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**COMMODORE 64™  
DATA FILE  
PROGRAMMING  
PROGRAM DISK**

**Glenn Fisher  
LeRoy Finkel  
Jerald R. Brown**





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**Data File**  
**Programming**  
Program Disk

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**Requirements:**

COMMODORE 64™ (may run on other CBM/PET computers)

1541 disk drive

TV or monitor

Printer (optional)

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# Contents

Introduction .....	1
How to Make a Backup Copy .....	2
Instructions for a Single-Drive System .....	3
Instructions for a Dual-Disk-Drive System .....	4
How to Access the Programs .....	4
How to Run the Programs .....	8
Shutting Down .....	10



# COMMODORE 64: Data File Programming

## INTRODUCTION

This single-sided 5¼-inch floppy diskette contains the programs described and listed in the book *COMMODORE 64: Data File Programming*, an instructional text that teaches the data file handling statements in Commodore BASIC. All explanations and suggestions for using the programs are found in the book. If you do not already have a copy of the book, we suggest that you buy it at your local book or computer store or use the order form in the back of this booklet.

The diskette was developed to make it more convenient for you to use the programs presented in the book. By using the diskette, you will avoid having to manually type the programs from the book in order to complete the instructional activities. This can save time for the slow or error-prone typist, but the situation presented the authors with two pedagogical dilemmas.

First, although using the programs from the diskette can reduce the amount of time it takes a person to work through the book's instructional sequence, the trade-off is a greatly reduced amount of practice and "forced contact" with the programming statements and techniques being learned! To compensate, we highly recommend that you write in the answers and fill in the blanks as you work through the book.

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Second, the end-of-chapter Self-Test problems are designed to test your understanding of the concepts presented in the chapter. You will never know how well you are grasping the material unless you take a stab at writing these programs. The fact that we have provided suggested solution programs on the diskette for the Chapters 4 to 8 and Final Self-Test problems will certainly tempt some people to skip these activities. We emphasize that the solutions provided are suggestions only; they do not necessarily show the only way, or even the best way, of completing a program to the specifications in the problems. If you do not write your own solution programs to the Self-Test problems, you will need to use the diskette solutions for the Chapters 5, 6, and 7 Self-Tests in order to create the files used in subsequent chapters by other programs.

## HOW TO MAKE A BACKUP COPY

If you are new to your Commodore computer, it is important that you carefully read the Commodore manuals which came with your computer and disk drive and have them at hand while using this diskette and this documentation.

For your own protection, we recommend you make a backup copy of your Wiley diskette now; then put the original safely away. The method used to make your backup depends on whether you have one or more disk drives attached to your computer. You will find more detailed instructions in subsequent sections.

Once you have the components of your computer system connected, turn on the computer, the disk drive, and the monitor or TV. When the message "READY." appears on your screen, you are ready to make a copy of your original diskette. If the message does not appear, try turning off the computer and then turning it back on.

Some Commodore computers may display lowercase letters

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when they are started. If your computer displays in this fashion, just type all the commands shown in this documentation without using the SHIFT key, even though they are shown in uppercase letters in this documentation. If the lowercase letters bother you, you can switch your computer to display uppercase by typing the following:

on a Commodore 64:

```
print chr$(142)
```

on a CBM/PET:

```
poke 59468,12
```

Then press the RETURN key.

Note: When the Commodore 64 is first turned on, it automatically displays uppercase letters. However, some programs may switch to and stay in lowercase once they have run.

## INSTRUCTIONS FOR A SINGLE-DRIVE SYSTEM

One way to make a backup copy on a single-drive system is to load individual files from the Wiley diskette and then save them on a new, formatted diskette. However, this is a very tedious method. It is much easier to make a backup by using a program that was specifically written to copy disks with one drive. One such program, called "1541 BACKUP", can be obtained from Commodore. Other programs are also available from local user groups.

To start, place a write-protect tab over the notch on the Wiley diskette so that you can be assured you won't accidentally erase it during the copy process. If you have a copy program for your disk drive, the program will refer to the Wiley diskette as the "SOURCE" diskette and the blank, formatted diskette as the "DESTINATION" diskette. Then just follow the instructions that accompany your backup program.

