

BY THE EDITORS OF CONSUMER GUIDE®

THE BEST VIC/ COMMODORE SOFTWARE

EDUCATIONAL · GAMES · BUSINESS
WORD PROCESSING
HOME & PERSONAL USE

A screenshot of a financial spreadsheet titled 'EASYCALC.PRL BY'. The spreadsheet shows data for three months: JANUARY, FEBRUARY, and MARCH. The data is organized into rows for SALES, COST/SALE, GROSS PROFIT, and EXPENSES. The EXPENSES section includes SALARIES, RENT, UTIL, INSUR, PHONE, INTEREST, SUPPL./TRV, and MISC.

	JANUARY	FEBRUARY	MARCH
SALES	300000	305000	312100
COST/SALE	180000	182800	186356
GROSS PROFIT	111000	113200	115444
EXPENSES			
SALARIES	36000	36700	37454
RENT	3000	3000	3000
UTIL	450	450	450
INSUR	600	600	600
PHONE	1200	1220	1245
INTEREST	7500	7412	7354
SUPPL./TRV	15000	15300	15000
MISC	8600	8720	8754

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CONTENTS

INTRODUCTION 4

CHAPTER ONE WORD PROCESSING 6

Eleven programs that can turn your VIC 20 or Commodore 64 into a word processor, along with software to check spelling and correct errors.

CHAPTER TWO BUSINESS 21

The best mailing list programs, accounting packages, database managers, and electronic spreadsheets. These programs are intended for small-business use, but collectors and hobbyists will also find many practical applications.

CHAPTER THREE HOME 40

Programs to help organize your life. From balancing a checkbook to planning a menu, many common household tasks can be made easier with the right software.

CHAPTER FOUR EDUCATION 46

Software to help children learn—from basic reading and arithmetic skills to history, geography, and science. Even adults can benefit from programs that teach BASIC programming and typing skills.

CHAPTER FIVE NETWORKING 67

Whether you want to swap programs with a faraway friend or tap into the wealth of information provided by services like CompuServe and The Source, you'll need one of these terminal programs.

CHAPTER SIX STRATEGY GAMES 71

Games that make you think, from *Adventureland Adventure* to *Zork III*. This chapter features reviews of the best adventure games, sports games, board game simulations, and battle games.

CHAPTER SEVEN ARCADE GAMES 102

Computer versions of arcade classics like *Gorf* and *Frogger*, along with the most popular computer games: *Choplifter*, *Demon Attack*, *Apple Panic*, and others.

CHAPTER EIGHT PROGRAMMING AIDS 157

Programming languages, assemblers, compilers, forms editors, and a host of other programs for programmers. Also included are programs that let beginners take full advantage of the VIC and 64's graphics and sound capabilities.

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INTRODUCTION

VIC 20 and Commodore 64 owners can choose from literally thousands of programs that can be used on their computers. Even though the VIC 20 and Commodore 64 are relative newcomers to the computer world, hundreds of new software programs for each come out every month. These products span a wide range of applications, from word processing to entertainment to education to business. With so many programs to choose from, how can computer owners find the ones that are right for their needs?

Choosing the right software has just been made easier, with **The Best VIC/Commodore Software**. Written by the Editors of Consumer Guide® and Commodore software experts Jim and Ellen Strasma, this is an essential book for owners of the VIC 20 or Commodore 64. From accounting packages to adventure games, from music makers to menu planners, this is the number one source of Commodore and VIC software. Every review is clear, simple, and complete—written in language that anyone can understand. One quick reading will tell you what a program does, how it can help you, and why that particular program is better than competing products.

Each program has been rated on a scale of 1 to 10 by the leaders of Commodore user groups (clubs of Commodore computer owners) around the U.S. and Canada. These are peo-

ple who have been using Commodore software on a daily basis for up to five years, so their ratings are based on real experience. Only the programs that received an average rating of 5.0 or better from these experienced users were included in **The Best VIC/Commodore Software**.

Each software review describes the program's purpose and features, detailing its advantages as well as its disadvantages. The program is evaluated for ease of use, quality of both written and on-screen instructions, and overall performance. Also included is the basic information you'll need to purchase and use the program: price, publisher, software format(s) in which the program is available, and hardware requirements. A quick reference chart for each program gives an overall rating and summarizes key points in the evaluation.

For some types of programs, additional information is provided to help you make direct comparisons between competing products. If you're looking for a word processing program, for example, you need to know how much text the program will be able to handle. Therefore, we have included file size as one of the ratings for word processing programs. Similar information is provided for database managers, terminal programs, and others.

Consumer Guide® has a long tradition of helping consumers

choose the best products to serve their needs, and **The Best VIC/Commodore Software** continues in that tradition. Any program with a star by its name is considered a "best buy"—an exceptional value for the price.

The following information is included in every review:

DESCRIPTION: This is a concise description of what the program is or does. It tells you right away, before you read the review, whether this is a program you want to know more about.

SOLD BY: This is the name and address of a company that sells the program. It may not be the only source of that program (in fact, most of the software in this book is available through local computer stores), but it is the source to turn to if you're having trouble finding the program.

FOR: This tells you which system the program runs on: the VIC 20, Commodore 64, or both.

REQUIREMENTS: This tells you what extra hardware or software is required to run the program. Also included are optional accessories that can be used with the program.

PRICE AND FORMAT: The price listed here is only approximate; software prices can vary drastically from dealer to dealer. The format tells you whether the program comes in a cartridge, a disk, or a cassette tape.

PROTECTION: This lets you know whether or not you can make a backup copy of the program; if it's a protected disk or tape, you can't. Many software companies have done something to their cassette tapes or disks to protect them from being copied. Although cartridges are not actually protected by the software companies, the average consumer does not have the expensive equipment needed to copy cartridges.

WARRANTY: This tells you whether or not the program comes with a written warranty. Usually the warranty is on the media only, which means it covers only physical defects in the disk, tape, or cartridge.

USER GROUP RATING: This is the average of the ratings given by the Commodore user groups for each software package. For a few of the programs, the user groups didn't supply a rating (usually because the program was too new). In these cases, we used an overall rating provided by our authors and editors instead.

In addition to the user group rating, several other aspects of each program are also rated on a scale of 1 to 10. These extra ratings vary depending on the type of software reviewed, and include such aspects as documentation, performance, reliability, and ease of use. These ratings are explained in the legend on each page.

These programs turn your computer into an electronic typewriter. Some of them are simple text editors, like *Wordcraft 20* and *Write Now!* Others, like *Word Pro 3 Plus/64*, *Easy Script*, and *Paperclip 64*, are full word processors that include many of the features found on large and expensive word processing systems. Also included in this chapter are two programs that search for spelling errors in the text and allow you to correct them.

There are several important features to look for in a word processing program for your VIC 20 or Commodore 64. Global editing commands like *search and replace* will save time when you need to edit your work. Full cursor control and extensive formatting ability allow you to make the text look exactly the way you want it to, and a large file size is necessary if you don't want individual documents to be limited to just a few pages. Another important feature is the ability to print to the screen in order to see text in final form before printing. For serious writers, the ability to expand the 64's 40-column screen to 80 columns is an important consideration.

The following special terms are used in this chapter:

block move Moving a section of text (as a unit) to a different location in a document.

formatting commands Commands that specify the lay-

out of text when printed on hard copy (such as margins, spacing, indenting, ending a page). *Embedded* formatting commands are inserted within text where you want the instructions to be carried out. In *continuous* formatting, text is formatted on the video display just as it will appear when printed.

global edits The ability to have a specified editing command (or string of commands) be carried out at all appropriate locations throughout a text file.

horizontal scrolling The ability to shift a block of text horizontally in order to view more characters than can fit on the screen at one time.

line editor A program that allows you to modify a text file or source program by working with only one line at a time.

search and replace The ability to find a specified character, word, or string each time it appears in the text and replace it with another character, word, or string.

spelling checker A program that compares each word in a document to a built-in dictionary, then indicates and/or corrects possibly misspelled words.

text editor A simple program for editing text files. Usually, a number is displayed in front of each line of text, and lines must be referred to by number.

Description: simple word processor

Sold by: Skyles Electric Works
231 S. Whisman Rd., Suite E
Mountain View, CA 94041
415/965-1735

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$69 disk

File size: 22,500 characters

Printers supported: CBM,
ASCII, Diablo, Epson, Qume,
Spinwriter, Starwriter

Compatible with: *Easyscript*,
WordPro, *Wordcraft*

Protection: yes; backup copies
available for a small fee

Warranty: yes

User group rating: 6.2

Performance: 5

Ease of use: 7

Reliability: 7

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Busiwriter is a versatile word processor that provides continuous formatting, which means what you see on the screen is what you will get when the copy is printed. This is one of the new "in" features in microcomputer word processing programs, but it has some disadvantages for people who do a lot of writing on their computer. Continuously formatted text forces the user to go back to count how many spaces at the end of a prior line are real, and how many were only temporarily inserted for appearance.

Busiwriter's other features, though fairly common, are well done. For example, you can select colors of the screen, and use the program to merge a list of names and addresses into a form letter that you want individualized to send to a group of people.

The manual is also well done. It comes with a quick reference section plus more detailed explanations of each of the program's functions. *Busiwriter* is recommended primarily for those who insist on continuously formatted text.

Description: full word processor

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$50-70 disk

File size: 764 lines

Printers supported: CBM,
ASCII, Diablo, Epson, Qume,
Spinwriter, Starwriter

Compatible with: PaperClip,
WordPro, Wordcraft

Protection: yes; backup copies
available for a small fee

Warranty: none

User group rating: 8.1

Performance: 8

Ease of use: 7

Reliability: 8

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Easy Script is nearly everything one might want in a word processor, at an inexpensive price.

Because *Easy Script* stores text sequentially, it can read text files from many other word processors. It can even read such unusual items as assembly language source files and BASIC programs. *Easy Script* has an extremely large text capacity—764 lines—enough to hold a 40-minute talk. It also allows you to link files together in a continuous printout of unlimited length.

Another important feature of *Easy Script*: the 40-column screen width on the 64 is no limitation because the program only formats text, to whatever width is selected, at printing time. In those rare instances when you must work with a screen display wider than that allowed by the 64, *Easy Script* allows horizontal scrolling across any desired page width, either while you create text or just before you print it. The formatting commands are visible in the text.

The *Easy Script* manual is good, with a fine table of contents, a clear tutorial section for beginners, a logically organized reference guide, and a large index.

Easy Script has all the features of a first-rate word processor, including fill files, block moves, repeat and save, search and replace, headers and footers, full control over colors used, and an optional spelling checker. The program also offers many advantages its competitors do not. For instance, you can view the directory without losing your text, load the directory as part of a file, change a section of text from uppercase to lowercase (or vice versa), set vertical tabs, and change from video to printer output and from continuous to noncontinuous mode during output. The printing features allow shadow printing, red/black printing, boldface, and underlining.

What are its deficiencies? *Easy Script* lacks the ability to add, sort, and move columns, some error messages are just letters, and *Easy Script* cannot easily restart output from the top of the page. When your input width is greater than screen width, *Easy Script* gives no warning of the approaching right margin, leaving you unsure what character ended the line. It also only works with limited types of printers.

But such complaints are few and trivial compared to the many advantages of *Easy Script*. For those who write regularly, no other product in this book is a better value. Very highly recommended.

Description: spelling checker

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$15-20 disk

Compatible with: *Easy Script*

Protection: yes; free backup
copy with enclosed coupon

Warranty: none

Overall rating: 7

Performance: 7

Ease of use: 7

Reliability: 7

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

If you need a program to check your spelling, and are willing to take the time to use it, *Easy Spell* is a bargain. It works with the highly recommended word processor *Easy Script*.

Like *Easy Script*, *Easy Spell* is easy to use and comes with a good spiral-bound manual. Its dictionary includes 30,000 words, expandable to 60,000.

You have the choice of allowing American or British spellings (or both), and can build a dictionary entirely customized to your needs.

When checking a document, the program shows and selects files from the directory, and even checks linked files, up to the limit of memory. You'll want to be sure you have enough room left on your working disk to hold a copy of the largest file checked. After the file is checked, *Easy Spell* reports several useful statistics about the writing style used in the file.

Easy Spell makes no distinction between uppercase and lowercase, and only checks spelling of words up to the twentieth character of each word. For each word the program questions, you press a key, either to move on, add it to a user dictionary, or fix it. Added words can be merged into the main dictionary to save space on the disk and to save time in checking. However, once in, they cannot be removed, so have an expert check your spelling before doing a merge!

Though it might be preferable to see the suspect words in context rather than in a list, *Easy Spell* is first-rate in every other way.

Description: text editor

Sold by: A B Computers
252 Bethlehem Pike
Colmar, PA 18915
215/822-7727

For: VIC 20 and Commodore 64

Requirements: Datasette or disk drive; printer optional

Price and format: approx.
\$40 disk or cassette

File size: over 200 lines

Printers supported: nearly all

Compatible with: *WordPro*

Protection: none

Warranty: not written

User group rating: 7.7

Performance: 5

Ease of use: 6

Reliability: 9

Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

PageMate is a proven and reliable program, available for all past and present models of Commodore computers, with a fairly low price.

One real advantage of *PageMate* is its simplicity. As one user group leader put it, "After writing two initial lines of format commands at the top of the first page, just start typing and never look back. What you see on the screen is what you will get on paper." That simplicity has made *PageMate* very popular in schools. Though it lacks some sophistication and speed, it is adequate for many home, school, and light office chores.

An unusual and powerful feature in *PageMate* is that it can automatically create and store a Table of Contents file as it prints, then create an index by printing each chapter's page number beside its title. *PageMate* lets you break out of the program, change a variable, or do something to a file, and return to the program without losing text. These and other tricks are well described in the brief but clear and well-bound manual, which also includes enough information about the program to allow most programmers to change it to handle special needs.

The program can be made to work with nearly all printers. *PageMate* is a good choice if you have an unusual printer, simple word processing needs, and patience.

Description: full word processor

Sold by: Batteries Included
186 Queen St. W.
Toronto, ONT M5V 1Z1
CANADA
416/596-1405

For: Commodore 64

Requirements: disk drive;
printer optional, 80-column
board optional

Price and format: approx.
\$125 disk

File size: 429 lines

Printers supported: nearly all

Compatible with: *WordPro*,
Easy Script

Protection: yes

Warranty: 1 year

User group rating: 9.1

Performance: 9

Ease of use: 8

Reliability: 9

Documentation: 8

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

PaperClip 64 has almost everything you might want in a word processor, but it is not inexpensive. It scrolls horizontally (up to 250 columns) and can "print" to the screen. Unlike all other word

processors tested, *PaperClip 64* manipulates columns as easily as rows, and moves numeric tabs to print properly on paper despite embedded formatting characters. It adds and subtracts rows and columns, and sorts them alphabetically.

The manual is good and quite compact. But it lacks a quick index and needs a larger spiral binding. The same manual is used for all Commodore versions, with the changes for the 64 listed in an addenda.

PaperClip 64 loads and saves sequential files and can even store files on cassette. It also reads disk directories without losing current work, but it can't load them into memory or print them. It sets ranges right to the letter rather than the nearest line, and can change easily from screen to printer output and back. Hitting the RETURN key in the middle of a line during insert mode creates a new paragraph without losing the rest of the line.

PaperClip 64 spells out error messages and gives a ten-character warning of an approaching right margin when scrolling horizontally. Beginners will like the instant startup, and options can be reset at any time, allowing you to control several disk drives and printers. *PaperClip 64* also supports an 80-column board, so you can work with a full-width display. Highly recommended for those needing the best.

Description: text editor

Sold by: The Quick Brown
Fox Co.

536 Broadway, 11th floor
New York, NY 10012
212/925-8290

For: VIC 20 or Commodore 64

Requirements: printer
optional

Price and format: approx.
\$75 disk (Commodore 64
only), \$70 cartridge (VIC 20
or Commodore 64)

File size: 34,000 characters on
the Commodore 64

Printers supported: all serial
printers except Gemini

Compatible with: not
available

Protection: yes

Warranty: 90 days

User group rating: 7

Performance: 5

Ease of use: 4

Reliability: 5

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Quick Brown Fox has one legitimate market: those persons who need a line editor in ROM. It includes most of the usual op-

tions of major word processors, like a variety of formatting commands, ways to move and delete text, global edits, and form letter option. The user will also appreciate its ability to save and load to cassette, disk, or modem, and its support of an 80-column board. The manual is brief and good, except that it tries to cover several unrelated computers.

Most word processors keep important information on a special status line at the top of the screen, like the instrument panel of a car. Instead, *Quick Brown Fox* works like a teletype machine, constantly scrolling its menus and text off the top line of the screen.

The worst feature of *Quick Brown Fox* is its inability to correct any line other than the one you are on without changing modes. Editing of prior lines is cumbersome at best. The control keys are simple enough, but nonstandard for Commodore products.

Quick Brown Fox has only a 30-character writing line on a 40-column screen, and displays only 15 characters on the VIC's 22-column screen. It has many other good features (and having it in ROM is a great idea), but it is useful only for those who need to work with one line at a time, rather than an entire document.

Description: word processor
Sold by: Computer Marketing Services

300 W. Marlton Pike, Suite 26
Cherry Hill, NJ 08002
609/795-9480

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$100 disk

File size: 40 linked screens

Printers supported: CBM

Compatible with: not
available

Protection: yes

Warranty: 1 year

User group rating: 7.9

Performance: 8

Ease of use: 4

Reliability: 8

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Script 64 is the only word processor for the 64 that offers 80 columns on screen at once without an 80-column board. It works by defining each character in a coarser 3x7 dot matrix instead of the usual 8x8. If you need 80 columns on screen more

than you need clearly formed characters, this is the word processor for you.

Script 64 holds 40 screens in memory, each handled separately, but linked (in any order) for printing. A document can contain as many screens as the disk will hold. Editing within any one screen is much like using BASIC: function keys will scroll between screens, redefine keys, handle French characters, select a disk drive to use, and dump current screens and load new ones from disk.

Another special feature is *Script 64's* support for a wide variety of printers and all CBM disk drives via an IEEE-488 interface. It is also the only word processor for the 64 with a built-in dictionary to check spelling. Though the dictionary's vocabulary is small at first, the program adds words on request, using a separate disk to hold up to 20,000 words. The manual is very readable, and easy to flip through for reference. A sample disk is available.

Like the best of the other word processors, *Script 64* can print to the screen, saving time and paper. It also works with a mailing list program from the same vendor to send flexible form letters to very large lists. You just select which screens to send to which names. Recommended for those needing the wide screen.

Description: spelling checker

Sold by: Professional Software
51 Fremont St.
Needham, MA 02194
617/444-5224

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$60 disk

Compatible with: *WordPro*

Protection: yes; backup copies
available for a small fee

Warranty: 30 days

User group rating: 7.3

Performance: 8

Ease of use: 8

Reliability: 7

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Finally, a decent spelling checker program with a manual that is utterly free of spelling errors! *SpellRite* is also mostly self-documenting, with a Help screen and useful prompts.

The program comes with a dictionary of 40,000 plus words and allows you to add 3,000 more. It is also available in alter-

nate versions for the legal and medical professions. Even better, it highlights suspect words on a typical *WordPro* screen display. Those words can then be easily corrected, or added to the dictionary, with a few keystrokes. Corrected files are resaved to disk, avoiding the hassle of re-loading a word processor to fix errors.

SpellRite can check up to ten linked files at once while you do other chores, and then on request show the suspect words in each file in turn. You can correct marked words anywhere on the current page, instead of having to start over after missing a word. As for speed, in our tests an eight-page technical article took four minutes to check, and 100 words were marked as suspect. Only two were faulty. After adding often used words to the dictionary, a second check listed far fewer suspect words. An option checks only 6500 words, plus user-added ones, saving a little scanning time, but creating a much longer list of unmatched words.

If you write a lot, don't spell well, and have a fair amount of patience, *SpellRite* is just what you need. It is currently the best spelling checker for the Commodore 64.

Description: text editor

Sold by: TOTL Software

P.O. Box 4742

Walnut Creek, CA 94596

415/943-7877

For: VIC 20 and Commodore 64

Requirements: 16K added memory for VIC 20; printer optional, 80-column board optional

Price and format: approx. \$35 cassette, \$39 disk (VIC 20), \$40 cassette, \$44 disk (Commodore 64)

File size: 29 pages

Printers supported: nearly all

Compatible with: *Word Pro*

Protection: none

Warranty: media

User group rating: 6.7

Performance: 6

Ease of use: 4

Reliability: 9

Documentation: 4

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

TOTL Text is one of only two word processor programs for the 64 or the VIC able to provide true footnotes. It is also one of the very few that can easily be modified to work with almost any printer. Though partially written in BASIC, it has nearly all the standard word processing functions and is fairly inexpensive. Thanks to a machine language add-on, the program is very fast.

When linked with *TOTL Label*, (see separate review), *TOTL Text* can automatically send individualized form letters to groups. The editor requires that all changes be made within 6½-line blocks; this is better than being limited to a single line, but not by much.

TOTL Text has a large capacity and particularly good formatting capabilities. There are enough menus of possible commands that even a novice can write complex letters in minutes. The program also works with all the popular 80-column adapter boards.

TOTL Software has a good reputation for providing updated versions and other support after the sale. If you need true footnoting, or are stuck with an unusual printer, *TOTL Text* is your best choice.

Description: word processor

Sold by: UMI

3503-C Temple Ave.

Pomona, CA 91768

714/594-1351

For: VIC 20

Requirements: 8K added memory printer optional

Price and format: approx. \$100 cartridge; \$200 for version with additional 8K RAM built in

File Size: 6534 characters

Printers supported: CBM

Compatible with: not available

Protection: cartridge

Warranty: none

User group rating: 7.2

Performance: 7

Ease of use: 7

Reliability: 8

Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

This cartridge-based package is one of the best VIC word processors. Despite the VIC's tiny screen, *Wordcraft 20* formats text into full-width lines, using horizontal scrolling as needed. It uses the cursor-left key to get back to the right end of the prior line. Alternatively, you can set a 22-column screen to type material in and then change to a normal 80-column width just for printing. *Wordcraft 20* formats text on the screen immediately, so what you see is what you get.

Wordcraft 20 has the commands and format options expected of good word processors, all of which are easy to understand and use. You can save documents either to disk or to tape. VIC computers running *Wordcraft 20* can even act as remote entry terminals for Commodore's largest computers running *Wordcraft Ultra*.

Wordcraft 20 is for VIC owners willing to pay for an advanced word processor. This program will soon be available for the Commodore 64 also.

Description: full word processor
Sold by: Professional Software, 51 Fremont St. Needham, MA 02194 617/444-5224
For: Commodore 64
Requirements: disk drive; printer optional
Price and format: approx. \$80 disk

File size: 329 lines
Printers supported: CBM or ASCII, Diablo, TEC, Spinwriter, Starwriter
Compatible with: *Easyscript, Paperclip*
Protection: yes; backup copies available for a small fee
Warranty: 30 days

User group rating: 8.4
Performance: 7
Ease of use: 6
Reliability: 7
Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Word Pro sets a standard for Commodore word processing software. Most competitors either use its file format or include the ability to convert *Word*

Pro files to whatever they use instead. *Word Pro 3 Plus* for the Commodore 64 is adapted from one of the best known of all programs for Commodore's larger PET and CBM computers.

Part of the key to *Word Pro's* popularity is that it retains the commonly used cursor controls so popular with Commodore owners. Also, it is very simple for a beginner to type a letter into *Word Pro*. The result looks strange, with words broken in the middle at line ends, but it works even with a narrow screen like the Commodore 64's.

Before printing, formatting commands must be added; these remain visible in the text, making it easy to remember what commands were given. One weakness in this approach is that it is difficult to visualize the final document until it is printed, so you may waste some time and paper getting the format commands correct on complicated documents.

Apart from video output, the new Commodore 64 version of *Word Pro* has nearly every feature desirable in a word processor. The weakest part of all versions of *Word Pro* is the manual, which has a rambling style that makes reference difficult. The greatest strength of the Commodore 64 version is its total compatibility with PET and CBM versions.

Description: full word processor
Sold by: Cardco 313 Mathewson Wichita, KS 67214 316/267-6525
For: VIC 20 and Commodore 64
Requirements: Datasette or disk drive; joystick optional, printer optional
Price and format: approx. \$40 cartridge (VIC 20), \$50 cartridge (Commodore 64)

File size: 28,159 characters on the VIC 20
Printers supported: CBM and ASCII
Compatible with: not available
Protection: cartridge
Warranty: full

User group rating: 7.5
Performance: 8
Ease of use: 9
Reliability: 8
Documentation: 8

Write Now! is the only Commodore word processing program that's simple enough to use without a manual, and it is also the most powerful word processor available for the VIC, as well as the least expensive. The 114-page manual is a marvelously clear document users will find very helpful.

Write Now! includes such advanced features as a cut and

paste buffer, a search and replace feature that allows you to confirm each change before making it permanent, and a control file that allows even an unexpanded VIC to print out a 50-page document all at once. Its form-letter writing abilities are the best of any word processor for Commodore equipment.

Part of *Write Now!*'s ease of use stems from its two stick-on job aids that fasten right to the edge of the keyboard, and the simple keystrokes that activate each option. The program can use either the normal Commodore editing keys or a joystick to move the cursor.

Write Now! formatting includes almost everything more expensive competitors offer, and some things they don't, like page numbers in Roman numerals, proper handling of footnotes, and the ability to send escape sequences of any length to a printer without interfering with justified margins.

Write Now! is the single most useful program we have seen for an unexpanded VIC. The forthcoming 64 version should also be attractive to owners wanting a cartridge word processor. Unless you prefer continuous text formatting or need a program to work with a 40- or 80-column board, give *Write Now!* first consideration. Highly recommended.

Description: text editor
Sold by: Rainbow Computer Corporation
490 Lancaster Ave.
Frazer, PA 19355
215/296-3474
For: Commodore 64
Requirements: disk drive;
printer optional
Price and format: approx.
\$69 disk

File size: 350 lines
Printers supported: CBM
Compatible with: *Filing Assistant*
Protection: none
Warranty: none

User group rating: 7
Performance: 6
Ease of use: 8
Reliability: 6
Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Writers' Assistant is one of the most powerful of the BASIC-only text editors. It is also the easiest to use, with screens of instructions always available at the press of a key. It is even among the few text editors able to handle printers connected to the parallel port.

On first use, *Writers' Assistant* asks a series of questions, whose answers are saved on disk. Thereafter, it skips to the menu of possible commands. You may select disk commands, count the words in a document, write or edit documents, link files for printing, add addresses to form letters, move sections of a document, and so on. The formatting commands are standard.

Though fast when entering text, *Writers' Assistant* is slow at everything else. Depending on your command, it loads one of several large programs into memory, as you wait and wait. It also tends to crash unintentionally.

