TIMEWORKS®

Personal Computer Software

Data Manager with Report Writer
128 T.M.

A complete general information Storage and Retrieval System with Report Writing, Graphics, Statistics, and Label Making capabilities.

CLIENT LIST

RECORD # 117

1) NAME: Acme Industrial Tools
2) ADDR1: 1234 West Blvd.
3) ADDR2: Dept #1245
4) CITY: Anytown
5) STATE: IL
6) ZIP: 60607
7) PHONE: (312) 555-1672
8) CONTACT: John Smith
9) EXT: #2345
10) ACCT#: 1234-4567
11) CLASS: Light Industry
12) CODE1: North West
13) CODE2: US
14) LAST YEAR SALES: $23,456.34
15) TO DATE SALES: $ 6,789.67
16) LAST SALE DATE: 11/11/88

RECORD # 118

1) NAME: B-Line Industries
2) ADDR1: 1765 State St.
3) ADDR2: Suite 567
4) CITY: Williamsburg
5) STATE: OH
6) ZIP: 14567
7) PHONE: (123) 5

ADDRESS AND REFERENCE LIST

RECORD # 7

1) NAME1: Smith
2) NAME2: Mary
3) ADDR: 6700 N. Cermak
4) CITY: Chicago
5) ST: IL
6) ZIP: 76890
7) PH: 585-5762
8) B–DAY: 11/30
9) AGE: 26

RECORD

1) N
2)

TIMEWORKS®

User's Manual

Data Manager with Report Writer

128.

For COMMODORE 128 Computers*

Customer Support Plan

Timeworks' Telephone Consulting Service is available to all Registered users at no charge to support your installation and ongoing operations.

To become eligible for **Timeworks'** Complimentary Customer Consulting Service, you must complete and mail the enclosed Software Registration Card.

For further details, contact your local Dealer or **Timeworks**, Inc.

Toll Free Hot Line: 1-800-323-9755.

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If you enjoy this program, try these other, equally stimulating programs from **Timeworks**, Inc.:

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7352	**Word Writer 128**
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TIMEWORKS®

User's Manual

Data Manager with Report Writer

128™

For COMMODORE 128 Computers*

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- What is a Data Base?
- Alphabetical Glossary of Terms

Welcome to DATA MANAGER 128, the complete information management system for your Commodore 128. DATA MANAGER 128 is a fast and efficient way to keep track of all types of information – customer files, inventory, address lists, market trend statistics, even phone numbers and recipes – and you can retrieve that information at the touch of a key.

DATA MANAGER's special cross-searching abilities help you find the specific records you want to work with when you want to work with them, while its powerful sort feature allows you to rearrange your records in a variety of ways. This program has been designed so that even a beginner can enjoy all of its functions.

DATA MANAGER 128 is also capable of many complex calculations, and you can view the results of your calculations on informative bar graphs and X-Charts, allowing you to see subtle trends in your data. Let's take a look at this program's features:

■ Using DATA MANAGER 128 alone:

*Pull-down menus to ease your use of this program. All menu options are clearly displayed on the screen at the press of a key.

*Full user prompting to guide you through the system.

*A fully illustrated tutorial to help you become familiar with data base formats and their components.

*Information can be retrieved quickly and printed by name, index code, date range, amount range, or by any category of information stored in the system.

*TIMEWORKS' exclusive X-SEARCH allows you to cross-search any of the categories above, quickly and easily and as many times as needed to locate the specific groups of records you require.

*TIMEWORKS' exclusive X-SORT (an advanced indexed sort
system) arranges your stored records in ascending or descending
order, alphabetically, chronologically (by date), or numerically.

*TIMEWORKS' exclusive X-CHART enables you to break
down statistical information by up to 10 indexed categories of
your choice and view your results graphically.

*Statistical analysis of numerical fields. DATA MANAGER 128
calculates and prints out the sum, average, and standard devia-
tion for any numerical field.

*Graphic representations of your statistics on colorful bar graphs
and X-Charts.

*Mathematical calculations, payroll calculations, price revisions,
and cost estimates are just a few of the calculations that this
program can perform. You can specify fields in your records as
calculated fields and the computer will automatically compute
the value of that field as you enter information into the DATA
MANAGER 128.

*Quick and easy deletion of obsolete information, which
maximizes your storage capacity.

*A manual written in easy-to-understand, people-friendly
English, with plenty of examples to make things clearer and
eliminate guesswork.

*Password protection, which prevents unauthorized access to
your confidential data.

*Generates and prints customized data reports, which can be
incorporated into text produced with the WORD WRITER 128.

*Transfers and prints text information onto labels and tags. For example, mailing labels, store price labels with descriptions, inventory tags, employee name tags, file folders, and more.

*Calculates numerical data from column to column of your reports, giving this program spreadsheet capabilities.

■ When you interface DATA MANAGER 128 with TIMEWORKS' WORD WRITER 128, you can:

*Create, address, and print individualized form letters.

*Transfer reports produced by DATA MANAGER 128's Report Writer directly into WORD WRITER 128 documents.

■ When you interface DATA MANAGER 128 with TIMEWORKS' SWIFTCALC 128 you can:

*Transfer information produced by DATA MANAGER 128 directly into columns or rows in SWIFTCALC 128.

■ What Is A Data Base?

In the last 20 years, the phrase "data base" has struck fear in the hearts of people with little or no computer experience. As if computers weren't complicated enough!

But fear not! Any collection of data, or group of data, is called a data base. Your address book is a data base. Your checkbook is a data base. The Yellow Pages is another example of a data base system. You have been working with data bases all your life. You just might not have worked with a data base on a computer.

Wherever you have a data base, you must have a data base manager and a data base management system, or the data base program would be useless. You are the data base manager of your checking account. Balancing your checkbook is the data base management system. The real power of the data base relies on the data base manager and the data base management system.

■ Alphabetical Glossary of Terms

AVERAGE: The mean of a given number of values, computed by adding those values and dividing the sum by the number of values.

BACKUP: A duplicate set of data to be used in case the original is lost, destroyed or accidentally altered.

BYTE: In computer language, the name given to eight bits of information. For our purposes, one byte = 1 character.

CALCULATION: An algebraic equation.

CHARACTER:
   Numeric: 0 through 9

   Alphabetic: A through Z

   Symbol: ! − #$%&∗ + / = ? ( )

   Alphanumeric: Any combination of numerics, alphabetics or symbols.

CHARACTER   A sequence or group of connected
STRING: characters.

CHRONOLOGICAL: By date.

COMMAND: An instruction for the computer to follow.

COMMAND KEYS: Those keys pictured at the bottom of the
                   screen that give the computer an instruc-
                   tion to follow.

CURSOR: The computer-generated square that pin-
                   points your position on the display.

CURSOR KEYS: The arrow keys on the keyboard which
                   move the cursor around the screen.

DATA: The information you enter to be
                   processed.

DATA BASE: A collection of data.

DATA BASE   The arrangement of data within a record.
FORMAT: The format can be designed by the user
                   to hold his data in labelled information
                   entry lines (called fields). This is also
                   known as a record format.

DATA BASE   The system that stores and manipulates
MANAGER: data.

DATA DISK: The disk created to store your data base
                   information.

DATA FILE: One or more similar RECORDS grouped
                   together. Ex: Your mailing list.
                   (See FILE)

DELETE: To remove from the FILE.

DOS: Disk Operating System that controls the
                            computer and disk drive operations.

FIELD: An information entry line.

FILE: One or more similar RECORDS grouped
                            together. Ex: Your mailing list. (See
                            DATA FILE)

FUNCTION KEY: The special set of keys on your computer
                            identified as **F1**, **F2**, **F3**, etc.

INCREMENT: The value that corresponds to the width
                            of a single bar in a bar chart. This value
                            is found by subtracting the lowest amount
                            in a record from the highest amount in
                            the record and then dividing by 72, the
                            maximum number of bars in a DATA
                            MANAGER 128 bar chart.

INDEX FIELD: A field in a data format used by the com-
                            puter to reference a group of data when
                            generating a graph.

INITIALIZATION: The creation of a file the first time.

INTERFACE: A connection between two systems or
                            devices.

LAST SEARCH: The most recent search performed.

MATCH: A record found by the computer in a
                            search. The computer matches the data
                            that the user has requested to the data in
                            the record.

MENU: The displayed list of options available to the user.

MM/DD/YY: The calendar date, MONTH/DAY/YEAR. EX: 03/05/88 for March 5, 1988.

PASSWORD: Your own combination of alphanumerics to identify yourself to the computer and prevent access to your information by others (a security feature).

PROGRAM DISK: The disk you purchased, containing the DATA MANAGER 128 program.

PROMPT: The line of words, located at the top of your screen, that requests your response. Ex: ENTER FIELD NUMBER?.

RECORD: One or more FIELDS linked together like a chain.

RECORD DUMP: A printout of all records in a file.

RECORD FORMAT: See Data Base Format.

REPORT COLUMN: A column that holds a specific type of information in a report. A typical 8½″ by 11″ sheet of paper may hold as many as 15 report columns.

REPORT FORMAT: The design of a report, including the type of information to be shown in each column and the column headings.

SEARCH: A systematic examination of information in a specific field of interest.

SEARCH ITEM: A group of characters within any given field that the computer will search for.

SORT: To arrange items of information in a desired sequence.

STANDARD DEVIATION: A measure of how much a value varies from the average amount.

SUM: The total of values added together.

TEXT FIELD: A type of field used only as a field title or column heading and does not except data entry.

VALIDATED FIELD: A field that has been designated not to accept the same data that has been entered in the same field in a previous record.

X-CHART (Cross-Chart):   The chart in DATA MANAGER 128 which enables you to break down statistical information by indexed categories and view them graphically.

X-SEARCH (Cross-Search):   TIMEWORKS' exclusive cross-search feature. Allows you to cross-search any categories in your DATA FILE to locate specific items.

X-SORT (Cross-Sort):   TIMEWORKS' exclusive indexed sorting feature. Allows you to arrange your stored numbers alphabetically, numerically, or chronologically.

2
The DATA
MANAGER 128
Tutorial

DATA MANAGER 128 comes complete with a tutorial to help you become familiar with data base formats and their components.

■ What is a Data Base Format?

Before you can store any data using this program, you must design a data format to house that data. Just as an architect designs a home to house people and their belongings, you must design a format that will hold your data. The format that you will construct in this tutorial looks like this:

```
┌──────────────────────────────────────────────────────────────┐
│  ┌────────┐                                                    │
│  │ CREATE │   LOAD/SAVE/REPORT   EXIT                          │
│  └────────┘                                                    │
│                                                                │
│  NAME: _____    DATE: _____             │
│                                                                │
│             SUN    MON    TUE    WED    THU    FRI    SAT   TOTAL │
│  TRANS      ___    ___    ___    ___    ___    ___    ___    ___  │
│  MEALS      ___    ___    ___    ___    ___    ___    ___    ___  │
│  GAS        ___    ___    ___    ___    ___    ___    ___    ___  │
│  REC        ___    ___    ___    ___    ___    ___    ___    ___  │
│  OTHER      ___    ___    ___    ___    ___    ___    ___    ___  │
│                                                                │
│  DAILY TOT  ___    ___    ___    ___    ___    ___    ___    ___  │
│                                                                │
│                                                                │
│                                                                │
│                                                                │
│                                                                │
│ ▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀ │
│  ◄ Arrow ► SELECT PULL-DOWN MENU   ‹ Return › ENTER PULL-DOWN MENU SELECTION │
└──────────────────────────────────────────────────────────────┘
```

A format consists of data information entry lines, called fields. Each line, or field, is titled to tell you what data is to be placed in that field. You specify the length and location of each field in your format. DATA MANAGER offers you five types of fields for your data formats.

*Alphanumeric (character) fields hold characters, numbers, and punctuation. An address field is an example of an alphanumeric field.

*Date fields contain dates in a MM/DD/YY format. For example, January 9, 1988, would be entered as 01/09/88.

*Numeric fields contain only numbers and, if you wish, a decimal point. When entering numeric fields, you must specify the number of digits to be displayed to the right of the decimal.

*Calculation fields contain the results of mathematical equations. These fields can use numbers from outside the format, numbers from fields within the format, or numbers from the previous record.

*Text fields appear as titles in your format. A column heading is an example of a text field.

The sample format you will construct with this tutorial, which is a personal expense record, contains at least one example of each field type. When you finish constructing the format, you can enter information on your personal expenses. Each time you fill out the format with information, you are creating a data record. A group of records with the same format is called a data file.

Now let's get started constructing the sample data base format.

■ Necessary Equipment

To perform this tutorial, you will need the following equipment:

*A Commodore 128 computer

*At least one 1541 or 1571 disk drive

*An 80-column monitor

*The DATA MANAGER 128 program disk

*At least one formatted data disk

■ Loading the Main Program

NOTE: Be sure to take a look at the file called UPDATE on your disk. This file contains any modifications that do not appear in the manual. To load this file, follow these steps:

● Turn on your computer and disk drive with no disk in the drive.

● Place the program disk in your drive and type DLOAD "UPDATE".

When the word READY appears on your screen, type RUN and press **RETURN**. You will then be able to view the UPDATE file or print the file on your printer.

1. Turn on your disk drive.

2. Place the DATA MANAGER 128 program disk in your disk drive (if you are using two drives, insert your program disk in drive 0).

NOTE: DATA MANAGER 128 is designed so that a single drive is as efficient as a dual drive. If you are using a dual drive, place your program disk in drive 0, and, when requested, place your data disk in drive 0.

---

3. Press the **40/80 DISPLAY** key at the top of your keyboard so that it is in the down position. Then turn on your computer and monitor. The program will load into the computer. Follow the prompts on your screen.

4. You will be given the opportunity to modify your screen colors. Follow the prompts to do so, and then press **ESC**.

NOTE: Because this program takes advantage of the 80-column capabilities of your computer, you *must* use an 80-column monitor with this program. The monitor *must* be connected to the RGBI socket on the back of your computer. Consult your computer or monitor manuals for instructions on connecting your monitor properly.

A NOTE ON PULL-DOWN MENUS: DATA MANAGER features pull-down menus to help you use this program as easily and as quickly as possible. Use the right and left cursor keys to select the menu heading you want. When the heading is highlighted, press the **RETURN** key and the menu for that heading will pull down. Use the up and down cursor keys to select the menu option you want, and then press **RETURN** again. If, after you have selected a menu, you decide not to use that menu, press the **ESC** key to select another heading.

NOTE: Use the Esc key to return to the previous screen or to escape to the menu headings. The Esc key will work only if the cursor is in the first character position of a field or data entry area, and if you have not yet entered information into that field or data entry area.

■ Initialization

1. At the top of your display, you will see several headings: FUNCTIONS, SEARCH/EDIT, STATS/GRAPHICS, PRINT/SORT, and QUIT. These are the headings for the pull-down menus in the main program. The FUNCTIONS heading will be highlighted. Press RETURN, and the FUNC-TIONS menu will appear on your screen.

2. Move the cursor to the "Initialize File" option on this menu, and press RETURN again.

3. You will now see three new menu headings at the top of the display: CREATE, LOAD/SAVE/REPORT, and EXIT.

■ Constructing the Sample Data Base Format — A Personal Expense Record

Entering Your First Two Fields

Your first task in constructing the sample data base format is to tell the computer where you want to place your fields within the format. Following are step-by-step instructions for inserting fields into the sample data base format, which is a personal expense record.

