 'Specify Field Characteristics'.

   Perfect Filer responds with the display:

```
Specify Characteristics for Field 3.
List Heading Format Block.
[X] Underline Mode   OFF
[ ] Set Field Length   OFF
```
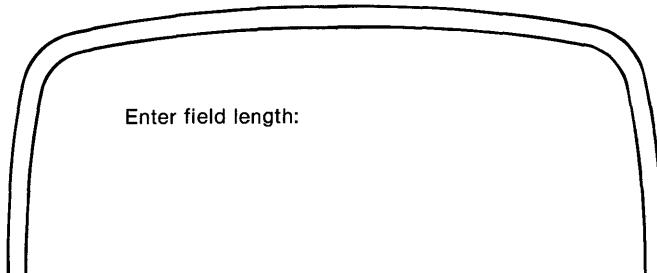
   Now you must tell Perfect Filer two things: the field length, and whether or not the string of characters will be underlined. Initially, both options are marked OFF.

19. The title is to be underlined.[2] Type 'x' and Perfect Filer switches the option ON. (It can be turned OFF by typing 'x' again.)

20. Move down to the second option, 'Set Field Length', and turn it ON.

   This time Perfect Filer responds with:

```
Enter field length:
```

[2] Perfect Filer underlines by inserting a blankspace and an underscore after each non-blank printing character. If underlining does not function properly, it may be that your printer is not configured to perform this operation.

The reason for specifying a field length for the title is to position the title on the page. To do this, the title must be located within a field that is larger than itself, a field that is in fact as large or larger than the page. The title can be centered **only** when it has something to be centered **in**. For example:
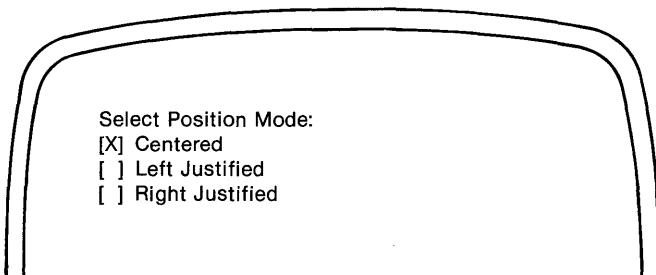
(total field)

CURRENT U.S. SENATORS

(title is centered in the field)

21. Enter a field length of '80', followed by a carriage return, <CR>.

Perfect Filer now asks us to:

```
Select Position Mode:
[X] Centered
[ ] Left Justified
[ ] Right Justified
```

22. Select 'Centered'.

Perfect Filer returns to the original display, where the Set Field Length option is now indeed ON. Enter Escape.

Perfect Filer jumps back to the menu for specifying contents and character- istics, both of which you have now completed. Enter Escape again, and Perfect Filer returns to the next higher level menu, where once more you are ready to enter a fourth field for the list heading.

23. Checking the original format design (see Chapter V, page 69), the fourth and final field in the list heading will be four blank lines to separate the list title from column headings. Insert these blanks just as you did the three blank lines separating the Date of Report and the title. Again, the selections are:

<div align="center">[Add a List Format Field]</div>

followed by:

<div align="center">[Specify Field Contents]</div>

followed by:

<div align="center">[String]</div>

followed by:

<div align="center">〈CR〉 〈CR〉 〈CR〉 〈CR〉 〈CR〉 (five carriage returns)</div>

followed by:
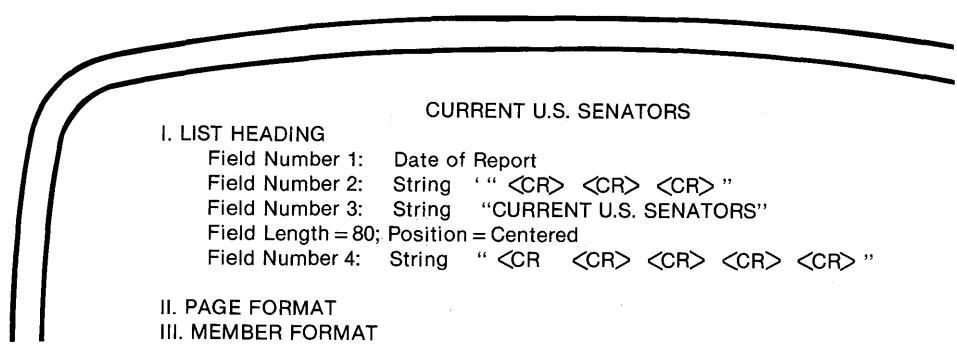
<div align="center">[Escape]</div>

You now have the list heading, and it is time to check your progress. Enter Escape, taking you back to FILER's second-level menu, beginning with:

<div align="center">[X] Display List Format</div>

Select this first option, followed by 'Print on Screen only'.

Perfect Filer presents the following 'List Format Definition':

```
                              CURRENT U.S. SENATORS
    I. LIST HEADING
          Field Number 1:   Date of Report
          Field Number 2:   String   ' " 〈CR〉 〈CR〉 〈CR〉 "
          Field Number 3:   String    "CURRENT U.S. SENATORS"
          Field Length = 80; Position = Centered
          Field Number 4:   String   " 〈CR   〈CR〉 〈CR〉 〈CR〉 〈CR〉 "

    II. PAGE FORMAT
    III. MEMBER FORMAT
    IV. SORT KEYS
```

These are the fields that so far comprise the list heading. This display is of great value in constructing list formats. Because list formats do not always turn out the way they are envisioned due to some detail overlooked, a print-out of this list format definition helps determine just what corrections need to be made.
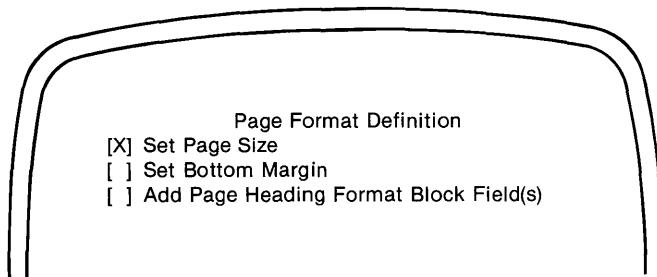
The Page Format

The first task in defining the page format is to specify the page size, which is 66 lines long (regular 8½ × 11 paper) with a bottom margin of 10 lines.

STEPS:
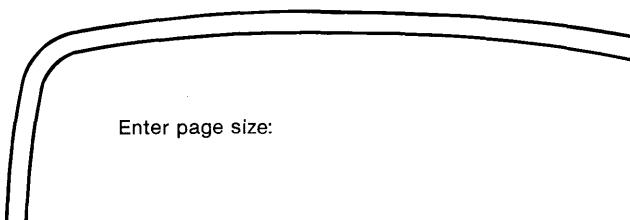
1. Return to the second-level menu and select the 'Define Page Format' option.

   Perfect Filer responds with the display:

```
              Page Format Definition
   [X]  Set Page Size
   [ ]  Set Bottom Margin
   [ ]  Add Page Heading Format Block Field(s)
```

2. You will need to perform all operations. First, select 'Set Page Size'.
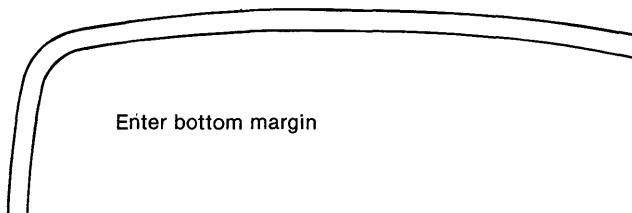
   Perfect Filer tells us to:

```
   Enter page size:
```

   Enter "66" followed by a carriage return, <CR>. Perfect Filer returns to the previous display.

3. Next, select 'Set Bottom Margin'.

   Perfect Filer asks:

   Enter bottom margin

   Type '10', followed by a carriage return, <CR>.

4. Perfect Filer returns to the previous display, where you add the page heading—the column headings that will appear at the top of every page. The steps are the same as those used to define the list heading.

5. The first field to add is 'Page Number', into which Perfect Filer will insert consecutive page numbers. The selections are:

                    [Add a List Format Field]

   followed by:

                    [Specify Field Contents]

   followed by:

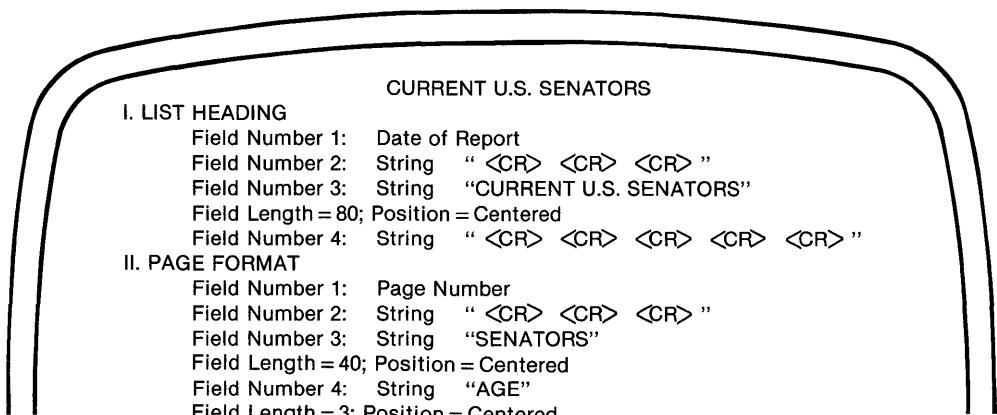   [Page Number]

   followed by:

                    [Escape]

6. The second field consists of two blank lines that will separate the 'Page Number' from the line that will hold the column headings. The selections are:

[Add a List Format Field]

followed by:

[Specify Field Contents]

followed by:

[String]

followed by:

\<CR> \<CR> \<CR>

followed by:

[Escape]

7. The third field to enter is the column heading 'SENATORS' which will be a
   string. The sequence of menu selections are:

                          [Add a List Format Field]

followed by:

                          [Specify Field Contents]

followed by:

                                [String]

followed by:

                          SENATORS (and Escape)

followed by:

                       [Specify Field Characteristics]

followed by:

                          [Underline Mode—ON]

followed by:

                            [Set Field Length]

followed by:

                              40 <CR>

followed by:

                              [Centered]

followed by:

                               [Escape]
                               [Escape]

Note that SENATORS has a field length of 40—half of an 80-column page width.
The plan is to place Senators, Age, and Party on the same line. Together these
fields will add up to 80 columns. Age will have a field length of three and Party a
length of 37.

8. The fourth field is the column heading 'AGE', which, like SENATORS, will be a string. The selections are IDENTICAL to those used to enter SENATORS. Using these selections, add the string 'Age' as a list format field. Give it a field length of three. It need not be centered.

9. The column heading line should now look like this:

```
            SENATORS              AGE              PARTY
  |_____|____|_____|
```
(Headings are cented in their fields.)

10. Your sketch now calls for a single blank line between these headings and the solid line that separates the entire column heading from the information of the member fields. Enter this blank line, using the selections in step 6.