Although the VIC 20 and Commodore 64 are not small-business computers, there are many business programs available for them. These include database managers, mailing list programs, electronic spreadsheets, and accounting packages.

Database managers are versatile programs that sort and organize information. Information is entered in the form of records; each record contains roughly the amount of information that can be written on an index card. After you have entered all of the information you need to work with, the database manager program will selectively rearrange records or generate lists.

Mailing list programs are database managers designed specifically for use with lists of names and addresses. They allow you to sort a list and then print mailing labels.

Electronic spreadsheet programs are just what their name implies: the electronic equivalent of an accountant's spreadsheet. They allow you to enter rows and columns of numeric information (usually dollar amounts) and then specify relationships between various rows or columns. If you change a value or a relationship (equation), the resulting changes in other parts of the spreadsheet will be shown immediately. This makes electronic spreadsheets valuable planning tools.

The following special terms are used in this chapter:

accounting package A program for recording and reporting the results of various types of financial transactions.

cell A location determined by a specific row and column on an electronic spreadsheet. Spreadsheet capacity is measured by the total number of available cells (the number of rows multiplied by the number of columns).

database manager A program that stores information that can be selectively rearranged to generate answers, lists, or reports.

electronic spreadsheet A program for budgeting or planning in which calculations are made and displayed in a column-and-row format.

field In a database, a section within a record that holds a particular type of information (such as name, zip code, price, etc.).

file In a database, a full set of related information organized for a particular purpose.

mailing list A database designed specifically for handling lists of names and addresses.

record In a database, a section within a file that holds all information relating to one member of the file (such as all information regarding a particular customer—name, address, etc.).

Description: accounting package

Sold by: Southern Solutions
P.O. Box P
McKinney, TX 75069
214/542-0278

For: Commodore 64

Requirements: disk drive, printer

Price and format: approx. \$100 disk

Frequency of use: monthly

Protection: yes; backup copies available for a small fee

Warranty: not written

Overall rating: 7

Performance: 9

Ease of use: 5

Reliability: 8

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all rating factors

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Although comparatively expensive, *The Businessman* is a very useful product, designed with skill, grace, and confidence. It does require more accounting knowledge to set up than competing systems, but that initial complexity lets you adapt the system to fit specific needs. The manufacturer suggests that users

without a good accounting background modify the sample set of books.

Once set up, *The Businessman* is pleasant to use. It consistently guides the user with helpful menus, prompts, and error messages. It also works about as quickly and safely as it can within the limits of the 1541 disk drive and BASIC. Even a cassette drive can adequately make safety copies of important information. A printer is essential, because *The Businessman* insists on preserving a good audit trail of all its transactions on paper. This is an important feature, especially if the program will be operated by employees.

The manual provides a good tutorial, especially when used with the sample data files. However, it lacks a quick reference guide and a list of further readings on accounting methods. As for support, the vendor offers both a quarterly newsletter and an added-cost subscription service whose members automatically receive program updates. All of this is designed to "support it like it had been sold to your neighbor." The program is sold only through dealers.

Anyone setting up a Commodore 64 as an accounting system should give serious consideration to *The Businessman*. Two add-on modules to do accounts payable and accounts receivable are also available.

Description: electronic spreadsheet

Sold by: Computer Marketing Services

300 W. Marlton Pike, Suite 26
Cherry Hill, NJ 08002
609/795-9480

For: Commodore 64

Requirements: disk drive; printer optional

Price and format: approx. \$150 disk

Protection: none

Warranty: 1 year

User group rating: 8.2

Performance: 10

Ease of use: 8

Reliability: 7

Documentation: 6

Regarded by many users as the most powerful of all spreadsheet programs, this program runs only on Commodore computers. Some recent comparisons contend that *Calc Result Advanced* has more useful features than much of its competition. If you need to do complex calculations or financial planning, *Calc Result* can handle them. Like many new spreadsheet programs, *Calc Result* adds powerful features to those of the original spreadsheets.

Calc Result is easy to use. A Help screen guides you, and the program protects you from accidentally erasing formulas. It can copy a screen to the printer at the press of a key, and the color-

ful manual only lacks a list of commands and an index.

Calc Result's special features include a choice of eight foreign languages to work in, a wide selection of colors, and full control of page formatting. Once set, these features are stored on a working copy of the program disk and don't have to be selected again.

What makes *Calc Result* unique is its ability to do three-dimensional spreadsheets of up to 32 pages and look at up to four parts of them at once, through special screen windows. You can merge data from several pages into one page—for example, to combine daily worksheets into a monthly summary. *Calc Result's* internal capacity holds two pages of information in memory at once, and up to 2,000 cells of information.

Skilled users will appreciate *Calc Result's* IF-THEN-ELSE decision-making ability, one of the original spreadsheets's few real limitations. Most things possible in other computer languages can now be done within *Calc Result*.

Calc Result Advanced is an excellent spreadsheet program, yet at a reasonable price. It's highly recommended for those wanting top performance.

BUSINESS
CALC RESULT EASY★

Description: electronic spreadsheet

Sold by: Computer Marketing Services

300 W. Marlton Pike, Suite 26
Cherry Hill, NJ 08002
609/795-9480

For: Commodore 64

Requirements: printer optional

Price and format: approx. \$80 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.6

Performance: 8

Ease of use: 9

Reliability: 8

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Calc Result Easy has much of the power of its big brother, *Calc Result Advanced*, but it sells for much less and is easier to use. Look carefully at *Calc Result Easy* before spending the money for the advanced version. It includes all of the features of the original spreadsheets, plus almost every desirable enhancement except the multiple pages, multiple languages, multiple screen windows, and the Help screen of the advanced version.

Its cell capacity of 1000 characters is half that of the advanced version, but is quite adequate for most home uses. *Calc Result Easy* also works with cassette data files, a feature missing from the more costly version. Highly recommended for most home spreadsheet needs.

BUSINESS
CYBER-FARMER 64

Description: farm accounting package

Sold by: Cyberia, Inc.

2330 Lincoln Way
Ames, IA 50010
800/247-3900

For: Commodore 64

Requirements: disk drive; printer optional

Price and format: approx. \$195 disk

Frequency of use: weekly

Protection: yes; backup copies available for a small fee

Warranty: 90 days limited

User group rating: 7.5

Performance: 8

Ease of use: 8

Reliability: 7

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Cyber-Farmer 64 is the only farm accounting package currently available for the Commodore 64. It is comparable to a general ledger. You use it to enter transactions (such as writing or receiving a check) either in your personal budget or in specific crop or livestock production categories. The program can also calculate cash flow, keep an equipment inventory, and calculate the current (depreciated) value of the equipment.

Another important use of the program is to prepare a budget. The program can manage loans and handle goods purchased for resale separately from other items. The only negative features of the program are its lack of lowercase and its frequent pauses to swap disks.

Although this is the first farm accounting package to be released for the 64, the vendor has had a similar, excellent version for Commodore's larger models out for years. The program works best with two disk drives to speed use and ease backup of data.

Description: database manager

Sold by: Mirage Concepts
2519 W. Shaw #106
Fresno, CA 93711
209/227-8369

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$100 disk

File type: relative

Record size: 2000 characters

Number of fields: 200

Field size: 250 characters

Compatible with: vendor's
forthcoming word processor

Protection: yes

Warranty: 90 days

Overall rating: 7

Performance: 8

Ease of use: 5

Reliability: 5

Documentation: 9

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all rating factors

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Unlike most competing databases, *Database Manager* is written entirely in fast machine language and it includes many desirable features: flexible arrangement of fields, sorts on any combination of fields, built-in math, ability to select records with common contents in a selected field, easy updates of multiple records, and huge size limits. Forms may be up to 60 lines long, allowing you to design something that would fill a normal sheet of paper. There is also a built-in label maker, flexible enough for Canadian postal codes and nine-digit zip codes. The manual is excellent, as are the on-screen helps.

As for problems, since the program reduces disk error messages to a number, it may take a while to figure out what an error message means. Any disk error during the creation of a form means starting over. Although you can reuse a form or data in a new database, you cannot modify existing forms even slightly. And the cursor up and down keys are not usable for moving between fields, as they are in the Commodore standard form for data entry.

Even though this new program had some problems in our testing, it is powerful enough to merit consideration alongside the best data handlers for the 64, and it has been popular with users in early reports.

Description: database manager

Sold by: Batteries Included
186 Queen St. W.
Toronto, ONT M5V 1Z1
CANADA
416/596-1405

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$150 disk

File type: relative

Record size: 12,500 characters

Number of fields: 99

Field size: 1755 characters

Compatible with: *Paperclip*
64

Protection: yes

Warranty: 1 year

User group rating: 8.7

Performance: 10

Ease of use: 8

Reliability: 9

Documentation: 8

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

As a database, *Delphi's Oracle* overcomes two common limitations: the entire program loads into memory and it allows more than 254 characters in a record. This is a database manager of

extreme power. It combines simplicity with speed and gigantic records.

Oracle's records can be kept sorted in several different ways at once. This means you can look up names in alphabetical order and then immediately switch to printing mailing labels in zip code order. (You can even request a list that is alphabetical by name within each zip code.)

Delphi's Oracle provides easy ways to design mailing labels and fill out preprinted forms. For still more flexibility, *Delphi's Oracle* information can be conveniently sent to most word processors. It also makes it easy to change the structure of a file, revise the appearance of a form, or convert from another database manager without retyping everything. The current version can even do calculations and offers passwords to provide protection from prying eyes.

Delphi's Oracle is blessed with an excellent and well-bound manual. The program itself contains enough help that skilled users will get by with only brief glances at the manual.

Unless your information needs are truly unusual, *Delphi's Oracle* can handle them. It is clearly the best database manager currently available for the 64. Highly recommended.

Description: mailing list

Sold by: Commodore

1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive,
1525/1526 printer

Price and format: approx.
\$25 disk

File type: relative

Record size: 179 characters

Number of fields: 10

Field size: 30 characters

Compatible with: not
available

Protection: yes

Warranty: none

User group rating: 6.3

Performance: 3

Ease of use: 5

Reliability: 5

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Easy Mail is a relative file database manager with a preset mailing format. Although written in BASIC, it also uses a machine language forms editor that can be added to user designed programs.

Some of *Easy Mail's* better features include sorting by field, pattern matching on searches, use of both uppercase and lowercase, and a status/message line. The program is set up to print 2"x4" labels in single or double columns.

Easy Mail is simple to use, with a built-in help screen and 20 pages of printed instructions. The manual tells you not to change record numbers, but the program allows you to anyway.

Generally, however, *Easy Mail* adheres to Commodore's software standards as well as any program on the market.

Description: database
manager

Sold by: Rainbow Computer
Corp.

490 W. Lancaster Ave.
Frazer, PA 19355
215/296-3582

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$79 disk

File type: relative

Record size: 256 characters

Number of fields: 25

Field size: 35 characters

Compatible with: vendor's
other products

Protection: none

Warranty: none

User group rating: 7.2

Performance: 7

Ease of use: 6

Reliability: 7

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Filing Assistant is a database manager that uses function keys to handle major commands, and allows the user to redefine the function keys.

Among the program's good features are its use of multiple keys to get at information quickly by name or zip code. It can subsort by field when two or more records in a set contain data in that field. It also allows the user to start a record containing the same data held in another field. Best of all, *Filing Assistant* has four help screens to aid new users. Reports are simple to produce, usable, and their formats can be stored for reuse. The printer setup information is saved to disk the first time the program is used.

The program has several deficiencies, however. It takes a long time to load. The on-screen prompts are sometimes confusing, as is the manual. The FIND command must be given the contents of both the main and subsort field before finding a match. New files are designed with a forms editor, but the screen editor isn't reliable because it sometimes loses characters temporarily. Colons, commas, or quotation marks cannot be included in data.

Filing Assistant does include a mailing label option. Data can be sent to the *Writer's Assistant* (see separate review) and printouts to paper can be paused.

Description: database manager
Sold by: A B Computers
252 Bethlehem Pike
Colmar, PA 18915
215/822-7727
For: VIC 20 and Commodore 64
Requirements: 24K added memory on VIC 20, disk drive; printer optional
Price and format: approx. \$110 disk

File type: random
Record size: 254 characters
Number of fields: 20
Field size: 79
Compatible with: *PageMate*, *WordPro*
Protection: yes
Warranty: none

User group rating: 7.8
Performance: 5
Ease of use: 8
Reliability: 8
Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Flex File 2.1 is an important database for the 64 and the VIC because of its great flexibility and durability. This versatile database is among the very few to successfully use random files, a technique that provides fast access to information on any part of the disk.

Flex File 2.1 allows you to alter the shape of its records or even the program itself. Tips for adding your own routines to *Flex File 2.1* are included in the easy-to-follow spiral-bound manual. For instance, if you shorten the number of characters in each record to less than 127, *Flex File 2.1* can hold up to 1000 names.

The report writer is usable, but not noticeably better than any in competing programs. The same is true of the sorting and searching options, which run very slowly once you have more than about 200 records.

Still, as the only database that works unchanged on every Commodore machine from the VIC to the 8096, *Flex File 2.1* is a valuable program. It is also the best database manager available for the VIC. Many user groups use it for their records and find it quite satisfactory, as the high user rating indicates. Recommended, especially for VIC owners.

Description: mailing list and database
Sold by: Midnite Software
1238 Richland Ave.
Lincoln, IL 62656
217/732-2703
For: VIC 20 or Commodore 64
Requirements: disk drive; printer optional
Price and format: approx. \$15 disk

File type: relative
Record size: 150 characters
Number of fields: 12
Field size: 32 characters
Compatible with: any word processor reading sequential files
Protection: none
Warranty: 30 days

User group rating: 6.1
Performance: 7
Ease of use: 8
Reliability: 8
Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

This powerful combination mailing list and database package for all Commodore computers can store, edit, and print up to 1000 records per disk. Each record holds standard mailing list information—name, street address, city, state, and zip. It also adds 2 phone numbers and up to 32 different categories in which to store special database information.

One nice feature of this program is that you can code each record by category and later print only the records in a specific category. There are many printing options, such as print index cards or one-, two-, or three-label wide mailings, printing in alphabetical or zip code order, and printing anything from short mail information to a full record. The disk is full of instructions and documentation of the program principles.

Unfortunately, *The Mail Disk* is a little slow accessing records when there are over 200 of them. You may also occasionally fall out of the program, but it is easy to get back in, and sometimes strange records occur that cannot be deleted.

The Mail Disk is a powerful, flexible, and convenient package, and a real bargain.

Description: mailing list
Sold by: Pro-Line Software
 755 The Queensway East,
 Unit 8
 Mississauga, ONT L4Y 4C5
 CANADA
 416/273-6350

For: Commodore 64

Requirements: disk drive,
 printer

Price and format: approx.
 \$130 disk

File type: relative
Record size: 254 characters
Number of fields: 20
Field size: 99 characters
Compatible with: *WordPro*
Protection: yes
Warranty: not written

Overall rating: 8
Performance: 8
Ease of use: 8
Reliability: 8
Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

<p>Key: Overall Rating: Summation of all rating factors Performance: Rating of program's capabilities Ease of Use: How quickly the user can learn to use the program Reliability: Consistency of results Documentation: Quality of printed instructions</p>
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MailPro 64 is better at managing all kinds of data than many database managers. It's written in machine language and runs very fast. Since it all fits in memory at once, it allows room for data and doesn't require disk swapping.

Users familiar with *WordPro* (see separate review) will find *MailPro* easy to use. The program asks three questions at the start, but you can select your usual answers with a single key and easily change screen colors.

The mailing label information is laid out using a variation of Commodore's screen input editor but without full control over the location of fields. Wide fields are possible, via horizontal scrolling. Any number of fields may be defined as sorted fields, allowing very rapid reference. When sorting, the program considers uppercase and lowercase as the same. Unfortunately, the program does not reject duplicate entries, but it is easily able to add records from other programs. Finding a file is quick and easy.

Mailing labels can be up to 23 lines long and 160 columns wide. Within those limits, the labels can be set up with the precision of a word processor, and the resulting print formats can be saved for reuse. You can also revise the structure of the database by sending it to a word processor.

Description: electronic spreadsheet

Sold by: Micro Software International, Inc.

44 Oak St.
 Newton Upper Falls, MA
 02164
 617/527-7510

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive, 16K added memory for the VIC 20

Price and format: approx.
 \$40 cassette or \$45 disk (VIC 20), \$50 cassette or \$55 disk (Commodore 64)

Protection: yes; backup copies available for small fee

Warranty: 90 days

User group rating: 7

Performance: 7

Ease of use: 8

Reliability: 8

Documentation: 7

PractiCalc works with letters, numbers, and formulas, letting the user easily design forms to help solve a wide range of financial and math needs. It can keep a family budget, income tax records, or car maintenance records—anything that can be arranged to fit an accountant's multicolumn pad. It does almost everything the original spreadsheets did, at a very reasonable price and in a more refined way. Its screen display is clear and easy to understand, it allows the first column to be wider than others (for titles), and it only

does math on request, which saves time when you are designing a form.

Anyone familiar with electronic spreadsheets will find *PractiCalc* very easy to use. You select the maximum number of rows and columns wanted up to 100 columns and 250 rows (200 on the VIC 20). All the needed information for easy learning and later reference is included in a well-done, compact, spiral-bound manual.

PractiCalc also adds several excellent new features. Its sorting function allows you to type information in any order and alphabetize it later. The search feature will find any lost numbers. Perhaps best of all, instructional messages can be left for untrained operators. *PractiCalc* can also print out spreadsheet formulas, for designing similar forms later.

PractiCalc cannot build formulas by moving the cursor, and its recalculation is column-wise only, so designing forms requires more care than if row-wise recalculation were allowed. Also, numbers on the screen are truncated, not rounded, when they are too large to fit on screen. But despite these limitations, both versions of *PractiCalc* are useful and inexpensive spreadsheets.

Description: database research tool

Sold by: TOTL Software
Box 4742
Walnut Creek, CA 94596
415/943-7877

For: VIC 20 and Commodore 64

Requirements: 8K added memory on VIC 20, Datasette, disk drive; printer optional, 80-column board optional

Price and format: approx. \$30 cassette or \$34 disk (VIC 20), \$35 cassette or \$39 disk (Commodore 64)

File type: sequential
Record size: 1054 characters
Number of fields: 9999
Field size: 12 characters
Compatible with: not available
Protection: none
Warranty: media only

User group rating: 6.1
Performance: 8
Ease of use: 6
Reliability: 8
Documentation: 6

Research Assistant 2.0 is a collection of three useful, usable programs: one to build data files, one to cross-reference them, and one to print the results. Each file must be saved before it can be cross-referenced, and the system requires a disk drive to update or append the file.

Research Assistant 2.0 allows up to 9999 references to one source

(with page numbers), comments (up to 1020 characters), up to 12 keywords, and key dates for each reference. Entry is slow, since the program has to save data to tape or disk when the buffer fills. Data file source information includes title, author, bibliographical data, and a source identification number. The cross-reference program lets you specify data (up to 20 ranges) and key words, then generates a cross-reference table of source and reference numbers to fit the request. The table and data can be saved on tape or disk and then printed from the print program.

Unlike most databases, *Research Assistant* is completely free form; missing data is no problem. Prompts and menus of choices guide you each step of the way. Errors are clearly described and well handled, both in the program and in the manual. Changes can be made in the programs, if necessary, but the listings are difficult to understand.

This is an excellent package, but you really need a disk drive to use it well. It works best when you do cross-referencing among few sources. While the program is aimed at book research, it could be a cross-reference filing system for many other types of research.

Description: accounting package

Sold by: Commodore
1200 Wilson Drive
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive; printer optional, 80-column board optional

Price and format: approx. \$45-50 disk

Frequency of use: weekly

Warranty: none

Protection: yes; free backup copy with enclosed coupon

User group rating: 7.3

Performance: 7

Ease of use: 6

Reliability: 6

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

64 Accounts Payable is part of the MAS 64 series of accounting programs. It tracks bills and invoices received by family enterprises and other small businesses.

This version has a capacity of 100 vendors, 375 invoices, and 40 transactions. It automatically

enters billing information, posts transactions to the proper vendor and invoice or credit memo, and prints checks as needed. It also arranges unpaid bills by date due and figures in the last date for any discounts offered. You can immediately check how much you owe a company and how much you've bought from them this year and last.

When you are entering new invoices, the program offers common answers to some questions to cut typing time. When processing transactions for transfer into *64 General Ledger*, (see separate review), only 200 general ledger accounts can be mentioned in the same batch of transactions. Since you are expected to use prenumbered checks, the program warns that you will waste two each time you set up the printer; very small companies may prefer to write checks by hand. The program makes it difficult to make partial payment on an invoice.

64 Accounts Payable is useful, but limited in size. Companies large enough to need a computer to write checks will need more than the 40 transactions allowed. Transactions can be handled a group at a time and then erased to handle more, but this leaves a poor audit trail.

Description: accounting package
Sold by: Commodore
1200 Wilson Drive
West Chester, PA 19380
215/431-9100
For: Commodore 64
Requirements: disk drive; printer optional, 80-column board optional
Price and format: approx. \$45-50 disk

Frequency of use: weekly
Protection: yes; free backup copy with enclosed coupon
Warranty: none

User group rating: 7.3
Performance: 8
Ease of use: 6
Reliability: 6
Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game

64 Accounts Receivable is part of the MAS 64 series of accounting programs. It tracks customers and invoices for family enterprises and other small businesses.

64 Accounts Receivable has a capacity of 150 customers, 375 invoices, and 40 transactions. It automatically enters customer billing information, posts transactions to the proper customer and invoice, and prints invoices as needed. When payments come in, it applies them to either a specified invoice or the oldest one, whichever you choose. When customers want to charge something, you can immediately check how much they already owe. The program can print monthly statements of unpaid items (and how long they have been unpaid) for each customer, plus a list of amounts owed, sorted by the age of the invoice.

You select a number for the first invoice, and the program assigns future numbers. Invoices may include added comments and be figured with a variety of tax rates, discounts, and finance charges.

64 Accounts Receivable feeds its information into, and works like, the *64 General Ledger* (see separate review).

Description: accounting package
Sold by: Commodore
1200 Wilson Drive
West Chester, PA 19380
215/431-9100
For: Commodore 64
Requirements: disk drive, CBM or ASCII printer; 80-column board optional
Price and format: approx. \$45-50 disk

Frequency of use: weekly
Protection: yes; free backup copy with enclosed coupon
Warranty: none

User group rating: 7.3
Performance: 9
Ease of use: 6
Reliability: 6
Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game

64 General Ledger is part of a series of programs that will handle the finances of nearly any small business, but are too complex for most family budgets and inexperienced users. They are, however, very good for tracking income and expenses for such

family enterprises as basement pottery shops, attic painting studios, and living room computer software businesses.

64 General Ledger is one of the few such programs to use standard double-entry bookkeeping. It automatically posts journal entries and prepares the usual financial statements needed. Unlike some similar programs, it lets you print without erasing journal entries, which lets you keep track of your financial flow during the course of a month. The system insists that debits and credits are reasonable and balanced, a safety feature that protects you from typing errors.

This general ledger allows you to alter the balance of an account without leaving an audit trail, which may encourage fraud. A simple password system, however, helps guard against unauthorized use.

One negative feature is that it requires a lot of disk swapping with a single disk system. Another is that the program alters itself as it is used, so that you cannot protect your uncopyable disk. If anything goes wrong, you may lose access to your accounting records for weeks.

The power of the *64 General Ledger* package is impressive, and its price compared to programs of similar quality is quite low, but it is too complex for untrained users.

Description: accounting package

Sold by: Commodore
1200 Wilson Drive
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive; printer optional, 80-column board optional

Price and format: approx. \$45-50 disk

Frequency of use: weekly
Protection: yes; free backup copy with enclosed coupon
Warranty: none

User group rating: 6.5
Performance: 9
Ease of use: 7
Reliability: 6
Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

64 Inventory Management is part of the MAS 64 series of accounting programs. It can record the goods in stock for most family enterprises or small businesses.

64 Inventory Management can keep a perpetual inventory of 1800 items. It tracks orders, arrivals, sales, and losses, all with a full audit trail. Daily usage, re-order levels, and the best quantities to buy are calculated automatically. Up to three prices are maintained per item. Reports offered include product orders, worksheets for a manual inventory, and price catalogs.

The program includes a special check digit in each item number, giving it a good chance of detecting simple typing errors. It also calculates which items are among the 15 percent that in most businesses account for 85 percent of the dollar volume, and gives them extra attention. And it considers both vendor and customer backorders when planning reorders.

64 Inventory Management works like the *64 General Ledger* (see separate review). It makes excellent use of the computer as an aid to simple scientific management of inventories, and it preserves an audit trail. Even if you do not choose MAS 64 products for your other accounting needs, consider using this inventory package.

Description: mailing list

Sold by: TOTL Software
P.O. Box 4742
Walnut Creek, CA 94596
415/943-7877

For: VIC 20 and Commodore 64

Requirements: 16K added memory for VIC, Datasette, disk drive; printer optional, 80-column board optional

Price and format: approx. \$20 cassette (VIC 20), \$24 disk (Commodore 64)

File type: sequential
Record size: 253 characters
Number of fields: 4
Compatible with: *TOTL Text*
Protection: none
Warranty: media

User group rating: 7.4
Performance: 5
Ease of use: 8
Reliability: 8
Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

TOTL Label is a good mailing list program for small groups, clubs, and Christmas lists. The 64 version is very much like the VIC version, but slightly improved. For instance, the VIC version can print labels one or two across; the 64 can also print labels three across and in report format.

When selecting which labels to print, you can select just one label, only those added or changed, or the entire file. There are no further categorizations. The program is preset to hold four lines of information, with thirty characters each, all of which must be held in memory at the same time. This means the mailing list can normally hold only about 200 labels.

You can sort the labels either alphabetically or numerically, using any part of your information as the sort key. You can also create a special first line with sorting information, and then suppress that line when it comes time to print the label.

The instructions are quite helpful and easy to understand. Since the program is written in BASIC and not protected, it is also easy to adapt for special needs, such as an unusual printer.

Home economics programs are not as plentiful and as popular as software for business and entertainment. They still meet a need, however. It may take less time to jot a grocery list on paper than it does to enter the items into your computer, but an accounting software package can take that grocery bill and help budget your family's finances over several months—and keep records for the Internal Revenue Service. The key to these programs is using them wisely, and in such a way that they serve your particular needs.

The number of programs available is limited, but they are useful. You'll find home finance and accounting packages, tax preparation programs, inventories, and recipe files. With careful planning you can use them to balance a checkbook, calculate mortgage payments, or itemize your personal possessions. Investors can gain a great deal from investment analysis—if only to protect themselves against losing more than usual to other investors already using computers.