1. Select the "Insert Fields" menu item on the CREATE pull-down menu.

2. The counters in the top right corner of the screen will tell you in which line and column the cursor is located. Position the cursor in column 1 of line 3. Then press **RETURN**.

3. In response to the prompt, ENTER THE TITLE FOR FIELD f1 AND THEN PRESS THE RETURN KEY, enter NAME: and press **RETURN**. (Your titles can be as long as 16 characters.)

4. In response to the next prompt, DO YOU WANT THE TITLE TO APPEAR ON THE SCREEN? (Y/N), press **Y** for yes. Your screen should look like this:

ALPHANUMERIC, NUMERIC, DATE, CALCULATION OR TEXT? (A/N/D/C/T) ■

• INSERT • FIELDS LEFT: 100 BYTES LEFT: 4096 PAGE 01 of 01 LINE: 03 COLUMN: 06

NAME:

5. When you see the prompt ALPHANUMERIC, NUMERIC, DATE, CALCULATION OR TEXT? (A/N/D/C/T), press ▣.

6. When asked if you want this field to be a validating field, press ▣ for yes. If a field is validating, you cannot enter the same information in the same field of two records. For example, if this NAME field is validating, you cannot have two expense records in your data file with the same name. This is a helpful way to avoid duplication.

7. When asked to enter the length for this field, enter 25. This is the number of characters that this field will hold. (The length of an alphanumeric field is limited to 255 characters, and each record can only be 4,096 characters in length.)

8. Your first complete field for this record should look like this:

PRESS THE RETURN KEY TO INSERT A FIELD

• INSERT • FIELDS LEFT: 99 BYTES LEFT: 4071 PAGE 01 of 01 LINE: 03 COLUMN: 31

NAME: _____ ■

<Esc> MENU   <Arrow> SELECT LOCATION   <F5> PREVIOUS PAGE   <F7> NEXT PAGE▣

Now you are ready to enter field 2 of the format.

9. Move the cursor to column 41 of line 3, across from your
    NAME field, and press **RETURN**. Type in DATE: and press
    RETURN again.

10. Press **Y** in response to the prompt asking if you want the title
    to appear on the screen.

11. Press **D** for date in response to the next prompt.

NOTE: Date fields are always 8 characters long.

Your screen should now look like this, with two fields of the
format entered:

```
┌─────────────────────────────────────────────────────────────────┐
│                                                                   │
│     PRESS THE RETURN KEY TO INSERT A FIELD                        │
│   ─────────────────────────────────────────────────────────────  │
│   • INSERT • FIELDS LEFT: 98  BYTES LEFT: 4063  PAGE 01 of 01  LINE: 03  COLUMN: 54 │
│                                                                   │
│   NAME: _____      DATE: _____ ▮                 │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│   ▪ Esc ▪ MENU  ◄ Arrow  SELECT LOCATION  ▪ F5 ▪ PREVIOUS PAGE  ▪ F7 ▪ NEXT PAGE │
└─────────────────────────────────────────────────────────────────┘
```

Easy, isn't it? Let's go on to insert more fields into the format.

Inserting Fields for Days of the Week

Now you must create a number of columns on your screen to represent days of the week. Each column's heading will be a text field. Remember that text fields do not contain information. They act only as column headings or labels in your format.

12. To enter your first text field for your first column, move the cursor to line 5, column 11, of your screen, and press **RETURN**. Then enter the title SUN for Sunday. This is field 3 of your format.

13. Press **Y** when asked if you want this title to appear on your screen. Then press **T** for text in response to the prompt asking for the field type.

14. Now enter the other column headings using the information below:

Field Number	Line	Column	Title	Title on Screen	Field Type
f4	5	19	MON	Y	T
f5	5	27	TUE	Y	T
f6	5	35	WED	Y	T
f7	5	43	THU	Y	T
f8	5	51	FRI	Y	T
f9	5	59	SAT	Y	T
f10	5	67	TOTAL	Y	T

Your screen should now look like this:

PRESS THE RETURN KEY TO INSERT A FIELD

· INSERT · FIELDS LEFT: 90 BYTES LEFT: 4063 PAGE 01 of 01 LINE: 05 COLUMN: 72

NAME: _____   DATE: _____

| SUN | MON | TUE | WED | THU | FRI | SAT | TOTAL■ |

<Esc> MENU   <Arrow> SELECT LOCATION   <F5> PREVIOUS PAGE   <F7> NEXT PAGE

Inserting Fields for Expense Categories

Next you must insert a field for each of the expense categories in the sample data base format. The category names are actually titles for each row that will contain your expense data, so they will be text fields. To insert fields for category titles, follow these steps:

15. To enter a field for the first category, which is Transportation, move the cursor to line 6, column 1, and press RETURN. Enter the title TRANS and press RETURN again. You have just inserted field 11.

16. Press **Y** when asked if you want this title to appear on the screen, and press **T** for text when asked for the field type.

17. Repeat steps 15 and 16 for each of the 5 other categories and the Daily Total line. Use the information in the table below to respond to the prompts on your screen.

Field Number	Line	Column	Title	Title On Screen	Field Type
f12	7	1	MEALS	Y	T
f13	8	1	GAS	Y	T
f14	9	1	REC*	Y	T
f15	10	1	OTHER	Y	T
f16	12	1	DAILY TOT	Y	T

*Recreation

When you finish inserting these fields, your screen should look like this.

PRESS THE RETURN KEY TO INSERT A FIELD

• INSERT • FIELDS LEFT: 84 BYTES LEFT: 4063 PAGE 01 of 01 LINE: 12 COLUMN: 10

NAME: _____   DATE: _____

	SUN	MON	TUE	WED	THU	FRI	SAT	TOTAL
TRANS								
MEALS								
GAS								
REC								
OTHER								
DAILY TOT■								

<Esc> MENU   <Arrow> SELECT LOCATION   <F6> PREVIOUS PAGE   <F7> NEXT PAGE

Inserting Numeric Fields To Hold Your Expense Data

Now it is time to insert a number of numeric fields that will hold your expense data. These fields do not need to display titles; your column headings and row titles (the days of the week and the category names) will serve to tell you what belongs in each numeric field after you complete the format. To enter the numeric fields, follow these steps:

18. The first numeric field must be placed in the SUN column in the row labelled TRANS. Move the cursor to line 6, column 11, and press **RETURN**. When asked for a title, enter SUN/TRANS and press **RETURN** again. Press **N** when asked

if you want the title to appear on the screen. When asked for a field type, press 🅽, and then enter 5 as the field length. Press 🅾 when asked for the number of places to the right of the decimal.

You have just entered field 17. Because the title does not show on the screen, it may not look like you actually entered a field at all. Don't worry. When you enter information into your format using a menu item in the main program, the computer will point out each field to you. Even untitled fields will be easily recognizable.

19. Continue entering numeric fields on line 6 for the other days of the week. When asked for a title, enter a combination of the column heading and row label for each field, such as MON/TRANS, TUE/TRANS, and so on. Always press 🅽 when asked if the titles should appear on the screen. Each of these fields should be 5 characters long, with 0 decimal places, and all are numeric fields. When finished, you will have inserted fields 18 through 23.

NOTE: Do not enter a numeric field under the TOTAL text field. You will enter a different type of field there later in this tutorial.

20. Repeat steps 18 and 19 for each of the other 4 categories, or rows, in the format. When finished, you will have inserted 7 numeric fields in each of these rows.

NOTE: Do not enter numeric fields in the DAILY TOT row. You will enter a different type of field in that row later in this tutorial.

Following is a list of the field numbers that you will be entering in each row:

Line 7, MEALS: Fields 24 through 30
Line 8, GAS: Fields 31 through 37
Line 9, REC: Fields 38 through 44
Line 10, OTHER: Fields 45 through 51

When you finish entering these fields, your format will look like this:

```
        PRESS THE RETURN KEY TO INSERT A FIELD
──────────────────────────────────────────────────────────────
• INSERT • FIELDS LEFT: 49  BYTES LEFT: 3888  PAGE 01 of 01  LINE: 10 COLUMN: 65

NAME: _____        DATE: _____

            SUN     MON    TUE    WED    THU    FRI    SAT    TOTAL
TRANS       ____    ____   ____   ____   ____   ____   ____
MEALS       ____    ____   ____   ____   ____   ____   ____
GAS         ____    ____   ____   ____   ____   ____   ____
REC         ____    ____   ____   ____   ____   ____   ____
OTHER       ____    ____   ____   ____   ____   ____   ____■

DAILY TOT




      <Esc> MENU   <Arrow> SELECT LOCATION   <F5> PREVIOUS PAGE   <F7> NEXT PAGE
```

Inserting Calculation Fields to Total Your Expense Data

One of the final steps in constructing your format is to insert the fields that will calculate your expense data. To place these fields in the format, follow these steps:

21. To enter your first calculation field, move the cursor to line 6, column 67, (under the TOTAL text field) and press **RETURN**.

22. When asked for a title, enter TOT/TRANS and press **RETURN**. Press **N** when asked if you want this title to appear on the screen, and press **C** for calculation when asked for the field type. Enter 5 for the field length, and enter 0 when asked for a number of places to the right of the decimal.

    You have just entered field 52, a calculation field that will calculate and display your total transportation costs for the week.

23. Now you must enter the other calculation fields for the TOTAL column. When asked for a title for each of these fields, enter a combination of the column heading and row label for each field, such as TOT/TRANS, TOT/MEALS, TOT/GAS, and so on. Always press **N** when asked if the titles should appear on the screen. Each of these fields should be 5 characters long, with 0 decimal places, and all are calculation fields. When finished, you will have inserted fields 53 through 56. (Don't enter a calculation field for TOT/ DAILY TOT yet.)

24. Just 8 more fields to go before the format is finished! These last 8 calculation fields will calculate and display the totals of all expenses for each day and the grand expense total for the week. Use the instructions in steps 21, 22, and 23 as guidance, and use the information in the table below to respond to the prompts on your screen.

Field Number	Line	Column	Title	Title On Screen	Field Type	Field Length	Decimal Places
f57	12	11	TOT/SUN	N	C	5	0
f58	12	19	TOT/MON	N	C	5	0
f59	12	27	TOT/TUE	N	C	5	0
f60	12	35	TOT/WED	N	C	5	0
f61	12	43	TOT/THU	N	C	5	0
f62	12	51	TOT/FRI	N	C	5	0
f63	12	59	TOT/SAT	N	C	5	0
f64	12	67	TOT/TOT	N	C	5	0

Your screen should now look like this:

```
  PRESS THE RETURN KEY TO INSERT A FIELD

 · INSERT · FIELDS LEFT: 36  BYTES LEFT: 3823  PAGE 01 of 01  LINE: 12  COLUMN: 73

 NAME: _____     DATE: _____

          SUN   MON   TUE   WED   THU   FRI   SAT   TOTAL
 TRANS    ____  ____  ____  ____  ____  ____  ____  ____
 MEALS    ____  ____  ____  ____  ____  ____  ____  ____
 GAS      ____  ____  ____  ____  ____  ____  ____  ____
 REC      ____  ____  ____  ____  ____  ____  ____  ____
 OTHER    ____  ____  ____  ____  ____  ____  ____  ____

 DAILY TOT ____  ____  ____  ____  ____  ____  ____  ____ ■



 <Esc> MENU  <Arrow> SELECT LOCATION  <F5> PREVIOUS PAGE  <F7> NEXT PAGE
```

Entering Calculations for Calculation Fields

The final step in creating your data base format is to enter the calculations that will total your expense data for the week and for each category. To enter calculations, follow these steps:

25. Press **Esc** to call the menu headings up on your display. Then select the "Enter Calculations" menu item on the CREATE pull-down menu.

26. The following prompt will now appear on your screen:

THE CURRENT FORMULA FOR TOT/TRANS IS
SHOWN BELOW. ANY CHANGES? (Y/N)

Below the prompt, you will see:

f52 =

The rest of the line is blank because you have not yet entered a calculation for this field, which is the first calculation field in your format. To enter a calculation, you must first answer **Y** in response to the above prompt.

27. Now you can enter your first formula, or calculation. (Be sure the **CAPS LOCK** key is in the UP position.) Field 52 must show the weekly total of your transportation expenses. Therefore, you must tell the computer to add the numbers that will be entered in fields 17, 18, 19, 20, 21, 22, and 23, which hold each day's transportation costs. The formula you should now enter looks like this:

f17 + f18 + f19 + f20 + f21 + f22 + f23

Press **N** for no changes and the computer will move on to your next calculation field. (Your formula will not remain on the screen. It is stored in the computer's memory. If you choose to save this format on a disk later, all of the formulas will also be saved.)

28. Following is a list of the formulas for each of the other calculation fields in the TOTAL column. Enter each one carefully; a typographical error will affect your total figures.

When prompted for a formula for field 53, enter

f24 + f25 + f26 + f27 + f28 + f29 + f30

For field 54, enter

f31 + f32 + f33 + f34 + f35 + f36 + f37

For field 55, enter

f38 + f39 + f40 + f41 + f42 + f43 + f44

For field 56, enter

f45 + f46 + f47 + f48 + f49 + f50 + f51

29. Following is a list of the formulas for the calculation fields in the DAILY TOTAL row.

For field 57, enter

f17 + f24 + f31 + f38 + f45

For field 58, enter

f18 + f25 + f32 + f39 + f46

For field 59, enter

f19 + f26 + f33 + f40 + f47

For field 60, enter

f20 + f27 + f34 + f41 + f48

For field 61, enter

f21 + f28 + f35 + f42 + f49

For field 62, enter

f22 + f29 + f36 + f43 + f50

For field 63, enter

f23 + f30 + f37 + f44 + f51

And for the grand total in field 64, enter

f52 + f53 + f54 + f55 + f56

Now press **Esc** twice to return to the menu headings.

The Finished Data Base Format

Your data format is now complete. Your screen should look like this:

```
┌─────────────────────────────────────────────────────────────┐
│                                                             │
│     │ CREATE │  LOAD/SAVE/REPORT   EXIT                     │
│                                                             │
│     NAME: _____    DATE: _____              │
│             SUN   MON   TUE   WED   THU   FRI   SAT   TOTAL  │
│     TRANS   ___   ___   ___   ___   ___   ___   ___   ___   │
│     MEALS   ___   ___   ___   ___   ___   ___   ___   ___   │
│     GAS     ___   ___   ___   ___   ___   ___   ___   ___   │
│     REC     ___   ___   ___   ___   ___   ___   ___   ___   │
│     OTHER   ___   ___   ___   ___   ___   ___   ___   ___   │
│                                                             │
│     DAILY TOT  ___   ___   ___   ___   ___   ___   ___  ___ │
│                                                             │
│                                                             │
│                                                             │
│                                                             │
│                                                             │
│   █<Arrow> SELECT PULL-DOWN MENU  <Return> ENTER PULL-DOWN MENU SELECTION█ │
└─────────────────────────────────────────────────────────────┘
```

We hope that you have found this tutorial helpful in getting you started on the road to creating your own data base formats. You can save it on a data disk with the "Create Data Disk" menu item on the LOAD/SAVE/REPORT pull-down menu. Follow the disk placement prompts on your screen. Then move on to Chapter 5 and begin entering information into your new data format to create records. To create your own format, turn to Chapter 4 for complete instructions.