11. Now construct the solid line that will separate the page heading from the member data. The steps are:

<div align="center">[Add a List Format Field]</div>

followed by:

<div align="center">[Specify Field Contents]</div>

followed by:

<div align="center">[String]</div>

followed by:

<div align="center">(80 underscores: "_____")</div>

followed by:

<div align="center">[Escape]</div>
<div align="center">[Escape]</div>

This completes the definition of the page heading. Now display the List Format Definition again. Escape to the second-level menu of the FILER program and select the Display List Format option. Display it to the screen. It should look like this:

```
                           CURRENT U.S. SENATORS
    I. LIST HEADING
           Field Number 1:    Date of Report
           Field Number 2:    String    " <CR>  <CR>  <CR> "
           Field Number 3:    String    "CURRENT U.S. SENATORS"
           Field Length = 80; Position = Centered
           Field Number 4:    String    " <CR>  <CR>  <CR>  <CR>  <CR> "
    II. PAGE FORMAT
           Field Number 1:    Page Number
           Field Number 2:    String    " <CR>  <CR>  <CR> "
           Field Number 3:    String    "SENATORS"
           Field Length = 40; Position = Centered
           Field Number 4:    String    "AGE"
           Field Length = 3; Position = Centered
           Field Number 5:    STRING    "PARTY"
           Field Length = 37; Position = Centered
           Field Number 6:    String    " <CR> "
           Field Number 7:    String
                              "_____"
           Page Size = 66 lines; Bottom Margin = 10 lines
    III. MEMBER FORMAT
    IV. SORT KEYS
```
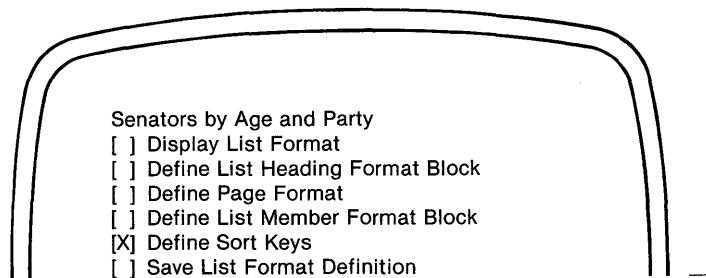
The Member Format

You must now define the 'Member Format'. How shall the senators' names, ages, and parties be displayed? The sketch shows that a senator's name, age, and party are to be on the same line, each directly beneath the appropriate column heading, with each entry separated by a blank line:

Paul J. Fannin	75	Republican
	(blank line)	
Barry M. Goldwater	73	Republican

STEPS:

1. On the third level menu of the FILER program select the fourth option, 'Define List Member Format Block'. The procedure is essentially the same as before, with one slight variation: now you will specify templates and data fields instead of strings.

2. To specify the list format field for the names of the senators, make the following selections:

   [Add a List Format Field]
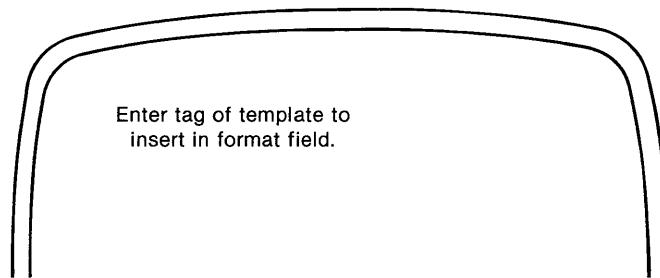
   followed by:

   [Specify Field Contents]

   followed by:

   [Template]

   Perfect Filer responds:

   Enter tag of template to insert in format field.
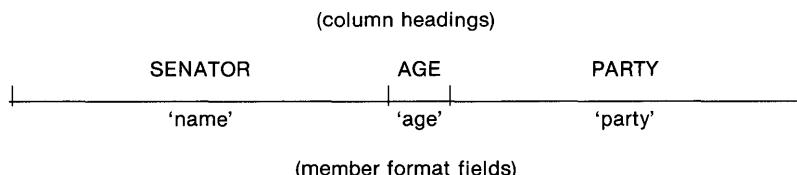
3. Enter the tag of the template which holds the senators' names, followed by a carriage return. (For a list of tag names for this data base see Chapter V, page 83.)

<div align="center">'Name' <CR></div>

Perfect Filer returns to the previous display, where you can specify 'field characteristics' for the template. Specifying field characteristics allows two further options: underline each name, and specify a field length and position the names within the field.

Though you do not want to underline each name, you DO want to position the names at the left margin. Also, you want to position the names so that they will print beneath the appropriate column heading.

<div align="center">(column headings)</div>

SENATOR	AGE	PARTY
'name'	'age'	'party'

<div align="center">(member format fields)</div>

At this time enter a field length of 40 for the 'name' template and position it 'left justified', afterwards escaping to the menu beginning Add a List Format Field.

4. Now specify the list format field that will hold the ages of the senators. This field will display on the same line as the 'name' template. Make the following selections:

<div align="center">

[Add a List Format Field]

[Specify Field Contents]

[data field]

'age' and <CR>   (the data field tag)

[Specify Field Characteristics]

[Set Field Length]

'3' and <CR>

[Centered]

[Escape]

[Escape]

</div>

5. Next, add the field party, using these same selections. The field length is 37 and the field is centered.

6. You have now only to add the blank line that will separate the names of the senators. To do this make the following selections:

<div align="center">

[Add a List Format Field]

[Specify Field Contents]

[String]

' <CR> '

[Escape]

[Escape]

</div>

This completes the definition of the Member Format. Display the list format now. Does it look like this?

```
                         CURRENT U.S. SENATORS
     I. LIST HEADING
           Field Number 1:    Date of Report
           Field Number 2:    String    " <CR>  <CR>  <CR> "
           Field Number 3:    String    "CURRENT U.S. SENATORS"
           Field Length = 80; Position = Centered
           Field Number 4:    String    " <CR>  <CR>  <CR>  <CR>  <CR> "
     II. PAGE FORMAT
           Field Number 1:    Page Number
           Field Number 2:    String    " <CR>  <CR>  <CR   "
           Field Number 3:    String    "SENATORS"
           Field Length = 40; Position = Centered
           Field Number 4:    String    "AGE"
           Field Length = 3; Position = Centered
           Field Number 5:    String    "PARTY"
           Field Length = 37; Position = Centered
           Field Number 6:    String    " <CR> "
           Field Number 7:    String
                              "  _____  "
           Page Size = 66 lines; Bottom Margin = 10 lines
     III. MEMBER FORMAT
           Field Number 1:    Template    name
           Field Length = 40; Position = Left Justified
           Field Number 2:    data field    age
           Field Length = 3; Position = Centered
           Field Number 3:    data field    party
           Field Length = 37; Position = Centered
           Field Number 4:    String    " <CR> "
```

Defining Sort Keys

Your final task is to specify sort keys, which will determine how the members of the list will be sorted.
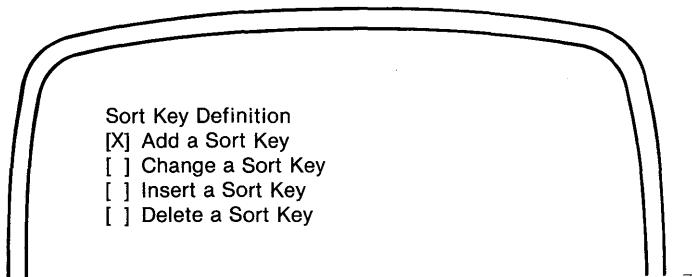
You can specify up to five sort keys. The members will be sorted by each key in turn. For this example, you will only specify two sort keys—first by home state and, within each state, by last name.

STEPS:

1. Select the 'Define Sort Keys' option on FILER's third-level menu:

```
Senators by Age and Party
[ ] Display List Format
[ ] Define List Heading Format Block
[ ] Define Page Format
[ ] Define List Member Format Block
[X] Define Sort Keys
[ ] Save List Format Definition
```

Perfect Filer responds with the display:
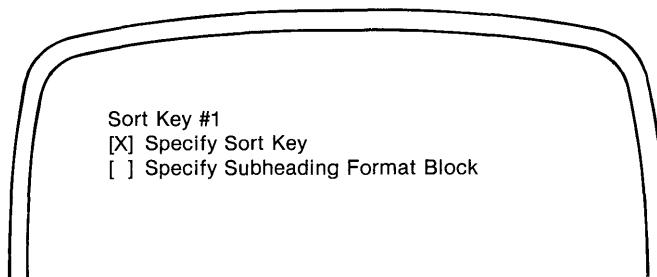
```
Sort Key Definition
[X] Add a Sort Key
[ ] Change a Sort Key
[ ] Insert a Sort Key
[ ] Delete a Sort Key
```
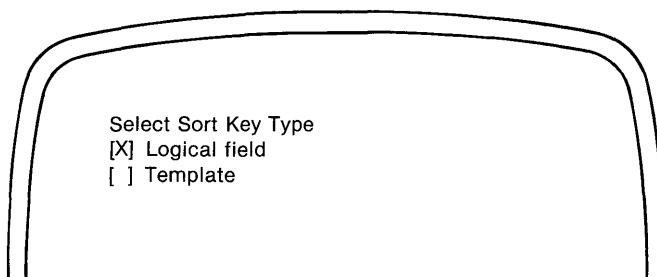
2. Since you have not previously defined a sort key, select the first option, 'Add a Sort Key'.

   Perfect Filer responds with the display:

   ```
   Sort Key #1
   [X] Specify Sort Key
   [ ] Specify Subheading Format Block
   ```
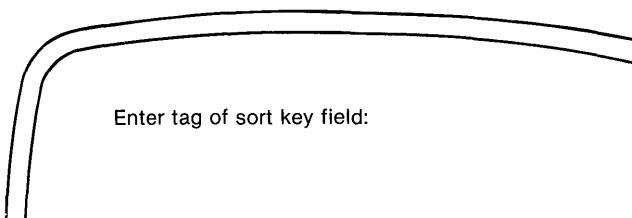
3. This display indicates that you are defining Sort Key #1. What will the sort key be? Select the first option, 'Specify Sort Key'.

   Perfect Filer responds with the display:

   ```
   Select Sort Key Type
   [X] Logical field
   [ ] Template
   ```
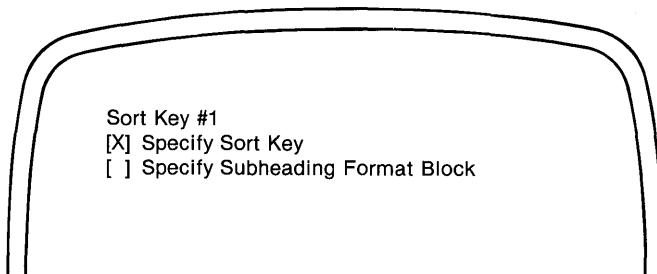
4. The first sort to make is by 'Home State'. In the original data record, Home State: was a data field. Select 'Data Field'.

   Perfect Filer responds with the message:

   Enter tag of sort key field:
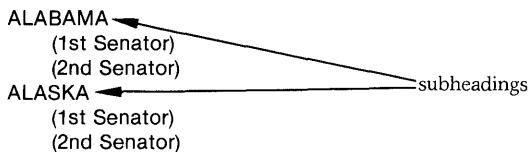
5. The tag of Home State: is 'homestate'. Enter this tag, followed by a carriage return, <CR>.
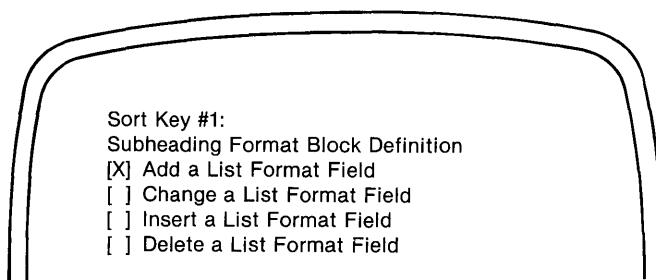
   Perfect Filer returns to the same display:

   Sort Key #1
   [X] Specify Sort Key
   [ ] Specify Subheading Format Block

Returning to this display means that Perfect Filer has accepted 'homestate' as the first sort key, and is now giving the option of specifying subheadings for this sort key. You want a subheading printed for each pair of senators that will indicate their home state. Recalling the original sketch, it will look like this:

```
ALABAMA
    (1st Senator)
    (2nd Senator)
ALASKA                          subheadings
    (1st Senator)
    (2nd Senator)
```
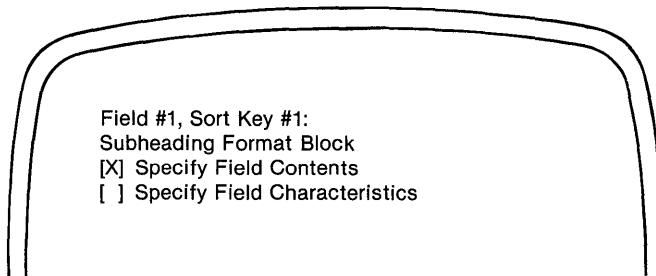
6. Select the second option, 'Specify Subheading Format Block'. Perfect Filer presents the following display (is it familiar)?

```
Sort Key #1:
Subheading Format Block Definition
[X] Add a List Format Field
[ ] Change a List Format Field
[ ] Insert a List Format Field
[ ] Delete a List Format Field
```
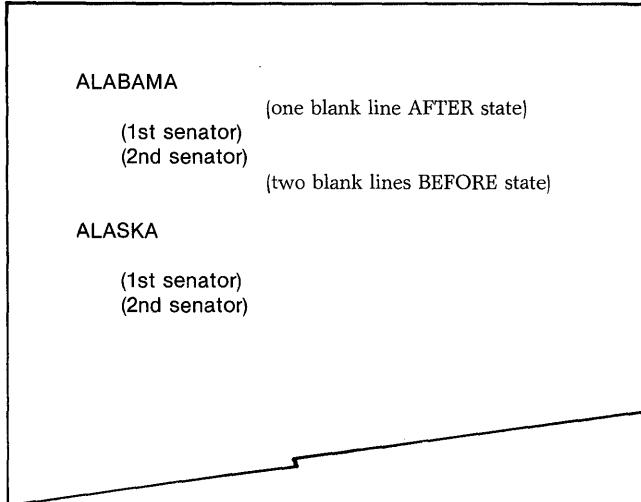
7. The subheading will be a group of fields just like the member format, the page heading, and the list heading. Select the first option, Add a List Format Field.

