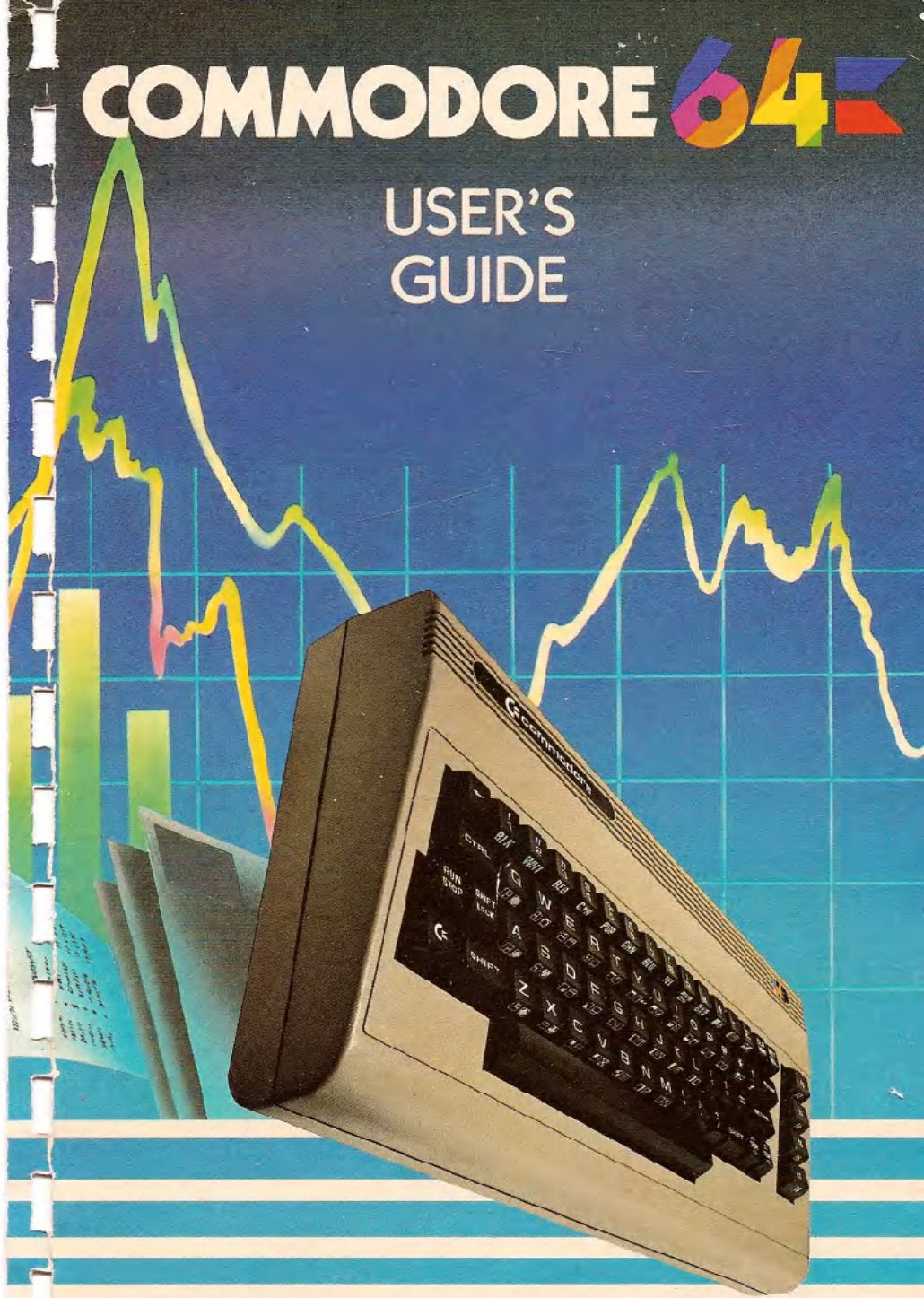
COMMODORE 64

USER'S GUIDE



commodore COMPUTER

USER'S MANUAL STATEMENT

"This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate the computer with respect to the receiver
- move the computer away from the receiver
- plug the computer into a different outlet so that computer and receiver are on different branch circuits.