- Deciding on a Format
- Creating a Format on Paper

**3
Designing Your
Own Data Base
Format**

NOTE: If you are unfamiliar with data bases and their compo-
nents, such as fields and records, we strongly urge you to become
familiar with these terms by taking a look at our glossary in
Chapter 1. Then try working with the tutorial in Chapter 2. The
sample data base that you will construct in the tutorial is on side
2 of your program disk in a file called EXPENSES. (See page
61 for instructions on opening a file.)

Before you can store any data using this program, you must
design a data format to house that data. The DATA MANAGER
128 program contains a section called Initialization, which you
can use to build your data file.

Just as an architect designs the wall structure of a house, the
Initialization program allows you to design your data file to fit
your specifications. YOU give each information entry line (field)
a title that corresponds to the data being stored in that field. YOU
determine what type of information each field will hold, and
YOU specify the location and length of each field.

With the instructions found below, and the easy-to-follow
prompts, the only work you need to do is to decide on the number
of fields you want, what you want those fields to contain, and
where they will be located within each record.

■ Deciding On A Format

Now is the time to decide what information you want to store in
your data file and the data base format for that information (see
glossary for help with any of these terms). Here are a few things
to remember while you are thinking about the format.

1. All records of one file will have the same format.

2. Each format may contain up to 100 fields, and each may contain up to 64 pages. Each page is 80 columns from left to right, and 19 lines from top to bottom.

3. Each record may contain up to 4,096 bytes (characters) of information.

4. Each field should be given a title corresponding to the data that will be stored in that field. You may choose either to show your title on the screen or you may choose not to have the title displayed.

5. All fields must be classified for the type of data that will be stored in that location.

   *Alphanumeric (character) fields hold characters, numbers, and punctuation.

   *Date fields contain dates (01/09/09 or 01-09-09 means January 9, 1909).

   *Numeric fields contain only numbers and, if you wish, a decimal point (only one decimal point per entry). You will also be asked to specify the number of digits to be displayed to the right of the decimal.

   *Calculation fields contain the results of algebraic equations which use amounts from other fields. These calculations will be executed automatically as you enter information into a record. You can use up to 63 characters in each calculation, and each can use up to 19 fields.

   *Text fields will only appear as titles in your format. No information can be stored in a field specified as text.

6. You may specify an alphanumeric field to be "validating". This means that you will not be able to have any records in the same data file with the same information in that particular field. This is a helpful way to reduce data input errors.

Example:

If you choose a CUSTOMER NAME field to be validating, you will not be able to have two customers with identical customer names.

7. Each field must be given a specific length. Dates have a set length of 8 characters, numbers can have a maximum length of 12 characters, text fields may be 16 characters long, and character fields (alphanumeric) may be 255 characters long. As you design each field in your record format, DATA MANAGER 128 will show you how your record is going to appear.

■ Creating A Format On Paper

Now it is time to create your format on paper. The following figure shows how a sample looks after it was created on paper.

1. Use graph paper that is at least 80 characters by 19 lines in size. This type of paper should be available at your local office supply store.

2. Decide what type of information you want to include in your records, i.e., name, address, city, etc.

3. You must decide on a length for each of your fields (except your date fields, which will always be 8 characters in length).

    NOTE: After you have specified the lengths of your fields, total them up. If the total is greater than 4,096 characters, you will have to trim down a field or two, before the computer will allow you to move ahead.

4. Give each field a title which will provide a clue to the information that is stored in that field. The maximum title length is 16 characters.

5. Each field must be classified as to what type of information it will hold: alphanumerics, dates, numbers, calculations, or text.

6. Now pull out your graph paper and sketch out how you would like your data format to look. When you have finished, move on to the next section of this manual.

- Loading the Main Program
- Initialization
- Creating a Data Disk
  Inserting Fields
  Deleting Fields
  Modifying an Existing Field
  Entering Your Calculations
  Resetting Your Format
- Saving Your Data Base Format
- Recalling (Loading) Your Data Base Format
- Printing a Report of Your Data Base Format
- Transferring Data from One Format to Another
- Reorganizing Your Data Disk
- When You're Done with Initialization
- Using a New Data Disk with This Program

**4
Loading the
Program and
Creating a
Data Disk**

Now that you have designed your data base format, you must use the DATA MANAGER 128 program to create that format on a data disk. (In a later section of this manual, you will learn how to enter information into the format, thus creating data records.) Before creating your data disk, however, you must first load the DATA MANAGER 128 into your computer.

■ Loading the Main Program

NOTE: Be sure to take a look at the file called UPDATE on your disk. This file contains any modifications that do not appear in the manual. To load this file, follow these steps:

● Turn on your computer and disk drive with no disk in the drive.

● Place the program disk in your drive and type DLOAD "UPDATE".

When the word READY appears on your screen, type RUN and press $\boxed{\text{RETURN}}$. You will then be able to view the UPDATE file or print it on your printer.

NOTE: Before you begin using DATA MANAGER 128, you must format two 5¼″ floppy disks. Label one as a DATA MANAGER 128 DATA disk and one a WORK disk. For details on formatting disks, see your computer manual.

1. Turn on your disk drive.

2. Place your DATA MANAGER 128 program disk in the disk drive. (if you are using a dual drive, place the disk in drive 0.)

NOTE: DATA MANAGER 128 is designed so that a single drive is as efficient as a dual drive. If you are using a dual drive, place your program disk in drive 0, and, when requested, place your data disk in drive 0.

3. Press the **40/80 DISPLAY** key at the top of your keyboard so that it is in the down position. Then turn on your computer and monitor. The program will load into your computer. Follow the prompts on your screen.

4. You will be given the opportunity to modify your screen colors. Follow the prompts to do so, and then press **Esc**.

NOTE: Because this program takes advantage of the 80-column capabilities of your computer, you must use an 80-column monitor with this program. This monitor must be connected to the RGBI socket on the back of your computer. Consult your computer or monitor manuals for instructions on connecting your monitor properly.

A NOTE ON COPY PROTECTION: The DATA MANAGER program disk is copy protected, so you will not be able to make backup copies. The program disk you have is duplicated on the finest quality 5¼" floppy disks available, and should stand up through many years of intensive use. If a TIMEWORKS program disk fails to load, send the disk to us and we will promptly replace it.

A GENERAL NOTE ON PROMPTING: At times you may
see prompts on your display that are not noted in this manual.
Do not be concerned. Simply follow the prompts that appear
on your display.

NOTE: Use the **Esc** key to return to the previous screen or
to escape to the menu headings. The **Esc** key will work only
if the cursor is in the first character position of a field or data
entry area, and if you have not yet entered information into
that field or data entry area.

MAKING BACKUPS OF YOUR DATA DISKS: To guard
against the loss of important information, you should always
make "backup" copies of data stored on disk. See your disk
drive manual for details on making backup of data disks.

■ Initialization

Your next step in creating a data disk is to select the "Initialize
File" option on the FUNCTIONS pull-down menu. Use this
option to enter the fields of your format into the computer.

NOTE: If you have not yet performed the DATA MANAGER
128 tutorial in Chapter 2 of this manual, you may want to do so
now before plunging into the Initialization program. The tutorial
is designed to help the first-time data base user become familiar
with data base formats and their components.

A NOTE ON PULL-DOWN MENUS: DATA MANAGER 128 features pull-down menus to help you use this program as easily and as quickly as possible. Use the right and left cursor keys to select the menu heading you want. When the heading is highlighted, press the **RETURN** key and the menu for that heading will pull down. Use the up and down cursor keys to select the menu option you want, and then press **RETURN** again. If, after you have selected a menu, you decide not to use that menu, press the **Esc** key to select another heading.

---

1. Press **Esc** to call the menu headings to your display. Select the FUNCTIONS heading and press **RETURN**.

2. Now select the "Initialize File" option and press **RETURN** again. After a few seconds, your screen will look like this:

| CREATE | LOAD/SAVE/REPORT | EXIT |

••• DATA MANAGER 128 INITIALIZATION •••

(c) 1982 TIMEWORKS, INC.

<Arrow> SELECT PULL-DOWN MENU   <Return> ENTER PULL-DOWN MENU SELECTION

---
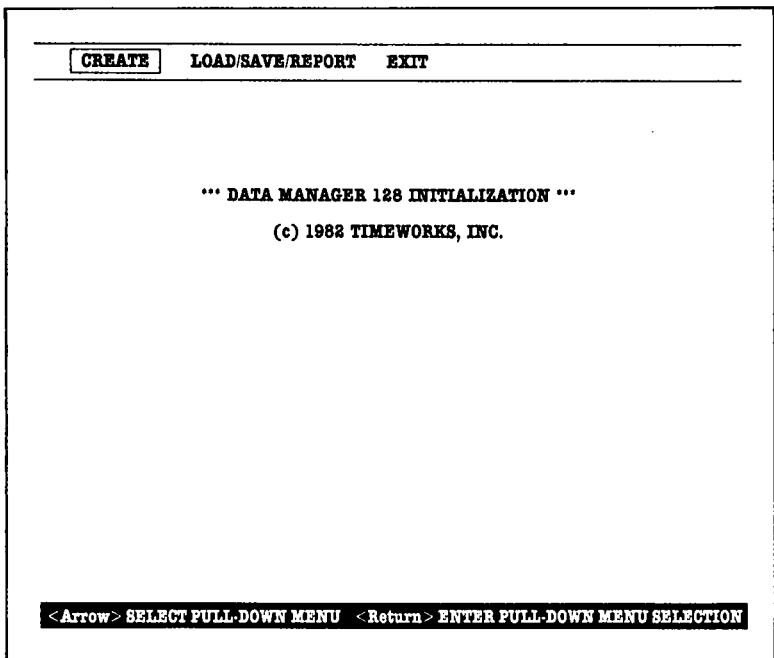
3. You are now ready to create your DATA MANAGER 128 data disk.

■ Creating a Data Disk

A NOTE ON PROMPTS AND COMMAND KEYS: The box at the top of the screen is the prompt area. Refer to this area often. Here is where you will find instructions on disk placement and program operation. The line of information below the prompt box tells you which menu selection you are using, the number of bytes you can still use in your data format, and the page/line/column where the cursor is presently located.

The box at the bottom of your screen contains a list of command keys and their functions. Pay close attention to the bottom of your screen, because the keys will change as you move through the program.

The first menu heading, CREATE, will be highlighted. Press the RETURN key. The CREATE menu options will appear. Let's take a look at each of these options.

Inserting Fields

This menu option allows you to insert data fields into your DATA MANAGER 128 format. To do so, select "Insert Fields" on the CREATE pull-down menu. Your screen should look like this:

ALPHANUMERIC, NUMERIC, DATE, CALCULATION OR TEXT? (A/N/D/C/T) █

• INSERT • FIELDS LEFT: 100 BYTES LEFT: 4096 PAGE 01 of 01 LINE: 01 COLUMN: 01
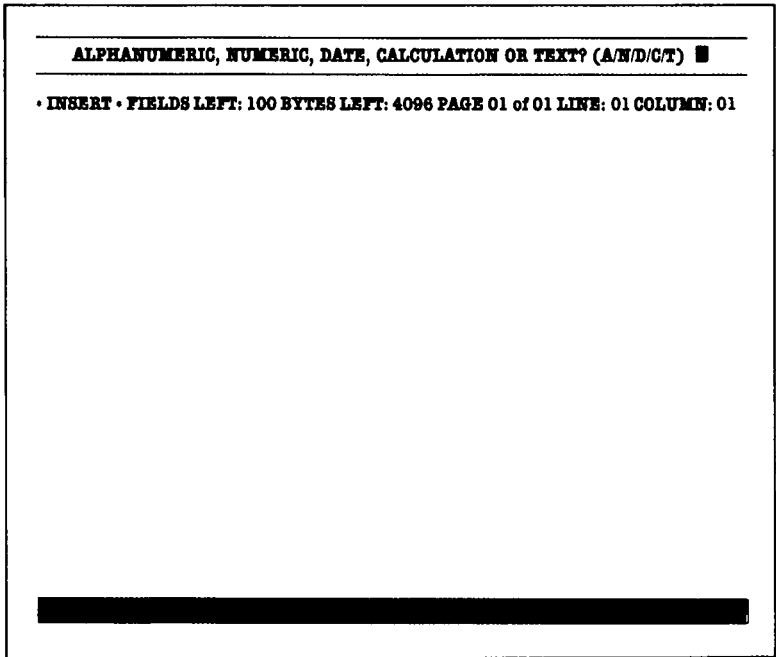
If you press the ESC key, you will return to the three menu headings.

The cursor keys (the four arrow keys at the top of your keyboard) will help you move the cursor to the location for the new field.

Press the F7 key to move to the next page of your data format. You have a maximum of 64 pages to use for your format.

Press the **F5** key to move to the previous page of your data format.

1. Use the cursor keys to position the cursor where you would like your field to be located. Then press the **RETURN** key. Type in the title you would like to use for this field (they can be up to 16 characters long). If you would like your fields numbered, type the number too. The title will be displayed exactly as you type it in. After you have typed in your title (you may use the **INST/DEL** key to erase if needed), press the **RETURN** key.

2. Next press **Y** if you would like the title shown on the display, or press **N** if you do not want the title shown on your display.

3. Now you must decide the type of information you want to store in this field.

   ● Press **A** if you want to store letters, numbers, punctuation, etc. in this field. You will be asked if you want the field to be validating, and you will be asked to specify a length for this field. This means that no two records in the same data file can contain the same information in a particular field.

   ● Press **N** if you only want to store numbers or amounts in the field. You will be asked to specify the length for the field and the number of digits to the right of the decimal point.

   ● Press **D** if you are using this field to store a date. The field will be set up automatically for 8 characters in length using the MM/DD/YY format. MM = month (01 to 12), DD = day (1 to 31), YY = year (1 to 99).

- Press **C** if you would like to specify the field as a calculation field. This type of field is a specialized type of amount field. You will be asked to specify a field length and the number of digits you want to the right of the decimal point.

NOTE: Don't be afraid of the calculations in this program. They involve only what you learned in your high school algebra class. There are many examples in Chapter 11 to help you use this feature easily.

After you have specified the location and contents of all of your fields, you must go to the menu item called "Enter Calculations" in the CREATE pull-down menu to enter your formulas (more on this on page 48).

- Finally, press **T** if you want a field to hold only text. Text fields can be used as column headings or row titles, as in the following example.

Example:

CATALOG#	QUANTITY	PRICE	AMOUNT
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

CATALOG#, QUANTITY, PRICE, AND AMOUNT are TEXT fields. Information cannot be entered in these four fields as they are only column headings. Your information must be entered on the lines below.

4. Continue setting up the characteristics of your data format until it has all been entered and you are satisfied with the layout. If your data format takes up more than one page, use the ⬛ and ⬛ keys to move to other pages.