Perfect Filer presents the following display (which should also be familiar):

Field #1, Sort Key #1:
Subheading Format Block
[X] Specify Field Contents
[ ] Specify Field Characteristics

What kind of a field will the subheading be? Consider that you want your subheading to consist of, not just the name of the state, but also of sufficient surrounding white space to make it pleasing to read:

ALABAMA
                     (one blank line AFTER state)
     (1st senator)
     (2nd senator)
                     (two blank lines BEFORE state)

ALASKA

     (1st senator)
     (2nd senator)

The first field will be two blank lines that come **before** the subheading.

8. You have made blank lines before. The selections are:

> [Add a List Format Field]
>
> [Specify Field Contents]
>
> [String]
>
> ' <CR> <CR> '
>
> [Escape]
>
> [Escape]

9. Now add the list format for Home State:

> [Add a List Format Field]
>
> [Specify Field Contents]
>
> [data field]
>
> 'homestate' <CR> ◄——————— (the field tag)
>
> [Specify Field Characteristics]
>
> [Underline Mode—ON] ◄——— (We want the names of the states underlined)
>
> [Set Field Length]
>
> '20'
>
> [Centered]
>
> [Escape]
>
> [Escape]

These selections will cause Perfect Filer to print the name of the home state before each pair of senators.

10. Now add the single blank line that comes **after** the subheading. Again, make the following selections:

[Add a List Format Field]

[Specify Field Contents]

[String]

' <CR> <CR>'

[Escape]

[Escape]

[Escape]

[Escape]

This completes the definition of the first sort key.

11. The second sort key will consist of the 'name' template. It will cause the senators to be sorted alphabetically within each home state. The selections are:

[Add a Sort Key]

[Specify Sort Key]

[Template]

'name' <CR>
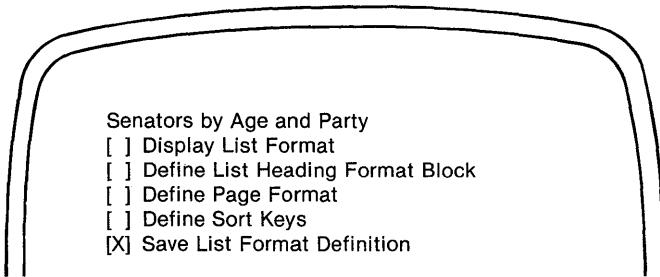
[Escape]

Since you do not want any subheadings for the senators' names, this completes the definition of the sort keys. It also completes the definition of the entire list format. Now display the List Format Definition. It should look like this:

```
                        CURRENT U.S. SENATORS
I. LIST HEADING
    Field Number 1:    Date of Report
    Field Number 2:    String    " <CR> <CR> <CR> "
    Field Number 3:    String    "CURRENT U.S. SENATORS"
    Field Length = 80; Position = Centered
    Field Number 4:    String   " <CR> <CR> <CR> <CR> <CR> "
II. PAGE FORMAT
    Field Number 1:    Page Number
    Field Number 2:    String    " <CR> <CR> <CR> "
    Field Number 3:    String    "SENATORS"
    Field Length = 40; Position = Centered
    Field Number 4:    String    "AGE"
    Field Length = 3; Position = Centered
    Field Number 5:    String    "PARTY"
    Field Length = 37; Position = Centered
    Field Number 6:    String    " <CR> "
    Field Number 7:    String
                       "_____"
    Page Size = 66 lines; Bottom Margin = 10 lines
III. MEMBER FORMAT
    Field Number 1:    Template    name
    Field Length = 40; Position = Left Justified
    Field Number 2:    data field    age
    Field Length = 3; Position = Centered
    Field Number 3:    data field    party
    Field Length = 37; Position = Centered
    Field Number 4:    String    " <CR> "
IV. SORT KEYS
    Key 1: [data field type]; Sort by homestate
    Subheading Fields:
        Field Number 1:    String    " <CR> <CR> "
        Field Number 2:    data field    homestate
        Field Length = 20; Position = Centered
        Field Number 3:    String    " <CR> "
    Key 2: [template type]; sort by name
```

Saving the List Definition

The last step in defining your list format **is very important.** It is 'saving' the List Format Definition:

```
Senators by Age and Party
[ ] Display List Format
[ ] Define List Heading Format Block
[ ] Define Page Format
[ ] Define Sort Keys
[X] Save List Format Definition
```

If you try to exit the program without saving the list format definition, Perfect Filer will present the display:

```
Confirm Discard of Recent Input
[X] Discard Input to List Format and Definition
[ ] Save Input to List Format Definition
```

Select the second option.

———————— END OF TUTORIAL ————————

Chapter VII
DEFINING SUBSETS

When printing form letters, mailing labels, or specialized reports and lists you often want to include only selected members from your data base. For instance, suppose you have a data base of clients into which every day you enter new clients. At the end of the day you want a listing of all new clients entered during the day. You can get this list by printing a **subset** of all clients whose records were entered during that day. Similarly you could get a subset of all members whose names begin with "S", or who live in Michigan...or both.

In the case of the data base of Congresspersons, you could pull just those members who are Democrats, House Representatives, over the age of 50, and up for re-election in 1990. The possible combinations are unlimited.

Perfect Filer provides a very simple and easy means of defining subsets. You need only indicate on a special data record those characteristics which the subset members will share. Such data is called 'subset selection criteria.'
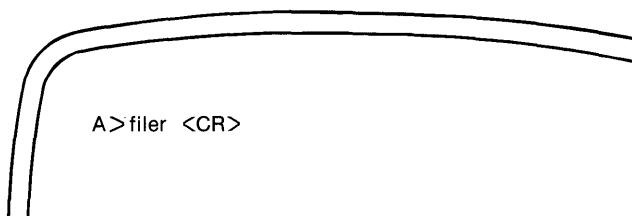
When subsets are extracted from the data base, each member record is compared field by field to the subset selection criteria. When the fields on a member record match the selection criteria, the member is selected into the subset.

Up to 20 separate subsets may be defined for any data file. Each subset is given a distinctive name to be used later in identifying the subset.
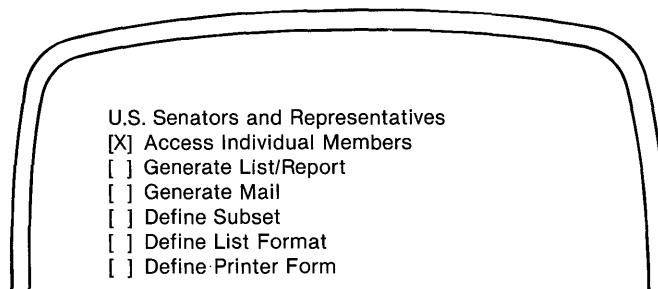
DEFINING A SUBSET
TUTORIAL

Suppose you want to define a subset for the data base of U.S. Congresspersons that would select all congresspersons who are in the Senate and up for reelection in 1984.

1. Insert the Perfect Filer diskette into drive A of your computer and the diskette holding the data base of U.S. Senators and Representatives that you created in Chapter V into drive B.

2. Call up Perfect Filer's FILER program by typing:

```
A>filer <CR>
```
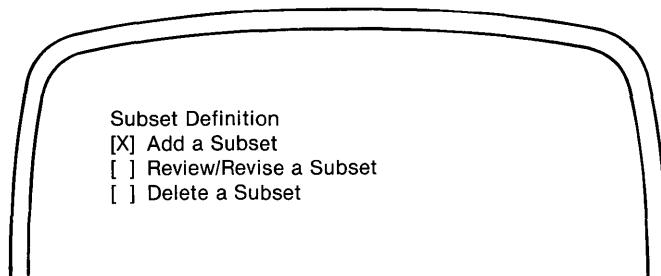
After asking for the data base disk drive and verification of today's date, Perfect Filer presents the following display:

```
U.S. Senators and Representatives
[X] Access Individual Members
[ ] Generate List/Report
[ ] Generate Mail
[ ] Define Subset
[ ] Define List Format
[ ] Define Printer Form
```
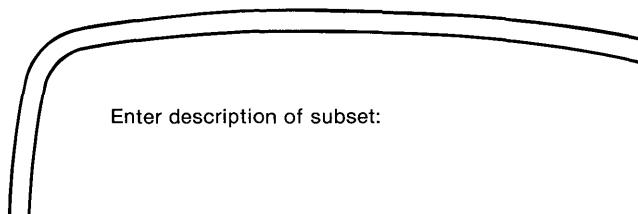
4. This is the entry level menu of the FILER program, which you have seen in previous tutorials. Select the fourth option, 'Define Subset'.

   After a few seconds Perfect Filer responds with the display:

   ```
   Subset Definition
   [X] Add a Subset
   [ ] Review/Revise a Subset
   [ ] Delete a Subset
   ```

5. Since you are adding a subset for the first time, select the first option, 'Add a Subset'.

   Perfect Filer responds with the message:

   ```
   Enter description of subset:
   ```
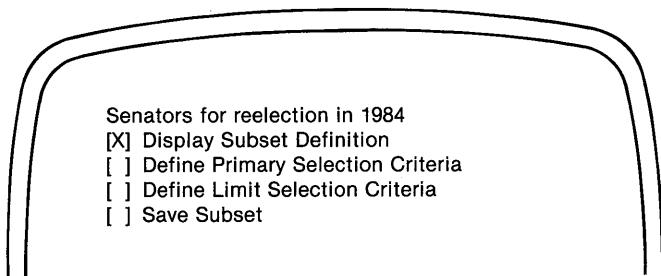
6. Here you must enter a short description (i.e. name) of the subset, which will later, during mail and list generation, appear as a menu selection option.

   Enter something like "Senators for reelection in 1984".

   Perfect Filer responds with the display:

```
Senators for reelection in 1984
[X] Display Subset Definition
[ ] Define Primary Selection Criteria
[ ] Define Limit Selection Criteria
[ ] Save Subset
```

   Notice that the subset name appears at the top of the screen, a reminder of the subset you are defining. It is followed by the routines used in defining the subset.

7. Select the second option, 'Define Primary Selection Criteria'. Perfect Filer responds by displaying an empty data record, from the data base U.S. Senators and Representatives. To define the subset, simply enter appropriate values into the blank slots of this data record.

8. Specify the first 'selection criteria', Senator, by moving the cursor down and activating the status field:

<div align="center">Senator [X]</div>
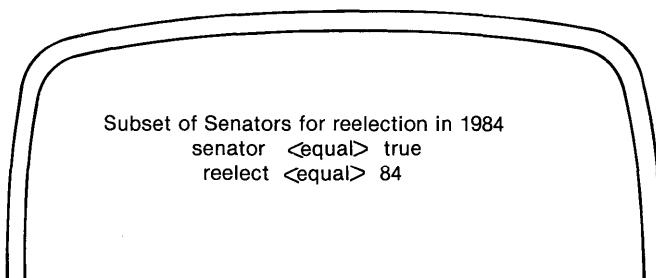
   This will cause Perfect Filer to select all member records on which the 'senator' status field has been activated.