The choice of software for running your home is a personal one and should be made carefully. As you read a particular review in this section, ask yourself if you would really take the time to turn on the computer and load the program described. Can it save you time by repeating a chore you dislike? Will it perform enough calculations to make it worthwhile? When you've an-

swered these questions, you've determined your software needs.

accounting package A program for recording and reporting the results of various types of financial transactions.

income tax record program A program that tracks tax-related income and expenses.

menu planner A program that selects meals for the number of days specified; features may include the ability to describe each dish or to prepare a shopping list of needed ingredients.

stock rating program A program that makes calculations using basic facts about a company and helps you predict future performance of the stock; may include the ability to compare two stocks.

Description: accounting package

Sold by: Programmer's Institute
Division of Future House
P.O. Box 3470
Chapel Hill, NC 27514
800/334-SOFT

For: VIC 20

Requirements: disk drive, 16K added memory for VIC 20, Datasette; printer optional

Price and format: approx. \$75 cassette, \$80 disk

Frequency of use: monthly

Protection: yes; backup copies available for a small fee

Warranty: 1 year

Overall rating: 8

Performance: 9

Ease of use: 8

Reliability: 8

Documentation: 7

The Color Accountant is a remarkably complete accounting system for the VIC 20. Designed primarily for home use, *The Color Accountant* has eight sections that record checks and deposits, balance a checkbook, record investments and loans, print checks, keep a budget, create graphs, store a mailing list, and record bills and appointments. It should require less than an hour of data entry per month. Editing uses the full screen and you can even search for a check.

Setup is easy. Account numbers are only two digits long, and the package includes a standard set

of accounts that are very easy to alter. Menus of choices guide you at every step, and extensive error checking assures that results are as expected. The STOP key has not been disabled, which might be a problem for novices, but experienced users will appreciate being able to halt things. The program even includes a list of lines to which you may want to go after various disasters. All statements can be printed to the screen or to a printer. You can make a backup disk and save files on it.

You can alter any check at any time (which is convenient, but not suitable for use by operators you cannot trust completely). Another nice touch is that you can mark a check as tax-deductible. *The Color Accountant* knows about interest-bearing checking accounts and debit cards. It includes important business accounting options, trimmed to fit ordinary family needs. Even such items as an appointment scheduler and a mailing list are included.

For the programmer, the package is both changeable and partly documented. The manual is lengthy and helpful. For a home program, *The Color Accountant* provides a great deal of power. Highly recommended.

Description: menu planner

Sold by: Briley Software

P.O. Box 2913

Livermore, CA 94550

415/455-9139

For: VIC 20

Requirements: Datasette;
printer optional

Price and format: approx.
\$13 cassette

Frequency of use: weekly

Protection: none

Warranty: 90 days

Overall rating: 6

Performance: 6

Ease of use: 5

Reliability: 9

Documentation: 3

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all rating factors

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Dinner's On is one kitchen program worth having. The program asks how many days you'd like meals planned for and then randomly selects meals from a list of your favorites stored within the program as DATA statements. Both a main course and a dessert are selected each time, one meal per day. Then comes the real power of the program: based on these choices, it prepares a shopping list of the needed ingredients to make these dishes. If needed, it will also describe each dish in detail.

The only trouble with this program is that someone in the family has to know enough about BASIC to LIST, alter, and SAVE a program before you can use *Dinner's On*. There is also a fair amount of work involved in typing in the list of favorite meals when you first buy the program, but you are repaid later when you no longer have to worry about deciding what meals to serve. It's especially helpful in homes with allergies (or simple dislikes) to contend with because nothing gets into the menu planner unless you put it there.

Description: income tax record program

Sold by: SimplexSoft, Ltd.

P.O. Box 445

Marion, IA 52302

319/363-6035

For: VIC 20 and Commodore 64

Requirements: disk drive, 16K added memory for the VIC 20; printer optional

Price and format: approx.
\$30 cassette or disk

Frequency of use: monthly

Protection: on cassette only

Warranty: not written

User Group rating: 6.5

Performance: 7

Ease of use: 7

Reliability: 5

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

This simple but surprisingly helpful program is limited to the data it can hold in memory; within that limit, it tracks all the tax-related income and expense items a family needs. Up to 500 transactions can be recorded per file, and a 1541 disk can hold

eight unrelated files. Since the user chooses category names, *Financial Record System* should fit most people's needs.

To set up the program, you invent two-character codes for each income and expense item on the previous year's income tax form, plus codes needed to handle any new categories for this year. The program uses color to mark different kinds of information and allows you to escape any mode by pressing a key. It also provides option menus to ease selections.

The real value of *Financial Record System* comes after the data is entered. Then you may print or display entries in any number of categories, for any range of dates, with totals. The information includes the date, amount, payer or payee, and a comment.

The main weakness in the *Financial Record System* is its lack of disk error-checking, which a good programmer can quickly remedy. Also, the STOP key still halts the program, and entries cannot contain commas or semicolons. This approach is greatly preferred by programmers for their own use, but makes the program unsafe for novices. Still, it's the most useful tax package for the 64 and VIC to date.

Description: accounting package

Sold by: Continental Software Co.

11223 S. Hindry Ave.
Los Angeles, CA 90045
213/417-3003

For: Commodore 64

Requirements: disk drive; 132-column graphic printer optional

Price and format: approx. \$75 disk

Frequency of use: monthly

Protection: yes

Warranty: 90 days media, 1 year optional

Overall rating: 6

Performance: 7

Ease of use: 7

Reliability: 5

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all rating factors

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

The Home Accountant has been a popular home computer accounting program for other systems, and the claimed capabilities of the Commodore 64 version are impressive. Once the early bugs are out, it is sure to be a best-seller on the 64.

At its simplest level, *The Home Accountant* automates your checkbook. The program can also monitor cash and credit cards, and do all the functions of a simple general ledger. It can handle up to 100 budget accounts (including user-created accounts) and a nearly unlimited number of transactions.

Slow data entry is the only real drawback to this version. It cannot process characters fast enough for an average typist and has no buffer to temporarily store characters waiting to be processed. The program also won't format a disk, but it does refuse to write over a disk that already contains *The Home Accountant* data.

The Home Accountant has a unique warranty: while the front of the manual disclaims all warranties, the back of the manual describes a 90-day media warranty. Also, for a small fee, you can get a year's media warranty, plus other support, which is useful because the current version has so many bugs.

Revision 1.1 should correct most of the problems described above, making *The Home Accountant* a top-rated program for home use.

Description: stock rating program

Sold by: Custom Software Design

831 Maplewood Ave.
Anderson, IN 46012

For: Commodore 64

Requirements: disk drive; printer optional

Price and format: approx. \$100 disk

Frequency of use: occasional

Protection: none

Warranty: none

User group rating: 3.5

Performance: 7

Ease of use: 7

Reliability: 6

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

This is the only stock analysis program available for any Commodore computer; fortunately, it's useful and fairly well written. Because it has no competition, the program is quite expensive, which is perhaps why user groups dislike it. It is included in spite of the user ratings because many Commodore users seek a stock market analysis program

and this is the only one available.

The strength of *Stock* is its calculations. After you enter about two dozen facts on a company from a stock rating form, the program calculates several useful figures and ratios to help you predict the future performance of the stock. Given your prediction, the program will make more calculations and recommend whether the stock is presently a good buy. It will record the information on disk, turn parts of it into detailed bar graphs, and make permanent copies on paper. The program can also compare two stocks against each other.

Stock's major weakness is insufficient error checking. If you do not type accurately, you can enter some truly amazing data without a protest, until the program has to make sense of it (when you might, for example, be halted with a "division by zero" error message). Since the program is written in BASIC and not protected, an experienced computer user can easily add any desired options to the program.

If the program helps you improve your success rate in investing, it is likely to pay for itself, despite its relatively high initial cost.

Over the last year, there has been a revolution in computer educational software. Until very recently, most educational programs were little more than text games. Recent releases, however, are much more sophisticated. They use the computer's graphics and sound capabilities to hold the student's interest and are available for almost any subject. These programs can be used to continue school instruction at home or to provide supplemental education on new subjects.

There are several different types of educational software. One of the simplest and most common is the drill-and-practice program. In this type of program, a variety of problems requiring the same basic skill are presented, and students must solve them as quickly and accurately as they can. The student must already understand the basic concepts.

Another type of program, the tutorial, is used to help students acquire new skills. These programs present new concepts one step at a time, and users can progress at any pace they feel comfortable with.

Although most of the software in this chapter is intended for children, there are also several programs that can be helpful for adults. *Introduction to Basic, Part 1 and Part 2* is an excellent way to learn BASIC programming, no matter what your age, and *Touch Typing Tutor* is a fine typing tutorial.

The following special terms are used in this chapter:

drill-and-practice program

A learning program that gives the student exercises or problems, assuming the student already understands the basic skills or concepts involved.

learning game A learning program in which the student practices skills or learns concepts within the context of a game.

simulation A program in which the computer lets you imitate the experience of some real-life situation (such as flying an airplane or running a factory). You make choices as you try to perform the task, and the computer tells you what would happen if you made those choices in real life.

tutorial program A program that teaches a new skill or concept, going through the subject one step at a time (such as learning typing or BASIC programming).

Description: letter recognition game

Sold by: Spinnaker
215 First St.
Cambridge, MA 02124
617/868-4700

For: Commodore 64

Requirements: joystick; disk drive optional

Price and format: approx. \$35 cartridge, \$30 disk

Protection: yes; backup copies available for a small fee

Warranty: 30 days

Overall rating: 8

Documentation: 5

Graphics and sound: 8

Difficulty: nonreaders and beginning readers

Excellent: 8-10, Good: 5-7, Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

Alphabet Zoo contains two good games—the Letter Game and the Spelling Game—to teach letter recognition and spelling to children aged three to eight.

In the Letter Game, one or two players race through a maze to capture the first letter of the picture shown in the middle of the screen. To capture a letter, the child must move his or her character over the correct letter in the maze and then press the joystick fire button. The goal is to catch as many figures of that letter as possible before time runs out. To speed the moves around the maze, there are hyperspace circles in the corners of the maze that randomly move the child's character to another place in the maze.

In the Spelling Game, the goal is to pick up—in the correct order—all the letters that spell the word pictured in the middle of the screen.

There are six levels of play in *Alphabet Zoo*, ranging from using only the easiest consonants to using the entire alphabet in the Letter Game, and from two-letter words to nine-letter words in the Spelling Game. In the first game, letters can be displayed in uppercase, lowercase, or mixed; the second game uses lowercase letters only.

EDUCATION BENJI'S SPACE RESCUE

Description: solar system simulation
Sold by: HesWare
150 North Hill Drive
Brisbane, CA 94005
800/227-6703 (in California
800/632-7979)

For: Commodore 64
Requirements: disk drive,
joystick
Price and format: approx.
\$40 disk

Protection: yes
Warranty: none

Overall rating: 7
Documentation: 4
Graphics and sound: 7
Difficulty: beginning readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
Overall Rating: Summation of all ratings factors
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program

Mixed in with the traditional arcade actions of avoiding and shooting invaders while rescuing prisoners, *Space Rescue* provides a fair amount of information about the solar system. In this program, the task is to rescue several scientists from invaders. The player has only a short amount of time to do this, assisted by a graphic image of the dog Benji.

The program begins with a high-resolution multicolor picture of Benji, accompanied by a pleasant little tune that sounds like a home organ. Other high-resolution pictures show the appearance of each of the planets. The rest of the program uses medium-resolution graphics.

The only negative aspect of *Space Rescue* is that control of the many options with a joystick is difficult. Only a single letter indicates what each option does. A child would have trouble with these at first unless aided by an adult. However, we still enthusiastically approve *Space Rescue* for children. As in other good educational programs, failure is treated gently. *Space Rescue* lets a child have all the chances anyone should need.

EDUCATION COMMODORE EDUCATION DISK

Description: various subjects
Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100
For: Commodore 64
Requirements: disk drive;
joystick optional, printer
optional
Price and format: approx.
\$7-10 per disk (50 disks total)

Protection: yes
Warranty: none

User group rating: 6.8
Documentation: 3
Graphics and sound: 6
Difficulty: intermediate readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program

This package of 50 public domain disks covers a wide variety of subjects and levels. The series was put together under the auspices of the Ontario (Canada) Ministry of Education and represents the best educational programs from the Toronto PET User Group Library. Once chosen, the programs were reworked so that they would run on all Commodore computers and instructional manuals were written to accompany them.

Hundreds of copies of this series were made, and quickly sold out. Since then, copies have been supplied by many Commodore dealers and user groups. The collection is also available through Commodore's bulletin board in Chicago (312/397-0871, by modem only).

As dealers will now make copies of the package a disk at a time, interested users need not buy sections that do not interest them. Most dealers and many user groups have a list of the collection contents and many of the programs are described in the *Whole PET Catalog* published by Midnite Software.

Each disk contains 10 to 20 programs (of varying level and quality). Subject titles for the disks include business administration, computer science, language, games, history, geography, mathematics, science, technology, and utilities. For some subjects there are three or four disks; for others only one or two.

The following disks from the set have been recommended by user groups as being particularly good: English disks EB, EC, and EG, math disk MC, and geography disks RA and RB. This series of programs would be especially useful for an educational program.

Description: population simulation

Sold by: Spinnaker
215 First St.
Cambridge, MA 02142
617/868-4700

For: Commodore 64

Requirements: two joysticks
Price and format: approx.
\$35 cartridge

Protection: yes; backup copies available for a small fee

Warranty: 30 days

Overall rating: 8

Documentation: 7

Graphics and sound: 7

Difficulty: intermediate readers and adult readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

Though you wouldn't know it from watching two kids play it, *Cosmic Life* is a serious adaptation of the mathematical model of cellular population called Life (not to be confused with a popular commercial board game of the same name). Based on *Scientific American* articles, this game of Life is deceptively simple, but capable of infinite variation. It's speed makes it much more fun to plot popu-

lation growth by computer than to plot it by hand.

Instead of cells that grow or die, *Cosmic Life* has "digi-bugs" that either happily stay on the surface or sadly burrow underground where they can't be seen. Empty cells that are neighbors to exactly three digi-bugs become birth cells, spawning new digi-bugs.

Younger children can play by blindly planting digi-bugs with a joystick as quickly as possible, working against a clock to produce the most bugs. A better learning approach, one that challenges even adults, is to make one move at a time, studying each move's effect on the population before making the next move. There are other options as well, like space storms, which randomly bury colonies of bugs. It is even possible to play with only one player.

Cosmic Life comes with a more informative manual than most. The user will especially appreciate a series of charts containing all the possible combinations of three and four bugs (and how they turn out).

This game is perfect for most elementary-grade children because it is meaty enough to offer future challenges and simple enough they can enjoy it now. If you buy only one Spinnaker educational game for your children, make it this one.

Description: preschool learning exercises

Sold by: Counterpoint Software
4005 W. 65th St., Suite 218
Minneapolis, MN 55435
612/926-7888

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive

Price and format: approx.
\$30 cassette or disk

Protection: none

Warranty: 30 days

User group rating: 8.3

Documentation: 3

Graphics and sound: 6

Difficulty: nonreaders

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

A picture menu (table of contents) in *Early Games for Young Children* helps preschoolers run six well-designed activities, without adult assistance once the program is loaded. Their choices are (1) match big numbers or letters; (2) count blocks; (3) add or subtract blocks; (4) type letters or names; (5) compare shapes; or (6) draw pictures (using the regions of the keyboard like a joystick). To select a particular activity, the child presses a key when that activity shows on the screen. To move on, the child presses a function key to return to the picture menu. Adults, however, may have trouble if they think the menu is part of a greetings display and they wait for something else to appear.

The idea in this software package is good, especially the ease with which a nonreader can get into and out of the various activities. It also stays away from printed text more than other preschool programs tested. The manual, though readable, mingles instructions for a half-dozen different computers.

Early Games for Young Children is the best early math program available for the VIC 20. Owners of the Commodore 64, with its wider selection of software, may prefer other programs.

Description: quiz creator
Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100
For: Commodore 64
Requirements: disk drive
Price and format: approx.
\$15-20 disk

Protection: yes
Warranty: none

User group rating: 6.8
Documentation: 5
Graphics and sound: 2
Difficulty: novice readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Difficulty: The reading level
required to use the program

This package offers a way for parents to make learning fun for their children, or for teachers to provide either enrichment materials or special help for their students. It resembles an authoring system, a kind of programming language with which teachers can create their own lessons on a computer.

The *Easy Lesson* program sets up multiple choice questions (each with up to five choices). The program starts by asking for the day's date and the user's name, and then asks you to specify categories for the questions to be written. Each question can have up to five lines of text, up to five possible answers, a reference (for example, book and page number), and can be associated with up to seven categories, or separate lessons. Data can be changed, printed, and selected for quizzes.

The *Easy Quiz* program presents questions in fixed or random order—with or without prompt sounds for right answers, the time taken, and a chance to repeat the quiz. The program is all text with little graphic enhancement.

The package is well done. You can change colors for easier viewing. If you give a wrong answer, the computer responds with the correct answer, instead of giving you a second try. You can choose up to 150 lessons by number, and your selections will automatically load and run.

Description: shape
programming game
Sold by: Spinnaker
215 First St.
Cambridge, MA 02142
617/868-4700
For: Commodore 64
Requirements: disk drive
optional
Price and format: approx.
\$35 disk or cartridge

Protection: yes; backup copies
available for a small fee
Warranty: 30 days

User group rating: 7.1
Documentation: 5
Graphics and sound: 7
Difficulty: beginning readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Difficulty: The reading level
required to use the program

FaceMaker is an excellent video version of Mr. Potato Head that doubles as a lesson in programming. It accomplishes its educational goal quite well; kids from four to twelve seem thrilled with it.

Using only two keys, the child can select from a widely varied menu of eyes, ears, noses, mouths, and hairlines to build a face. After drawing the face, the child may tell it to wiggle its ears, smile, wink, frown, cry, or stick out its tongue. Then comes a Simon-Says type of game in which the head makes faces at the child. The child copies the movement by typing a series of single-character commands, up to ten in a row, in a tiny step toward programming.

While the graphics are good and the sound is fair, the game could take better advantage of the computer's capabilities. For instance, the child could also choose the face shape as well as its various parts.

But this game is still very good, especially for keyboard familiarization, entertainment, and a painless introduction to programming.

Description: arithmetic game

Sold by: Spinnaker

215 First St.

Cambridge, MA 02142

617/868-4700

For: Commodore 64

Requirements: joystick

Price and format: approx.

\$35 cartridge

Protection: cartridge

Warranty: 30 days

Overall rating: 7

Documentation: 5

Graphics and sound: 7

Difficulty: intermediate readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

Fraction Fever is a good program to begin teaching children about fractions. In it, you hop along an elevated sidewalk on a pogo stick. Your task is to recognize the picture version of the fraction shown at the top of the screen when you come to it.

Using a joystick, you guide yourself left, right, and across holes in the sidewalk. The fire button is used to stamp out incorrect fractions; when you find the correct fraction, jump on it and ride an elevator to the next higher level. If you take too long to do this, a timer runs out and the elevator leaves without you. There are a total of twenty levels, shown three at a time, with you on the center one.

Although this is clearly just a drill and practice program, that function is hidden behind enough gamelike elements that kids will enjoy playing it, even if they don't know much about fractions. *Fraction Fever* is recommended because it makes learning fractions fun.

Description: arithmetic game

Sold by: Taylormade Software

Box 5574

Lincoln, NE 68505

402/464-9051

For: VIC 20

Requirements: Datasette, 8K added memory

Price and format: approx.

\$20 cassette

Protection: yes

Warranty: not written

User group rating: 6

Documentation: 5

Graphics and sound: 2

Difficulty: intermediate readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

Fun Fractions is just what the name implies: a fun way to learn how to manipulate fractions. In *Fun Fractions*, the user has a choice of elementary or junior high level problems, and of whether to add, subtract, multiply, or divide fractions. The program begins instruction by showing a sample problem and working it out. Then, after the child has looked at it, another problem is displayed with a question mark in one position for him or her to fill in. The time limit is illustrated by the descent of a parachutist down the screen. If the child gets the problem right within the time allowed, the chute opens. If not, he or she lands on his or her head. When the player does well, the parachutist falls faster; when the player does poorly, it slows down.

The game gives good training in quick calculation using fractions. A good way to play is to take turns with the computer, the user doing some problems, the computer doing others. The manual is brief but good, with clear type and clear explanations of how fractions are added, subtracted, multiplied, and divided. Unfortunately there are no on-screen instructions.

EDUCATION HEY DIDDLE DIDDLE

Description: nursery rhyme game

Sold by: Spinnaker
215 First St.
Cambridge, MA 02142
617/868-4700

For: Commodore 64

Requirements: disk drive,
joystick

Price and format: approx.
\$30 disk

Protection: yes; backup copies
available for a small fee

Warranty: 30 days

User group rating: 6.5

Documentation: 5

Graphics and sound: 8

Difficulty: beginning readers
and intermediate readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Difficulty: The reading level
required to use the program

Hey Diddle Diddle contains a very enjoyable series of pictures of nursery rhyme characters, accompanied by text and appropriate music for each. The program makes excellent use of the 64's high-resolution color graphics and multivoice sound. Most of the rhymes are unusual, as are all of the tunes. There are three ways for the program to play: Story time (nonstop pictures), Story book (pause after each), and Rhyme game (comprehension test).

In all three variations, the drawings take a long time to form. But the process is interesting, with parts appearing almost at random around the screen until a full picture is formed. Surprisingly, after the long wait for pictures to form, the second verses of the rhymes are left on the screen far too briefly for most youngsters to read.

In the Story book option, the program pauses after each screen until you press the spacebar; this allows you to read the rhyme at your own pace. After once or twice through, the Rhymegame option will be used more often. In it, the child sees a rhyme whose lines are in the wrong order and must rearrange them. This activity is enjoyable and can be done with or without pictures and sound.

EDUCATION IFR (FLIGHT SIMULATOR)

Description: flight simulator

Sold by: Academy Software
Box 6277
San Rafael, CA 94903
415/499-0850

For: VIC 20

Requirements: joystick

Price and format: approx.
\$40 cartridge

Protection: cartridge

Warranty: 120 days

Overall rating: 8

Documentation: 7

Graphics and sound: 6

Difficulty: adult readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all
ratings factors

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Difficulty: The reading level
required to use the program

IFR is a realistic simulation of instrument flight in a single-engine Cessna airplane. The pilot must take off, navigate around difficult terrain, and land at any of four airports shown on the maps in the accompanying booklet. Two airports have the needed radio beacons for an ILS (Instrument Landing System) approach to a landing, as well as fuel and repair facilities; the other two don't. There are also farmers' fields, in case of an emergency.

All the instruments used for basic *IFR* flight are shown on the screen. Full aircraft features are implemented, with realistic aircraft specifications. A PAUSE command allows the pilot to halt or continue the action anytime with the touch of a button. An EDIT option positions the aircraft anywhere on the course, allowing the pilot to set conditions according to flying ability. This is especially useful for practicing turbulence values. A test copy of *IFR* was reviewed by an air traffic controller and two skilled pilots; all three recommended it highly. *IFR* will also be available for the Commodore 64 very soon.

EDUCATION INTRODUCTION TO BASIC, PART 1 AND PART 2

Description: BASIC tutorial

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: Datasette

Price and format: approx.
\$20-25 for each cassette (two
cassettes required for full
course)

Protection: yes

Warranty: none

User group rating: 7.2

Documentation: 9

Graphics and sound: 5

Difficulty: intermediate readers
and adult readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Difficulty: The reading level
required to use the program

This is a full course in BASIC programming. Part 1 consists of 15 lessons, two cassettes that go along with the lessons, and a plastic guide to help draw the essential flowcharting symbols used in professional programming. The cassette programs are well written, but usually more practice than fun. They include quizzes, a hangman game, a sound demo, and a reaction tester, among others.

Part 2 includes 10 lessons and two cassettes. Unless you are already familiar with BASIC, do not attempt this before finishing Part 1. As with the first part, the cassettes are designed to help study the lessons and the programs are well written. They include quizzes, sample pictures, useful subroutines, and an occasional simple game.

Each part comes with its own manual. Both are excellent; the teaching is rigorous, the information accurate, and the print quality very good. The assignments are worked out in the back of the book, and the manuals also include coverage of BASIC math, some useful subroutines, and an index.

Few programming courses are of this quality. Anyone completing it will know the language well.

EDUCATION KIDS ON KEYS

Description: typing trainer

Sold by: Spinnaker
215 First St.
Cambridge, MA 02142
617/868-4700

For: Commodore 64

Requirements: disk drive
optional

Price and format: approx.
\$35 cartridge, \$30 disk

Protection: yes; backup copies
available for a small fee

Warranty: 30 days

Overall rating: 7

Documentation: 5

Graphics and sound: 7

Difficulty: nonreaders and
beginning readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all
ratings factors

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Difficulty: The reading level
required to use the program

Kids on Keys, a typing game for children aged three to nine, does not attempt to teach proper typing habits. It aims instead for keyboard familiarization, using three games. All of the games are accompanied by music.

The first game shows letters and numbers floating down the screen, followed by a balloon with a word in it. The child is to find the matching keys and type them before the images disappear. In the second game the child types words to identify colored pictures moving down the screen. Then, in a bonus round, the child identifies parts of the same pictures. In the third game only words appear in full color. Also on screen (but not in color) are 15 numbered pictures. The child types the number of the picture that matches the word.

Once all three games are mastered, the child will be familiar with the keyboard, and also with numbers, letters, and words. To make things interesting for children of various ages, there are four skill levels for each game. These vary the words used and the speed at which they travel over the screen.

Although the program achieves its goals well, its price is rather high for a game to be used briefly by only one child. For larger families and classroom use, on the other hand, *Kids on Keys* is practical as a good introduction to the computer.

Description: preschool learning exercises

Sold by: Spinnaker
215 First St.
Cambridge, MA 02142
617/868-4700

For: Commodore 64

Requirements: joystick; disk drive optional

Price and format: approx. \$30 cassette or disk

Protection: yes; backup copies available for a small fee

Warranty: 30 days

User group rating: 7.5

Documentation: 5

Graphics and sound: 8

Difficulty: nonreaders

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

This preschool educational program helps nonreaders develop creativity, counting skills, and reading readiness. *Kindercomp's* drawing program makes use of low-resolution graphics squares in six bright colors.

There are five lessons in the program: Scribble fills a line with the particular key pressed. Names All Over takes an entered word and duplicates it all over the screen in a dozen or more ways and sizes. In Number Sequence, the child is given three tries to enter the next number in a sequence before the answer is displayed. Letters shows large letters to match in uppercase or lowercase and ignores wrong key presses, such as the number 1 for letter L. Match ignores wrong answers, too, except for playing the key press notes in reverse order. In this and one other lesson, the reward is the slow drawing of a sprite, which eventually flies away.

Music offered in the program is random, but pleasant. In sum, *Kindercomp* is well done, but definitely for youngsters not yet able to read. Older children will probably be bored by the game.