    Following is an example of a finished data format:

CREATE	LOAD/SAVE/REPORT	EXIT							

NAME: _____   DATE: _____

	SUN	MON	TUE	WED	THU	FRI	SAT	TOTAL
TRANS	___	___	___	___	___	___	___	___
MEALS	___	___	___	___	___	___	___	___
GAS	___	___	___	___	___	___	___	___
REC	___	___	___	___	___	___	___	___
OTHER	___	___	___	___	___	___	___	___
DAILY TOT	___	___	___	___	___	___	___	___

<Arrow> SELECT PULL-DOWN MENU   <Return> ENTER PULL-DOWN MENU SELECTION

WARNING! Be sure that you save your data format before you leave the Initialization program (see page 53 for more on saving formats and creating data disks).

Deleting Fields

To delete a field in a data format, select the "Delete Fields" menu item on the CREATE pull-down menu. Move the cursor to any position in the field you want to delete, and press **RETURN**. You will be asked to verify that you want to delete this field. If you respond with **Y** for yes, the field will be deleted. You may continue deleting fields, or press the **Esc** key to exit this option.

NOTE: When you delete a field, all fields after the deletion will be renumbered. However, the field numbers in your calculations will not be updated. To insure correct calculation results, modify your calculations manually.

Modifying An Existing Field

You may want to modify a field if you notice you have spelled a field name incorrectly or if you want to make a field longer. To modify a field, select "Modify Fields" on the CREATE pull-down menu. Now move the cursor to delete any character of the field you wish to modify. Then press **RETURN**.

After the field is erased from your data format, you will be able to enter a new data field using the same procedure as when you used the "Insert Fields" menu item.

Entering Your Calculations

After you have set up your data format, you must enter the formulas for your calculation fields. To do so, select the "Enter Calculations" option on the CREATE pull-down menu. The first page of your data format that contains a calculation field will appear on the screen along with the prompt:

THE CURRENT FORMULA FOR (your field) IS SHOWN
BELOW. ANY CHANGES? (Y/N)

Below the prompt line you will see "f# = " (we use the symbol
"#" here to represent the field number of your first calculation
field). If you have never entered a calculation for this field, the
rest of the line will be blank. To enter a new calculation or to
change an existing one, press **Y** in response to the above prompt.

If you respond with **N** for no, you will move on to the next for-
mula, or, if all formulas have been displayed, press **RETURN** to
return to the menu headings.

If you respond with a **Y** for yes, the formula on your screen will
be erased and you will be able to enter a new formula. If you do
not know the field number of one or more of the different fields
you wish to include in your formula, press **F4** (**SHIFT** **F3**), and
move the cursor to any character of the field in question. Press
the **RETURN** key, and the field number will appear in your
formula.

( )   Parentheses can be used to specify the order of calculation
       in your formula

+   Addition

−   Subtraction

*   Multiplication

/   Division

↑   Raise to a power (exponentiation)

f##   Used to specify a field for a calculation. For example, f2 means you want to use the amount in field 2 for a calculation; f12 means field 12, and so on. You may use up to 19 fields in any one formula.

NOTE: You cannot enter a negative field amount in your calculations. For example, $-$f2 will calculate as 0. To enter a negative field amount, type in $-$1∗f2.

---

p##   Used to specify a field from the previous record for a calculation. For example, this could be used for a checkbook-type system where amounts need to be carried forward from the previous records. p2 means you want to use the amount from field 2 of the previous record.

The logical symbols you can use in your calculations are:

<   Less than

>   More than

=   Equal to

<>   Not equal to

<=   Less than or equal to

>=   More than or equal to

You may also do logical tests in a calculation before an amount is calculated. The logical statement to use is:

IF (#exp#) THEN (#exp#) ELSE (#exp#)

(#EXP#) stands for an algebraic equation, a field value, or an amount. This will allow you to tell the DATA MANAGER 128 what calculation should be performed.

Example:

Let's say your company policy states that if a customer's order totals over $1,000, he will be charged 3% for freight. If it's under $1,000, he will be charged 5% for freight. Let's assume you are using field 12 as the field for the total order amount. The logical statement would be as follows:

IF f12<1000 THEN f12*.05 ELSE f12*.03

NOTE: The IF . . . THEN . . . ELSE statement must be entered in capital letters. If you don't want to enter an expression for the ELSE portion of the statement, enter ELSE 0.

If your logical statement contains any errors, or if you have chosen fields that are not number or calculation fields, the computer will not accept your entry.

While you are entering your formulas, use the **INST/DEL** key to erase errors and help you modify your calculations. Use the **F4** key to select the fields where you want to enter calculations. While you are in this field selection mode, you may also use the **F5** and **F7** keys to flip pages. To leave the field selection mode and continue entering calculations, press the **Esc** key.

Resetting Your Data Format

To erase your data format and start over again, select "Reset All Fields" on the CREATE pull-down menu. This lets you re-design your current data format, which will be erased, so be sure that this is what you want to do (see the following section for instructions on saving your data format on your data disk).

■ Saving Your Data Base Format

When you have finished setting up your data format, or if you wish to take a break and continue work later, you will need to save the format on a disk. DATA MANAGER 128 offers you two options for saving your format, and your choice depends on how you intend to use the format after you save it.

● Your first choice is the "Create Data Disk" option under the LOAD/SAVE/REPORT pull-down menu. This option will save a new format on your DATA disk, so you can begin entering your data into that format in the main program. This is the option you want to use each time you create a new format that you want to begin working with.

● Your second choice is the "Save Format" option on the LOAD/SAVE/REPORT pull-down menu. Use this option to save a fresh, blank format onto a blank WORK disk for use at a later time. (You cannot use a format that was saved with this option to hold data. This option only creates a record of your data file format.)

NOTE: If you modify a format that you originally saved with the "Create Data Disk" option, be sure to use that option to re-save the modified format.

Some important notes on saving data structures:

● If you are creating your data disk, be sure that the disk you use is a newly formatted, good quality 5¼" floppy disk with no other information on it. This will be your DM128 DATA disk. For instructions on how to format a floppy disk, see your computer manual.

● Be sure to label the disk that you save your format on.

● It would be wise to save the data format a second time onto a backup disk for safekeeping.

● Be sure that you have entered any formulas you need for calculation fields before you save the data format.

● Do not use a period (.) when you enter a file name for your format.

■ Recalling (Loading) Your Data Base Format

To load a data base format into the computer, select the "Load Format" option on the LOAD/SAVE/REPORT pull-down menu. The format in your computer will be erased, so be sure to save it. Follow the prompts in the prompt box for proper disk placement, and then enter the file name for your data format. That format will then be loaded into the computer.

■ Printing a Report of Your Data Base Format

At any time while you are setting up the data format, you may wish to see a report containing some general information about your format. A report includes the length of each field and the type of information that will appear in each.

To obtain a report of your format, select the "Print Format Report" option on the LOAD/SAVE/REPORT pull-down menu. You will be asked if you want to print your format on the screen or on your printer. If you choose the printer, be sure that it is set up so that the printer will print at the top left corner of the page. You will now see the prompt ARE YOU READY TO PRINT THE RECORD FORMAT? (Y/N). Press **Y**. You will then be asked several questions about your printer.

1. Normal ASCII? (Y/N)

   Most Commodore printers do not use normal ASCII charac-ters. If this is the case for your printer, press **RETURN** to this prompt to enter the default response of N for no. If you are using a non-Commodore printer, or your Commodore printer uses normal ASCII, press **Y**. (If you are unsure, consult your printer manual.)

2. Line Feed? (Y/N)

   If your printer does not require a line feed command at the end of each line, press **RETURN**, which will enter the default response of N for no. If you do need a line feed, press **Y**. You will know your printer needs a line feed command if it prints all of your report on one line of the paper.

3. Secondary Address (0-7) Open 4,4,?

    This prompt asks you to enter a secondary address for your printer interface. Most interfaces use a secondary address of 7, which is the default reponse for this prompt. Consult your interface manual for the correct address. If it is 7, press **RETURN** only, If your interface uses a different address, enter it.

You will see a report much like the one below.

<div align="center">

RECORD FORMAT REPORT

FILE: your file name

</div>

FIELD	FIELD NAME	CLASSIFICATION	LENGTH	PAGE	LINE	COLUMN
1	NAME	ALPHA (V)	5	1	1	1
2	GROSS PAY	NUMERIC (2)	12	1	3	1
3	BIRTH- DATE	DATE	8	1	5	1
4	SOC SEC PAY	CALC (2)	10	1	7	1

In the example above, the symbol (v) signifies that field 1 is a validating field. The symbol (2) represents the number of positions that were designated to appear to the right of the decimal.

■ Transferring Data from One Format to Another

If a data format you have been using becomes obsolete, you can add fields to that format without having to re-enter all of your data. Using DATA MANAGER 128's transfer program, you can easily transfer your current data to your new format.

Example:

Using DATA MANAGER, you have already set up a format to contain the payroll information on all 325 employees in the company. Your employer then asks you to add the name of the department where each employee works to his or her file. This means that your present format is obsolete. Will you now have to set up a new format containing the extra field for the department name, and then re-enter all 325 records? The answer is no. With DATA MANAGER's transfer program, you can add that extra field to your present format and transfer all of the data from your files into the new format. To do this, follow these steps.

1. Select the "Initialize File" option on the FUNCTIONS pull-down menu. When the Initialization menu headings appear, select the LOAD/SAVE/REPORT menu heading. Then select the "Load Format" option, and follow the prompts to load your current data base format into the computer. Your format will appear on the screen.

2. Next select "Insert Fields" on the the CREATE menu. Add the new field for "department name" to your format using the same procedure that you used when you first set up your format.

WARNING! You can only add fields to the end of your format. If you make any other modifications, your data may not be transferred properly.

---

3. You will need to make a new data disk that will hold your revised data format. To do this, select the "Create Data Disk" option on the LOAD/SAVE/REPORT pull-down menu. Follow the prompts to save your revised format using a newly formatted 5¼" floppy disk.

4. Now for the data transfer. Select the "Transfer Data" option on the LOAD/SAVE/REPORT pull-down menu. Follow the prompts for correct disk placement.

5. You will now be asked to enter the name of the "source" data file and the name of the "target" data file for the information you want to transfer.

    Source data disk – The disk that contains the data file you will be transferring data from.

    Source file name – The name of the data file you will be transferring data from.

    Target data disk – The disk that contains the data file you will be transferring data to. (Be sure to use a newly formatted disk as your target data disk.)

    Target file name – The name of the data file you will be transferring data to.

NOTE: If you have the wrong disk in a disk drive you will see an error message and return to the menu headings. Go back to step 1 of this section to transfer your data.

---

6. Follow the disk placement prompts on your display. When all your data has been transferred, you will be notified by a message on your screen.

■ Reorganizing Your Data Disk

As you begin adding records to your data file and your file begins to grow, you may find that its increasing size also increases the time it takes to work with your file. For example, a simple search on a large data file may take many minutes. And if you perform a great number of searches, the computer may find it difficult to read the file's internal structure (which we call its "X-Sort sequence") in a short amount of time.

To avoid these delays in searching your file, you can reorganize the file's internal structure using a menu item in the Initialization section. This option creates a new, restructured copy of your data file on a new DM128 data disk, so before you select this option, be sure you have a formatted data disk at hand.

To reorganize a data file, follow these steps:

1. Select the "Reorganize Data Disk" option on the LOAD/ SAVE/REPORT pull-down menu in the Initialization section.

2. Next you will be asked to insert your source data disk and to enter the name of your source data file. These are the disk and file that contain the data you want to reorganize. Enter the file name and press **RETURN**.

3. Follow the prompts on your display for proper disk placement. When prompted to insert your target data disk, be sure to insert a newly formatted disk. After the computer has completed the reorganization process, you will need to reload DATA MANAGER 128 into your computer.

■ When You're Done With Initialization

When you are done with the Initialization section, select "Return to DM Main" on the EXIT menu to return to the DATA MANAGER 128 program.

■ Using A New Data Disk with This Program

Now that you have created (initialized) your data disk, you are ready to enter your information. Move ahead to Chapter 5, "DATA MANAGER 128 Command Instructions".

**5
DATA
MANAGER 128
Command
Instructions**

A NOTE ON PROMPTS AND COMMAND KEYS: The box at the top of the screen is the prompt area. Refer to this area often. Here is where you will find instructions on disk placement and program operation. The line of information below the prompt box contains information on the menu selection you are using, the number of bytes you can still use in your data format, and the page/line/column where the cursor is presently located.

The box at the bottom of your screen contains a list of command keys and their functions. Pay close attention to the bottom of your screen, because the keys will change as you move through the program.

NOTE: If you are unfamiliar with data bases and their components, such as fields and records, we strongly urge you to become familiar with these terms by taking a look at our glossary and our tutorial (see Chapters 1 and 2 of this manual).

■ Functions

Opening a File

Before using any of the sections of DATA MANAGER 128, you must tell the computer which data file you want to work with. These files are stored on your data disks under names that you assign to them when you create your data files. Use the "Open New File" menu item on the FUNCTIONS pull-down menu to gain access to your files. YOU MUST OPEN A FILE BEFORE YOU CAN WORK WITH ANY SECTION OF DATA MAN-AGER 128 (except the "Initialize File" and "Return To The System" menu options).

To open a file, select this option on the FUNCTIONS pull-down menu. Then place your data disk in the disk drive. Enter the name and password for this file. Your file will be opened and you can begin working with it.

Adding Records

To add new records to your data file, select "Add Records" on the FUNCTIONS pull-down menu.

NOTE: Be sure that you have opened your data file before you try to use any of the options discussed here. You can do this by selecting the "Open New File" option.

---

1. A record format will appear on the screen. Type your data for the first field into the computer. (If you make an error while entering your data, use the **INST/DEL** key to erase characters.) Your screen might look like this:

ENTER NAME: OR USE THE COMMAND KEYS SHOWN BELOW

••• ADDING RECORDS •••   RECORD NUMBER: 01   PAGE NUMBER: 01 OF 01

NAME: Bill Johnson ▮_____   DATE: _____

	SUN	MON	TUE	WED	THU	FRI	SAT	TOTAL
TRANS								
MEALS								
GAS								
REC								
OTHER								
DAILY TOT								

<Esc> MENU <F3> COPY PREVIOUS DATA <TAB> NEXT FIELD <F6/F7> PAGE

2. Repeat the step above until all of your information is entered into your format. Be sure you enter the correct type of data into each field as requested by the computer. For example, if a date is asked for, enter a date as MM/DD/YY. January 5, 1988, would be 01/05/88.

3. If you do not wish to make an entry into a field, press the **TAB** key only, and the cursor will move on to the next field. If the cursor is near the bottom of your screen, and you decide to enter data in a field near the top of your format, press **TAB** until the cursor moves up to that field. Use the **F5** and **F7** keys to move to other pages. If you have only one page in your record, press **F2** to move on to the next record.

4. You may decide to enter some of the same information in the same field of two succeeding records. For example, you may have two customers with the same last name, which would appear in, say, field number 2 of each record. Enter the first customer's information in one record. When you come to field 2 of the next record, press the **F3** key, and the name will be copied from that field in the last record entered.

5. If you do not want to add any more information to the record, press the **TAB** key until the cursor has moved through all the remaining fields in the format. For example, if there are 30 fields and you only want to enter information in the first 15, enter the first 15 fields. Then press **TAB** repeatedly. The computer will skip over the rest of the fields in your format, but all calculations will be performed. (Do not leave numeric fields blank. If you don't have a number to enter in a numeric field, enter a 0.)