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## INSTRUCTIONS FOR A DUAL-DISK-DRIVE SYSTEM

After making sure the write-protect tab is over the notch on the Wiley diskette, insert the diskette into Drive One. Insert a blank diskette into Drive Zero. Type the following short program, making sure to press the RETURN key after each line:

```
10 OPEN1,8,15, "DO=1"  
20 INPUT X,X$  
30 PRINT X,X$  
40 CLOSE 1  
RUN
```

This will format the blank diskette, make a duplicate (backup) copy, and tell you the results. If you get any message other than "00,OK,00,00" the copy did *not* work. Try copying to another blank, formatted disk, or get help from someone who knows your system.

Or you can use the copy program, called "COPY/ALL", that was included with your 1541 disk drive when you purchased it.

Store the original Wiley diskette in its sleeve in a safe place. Label the backup diskette, and use it instead of the original from now on. If anything should happen to your backup copy, you will be glad you have the original safely tucked away.

## HOW TO ACCESS THE PROGRAMS

Now you are ready to use the diskette you prepared. Place the diskette in the disk drive, close the door, and type:

```
LOAD"Program name",8
```

then press RETURN.

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NOTE: On some CBM computers, the word "READY." may appear in lowercase letters. If so, you will type the word "LOAD" in lowercase letters as well. You should not use the SHIFT key when typing commands on your computer.

The program name is actually the chapter number and the program number within that chapter. For example, "C6-9" indicates the ninth complete program within Chapter 6. The listing shown in Figure 1 contains the names and brief descriptions of all the programs on the diskette. Similar information is found in the program index in the back of the book.

Programs in the Self-Test sections are designated by "ST." The numbers correspond to the problem numbers. For example, "ST3-3A" is the program solution to problem 3A from the Chapter 3 Self-Test.

The Final Self-Test solution programs are designated by FST followed by the problem number: "FST4" is the solution to problem number 4.

**Figure 1: Listing of Programs**

## COMMODORE 64:

### Data File Programming

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C2-1	GET INPUT SUBROUTINE
C3-1	DISPLAY & CORRECT DATA
ST3-3	ASCII CHECK FOR ALPHA ENTRY
ST3-3A	STR\$ CHECK FOR ALPHA ENTRY
ST3-4	PRODUCT CODE
C5-1	DEMOPROG—NUMERIC WRITER
C5-2	STRGDEMO—STRING WRITER

(continued)

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(continued)

C5-3	PROP INVENTORY WRITER
C5-4	PROP INVENTORY READER
C5-5	SEQ. INPUT READER
C5-6	SEQ. GET READER
C5-7	SEQ. GET READER
C5-8	QUALITY CONTROL WRITER/READER
C5-9	DEMO WRITER/READER
C5-10	ADDRESS WRITER
C5-11	ADDRESS READER
C5-12	DISK ERROR SUBROUTINE
ST5-1A	GROCERY WRITER
ST5-1B	GROCERY READER
ST5-2A	CREDIT WRITER
ST5-2B	CREDIT READER
ST5-3A	TRANSAC# WRITER
ST5-3B	TRANSAC# READER
ST5-4A	LETTER# WRITER
ST5-4B	LETTER# READER
C6-1	SEQ. FILE COPIER
C6-2	CREDIT EDITOR
C6-3	CREDIT READER (PRESS RETURN)
C6-4	CREDIT EDITOR (2)
C6-5	CREDIT EDITOR (3)
C6-6	FILE MERGE
C6-7	LETTER WRITER
ST6-1	ADDRESS COPIER
ST6-2A	MAGLIST WRITER
ST6-2B	MAGLIST READER
ST6-2C	MAGLIST MERGE
ST6-3	WORKLIST WRITER/READER
C7-1	INVEN WRITER
C7-2	INVEN READER
C7-3	PHONE WRITER
C7-4	PHONE READER
C7-5	PHONE ADD TO FILE
C7-6	REL. GET READER
C7-7	MASTER WRITER

(continued)

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(continued)