Description: arithmetic drill

Sold by: Taylormade Software
Box 5574
Lincoln, NE 68505
402/464-9051

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive, 8K added memory for VIC 20

Price and format: approx. \$20 cassette \$25 disk (Commodore 64 only)

Protection: yes

Warranty: none

User group rating: 6

Documentation: 2

Graphics and sound: 5

Difficulty: intermediate readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

Pinball Math has little to do with pinball; it is actually a thinly disguised drill of addition, subtraction, multiplication, and division. Answers must be entered one digit at a time, in the order in which a student would normally calculate them. If the problem has intermediate steps, these too must be fully entered, in proper order. Each incorrect digit is carried away by a small colored box. If the child misses a digit three times, the box shows the correct digit.

After a correct answer, an extremely brief animated display of a moving pinball and a few bumpers appears on the pinball machine and generates a score based on how long it took the child to get the answer. The child then presses a function key (shown on screen as the ball launcher) to get another problem or a different key to quit. When the child quits, the program displays the time and number of problems solved and offers him or her another chance.

Each drill in *Pinball Math* has three difficulty levels. At the easiest level, directions are offered on the screen, but there is no manual offered with the program.

Description: plumbing simulation

Sold by: Creative Software
230 E. Caribbean
Sunnyvale, CA 94089
408/745-1655

For: VIC 20 or Commodore 64

Requirements: joystick

Price and format: approx.

\$30 cartridge (VIC 20), \$35 cartridge (Commodore 64)

Protection: cartridge

Warranty: 30 days

User group rating: 7.3

Documentation: 6

Graphics and sound: 8

Difficulty: intermediate readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

Students will like this plumbing simulation. *Pipes* realistically shows the problems involved in connecting homes to a community water supply. A variety of pipes are used, each available in a limited supply at a fixed cost. Play involves using a joystick to send a plumber figure to the store. There, the user guides him in selecting the next pipe needed. Pipe in hand, the plumber is moved to the point of need and the pipe added to the end

of the line of other pipes. This is done repeatedly, until pipelines are completed from the community water supply in the center of the screen to all the homes around the edge of the screen. After all connections are made, the water is turned on, and the player is rated, both for the cost effectiveness of the pipes chosen and the accuracy of their placement. (Sloppy placement is reported as leaks.)

The difficulty of the game is varied by selecting the number of houses to connect at once, from one to five. Connecting one house is a simple but time-consuming chore for an adult; five takes real planning and even more time.

The graphics in *Pipes* are the usual Commodore characters, but colorful. A small radarlike screen window shows the overall layout of the houses, while the rest of the screen shows a closer view of the plumber's immediate surroundings. The sounds are numerous, varied, and appropriate, and documentation is built into the program as on-screen instructions. This is an excellent simulation of a real-life problem.

Description: arithmetic game

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: none

Price and format: approx.

\$15-20 cartridge

Protection: yes; backup copies available for a small fee

Warranty: none

User group rating: 5.5

Documentation: 3

Graphics and sound: 6

Difficulty: beginning readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

This arcade version of a common and usually dull learning chore includes two good programs. In *Speed Math* the child works math problems against a clock. The quicker each problem is answered correctly, the more points earned (with no points earned or lost for wrong answers). Any arithmetic function (or a mixture of them) can be tested; there are 25 problems in each session. Though well done, with large graphic numerals and various sounds, it is typical of dozens of competing programs. By itself, *Speed Math* offers little that is special.

Bingo Math, on the other hand, is a great deal of fun (and far better with two players than with one). As in real Bingo, a number is called and the player covers it on a playing card. But in *Bingo Math* the player must first calculate the number by solving an arithmetic problem. There is also a time factor. If two players are competing, only the player who marks the correct answer first scores the points.

Bingo Math is one of the most enjoyable math teaching games around. The idea of using Bingo to teach addition, subtraction, multiplication, and division is clever. A useful addition to it would be a way to handicap adults competing with children.



EDUCATION TOUCH TYPING TUTOR★

Description: typing lessons
Sold by: Taylormade Software
 Box 5574
 Lincoln, NE 68505
 402/464-9051

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive

Price and format: approx.
 \$20 cassette \$25 disk
 (Commodore 64 only)

Protection: yes, backup copies available for small fee

Warranty: not written

User group rating: 7.5

Documentation: 5

Graphics and sound: 6

Difficulty: intermediate readers and adult readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

This is the only program for the VIC and 64 that actually teaches beginners to type. It does more than simply generate random sentences and time your performance. You can use it as an introduction to touch typing or as a refresher, always progressing at your own speed. The program's nicest feature is that it shows the keyboard on the screen, color coded to match the

finger that should press the next key.

In the first and most fascinating option, Lessons, the screen displays the keyboard plus 50 individual letters for you to type, one at a time, followed by an accuracy score. Nineteen different exercises encourage you to use the correct fingers to press the keys. You can choose to have the keyboard letters highlighted during the lessons.

The second option, Practice, asks you to type "pseudo-words" (random groups of letters), verifies your accuracy, and displays typing speed. In the last option, Text, you type words and groups of words, while a clock in the upper corner of the screen records your time. One minor flaw in the last option shows correct entries in blue and errors in black, which is hard to distinguish on black and white TVs. It also only allows one space after a period instead of the usual two.

Touch Typing Tutor is recommended for all who want to stop hunting and pecking.



★ TYPING TUTOR AND WORD INVADERS

Description: typing game
Sold by: Academy Software
 Box 6277
 San Rafael, CA 94903
 415/499-0850

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive

Price and format: approx.
 \$22 cassette, \$25 disk

Protection: yes

Warranty: 120 days

Overall rating: 7

Documentation: 4

Graphics and sound: 6

Difficulty: intermediate readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Difficulty: The reading level required to use the program

This package is actually two learn-to-type programs in one. The first, *Typing Tutor*, offers conventional typing practice. It provides a choice of various lessons that simply ask you to copy combinations of keystrokes that appear on the screen. Only in the menu of the 64 version and in the manuals are you shown which keys are assigned to each finger. Typing accuracy is checked after each line. The program does not allow you to backspace, encouraging both speed and getting it right the first time. In the VIC 20 version, you have to succeed at each level in turn. On the 64, you can select the lesson desired. Both versions use color and sound, but the 64 does more with each.

What has made this one of the best-selling educational programs, however, is the second program, *Word Invaders*. In this enjoyable game you fight off waves of invading words by typing their names correctly. Each invader is a real English word. When the correct character is typed, the corresponding letter in the invader is shot away. But you can't linger; the mother ship keeps dropping new words, and the old ones are approaching the ground where they will wipe you out if you don't learn to type faster. The VIC version is fun but the 64 version is fantastic. It has good color, detailed sprites, and better sound. Highly recommended if you know how to type but need to improve your speed.

ZORTEK AND THE MICROCHIPS**Description:** BASIC tutorial**Sold by:** Commodore

1200 Wilson Dr.

West Chester, PA 19380

215/431-9100

For: VIC 20 or Commodore 64**Requirements:** Datasette**Price and format:** approx.

\$20-25 cassette

Protection: yes**Warranty:** none**User group rating:** 5.5**Documentation:** 8**Graphics and sound:** 5**Difficulty:** intermediate readers

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:**User Group Rating:** Average of User Group ratings**Documentation:** Quality of printed instructions**Graphics and sound:** Quality and aesthetics of each**Difficulty:** The reading level required to use the program

What makes *Zortek and the Microchips* such a delightful program for learning BASIC is the documentation. It presents programming in BASIC in story form, with a mysterious and fun plot, bright and colorful examples, and time-out sections to play arcade-type games. The manual is worth the money just to make your child curious about how to program.

As for learning to program in BASIC, the actual cassettes barely scratch the surface. The 64 and VIC versions use the same manual (and games), but come with different sets of cassettes. For a more complete and traditional course, choose Commodore's *Introduction to BASIC, Parts 1 and 2*. But for a program to raise your child's curiosity and lay a good foundation for further knowledge of programming, choose *Zortek and the Microchips* and perhaps pass it along to friends once your family has mastered it.

Communications is one of the fastest growing areas of computer technology. New networks are being started almost every day, and the owner of a VIC or 64 can easily gain access to most of them by using one of the terminal programs reviewed in this chapter. The latest stock reports, movie reviews, and airline schedules are available, along with up-to-the-minute news and weather. You can even shop by catalog or look at copies of the *New York Times*, *World Book Encyclopedia*, the Bible, or the latest congressional legislation. The Source and CompuServe are the two most popular information services, but there are now many others as well.

To take advantage of these services on your VIC or 64, you need one of the terminal programs reviewed in this chapter and a modem. Modems for personal computers usually have a fixed baud rate (the rate at which information is transmitted and received), and the terminal program must operate at the same baud rate. The baud rate for each of the terminal programs in this chapter is listed below price and format.

The following special terms are used in this chapter:

baud rate The speed at which data is transmitted (in bits per second) either between two computers or between a computer and a peripheral.

bulletin board system A private network that lets users send and receive electronic messages and exchange computer programs by modem.

download In networking, to transfer a computer program into your own system from another computer.

modem A device that converts computer data into audible signals and also converts audible signals back into computer data, so that information can be sent from computer to computer over the telephone lines.

terminal program A communications program that allows your computer to exchange information with other computers through a modem.

upload In networking, to transfer a computer program from your own system to another computer.

'64 TERMINAL AND TERMINAL 40

Description: terminal program

Sold by: Midwest Micro, Inc.

311 W. 72nd St.
Kansas City, MO 64114
816/333-7200

For: VIC 20 (*Terminal 40*),
Commodore 64 (*'64 Terminal*)

Requirements: 8K added
memory for VIC 20,
Datasette, modem or RS232
interface; printer optional

Price and format: approx.
\$30 cassette

Baud rate: 300

Protection: none

Warranty: yes

User group rating: 7.2

Performance: 7

Ease of use: 6

Reliability: 6

Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

'64 *Terminal* and *Terminal 40* are simple and easy to use terminal programs for the 64 and the VIC, respectively. These programs allow you to set all the usual variable parameters, plus line feeds and colors. All ASCII and Commodore characters may be sent (except the lowercase alphabet on the VIC). The 64 version has a much larger work-space (buffer) than the VIC version for copying incoming information, and it displays both uppercase and lowercase letters. Otherwise, the two versions are identical.

The best-known feature of *Terminal 40* is its ability to display 40 columns on a VIC. Scrolling is also much smoother than in other programs. The receive buffer can be switched on and off, and reviewed at any time. However, once a paper copy is begun, the buffer will be erased even if something goes wrong with the paper copy. One other unusual option removes extra tabs and spaces from incoming information, to save space in the buffer and improve readability on narrow screens.

Current versions don't work with a disk drive and can't send files to Commodore bulletin boards or to CompuServe.

Description: terminal program

Sold by: Midwest Micro, Inc.

311 W. 72nd St.
Kansas City, MO 64114
816/333-7200

For: Commodore 64

Requirements: disk drive,
modem or RS232 interface;
printer optional

Price and format: approx.
\$150 disk

Baud rate: 300-1200

Protection: none

Warranty: 90 days

User group rating: 8

Performance: 10

Ease of use: 8

Reliability: 9

Documentation: 5

SuperTerm, one of the best terminal programs available, includes virtually every feature offered by other terminal programs, and adds some of its own. Its manufacturer prefers to call it a terminal emulator, because it can mimic even elaborate minicomputer terminals. This allows it to work with a large computer and behave like one of the large computer's own terminals. For example, large computers have up to 132-column screens, which *SuperTerm* mimics by scrolling sideways.

SuperTerm supports file uploading and downloading, using both the PET bulletin board and CompuServe

methods. *SuperTerm* can also receive programs from non-standard systems and, with some minor adjustments, convert them into Commodore programs. As an example of the possibilities, *SuperTerm*, running at its top speed (1200 baud), can transfer messages and files to and from a notebook-size computer.

SuperTerm also does the usual things, such as capturing a copy of information received. This can be edited later, with the usual word processing commands, and then printed or saved.

To further simplify communicating with other computer systems, any key can be redefined to act like another key, troublesome characters can be filtered out, and special codes needed to get into large computer systems can be given with only a couple of keystrokes. Further, these and all other options of the program can be stored on disk once and do not have to be typed again.

SuperTerm's only negative feature is that its instruction manual is still in a preliminary edition and doesn't indicate all of the program's capabilities. However, the manufacturer is reputable and has promised to send a final manual to all users once it is complete. Highly recommended.

Description: terminal program

Sold by: Midnite Software

1238 Richland Ave.

Lincoln, IL 62656

217/735-2703

For: VIC 20 and Commodore 64

Requirements: disk drive, modem or RS232 interface; printer optional

Price and format: approx. \$15 disk

Baud rate: 300

Protection: none

Warranty: 30 days

User group rating: 7.5

Performance: 7

Ease of use: 7

Reliability: 8

Documentation: 1

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

The Terminal Disk is a program available for only a \$15 copy fee to anyone wanting to use a PET Bulletin Board System anywhere in the country. It is one of only two programs in existence able to load and save programs from Commodore bulletin boards.

The Terminal Disk is also able to chat with other large computer systems, including The Source and CompuServe. However, it is not currently able to load or save files to those systems, nor able to make a disk or printed copy of information received from them.

You can use *The Terminal Disk* to easily receive updated versions of *The Terminal Disk* program itself (a public domain program) over any bulletin board. But you have to get the first copy another way, through a friend, dealer, or user group. Once you have the program, from whatever source, you are free to make copies for other users.

There are hundreds of strategy and adventure games available for the VIC 20 and Commodore 64, and this chapter reviews thirty of the best of them. Many classic adventure games are included: *Adventureland Adventure*, *Temple of Apshai*, and the Zork trilogy, to name a few.

Adventure games come in two types: text adventures and graphic adventures. In text adventure games, a written description of each scene is provided. In graphic adventures, a computer rendition of each scene is displayed on the screen, usually with a brief description below it. Both types require you to enter text commands (short phrases in English) to progress to the next scene.

Simulations of board games like chess and Othello are also included in this chapter, along with sports games and tactical games.

The following special terms are used in this chapter:

graphic adventure A game in which the adventurer's experiences are shown in graphic displays.

role-playing game An adventure game in which the players assume the roles of characters in the adventure. The characters develop various qualities over a long period of play.

simulation A game in which the computer lets you imitate the experience of some situation.

tactical game A game that challenges logic and thinking skills.

text adventure A game in which the adventurer's experiences are described in text only (rather than pictured through graphics).

voice synthesizer A device capable of audibly reproducing human speech. Used to add interest to some games.

ADVENTURELAND ADVENTURE

Description: text adventure
Sold by: Commodore
 1200 Wilson Dr.
 West Chester, PA 19380
 215/431-9100

For: VIC 20

Requirements: Type 'n Talk
 voice synthesizer optional

Price and format: approx.
 \$20-30 cartridge

Protection: cartridge
Warranty: none

User group rating: 6.7

Documentation: 1

Graphics and sound: text
 only

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
 User Group ratings

Documentation: Quality of printed
 instructions

Graphics and sound: Quality and
 aesthetics of each

Playability: How entertaining or
 interesting the game is

Difficulty: How much skill is
 required to enjoy the game

Wild animals, magical beings, and awesome perils and puzzles abound in this fairly loose copy of the trend-setting *M.I.T. Adventure* by Crowther and Woods. Simplified for the memory capacities of the VIC 20, *Adventureland Adventure* retains many of the mazes and riddles from the original. This text adventure is good practice before tackling the classic, and is a challenge for novice and veteran alike.

Adventureland Adventure was the first of the legendary Scott Adams text games, one of the best-known series anywhere. These are among the most complex adventures available for the VIC 20. Each is a large (16K) cartridge, full of places to explore, objects to grab, and puzzles to solve. When used with the Votrax Type 'n Talk voice synthesizer, the games will even speak to you.

Commands consist of two words such as OPEN DOOR or SHUT WINDOW. If this causes confusion, the computer requests an additional word. Common commands can be abbreviated to a single letter, and you can save your adventure to continue it another day.

Description: graphic adventure
Sold by: Arfon
 111 Rena Dr.
 Lafayette, LA 70503
 318/988-2478

For: VIC 20 and Commodore
 64

Requirements: joystick
 optional

Price and format: approx.
 \$30 cartridge (VIC 20), \$30
 disk (Commodore 64 only)

Protection: cartridge
Warranty: yes

User group rating: 7

Documentation: 5

Graphics and sound: 6

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
 User Group ratings

Documentation: Quality of printed
 instructions

Graphics and sound: Quality and
 aesthetics of each

Playability: How entertaining or
 interesting the game is

Difficulty: How much skill is
 required to enjoy the game

Ignore the cumbersome size of this cartridge, and *Baldor's Castle* will graphically challenge you in a dungeon filled with a variety of monsters. Your goal is to find hidden chests of gold and escape with the goods. You can avoid combat by running at various speeds, but keep an eye open for secret passages filled with gold as you use the joystick to advance. Bonuses along the way include a map (vulnerable to goblins if you refer to it too often or too long), gold, or magic potions.

Baldor's Castle sports colorful, simple graphics, but the sound is difficult to hear over the hum of a TV. Though brief, the manual is well printed and complete.

In the unlikely event that you survive, your character can be saved on cassette and reused later. If you get confused, a Help option repeats the commands and serves as a pause function. An additional note: This game won't run if you've added memory to your VIC 20.

STRATEGY GAMES COMPUTER BASEBALL

Description: baseball simulation

Sold by: Strategic Simulations
883 Stierlin Rd., Bldg. A-200
Mountain View, CA 94043
415/964-1353

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$40 disk

Protection: yes; backup copies
available for a small fee

Warranty: 30 days

Overall rating: 8

Documentation: 7

Graphics and sound: 5

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

For the baseball aficionado, *Computer Baseball* is as realistic as a computer version of the game can be, short of grass stains on your knees. This program lets you create teams, rewrite history and compile statistics, all at the keyboard of your Commodore 64. Even individual players are rated.

Included on the disk are some of the sport's greatest teams. You have 25 strategy options and watch the results on a high-resolution playing field. After the game, which takes about an hour, the program tabulates a full set of statistics.

One of the best features is the ability to match teams that never played each other, and declare a winner based on the individual statistics. You might, for example, pit the 1927 New York Yankees, led by Babe Ruth, against Mickey Mantle and the Yankees of 1962. You can also recreate important historical games, such as the 1906 Chicago World Series.

If you want to work with current teams, you have to create your own. (A separate data disk will be available within six months after a season ends.) From its stockpile of information, the program predicts the outcome of each play, based on the ratings and on strategies chosen by each player. Whenever possible, the manager's options are increased to heighten your sense of participation in the game.

STRATEGY GAMES ★ COMPUTER FOOTBALL STRATEGY

Description: football simulation

Sold by: Microcomputer Games, Inc.
A Division of Avalon Hill
4517 Hartford Rd.
Baltimore, MD 21214
301/254-5300

For: Commodore 64

Requirements: Datasette or disk drive

Price and format: approx.
\$16 cassette, \$21 disk

Protection: yes

Warranty: yes

Overall rating: 7

Documentation: 7

Graphics and sound: 6

Playability: interesting

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

No football fanatic will want to pass up *Computer Football Strategy*. The graphics may be adequate (only two visible players per team) and the sounds minimal, but true fans won't mind. There are plenty of strategic options in this new simulation for the Commodore 64, both offensive and defensive.

No actual teams are included on this program, but you can play against a friend or the computer, or watch the computer play against itself. You can even check statistics. And armchair quarterbacks will be pleased to know that the computer is a sucker for a pass on the first down.

Description: text adventure
Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: Type 'n Talk
voice synthesizer optional,
joystick optional

Price and format: approx.
\$20-30 cartridge

Protection: cartridge
Warranty: none

User group rating: 6.7

Documentation: 1

Graphics and sound: text
only

Playability: interesting

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

In this Scott Adams text adventure, you wake up in a strange bed on the second floor of Count Dracula's castle. You have until dark (50 moves later) to figure out what you're doing there, accomplish your mission, and find your way out. Fail and you can try again the following day—when you are a little weaker from a suspicious puncture wound on your neck.

Of the Scott Adams adventures included in this guide, *The Count* is the most difficult. A perfect solution demands at least 167 moves, spread over three days in the castle. You'll explore 15 rooms and even collect the daily mail.

In the tradition of a true adventure game, *The Count* challenges your sense of logic, adds a thrill of daring, and rewards your strategy—while you're safe from danger at the keyboard of your VIC 20.

Description: graphic adventure
Sold by: Epyx
1043 Kiel Ct.
Sunnyvale, CA 94089
408/745-0700

For: VIC 20 or Commodore 64

Requirements: Datasette or
disk drive

Price and format: approx.
\$30 disk or cassette

Protection: yes
Warranty: 30 days

User group rating: 7

Documentation: 9

Graphics and sound: 7

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Forget justice and ecology for the moment. Your job in *Crush, Crumble, and Chomp* is to destroy your choice of four of the largest cities in the world. You even get to choose your character—today Godzilla, tomorrow Mechismo, and in days to come, four other movie greats. In the disk version for the VIC 20, you can even design your own monsters and save games for instant replay.

What can monsters do? Just the usual—breathe fire, fly, atomize buildings, eat people, crush bridges, and swat helicopters. These actions will draw the attention of the police and later the army, but so what? Your only concerns are fuel and ammo dumps, a power plant, mad scientists, and sometimes hunger.

The playing field (64 squares) is one sixteenth of the city you invade. As you move, new sections of the city come into view. The color graphics are fairly realistic, and the sound is quite good. The action is a bit slow, but that's normal for a tactical game. The manual is outstanding.

This isn't a game you'll play every night, or even every week, but you'll be glad you bought it.

Description: graphic adventure

Sold by: Epyx
 1043 Kiel Ct.
 Sunnyvale, CA 94089
 408/745-0700

For: Commodore 64

Requirements: disk drive or
 Datasette, *Temple of Apshai*
 game

Price and format: approx.
 \$20-30 cassette or disk

Protection: yes

Warranty: 30 days

User group rating: 7.6

Documentation: 7

Graphics and sound: 8

Playability: interesting

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
 User Group ratings

Documentation: Quality of printed
 instructions

Graphics and sound: Quality and
 aesthetics of each

Playability: How entertaining or
 interesting the game is

Difficulty: How much skill is
 required to enjoy the game

This is the final and most difficult installment of the famous *Temple of Apshai* role-playing game series. With an additional data file, *Curse of Ra* faithfully recreates the Temple's adventure, but with new rooms and many more monsters. To survive in this dungeon, you need the experience points you earned in *Temple of Apshai*. (Beware: There is no beginners' level in this part of the dungeon.)

You'll find the rooms in *Curse of Ra* similar to those in the *Temple of Apshai*. And though the monsters are different, they are battled in the time-honored ways. This program continues featuring sprites and high-resolution graphics of the adventurer and monsters, but there are few surprises. After playing 12 large levels in three versions of essentially the same game, the novelty wears off, but the challenge remains. Look forward to at least one room you can't easily exit after entering, and prepare to fight lots of unpleasant animals. This is a must for *Temple of Apshai* addicts.

Description: mystery
 adventure

Sold by: Commodore
 1200 Wilson Dr.
 West Chester, PA 19380
 215/431-9100

For: Commodore 64

Requirements: disk drive;
 printer optional

Price and format: approx.
 \$30-35 disk

Protection: yes

Warranty: none

User group rating: 7.8

Documentation: 8

Graphics and sound: text
 only

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
 User Group ratings

Documentation: Quality of printed
 instructions

Graphics and sound: Quality and
 aesthetics of each

Playability: How entertaining or
 interesting the game is

Difficulty: How much skill is
 required to enjoy the game

Deadline is the first of Infocom's excellent Interlogic detective adventures for the Commodore 64. You play the role of a police detective investigating the death of a man who was about to revise his will. He may have committed suicide after a business failure, or he may have been murdered by any of several suspects including his wife, housekeeper, personal secretary, business partner, or son (a known drug user who recently threatened his father).

To solve the mystery, you have the help of other police, lab reports, physical evidence, and preliminary interviews with each character. You have a time limit of 12 hours, and it's unlikely you'll crack the case on the first try. Don't miss the reading of the will at noon.

This is the first adventure that really lets you chat with the characters. Sentences like "Mrs. Robner, tell me about your husband" or "Ask Sergeant Duffy to analyze the telephone for fingerprints" are likely to be understood. There are many possible endings to the case, depending on the clues found, questions asked, and on your timing. Solve the case, and you can accuse or arrest someone. After the arrest, your performance is rated.

As with other Infocom games, you can save *Deadline* mid-stream and print a copy of the dialogue for later study.

STRATEGY GAMES GRAND MASTER

Description: chess game

Sold by: UMI

3503-C Temple Ave.

Pomona, CA 91768

714/594-1351

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive

Price and format: approx.
\$30 cassette, \$35 disk
(Commodore 64 only)

Protection: yes

Warranty: none

Overall rating: 8

Documentation: 5

Graphics and sound: 7

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Most chess programs play a challenging and legal version of the classic board game. *Grand Master*, however, goes a step further and ensures that the human player both enjoys and learns from the match.

Grand Master does this in several ways. Its brief manual is very clear and readable, and the program is easily used by beginners and experts alike. The screen layout and method of moving are similar to other popular chess programs. Three other features of this German program also encourage novices: a key that retracts the last move, one that suggests moves, and one that forces the computer to move when it's been "thinking" too long.

Even postal chess is included, using an option that allows moves to be pondered for days. The only thing *Grand Master* lacks, however, is the ability to set up a situation.

Description: tactical grid game

Sold by: Microdigital

752 John Glenn Blvd.

Webster, NY 14580

716/872-0518

For: VIC 20

Requirements: Datasette or disk drive; joystick optional

Price and format: approx.
\$15 cassette, \$20 disk (VIC 20), \$20 cassette, \$25 disk (Commodore 64)

Protection: yes

Warranty: 90 days

Overall rating: 7

Documentation: 1

Graphics and sound: 7

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

STRATEGY GAMES GRIDDER

Gridder is especially fun to play because it combines the speed of a maze chase with the non-violent strategy of tactical games. Speed is important, but without planning you'll lose immediately. In this fast-paced challenge you are a prisoner trying to paint the floor green for Halloween—without being seen by any of the guards. The screen is a rectangular grid, and some sections are already covered. You travel on the remaining lines, but you're not alone. Also traveling the grid is a guard or two. Unless you are seen (that is, on the same grid line as a guard, either vertically or horizontally) each guard stays on a single line, moving back and forth.

With luck, you won't be seen right away and can begin your chore of painting the remaining squares. To fill a square, all you have to do is circle it. This is easy in some cases, but in others you must dart from side to side to avoid the guard. Often you have to lure the guard behind you to get him out of the way. Be sure to have a hiding place in mind when you do, or you'll be caught.