6. After you have entered all the data into a page of your record, you will be able to go back and make changes to your information on that page. Press the **F1** key. The cursor will appear in the first field of your record. To change that field, type in the new information. If you do not want to make a change, press **TAB** and the cursor will move on to the next field. If you modify data in a validating field, the computer will not validate your new entry.

7. If you chose a field to be validating, the computer will check your data base to make sure that you haven't repeated the information in that field in another record (unless you modified your first entry in this field). If you have duplicated that information, you will be asked to enter new information in the current field.

When you are done making changes to a record, press **F2** to store your information and go on to the next record.

Deleting Records

At times you may want to delete (erase) a record from your data file. With DATA MANAGER 128, you can delete a single record or a group of records after you perform a search through your file. (See page xx for more on searching records.)

To delete records from a file, select "Delete Records" on the FUNCTIONS pull-down menu.

1. You will first be asked if you want to delete a single record or a group of records from your last search. Press **S** for a single record of **L** for the last search. If you press **S**, move on to step 2. If you press **L**, move on to step 3.

2. If you press **S**, you will see the prompt WHICH RECORD IS TO BE DELETED?. Type the record number of the record you want to delete and press the **RETURN** key.

3. You will then be asked if you want to view the record you want to delete. Press **Y** to view the record about to be deleted, or press **N** if you do not want to view the record.

4. You will be asked to verify that you still want to delete the record. To delete the record, press **Y**. If you decide not to delete the record, press **N**.

    If you do delete the record, the computer will move each of your records up one position to fill the gap in your file left by the deleted record. For example, if you delete record 2, the computer will move record 3 into position 2, record 4 into position 3, and so on.

5.   You will be asked if you want to delete more records. If so, press ▉ and go back to step 2. If not, press ▉, and you will exit this option.

Inserting Records

If you would like to insert a new record between two other records, use the "Insert Records" option on the FUNCTIONS pull-down menu.

1.   The prompt will read ARE YOU SURE YOU WANT TO INSERT A RECORD? (Y/N). If you press ▉ for yes, you must type in the record number for the record you will be inserting. For example, if you enter a 3, the information you will enter for this record will now be record number 3. The original record number 3 will be moved back to record 4, and the other records in your file will move back one record number.

2.   The record format will appear on the display and you will be able to enter and modify information as in the "Add Records" option. When you are satisfied with your record, press ▉ to store the new information on your disk. Your new record will be inserted into your file at the position you designated.

3.   You will be asked if you want to insert more records. If so, press ▉. If not, press ▉ and select another menu option.

Moving Records within Your Data File

If a single record is out of place, or you wish to rearrange some of your records, you can do so with the "Move Records" menu item on the FUNCTIONS pull-down menu. This will allow you to move records to different locations within your data file. To move records, select this menu item and follow these steps:

1. The prompt will read ARE YOU SURE YOU WANT TO MOVE A RECORD? (Y/N). Press **Y** to move a record.

2. Enter the current record number you wish to move and press **RETURN**.

3. Now enter the number of the new location you want your record to assume and press **RETURN**. For example, if you want your current record 3 to be first in your file, enter 1, and the computer will move that record to position 1 in your file. The other records will be moved and renumbered to fill any sequential gaps in your file.

Viewing the Disk Directory

Each disk you use in your computer contains a listing of all the files you have stored on a particular data disk. To view the directory, select the "View Directory" option on the FUNCTIONS pull-down menu. The disk directory will be displayed on your screen. If you have many files on the disk, the directory will scroll on your screen. Press the **SPACE BAR** to stop the scrolling action. Press **Esc** to exit this option.

When you view the directory of a disk, you will find that your data file is stored in three separate files. Each type of file has a different suffix attached to the file name. These suffixes are:

FILENAME.FMT – Contains information on your format.

FILENAME.INX – Contains the order of your data base information.

FILENAME.DAT – Contains the actual data that you have entered into your data base format.

Other suffixes you will see on your disk are: ".LAB" (label format files), ".RPT" (report format files), and ".LST" (interface files). You can save only 5 interface files on any one data disk.

Initializing a File

In order to use DATA MANAGER 128 to store your information, you must first initialize your data disks. See Chapter 4 for a larger discussion of initialization.

■ Searching and Editing Records

Use the options on the SEARCH/EDIT pull-down menu to enter your password and to search through your file to find certain records which share the same characteristics. Let's take a look at each of these options.

General Information and Entering Your Password

Use the "General Information" option on the SEARCH/EDIT menu to view information about your data file. This information includes your password, the number of records in the file, and the number of pages per record.

After you select this menu item, you will see the general information for your data file on the screen. Following is a sample General Information display:

USE THE COMMAND KEYS SHOWN BELOW

FILE NAME: SAMPLE

PASSWORD: MINE   DATE OF LAST REVISION: 01/01/88

SUBJECT: Business Expenses

COMMENTS: Information includes sales and R&D trips

NUMBER OF RECORDS: 72   RECORD LENGTH: 273 CHARACTERS

PAGES PER RECORD: 01   FIELDS PER RECORD: 64

ALPHA FIELDS: 01   NUMBER FIELDS: 35

DATE FIELDS: 01   CALC FIELDS: 13

TEXT FIELDS: 14

<Esc> MENU   <F1> MODIFY

If you want to enter new data on this display or change the existing information, press **F1**. You will then be able to make changes to the SUBJECT, COMMENTS, LAST REVISION DATE, and PASSWORD fields. Press the **TAB** key until the cursor is located at the beginning of the line you want to change, and then enter your information.

If you have not previously entered a password for your data file, you can do so at this time. Press **F1** and then continue pressing the **TAB** key until the cursor is located at CURRENT PASS-WORD. Enter a word that will be easy for you to remember when you want to gain access to that file again. Do not enter any spaces in your password.

NOTE: If you change your password, be sure to memorize it or you will not be able to get into your data. If you do forget your password, call TIMEWORKS. We may be able to help you gain access to your information.

When you are satisfied with the contents of the "General Information" display, press **ESC**. Your general information will be stored on your data disk.

Searching by Record Number

To search your records by record number, select "By Record Number" on the SEARCH/EDIT pull-down menu and follow these prompts:

1. First type in the record number where you wish to start viewing your data. If you want to begin with record 5, enter **5**, and press **RETURN**. Then enter the last record number of the group of records you wish to search, and press **RETURN**. If you press **RETURN** only in response to these prompts, the system automatically chooses the first and last records in your data file.

2. Next you will be asked if you want to perform an X-SEARCH. Press **N** for no. (For more information on X-SEARCH, see page 75.)

3. The first record you requested will appear on the screen. You can now change something in your record. Use the **TAB** key to move the cursor to the field you want to change, and press **F1**. Enter your new data and press **RETURN**.

4. Continue modifying your fields, using the **TAB** key to move to different fields. When you reach the end of your page, use the **F5** and **F7** keys to move to other pages in your format.

5. When you have finished modifying the first record in the range you have selected, press **F2** to move on to the next record in your file or press **ESC** to exit this option.

Searching by Field Element

You can search through your records for any name, address, city, state, index code, etc., using this option. For example, to find all the people in your records with the name Smith, select "By Field Element" on the SEARCH/EDIT pull-down menu.

1. You will now be asked DO YOU WANT TO STOP AFTER THE FIRST MATCH? (Y/N). Press **Y** if you want to stop the search after it makes the first match. Press **N** if you want the computer to do a complete search and show you all of the matches.

2. Your record format will appear on the screen and the prompt will read ENTER THE SEARCH ITEM?. To search for all the people with the last name Smith, type in Smith, and press the **RETURN** key.

NOTE: The item you are searching for must be typed exactly as it appears in your records or no match will occur. You may also use word fragments as search items. You could use Smi to locate all the records with Smith or Smithe in them.

---

3. Now the screen prompt will read **WHICH FIELDS DO YOU WANT TO SEARCH?.** You can use up to 10 fields for your search. To enter a field number, type a lower-case "f" followed by the number of the field. For example, field 12 should be entered as f12. If you do not know the correct field number, use the **F4** key to tell you the field number.

   Press the **F4** key and use the cursor keys to move the cursor to any position in the field you want to use for your search. Then press the **RETURN** key. The number of the field will appear on the prompt line. (If you know the field numbers you may type them in yourself without using the **F4** method described above.)

4. When you have entered the numbers of the fields you wish to search, press the **RETURN** key. You will be asked to enter the record number of the first and last records to be searched. You may enter two numbers, or just press the **RETURN** key twice and the entire file will be searched.

5. Next you will be asked if you want to perform an X-SEARCH. Press **N** for no. (For more information on X-SEARCH, see page 75.)

6. Now press **Y** for yes if you want to view the matches. The computer will then display all the records that it finds that contain the name Smith (or whatever search item you specified).

7. As the computer displays each matching record, you will be able to modify a record by pressing **F1** and entering your new data. Then press **F2** to view the next match. Press **Esc** to exit this option.

Searching by Amount Range

DATA MANAGER 128 allows you to search through your records for a certain amount range, chosen by you, using "By Amount Range" on the SEARCH/EDIT pull-down menu. After selecting this option, follow these steps:

1. You will now be asked DO YOU WANT TO STOP AFTER THE FIRST MATCH? (Y/N). Press **Y** if you want to stop the search after it makes the first match. Press **N** if you want the computer to do a complete search and show you all of the matches.

2. Your record format will appear on the screen, and the prompt will read ENTER THE LOWEST AMOUNT?. This is the smallest number the computer will accept as a match. Type in the lowest amount of the range you want to search for and press **RETURN**.

3. The screen prompt should now read ENTER THE HIGHEST AMOUNT?. This is the largest number the computer will accept for a match. Type in the highest amount of your range, and press **RETURN**.

4. Type in the field numbers you want to use for your search, or use the **F4** key to help you find the field numbers.

5. Enter the numbers of the first and last records in the group you want to search. If you don't want to enter two numbers, press **RETURN** twice, and the computer will search all of the records in your file.

6. Next you will be asked if you want to perform an X-SEARCH. Press **N** for no. (See page 75 for more information on X-SEARCH.)

7. Now press **Y** for yes if you want to view the matches. The
    computer will then display all the records that it finds that
    contain the amount range you specified.

8. As the computer displays each matching record, you will be
    able to modify a record by pressing **F1** and entering your new
    data. Then press **F2** to view the next match. Press **Esc** to exit
    this option.

Searching by Date Range

DATA MANAGER 128 allows you to search through your
records for a certain date range, chosen by you, using "By Date
Range" on the SEARCH/EDIT pull-down menu. After selecting
this option, follow these steps:

1. You will be asked DO YOU WANT TO STOP AFTER THE
    FIRST MATCH? (Y/N). Press **Y** if you want to stop the
    search after the first match. Press **N** if you want the computer
    to do a complete search and show you all of the matches.

2. Enter the earliest date in your range using the (MM/DD/YY)
    format. This will be the earliest date that the computer will
    accept as a match.

3. Type in the latest date you want to use for your range.

4. Enter the numbers of the fields you want to use for your
    search, or use the **F4** key to help you find the field numbers.

5   You will now be asked for first and last record numbers in
    the group you want to search. Enter two numbers of records
    in your file, or press **RETURN** twice, and the computer will
    automatically search all of the records in your file.

6. Next you will be asked if you want to perform an X-SEARCH. Press Ⓝ for no. (See page 75 for more information on X-SEARCH.)

7. Now press Ⓨ for yes if you want to view the matches. The computer will then display all the records that it finds that contain the date range you specified.

8. As the computer displays each matching record, you will be able to modify a record by pressing Ⓕ1 and entering your new data. Then press Ⓕ2 to view the next match. Press Ⓔsc to exit this option.

Using X-SEARCH

DATA MANAGER 128 contains powerful cross-search capabilities which allow you to continue narrowing each data search down until the only records remaining contain your specific selections.

For example, let's say your data format includes NAME, ADDRESS, CITY, STATE, ZIP, BIRTHDAY, and NO. OF CHILDREN fields, and you want to find only those people in your records who:

– live in Chicago, and

– live on Western Avenue, and

– were born between 11/11/11 and 01/05/53, and

– have between 3 and 7 children

THIS IS A JOB FOR X-SEARCH!

X-SEARCH passes through the items that matched on the search just performed. This action continues until the computer has narrowed the selection down to the exact records you specified.

Here's what to do:

1. Select "By Field Element" on the SEARCH/EDIT pull-down menu and follow the prompts to search the CITY field for Chicago. You do not need to view the records yet.

2. Select "By Field Element" again and follow the prompts to search the ADDRESS field for Western Avenue. When the prompt X-SEARCH? (Y/N) appears, press **Y** for yes. You do not need to view the records yet.

3. Select "By Date Range" and follow the prompts to search the BIRTHDAY field for birthdays between 11/11/11 and 01/05/53. Press **Y** in response to X-SEARCH? (Y/N). You do not need to view the records yet.

4. Select "By Amount Range" and follow the prompts to search the NUMBER OF CHILDREN field for amounts between 3 and 7. Press **Y** in response to X-SEARCH? (Y/N).

   Now you can view the records using the "By Record Number" option on the SEARCH/EDIT pull down menu. Just press **RETURN** twice when asked for the record numbers you want to view, and press **Y** in response to X-SEARCH? (Y/N). Then press **Y** when asked if you want to view matches. The records from your last search will appear on your screen.

- Writing Reports
  Creating the Report Format
  Printing Your Report
  Saving and Loading Report Formats
  When You are Done Producing Reports
- Printing Labels
  Creating the Label Format
  Printing Your Labels
  Saving and Loading Label Formats
  When You Are Done Printing Labels
- Dumping Records to Your Printer
  Dumping Information to Your Printer
  When You Are Done Printing Records

DATA MANAGER 128 offers you three ways to print your data: in columned report form, on printed labels, or dumped to your printer. To print your records, select the PRINT/SORT menu heading in DATA MANAGER's main program. Let's look at reports first.

■ Writing Reports

DATA MANAGER's exclusive Report Writer feature turns all of your valuable information into printed manuscript form. You can create reports with up to 40 column headings to organize the information on your data disk.

Below you will see a report with 15 column headings. (Spaces between columns are treated as column headings.)

WIDGET INC. SALES REPORT
11/30/88

CUSTOMER NAME	CUST #	TO DATE	LAST YR	% of L/Y	AV. SALE YR TO DTE	AV. SALE LAST YR	% L/Y AVG
ACME IND.	23456-89	2345.45	8956.78	26.2	781.82	1119.60	69.8
B-LINE INC	67890-23	8793.98	8234.09	106.8	2198.50	1646.82	133.5
S/W UNITED	56782-09	45123.89	32987.34	136.8	9024.78	6597.47	136.8
SMITH CO.	12376-34	65784.23	67325.88	97.7	6578.42	7480.65	87.9

To create a report, select "Print Records" on the PRINT/SORT pull-down menu. Follow the prompts on your screen to load DATA MANAGER's Report Writer section into your computer. You will then see three new menu headings: FILES, DEFINE/ WRITE, and EXIT.

NOTE: Be sure to open a file before selecting the PRINT/SORT menu heading.