9. Next, move the cursor to the data field 'Up for reelection: 19____' and type "84" in the blank space.

   Perfect Filer will now select only those senators who are up for reelection in 1984.

10. Enter Escape to indicate that the process of defining the primary selection criteria of the subset is finished. Perfect Filer immediately returns to the previous selection menu (see Step 6).

11. Select the first option, 'Display Subset Definition', by printing it to the screen.

   Perfect Filer responds with the display:

```
Subset of Senators for reelection in 1984
        senator  <equal>  true
        reelect  <equal>  84
```

   This display summarizes the selection criteria specified in defining the subset. The first column contains the tag names of the fields 'senator' and 'reelect', followed in each case by the word 'equal', called a 'relational operator', which means that the match between this field and the corresponding field in a member record will have to be exactly equal before the record will be selected into the subset. The 'reelect' field must equal '84', while the 'senator' status field must equal 'true'—i.e. the field must be activated.

12. Return now to the previous display by typing any key, and select the last option, 'Save Subset'.

   Perfect Filer saves the subset definition and returns to the first level menu of the subset definition module, where you can now define another subset if needed.

——————————— **END OF TUTORIAL** ———————————

SPECIAL SUBSET DEFINITIONS
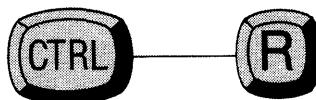
Perfect Filer offers the following special options for devising subsets (all of which are illustrated in the accompanying tutorial).

Character and String Matching

- The character '?' in a subset selection criteria field **will match any single character** in the corresponding data field of a member record. For example, to select all data records whose state codes end with "A", enter the notation "?A" into the 'state' field during selection of subset criteria. This will cause records showing California (CA), Georgia (GA), Kansas (KA), Louisiana (LA), Massachusetts (MA), Pennsylvania (PA), Virginia (VA), and Washington (WA) to be selected into the subset.

- The character '*' will match **any string of characters** in a data field. In a data base of companies, for example, entering "Uni*" into the 'company' field will cause all companies whose names begin with Uni to be selected into the subset: Unicorn Press, Union Carbide, United Airlines.

- To match a field which holds any data whatsoever (i.e., it is **not blank**), enter "?*".

Relational Operators

It is often necessary to select members of a subset according to some relationship which the member possesses to the subset selection criteria. This is often expressed as a range of numeric values. For example, all senators over age 50, or all congress-persons up for reelection between 1984 and 1986. The ability to define such a subset is provided in Perfect Filer by the RELATIONAL OPERATOR Command:

The RELATIONAL OPERATOR command allows you to specify any of the following relationships:

Greater than	Less than or Equal
Less than	Not Equal
Greater than or Equal	Equal

Date and Time Templates

It is possible to specify relational operators for the 'Date' and 'Time' templates. For a date or time to be less than another means that it is earlier, while greater than means later.

Note: When specifying a relational operator for a template, be sure to position the cursor in the **first** data field of the template before giving the RELATIONAL OPERATOR command. Otherwise the relational operator will apply only to a single field within the template.

Numeric Limits

Upper and lower limits for a numeric field can be specified but you must complete two data records, 'Primary Selection Criteria' and 'Limit Selection Criteria'.

For example, to specify all senators over age 50 and under age 90, enter "50" in the Primary Selection Criteria data record, with a relational operator of greater than or equal, and "90" in the Limit Selection Criteria, with a relational operator of less than or equal.

Selecting a Subset by Relative Date

It is possible to select a subset of members which have been entered or revised within the past day, week, or month. For example, you may wish to generate mail for all customers that have made phone requests during the past week, or you may want to make a list at the end of the month of all orders received during that month. The TIME OFFSET command (Control-T) allows you to define such subsets.

When using the TIME OFFSET command, you will be asked to provide an "offset" date from the current date. Each time the subset is extracted, the current date **plus** update days will be inserted into the 'date entered' template of the selection criteria subset, thereby changing the subset definition relative to the date of extraction.

SPECIAL SUBSET DEFINITIONS
TUTORIAL

Suppose you want to revise the previous subset selection criteria, all Senators up for reelection **between 1984 and 1986.** Of these you want only those whose last names begin with "W", and who have been added to the data base in the last 30 days.

STEPS:

1. With the Perfect Filer diskette on drive A of the computer and the data base diskette on drive B, call up the FILER program:

        A> filer <CR>
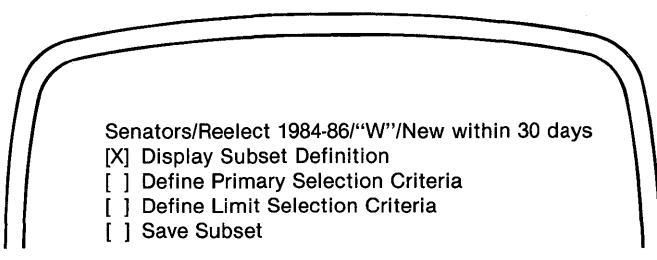
2. After verifying the date, select the Define Subset option of the FILER main menu, followed by the option 'Review/Revise Subset' of the second level menu.

   Perfect Filer will present a list of all currently defined subsets. Select Senators for reelection in 1984.

3. Perfect Filer asks if you want to change the description (name) of the subset. A description up to 57 characters long can be entered:

              Senators/Reelect 1984-86/"W"/New within 30 days

   Perfect Filer responds with the display:
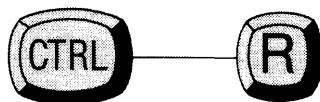
        Senators/Reelect 1984-86/"W"/New within 30 days
        [X] Display Subset Definition
        [ ] Define Primary Selection Criteria
        [ ] Define Limit Selection Criteria
        [ ] Save Subset

4. Select the second option 'Define Primary Selection Criteria'.

   Perfect Filer presents the data record holding the original subset selection criteria.

5. Move the cursor to the 'lastname' field and enter "W*". This will cause Perfect Filer to select every data record whose last name begins with "W".

6. Move the cursor to the field Up for reelection: 1984. Position the cursor on the "8", and give the RELATIONAL OPERATOR command,

   Perfect Filer responds with the display:

```
            Select the relationship of the subset
                to the data being entered:
        [ ] Equal
        [ ] Greater
        [ ] Less
        [X] Greater or Equal
        [ ] Less or Equal
        [ ] Not Equal
```

7. Select the fourth option 'Greater or Equal'. This will cause Perfect Filer to select every member record showing a reelection date of 1984 or later.

8. Now escape to the previous menu and select the third option, 'Define Limit Selection Criteria'.

   Perfect Filer responds with a **blank data record.**

9. Move the cursor down to the Up for reelection: 19____ field and enter "86", afterwards giving the RELATIONAL OPERATOR command:

   Perfect Filer again presents the list of relational operators (see Step 6).

10. Select Less or Equal to indicate all records holding a date less than or equal to 1986, and then escape to the previous menu.
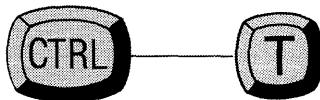
    You have just used two separate data records to define upper and lower numeric limits for the Up for reelection field. Perfect Filer will now extract all members who are up for reelection between 1984 and 1986.

11. Since you have one more modification to make to the primary selection criteria, select the second option again, Define Primary Selection Criteria.
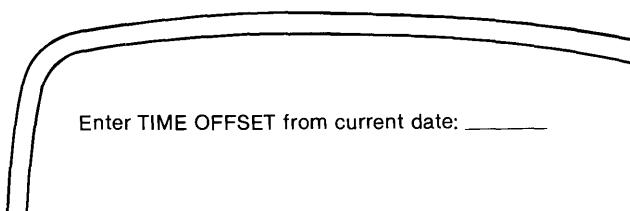
    Perfect Filer redisplays the first data record.

12. Move the cursor to the last field on the screen, the 'Date Entered' template. You wish to specify every member who has been entered into the data base within the last 30 days from today ("today" meaning whatever day you happen to extract the subset from the data base).

Making sure the cursor is positioned on the **first** field in the data entered template, hit the TIME OFFSET command, Control-T:

Perfect Filer responds with the message:

Enter TIME OFFSET from current date: _____

13. The time offset in this case will be "–30" (**minus thirty**).
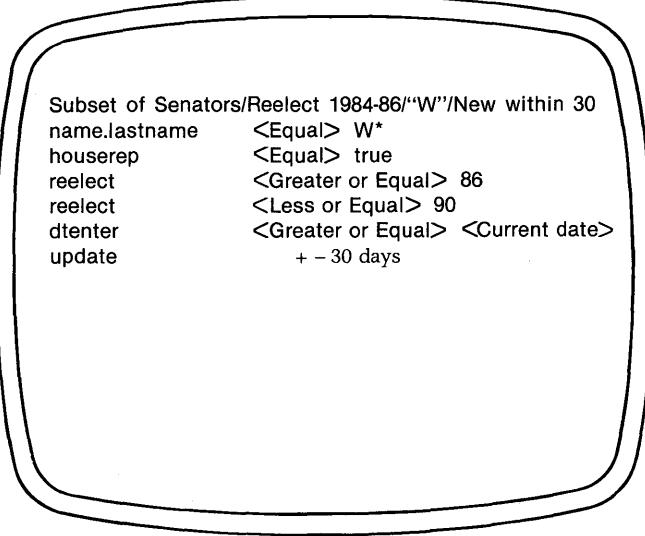
Perfect Filer immediately returns you to the data record holding the primary selection criteria. Notice that the code "To-da-y" has been entered into the 'date entered' template, signaling that the TIME OFFSET command has been invoked for this template.

14. Now give the RELATIONAL OPERATOR command, Control-R, selecting afterwards the option Greater or Equal.

Perfect Filer again returns you to the data record. According to this definition, Perfect Filer will now select all members who have been entered into the data base within the last 30 days.

Your revision of the subset selection criteria is now complete. Check the subset definition display. Enter Escape and select Display Subset Definition, printing to screen only.

The display should look like this:

```
Subset of Senators/Reelect 1984-86/"W"/New within 30
name.lastname      <Equal>  W*
houserep           <Equal>  true
reelect            <Greater or Equal>  86
reelect            <Less or Equal> 90
dtenter            <Greater or Equal> <Current date>
update                + – 30 days
```

15. The final step is to save the changes you have made. Select the last option, Save Subset.

———————— **END OF TUTORIAL** ————————

Chapter VIII
DEFINING PRINTER FORMS

A printer form is the paper, envelope, label, or other paper medium onto which letters and addresses will be printed. Whenever you generate mail you must specify onto what sort of form you will be printing. Perfect Filer provides the following standard printer forms: one inch one-across labels, single sheet letters, single envelopes, continuous letterhead, and continuous envelopes.

It should be noted that printer forms are used exclusively for generating mail.

PRINTER FORM CHARACTERISTICS

To define a printer form you merely specify its characteristics. There are five characteristics in all, but not all are applicable to any particular form. You must specify only those characteristics that are relevant to the form you are defining. Default values are provided where appropriate.

The printer form characteristics are:

Left Margin   The left margin applies only to printer forms which will be used for letters or other similar documents. Printing begins at the left margin you specify. The left margin must be entered in **tenths** of an inch. The default left margin is 1.5 inches.

Right Margin   The right margin applies only to printer forms which will be used for letters or other documents. When the '$<$format$>$' command is invoked (see Appendix B), no word will begin after the right margin, and any word containing a vertical bar "|" (see Appendix B) will be hyphenated if it extends past the right margin. The right margin must be specified in **tenths** of an inch from the **left** edge of the page. The default right margin is 7.0 inches.

Default Salutation   The default salutation applies only to printer forms which will be used for letters. When a salutation command is specified in an input file (e.g. a form letter, see Chapter III), and no name is entered for the data file member specified as the recipient, then the default salutation specified in the printer form will be used. The default salutation of the printer form is "Dear Person", but you may specify whatever default salutation that you wish.

Continuous Form   If you are using continuous forms (i.e. forms attached to pinfeed paper), you must select the 'continuous forms' option when defining the printer form. Perfect Filer will ask you to specify the number of lines in a single form. For most printers, there are six lines to an inch. Calculate the number of lines by measuring the distance in inches from the top of one form to the top of the one beneath it and multiplying by six. The continuous forms option defaults to OFF.