With practice, you should be able to finish seven or more different layouts while evading capture. But then a second guard is added, patrolling at right angles to the first, to make the game more difficult.

Description: text adventure

Sold by: The Code Works
 Box 6905
 Santa Barbara, CA 93160
 805/683-1585

For: Commodore 64

Requirements: Datasette

Price and format: approx.
 \$13 cassette

Protection: none

Warranty: none

User group rating: 6.4

Documentation: 3

Graphics and sound: text
 only

Playability: briefly interesting

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
 User Group ratings

Documentation: Quality of printed
 instructions

Graphics and sound: Quality and
 aesthetics of each

Playability: How entertaining or
 interesting the game is

Difficulty: How much skill is
 required to enjoy the game

In *Miser*, you're trapped in a two-story haunted house, collecting treasure as you plan an escape route. Your search takes you to a garden maze, swimming pool, and the second floor before you explore the obvious (and secret) rooms on the first floor. You'll have to charm snakes, fight armored ghosts, and speak the right phrases at the proper locations. (Hint: Read some Greek mythology if you want to understand what's happening at the end.)

Though lacking detailed instructions, this is still a good game for the first-time adventurer. The commands to explore simple rooms or venture into a real garden maze are standard one-word directions (including up and down) or two-word phrases (verb plus noun). There are enough treasures along the way to hold your attention, even if you don't find a way out.

Description: Monopoly
 simulation

Sold by: most user groups

For: Commodore 64

Requirements: Datasette or
 disk drive

Price and format: copying fee
 for disk or cassette

Protection: public domain

Warranty: public domain

User group rating: 7.3

Documentation: 1 (if
 available)

Graphics and sound: 8

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
 User Group ratings

Documentation: Quality of printed
 instructions

Graphics and sound: Quality and
 aesthetics of each

Playability: How entertaining or
 interesting the game is

Difficulty: How much skill is
 required to enjoy the game

This is a marvelous computer simulation of the popular board game. In this public domain version of the ever-popular Monopoly, two people play against each other, with the computer acting as an assistant to both. The computer draws the board, helps roll the dice, and moves the markers. It also acts as banker and umpire. Certain special events, such as going to jail, get a special display of sound and graphics.

With the computer's help, a game of *Monopoly* ends quickly. It is also much easier for very young players to enjoy. The only options are an auction rule for properties landed on but not bought, and a free parking jackpot that decides whether accumulated fines get returned to those landing on the free parking square.

This is an excellent program. Play is realistic, and the color display has to be seen to be believed. If you like tactical games, you need *Monopoly*.

PIRATE COVE ADVENTURE

Description: text adventure

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: Type'n Talk
voice synthesizer optional

Price and format: approx.
\$20-30 cartridge

Protection: cartridge

Warranty: none

User group rating: 6.5

Documentation: 1

Graphics and sound: text
only

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

An unusual aspect of *Pirate Cove Adventure* is that it takes place in three distinct locales: an apartment in London, a tropical seacoast, and a South Sea island. With text only, you follow the steps of the famous pirate, Long John Silver, and seek his treasure on Treasure Island.

The second in the well-known Scott Adams adventure series, *Pirate Cove Adventure*, is a bit harder than *Adventureland Adventure*, but nearly as much fun to play. The game substitutes literary references for humor. *Pirate Cove* remains a favorite for the VIC 20 and, though challenging, is suitable for beginners.

PRO GOLF

Description: golf simulation

Sold by: Canadian Micro
Distributors
500 Steeles Ave.
Milton, ONT L9T 3P7
CANADA
416/876-4741

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$35 disk

Protection: yes

Warranty: 90 days

Overall rating: 8

Documentation: 7

Graphics and sound: 6

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all
ratings factors

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Pro Golf puts an entire 18-hole golf course in your Commodore 64, complete with hazards, sand and water traps, and doglegs. It is a very well done sports simulation limited only by ordinary graphics. PET character graphics draw the fairway, a couple of sprites are the players, and there is a "dunk" sound when you hit the ball. High-resolution graphics would have put this program in a class by itself.

Be prepared to spend an hour at the course. Game play is very easy, but you must keep the manual nearby for reference. The manual not only tells how the game of golf is played, complete with examples, but also includes the quick reference chart you'll want during play.

The trees are very hard to get past. Your shot must go over or under them. Your swing can be adjusted accordingly, as can your hook and slice, not to mention the club you use. The only things missing are wind and a bar on the 19th hole.

Even if you don't like real golf, *Pro Golf* is fun to play. And when you feel you've conquered these greens, you can order other famous courses for an additional fee. Recommended for the duffer in you.

Description: Othello game

Sold by: UMI

3503-C Temple Ave.
Pomona, CA 91768
714/594-1351

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive; joystick optional

Price and format: approx. \$35 cartridge (VIC 20), \$35 disk, \$25 cassette (Commodore 64)

Protection: yes

Warranty: none

User group rating: 6.3

Documentation: 5

Graphics and sound: 6

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Renaissance is an excellent version of the board game Othello and is the only one available for the VIC 20 or Commodore 64. You and the computer, or a human opponent, take turns placing markers on an 8x8 grid. The idea is to trap your opponent's pieces between two of yours. When you do, they change to your color. Then the opposing player tries to steal some of your pieces the same way. The exchange continues until all the squares are filled.

One advantage of using a computer to play this game is that you can't make an illegal move. The program also keeps score. There are eight levels of play possible against the computer, ranging from difficult to impossible. Excellent choices of color make *Renaissance* easy on the eyes even after several hours of competition.

The screen continuously displays all eight play options: PLAY, CHange side (useful when losing a game), TAKE back, SET the board, HELP (works only at levels two through eight, to suggest a good move), LEVEL of play, SAVE to tape, and LOAD from tape. To do well at *Renaissance*, you may need one other accessory—a good book, such as *How To Win At Othello* by Goro Hasegawa with Maxine Brady.

Description: boxing simulation
Sold by: Strategic Simulations

883 Stierlin Road, Bldg. A-200
Mountain View, CA 94043
415/964-1353

For: Commodore 64

Requirements: disk drive

Price and format: approx. \$40 disk

Protection: yes; backup copies available for a small fee

Warranty: 30 days

Overall rating: 6

Documentation: 5

Graphics and sound: 6

Playability: interesting

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

In *Ringside Seat*, you manage 51 of the greatest fighters of all time, representing all weight classes. The program takes into account 40 different variables about each boxer, making each bout as realistic as possible. Try recreating a fight between Rocky Marciano and Joe Louis, for instance. Or create a boxer in your own image and fight the heavyweights yourself!

Pictured in the center of your screen are the two silhouettes of boxers going at each other, as seen from a back-row seat in an arena. There's color commentary and a blow-by-blow description of the action, including the injuries each man receives during the match. The graphics are unimpressive, but the visuals do match the descriptions.

You can play against the computer, against another person, or let the computer go against itself. You can even be the third judge of the match! You choose strategy each round and sometimes within rounds. By entering your own fighter, you rate many categories including weight, fight style, various abilities, and aggressiveness.

The manual is brief and glossy, but the type is too small for easy reading. Program loading time is quite noticeable; it takes about six minutes to set up a fight. Still, if you like boxing, you should have a *Ringside Seat*.

STRATEGY GAMES ROBBERS OF THE LOST TOMB

Description: graphic adventure
Sold by: Timeworks
405 Lake Cook Rd.
Deerfield, IL 60015
312/291-9200
For: Commodore 64
Requirements: disk drive, or
Datasette; joystick optional
Price and format: approx.
\$25 disk or cassette

Protection: yes
Warranty: yes

User group rating: 7.2
Documentation: 3
Graphics and sound: 5
Playability: briefly interesting
Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

Robbers of the Lost Tomb is a simple graphic adventure. There are only a couple of rooms in this takeoff on the old public domain game *Dungeon*. Your perils are pits, snakes, mummies, and ghosts. The latter move you around at random as you search an Egyptian tomb. Helps include ladders leading from the pits, knives to throw at mummies and snakes, a blue ruby that kills mummies on sight, and tablets. Finding four gold tablets and safely removing them from the tomb is the goal of the quest. A charming Passover tune ("Dayenu") accompanies the hero's travels.

The game features ten levels of difficulty and is played with the keyboard or a joystick. There is also a save game option. As is the rule in adventures, the key to strategy is to make a map as you proceed. *Robbers of the Lost Tomb* is a colorful and easy to play game, with nice sprites and music. The graphics set it apart from similar public domain games.

Description: chess game
Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100
For: VIC 20
Requirements: joystick
optional
Price and format: approx.
\$20-30 cartridge

Protection: cartridge
Warranty: none

User group rating: 8.4
Documentation: 2
Graphics and sound: 7
Playability: interesting
Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

STRATEGY GAMES SARGON II

Several years ago, *Sargon II* set the standard as the best chess program for several brands of home computers. The VIC 20 version lives up to that reputation.

This program has an excellent graphic representation of the standard chess board and its pieces, with levels to challenge anyone. Additional features suggest your best move, position the board, and change screen colors. If you enjoy chess, you need this cartridge, especially if you haven't bought a Datasette or disk drive for your VIC 20 yet.

At level 0, *Sargon II* can be beaten in four moves. But level 4 will beat an 1100-rated chess player, largely because humans get tired of waiting for it to play. Level 6 takes forever, but this doesn't matter unless you've beaten the lower levels.

The graphics are excellent, the mechanics of play are easy to follow, and all that is lacking is a chess clock.

Description: text adventure

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$30-35 disk

Protection: yes
Warranty: none

User group rating: 8.4
Documentation: 7

Graphics and sound: text
only

Playability: interesting

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Starcross is a very detailed science-fiction adventure game, set in the year 2186. You are in a one-person mining ship, and your automatic instruments have detected a black hole in the vicinity of your ship. Naturally, you must investigate it.

Made by Infocom, this game has a beautiful way of interpreting even strange and lengthy commands. To move the ship, you use simple English words. A map and navigational chart are included in the manual, and they are vital to the difficult game play. A list of additional maps offered by the Zork user group is included in the manual. You can save *Starcross* midstream and print a copy of the dialogue for later study. Not for beginning adventurers, but well done.

Description: text adventure

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$30-35 disk

Protection: yes
Warranty: none

User group rating: 8.1
Documentation: 8

Graphics and sound: text
only

Playability: interesting

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

A science-fiction adventure, *Suspended* places you in the unique position of controlling an army of six robots who in turn determine the outcome of the game. Each mechanical being has its own talents and weaknesses that, used singly or collectively, maintain vital systems on the strange planet where the game is set. Your predecessor went berserk near the end of his term and tried to destroy life on the planet. You've been placed in suspended animation for 500 years to restore normalcy. Your performance is rated by the number of people who die while you attempt to do this.

The mandatory map is included with this adventure game, and it is backed by heavy cardboard for a longer life. Use it to trace your robots' paths. Until you are very familiar with the game, don't worry about death above the ground—just solve the problems. Style and grace come later; then choose the advanced or impossible difficulty level to add to your woes.

Directing six robots is complex, and gathering full descriptions from the limited sensors difficult. This is a game for very experienced players, but the unusual challenge makes it worthwhile.

STRATEGY GAMES SWORD OF FARGOAL

Description: graphic adventure

Sold by: Epyx

1043 Kiel Ct.
Sunnyvale, CA 94089
408/745-0700

For: VIC-20 or Commodore 64

Requirements: disk drive or
Datasette, joystick

Price and format: approx.
\$30 disk or cassette

Protection: yes

Warranty: 30 days

Overall rating: 9

Documentation: 8

Graphics and sound: 9

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Sword of Fargoal is a *Dungeons and Dragons*-type game, in which all parts of the current dungeon levels are displayed on the screen at once. Detailed high-resolution graphics, eerie funereal sounds, and complicated game play make this an excellent adventure for the Commodore 64.

Joystick controlled, *Sword of Fargoal* retains the basics of an adventure game—monsters, treasures, spells, traps, potions, and so on—but in such a simplified manner that the keyboard is rarely needed. In addition, by displaying all the current levels of the dungeon at once, time delays caused by redrawing screens are avoided.

To win, you must explore up to 21 levels of a dungeon, find a magic sword, and escape. Once the sword is found, you have 30 minutes to complete the quest. The game is such a challenge, however, you may not find the sword quickly.

Devoted *Dungeons and Dragons* fans may miss entering characters from other adventures, but this is a small price to pay for a well planned graphic adventure for the Commodore 64.

Description: graphic adventure

Sold by: Microcomputer

Games, Inc.

A Division of Avalon Hill
4517 Hartford Rd.
Baltimore, MD 21214
301/254-5300

For: Commodore 64

Requirements: Datasette or
disk drive

Price and format: approx.
\$23 cassette, \$28 disk

Protection: yes

Warranty: yes

User group rating: 8

Documentation: 5

Graphics and sound: 7

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

STRATEGY GAMES TELENGARD

This graphic adventure is a real sleeper. Forget about winning as such; play *Telengard* strictly for points. If you can reach level 30 safely using the highest-level spells, consider yourself a seasoned adventurer.

Telengard uses graphics and sound well. There are 50 dungeon levels (with 40,000 rooms apiece!), 10 different monsters, and 36 magical spells. You can get armor, shields, swords for fighting, gold, silver, cloaks, boots, gems, jewels, and rings for all occasions. Along the way, you stop at an inn to rest and turn in your plunder, gaze at fountains of colored waters, and crack a few safes for riches. Traps abound everywhere, teleports move you suddenly to places unknown, and magic thrones give unpredictable results.

With excellent sprite graphics, surprising sound effects, real-time animation, and playing time from a minute to days, this is an enjoyable escape from reality. Even though the action may be a bit too random, and down-loading time is too long, we'll forgive Avalon Hill the delay.

STRATEGY GAMES TEMPLE OF APSHAI

Description: graphic adventure

Sold by: Epyx

1043 Kiel Ct.

Sunnyvale, CA 94089

408/745-0700

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive

Price and format: approx.

\$35-40 disk or cassette

Protection: none

Warranty: 30 days

User group rating: 8

Documentation: 8

Graphics and sound: 8

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

The Commodore 64 version of *Temple of Apshai* vastly improves on the graphics of earlier PET versions, making good use of sprites and high-resolution graphics. Sound has been added as well.

Enter the dungeon, and you are immediately immersed in another world. The game takes you to more than 200 rooms to explore for treasure, and sets you against 20 different monsters and traps. After haggling with the innkeeper for supplies, you're off to plunder the riches of Apshai.

Temple of Apshai is an excellent *Dungeon and Dragons* role-playing game, voted best game of the year a few years ago. Some of the best graphics are the Old English characters used during bargaining. A minor drawback is the time needed to redraw the screen when changing rooms.

For those who can't get enough of this game, the adventure continues in *Curse of Ra* and *Upper Reaches of Apshai* (see separate reviews).

STRATEGY GAMES UP FOR GRABS

Description: Scrabble-type word game

Sold by: Spinnaker

215 First St.

Cambridge, MA 02142

617/868-4700

For: Commodore 64

Requirements: joystick or game paddles

Price and format: approx.

\$40 cartridge

Protection: cartridge

Warranty: 30 days

Overall rating: 6

Documentation: 5

Graphics and sound: 7

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Scrabble players will love *Up for Grabs*, a fast-paced word-forming game for one to four players (with or without the computer as a player). The object is to make words from the letters that appear on a rotating alphabet cube. Once you grab a letter, you have to place it on your bingolike playing area to build words. The game is intended to build spelling and vocabulary skills, while teaching how to visualize words, plan strategies, and make quick decisions.

There are four levels, from beginner to expert (ages eight to adult). To grab a letter, press the fire button on your joystick or game paddle to stop the cube. When your arrow points at the letter you want, press the button again. Don't take too long. Once a letter is selected, use the controller to select a row on your playing area and press fire. Then choose a column. As you do this, other players continue grabbing letters.

Play is similar to Scrabble. Placing a letter in a gray square doubles its value. Rarely used letters are worth more when used, and making words two ways with the same letter raises your score. Players can challenge each other's words at the end of a game.

Spinnaker, the game's maker, plans to sponsor an annual *Up for Grabs* competition. Though complex, this game is recommended.

STRATEGY GAMES UPPER REACHES OF APSHAI

Description: graphic adventure

Sold by: Epyx

1043 Kiel Ct.
Sunnyvale, CA 94089
408/745-0700

For: Commodore 64

Requirements: Datasette or disk drive, *Temple of Apshai* game

Price and format: approx. \$25 disk or cassette

Protection: none

Warranty: 30 days

User group rating: 7.6

Documentation: 8

Graphics and sound: 7

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

This extension of the *Temple of Apshai* saga pushes adventure games to the limit. Officially, the *Upper Reaches of Apshai* is an additional data file that continues the *Temple* adventure with more ferocious and more plentiful monsters. Unofficially, *Upper Reaches* lampoons the entire idea of adventure games, making this the perfect gift for your favorite graphic adventure fanatic.

Set in the above-ground portion of the temple's ruins, this is one of the most humorous adventures from Epyx. You must contend with gun-toting tomatoes as monsters, drunken sailors, and housewives hanging laundry to dry. All on level one. The real excitement awaits on level four, where ordinary monks, sleeping monks, drunken monks, and vampire monks abound. Treasures on this level include such sought after items as bathrobes, books, and ale.

The program continues the Apshai tradition of making good use of sprites and high-resolution graphics for the adventurer and monsters. It is an enjoyable variation on one of the best-known adventures and a must for *Temple of Apshai* addicts.

STRATEGY GAMES VOODOO CASTLE

Description: text adventure

Sold by: Commodore

1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: Type 'n Talk voice synthesizer optional,

Price and format: approx. \$20-30 cartridge

Protection: cartridge

Warranty: none

User group rating: 6

Documentation: 1

Graphics and sound: text only

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

One of the more complex Scott Adams adventure games, *Voodoo Castle* requires nearly 150 commands in the proper order to reach the end of the game.

You are in Voodoo Castle, and you must explore it, finding the kind of litter typical of such a place: a coffin, an idol, shrunken heads, a grave, and a voodoo doll. Your quest is to save Count Christo from a fiendish curse. There are about two dozen places within the castle to be explored, each holding an object or two that you will need for success.

Voodoo Castle is a challenge for any VIC 20 fan, even those who don't like spooky stories. Try it after *Adventureland Adventure* and *Pirate Cove Adventure*, other games in the Scott Adams series (see separate reviews).

Description: text adventure
Sold by: Infocom, Inc.

55 Wheeler St.
Cambridge, MA 02138
617/492-1031

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$50 disk

Protection: yes

Warranty: yes

Overall rating: 8

Documentation: 8

Graphics and sound: text
only

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

In *Witness* you have been hired to protect a man whose life has just been threatened. His adulterous wife was recently shot, and her partner blames your client. In spite of your investigation, the threat to kill him may be carried out. Also implicated in the plot are an angry daughter and a Chinese butler.

This technically advanced and realistic detective adventure gives you assistance from local police and a series of clues including a matchbook and a suicide note. You have a time limit of 12 hours, and it's unlikely that you'll crack the case on your first try.

Because the descriptions and the opening statements in *Witness* are so realistically detailed, you are tempted to use more specific questions than the program can handle. Forget about politely asking most of your queries; the program can't handle it. You can save *Witness* midstream and print a copy of the dialogue for later study.

That this type of program is now possible on the Commodore 64 is impressive. Even more noteworthy is the progress it represents over adventure games of just a few years ago. Infocom may need only a bit more time to develop truly interactive story books.

Description: text adventure
Sold by: Commodore

1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$30-35 disk

Protection: yes

Warranty: none

User group rating: 8.2

Documentation: 4

Graphics and sound: text
only

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

When it was first released, *Zork I: The Underground Empire* was hailed as game of the year, and it is still among the best adventure games for microcomputers. Unlike most adventure games, Infocom games understand full sentences, thanks to the speed of the interpreter and a compact method of storing words. They are actually an improvement

over the original M.I.T. main-frame computer version.

As in most adventures, your role is to explore—around, in, and under—an old house to find and recover 20 hidden treasures. Each location has one or more exits (not always the same as the entrance), and many hold hidden objects. There is a limit to what you can carry, and it is hard to know what will be needed most. It helps to draw a map as you go, listing the name of each place, its contents, and escape routes.

A single round of play is almost never enough. Fortunately, you can save your game at any time to start again from that point, and you can print out the dialogue for later study. Most of the usual conveniences are here: short forms of commands, full and brief descriptions of things you see, a lantern for dark places, and a sword for protection. If only Zork understood the word "help," this text adventure would have everything.

Zork is too complex for beginners but great for veteran explorers. A Zork user group listed in the manual offers helpful maps and other aids.

STRATEGY GAMES

ZORK II: THE WIZARD OF FROBOZZ

Description: text adventure

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$30-35 disk

Protection: yes

Warranty: none

User group rating: 7.9

Documentation: 4

Graphics and sound: text
only

Playability: addictive

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

The Wizard of Frobozz is the second part of the famous Zork trilogy of adventures, easily the most famous of their kind. As in part I, your role is explorer this time in a forgotten corner of the Underground Empire under the control of the Wizard of Frobozz. He is a very tiresome wizard, constantly dropping by to suspend you five feet in the air or something equally upsetting. Fortunately, the spells wear off with time. Your task is to wander about, uncover secrets and treasures, and get out safely. Among the more interesting of your chores are slaying a dragon, rescuing a princess, and learning to operate a large balloon.

This text adventure continues the first rate challenge of Zork I including lavish descriptions and subtle wit. For details about the Zork series, see the review of Zork I.

STRATEGY GAMES

ZORK III: THE DUNGEON MASTER

Description: text adventure

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$30-35 disk

Protection: yes

Warranty: none

User group rating: 8.3

Documentation: 4

Graphics and sound: text
only

Playability: addictive

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

This is the conclusion of the famous Zork trilogy of adventure games. Your role continues as that of an explorer—this time in the heart of the Underground Empire. You must uncover the secret purpose of the Dungeon Master who oversees your wanderings. As usual, there are hidden places to map, strange creatures to meet, cryptic writing to read, interesting objects to be collected, and puzzles galore.

Unless you are an extremely skilled adventurer, you'll enjoy Zork III more after completing Zork I and Zork II. (For details about the Zork series, see the review of Zork I.)

Arcade-style games are the most popular form of computer software, consistently outselling all other categories. Home computers can't reproduce the graphics and play action of many arcade games, but some of the VIC and 64 versions of coin-op hits are spectacular nonetheless. *Frogger*, for example, received a 10 for graphics and sound, the highest rating possible.

In addition to copies of arcade classics, this chapter includes games written specifically for home computers. *Demon Attack*, *Fort Apocalypse*, and *Choplifter* are three of the most popular.

Because many arcade games are abstract and unusual, it's hard to give them an accurate two- or three-word description. Games as diverse as *Avenger* and *Omega Race* are included under alien shoot-outs, for example. In this chapter, therefore, you have to read the review if you really want to know what a game is like. The brief descriptions just break the chapter into rough categories.

The following special terms are used in this chapter:

game paddles Game control devices on which a rotating dial moves a cursor (or other figure) in only two directions on the screen.

ladder game A game in which the player uses ladders (or other means) to move a figure

around the screen to reach a goal (such as *Donkey Kong*).

maze game A game in which the player moves a figure through a network of passages on the screen (such as *Pac-Man*).

pause feature A feature built into some games that allows the player to temporarily stop the action in order to rest or plan strategy.

pinball simulation A video game that represents a traditional arcade pinball game on the screen.

shoot-out or shoot-em-up A game in which the player shoots at a variety of targets to score points.

trackball A game control device on which a rotating ball moves a cursor (or other figure) in all directions on the screen.

Description: alien shoot-out
Sold by: Broderbund
17 Paul Drive
San Rafael, CA 94903
415/479-1170

For: VIC 20

Requirements: joystick
Price and format: approx.
\$35 cartridge

Protection: cartridge
Warranty: yes

Overall rating: 7
Documentation: 2
Graphics and sound: 8
Playability: addictive
Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

<p>Key: Overall Rating: Summation of all ratings factors Documentation: Quality of printed instructions Graphics and sound: Quality and aesthetics of each Playability: How entertaining or interesting the game is Difficulty: How much skill is required to enjoy the game</p>
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In Japanese, *A.E.* means "ray" (as in stingray), and rays are your targets in this unusual shoot-em-up game. The rays are pollution-control robots gone wild; they fly through the air in formation, sometimes attacking. Being rammed by one is fatal.

Your laser missile won't explode until you release the fire button, and it must be near the enemy to do any good. It does no good to hit only part of a flock. If any escape, they repopulate and return to attack again.

When you destroy three full flocks, you advance to the next of four levels of play. The scene progresses from a city street to the seas south of Japan to a colony in interstellar space, as you drive the pests farther and farther from home. If you succeed in space, you discover that still other robots have created a new and more difficult disturbance back at level one.

A.E. was originally designed for Apple computers, and has been translated well for the VIC 20. The highly detailed and colorful graphics are a bit hard on the eyes in this version, however, and some of the original screens are missing. The pleasant sound gets tiresome, but you'll still enjoy the game.

Description: ladder game
Sold by: Creative Software
230 E. Caribbean
Sunnyvale, CA 94089
408/745-1655
For: VIC 20
Requirements: joystick
Price and format: approx.
\$30 cartridge

Protection: cartridge
Warranty: 90 days

User group rating: 6
Documentation: 2
Graphics and sound: 7
Playability: brief enjoyment
Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game

In *Apple Panic*, a miner chops holes in five levels of brick floors to capture and destroy killer apples. You start with three apples that wander a system of ladders and girders, then progress to a level with seven red meanies chasing you. If you survive, you encounter roaming green crabs.

To get rid of the apples and rack up points, dig holes in the girders; passing apples will fall into it and fill it. Then quickly pound it to the level below. Dig holes lined up with each other on different levels, so the apple will drop through several levels at once, and you'll score more points.

Apple Panic was originally created for Apple computers. It takes thought as well as quick reaction to survive in this game, and as in most arcade games, you still may lose in the end.

Description: defender game
Sold by: Creative Software
230 E. Caribbean
Sunnyvale, CA 94089
408/745-1655
For: VIC 20
Requirements: joystick
Price and format: approx.
\$30 cartridge

Protection: cartridge
Warranty: 90 days

User group rating: 7.3
Documentation: 2
Graphics and sound: 7
Playability: briefly interesting
Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game

Astroblitz is a very difficult space game. It features a wide variety of opposing vessels, a horizontally scrolling landscape, and a miniature radar display at the top of the screen. Your enemies are flying saucers, land bases, space mines, and heat-seeking missiles. The defense is a squad of three rocket fighters with an infinite supply of missiles. Watch out when destroying an enemy ship or mine—even exploding fragments can be fatal.

A colorful, well designed game for the VIC 20, *Astroblitz* has good sound effects. It even records the top ten scores along with the players' initials. You may find it almost impossible to advance beyond level one, but you'll have fun trying.