Creating the Report Format

In order to print out reports, you must specify a format for your report. First you must choose how you would like the report produced. You have three methods to choose from:

- A printer report is produced on your printer.

- A screen report is produced on your display.

- A disk report is printed on a WORD WRITER 128 data disk for later use in that word processing program.

To choose one of these methods, select the DEFINE/WRITE pull-down menu and press **RETURN**. When the menu appears, select either "Printer Report", "Screen Report", or "Disk Report", and press **RETURN** again.

Now you will be led through the procedure for report format specification.

1. First you will be asked to enter the width (number of characters across) of your report. Enter a number from 10 to 250. A typical 8½" by 11" sheet of paper is 80 characters wide.

2. Next you will be asked to enter a title for your report. You will be able to use three lines. Enter a title and press **RETURN**.

3. Now you must tell the computer what each report column will contain. Type in the number of the field that you want printed in column 1 of your report. You may also use the **F4** key to help you find your field numbers.

The computer will ask you to enter a title for your column. Type in the title and press **RETURN**.

The computer does not automatically insert spaces between report columns, so you must tell the computer when you want spaces added to your report. Do so by entering an "s" followed by the number of spaces you want added between columns.

Example:

If you want to place five spaces between two columns, enter s5 in reponse to WHAT FIELD IS TO BE PRINTED IN COLUMN ##?. The computer will then put five spaces in that column. Added space between columns is treated as one column.

4. You may also specify calculations for a report column. A calculation can use the contents of another column or an amount from your data base. To tell the computer that you want a column to hold the results of a calculation, enter a "c" and press **RETURN** in response to WHAT FIELD IS TO BE PRINTED IN COLUMN ##?. You will be prompted to enter a calculation. Use the same method as in the Initialization section of this program to enter a calculation or an IF . . . THEN . . . ELSE statement (see page xx for more on entering calculations). To tell the computer to use an amount from a previous column, enter a "c" followed by the number of the column that holds the amount you want to use. To tell the computer to use an amount from your data base, enter an "f" followed by the number of the field you want to use.

Example:

To show the sum of column 1 and column 2 in column 3, you would enter the formula c3 = c1 + c2 in column 3.

5. Continue specifying fields and spaces for your report in this manner. The upper right-hand corner of your screen will show you the number of spaces (characters) you have left for your report format. The computer will automatically advance to each column, and you will be able to choose the contents of up to 40 report column headings. Added space between columns is treated as one column.

6. When you have finished defining your report, press the ▨Esc▨ key. To view and modify the format of your report, press ▨Y▨ in response to the prompt DO YOU WANT TO MAKE CHANGES? (Y/N). The description for the first column in your report will be displayed in a window on your screen.

```
  USE THE COMMAND KEYS SHOWN BELOW
 ─────────────────────────────────────

   COLUMN NUMBER:     01
   COLUMN HEADING:    NAME
   FIELD NUMBER:      F02
   COLUMN LENGTH:     25
   DECIMAL DIGITS:    00
   REMAINING SPECS:   49

 MEALS    ____  ____  ____  ____  ____  ____  ____  ____
 GAS      ____  ____  ____  ____  ____  ____  ____  ____
 REC      ____  ____  ____  ____  ____  ____  ____  ____
 OTHER    ____  ____  ____  ____  ____  ____  ____  ____

 DAILY TOT ____ ____  ____  ____  ____  ____  ____  ____




   ▮ <Esc> MENU  <F1> MODIFY  <Arrow> SELECT HEADING ▮
```

Press **F1** to change the report column currently in the window. Press the left cursor key to view the previous column heading, or press the right cursor key to view the next column. If you press **F1** to modify a column, the following prompt will appear:

DO YOU WANT TO ADD, CHANGE, DELETE, OR INSERT? (A/C/D/I)

Press **A** to add a column to the end of your report format. Press **C** to change the contents of the report column. Press **D** to delete the entire column, or press **I** to insert a column. After you have chosen the type of modification you want, the window will disappear and you will be asked to specify a field for the report column. The window will then reappear.

Use the right and left cursor keys to move to other columns. When you are done viewing your report format, press the **ESC** key and move on to the next section of this manual.

Printing Your Report

Before printing your report, you will be given an opportunity to modify your report title. Follow the prompts on your display to do so, and then perform these steps to print your report:

1. First you will be asked to specify the beginning and ending record numbers of the group you want to use for the report. Type in two numbers, or press **RETURN** twice to default to the first and last records of your file.

2. Next you will see the prompt ALL OR LAST SEARCH? (A/L). To use only those records found in your last search, press **L**. To use your entire data file, press **A** for all.

If you choose "Printer Report", you will now be asked for information about your printer and interface. Turn to page 54 for instructions on responding to these prompts. After you have responded to these prompts, your report will print out.

3. You will see the prompt DO YOU WANT TO ENTER A PRINTER COMMAND? (Y/N). Press ▊ if you would like to specify a printer code for your printer at this time.

NOTE: For more information on printer codes, see your printer manual.

Example:

If you are using an Epson printer and you would like your printout to be in compressed type, press ▊ in response to the above prompt. Then in response to

ENTER A PRINTER COMMAND?
chr$(   );chr$(   );chr$(   )

type in 15 between the first set of parentheses and press **RETURN**. This is the only code you need for compressed type, so press **RETURN** again until the printer code prompt returns. Your printer is now ready to print in compressed type.

4. When you are finished with these steps, your report will be produced on your printer or screen or written on your WORD WRITER 128 data disk, according to the option you chose when you began working with this section. Be sure to follow the prompts in the prompt box to obtain the report you requested. (If you requested a printer report with a special printer code, you can turn off that code by simply turning off your printer after it's finished producing your report. Be sure to turn the printer on again before continuing.)

Saving and Loading Report Formats

After you have specified a format for your report, you may want to save that format on your WORK disk for later use. Select the "Save Report File" option on the FILES pull-down menu. Follow the prompts on your screen. You will be told to place a formatted WORK disk in the drive and name the report format to be saved.

To load (recall) your report format from your work disk, select the "Load Report File" on the FILES pull-down menu. Follow the prompts on your screen to load your report format into the computer. You will now be able to use it to print out reports.

NOTE: If you would like to view a listing of the files on the disk in your disk drive, select the "View Directory" option on the FILES pull-down menu and follow the prompts on your screen.

When You Are Done Producing Reports

When you are finished producing reports, you can leave this section of DATA MANAGER 128 by using the "Return to DM Main" option on the EXIT pull-down menu.

■ Printing Labels

You can print your stored information onto mailing labels, price tags, inventory labels, or any type of identification tag with the DATA MANAGER 128 Label Writer. The label printing feature can also be used to transfer address information to the WORD WRITER 128 for printing form letters. (See the WORD WRITER manual for more information on form letter printout.)

To produce labels, select "Print Records" on the PRINT/SORT menu in the DATA MANAGER main program. You will then see three new pull-down menus: FILES, DEFINE/WRITE, and EXIT.

NOTE: Be sure to open a file before selecting the PRINT/SORT menu heading.

Creating the Label Format

The first step in printing labels is to specify where data will be placed on the label. To create this label format, select either "Printer Labels" or "Disk Labels" on the DEFINE/WRITE menu. Printer labels are produced on your printer while disk labels are stored on a WORD WRITER 128 data disk for use with that program.

1. First, you will be asked to enter the number of label lines you wish to use. Enter a number from 1 to 19. A typical address label has 5 lines. (If you have stored another format in the computer's memory, you will be warned that it will be erased. You may want to save it on your WORK disk using the "Save Label File" option on the FILES pull-down menu.)

2. Next, you will be asked to specify the width (number of characters across) of one of your labels. Enter a number from 1 to 76. A typical address label is 35 characters across.

3. Now you must tell the computer what information to print on each line of the label. Type in the numbers of the fields you want printed on label line 1. Type in the field numbers the same way you did in the DATA MANAGER main program when you specified your search fields. You may also use the F4 key to find your field numbers.

Example:

If you want to use field numbers 1, 5, 12, and 15 on label line number 1, you would enter f1,f5,f12,f15 in response to the prompt above.

Spaces will not be placed automatically between each field printed on a label. If you would like spaces placed between fields, enter an "s" followed by the number of spaces you want.

Example:

If you want to place 5 spaces between the information from fields 1 and 5 and 14 spaces between the information from fields 12 and 15, you would enter f1,s5,f5,f12,s14,f15 in response to the prompt.

4. Specify the fields you want to print on each of your other label lines. When you have entered the contents of each of your label lines, the label format will be displayed. You will now see how the label will look for your first record. (The # symbols represent spaces.) If you are satisfied with the label format as shown, press **Esc** and you will be able to go on to print your labels. If you would like to change the label format, press **Y** in response to the prompt, and you will be able to re-enter your label format.

Printing Your Labels

1. Now you will be asked to specify the beginning and ending record numbers you want to use for label printout. Either type in two numbers or press the **RETURN** key twice to default to the first and last records on your file.

2. The prompt will read ALL OR LAST SEARCH? (A/L). If you want to print only the labels for the records found in the last search you did in the DATA MANAGER 128 main program, press █. If you want to use your entire data file for label printout, press █.

If you chose "Printer Labels", you will now be asked for information about your printer and interface. Turn to page 54 for instructions on responding to these prompts. After you have responded to these prompts, your labels will print out. You may stop printing at any time by pressing the **Esc** key.

Saving and Loading Label Formats

After you have specified a label format, you may want to save that format on a data disk for later use. To save your label format, select "Save Label File" on the FILES pull-down menu. Follow the prompts on your screen.

To load a label format from disk, select "Load Label File" on the FILES pull-down menu. Follow the prompts on your screen. You will be asked to enter the name of the file. After the label format is loaded into the computer you will be able to use it to print your labels.

When You Are Done Printing Labels

When you are finished printing labels, you can leave this section of DATA MANAGER 128 by using the "Return to DM Main" option on the EXIT pull-down menu.

■ Dumping Records to Your Printer

You may want to dump the data you have stored on your data disk to your printer. You will be able to do this using the DATA MANAGER Record Dump feature. A record dump can give you a "hard" copy of your data base information for safekeeping.

NOTE: The Record Dump feature only prints information from your data disk; IT DOES NOT ERASE THE DATA FROM YOUR DISK.

To dump records to the printer, select the "Print Records" option on the PRINT/SORT pull-down menu. After the Record Dump section is loaded into the computer, you will see three new pull-down menus: FILES, DEFINE/WRITE, and EXIT.

NOTE: Be sure to open a file before selecting the PRINT/SORT menu heading.

Dumping Information To Your Printer

To dump your data to your printer, use the cursor keys to select the "Record Dump" option on the DEFINE/WRITE pull-down menu.

1. You now have two options: you can print your data "With Titles" or "Without Titles". If you choose "With Titles", your records will be printed with the titles you specified when you set up your data format during the Initialization program. If you choose "Without Titles", your records will be printed without field titles.

2. You must tell the computer how many characters wide your printer paper is. Enter a number from 10 to 250. (Most printers print 80 characters across.)

3. Next you will be asked DO YOU WANT TO DUMP ALL THE FIELDS OR A SPECIFIC RANGE? (A/S). Press **A** if you want to print out all the fields in your record or press **S** if you want to print out specific fields.

   If you press **A** in response to this prompt, you will move immediately to step 4 below.

   If you press **S** in response to the above prompt, you must choose which fields you want dumped to your printer. Use the cursor keys to move the cursor to the field (or fields) you want printed, and press the **RETURN** key. The fields will be highlighted. Press the **ESC** key when you are done choosing fields to be printed. You will then be given a chance to make changes.

4. Specify the beginning and ending record numbers to use for a record dump. Either type in numbers or press the **RETURN** key twice to default to the first and last records on your file.

5. Next you will be asked to specify the group of records you wish to print out. To dump only the records found in the last search you did in the DATA MANAGER main program, press **L**. To use your entire data file for the record dump, press **A**.

6. You will be asked to enter a title for your record dump. Follow the prompts on the display.

7. Now you will see several prompts about your printer and interface. You may remember these prompts from the "Print Format Report" menu option. If not, turn to page 54 for instructions on responding to these prompts.

8. Next you will see the prompt DO YOU WANT TO ENTER A PRINTER COMMAND? (Y/N). Press 🄨 if you would like to specify a printer code for your printer at this time.

NOTE: For more information on printer codes, see your printer manual.

Example:

If you are using an Epson printer and you would like your printout to be in compressed type, press 🄨 in response to the above prompt. Then in response to

ENTER A PRINTER COMMAND?
chr$(   );chr$(   );chr$(   )

type in 15 between the first set of parentheses and press **RETURN**. This is the only code you need for compressed type, so press **RETURN** again until the printer code prompt returns. Your printer is now ready to print in compressed type.

9. Your data will now be printed on your printer. To stop printing at any time, press the **Esc** key.

When You Are Done Dumping Records

When you are finished dumping records, you can leave this section of DATA MANAGER 128 by using the "Return to DM Main" option on the EXIT pull-down menu.

7
Sorting Records

DATA MANAGER 128 has the capability of sorting your records alphabetically, numerically, or chronologically (by date). To perform a sort, select "Sort Records" on the PRINT/SORT pull-down menu. Then perform these steps to sort your records:

1. Press **Y** when asked if you want to do a sort. Next you will be asked if you want to do a quick sort. A quick sort sorts your records by the first few characters in the sort field (you specify the number of characters, from 1 to 8) instead of sorting by the entire field. DO NOT use a quick sort on a number field.

    Press **Y** to perform a quick sort, and then enter the number of characters for the sort. Press **N** for a complete sort.

2. You may now designate up to 10 fields for the sort. The first field you choose is called the "primary" field. This is the first field the computer will look at when it sorts your records.

    For example, let's say you have a customer list that holds the customer's name, zip code, and date of last sale. You want to sort this file so that your customers will be listed by zip code and date of last sale, as well as alphabetically. Enter the field numbers for the "zip code" field, the "last sale" field, and the "customer's name" field.

    To tell the computer which fields to sort, enter the field number, if you know it, or use the **F4** key to enter field numbers. If you press the **ESC** key instead of entering a number, the menu headings will appear. When you have entered all the field numbers you want to sort, press **RETURN**.

3. Now you must tell the computer whether you want your records sorted into ascending or descending order. In response to the prompt, select either "Ascending" or "Descending", and press the **RETURN** key.

4. The computer will now read and sort your data. It will compare the fields you have specified and place them in their proper position in the file. The record number currently being read will be displayed on your screen.

NOTE: The length of time for the sort will be determined by the number of records that need to be sorted, and the number of fields you have designated to be sorted.

---

5. When the computer finishes sorting your records, it will write the new X-SORT sequence onto your data disk. This is the sequence that the computer uses to keep track of the order of your records. Once the X-SORT sequence has been written on your disk, the menu headings will appear, and you will be able to continue using the program.

6. Now re-load DATA MANAGER 128 into your computer using the instructions in Chapter 4.

- Using Statistics
- Generating Graphics

**8
Statistics
and Graphics**

■ Using Statistics

DATA MANAGER 128 has the capability to analyze your information and display statistics for you. Statistics can tell you a lot about the information on your data disk. For example, you can find out how many times an item occurs in a file, or you can find out the relationship between two different sets of numerical data in your file. It is virtually painless to extract the specific type of information you need from your data to do a statistical analysis. To begin a statistical analysis, follow these steps:

1. You will first be asked to specify a field in your format for the statistical analysis. Enter an "f" followed by the field number (for example, field 10 would be entered as f10). You may also use the **F4** key to select a field.