Label Dimensions When defining a printer form for labels, you must specify the number of labels across the page, as well as the vertical distance between labels. Label forms with more than one label across are frequently used with 'line' printers which print an entire line at a time. The vertical distance between adjacent labels (the distance between the top edge of one label and the top edge of the label beneath) should be entered in the number of printer lines. Label width is expressed in 'characters'. For example, a label three inches wide would be '30 characters' (at 10 characters per inch for a 10 pitch printer).

Predefined Printer Forms

Perfect Filer supplies the following predefined printer forms for use with its two prestructured data bases, Individual Member Data Base and Organizational Data Base. They are specified here for your convenience in transferring them to data bases that you create. However, it should be noted that they may not be suitable for many of the non-standard printer forms being sold today.

One Inch One-Across Labels Form Height = 6 lines
Label Forms
1 Label Across

Single Sheet Letters Left Margin = 1.5 in.
Right Margin = 7.0 in. (From left edge)
Default Salutation = Dear Person
Separate Sheets

Single Envelopes Left Margin = 0.0
Right Margin = 7.0 in. (From left edge)
Default Salutation = Dear Person
Separate Sheets

Continuous Letterhead Form Height = 66 lines
Left Margin = 1.5 in.
Right Margin = 7.0 in. (from left edge)
Default Salutation = Dear Person
Continuous Forms

Continuous Envelopes Form Height = 21 lines
Left Margin = 0.0 in.
Right Margin = 7.0 in. (From left edge)
Default Salutation = Dear Person
Continuous Forms
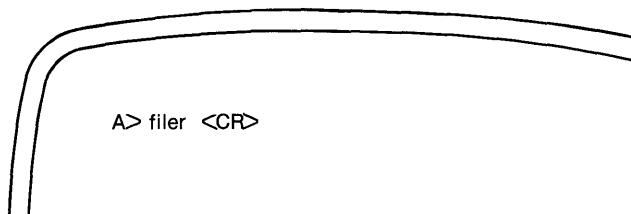
DEFINING A PRINTER FORM
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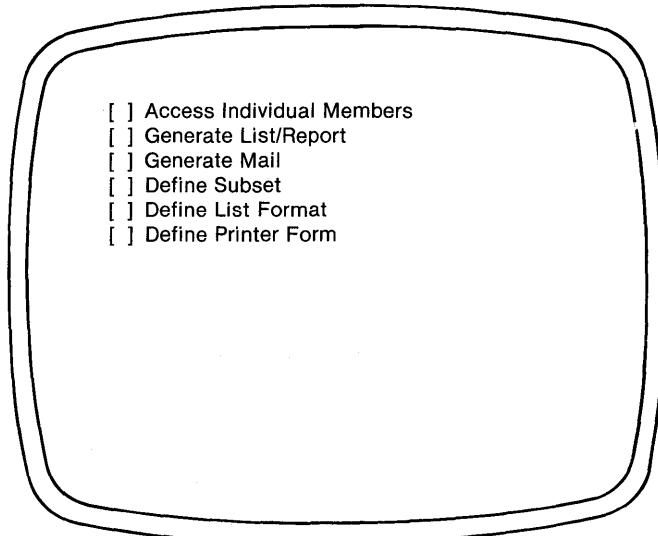
This tutorial will define a printer form for continuous three-across labels.

STEPS:

1. Insert Perfect Filer's system diskette on drive A of your computer and your data base diskette on drive B.

2. Call up Perfect Filer's FILER program by typing:

```
A> filer  <CR>
```
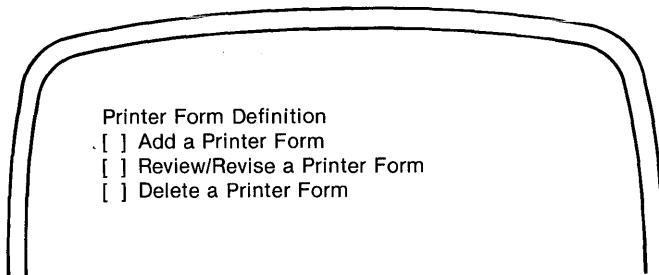
Perfect Filer displays the top level menu of the FILER program:

```
[ ] Access Individual Members
[ ] Generate List/Report
[ ] Generate Mail
[ ] Define Subset
[ ] Define List Format
[ ] Define Printer Form
```
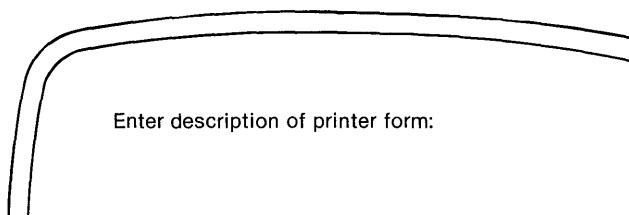
3. Select the last option, 'Define Printer Form'.

Perfect Filer responds with the following display:

```
Printer Form Definition
.[ ] Add a Printer Form
[ ] Review/Revise a Printer Form
[ ] Delete a Printer Form
```

4. Select the first option, 'Add a Printer Form'.

Perfect Filer responds with the message:

```
Enter description of printer form:
```
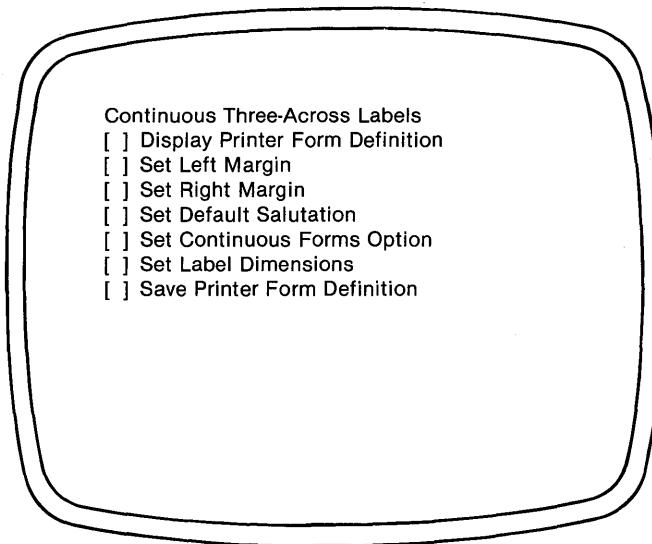
5. You are defining a continuous three-across label, so type:

<div align="center">

Continuous Three-Across Labels

</div>

Perfect Filer responds with:

```
Continuous Three-Across Labels
[ ] Display Printer Form Definition
[ ] Set Left Margin
[ ] Set Right Margin
[ ] Set Default Salutation
[ ] Set Continuous Forms Option
[ ] Set Label Dimensions
[ ] Save Printer Form Definition
```
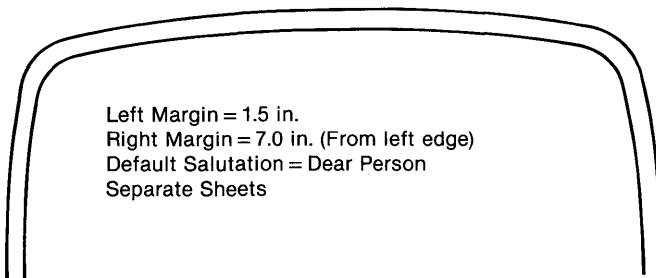
These selections represent the various printer form characteristics. They are not all used by any single printer form. For your continuous forms select only two: 'Set Continuous Forms Option' and 'Set Label Dimensions'.

6. However, before beginning, display the 'Printer Form Definition'. Select the first option on the menu (printing to screen only).

Perfect Filer presents the display:

Left Margin = 1.5 in.
Right Margin = 7.0 in. (From left edge)
Default Salutation = Dear Person
Separate Sheets
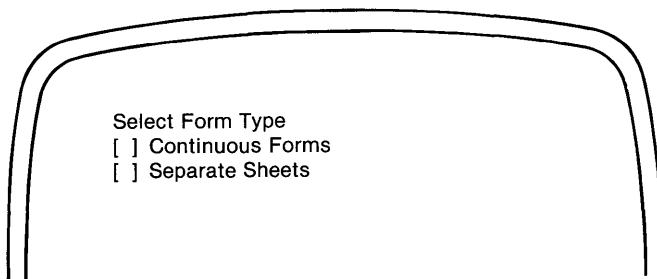
These are the default values that are initially presented each time a printer form is defined. Notice that they are exactly those held by 'Single Sheet Letters'. All of the other standard printer forms have modified these in some way or other. If you were to 'save' the printer form definition now, these values would be accepted for continuous three-across labels. To complete the definition you will have to change them considerably.

Now type any key to continue.

Perfect Filer returns to the previous display.
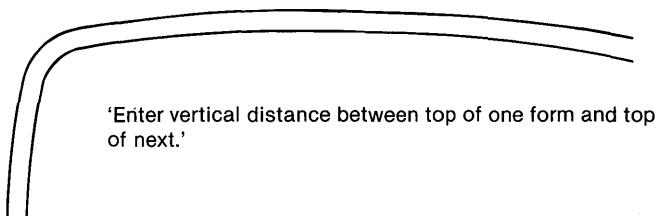
7. Since the first three options on the list do not apply to continuous three-across labels, begin by selecting the fourth option, 'Set Continuous Forms Option'.

Perfect Filer responds with the display:

Select Form Type
[ ] Continuous Forms
[ ] Separate Sheets

8. Select 'Continuous Forms'.

   Perfect Filer responds with:

   'Enter vertical distance between top of one form and top of next.'
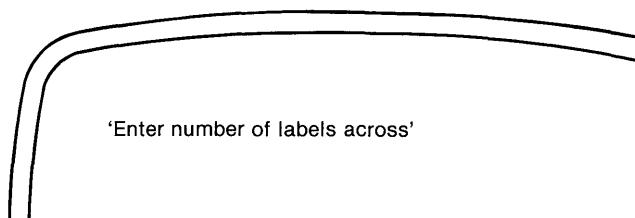
9. Suppose your forms measure exactly one inch. At six lines per inch, this amounts to a form height of six lines. Enter '6'.

   Perfect Filer returns to the previous menu.
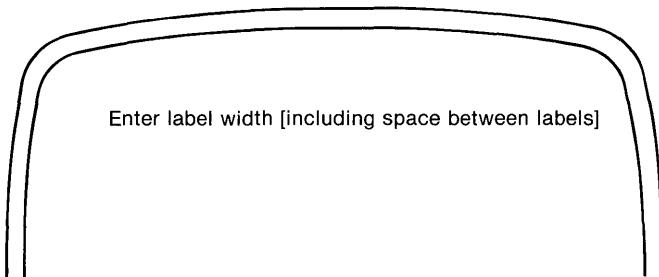
10. This time select 'Set Label Dimension'.

    Perfect Filer responds with:

    'Enter number of labels across'
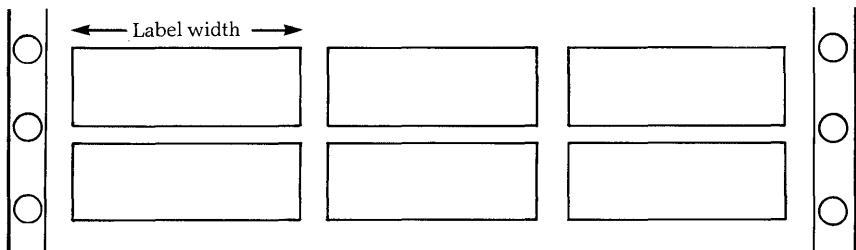
11. Enter '3'.

    Perfect Filer responds:

    Enter label width [including space between labels]
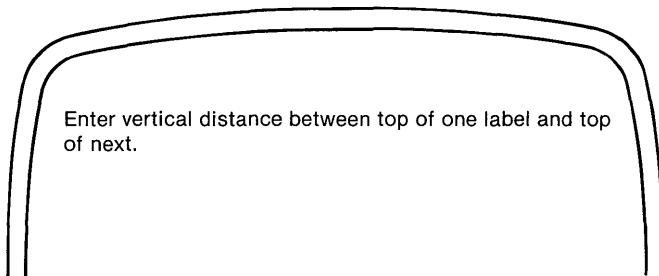
12. Label width is measured as follows:

    Label width

    Suppose that your labels measure four inches. This distance is entered in characters, so for a 10 pitch printer it will be 40 characters. Enter '40'.