Description: alien shoot-out

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20 or Commodore 64

Requirements: joystick optional

Price and format: approx. \$15-20 cartridge

Protection: cartridge
Warranty: none

User group rating: 6.5
Documentation: 2
Graphics and sound: 7
Playability: brief enjoyment
Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game

Once upon a time, there was *Space Invaders*, the first arcade shoot-em-up game and fore-runner of a new breed of electronic entertainment. Since then, the concept of *Space Invaders* has been adapted to a variety of home systems, including *Avenger* and *VIC Avenger* for Commodore users.

Game play is straightforward. From your position at the bottom of the screen, you shoot straight up to clear the field of invaders as they descend on the planet. The pace increases with each subsequent swarm of avengers.

Avenger is much like the Apple and arcade versions, but it is in full color, and there are no cheering aliens at the side of the screen. The Commodore 64 version is quite slow, posing no trouble for adults and making it more attractive to children.

If you have no novice players in your family, *Avenger* is still a good buy, if only for sentimental reasons.

Description: maze chase

Sold by: Nibbles & Bits, Inc.
P.O. Box 2044
Orcutt, CA 93455
805/937-5221

For: Commodore 64

Requirements: Datasette, joystick optional

Price and format: approx. \$10 cassette

Protection: yes
Warranty: yes

User group rating: 5
Documentation: 3
Graphics and sound: 6
Playability: interesting
Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game

In this very loose imitation of the arcade classic *Pac-Man*, you are a hyper hen, running around a maze, eating corn scattered along the corridors. *Chicken Chase* adds to the challenge in the form of Gompeys, birdlike creatures that cruise the board from top to bottom at regular intervals.

Chicken Chase is a surprisingly fun game. At first glance, it doesn't look like much—just another simple maze drawn with ordinary character graphics. The attention grabber is the realistic clucking of the chicken.

Adding to the fun are coyote boxes. At several spots in the maze one of these critters is penned up. Depending on the level you've reached, one or more of them will be released when you pass its cage. Since coyotes like to eat chickens, this is another problem to avoid. They also cruise the side roads, so you'll need a new hiding place from the Gompeys when a coyote is nearby. And if you finish level one, there are several more—each a little faster and with more coyotes loose.

Chicken Chase is much better than it first appears. It won't be your favorite game, but it will always be fun to play.

ARCADE GAMES CHOPLIFTER★

Description: rescue game

Sold by: Creative Software
230 E. Caribbean
Sunnyvale, CA 94089
408/745-1655

For: VIC 20

Requirements: joystick

Price and format: approx.
\$30 cartridge

Protection: cartridge

Warranty: media only

User group rating: 8

Documentation: 3

Graphics and sound: 10

Playability: addictive

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Although *Choplifter* has a war setting, the theme is nonviolent. The object of the game is to rescue prisoners in a blockhouse on the enemy's side of the border and return them to safety. With three helicopters, you must save 64 people while dodging tanks, planes, and heat-seeking missiles.

Each rescue begins and ends at a friendly base, near the fence on enemy territory. You must avoid missiles trying to ram you, tanks threatening on the ground, and jets dropping bombs.

Choplifter has great animation, sound, and graphics—especially the high-resolution, three-dimensional effects. Perspective changes as you pass the border fence, and stars move smoothly in the background. The prisoners even wave at the chopper while running after it, and the colors are pleasant, but less developed than the designs. *Choplifter* shows off the VIC 20's capabilities better than most arcade games. Highly recommended.

ARCADE GAMES CLOUD BURST

Description: shoot-out

Sold by: UMI

3503-C Temple Ave.
Pomona, CA 91768
714/594-1351

For: VIC 20

Requirements: joystick

Price and format: approx.
\$22 cartridge

Protection: cartridge

Warranty: none

User group rating: 6.3

Documentation: 2

Graphics and sound: 8

Playability: interesting

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Cloud Burst is one of the best shoot-em-up games available for the VIC 20. Paratroopers and acid bottles descend on you from passing helicopters. The bottles are deadly if they hit you, but harmless if they hit the ground and disappear. Paratroopers, however, will rise after landing and follow you. These soldiers must be destroyed before they reach and capture you.

This game seems impossibly difficult to win until you learn the secret of creating automatic repeat fire from a corner. The color, graphics, and sound are all top-notch, though the action may be too graphic for children.

Description: bouncing game

Sold by: Commodore

1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20 or Commodore 64

Requirements: game paddles

Price and format: approx.

\$15-20 cartridge

Protection: cartridge

Warranty: none

User group rating: 6.7

Documentation: 2

Graphics and sound: 7

Playability: interesting

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

The concept of *Clowns* has appeared under several names including *Circus*, *Balloons*, and *Acrobat*. The object of this version for the Commodore 64 and VIC 20 is to bounce little humans off a seesaw and up to the top of the screen where they pop three rows of colored balloons for points and bonuses.

For one or two players, *Clowns* has very smooth graphics and excellent sound effects. Like the best arcade games, it takes only moments to understand and days to master. *Clowns* is a fun, wholesome game, one of the best using paddle controllers.

Description: alien shoot-out

Sold by: Sierra On-Line

Sierra On-Line Bldg.
Coarsegold, CA 93614
209/683-6858

For: VIC 20 or Commodore 64

Requirements: none (VIC 20),

Datasette or disk drive;
joystick optional (Commodore 64)

Price and format: approx.

\$30 cartridge (VIC 20), \$30
disk or cassette (Commodore 64)

Protection: yes

Warranty: 90 days

User group rating: 6

Documentation: 2

Graphics and sound: 7

Playability: addictive

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

In *Crossfire*, you defend a city's rectangular street system against invading aliens. You can move or shoot in any of four directions, and the action is quite engaging. You shoot upward to stall various types of aliens invading your town from all sides.

Every once in a while a prize or a fuel dump appears and you have to go to a refueling dump. Running over bars when low on ammunition adds points to your score, as does clearing the screen of aliens. The aliens dodge at random, making it easy to waste shots. Some shoot high-speed bullets that are hard to avoid, although you have the option of ducking into an alley.

The color in *Crossfire* is quite good. The sound is simple and fast-paced, yet appropriate and interesting. The Commodore 64 version has ordinary graphics, but they are better than those on the VIC 20 version, and it adds a pause option. The manual is one side of a coated sheet of paper. The keys are somewhat difficult to use on the VIC 20 version, but play action is good. Fortunately the Commodore 64 version uses a joystick.

DAVID'S MIDNIGHT MAGIC

Description: pinball simulation

Sold by: Broderbund Software

17 Paul Drive

San Rafael, CA 94903

415/479-1170

For: Commodore 64

Requirements: disk drive;
joystick optional

Price and format: approx.
\$35 disk

Protection: yes

Warranty: yes

Overall rating: 7

Documentation: 1

Graphics and sound: 8

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

A pinball simulation for as many as four players, *David's Midnight Magic* includes all the standard features of a top-quality arcade pinball game, such as a two-level playing field and a ball collector. This game has lots of color, extremely detailed high-resolution graphics, quick and realistic action, and plenty of sounds that pass for beeps. Pinball experts report that it feels just like the real thing.

Controls include flippers, magnets, an ACTION key that tilts if you press it too long or often, and a pause function. Even the spring tension used to release the ball can be adjusted. Naturally, high scores are saved on the disk.

David's Midnight Magic has been a very popular Apple computer game for some time. Pinball lovers will welcome this version for the Commodore 64.

Description: maze rescue game

Sold by: Nufekop

P.O. Box 156

Shady Cove, OR 97539

503/878-2113

For: VIC 20

Requirements: 3K or 8K added memory, Datasette, joystick

Price and format: approx.
\$13 cassette

Protection: none

Warranty: yes

User group rating: 6.9

Documentation: 2

Graphics and sound: 7

Playability: challenging

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

ARCADE GAMES
DEFENDER ON TRI

In *Defender on Tri*, a typical maze space game, you are a fighter plane inside a huge alien space ship. You fly through its corridors seeking and rescuing survivors from an earlier exploration voyage. In the process, you have to avoid or defeat the alien vessel's defenses and machinery. Your ultimate goal is to rescue ten scientists from four levels of the alien ship and get back out within the 13-minute time limit.

You have shields against most hazards, but they use up valuable fuel. Fortunately, there are fuel dumps scattered around the alien vessel. Collecting alien treasures along the way will add to your time.

Defender on Tri is a popular and colorful game. But after a few tries the real challenge is controlling the joystick skillfully enough to avoid running into a wall.

Description: alien shoot-out

Sold by: IMAGIC

981 University Ave.
Los Gatos, CA 95031
408/399-2200

For: VIC 20

Requirements: joystick

Price and format: approx.
\$29 cartridge

Protection: cartridge

Warranty: yes

User group rating: 7.3

Documentation: 2

Graphics and sound: 7

Playability: brief enjoyment

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Similar to the arcade game *Galaxian*, *Demon Attack* offers another alien shoot-out with waves of attackers dropping in on you from above. The difference is that you deal only with a few attackers at a time, and most of them don't act like Kamikaze pilots in *World War II*.

Your weapon appears at the bottom of the screen, moving back and forth. After you attack one group of invaders, another appears. Each set has its own shape and fire pattern. Eventually the targets get smaller, their shots become sheets of fire, and you are in trouble.

Demon Attack offers several options: you can select an easy or hard contest, use simple or guided bullets, and accommodate one player or two. The color is excellent, the graphics are very smooth, and the sounds are well done, especially the raucous laughter when you inevitably lose.

Description: varied game
screens

Sold by: Sydney Dataproducts,
Inc.

315 Laurel St.
San Diego, CA 92101
619/231-1775

For: Commodore 64

Requirements: disk drive;
joystick optional

Price and format: approx.
\$40 disk

Protection: yes

Warranty: none

User group rating: 8.2

Documentation: 4

Graphics and sound: 9

Playability: addictive

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

The superb concept behind *Evolution* attempts to demonstrate Darwin's theory of evolution. Several different screens pose various problems to solve, all tied into the theme.

The object of the game is to evolve from a one-celled amoeba, through assorted lower life forms, to man. The final test of your superiority is a contest with mutants in space. Some situations lack realism (few beavers have to contend with crocodiles, for example), but play is engaging and fun.

Evolution is graphically well done and the sounds are pleasant. All the usual amenities, such as varying skill levels and score records, are included. There is also an unusual, although welcome, practice option that lets you play your favorite screen as often as you like.

The theory and scientific background behind *Evolution* may be imperfect, but such details are excusable, considering the program was designed by two high school students.

ARCADE GAMES EXTERMINATOR

Description: bug game

Sold by: Nufekop

P.O. Box 156

Shady Cove, OR 97539

503/878-2113

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive; joystick optional

Price and format: approx.

\$17 cassette (VIC 20), \$25 disk (Commodore 64)

Protection: none

Warranty: yes

User group rating: 7.2

Documentation: 1

Graphics and sound: 7

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Exterminator is a well done, fast moving version of the arcade game *Centipede*. Armed only with a machine gun and eight-way mobility, you face a series of centipedes slowly winding their way back and forth down the screen toward you. Mushrooms block your aim, deadly spiders bounce quickly around the lower part of the screen, fleas drop from the top to the bottom of the screen leaving new mushrooms in their trail, and snails occasionally cross the screen from side to side.

Instructions for this game consist basically of this sentence: "Shoot everything that moves and everything that doesn't!" After you eliminate the first centipede while avoiding or shooting everything else, another enters, and the screen changes color. On the first board, the colors are quite impressive, but the second board is green on blue, and the third is pink on orange, making the targets harder to see. The sounds and the speed of the action, however, are both very good. This is a surprisingly fine game, considering that it needs only 3.5K memory.

Description: rescue game

Sold by: Synapse

5221 Central Ave.

Richmond, CA 94804

415/527-7751

For: Commodore 64

Requirements: Datasette or disk drive; joystick optional

Price and format: approx.

\$35 disk or cassette

Protection: yes

Warranty: yes

User group rating: 8

Documentation: 2

Graphics and sound: 8

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

ARCADE GAMES FORT APOCALYPSE

Somewhat like *Choplifter* and *Protector*, *Fort Apocalypse* is a rescue game for the Commodore 64. You start out above ground, fly through unfriendly skies, and ultimately save scores of human prisoners.

You are assisted in your mission by long-range radar that reveals enemies in the distance. You bomb your way into the enemy's underground tunnels, only to find more of the helicopters and floating mines that plagued you above. Here the prisoners are trapped. Pick them up and work your way through the varied and difficult underground defenses. Do so, and you can destroy the enemy fort and win.

User groups like *Fort Apocalypse*. One even called it "the game of the century" with "great graphics, great sound, and great adventure." The graphics are well done, but not anything beautiful. Sound is appropriate, but jarring. And the action, though labeled a mission of mercy, is primarily a shoot-em-up. Details are executed well, however; even the effects of gravity on the helicopter are handled properly.

Fort Apocalypse lets you select not only a skill level, but also the number of ships and the relative gravity. If you need a break, there's a handy pause option.

Description: ladder game

Sold by: Commercial Data Systems Ltd.

730 Eastview Ave.
 Regina, SAS S4N 0A2
 CANADA
 306/525-3386

For: Commodore 64

Requirements: disk drive, joystick

Price and format: approx. \$35 disk

Protection: yes

Warranty: 90 days

Overall rating: 9

Documentation: 3

Graphics and sound: 10

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Frantic Freddie has some of the best sounds of any game program. You can hear your micro-computer play rock music, and play it with flair. Over half a dozen pop and classical tunes, all well executed in multipart harmony, support the excellent graphics and animation of this game. This is one you'll cherish for a long time, if only to show off your Commodore 64's musical talent. It's also one you'll play as an addict, anxiously awaiting the next board to hear its tune.

The game itself has a fairly common theme. You are wandering among ladders and girders, seeking gold and other goodies, while avoiding other characters in the scene. Unlike some games, you can't pass under a ladder. You can either climb it or turn around. If you manage to clear the screen of prizes, the other wanderers fall off, and you go on to a different scene with new characters. A favorite board is Spiders, which plays Beethoven's Fifth Symphony.

Description: hopping game

Sold by: Sierra On-Line

Sierra On-Line Bldg.
 Coarsegold, CA 93614
 209/683-6858

For: Commodore 64

Requirements: Datasette or disk drive; joystick optional

Price and format: approx. \$35 cassette or disk

Protection: yes

Warranty: 90 days

User group rating: 8.4

Documentation: 3

Graphics and sound: 10

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Frogger is one of the best computer games for the Commodore 64. In it you maneuver a frog across a busy highway, past a snake-infested median strip, and then across a rushing river filled with logs, diving turtles, and an occasional lady frog to escort home.

Frogger has everything: constant, intricate, and wholesome screen action; colorful and detailed characters in a beautifully drawn scenario; and superb continuously changing music. The music can also be turned off separately, leaving only the action sounds. As for difficulty, there are two speeds (slow and fast), plus pause and rerun controls. The first three levels are easier than those of the arcade version, but successive levels get more difficult.

The only drawback to *Frogger* is in the control. You can use either the keyboard or joystick, but the joystick does not read "up" and "down" properly. Nevertheless, this is one game the whole family will enjoy. And, it is also now available for the VIC 20. Highly recommended.

Description: alien shoot-out

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: joystick
optional

Price and format: approx.
\$15-20 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.9

Documentation: 2

Graphics and sound: 7

Playability: briefly interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Four unique screens of challenging space combat combine to make *Golf* for the VIC 20. This game lets you battle Space Invaders, zap ships in Laser Attack, survive Space Warp, and confront a Flagship. As usual with Commodore cartridges, you can adjust the screen before beginning, and you get almost no instruction.

In *Space Invaders*, you can easily aim for the *Golf* ship from the edge of the screen to cut down the number of alien attacks. Round two, Laser Attack, is fairly simple. Just zap the leading laser ship first. To survive Space Warp, stay close to the center of the playing field and wipe out each fighter early. In this third round you are right in the middle of the action, and aliens like to run into you. The Flagship (fourth round) requires rapid fire. To survive, you must either shoot off the ship's hull, or hit the one soft spot on its belly. Every time the flagship passes across the screen, it descends one level and drops more bombs. If you survive this attack, you'll start round one again, but at a faster speed. After you clear all screens for the third time, Space Warp becomes next to impossible.

Golf is a varied game for space war enthusiasts, and popular with user groups, although neither the graphics nor the game play are quite up to the arcade version.

Description: bug game

Sold by: HesWare
150 North Hill Drive
Brisbane, CA 94005
800/227-6703
(in California 800/632-7979)

For: VIC 20 or Commodore 64

Requirements: joystick or
trackball

Price and format: approx.
\$30-40 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.7

Documentation: 1

Graphics and sound: 7

Playability: briefly interesting

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Gridrunner takes the fast action of *Centipede* and sets it deep in outer space. Your mission is to zap snakelike creatures and the pods they leave on the screen as they travel down toward you. Other enemies include ships shooting at you from the edges of the screen along the various rows and columns. They either destroy a dot on the screen, or deposit one that eventually grows and eliminates the column it is in. Your movements are limited to the lower third of the screen.

The colors are pleasant, the action is smooth but hectic, and the sounds take full advantage of the Commodore 64's capabilities. The 32 levels of very fast game play should satisfy anyone.

The 40-column screen on the Commodore 64 makes the game more difficult than on the VIC 20. To reach the higher scores you may need a trackball rather than a joystick. After grid seven, the game gets very hectic. Definitely a challenge for experts, this game has been a best-seller in both the United States and United Kingdom for quite some time.

Description: hopping game

Sold by: DES
8315 Firestone Blvd.
Downey, CA 90241
213/923-9361

For: VIC 20

Requirements: Datasette,
joystick

Price and format: approx.
\$17 cassette

Protection: yes
Warranty: not written

User group rating: 7.6
Documentation: 1
Graphics and sound: 5
Playability: briefly interesting
Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

A mini-version of the arcade game *Frogger*, *Hopper* runs on the unexpanded VIC 20, making it a worthwhile purchase. The instructions consist of a single screen, visible during the loading process.

To play, you avoid floating logs and parked and moving cars to safely bring home a frog across a crowded highway and waterway. Though written in BASIC, the play action is fairly good, but much simpler than other versions.

The game uses color, sound, and graphics, but not as well as many other VIC 20 games. It's a good buy if you are limited to the unexpanded VIC 20.

Description: maze chase

Sold by: Sierra On-Line
Sierra On-Line Bldg.
Coarsegold, CA 93614
209/683-6858

For: Commodore 64

Requirements: disk drive
optional, joystick optional

Price and format: approx.
\$35 cartridge, \$30 disk

Protection: yes
Warranty: 90 days

User group rating: 6
Documentation: 2
Graphics and sound: 8
Playability: interesting
Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

Jawbreaker II is an excellent takeoff on *Pac-Man*, especially for younger players. Instead of a full maze, you wander across a series of horizontal levels, eating dots and suckers, while being chased by rolling happy faces called Jawbreakers. You jump from one level to another through moving holes in the horizontal walls, and when you clear all the dots in a level, a toothbrush cleans your teeth. If you're caught by a Jawbreaker all your teeth fall out.

Ten skill levels in this game feature involved, smooth (not hectic) action. Attractive colors and carnival music add to the display.

Description: ladder game

Sold by: Epyx

1043 Kiel Ct.
Sunnyvale, CA 94089
408/745-0700

For: Commodore 64

Requirements: Datasette or
disk drive, joystick

Price and format: approx.
\$35-40 disk or cassette

Protection: none

Warranty: 30 days

User group rating: 9.2

Documentation: 8

Graphics and sound: 10

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Jumpman represents the current state of the art in games available for the Commodore 64. The program features 30 different screens, each with its own unique variation on the theme of collecting bombs, avoiding anything that moves, and running and jumping around a system of girders, ropes, and ladders.

Your goal in *Jumpman* is to defuse a space station full of bombs. You have to avoid bullets that change direction in mid-flight, random robots, falling bombs, flying bricks, and rolling eggs. The program lets you choose a level to play and gives you seven lives to keep you playing for a while.

In spite of pleasant music that starts out fine but gets tiresome after a while and the lengthy wait between screens, this is a favorite among Commodore user groups. For those interested in a cartridge version, *Jumpman Junior* with 12 new screens, is newly available and also excellent.

Description: steering game

Sold by: Commodore

1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64 and VIC
20

Requirements: joystick
optional

Price and format: approx.
\$15 cartridge

Protection: cartridge

Warranty: none

User group rating: 6.2

Documentation: 3

Graphics and sound: 8

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Jupiter Lander is Commodore's version of the ever-popular *Lunar Lander*. The object is to land your spacecraft as often as possible before running out of fuel. You are given a limited supply of fuel and three options of landing spots. The more difficult sites are worth more points, but the risk is greater and you are likely to use more fuel.

When you are within a certain distance from each landing spot, an enlarged view of the area appears. You must land very gently; you'll earn no points for crash landings.

The Commodore 64 and VIC 20 versions are identical. Both make excellent use of high-resolution graphics, have realistic sounds, and are modestly challenging.

Description: steering game

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: joystick
optional

Price and format: approx.
\$15-20 cartridge

Protection: cartridge

Warranty: none

User group rating: 6.9

Documentation: 2

Graphics and sound: 7

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Kickman for the Commodore 64 is a very good adaptation of the arcade game. You appear as a clown, rolling back and forth across a city street on a unicycle at dusk. The object is to pop balloons on your pointy head. If this doesn't seem hard enough, remember the balloons will not burst until there is a whole line of them rising from your cap. If you miss one, you have to kick it back in the air before it touches the ground, or the game is over.

Though *Kickman* is light on sound, the excellent graphics in this nonviolent game include an appearance by *Pac-Man* and his familiar ghosts at higher levels. You'll be glad to see them, because each time *Pac-Man* falls, he pops all the balloons on your head and makes your progress temporarily easier. The game ends when a balloon bounces out of your reach.

Description: steering game

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: game paddles

Price and format: approx.
\$20 cartridge

Protection: cartridge

Warranty: none

User group rating: 5.5

Documentation: 2

Graphics and sound: 8

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

In *LeMans*, the Commodore 64 version of the famous French Formula One competition, you steer a professional race car with your paddle controller. Most of the route is straightaway, and you could make really good time if there were no other cars weaving across the road. Your goal is to pass your competition without crashing or running off the road. Each car you pass is worth points and possible bonus time at the end of the lap.

The track in *LeMans* is fairly realistic. It includes an icy section where controlling your car is difficult, tunnels that reveal only the lights from cars ahead, divided highways with narrow lanes, and the famous "Le Mans Esses" (harrowing S-curves). Slip off the edge of the roadway onto the shoulder, and you'll quickly feel its drag on your speed. Hit anything else, and you head for the pits. Your car will stop and must be steered off the roadway before you can begin again.

Description: shoot-out maze

Sold by: Southwest Micro
Systems Development

2554 Southwell
Dallas, TX 75229
214/484-7836

For: VIC 20

Requirements: 8K added
memory for cassette;
Datasette optional, joystick
optional

Price and format: approx.
\$15 cassette, \$30 cartridge

Protection: yes

Warranty: yes

User group rating: 6.8

Documentation: 1

Graphics and sound: 7

Playability: interesting

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

The action is fast, but planning is essential in *Mobile Attack*. For one or two players, this game is similar to a tank war game, but you and your many opponents are much faster than any tank could be.

You pilot a ship through one of seven mazes while being pursued by enemy cruisers and launches. Shoot them before they ram and destroy you. If you manage to clear all of the opposing cruisers on a screen, you earn a bonus of 1000 times the current level (such as 4000 for level 4) and advance to the next level.

Somewhat difficult, *Mobile Attack* is an enjoyable challenge for expert shoot-em-up fans.

Description: steering game

Sold by: Creative Software
230 E. Caribbean
Sunnyvale, CA 94089
408/745-1655

For: Commodore 64

Requirements: joystick

Price and format: approx.
\$35 cartridge

Protection: cartridge

Warranty: 30 days

Overall rating: 9

Documentation: 5

Graphics and sound: 10

Playability: addictive

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all
ratings factors

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Colorful, high-resolution graphics and soothing multivoiced music greet you when you load *Moon dust* into your Commodore 64. However, this is just the beginning of one of the most original games available for the system.

Moon dust appoints you creator, and lets you guide a team of creatures from egg stage to maturity. It is reminiscent of the star child in the movie *2001: A Space Odyssey*. You can pursue one of several options and variations.

In the hands of a skilled user, the team of evolving creatures behaves in concert, much like a dance team led by a master. Perhaps best of all, although the game is a challenge, it is relaxing. The concept is exciting, and game play addictive. Highly recommended.

ARCADE GAMES MOON SHUTTLE

Description: alien shoot-out

Sold by: Datasoft, Inc.

9421 Winnetka Ave.

Chatsworth, CA 91311

213/701-5161

For: Commodore 64

Requirements: Datasette or disk drive, joystick

Price and format: approx.

\$30 for disk and cassette (in one package)

Protection: yes

Warranty: 90 days

Overall rating: 7

Documentation: 3

Graphics and sound: 7

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Space shuttle opponents feared it would become a weapon; in the game *Moon Shuttle*, it has. *Moon Shuttle* refits the spacecraft with a laser cannon used for shooting through a series of asteroid fields and a wide variety of aliens hiding beyond. You have to clear a fairly wide path through the asteroids or your ship will be crushed.

The first group of aliens are fond of the part of the screen near your score, and you can eliminate them by aiming there. The next set, the Expandos, politely warn you before attacking. After them is a set of butterflylike invaders who usually stay near the top of the screen but do a lot of shooting and move quickly. If you live that long, the eighth set of aliens are starfish that shrink into smaller invaders when hit. They take several shots to destroy. If you survive all of this, you start again from the beginning, with faster rocks and meaner aliens.

Although there is a welcome pause feature, there is no continuous fire option. As for sound and graphics, both are well used. While it includes helpful hints on strategy, the manual is merely a single sheet.

Description: steering game

Sold by: UMI

3503-C Temple Ave.

Pomona, CA 91768

714/594-1351

For: Commodore 64

Requirements: Datasette or disk drive

Price and format: approx.

\$25 cassette, \$35 disk

Protection: yes

Warranty: none

User group rating: 7.1

Documentation: none

Graphics and sound: 8

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

ARCADE GAMES MOTOR MANIA

Potholes, oil slicks, nails, logs, cars, falling rocks, and fire engines on the road impede your progress in *Motor Mania*, another racing game for the Commodore 64. As you travel multi-lane highways, narrow dirt roads, straightaways, and curves, you have a chance on each lap to stop and replenish your fuel and battery. If you wait too long to do so, your car will stop.

The graphics in this game are well done and colorful. As you try to stay on the road, the action is frustratingly fast, and the sound is interesting for a short while. Forget about instructions; there are none. While *Motor Mania* is not entirely realistic, you'll find this game a welcome addition to your library.