C7-8	MASTER READER
C7-9	MASTER COPIER
C7-10	INVEN EDITOR
C7-11	CREDIT > RCREDIT SEQ. TO REL. COPIER
C7-12	RCREDIT READER
ST7-1A	BUSINESS INVEN WRITER
ST7-1B	BUSINESS INVEN READER
ST7-1C	INDEX SEQ. INDEX FOR BUSINESS INVEN
ST7-1D	INDEX READER
ST7-2	RCREDIT COPIER
ST7-3	READ & DISPLAY 2 FILES [RCREDIT, RCREDIT COPY]
C8-1	BUSINESS INVEN EDITOR
C8-2	UNIVERSAL FILE READER
C8-3	INVEN BYTE WRITER
C8-4	INVEN BYTE READER
C8-5	BUDGET# WRITER
C8-6	BUDGET# READER
C8-7	CHECKBOOK SEQ. WRITER
C8-8	CHECKBOOK SEQ. READER
C8-9	PERSONAL MONEY MANAGEMENT
ST8-1	TRANSACT SEQ. WRITER
ST8-1B	TRANSACT READER
ST8-2	POST TRANSACT TO BUSINESS INVEN
ST8-3	BUSINESS INVEN REORDER REPORT
FST1	BLACKBUK PHONE DIRECTORY
FST2	BLACKBUK READER
FST3	BLACKBUK DISPLAY BY AREA CODE
FST4	BUSINESS INVEN CHANGE PRODUCT PRICE
APX5-1	WORKLIST [BASIC 4.0]
APX5-2	POST TRANSACT TO BUSINESS INVEN [BASIC 4.0 VERSION]

240 Blocks Free

## HOW TO RUN THE PROGRAMS

You can load any program on the diskette. We'll use program C5-4 as an example. To load a program from the diskette into the computer's memory, type:

```
LOAD"C5-4",8
```

then press RETURN. Don't add any spaces inside the quotation marks; the program name must match the name on the diskette exactly. When "READY." appears, type "RUN" and press RETURN to start the program.

If you wish to examine the program, type "LIST" instead of "RUN." You can slow down the listing with the CTRL key located on the left-hand side of the keyboard on the Commodore 64 and with the "@" key on the PET. You can stop the listing by pressing the RUN/STOP key.

If you have the DOS WEDGE (or 64+WEDGE or UNIVERSAL WEDGE) available, learn how to use it. This module simplifies the process of loading and running programs.

If you are using a PET or CBM with BASIC 4.0, load a program by typing:

```
DLOAD "C5-4"
```

then press RETURN.

If you have a PET or CBM with BASIC 4.0, you can simply hold down the SHIFT key and press the RUN key to load and run the first program on the diskette instead of following the procedure given above.

If you are using a PET 2001 or CBM 2001, some of the programs on this disk will not properly read and write data, due to the difference in how the earlier PET writes files. You must add to the end of every PRINT# statement a semi-colon, CHR\$(13), semi-colon, like this:

```
PRINT#x, . . . . .;CHR$(13);
```

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Those programs writing data will run properly, but the programs which read the data may produce a FILE DATA ERROR without this modification. For more information, see Appendix 4 of the book.

To be more explicit, the following programs require the modification given above:

C5-1  
C5-3  
C5-8  
ST5-1A  
ST5-2A  
ST5-4A  
C6-1  
C6-2  
C6-3  
C6-4  
C6-5  
C7-11  
ST7-1C  
ST7-2  
C8-5  
C8-7  
ST8-1B

**Please note Commodore 64 user's do NOT have to make these changes to the diskette.**

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## SHUTTING DOWN

Each time you finish using your computer, we suggest that you shut down by following these steps:

First, remove the diskette(s) from the disk drive(s); then turn off the power switches on the computer, disk drive(s), printer, and monitor or TV.

Place the diskette(s) back in the envelope(s) for safekeeping until the next time.

We wish you success in learning to master data file programming in BASIC on the road to using your computer to the fullest extent. Enjoy, and keep on hackin'.

Sincerely,  
Glenn Fisher  
LeRoy Finkel  
Jerald R. Brown

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