    Perfect Filer responds:

    Enter vertical distance between top of one label and top of next.
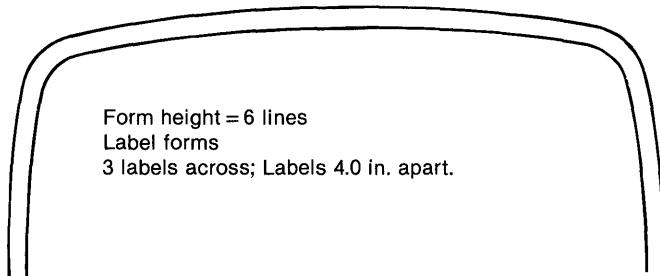
13. Enter '6' again.

    Perfect Filer returns to the previous display.

14. This completes the definition of a continuous three-across label printer form. Before saving, display the printer form definition. Select the first option (printing to screen only). It should look like this:

```
Form height = 6 lines
Label forms
3 labels across; Labels 4.0 in. apart.
```

Notice that Perfect Filer has eliminated all of the standard default values, none of which were applicable to three-across labels.

15. Return now to the previous menu and select 'Save Printer Form Definition'.

    Perfect Filer saves the printer form (it will later appear as a menu selection during mail generation), and returns you to the menu in Step 3, where you can add another printer form if you wish.

————————— **END OF TUTORIAL** —————————

Chapter IX
MOVING DATA

Introduction

Perfect Filer provides a utility program for use in transferring information from one data file to another. The program, called MOVE, has the following applications.

Modifying Data Files

After you have begun entering individual member records onto your data base, you may need to change the format of the data record. You may have overlooked a particular field that you now realize is crucial for the kind of member information you are including. Modifying a data record after member records have been added to the data base requires first producing a backup, or copy, of the data base. After making the desired changes in the format of the data record transfer the member information from the backup to the modified data base using the MOVE program.
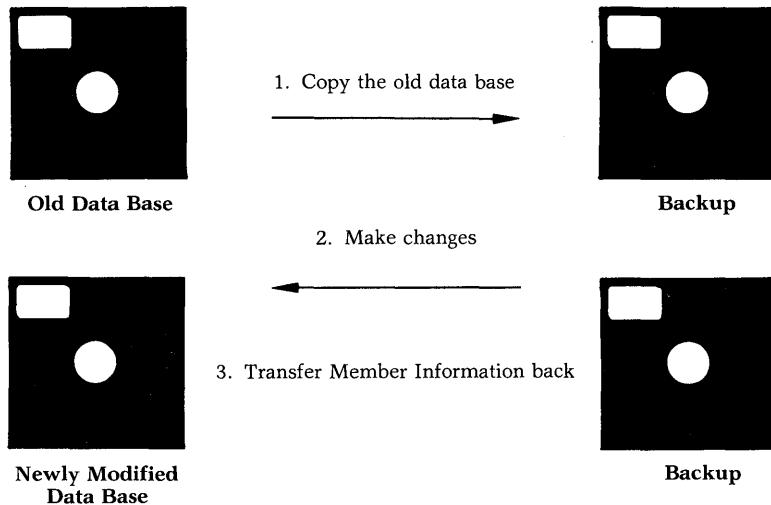
Managing Large Mailing Lists

When managing large mailing lists that are updated frequently, it is convenient to maintain two data bases, one for the 'current month' and one for the 'year-to-date'. At the end of each month, the records from the current month are added to the year-to-date diskette using the MOVE program. The current month diskette is then reinitialized, using the 'Reinitialize Date Base Subsystem' option of the CREATE program. That is to say, all individual member information is erased from the current month diskette to make room for the new members that will be added during the next month.

Compressing unused space out of a Data Base

When member records are deleted, unused 'holes' are left in the data base. As well, when a member is revised by adding more data, the record must sometimes be relocated at the end of the data base, creating a hole in its original position. These unused holes, which in a large, heavily used data base, can occupy considerable space, can be removed in a manner similar to the above:

- Produce a backup of the data base;

- Reinitialize the original data base using the Reinitialize Data Base Subsystem option of the CREATE program;

- Replace member records from the backup disk to the reinitialized data base using the MOVE program.

1. Copy the old data base

Old Data Base   **Backup**

2. Make changes

3. Transfer Member Information back

Newly Modified   **Backup**
Data Base

STEPS:

1. Copy the old data base (drive 'A') to a backup disk (drive 'B').

2. Make changes in the original data record format and reinitialize the data base.

3. Using MOVE, transfer the member record information from the backup disk to the newly modified data base.

How MOVE works

When transferring information from one data base to another, MOVE compares the field tags in the source data base with the field tags in the destination data base. If a tag at the source matches a tag at the destination, then data is copied between the corresponding fields.

The following system files are normally affected by reinitialization.
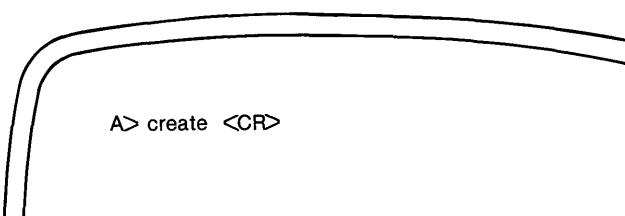
database	listform.sav
hashtab	lfrmdesc.sav
ss.sav	mailform.sav
sslist.sav	mfrmdesc.sav
ssdesc.sav	

MODIFYING A DATA RECORD USING MOVE

TUTORIAL

Assume that you want to modify the data record which defines the data base U.S. Senators and Representatives. You have already begun to enter member records into the data base, and wish that none of this information be lost or disturbed during modification.

STEPS:

1. Make a copy of the diskette containing the data base.

2. You can now alter the data record that defines the data base without losing any member information, using Perfect Filer's CREATE program. The selections are:

A> create <CR>

"b" (the drive holding the old data base)

[Modify Existing Data Base]

[Define Data Display Screen]
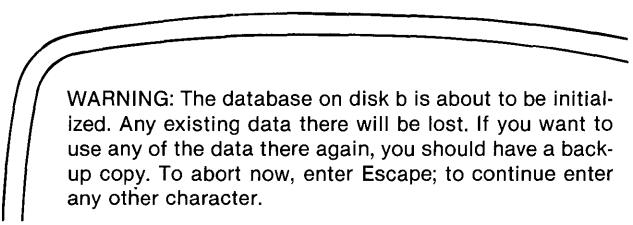
Perfect Filer produces on the screen, ready to be modified, the blank data record for the U.S. Senators and Representatives data base.

Suppose you want to enter two status fields indicating the sex of the congressperson. These fields appear just after the field indicating age and will look like this:

Male: [ ]   Female [ ]

3. Using the steps outlined in Chapter V, page 15, insert a line into the data record and add the two status fields as shown.

4. After you have finished modifying the data record, Escape to the previous menu and select the Save Data Base option.

    Perfect Filer responds with the following message:
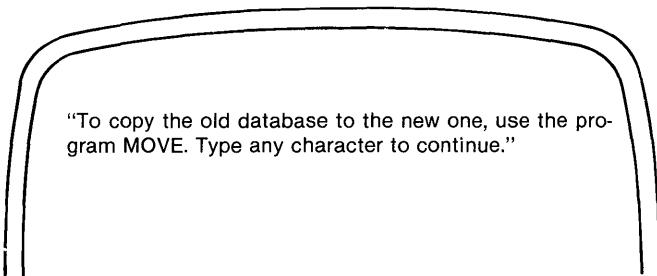
    > WARNING: The database on disk b is about to be initialized. Any existing data there will be lost. If you want to use any of the data there again, you should have a backup copy. To abort now, enter Escape; to continue enter any other character.

5. Since you have already safely stored all of the member data on a backup disk you can proceed with the reinitialization of the data record. Type any character.

    Perfect Filer immediately begins reinitializing the data file, displaying to the screen as it does, a continuous listing of fields, templates, tags, system parameters, etc.

    To accommodate the two new status fields that you have added, Perfect Filer reshuffles all of the fields on the data record. When it has completed reinitialization, Perfect Filer displays the message:

    > "To copy the old database to the new one, use the program MOVE. Type any character to continue."
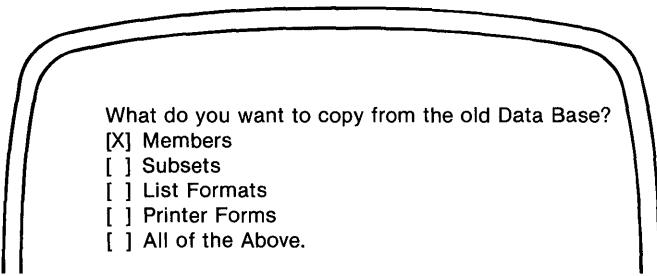
6. Type any character and then Escape to the operating system command level. Call up the MOVE program by typing:

```
A> move  <CR>
```

7. MOVE comes on-line and Perfect Filer asks for the 'target data base', that is, the data base that you have just finished modifying, and which you will copy **to.** It is on disk drive B.

8. Perfect Filer than asks for the 'source data base'. This is the backup which you will be copying **from.** You will need to switch the Perfect Filer program diskette with the diskette containing the old data base.

Perfect Filer responds with the display:
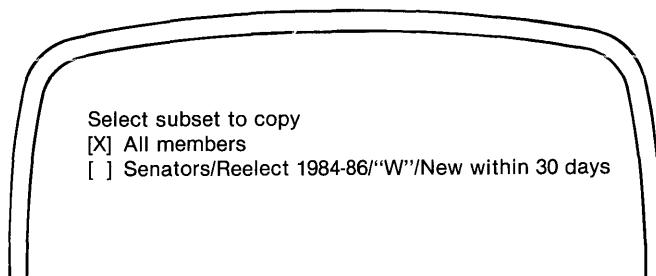
```
What do you want to copy from the old Data Base?
[X] Members
[ ] Subsets
[ ] List Formats
[ ] Printer Forms
[ ] All of the Above.
```

These options are provided in case you wish to discard subsets, list formats, and printer forms that are now obsolete due to the changes you have made to the data record. Though you can select only one option at a time, Perfect Filer will return to this menu until you have selected all that you want.

In this case, the changes were minor and did not affect the other subsystems. Select 'All of the above'.

9. Perfect Filer responds with the display:

```
Select subset to copy
[X] All members
[ ] Senators/Reelect 1984-86/"W"/New within 30 days
```

These subset selections are provided for those cases in which you might want to copy only certain members to another disk. For this exercise, select 'All members'.

Perfect Filer begins copying member information from the backup disk to the newly modified data base.

Had you **deleted** any fields of the old data base, the member information in those fields would, of course, have been lost. None of the original members will have the new status fields indicating 'sex' checked, and so when the copying is done, you will have to go back through the entire data base, adding this information to each member record.

When it has finished copying the member information back to the revised data base, Perfect Filer returns you to the menu displayed in step 8. It does this for those instances in which you may have elected to transfer more than one item on the data base, but not All of the above.
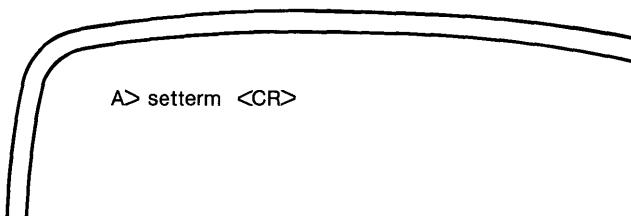
When finished copying everything to the new data base, switch the Filer diskette with the database diskette in Drive A and enter Escape to quit the MOVE program.

——————————— **END OF TUTORIAL** ———————————

Appendix A
INSTALLING PERFECT FILER

Unless Perfect Filer has been pre-installed for your computer, you must specify to the system what make and model of computer you are using.