Description: alien shoot-out
Sold by: Access Software, Inc.
925 E. 900 South
Salt Lake City, UT 84105
801/532-1134
For: Commodore 64
Requirements: Datasette or
disk drive, joystick
Price and format: approx.
\$35 cassette or disk

Protection: yes
Warranty: not written

User group rating: 6.8
Documentation: 2
Graphics and sound: 9
Playability: once only
Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

In this best-selling shoot-em-up, you are a gunner positioned at the edge of the galaxy. Your mission in *Neutral Zone* is to destroy alien intruders, much like shooting clay pigeons at a rifle range. The 360-degree panorama of space displays planets, asteroids, nebulae, and a mother ship you must defend. The action scrolls smoothly and quickly across the screen.

Game play poses few challenges. You must lead your targets, all moving at differing speeds. Shots realistically curve and shrink in the distance, and there is return fire to avoid. You can evade some of the faster enemy ships by rotating 360 degrees, but the five skill levels can't disguise the limited action.

This game for the Commodore 64 has stunning and detailed three-dimensional graphics. The sounds are well done. Although perfect for a beginner, *Neutral Zone* has limited attraction for serious players.

Description: pinball simulation
Sold by: Sublogic
713 Edgebrook Dr.
Champaign, IL 61820
217/359-8482
For: Commodore 64
Requirements: Datasette or
disk drive; joystick optional
Price and format: approx.
\$30 cassette or disk

Protection: yes
Warranty: 6 months

Overall rating: 9
Documentation: 2
Graphics and sound: 9
Playability: addictive
Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
Overall Rating: Summation of all
ratings factors
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

Night Mission Pinball is the best of all pinball simulations. Controls on *Night Mission Pinball* include flippers, spring strength, left and right tilt, pause, single-step, and joystick control. Up to six players can participate. The fix option enters a mode in which 38 variables are programmable, ranging from points for free balls to the stickiness of the flippers.

Night Mission Pinball saves high scores on request, selects screen colors, and has fantastic play action. Every screen element does something interesting, and the program includes realistic World War II sounds of guns, bombs, and airplane motors. Other pinballs get boring after a couple of games. This one doesn't.



ARCADE GAMES OMEGA RACE★

Description: alien shoot-out

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20 or Commodore 64

Requirements: joystick or
game paddles optional

Price and format: approx.
\$15-20 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.8

Documentation: 2

Graphics and sound: 8

Playability: addictive

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

In *Omega Race*, you pilot a rocket fighter in a flexible playing field blocked off on the middle of the screen. You control thrust, turning, and shooting, but your motion is at the mercy of the laws of physics in an elastic-walled vacuum. At first you bounce around helplessly, guns blazing at nothing, an easy target for the aliens you were sent to destroy.

With practice, you learn to duck behind corners long enough to attack enemy ships. Your major advantage over alien craft is speed. Use it effectively, and you can win by hitting and running. Delay too long, and faster and more dangerous craft appear as a threat.

The graphics and sound in *Omega Race* are excellent, but the color is in the background only. This is inconsequential, however, since your attention is riveted on the action.

ARCADE GAMES OUTWORLD

Description: rock-shooting
game

Sold by: UMI
3503-C Temple Ave.
Pomona, CA 91768
714/594-1351

For: VIC 20

Requirements: joystick

Price and format: approx.
\$35 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.4

Documentation: 1

Graphics and sound: 8

Playability: brief enjoyment

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

In *Outworld* you are busy defending a space colony from asteroids of various sizes and an occasional alien bomber. Asteroids and bombers appear at any time in this airless environment and anywhere along the top or side of the screen. When hit, asteroids divide into ever smaller rocks.

The colony is defended by a set of shields. You're armed with a powerful weapon able to destroy everything in its sights. Both devices, however, use up your limited fuel supply, which is replenished too infrequently by supply ships.

Avoid the temptation to shoot continuously, or you will quickly run out of fuel. When the supply ship does appear, take care not to attack it.

Outworld is easy enough for a novice, yet difficult to complete. The graphics are well done, the action smooth and not too hectic, and the sound is fairly interesting.

Description: jousting game

Sold by: Commercial Data Systems Ltd.
730 Eastview Ave.
Regina, SAS S4N OAZ
CANADA
306/525-3386

For: Commodore 64

Requirements: disk drive, joystick

Price and format: approx. \$35 disk

Protection: yes

Warranty: 90 days

Overall rating: 6

Documentation: 3

Graphics and sound: 8

Playability: briefly interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Similar to the arcade game *Joust*, *Pegasus* is an airborne duel between humans on flying steeds. Your mount is a winged horse, and your goal is to unseat your opponents and destroy them.

In each duel, the victor is the rider coming from above when the beasts collide. Once you have destroyed an opponent, you have to land on his steed. If you take too long to do this, the rider is rescued. Then he remounts and opposes you again. When you lose a duel, your mount gradually fades off the screen. Fortunately, you begin the game with four lives.

The background scene remains the same throughout the game, showing a rural portion of ancient Greece with a pedestal in the foreground, and a sky banded realistically into bright and starry regions. The clouds move separately, as do the wings of the horses.

The sounds in *Pegasus* are unimpressive, and the action is choppy and random. Even so, this is a reasonably enjoyable game and includes a brief mythical account of the creation.

Description: pinball simulation

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: game paddles

Price and format: approx. \$20-30 cartridge

Protection: cartridge

Warranty: none

User group rating: 7

Documentation: 6

Graphics and sound: 8

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Pinball Spectacular combines the hectic game play of *Breakout* with the detailed techniques of an arcade pinball challenge.

Your goal is to keep a ball in play as long as possible and break down two large walls of bricks. You do so with two sliding paddles, one on top of the other at the bottom of the screen. When you succeed, a ghost from *Pac-Man* appears, and if you hit it, your points soar. Between the walls is a haunted house. Direct a ball into the house and at least one ghost is killed. If your ball is trapped above the wall of bricks, you save time because it pushes out several bricks as it bounces around the area.

Along the side of the playing field, a row of faces constantly changes from frowns to smiles as each one is touched. If they all smile at once, you earn a bonus. You can also earn a free ball by spelling out the word EXTRA in another area of the screen.

The first display on this program is a handy set of instructions, scrolling very slowly and smoothly up the screen (dot by dot rather than line by line). The colors are vivid, the action fast enough for any taste, and the sound both pleasant and realistic.

ARCADE GAMES PROTECTOR II

Description: rescue game

Sold by: Synapse
5221 Central Ave.
Richmond, CA 94804
415/527-7751

For: Commodore 64

Requirements: disk drive or
Datasette, joystick

Price and format: approx.
\$35 disk or cassette

Protection: yes

Warranty: lifetime

User group rating: 7

Documentation: 2

Graphics and sound: 8

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Your goal in *Protector II* is to transport 18 refugees across an active volcano to a new city. As you proceed, you must defend yourself against invaders that swipe your charges and shoot at you.

To carry out a rescue operation, you descend slowly toward the group of people until they grab hold of your jet. Once you fly over the volcano and drop them off, they will wave in thanks. On the easier levels, you also catch humans as the invading mother ship drops them into the volcano.

When all have been transported or have died in the process, the invaders' fortress opens, and you can finish your rescue by dropping your charges into an escape tunnel inside the fort. Then you can seek revenge on the enemy's command post. You have to act quickly, however, before the volcano erupts and destroys the city of refuge.

Because of the intense time pressure, rescuing all the humans is nearly impossible. *Protector II* is enjoyable, however, and there is a pause function to give your nerves a rest. The graphics are excellent, and the sound is even better and the action is fast and smooth. The program is recorded on both sides of the disk, a novel way of improving reliability. Only the manual is weak.

ARCADE GAMES ★RADAR RAT RACE

Description: maze chase

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20 or Commodore 64

Requirements: joystick
optional

Price and format: approx.
\$10-15 cartridge

Protection: cartridge

Warranty: none

User group rating: 6.6

Documentation: 2

Graphics and sound: 8

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

Radar Rat Race is one of Commodore's best games for the VIC 20. It is a thinly disguised version of the arcade driving game *Rally-X*. Here, you are a mouse pursued by three rats.

Your goal in this game is to eat all the cheese in a large maze, but you can see only a small portion of the prize on the main screen. The rest appears on a radar display at the side. Besides the pursuing rats, you also need to watch for cats resting along the way. Your only defense is a smoke screen that confuses your pursuers temporarily. Naturally, after completing the first board there is another (and another), with differing layouts.

The action is rapid, and the color graphics vivid and detailed. The music is a fine rendition of "Three Blind Mice," but it soon becomes a nuisance. This is a good game for those who like maze chases.

ARCADE GAMES RIVER RESCUE

Description: rescue game
Sold by: THORN EMI
Video, Inc.

1370 Avenue of the Americas
New York, NY 10019
212/977-8990

For: VIC 20

Requirements: joystick
optional

Price and format: approx.
\$40 cartridge

Protection: cartridge

Warranty: unwritten

User group rating: 5.6

Documentation: 1

Graphics and sound: 6

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

In *River Rescue*, you pilot a boat down the river in quest of a group of lost explorers. You must avoid or shoot alligators, canoes, and drifting logs. If your first boat crashes as you transport your charges to the river hospital, they are transferred to the next boat.

Your speed is variable in this game, but if you proceed too slowly, you forfeit points. Go too fast, however, and you'll ram the shore. When you reach 7000 points, you earn an extra boat. To add to the challenge, each subsequent round appears in an increasingly difficult combination of colors. This can be avoided, however, by switching off the colors. Beginners can start with six boats instead of the usual three.

River Rescue is a good game with better-than-average graphics.

Description: underwater
shoot-out

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20 or Commodore 64

Requirements: game paddles

Price and format: approx.
\$15-20 cartridge

Protection: cartridge

Warranty: none

User group rating: 5.9

Documentation: 2

Graphics and sound: 8

Playability: brief enjoyment

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

ARCADE GAMES SEA WOLF

In this copy of the original arcade game *Sea Wolf*, your goal is to bomb enemy ships from a submarine at the bottom of the screen. Ships of varying sizes sail across the screen at different speeds, and you score more points for hitting the faster, smaller craft than for destroying cumbersome tankers.

Sea Wolf lets two players compete at once, a feature not often found in VIC 20 games. One player's sub is above the other's, and can shadow it to keep the opponent from firing. This gives the upper submarine an advantage, which is a nice handicapping feature.

Leading a target and careful re-loading plans are the major strategies here. A typical shoot-em-up, *Sea Wolf* commands average appeal.

Description: maze chase
Sold by: Creative Software
230 E. Caribbean
Sunnyvale, CA 94089
408/745-1655

For: VIC 20

Requirements: joystick

Price and format: approx.
\$30 cartridge

Protection: cartridge
Warranty: media only

User group rating: 7.8
Documentation: 1
Graphics and sound: 9
Playability: addictive
Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

Realistic hissing sounds and bright and detailed graphics highlight *Serpentine*, a popular maze game for the VIC 20. You appear as a small snake, and your task is to stay alive and raise your offspring.

To succeed, you must catch an occasional toad for food and avoid three larger snakes sharing the maze with you. Since frogs are fond of snake eggs, don't leave a frog alive when your young are hatching. An overcrowded maze limits your chances of survival, so eliminate the other snakes. Chew on their tails to reduce their size, then you can meet them in face-to-face combat. The battle is safe when the enemy has changed color.

When you clear a board of snakes entirely, except for your own egg, you advance to a new level and a different maze. If you have saved your youngster, you also have an extra life.

This is a very good game. The interesting play action will keep you returning to it month after month. Highly recommended.

Description: shoot-out maze
chase

Sold by: Synapse
5221 Central Ave.
Richmond, CA 94804
415/527-7751

For: Commodore 64

Requirements: disk drive,
joystick

Price and format: approx.
\$35 disk

Protection: yes
Warranty: yes

User group rating: 7.6
Documentation: 3
Graphics and sound: 9
Playability: addictive
Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

Shamus is similar to the arcade game *Berserk*. You are a sleuth armed with an infinite supply of knives. Your task is to explore a two-story maze of 22 rooms that are heavily guarded by robots, ready to shoot on sight. Complicating your task are electric walls deadly to the touch, and a super villain who appears if you stay in one room too long. You can stun him momentarily, but he will return unless you leave the area.

This game is great fun. As you wander, you stumble across question marks that may represent a prize or a penalty, flasks that contain an extra life, keys that unlock secret passages, and plenty of dangers to shoot and dodge.

The graphics in *Shamus* are excellent—fast moving, detailed, and colorful. The music, Alfred Hitchcock's theme song in a minor key, is interesting for the first hour. After that you'll play without the sound.

Shamus for the Commodore 64 offers five maps and four levels, with 38 rooms per level. The answer to the maze is at the bottom of the lowest level.

Overall, *Shamus* strikes an excellent balance between strategy and action. Though violent, *Shamus* will be a favorite for some time to come.

Description: maze chase

Sold by: Microdigital
725 John Glenn Blvd.
Webster, NY 14580
716/872-0518

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive; joystick optional

Price and format: approx. \$15 cassette, \$20 disk (VIC 20), \$20 cassette, \$25 disk (Commodore 64)

Protection: yes

Warranty: 90 days

User group rating: 7.8

Documentation: 2

Graphics and sound: 7

Playability: addictive

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Snakman is a fun but difficult maze chase game. It is also a close copy of the original arcade game *Pac-Man*, varying only in details like the shape of the maze. You appear as a circle with a big mouth, chomping dots while avoiding four ghosts. If caught, you lose one of four lives. But when you eat special power pellets, you get to chase

the ghosts for six seconds and send them to jail.

Once certain corridors are cleared of ghosts, prizes worth extra points appear. Clear the whole maze, and everything starts anew. At first, it is difficult to survive, but scores of more than 200,000 are possible.

Snakman is one of the most popular programs for the VIC 20, especially an unexpanded model. The characters, though tiny, are realistic. The maze is colorful and detailed, the action smooth and rapid. Sounds are simple but interesting. Unfortunately, the instructions are printed only on the outer box and are soon lost, but are otherwise accurate.

The Commodore 64 version is very similar, but not identical. The sounds are more pleasant and realistic, and the larger graphics hold more detail. But the maze is unfortunately simpler. Also, the points earned for each action have been reduced from the VIC 20 version.

Description: rescue game

Sold by: Funsoft, Inc.
28611 Canwood St.
Agoura, CA 91301
213/991-6540

For: Commodore 64

Requirements: Datasette or disk drive; joystick optional

Price and format: approx. \$35 cassette or disk

Protection: yes

Warranty: yes

Overall rating: 7

Documentation: 5

Graphics and sound: 8

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

In *Snokie*, your ten-foot tall girlfriend has been imprisoned in an ice fortress. To rescue her, you must successfully cross several types of obstacles. The first is a hilly field of boulders. The next is a river full of ice floes. After jumping more boulders, while avoiding icicles, you meet additional ice floes, and then snowballs attack you. Survive, and you face two kinds of ice lasers.

The names and scores of the best players are saved to disk in this game. There is also a lot of cute music and excellent graphics. A pause feature is included. For experts, there are two levels of play, with faster action in the second. Best of all, you can practice at any level you have reached.

Of the obstacles, the ice floes are the most difficult. You can try three times, with the possibility of a fourth. When you lose a man, a skull winks. Fortunately, you can restart at the same part of the game.

Snokie is quite enjoyable and not too threatening. There is a time limit, however.

ARCADE GAMES SPIDERS OF MARS

Description: defender game

Sold by: UMI

3503-C Temple Ave.

Pomona, CA 91768

714/594-1351

For: VIC 20

Requirements: joystick
optional

Price and format: approx.

\$30 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.5

Documentation: 4

Graphics and sound: 9

Playability: interesting

Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

The finely executed *Spiders of Mars* is similar to the arcade version of *Defender*. Instead of opposing rockets and UFOs, however, you face dragonflies, wasps, and spiders. Enemy bugs attack, raining fire and leaving fly specks (called mines) for you to run into, or to fatally ram into you.

The superb graphics in this game for the VIC 20 are smooth, detailed, and multicolored. Classical music provides the background.

Description: maze chase

Sold by: Commodore

1200 Wilson Dr.

West Chester, PA 19380

215/431-9100

For: VIC 20

Requirements: joystick
optional

Price and format: approx.

\$15 cartridge

Protection: cartridge

Warranty: none

User group rating: 5.1

Documentation: 2

Graphics and sound: 7

Playability: interesting

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

ARCADE GAMES SUPER ALIEN

Super Alien lets you run around a maze, inflating balloons to trap aliens determined to devour you. Once you trap an enemy, quickly deflate the balloon to crush the alien inside. Take too long to empty the maze, and the number of aliens triples—and they move twice as fast as before.

The aliens' movement is totally random. To outwit them, place the balloons at busy intersections; the chances of trapping one are better there. In later levels, when more and faster aliens join the chase, personal safety dictates surrounding yourself with balloons in a quiet corner of the maze where few of them travel. This reduces the chances of being killed by one alien while you are trapping another.

This is a fairly easy game for novices, but still one of the most innovative.

Description: shoot-out

Sold by: UMI
 3503-C Temple Ave.
 Pomona, CA 91768
 714/594-1351

For: VIC 20

Requirements: joystick
 optional

Price and format: approx.
 \$35 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.3

Documentation: 3

Graphics and sound: 7

Playability: addictive

Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
 User Group ratings

Documentation: Quality of printed
 instructions

Graphics and sound: Quality and
 aesthetics of each

Playability: How entertaining or
 interesting the game is

Difficulty: How much skill is
 required to enjoy the game

Super Amok is a simplified version of *Shamus* (see separate review). You wander around a series of four rooms, each with a different layout, trying to shoot the robot inhabitants of each. If the robots chase you and return fire, you have to duck behind whatever walls are available. Don't touch the walls, however: they are electrified and will destroy you.

The difference between the original *Amok* and *Super Amok* is the introduction of ghosts and buzzsaws. These appear whenever you take too long to clear a room. They can be destroyed if necessary, but they also provide motivation to hurry.

The original version for the unexpanded VIC 20 is still one of the best games for that machine. The expanded cartridge version is comparable to *Shamus*, but much easier.

Description: maze chase

Sold by: Comm*Data Systems
 244 Summit
 Milford, MI 48042
 313/684-6767

For: VIC 20 or Commodore 64

Requirements: Datasette or
 disk drive, joystick

Price and format: approx.
 \$28 cassette or disk

Protection: yes

Warranty: defective disks or
 tapes replaced for small fee

User group rating: 7.1

Documentation: 1

Graphics and sound: 6

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
 User Group ratings

Documentation: Quality of printed
 instructions

Graphics and sound: Quality and
 aesthetics of each

Playability: How entertaining or
 interesting the game is

Difficulty: How much skill is
 required to enjoy the game

A maritime takeoff on the popular arcade game *Pac-Man*, *Supercuda* is the improved version of *Pakacuda*. You must guide a barracuda around a maze and gobble up fish (instead of dots) for points, while avoiding four octopuses. At each corner you eat an electric eel for energy.

In this version, each board consists of three mazes. You progress to other boards via doors at the top and bottom of the screen. The bottom maze on the first level is quite difficult to complete. When you manage to clear one maze, action and sound speed up on the second, and the game eventually gets very hectic. If you are in danger of being caught, duck out one of the two side doors on the sides of the screen.

Whenever the barracuda is eating tiny fishes, the sound accompaniment is reminiscent of the movie *Jaws*. Otherwise the game is mercifully silent. Although graphics are simple and unremarkable, the game is very good. It was the first decent substitute for *Pac-Man* for the Commodore 64.

ARCADE GAMES SUPER PARATROOPER

Description: shoot-out
Sold by: Protecto Enterprises
Box 550
Barrington, IL 60010
312/382-5244
For: VIC 20
Requirements: Datasette;
joystick optional
Price and format: approx.
\$20 cassette

Protection: none
Warranty: 90 days

User group rating: 6.7
Documentation: 1
Graphics and sound: 8
Playability: addictive
Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

The smoothest graphic animation of any cassette-based program for the unexpanded VIC 20 is on display in *Super Paratrooper*. The object is to eliminate helicopters and the paratroopers they are carrying. If any paratroopers escape before they are shot, they drift down to the ground, run offscreen briefly, and return in a tank that destroys you.

Your shells are smart bombs that can be guided once they are launched. This gives a whiplike appearance to a string of shots fired in quick succession. You should use single shots, however; you will not earn points otherwise.

Overall, the colors are pleasant in *Super Paratrooper*, and the graphics are good though gory. The sounds are fairly realistic. Adults not bothered by the simulated violence will find this game challenging and fun.

Description: bouncing game
Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100
For: VIC 20
Requirements: game paddles
Price and format: approx.
\$15 cartridge

Protection: cartridge
Warranty: none

User group rating: 5.3
Documentation: 2
Graphics and sound: 7
Playability: interesting
Difficulty: expert

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Documentation: Quality of printed
instructions
Graphics and sound: Quality and
aesthetics of each
Playability: How entertaining or
interesting the game is
Difficulty: How much skill is
required to enjoy the game

ARCADE GAMES SUPER SMASH

Commodore's version of *Break-out*, *Super Smash* adds welcome options to the arcade game. You move your flat paddle across the bottom of the screen, hitting a ball bouncing from above. You are aiming for bricks in a multi-colored wall at the top of the screen. After most of the bricks are eliminated, the ball doubles in speed, and your task is much harder. Break through the top of the wall, and the paddle shrinks in size, making the game almost impossible to complete.

A variation on the game presents sets of three rows of each color of brick separated by open space. This lets you trap the ball more often, knocking out bricks from the top and bottom of a row.

The progressive option is the best of all. In this the rows of bricks slowly move down the screen as time passes. This shortens your response time, but eases the chore of aiming at a particular brick.

No matter which level you choose, a two-player game of *Super Smash* is more fun. This is a very good paddle game.

Description: alien shoot-out

Sold by: Synapse

5221 Central Ave.
Richmond, CA 94804
415/527-7751

For: Commodore 64

Requirements: Datasette or disk drive, joystick

Price and format: approx. \$35 cassette or disk

Protection: yes

Warranty: lifetime

Overall rating: 9

Documentation: 2

Graphics and sound: 9

Playability: addictive

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all ratings factors

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Survivor is a rare game for the Commodore 64 that lets two people play at once, working toward the same goal. When two joysticks are connected to this shoot-em-up, one player is the pilot and the other the gunner of a tiny space ship. The object is to hold your own against four mighty space forts.

Contact with a fort or one of the random asteroids in space is costly: you lose one of your three lives. Your guns shoot farther than the enemy's, however, and your smart bombs clear the screen of unfriendly ships. To destroy a fort, you must first eliminate its weapons by shooting through the structure's outer shell.

The chances of success are higher when two play this game. Other helpful options include continuous fire and directional control. Under normal circumstances, you accelerate and decelerate gradually, like an actual spacecraft does.

The graphics in *Survivor* are superb, and the sound, especially in the introduction, is well done. The manual, however, is simply borrowed from an earlier Atari version, with a sheet of adaptations for the Commodore added. This is a very good arcade challenge, with enough breathing time to take well-needed breaks.

Description: bug game

Sold by: Tronix

8295 S. La Cienega Blvd.
Inglewood, CA 90301
213/215-0529

For: VIC 20

Requirements: Datasette, joystick

Price and format: approx. \$30 cassette

Protection: none

Warranty: yes

User group rating: 7.4

Documentation: 1

Graphics and sound: 6

Playability: brief enjoyment

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Documentation: Quality of printed instructions

Graphics and sound: Quality and aesthetics of each

Playability: How entertaining or interesting the game is

Difficulty: How much skill is required to enjoy the game

Swarm is a revised copy of the arcade favorite *Centipede*. You appear at the bottom of the screen with a machine gun that only shoots upward. Filling much of the screen is a field of dots, and from the top of the screen comes a shower of blue blobs. You must shoot these before they reach your level.

The blobs are the least of your worries. Also falling down the screen at regular intervals are dot-depositing red arrows. Huge spiders constantly hop around the bottom of the field and must be eliminated. The toughest enemy is the alligator; it cannot be killed and touching one is fatal. Depending on your position when you die, an alligator may very well eliminate your next life at the moment it appears on the screen.

In playing *Swarm*, the speed of firing and smoothness of play is very satisfying. Though unusual, the colors are easy to watch for long periods, and the sounds are appropriate. On the easiest level you begin with six lives. There are 40 difficulty levels on this VIC 20 cassette, with a wide variety of challenges and speeds.

Description: snake game
Sold by: Creative Equipment
 6864 W. Flagler St.
 Miami, FL 33144
 305/261-7866
For: Commodore 64
Requirements: joystick
Price and format: approx.
 \$40 cartridge

Protection: cartridge
Warranty: 90 days

User group rating: 6.5
Documentation: 1
Graphics and sound: 7
Playability: interesting
Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game

TSI Laser Cycles, an offshoot of the old computer game *Snake*, takes its inspiration from the *Tron* cycle game. Vivid colors, multi-voice music, and fast action give you the feeling of a motorcycle chicken match, where neither driver can cross his own tracks or those of the opposing driver. This limits movement, and when one player is trapped, the other earns a point.

You can play against another person or against the computer. Expect to lose when the computer is the opponent. The Commodore 64's only errors are in judgment, not timing. Your only hope is to stay alive until the computer heads into a blind alley. If the computer is winning the game, it will slow the pace of the action to help your strategy.

Optional wraparound walls let you leave the screen from one side and return on the other. The best feature of this game is its beauty, both in sight and sound. Tread patterns are often so vivid you'll forget to concentrate, and the music is a very appropriate, well-done composition you can listen to for hours.

Description: maze shoot-out
Sold by: Commodore
 1200 Wilson Dr.
 West Chester, PA 19380
 215/431-9100
For: VIC 20 or Commodore 64
Requirements: joystick optional, voice synthesizer optional
Price and format: approx.
 \$20 cartridge

Protection: cartridge
Warranty: none

User group rating: 6.7
Documentation: 2
Graphics and sound: 8
Playability: addictive
Difficulty: novice

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of User Group ratings
Documentation: Quality of printed instructions
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game

Wizard of Wor is a licensed version of the arcade favorite by Bally. You are trapped in a dungeon maze filled with monsters, and your goal is to slay the wizard. Each of the monsters attacks you on sight, and one touch is fatal. Your machine gun fortunately has an infinite supply of ammunition.

Your first move is to hide in a small hole and shoot everything that attacks you. Eventually you have to head out and ambush the monsters that have not noticed you. Once the maze is cleared, the wizard appears. Since he is faster than his cohorts, you should be hidden again so you can fire at him very quickly. When the wizard is killed, the game progresses to a new maze with additional monsters and fewer places to hide. A third screen presents an even more challenging set of dangers.

In *Wizard of Wor*, Commodore has been trying to improve an already good game. The forthcoming version for the 64 includes a realistic talking voice, using the optional voice synthesizer. Colors keep changing with each new version, ranging from fantastic to awful, but game play has been consistently good.