"If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: 'How to Identify and Resolve Radio-TV Interference Problems.' This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4."

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USER'S GUIDE

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production, the **COMMODORE 64** allows you to connect your audio output to almost any high-quality amplification system.

While we're on the subject of connecting the **COMMODORE 64** to other pieces of equipment . . . your system can be expanded by adding accessories, known as peripherals, as your computing needs grow. Some of your options include items like a DATASSETTE* recorder or as many as 5, VIC 1541 disk drive storage units for the programs you make and/or play. If you already have a VIC 1540 disk drive your dealer can update it for use with the **COMMODORE 64**. You can add a VIC dot matrix printer to give you printed copies of your programs, letters, invoices, etc. . . If you want to connect up with larger computers and their massive data bases then just plug in a VICMODEM cartridge, and get the services of hundreds of specialists and a variety of information networks through your home or business telephone. Finally if you're one of those people interested in the wide variety of applications software available in **CP/M****, the **COMMODORE 64** can be fitted with a plug-in Z-80 microprocessor.

Just as important as all the available hardware is the fact that this **USER'S GUIDE** will help you develop your understanding of computers. It won't tell you everything there is to know about computers, but it will refer you to a wide variety of publications for more detailed information about the topics presented. Commodore wants you to really enjoy your new **COMMODORE 64**. And to have fun, remember: programming is not the kind of thing you can learn in a day. Be patient with yourself as you go through the **USER'S GUIDE**. But before you start, take a few minutes to fill out and mail in the owner/registration card that came with your computer. It will ensure that your **COMMODORE 64** is properly registered with Commodore Headquarters and that you receive the most up-to-date information regarding future enhancements for your machine. Welcome to a whole new world of fun!!

NOTE:

Many programs are under development while this manual is being produced. Please check with your local Commodore dealer and with Commodore User's Magazines and Clubs, which will keep you up to date on the wealth of applications programs being written for the Commodore 64, worldwide.

*DATASSETTE is a registered trademark of Commodore Business Machines, Inc.

** CP/M is a registered trademark of Digital Research Inc. Specifications subject to change.

INTRODUCTION

Congratulations, on your purchase of one of the best computers in the world. You are now the proud owner of the **COMMODORE 64**. Commodore is known as **The Friendly Computer** company, and part of being friendly is giving you easy to read, easy to use and easy to understand instruction manuals. The **COMMODORE 64 USER'S GUIDE** is designed to give you all the information you need to properly set up your equipment, get acquainted with operating the **COMMODORE 64**, and give you a simple, fun start at learning to make your own programs.

For those of you who don't want to bother learning how to program, we've put all the information you need to use Commodore programs or other prepackaged programs and/or game cartridges (third party software) right up front. This means you don't have to hunt through the entire book to get started.

Now let's look at some of the exciting features that are just waiting for you inside your **COMMODORE 64**. First, when it comes to graphics you've got the most advanced picture maker in the microcomputer industry. We call it **SPRITE GRAPHICS**, and it allows you to design your own pictures in 4 different colors, just like the ones you see on arcade type video games. Not only that, the **SPRITE EDITOR** let's you animate as many as 8 different picture levels at one time. The **SPRITE EDITOR** will soon be available as a software program that you can load directly into your **COMMODORE 64**. You can move your creations anywhere on the screen, even pass one image in front of or behind another. Your **COMMODORE 64** even provides automatic collision detection which instructs the computer to take the action you want when the sprites hit each other.

Next, the **COMMODORE 64** has built-in music and sound effects that rival many well known music synthesizers. This part of your computer gives you 3 independent voices, each with a full 9 octave "piano-type" range. In addition you get 4 different waveforms (sawtooth, triangle, variable pulse, and noise), a programmable ADSR (attack, decay, sustain, release) envelope generator and a programmable high, low, and bandpass filter for the voices, and variable resonance and volume controls. If you want your music to play back with professional sound re-