To do this, insert the Perfect Filer system diskette into drive A of your computer and call up the system program 'setterm', (for set terminal). After the operating system prompt, type setterm, followed by a carriage return:

```
A> setterm  <CR>
```

Perfect Filer will respond with a selection menu of computer types and models. Select your model.

From an internal directory of computer makes and models, Perfect Filer automatically obtains the information it needs regarding your terminal, storing this information in a file called 'terminal.def'. This file, terminal.def, must hereafter be present on all diskettes containing the Perfect Filer system programs.

Following successful execution of the setterm program, you are ready to begin using Perfect Filer. If your computer is not on the list of defined terminals, then you will need to use the 'defterm' program.

System Backup Disks

One of the most important steps to take before beginning to use Perfect Filer is to make backup disks, or duplicate copies, of the Perfect Filer system programs. Over time, and with constant use, a disk will wear and deteriorate, causing irregularities and malfunctioning in the program. To guard against this occurrence, never work with your original Perfect Filer system diskettes. Use these only to produce new copies for everyday use.

Data File Backups

In addition to backup disks of the Perfect Filer system programs it is important for you to develop the habit of producing backup disks of every data file you create. Since accidents can and do happen, this is the easiest and safest method of insuring against irreplaceable losses of information. Because your data file will constantly be changing as you enter and delete data, it will be necessary to follow a definite routine of producing backups. The following backup procedure is recommended for any data file that is updated on a daily basis:

1. Label four diskettes with the days of the week, Monday through Thursday. Label two other diskettes 'Friday-a' and 'Friday-b'.

2. At the end (or start) of each day, Monday through Thursday, copy your master data file onto the appropriate diskette.

3. On Friday, copy the data file onto either the Friday-a or Friday-b diskette (alternate between these), afterwards bringing it home with you.

4. On Monday bring the older of the two Friday diskettes back to the office to be recopied the following Friday.

With this procedure, not more than one day's work will be lost in a minor accident (e.g., computer failure), and no more than one week's work will be lost in a major catastrophe (office fire).

Appendix B
FORMATTING COMMANDS

Perfect Filer offers the following format commands with which you may format a letter or document. All of these commands, except the vertical bar and backslash, must be enclosed in angle brackets ('<' and '>') to distinguish them from other text in the letter.

Text Formatting Commands

\<format\>

Begin formatting. This format command instructs Perfect Filer to start arranging the text in the input file into paragraphs. When formatting is in effect, paragraphs will be filled to the right margin specified in the printer form specification (see Chapter VIII), and words containing a 'Vertical Bar' (see below) will be hyphenated as necessary. Each word will be followed by one space, except those words which end sentences, which will be followed by two spaces.

\<unformat\>

End formatting. The unformat command turns off the formatting that is activated by the \<format\> command.

Vertical Bar '|'

Conditional hyphenation. The vertical bar should be inserted into long words to indicate where they may hyphenate. The word 'constitution' might, for example, be entered as con | sti | tu | tion. The vertical bar will never appear in the letters or documents that are output. Its only effect is to allow hyphenation of a word which extends past the right margin.

\<paragraph\>

Begin a new paragraph. This is the only way to begin a new paragraph when formatting is in effect.

\<newline\>

Begin a new line. The newline command is the only way to force a new line when formatting is in effect.

\<under\>	Begin underlining. Underlining is accomplished by inserting a backspace and underscore after each non-blank printing character. To turn off underlining, use the \<no-under\> command.
\<nounder\>	Ends underlining begun with the ' \<under\>' command.
Backslash '\\'	Treat next character literally. Whenever the backslash command is encountered, the following character is output without any special interpretation. For example, the backslash should be used when a period appears in the middle of a sentence, thus preventing the system from interpreting the period as the end of a sentence and inserting two spaces after it.

The following illustrations show a sample formatted letter and the output it will generate.

```
    <today>

    <name>
    <address>

    <salutation(name)>
    <format>
    <paragraph>
We are currently considering
expanding our Cromemco computer
by adding a hard disk. I understand that
    <address.organization>  markets a hard disk
which is com|pat|ible with the CP/M
operating system and the S-100 bus.
If this is the case,
I would appre|ciate your sending me
complete speci|fica|tions of your system,
includ|ing de|tails on inter|facing it with
Cromemco computers.
    <newline>
    <paragraph>
Thank you for your attention in this matter.
    <unformat>

    Sincerely,

    James Quigley
    Vice President, Data Processing
```

June 30, 1982

James K. Morrow
Morrow Designs
5221 Central Avenue
Richmond, CA 94804

Dear Mr. Morrow:

      We are currently considering expanding our Cromemco
computer by adding a hard disk. I understand that Morrow Designs
markets a hard disk which is compatible with the CP/M operating
system and the S-100 bus. If this is the case, I would
appreciate your sending me complete specifications of your
system, including details on interfacing it with Cromemco
computers.

      Thank you for your attention in this matter.

Sincerely,

James Quigley
Vice President, Data Processing

Appendix C
MODIFYING SYSTEM PARAMETERS

Each time a data base is created, Perfect Filer implements a number of 'system parameters', which govern the various program files that manipulate the data base. If you are using a dual floppy disk system, there probably will not be any reason to change the values of these parameters. However, if you have a hard disk system, or some non-standard configuration, you may wish to modify them. The system paramaters described below can easily be modified through Perfect Filer's CREATE program.

Sort Directory

When sorting a large data base, Perfect Filer may not have enough room in machine memory to successfully perform the sort. In such a case an external sort routine is used. The external sort uses a number of temporary intermediate files, which it places in the 'sort directory'. The default sort directory is located on the B disk (the data base disk). If you are using a hard disk drive, you will want to make that the sort directory. Also, if your data base, which is also on disk B, becomes too large to allow room for the sort files, then you will have to move the sort directory to another disk.

Maximum number of members expected

This value sets the number of 'buckets' in the hash table directory. One need not be too concerned about setting this parameter unless a huge data base is planned. In addition, there is very little system degradation in having a hash table directory somewhat larger than the actual data base size. Do not be too concerned about adjusting this value if the data base is a small one.

When displayed, the data base size may be somewhat larger than the value that was entered. This is because the hash table size must be a prime number. The system selects the next prime number after the value you specify.
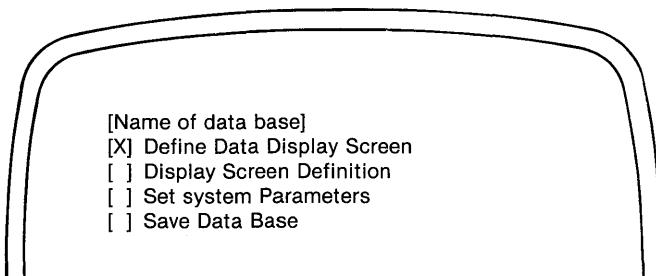
Data Base Update Interval

As new members are added to the data base, they are written to disk and entries are made in the hash table. Should the system fail while new members are being added, it is possible that some data will be lost because the data base storage area was not properly closed. To guard against losses of a large number of new entries, the system closes and reopens the data file storage area after a certain number of new entries. This number, the 'data base update interval', is initially set to five (default).

Appendix D
DISPLAYING TAG NAMES

The tag names of data fields are easily displayed using Perfect Filer's CREATE program.

1. With the data base diskette on drive B, and the Perfect Filer system diskette on drive A, call up Perfect Filer's CREATE program, selecting the 'Modify Existing Data Base' option of the top level menu. Perfect Filer responds with the following display:

```
[Name of data base]
[X] Define Data Display Screen
[ ] Display Screen Definition
[ ] Set system Parameters
[ ] Save Data Base
```

2. Select the second option, 'Display Screen Definition', followed by the option 'Send Output to Printer'. The printout you get should look something like the listing for Perfect Filer's prestructured Individual Member Data Base (see Chapter I, page 14).

Appendix E
TEMPLATES

INTRODUCTION

A template is a data structure used to simplify the process of data record creation and formatting of output. The eight templates available in Perfect Filer are described below in terms of following four characteristics:

Screen Configuration

This figure indicates how each template will look on the screen. The words and characters constitute the data descriptors, while underscores represent data entry positions.

Template Components

These are the data fields which comprise the template. A table showing the distinguishing characteristics lists each data field by its tag name.

Template Output Format

When templates are output in lists and mail, they are first formatted, sometimes differently than they appear on the screen.

Sort Precedence

When a template is used as a sort key, certain fields from the template are extracted in a predetermined order, or 'sort precedence'. (Note that some keys may not be used as sort keys.)

DATE TEMPLATE

Screen Configuration

____/____/____

Date Template Components

Tag	Field Type	Length	Minimum	Maximum
month	Numeric	2	1	12
day	Numeric	2	1	31
year	Numeric	2	0	99

Note: The date template is displayed on a data record in the standard American abbreviated form: the month in the first field, the day in the second and the year in the third. The fields are separated by slashes. Data may be entered into the field in any format. The following are all valid representations of the date March 15, 1981: 3 /15/81, 03/15/81, 3/15/81.

Output Format

When a date template is output the month field is first translated to its English language equivalent. It is followed by a space and then the day field, followed by a comma, a space, the string "19", and then the year. For example, the date "03/01/81" would be output as "March 1, 1982".

Sort Precedence

If a date template is specified as a sort key, the records are sorted first by year, then by month, then by day.

ADDRESS TEMPLATE

Screen Configuration

Organization: _____

Address1: _____

Address2: _____

City: _____ State: _____ Zip: _____

Country: _____

Address Template Components

Tag	Field Type	Length	Contents
organization	Alphanum.	60	Name of employer or other org.
staddr1	Alphanum.	50	First Line of Street Address
staddr2	Alphanum.	50	Second Line of Street Address
city	Alphanum.	25	City.
state	Alphabetic	2	State.
zip	Alphanum.	9	Zip Code.
country	Alphanum.	30	Country.

Output Format

When an address template is output, only the data which is actually present is included. If no organization name is present, for example, then the first line of the street address will be output first. Similarly, if there is no second street address line, the city will follow immediately after the first address line. If a state field is present, then a comma is appended to the city and the state is added. If a country is present, it is included on a new line.

Sort Precedence

The address template itself cannot be used as a sort key. However, the fields within it can be used as sort keys. See Chapter I, page 8 for details on referencing template fields.

NAME TEMPLATE

Screen Configuration

First Name: _____ Middle: _____ Last: _____

Title1:_____Salutation: (Dear)_____Title 2: _____

Name Template Components

Tag	Field Type	Length	Contents	Example
firstname	Alphabetic	17	First Name	John
middlename	Alphabetic	15	Middle Name	Q.
lastname	Alphanum.	20	Last Name	Public
title1	Alphanum.	11	Title preceding name	Mr.
salutation	Alphanum.	11	Salutation	John
title2	Alphanum.	6	Title following name	Jr.

Output Format

The name template can be output in two different formats:

Standard Name Format

The standard format for the name template is used in addresses and reports. This option is invoked by inserting the template tag in the output file as described in Chapter III, page 2. In the standard format, the first name is output followed by a space. Finally, the last name is output. If there is a 'title2', it will be appended to the last name.

Note: If the last name begins with a digit, then no output will be produced at all. This allows for the use of the last name field for serial numbers (see Chapter I, page 11).

Salutation Name Format

The salutation name format is used in form letters. It is invoked by using the special tag form ⟨salutation(tag of name template)⟩ (see Chapter I, page 8). If, on a member record, data has been entered in the 'salutation' field, then this data is used as the salutation. If not, then the 'title1' field and the 'lastname' field are used. If the 'salutation' field and the 'title1' field are blank, or if the 'lastname' field is blank, then the default salutation that is defined in the printer form is used (see Chapter VIII, page 3).

If the example in the table on the previous page were output using the salutation command, it would appear as 'Dear John'. If the salutation field of the template were blank, the output would be 'Dear Mr. Public'.

Sort Precedence

If the name template is specified as a sort key, the records are sorted first by the last name, then by the first name, then by the middle name.

PHONE NUMBER TEMPLATE

Screen Configuration

Phone: (   )   -

Phone Number Components

Tag	Field type	Length	Contents
areacd	Numeric	3	Area code
phnum	Numeric	7	Phone number

Output Format

If an area code is present then its output is enclosed in parentheses. The phone number itself is output with a hyphen between the third and fourth digits.