2. Next you will be asked to choose the beginning and ending record numbers of the records you want to analyze. Either type in record numbers or press the **RETURN** key in response to these prompts and the computer will use the first and last record in your file.

3. Next you will be asked to specify which group of records to use for the analysis, all of the records in your file or only the records found in your last search.

4. Finally, the computer will access your data disk and calculate the statistics for the parameters you have specified. The statistics will be displayed on an easy-to-read table like the following one.

```
┌──────────────────────────────────────────────────────────┐
│                                                          │
│ ┌──────────────────────────────────────────────────────┐ │
│ │  USE THE COMMAND KEYS SHOWN BELOW                      │ │
│ ├──────────────────────────────────────────────────────┤ │
│ │                                                        │ │
│ │                                                        │ │
│ │                   STATISTICAL DATA                     │ │
│ │                                                        │ │
│ │           FILE TITLE:  SAMPLE                          │ │
│ │          FIELD NAME:  TOT/TOT                          │ │
│ │        FIELD NUMBER:  64                               │ │
│ │   NUMBER OF RECORDS:  72                               │ │
│ │    RECORDS SEARCHED:  4                                │ │
│ │         LOW AMOUNT:  133                               │ │
│ │        HIGH AMOUNT:  3913                              │ │
│ │                SUM:  8839                              │ │
│ │            AVERAGE:  2289.75                           │ │
│ │            STD DEV:  1990.24678118                     │ │
│ │          INCREMENT:  52.5                              │ │
│ │                                                        │ │
│ │                                                        │ │
│ │                                                        │ │
│ ├──────────────────────────────────────────────────────┤ │
│ │ <Esc> MENU                                             │ │
│ └──────────────────────────────────────────────────────┘ │
│                                                          │
└──────────────────────────────────────────────────────────┘
```

When you are finished viewing your statistics, use the **Esc** key
to return to the menu headings.

For an explanation of the terms used in this table, such as "stand-
ard deviation", see the glossary at the front of this manual.

NOTE: The computer will make two passes through your records
while your information is being processed.

■ Generating Graphics

DATA MANAGER 128 has the capability to produce graphic representations of the information on your data disk. These graphs will help you analyze and visualize all kinds of trends in your data.

To generate graphs from your data, select the STATS/GRAPHICS menu heading in the DATA MANAGER 128 main program, and then select the "Graphics" menu option.

1. First you will be asked if you want to view a bar chart or an X-chart. Press ◨ for bar chart or ◪ for X-chart.

2. If you pressed ◪ in step 1, you will be asked to enter the number of an alphanumeric or date field that you want to use as an index on your graph. The information in the index field is used by the computer to figure a relationship to your numerical data.

   Example:

   Let's say you choose to graph the contents of a number field which holds the monthly sales amount for a salesman. For your index field, you can choose an alphanumeric field with the salesmen's names. The computer will use this information to produce a graph showing you the trends in each person's sales for a specific month.

   You will now be prompted to enter the number of the numeric field you want to graph. Do so, and move on to step 4.

3. If you pressed ◨ in step 1, you will be asked to ENTER THE FIELD NUMBER YOU WANT TO GRAPH?. Enter the number of the field that holds the values that you want to graph. The field you use for your graph must be a number field or a calculation field.

4. Enter the record numbers of the first and last records in the group you want to use. Enter two numbers, or press **RETURN** twice. The computer will automatically use the first and last records in your file.

5. Next you will be asked what group of records you want to use for your analysis, all of the records in your data file or only those the computer found in the last search you performed. Press **A** for all or **L** for last search. Your graph will then appear on your screen. Following are a sample Bar Chart and a sample X-Chart.

Bar Chart

```
┌─────────────────────────────────────────────────────────────────────┐
│                                                                       │
│    X-Chart for Sales region:                                          │
│                                                                       │
│    —INDEX—     —VALUE—      —PERCENT—0%···················80%···················100%  │
│    South       20506.04        16.75% ▰▰▰▰                             │
│    East        15656.57        12.79% ▰▰▰                              │
│    North       16172.74        13.20% ▰▰▰                              │
│    West        24861.69        20.30% ▰▰▰▰▰                            │
│    Central     45258.96        36.96% ▰▰▰▰▰▰▰▰▰                        │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│    ▮<Esc> ESCAPE▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮        │
└─────────────────────────────────────────────────────────────────────┘
```
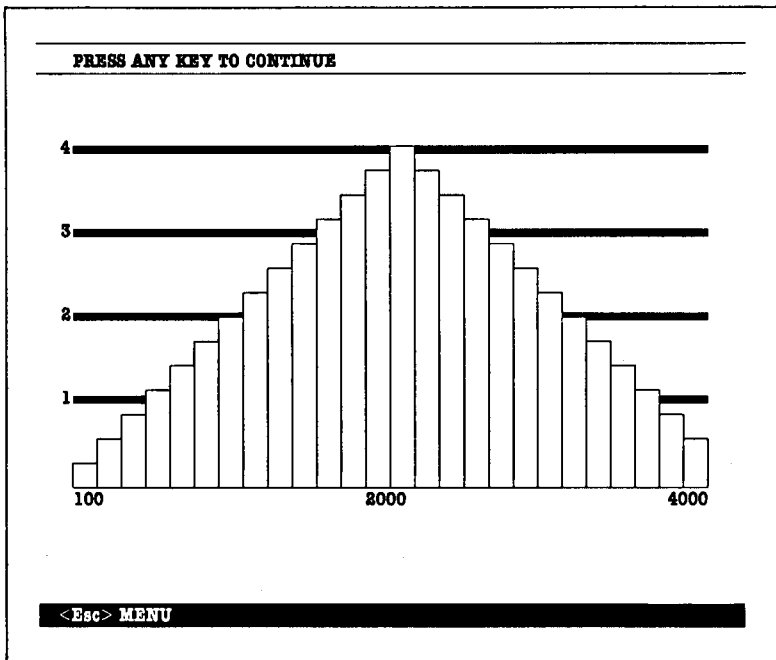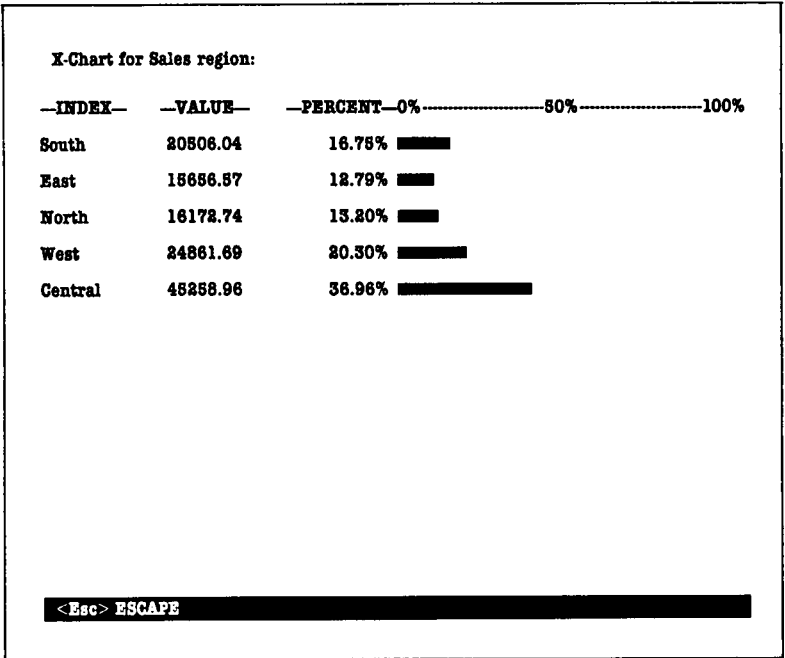
X-Chart

When you are finished viewing graphics, press **Esc** to return to the menu headings.

9
Ending the
Program

When you are done working with DATA MANAGER 128, you can end the program by using an option on the QUIT pull-down menu in the main program. If you use any other method to end the program, such as simply turning off your computer in the middle of the program, you may lose some of the data you entered during the current session. When you exit the program using an option on the QUIT pull-down menu, the computer automatically updates your file and stores all of your new data on your data disk.

To exit the program safely, select the QUIT pull-down menu. When the menu appears, select "Return To The System" (returning control of your computer to the operating system). Then select one of the following ways to return to the system:

● Replace the program disk in the disk drive with a data disk or a program disk that is not self-booting. If the computer doesn't find a self-booting program on a disk in the drive, it returns you to the operating system.

OR

● Turn off your disk drive after selecting "Return To The System". If the disk drive is not present, the computer will return to the operating system.

OR

● Place a self-booting program disk, such as Timeworks SWIFTCALC 128 or WORD WRITER 128, in the disk drive.

DO NOT leave your disk drive empty after selecting "Return to System". If your disk drive is on but you have not placed a disk inside, the drive will grind as the computer looks for a disk there. This may eventually harm your drive.

■ Interfacing with WORD WRITER 128

The DATA MANAGER 128 is specially designed to interface
with the Timeworks WORD WRITER 128 word processing pro-
gram. This interface allows you to transfer information from the
DATA MANAGER to the WORD WRITER, which will help
you reduce both your information entry time and the amount of
typographical errors in your data. There are two ways to use this
interface effectively.

Printing Form Letters

You can use DATA MANAGER's Label Writer to create a format
for your name and address lists, which you can use to individu-
alize any form letters you produce with the WORD WRITER
128. With WORD WRITER's form letter printout capabilities,
you only have to type in the body of a letter once. When you
print your letters using this interface, the computer will automat-
ically customize your letters using the name and address lists
stored in DATA MANAGER.

See "Printing Labels" on page 83 of this manual for information
on creating address lists for form letter printout. See your WORD
WRITER 128 manual for instructions on printing form letters.

Writing Reports

You can transfer a report that you produced with your DATA
MANAGER 128 to your WORD WRITER 128, and then add
text to that report with the help of your WORD WRITER word
processing program. This will give you the ability to produce
written reports that contain numerical data and the results of
calculations that you have stored in your DATA MANAGER.

For instructions on using this interface for writing reports, see "Writing Reports" on page 77 of this manual. Then consult your WORD WRITER 128 manual for instructions on merging your DATA MANAGER 128 report file into a WORD WRITER 128 document.

■ Interfacing with SWIFTCALC 128

One of DATA MANAGER's most powerful features is its ability to interface with Timeworks' SWIFTCALC 128 spreadsheet program. This interface capability allows you to transfer information from DATA MANAGER 128 into spreadsheets produced with SWIFTCALC 128, thereby eliminating data entry errors.

Since SWIFTCALC 128 and DATA MANAGER 128 do not use the same type of file structure, you need to convert your DATA MANAGER 128 data into a form that SWIFTCALC can read. We have provided an option on the DATA MANAGER 128 program disk to allow you to do this. This program lets you tell the computer exactly which records you want to use. Once you have created a DM/SWIFTCALC file with your DATA MANAGER 128 data, you can load this data into a SWIFTCALC spreadsheet.

To interface DATA MANAGER 128 with SWIFTCALC, select the "DM/SWIFTCALC File" option on the DEFINE/WRITE pull-down menu in the Print program. You will use this option to convert the data in your data file to a form that SWIFTCALC will be able to read. You will then have what we call a DM/SWIFTCALC file – a data base file that SWIFTCALC can use in a spreadsheet.

Creating a DM/SWIFTCALC File

Your first record will appear on your display. Use the command keys shown on your screen to locate and enter the number of the

field that contains the data you want to interface. Then press
Esc. You will be asked if you want to change your entries. Press
Y to modify your choices or **N** to continue.

Now you will be asked to specify the beginning and ending
record numbers you want to use. Either type in two numbers, or
press the **RETURN** key twice to tell the computer to use your first
record as the beginning record and your last record as the ending
record.

You will now be asked to specify the group of records you wish
to interface. The prompt will read ALL OR LAST SEARCH?
(A/L). To use the records found in the last search you performed
with DATA MANAGER 128, press **L**. To use your entire data
file, press **A**.

NOTE: The computer can only use information from a maximum
of 250 records when creating your DM/SWIFTCALC file. This
is because there are only 250 rows and 250 columns in
SWIFTCALC, so there is only room to display information from
250 records. If you choose to interface records from the last
search done with DATA MANAGER 128, the computer will
only be able to use the first 250 matches it finds on your data
disk. If you choose to interface all of your records, and you have
more than 250 records, the computer will use the first 250 records
on your DM data disk to create your DM/SWIFTCALC file.

Now enter a name for your new DM/SWIFTCALC file, and
press the **RETURN** key. The information you have selected will
be stored on your DATA MANAGER 128 data disk under this
name.

NOTE: If you remove a disk from the disk drive without being told to do so by the computer, you will see a NO CHANNEL error message on your screen and your data file will be closed. To correct the error, use the "Open New File" option on the FUNCTIONS pull-down menu to re-open your data file.

NOTE: While you are working with the interface program, you can view the files on a disk using the "View Directory" menu item on the FILES pull-down menu. This menu option works in exactly the same way as it does in DATA MANAGER 128. If you need to review the "View Directory" menu item, see page 67 of this manual.

When the computer is finished saving the file you will be notified.

You can create as many DM/SWIFTCALC data files as you wish. You can then load these files into SWIFTCALC, one at a time, using the directions in that manual.

NOTE: You can only store up to five interface files on your DM128 data disk. If you have more than that, you must use another formatted data disk.

It is also a good idea to erase interface files from your DM128 data disk after you have finished working with them. You can then conserve space on your DM128 data disk to use for your data base information.

- Finding the Sum of Five Numbers
- Subtracting Three Numbers from One Amount (Profit on a Sale)
- Multiplying Two Numbers By Each Other (Cost of an Item)
- Adding Four Numbers and Multiplying Them By Another Number (Standard Mark-Up)
- Dividing One Number by Another
- Calculating a Percentage
- Using IF . . . THEN . . . ELSE Statements

This chapter contains some examples of how you can use the calculation capabilities of this program.

■ Finding the Sum of Five Numbers

Task: Find the sum of five numbers in fields 7,8,9,13, and 14 and put the solution into field 20.

Formula: $f20 = f7 + f8 + f9 + f13 + f14$

Comments: This type of calculation may be used to find the sum of the amounts in any number of fields. The only constraints are 1) that a formula can have only 63 characters in it, and 2) that you can use only number fields or calculation fields for a calculation.

■ Subtracting Three Numbers from One Amount (Profit on a Sale)

Task: Find the sum of three amounts in fields 4,5, and 6, then subtract that number from an amount in field 10, and place the final result in field 22. This type of calculation would be used to find the profit on a sale. Fields 4,5, and 6 could represent the costs of production and 10 could be the revenue from the sale.

Formula: $f22 = f10 - (f4 + f5 + f6)$

Comments: In this formula, the parentheses tell the computer which values to compute first.

■ Multiplying Two Numbers By Each Other (Cost of an Item)

Task: Multiply the two numbers in fields 12 and 14, and place the product in field 16. This type of formula can be used to find the total cost of an item purchased. The two values that are multiplied represent the quantity and the unit price.

Formula: f16 = f12*f14

Comments: The * symbol is used for multiplication calculations.

■ Adding Four Numbers and Multiplying Them By Another Number (Standard Mark-Up)

Task: Find the sum of four numbers in fields 3,4,5, and 6, and multiply that sum by the number in field 10. The result should be placed in field 11. This is a calculation that could be used to find the price you should charge for an item based on a markup. The amounts in fields 3 through 6 represent the production costs of the product.

Formula: f11 = (f3 + f4 + f5 + f6)*f10

Comments: Parentheses tell the computer which amounts to calculate first. The * symbol is used for multiplication calculations.

■ Dividing One Number By Another

Task: Find the result of an amount in field 7 divided by an amount in field 8, and place the result in field 9.

Formula: f9 = f7/f8

Comments: The / symbol is used for division calculations.

■ Calculating A Percentage

Task: Find the percentage relationship between the amount in field 3 and the amount in field 20, and place the result in field 21. This is how to calculate the percentage of one sale in relation to your total sales.

Formula: $f21 = (f20/f3)*100$

Comments: In this formula, multiply by 100 to convert the result into a percentage figure.

■ Using IF . . . THEN . . . ELSE Statements

Task: Find the amount to charge a customer for freight on his shipment of goods. Your company policy is to charge a flat rate of 5% for freight unless the order totals over $1,000, and then no freight is charged. In your format, field 29 holds the amount for the total sale, and field 30 holds the amount for freight charges.

Formula: $f30 = $ IF $f29 < 1000$ THEN $f29*.05$ ELSE 0

Comments: This formula essentially reads "if the amount in field 29 is less than $1,000, then multiply that amount by 5% (5% is represented by the figure .05) and place the resulting amount in field 30." The IF . . . THEN . . . ELSE statement is used to perform logical calculations. Using the information in the statement, the computer can decide for you if this customer should be charged for freight.

12
Troubleshooting

PROBLEM	PROBABLE REMEDY
PROGRAM WILL NOT LOAD	1. Turn off computer and try again. 2. Clean heads on disk drive. 3. Check computer hookup. 4. Make sure PROGRAM DISK, not data disk, is in disk drive.
DISK READ OR WRITE ERROR	1. Insert correct disk into disk drive. 2. Use a better quality disk for data. 3. Replace data disk with previous backup. 4. Remove write protection tape from data disk. 5. Be sure you are using a new formatted data disk. See your computer manual for instructions on formatting data disks.
PROGRAM FREEZES due to disk drive failure	Turn your disk drive off, then on again, and reload program. (Your data will not be harmed.)
PROGRAM WILL NOT ADVANCE PAST PASSWORD	Use correct password.
SCREEN BLANKS OUT, PROGRAM LOST (due to power fluctuations)	Restart all devices and reload the program.

OTHER PROBLEMS	Call TIMEWORKS - (312) 948-9200

ERROR MESSAGES	ACTION TO TAKE
NO CHANNEL ERROR	This message appears when you remove a disk from your drive without being told to do so by the computer. To correct the error, use the "Open New File" option on the FUNCTIONS pull-down menu to re-open your data file.
Program Freezes and DISK FULL Message Appears	Use the Directory option in your computer's operating system to view your data disk's directory. If the directory shows less than 5 blocks free, use the Initialization section of this program to create a new data disk. (The data on your first disk has not been harmed, but you cannot add any data to that disk.)

- Keys Used to Add Records
- Creating an Address List for Form Letter Printout
- Deleting Records From Your Data Base
- Generating Graphics
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Facts at Your
Fingertips

Keys Used to Add Records (Chapter 5)

INST/DEL   Backspace key deletes characters.

TAB   Moves the cursor to the next field.

RETURN   Used to enter information into a field and to bypass a field.

F1   Used to enter "Modify" mode.

F2   Stores a record on a data disk or moves to next record.

F3   Copies a field from the previous record into the same field of the current record.

F4   Identifies field where cursor is currently located.

F5   Moves cursor to previous page of record.

F7   Moves cursor to next page of record.

Creating an Address List for Form Letter Printout (Chapter 6)

1. Select "Print Records" on the PRINT/SORT pull-down menu in the main program.

2. Select "Disk Labels" on the DEFINE/WRITE pull-down menu.

3. Follow the prompts on your screen to specify a format for your address list.

4. Consult your WORD WRITER 128 manual for instructions on printing form letters using this address list.

Deleting Records From Your Data Base (Chapter 5)

1. Select "Delete Records" on the FUNCTIONS pull-down menu in the main program.

2. Press **S** to delete a single record or **L** to delete all records found in the last search. If you press **S**, enter the number of the record you want to delete.

3. Press **V** to view the record to be deleted.

4. Press **Y** if you are certain you want to delete the records you indicated, and the deletion will take place.

Generating Graphics (Chapter 8)

1. Select "Graphics" on the STATS/GRAPHICS pull-down menu.

2. Press **B** if you want to view a bar chart or **X** for an X-Chart.

3. Enter the field number you want to use for the graph. If you chose an X-Chart you will be asked to select an index field also.

4. Enter the first and last record numbers of the group you want to use for your graph.

5. Press **A** if you want to use all of your records, or press **L** to use only those records found in the last search you performed.

6. Your graph will appear on your screen. Press **Esc** to return to the menu headings.

Inserting Records Into Your Data Base (Chapter 5)

1. Select "Insert Records" on the FUNCTIONS pull-down menu in the main program.

2. Press ▉ in response to the prompt.

3. Enter the record number where you want the new record located in your data base.

4. Enter the information for the new record.

5. Press ▣ to store your new record in your data base at the record number you indicated.

6. Press ▉ to insert more records, or ▉ to exit this option.

Opening a Data Base File (Chapter 5)

1. Select "Open New File" on the FUNCTIONS pull-down menu in the main program.

2. Place your data disk in the disk drive.

3. Enter the name of the data base file you want to open.

4. If requested, enter your password for this file.

5. The data base will be opened.

Printing Labels (Chapter 6)

1. Select "Print Records" on the PRINT/SORT pull-down menu. (Be sure to open a file first.)

2. When the new menu headings appear on your display, select either "Printer Labels" or "Disk Labels" on the DEFINE/WRITE pull-down menu.

3. Enter the number of lines you want to use on each label.

4. Enter the width (number of characters across) of your labels.

5. Specify the field number that will be printed on line 1 of your labels. Repeat this procedure for each of the lines of your labels.

6. Your label format will be displayed on your screen. To modify the format, press ▣ in response to the prompt, and follow the other prompts on your screen to re-enter the label format. When you are satisfied with your format, press ▣.

7. Enter the beginning and ending record numbers of the group you want to use for the report.

8. Press ▣ to use all of your records or ▣ to use those records found in the last search.

9. Press ▣ if you want to enter a printer command or ▣ if you do not. If you press ▣, enter a printer command. The printer will then print the report you requested.

Printing Records (Chapter 6)

1. Select "Print Records" on the PRINT/SORT pull-down menu in the main program. (Be sure to open a data file first.)

2. Select the "Record Dump" option on the DEFINE/WRITE pull-down menu.

3. Enter the width (number of characters across) of your printer paper.

4. Press **A** to print all fields or **S** to print a specific range.

5. Enter the beginning and ending record numbers of the group you want to print.

6. Press **A** if you want to print all of your records or press **L** if you only want to print those records found in the last search.

7. Press **Y** if you want to enter a printer command or **N** if you do not. If you press **Y**, enter a printer command. The printer will then print the records you requested.

Searching By Amount Range (Chapter 5)

1. Select "By Amount Range" on the SEARCH/EDIT pull-down menu in the main program.

2. Press **Y** if you want to stop the search after the first match, or press **N** if you do not.

3. Enter the lowest and highest amounts of the range you want the computer to use for the search.

4. Enter the field numbers where you want the computer to search.

5. Enter the first and last numbers of the records you want the computer to use for the search.

6. If you want to perform an X-Search, press **Y** in response to the next prompt. If not, press **N**.

7. Press **Y** if you want to view the matches found. If not, press **N**.

8. You will be able to modify each matching record as it is found in your data base. When you have finished working with a record, press **F2** to move on to the next record.

9. Press **ESC** to return to the menu headings.

Searching By Date Range (Chapter 5)

1. Select "By Date Range" on the SEARCH/EDIT pull-down menu in the main program.

2. Press **Y** if you want to stop the search after the first match, or press **N** if you do not.

3. Enter the earliest and latest dates in the range that you want the computer to use for the search.

4. Enter the field numbers where you want the computer to search.

5. Enter the first and last numbers of the records you want the computer to use for the search.

6. If you want to perform an X-Search, press **Y** in response to the next prompt. If not, press **N**.

7. Press **Y** if you want to view the matches found. If not, press **N**.

8. You will be able to modify each matching record as it is found in your data base. When you have finished working with a record, press **F2** to move on to the next record.

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9. Press **Esc** to return to the menu headings.

Searching By Field Element (Chapter 5)

1. Select "By Field Element" on the SEARCH/EDIT pull-down menu.

2. Press **Y** if you want to stop the search after the first match, or press **N** if you do not.

3. Enter the item you want the computer to search for in your data base.

4. Enter the field numbers where you want the computer to search.

5. Enter the first and last numbers of the records you want the computer to use for the search.

6. If you want to perform an X-Search, press **Y** in response to the next prompt. If not, press **N**.

7. Press **Y** if you want to view the matches found. If not, press **N**.

8. You will be able to modify each matching record as it is found in your data base. When you have finished working with a record, press **F2** to move on to the next record.

9. Press **Esc** to return to the menu headings.

Sorting Your Data Base Information (Chapter 7)

1. Select "Sort Records" on the PRINT/SORT pull-down menu in the main program. Follow the disk placement prompts on your display.

2. Press **Y** to do a sort. To perform a quick sort, press **Y** again and enter the number of characters for the sort (1-8). For a complete sort, press **N**.

3. Enter the number of the field(s) you want the computer to use for the sort. You may enter up to 10 fields (separate each with a comma).

4. Press **A** to sort your records in ascending order or **D** to sort in descending order.

5. The computer will perform the sort and record your new sorted sequence on your data disk.

6. Re-load DATA MANAGER 128 into your computer.

Using Statistics (Chapter 8)

1. Select "Statistics" on the STATS/GRAPHICS pull-down menu in the main program.

2. Enter the field number that contains the information you want to use for the statistical analysis.

3. Enter the beginning and ending record numbers of the group you want to use for the analysis.

4. Press **A** if you want to use all the records in your file or press **L** if you want to use only those records found in the last search.

5. The computer will access your data base information and display the results of your statistical analysis.

6. Press **ESC** to return to the menu headings.

Viewing and Modifying Your General Information and Password (Chapter 5)

1. Select "General Information" on the SEARCH/EDIT pull-down menu in the main program.

2. When the General Information display appears, press **F1**. Enter any new information you have for the SUBJECT, COMMENTS, LAST REVISION DATE, and PASSWORD fields.

3. Press the **Esc** key to return to the menu headings.

Viewing the Disk Directory (Chapter 5)

1. Insert your data disk in the disk drive.

2. Select "View Directory" on either the FUNCTIONS or FILES pull-down menu in any section of the program.

3. The directory of your data disk will appear on your screen. To return to the menu headings, press **Esc**.

Writing Reports (Chapter 6)

1. Select "Print Records" on the PRINT/SORT pull-down menu. (Be sure to open a data file first.)

2. When the new menu headings appear on your display, select either "Printer Report", "Screen Report", or "Disk Report" on the DEFINE/WRITE pull-down menu.

3. Enter a title for your report.

4. Enter the width (number of characters across) of your report.

5. Specify the field number that will be printed in column 1 of your report. Repeat this procedure for each of the columns in your report. There are 40 columns available.

6. Press **Esc**. To view and modify a report column, press **Y** in response to the next prompt. A description of your first column will appear in a window at the top of your display. Use the right and left cursor keys to select a column description. Then follow the prompts on your display and use the keys shown in the command bar to modify this report column.

7. Select another column description to modify, or press **Esc** if you want to print your report.

8. Enter the beginning and ending record numbers of the group you want to use for the report.

9. Press **A** to use all of your records or **L** to use those records found in the last search.

10. Press **Y** if you want to enter a printer command or **N** if you do not. If you press **Y**, enter a printer command.

11. Your report will be produced on your printer, screen, or disk.

Writing Reports Using Information from DATA MANAGER 128 and WORD WRITER 128 (Chapter 10)

1. Select "Print Records" on the PRINT/SORT pull-down menu in the main program.

2. Select "Disk Report" on the DEFINE/WRITE pull-down menu.

3. Follow the prompts to design a report using your data base information.

4. Consult your WORD WRITER 128 manual for instructions on merging this report with a WORD WRITER text file.

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Personal Computer Software

Timeworks has put the **personal** in Personal Computer Software.

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TIMEWORKS

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Data Manager 128™ with Report Writer

A complete general information Storage and Retrieval System
with Report Writing, Graphics, Statistics, and Label Making
capabilities.

TIMEWORKS®

Data Manager
128™ with Report Writer

At A Glance:

This system includes:

- A program which can be used by itself, or interfaced with Timeworks' WORD WRITER 128 (word processor) and SWIFTCALC 128 (spreadsheet) software programs, enabling you to produce customized reports incorporating information generated from all three systems.

- "Pull-down" menu technology that places all program commands directly onto your computer display. No need to memorize command codes or use a reference card.

- Sample data which quickly allows you to become familiar with the command instructions of this program.

- Full user prompting and password protection.

- A manual written in easy-to-understand English, illustrated with an abundance of examples.

- A program that works with an 80-column monitor.

Features:

- Quick access to important information. Items can be easily retrieved and printed by name, index code, date range, amount range, or any category of information stored in the system.

- Timeworks' exclusive X-SEARCH feature. Allows you to easily CROSS-SEARCH any of the above categories as many times as you need, to locate the specific group of items you require.

- Timeworks' exclusive X-SORT feature. An advanced indexed SORT system which allows you to arrange your stored items in increasing or decreasing order, alphabetically, numerically, or chronologically (by date).

- A Graphics package which includes Timeworks' exclusive X-CHART feature, and STANDARD BAR CHARTS. Enables you to break down statistical information by up to ten indexed categories of your choice, and GRAPHICALLY view your results.

- Calculates numerical data from column to column and field to field. Allows you to perform spreadsheet tasks such as payroll calculations, cost estimates, and more.

- Statistical analysis of numerical data. The DATA MANAGER 128 produces the SUM, AVERAGE, and STANDARD DEVIATION of statistical data entered into the system.

- Generates customized data reports. You specify the title, location, and sequence of each column.

- Prints your name and address file onto standard mailing labels, and transfers and prints text information onto labels and tags.

WHEN INTERFACED WITH TIMEWORKS' WORD WRITER 128 AND SWIFTCALC 128:

- DATA MANAGER 128 generates customized data reports and transfers information generated from both your data base and spreadsheet programs directly into the written text of documents produced by the WORD WRITER 128.

- DATA MANAGER 128 enables you to automatically create, address, and print out individualized form letters.