Sort Precedence

The phone template **may not** be used as a sort key.

TIME TEMPLATE

Screen Configuration

_____:_____ AM [ ]   PM [ ]

Time Template Components

Tag	Field Type	Length	Minimum	Maximum
hour	Numeric	2	0	11
minute	Numeric	2	0	59
amst	Status	1	Indicates time is AM	
pmst	Status	1	Indicates time is PM	

Output Format

On output, the hour field is separated from the minute field by a colon and followed either by AM or PM (The colon and minute field are omitted if the minute field is 0.)

Sort Precedence

When the time template is used as a sort key, records are sorted first by AM or PM, then by hour, then by minute.

MONEY TEMPLATE

Screen Configuration

$_____ . ____

Money Template Components

Tag	Field Type	Length	Minimum	Maximum
dollars	Numeric	4	0	9999
cents	Numeric	2	0	99

Output Format

A dollar sign ($) is output first, followed by the dollar field, a period, and the cents field.

Sort Precedence

When a money template is used as a sort key, the records are sorted first by dollars and then by cents.

SOCIAL SECURITY TEMPLATE

Screen Configuration

_____ - _____ - _____

Template Components

The social security template is composed of a single numeric field tagged 'ssnum', and is used only to facilitate input and output.

Output Format

The social security number appears on output exactly as it does on the data record, with hyphens after the third and fifth digits.

Sort Precedence

The social security number template **may not** be used as a sort key.

Appendix F
PERFECT FILER COMMANDS

SYSTEM-WIDE COMMANDS

Most commands in Perfect Filer can only be used in one or the other of the three system programs: CREATE, FILER, and MOVE. However, a few commands are used in all three. These are:

ESCAPE Key
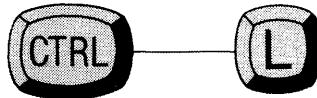
The Escape key (labeled 'ESC' on many keyboards) allows the user to 'back up' or 'escape' to a previous level of program execution. The Escape key is normally used when a command procedure has been completed.

The Escape key is also used to abort output, either to the CRT, the printer, or to a file.

Use the Escape Key to quit using Perfect Filer and to return to the operating system.

The RESET SCREEN Command

Should the screen display become disarranged (which can happen, for instance, if a key is hit during program output), it can be reset using this command.

The SPACE BAR
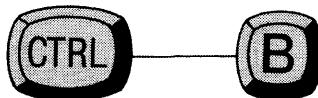
The space bar erases characters. Use it to clear 'status' fields and to correct typing errors.

CURSOR COMMANDS

On most computer terminals the cursor is moved by using 'arrow keys'. On some terminals, however, arrow keys do not produce the standard character codes recognized by Perfect Filer. Furthermore, some terminals have no arrow keys at all. If the arrow keys on your terminal do not function with Perfect Filer, the following cursor commands are provided. These commands are identical to those used by the Perfect Writer word processing system.
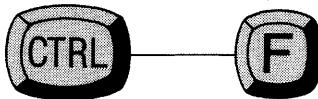
BACKWARD CHARACTER

Causes the cursor to move back one character on a line.
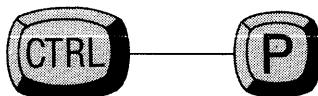
FORWARD CHARACTER

Causes the cursor to move forward one character on a line.
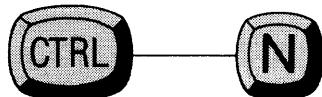
PREVIOUS LINE/FIELD

Causes the cursor to move up one line, or to the previous field.

CTRL — P

NEXT LINE/FIELD

Causes the cursor to move down one line, or to the next field.

CTRL — N

CARRIAGE RETURN

Causes the cursor to move DOWN a menu selection or to the next field.

BACKSPACE Key
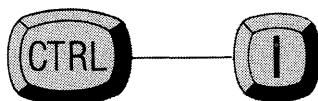
Causes the cursor to move UP a menu selection.

CREATE PROGRAM COMMANDS

The following commands are available during execution of the CREATE program.
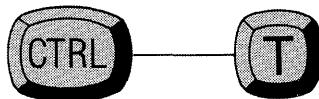
INSERT FIELD Command

Causes a data field to be inserted at the position of the cursor. Data fields may be inserted anywhere on the screen except between the fields of a template, and cannot be made to overlap one another.
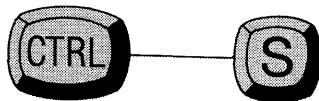
INSERT TEMPLATE Command

Causes a template to be inserted at the position of the cursor.

DELETE FIELD Command
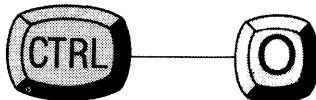
Deletes the data field or template marked by the position of the cursor.

INSERT LINE Command
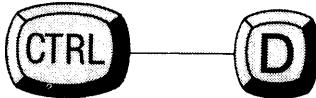
Inserts a blank line at the position of the cursor.

When a line is inserted, all lines beneath the cursor are pushed down one line, and the last line on the screen is lost. A line may not be inserted if data fields exist on the last line. Lines may be inserted then only by deleting lines elsewhere on the screen.

CTRL — O

DELETE LINE Command

Deletes the line marked by the position of the cursor. Any data fields or templates on the line must be deleted before the line may be deleted.

CTRL — D
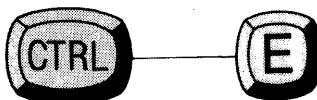
FILER PROGRAM COMMANDS
The following commands are available during execution of the FILER program:
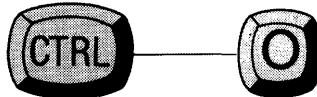
The ENTER MEMBER Command
Causes a new data record to be entered into the data base.
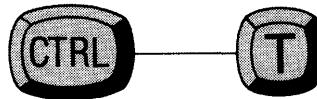
The FIND OTHER MEMBER Command
Finds other members having the same Member ID (available only when **revising** a member).
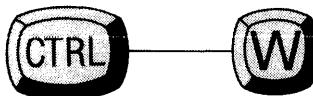
The INSERT DATE Command
Causes the current date to be inserted into a 'date template'.

Note: Position the cursor at the beginning of the date template before typing the INSERT DATE command. Following insertion, the cursor automatically moves to the next field.

The PRINT MEMBER Command
Causes the member data record currently being displayed to be printed.
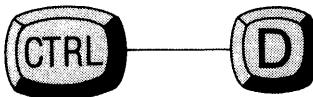
THE ABORT PRINTING Command
Hitting the Escape key will abort output to the CRT, the printer, or to a file.
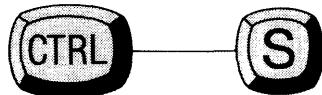
The DELETE MEMBER Command
Causes the member data record currently being displayed to be deleted from the data base.

The SERIAL NUMBER Command
Causes the next serial number to be entered into a field.
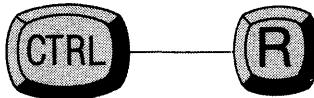
SUBSET DEFINITION COMMANDS

The following commands are available during definition of subset selection criteria:
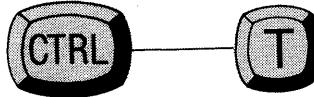
RELATIONAL OPERATOR Command

Causes a relational operator to be specified for a numeric field. These are: Equal, Greater Than, Greater Than or Equal, Less Than, Less Than or Equal, Not Equal.

The TIME OFFSET Command

During subset extraction causes the 'date entered' field on member records to be compared with today's date (i.e. the day the subset is being extracted), for the purpose of selecting member records entered onto the data base within the last day, week, or month.

Appendix G
GLOSSARY

Bottom Margin	The specification in the page format of a list that defines what the bottom margin shall be (given in lines, six lines per inch).
Continuous Forms	Printer forms, such as labels, envelopes or letterhead, which are attached to pinfeed paper so that they can be printed in large quantities without operator intervention.
CRT	A Cathode Ray Tube. The display screen of a computer terminal.
Cursor	The white block or underscore on the CRT screen which indicates where the next character will be typed.
Data Base	A collection of data records organized so that they can be easily stored and usefully accessed. In Perfect Filer each data base is stored on its own diskette in a file appropriately called 'database'.
Data Descriptor	A character, word, or words on a data record which identifies a data field.
Data Field	The basic storage unit of a data record, capable of holding a single piece of information. Four kinds of data fields exist in Perfect Filer: alphabetic, alphanumeric, numeric, and status.

Data Record	The CRT display of data fields, templates, and data descriptors, onto which individual member information is recorded.
Field Length	The total number of column spaces that a data field occupies. Data entered into a field cannot exceed the length of the field.
List	A compilation of information extracted from a data base and arranged according to a list format.
List Format	A specification which determines what information will be extracted from member records and how it will be arranged in a list.
List Format Definition Display	A display that shows in summary form the number of list format fields that have been added to a list format. Helpful in revising or changing a list format, since it displays the numbering of the list format fields.
List Format Field	The basic element used to define list formats. Types of list format fields include: a data field; a template; a character string; the name of a subset; the date the listing is made; the page number.
List Heading	In a list format a group of fields that specify how the heading shall be displayed on the list.
Member	A person, organization, object, or other item, recorded on a single data record of a data base.
Member ID	A four character code drawn from the data fields of a member record and used to identify and access that record. For organizations this ID consists of the first four letters of the company name; for persons, the first initial and the first three letters of the last name.

Member Format	In a list format a group of fields which specify how each data base member being listed will be displayed in the list.
Member Record	The information stored on a data record about a single member in a data base.
Menu	A program selection that appears on the CRT and that guides the user in the use of Perfect Filer.
Numeric Sort Key	A date or a time template, or some other numeric field that acts as a sort key. Numeric sort keys permit both 'ascending' or 'descending' sorts. In an ascending sort, members are listed from the smallest to the largest, and in the reverse order for a descending sort.
Output File	Any form letter, document, memo, etc., which is being printed or otherwise output.
Page Format	In a list format the fields and specifications that define the format of each page of a list, including the page heading, the page height, and the bottom margin.
Page Heading	In the page format of a list, those fields which define the heading that will appear at the top of each page.
Page Height	In the page format of a list, the specifications that determines the length of a page (given in lines, six lines per inch).
Printer Form	The paper forms onto which mail is generated. Printer forms can be paper sheets, envelopes, or labels, either single feed or continuous.

Record	The information stored about a single member in a data base.
Relational Operator	An arithmetic relationship that the members of a data base have to some subset selection criteria in order to be extracted into that subset. The relational operators are: Equal, Greater Than, Greater Than or Equal, Less Than, Less Than or Equal, and Not Equal.
Report	A list.
Selection Criteria	(See **Subset Selection Criteria**.)
Sort Image	The sorted order of some subset of a data base. Sort images are created by the List/Report Generation procedure of the FILER program, and are used during mail generation.
Sort Key	A data field or template by which members of a data base are sorted. Up to five sort keys may be defined for any list format. Members are sorted by each sort key in turn. When specifying a sort key, one has the option of specifying a subheading to be printed before each group of members sharing the sort key.
Status Field	A data field which may assume two values, "on" or "off". A status field is represented on the data record as a blank space enclosed between brackets, "[ ]".
String	A sequence of one or more alphanumeric characters.
Subheading	In a list a heading associated with a sort key. The subheading is generated at the top of each group of members which share the specified sort key. Subheadings typically include the associated sort key as one of their list format fields.

Subset   A group of members which share a specified group of characteristics. The characteristics which define a subset are specified by subset selection criteria. The subset consisting of 'All Members' is defined automatically by the Perfect Filer system and is presented as an option any time a subset must be selected.

Subset Selection Criteria   A data record containing the characteristics which a member of a data base must have in order to be included in a subset. Two sets of selection criteria, the 'primary' criteria and the 'limit' criteria may be used to specify a subset.

Tag   A name given to a data field or template by which the field or template will subsequently be identified by Perfect Filer. The tag may be no longer than 15 characters and may consist of any string of lower-case letters and numbers, except that it must begin with a letter.

Template   A set of related data fields grouped together for convenience, and used to facilitate the creation of data records. The following templates are available: date, time, address, name, phone number, social security number, and money.

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