ARCADE GAMES ZEPPELIN RESCUE

Description: rescue game

Sold by: Micro Software
International

44 Oak St.

Newton Upper Falls, MA
02164

617/527-7510

For: Commodore 64

Requirements: Datasette or
disk drive; joystick optional

Price and format: approx.
\$20 cassette, \$25 disk

Protection: yes

Warranty: 90 days

Overall rating: 6

Documentation: 3

Graphics and sound: 7

Playability: interesting

Difficulty: intermediate

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all
ratings factors

Documentation: Quality of printed
instructions

Graphics and sound: Quality and
aesthetics of each

Playability: How entertaining or
interesting the game is

Difficulty: How much skill is
required to enjoy the game

This unusual rescue game turns the slow response of BASIC into a game feature by making the rescue vehicle a bulky blimp. In *Zeppelin Rescue*, Los Angeles is drowning under smog, and you have been sent to save 48 people still stranded there.

Your blimp is fully loaded with fuel at the onset, but needs to be replenished regularly. To make a rescue, land the craft very gently over a person and then take off again. The mission isn't finished until you safely return to the base and fuel dump in screen two. There you dock, and the people hop off as the blimp is refueled.

Since the blimp can hold many people at once, your main concern is your fuel level. Remember that balloons are less durable than buildings and bridges: stay away from everything except the humans.

In the normal mode, clouds of acid rain add to the adventure. Touching one is like ramming a building—the blimp explodes and everyone dies. Luckily, you have a total of four blimps in your fleet.

Unlike most rescue games, *Zeppelin Rescue* rewards slow and careful steering, rather than fast shooting. The graphics are simple but good, as is the sound. This is a relaxing game for the Commodore 64.

CHAPTER 8 PROGRAMMING AIDS

This chapter covers a wide range of software, from programming languages to graphics and sound aids to utility programs. Most of these programs are of interest only to experienced programmers, but some—particularly the graphics and sound programs—are entertaining and simple enough that beginners will enjoy experimenting with them.

The VIC 20 and Commodore 64 have very powerful and sophisticated graphics capabilities, and understanding how these graphics work takes quite a bit of time and effort. Luckily, the character generator and sprite editor programs in this chapter will allow you to take advantage of these capabilities right away.

Seven different programming languages are included in this chapter: BASIC, PILOT, Logo, FORTH, Pascal, COMAL, and assembly language. BASIC is the most common for beginning programmers, but PILOT and Logo are also very easy to learn. The other languages are for more experienced programmers.

The following special terms are used in this chapter:

assembler A computer program that translates assembly language instructions (symbolic source code) into machine language instructions (binary object code).

assembly language A programming language consisting of

symbolic codes that represent binary machine instructions and addresses.

compiler A program that translates high-level language (source program) into machine language (object program).

CP/M (Control Program for Microcomputers) An operating system used by many small computers.

machine language The language at its lowest level (in binary form) into which all data and programs must ultimately be translated before the computer can execute instructions.

machine language monitor Software that allows the programmer to check the step-by-step operation of a program.

macro A user-defined command or code in assembly language programming.

operating system The software that runs the system and performs operations necessary to control all other software functions.

sprites User-defined graphics shapes that can be programmed to move around the screen.

utility program A program that performs operations on files (such as transferring files from one storage medium to another, making copies of files, or reorganizing the sequence of files).

PROGRAMMING AIDS ASSEMBLER 64★

Description: macro-assembler
Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100
For: Commodore 64
Requirements: disk drive;
printer optional
Price and format: approx.
\$15 disk

Protection: yes
Warranty: none

User group rating: 6.3
Performance: 9
Ease of use: 5
Reliability: 9
Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Fewer than one in a hundred computer users ever learn to program in assembly language. But if you have learned BASIC well and are tired of running up against its many limits, a good assembler offers you more speed and power. It also offers new frustrations. Until you learn to program in other languages, you won't believe how much BASIC protects you from your own mistakes.

The Commodore *Assembler 64* has to be good; Commodore uses it to write their programs. This is also the least expensive good assembler available for the 64.

The Commodore *Assembler 64* is disk based and comes in several pieces. There is an editor to write machine language programs, an assembler to convert them into a form the computer can accept, a loader to bring the finished program into the computer to run, and an extended monitor to help you figure out why it doesn't. Compared to other good assemblers, the Commodore assembler uses disk space efficiently. It is also one of only two to use macros, which means that a skilled programmer can design new commands and have the assembler translate them back into individual commands as it runs. This can save a fair amount of work, and it assures that at least part of the program is done right the first time.

If your funds are limited, Commodore's is the only assembler you need. If your funds are ample, consider getting it anyway, if only to study all the programs written with it over the years.

Description: various utility programs
Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100
For: Commodore 64
Requirements: Datasette or disk drive
Price and format: approx.
\$15-20 cassette or disk

Protection: yes
Warranty: none

User group rating: 7.1
Performance: 7
Ease of use: 4
Reliability: 7
Documentation: 3

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Bonus Pack is a collection of sample programs that use various features of the Commodore 64. A young novice can play *Lemonade* (a simulation of a lemonade stand) or *Labyrinth* (a rat's eye view of a maze). Everyone with a 1541 disk drive will want the 1541 Backup included, which duplicates a disk using only one drive. The experienced machine language programmer

PROGRAMMING AIDS BONUS PACK

will appreciate *Supermon 64* (see separate review), an extended machine language monitor. The games programmer will love the character editor, which defines custom characters, and the sprite editor, which defines sprites. On disk, *Bonus Pack* also includes the best programs from the sample disk packed with each 1541 disk drive, as well as the *PET Emulator* (see separate review).

The manual for *Bonus Pack* is incomplete. It helps new users load programs, acquaints them with various keys, and gives step-by-step instructions for starting each program in the package. There is also a description of options offered by each program. There is no technical information, however, and little explanation of what the package's complex options do.

Only a few of these programs are better than similar offerings from user groups, other companies, and Commodore itself. The manual recognizes this and suggests suitable purchases for users who want to do more with a particular feature of the 64 than the *Bonus Pack* allows. Even so, *Bonus Pack* contains more of value than any one competing product; it belongs in every 64 owner's library.

PROGRAMMING AIDS COLOR 80

Description: 80-column display

Sold by: Computer Marketing Services, Inc.

300 W. Marlton Pike, Suite 26
Cherry Hill, NJ 08002
609/795-9480

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$40 disk

Protection: yes

Warranty: 1 year

Overall rating: 6

Performance: 8

Ease of use: 7

Reliability: 5

Documentation: 1

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all rating factors

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Color 80 is for those who need 80 columns of characters on their Commodore 64 screen. You'll appreciate it most when using a word processor. *Color 80* allows a standard CBM 1701 monitor or monochrome monitor to give a readable 80-column display.

Color 80 loads into the computer's memory at a location that won't affect the operating system and won't crash when you reset the machine. It is easy to switch back and forth between 40 and 80 columns, but the program does add to the time it takes to clear or scroll the screen. New screen colors appear only after the screen is cleared. It runs with the C64 Link (interface), *Smart 64* terminal program, and is built into the *Script 64* word processor. Recommended for those times when you must have 80 columns, regardless of the character clarity.

Description: structured language

Sold by: COMAL Users Group
5501 Groveland Terr.
Madison, WI 53716
608/222-4432

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$20 disk

Protection: public domain

Warranty: public domain

User group rating: 7.2

Performance: 10

Ease of use: 9

Reliability: 9

Documentation: 8

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

PROGRAMMING AIDS COMAL .14

COMAL, a fairly new computer language from Denmark, is a cross between BASIC and Pascal, incorporating the best features from each. It has attracted a lot of attention in Europe and will soon be the official teaching language of several European countries. Since Commodore is the best-selling brand of computer in Europe, the latest and best versions of COMAL are designed for Commodore equipment. Since America is not dominated by Commodore, and since most computers used in American schools can't run COMAL, the language is relatively unknown in the United States.

But it is worth learning about. Not only is COMAL five times faster than BASIC, it is also much more powerful and easier to learn. It includes all of the program structures recommended for professional programming and does an immediate syntax check as each line is typed, to prevent surprise errors later. It also takes full advantage of the new graphic skills in the 64. The manual (sold separately) is excellent.

COMAL is the product of a decade of work by seasoned programming experts and is highly recommended.

PROGRAMMING AIDS CP/M 2.2★

Description: operating system

Sold by: Commodore

1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$60-65 disk

Protection: yes

Warranty: none

User group rating: 6

Performance: 5

Ease of use: 5

Reliability: 8

Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

The Commodore 64 version of the widely used CP/M (Control Program for Microcomputers) operating system is usable but incomplete. It is sufficient for learning and simple applications, but falls short of a true CP/M system.

One good feature of this version is its ability to handle a second disk drive via an IEEE-488 dual drive, or imitate one within a single drive by swapping disks. On the other hand, having a second disk device is not permitted.

For full CP/M, 80 columns are almost a must, but this version has only 40 columns. Also with this version, the disk drive is somewhere between relatively and painfully slow. With only 44K of available memory, it is too small for some common applications, and certain standard CP/M capabilities (such as the I/O byte) are not provided.

CP/M 2.2 worked with most CP/M programs tested, and includes a modem program to get them into your computer. The manual, however, is too complicated for novices to use.

If you want to learn CP/M, this package will let you do so very inexpensively. On the other hand, if you want to make serious use of CP/M, you should consider buying a computer designed to run CP/M.

PROGRAMMING AIDS ★FORTH

Description: threaded
language

Sold by: A B Computers

252 Bethlehem Pike
Colmar, PA 18915
215/822-7727

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$50 disk

Protection: none

Warranty: none

User group rating: 6.5

Performance: 8

Ease of use: 7

Reliability: 8

Documentation: 8

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

The FORTH language is for people who need programs to be very small and fast. It is often used for chores where timing is critical and for high-speed, high-resolution graphics. Although complicated to learn, FORTH can be as much as 30 times faster than BASIC.

If you are new to FORTH, Lou Cargile's version for the Commodore 64 is an excellent version to use first. The instructions, both in the manual and on the screen, are easier than most for novices to use. Even so, first-time users will still spend several hours reading the manual before beginning to program.

Once you begin, you'll notice that Cargile's *FORTH* uses the same editing keys as BASIC. With just a few commands, you can create your own commands (programs), and then save them for use in other programs.

Cargile's *FORTH* does not come with graphic and sound commands; you must request them separately from the author, who provides very good support (including a user group) to owners of his program. Recommended for first-time users of FORTH.

PROGRAMMING AIDS GRAPHVICS

Description: graphic aid
Sold by: Abacus Software
Box 7211
Grand Rapids, MI 49510
616/241-5510

For: VIC 20

Requirements: Datasette or
disk drive, 8K added memory
Price and format: approx.
\$20 cassette, \$23 disk

Protection: none
Warranty: media

User group rating: 7
Performance: 7
Ease of use: 2
Reliability: 7
Documentation: 3

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

This high-resolution and multi-color graphics package for the VIC includes a beautiful demo that shows most of the package's features but offers no tutorial in its use. Instead, you stop the demo at any point to see how the displays are done. A second demo plots a least-squares line through a set of points. Two versions are included: the low-resolution version runs only with the 3K

expander, while the high-resolution version runs with any other amount of added memory and sets up a 152-x-160-dot drawing area.

GraphVICS gives you two screens in the computer's memory at once, one for graphics and the other for BASIC. To go from one screen to the other, you use the function keys. You also have two modes, high-resolution and multicolor, with their own commands that can plot or erase points, lines, or boxes. Areas can be shown in reverse field or color, and text may be displayed on the graphics screen. The screen picture can be transferred to or from tape or disk, but apparently not to a printer. Optional rulers along the edge of the screen help you "stay within the lines."

The manual uses reduced type that is hard to read, but includes some often neglected information, such as memory locations that can't be used when this program is running.

GraphVICS is one of the two best graphic aid programs available for the VIC, the other being Commodore's *Superexpander* (see separate review).

Description: machine language
monitor

Sold by: HesWare
150 North Hill Drive
Brisbane, CA 94005
800/624-2442
(in California 800/632-7979)

For: VIC 20 or Commodore 64

Requirements: none
Price and format: approx.
\$40 cartridge

Protection: cartridge
Warranty: none

User group rating: 7.4
Performance: 9
Ease of use: 7
Reliability: 9
Documentation: 3

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

After you have learned to use BASIC and want to understand something about how it is organized inside the computer, you may be interested in acquiring an extended monitor. In this use, monitor does not refer to your computer's screen but to a machine language aid that watches over how a program works.

HESMON and *HESMON 64* are powerful extended monitors in cartridge form, and are available in separate versions for the VIC and the 64. They not only help you see how BASIC is organized, but they assist you as you begin to program in the vastly faster machine language.

Both are slightly adapted from the public domain program *Micromon* (see separate review for details of its features). They have the convenience of being in cartridge, where they are always available when needed, and offer a user's manual as well.

Most users will find that both versions of *HESMON* work well and contain everything needed in an extended monitor. The only real drawback is their cost; but if you want an extended monitor in ROM, this is your best choice.

Description: structured language

Sold by: A B Computers
252 Bethlehem Pike
Colmar, PA 18915
215/822-7727

For: Commodore 64

Requirements: disk drive;
IEEE-488 interface optional,
printer optional

Price and format: approx.
\$100 disk

Protection: dongle protected
Warranty: none

User group rating: 7.4
Performance: 6
Ease of use: 6
Reliability: 7
Documentation: 4

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

KMMM Pascal is a Pascal compiler for the Commodore 64. Pascal is an extremely popular language among educators, but it has not caught on in businesses. Students may find it worthwhile to learn while in school, though it is unlikely to be the only (or even the major) language used by a professional programmer.

Pascal's primary advantage is that it forces the programmer to organize programs efficiently. Another advantage is that Pascal programs usually run faster than those written in BASIC. Because *KMMM Pascal* translates its output into machine language, it is particularly fast.

Offsetting these advantages are Pascal's requirement that everything be defined before it is used. This means programs must be written from the bottom up. Most people prefer to work the other way, to do top-down programming by sketching out the broad outlines of a solution first and filling in the details later.

Although it is not a full Pascal, *KMMM Pascal* has many features of the standard language, and it is the only Pascal available for the 64 thus far. This means 64 owners who want or need to learn Pascal will have to keep using it until UCSD Pascal, the industry standard, appears from Commodore.

No one is likely to learn Pascal merely from the information supplied with the program. It does include some demo programs, but it lacks both a tutorial and a reference manual. Its editor is far more difficult to use than most reviewed for this book.

In any case, this version is well done and from a reputable company, although somewhat expensive. If you want to learn Pascal on the 64 now, buy it.

Description: graphics language

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$60-65 disk

Protection: yes
Warranty: none

Overall rating: 8
Performance: 9
Ease of use: 8
Reliability: 6
Documentation: 8

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

Overall Rating: Summation of all rating factors

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Logo is a language in which a small object (called a turtle) is directed around the screen by simple commands. The turtle's path is usually marked by a thin line. By directing the turtle, the user draws pictures. Logo's many capabilities have made it a popular way to introduce children to logical thinking, math, and computer programming.

Commodore's *Logo* is a full implementation of the Terrapin

Logo language, similar to, but expanded from, earlier versions available for other computers. An excellent demo disk containing 50 programs is included with the Commodore package and shows the range of *Logo*'s possibilities.

Various debugging commands show exactly what a program is doing, one step at a time. To use a new word, just enter it, followed by the contents of any variables needed. If you are drawing, it is simple to see either your program or the picture or both with the press of a key. Those who don't type well will be glad to know that several keywords can be abbreviated, although doing so makes programs confusing to new users. There is even an "instant" version of Logo included, with only eight simple commands to remember.

Logo, is a better structured, more powerful, and easier to use language than BASIC. It is also an excellent aid to using the 64's powerful graphics abilities. Anyone, child or adult, interested in programming will find *Logo* an excellent purchase. Highly recommended.

PROGRAMMING AIDS MAE 3.0

Description: macro assembler
Sold by: Eastern House
Software
3239 Linda Dr.
Winston Salem, NC 27106
919/924-2889
For: Commodore 64
Requirements: disk drive
Price and format: approx.
\$100 disk

Protection: none
Warranty: yes

User group rating: 7.6
Performance: 10
Ease of use: 7
Reliability: 9
Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Performance: Rating of program's
capabilities
Ease of Use: How quickly the user
can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed
instructions

Among assembly language programming systems, *MAE 3.0* (Macro Assembler and Editor) is unique in that it provides an assembler, an editor, an extended machine language monitor, and a word processor all in one package. The editor is easier to use and more powerful than any other currently available. With provided add-ons, *MAE 3.0* is also one of the better word processors available.

One reason *MAE 3.0* is the best assembler for the 64 is that it has its own user group: Asm/Ted Users Group. (Asm/Ted was the product's original name.) They have some 30 disks of exchangeable programs that help you learn by example. The otherwise adequate *MAE 3.0* manual needs an index and a quick reference section.

Overall, *MAE 3.0* outperforms other 64 assemblers. It provides several unique features, including interactive assembly, control files, and macros. Its other great advantage is that an identical version is available for many other popular microcomputers, which makes its files easy to adapt to other brands.

Description: machine language
monitor
Sold by: Foxfire Systems
P.O. Box 507
Deer Park, TX 77536
For: VIC 20
Requirements: Datasette or
disk drive
Price and format: approx.
\$10 cassette or disk

Protection: none
Warranty: none

User group rating: 8.5
Performance: 10
Ease of use: 6
Reliability: 8
Documentation: 1

Micromon is the current version of one of the best and best-known of all programming aids. Even if you aren't ready to program in machine language, *Micromon* is a useful programmer's aid that you may want to have around in anticipation of the day when you will either be ready to use it or in such a jam that nothing else can save your program.

Micromon monitors machine language programs in much the same way that the BASIC in your computer watches over BASIC programs. But that is only the beginning. The real value of *Micromon* is in helping to write, run, and understand machine language programs. It includes a miniassembler to write machine language programs, several commands to help make sense of

PROGRAMMING AIDS ★MICROMON

machine language programs, and a way to step through a machine language program one instruction at a time. This last feature is similar to the TRACE command some programmer's aids add to BASIC. Perhaps most useful of all is a recently enhanced HUNT command that looks for a desired pattern in memory (much like the FIND command some programmer's aids add to BASIC).

The disassembler and memory dump commands even scroll up and down through memory, just as the very best BASIC programmer's aids scroll up and down through BASIC listings. An optional enhancement, called *Micromon Plus* (also available from user groups) extends the program to include extra printer features and a "load here regardless" command, which allows you to put any program anywhere you choose in memory.

The *Micromon* and *Micromon Plus* combination is better than anything else on the market at any price. That it is also in the public domain makes it even more desirable. *Micromon* is one of the most important programs you can own. No serious programmer should be without it. Highly recommended.

PROGRAMMING AIDS MUSIC COMPOSER★

Description: music aid
Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100
For: Commodore 64
Requirements: Datasette
optional
Price and format: approx.
\$15-20 cartridge

Protection: cartridge
Warranty: none

User group rating: 6.8
Performance: 8
Ease of use: 6
Reliability: 8
Documentation: 2

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Performance: Rating of program's
capabilities
Ease of Use: How quickly the user
can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed
instructions

Music Composer helps you write your own music for the Commodore 64's built-in synthesizer, allowing you to create harmony in up to three separate voices. You can choose instrument sounds for each of the three voices, and then instruct those sounds to play a sample song or your own composition.

Music Composer lets you turn the Commodore 64 into a keyboard piano, set special effects, enter and edit your own music, and save songs to cassette (but not to disk). The program comes with a sample song that sounds terrific, with good instrument choices. The notes are displayed on the screen while the song is being played, with each voice shown in a different color.

Unfortunately, it is very difficult for even an experienced user to learn how to use this program from the manual provided. The instructions for editing compositions are especially confusing. The user should be told, for example, that the first four characters of a line of music are a line number, and not note values.

In spite of its limitations, *Music Composer* is a worthwhile purchase because it allows you to use and learn about the Commodore 64's music synthesizer.

PROGRAMMING AIDS NUMERIC KEYPAD

Description: number pad
simulator
Sold by: Cyberia
2330 Lincoln Way
Ames, IA 50010
800/247-3900
For: Commodore 64
Requirements: disk drive
Price and format: approx.
\$15 disk

Protection: yes
Warranty: 90 days

User group rating: 6.2
Performance: 7
Ease of use: 8
Reliability: 9
Documentation: 4

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Performance: Rating of program's
capabilities
Ease of Use: How quickly the user
can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed
instructions

If you're used to numbers being placed on a calculator keyboard for entering lots of numbers or for playing arcade games, then *Numeric Keypad* is a program you should consider. It turns the keys below the "7," "8," and "9" keys on the 64 keyboard into a numeric keypad. The program even includes new key labels.

Numeric Keypad doesn't work on programs that won't allow attached utilities, but otherwise it works as well as similar hardware units that attach to the user port of your computer. If you want a software solution instead of a hardware solution, this program will do the job cheaply. Just be sure to test it first with the programs you want to run.

PROGRAMMING AIDS PAL 64

Description: machine language assembler

Sold by: Pro-Line Software
755 The Queensway East,
Unit 8
Mississauga, ONT L4Y 4C5
CANADA
416/273-6350

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$50 disk

Protection: yes

Warranty: 2 years

User group rating: 7.6

Performance: 8

Ease of use: 7

Reliability: 9

Documentation: 8

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

PAL 64 is an assembler, and it does for assembly language programming what a programmer's aid does for BASIC programming. An assembler lets you write programs using easily remembered symbols (op-codes) and modify them without difficulty. When you are done, it translates your program into machine language.

PAL is simple in concept, flexible to use, and extremely powerful in skilled hands. It comes as a small program that can be placed anywhere in memory. Its capacity is large—most programs will fit in memory all at once. This makes changing programs much easier than when they are split into several files. *PAL* is also faster than any other assembler we tested. Its syntax is like Commodore's own assembler, but its files are stored as ordinary BASIC. The manual isn't for beginners but it is excellent.

Included with *PAL* is a free program that rapidly recreates assembler source code from large machine language programs. To ease changing to *PAL*, another included program allows it to use files from other assemblers.

For the experienced programmer, *PAL* has the usual amenities, such as conditional assembly and relocatable object files. It lacks macros, but its real weakness is that its source files are difficult to read except when printed.

PAL is a latecomer among assemblers, and no longer the bargain it once was, but those who do have it (including some of the best-known programmers) use it regularly.

Description: language emulator

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$15-20 disk

Protection: yes

Warranty: none

User group rating: 6.3

Performance: 7

Ease of use: 8

Reliability: 9

Documentation: 2

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

PROGRAMMING AIDS PET EMULATOR

This easy-to-use program allows the 64 to run most programs written in BASIC for the Commodore's CBM and PET models, without changing such BASIC commands as PEEK, POKE, and WAIT. The *PET Emulator* works like an automatic postal forwarding machine: it relocates references to addresses in older CBM computer models to the equivalent addresses in the 64. In most cases it works quite well. For example, it easily ran the original CBM/PET version of a popular word processor on the 64 after deleting only one program line.

The *PET Emulator* copes easily with zero-page PEEKs, screen POKES, and CB2 sound programs. It also includes Commodore's DOS Wedge 5.1 program to control the disk drive. Unfortunately, it can't handle most programs that use SYS calls.

PET Emulator is a must for people with access to existing software for the larger Commodore computers. Schools will especially appreciate being able to run older PET computers and new 64 computers with the same software.

Although the *PET Emulator* is sold separately, you will do better to buy it as part of *Bonus Pack* (see separate review). The cost is the same, and *Bonus Pack* includes many other useful programs. You may also be able to get it from a user group.

PROGRAMMING AIDS PILOT

Description: authoring language

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$40-45 disk

Protection: yes

Warranty: none

User group rating: 5.8

Performance: 8

Ease of use: 7

Reliability: 6

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

PILOT (for Programmed Inquiry Learning Or Teaching) is a very simple programming language designed to help teachers and students create their own computer-based lessons. Like other so-called authoring languages, this is an excellent first computer language to learn. Most of its commands require only a single character, and learning it often takes only a couple of hours.

The Commodore version of PILOT is more powerful than most. To add interest to teaching programs, its commands include several new words that control sound and graphics, including sprites. Its math abilities and disk-handling commands have also been expanded somewhat. And there are some new features that aid proper programming, such as not needing line numbers and allowing lines to be indented as much as desired. The user is also able to divide the screen, so that both the program text and the graphics created by that program are displayed at once. To show its power, and give the novice practical programs to study, PILOT comes with five demo programs that show good uses of color, graphics, sprites, and sound.

The manual is good, although too complicated for the novice. The main PILOT program is a bit too easy to get out of, but it also comes with a separate version that young users can't harm. Commodore's PILOT is comprehensive for experienced users and protected against abuse by students. If you need PILOT at all, you will eventually want to have this version.

Description: BASIC programming aid

Sold by: Pro-Line Software
755 The Queensway East,
Unit 8
Mississauga, ONT L4Y 4C5
CANADA
416/273-6350

For: Commodore 64

Requirements: disk drive

Price and format: approx.
\$50 disk

Protection: yes

Warranty: 2 years

User group rating: 8.2

Performance: 9

Ease of use: 7

Reliability: 7

Documentation: 7

This well-known program is among the very best BASIC programmer's aid programs. It includes the usual commands, improves on most of them significantly, and adds a few. If you are lucky enough to find it in cartridge form, it will probably be one of your favorite programs. Even on disk, it is impressive.

The program comes with an excellent beginner's manual with a very good reference section. All it lacks is a quick reference sheet of available options. The manual explains how to call program features from other programs, change the way Power 64 works, and even add more commands.

PROGRAMMING AIDS POWER 64

Power's best feature is *Morepower*, a public domain add-on that makes the difference between Power being just another programming aid and its being one of the best. Among the many features of *Morepower* are a START command that shows the loading address of any program, and the ability to execute any program on disk as a sub-program simply by typing its name as a command. *Morepower* also makes up for some of the obvious weaknesses in Power, such as the lack of a MERGE command.

As in the best competing programs, with Power you can also scroll through a BASIC program with the cursor keys. You can change nearly anything in the program, trace your way through a running BASIC program in several ways, and hold two BASIC programs in memory at once.

Power 64 will load with the Pal 64 assembler (see separate review). Together they are excellent for assembly language programming. The combination is sold as *The Tool Box 64*. If you want to program in BASIC, Power is a recommended addition to your software library.

PROGRAMMING AIDS PROGRAMMER'S AID CARTRIDGE

Description: BASIC programming aid

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: none

Price and format: approx.
\$30-35 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.4

Performance: 9

Ease of use: 7

Reliability: 9

Documentation: 3

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Programmers will love the time they save by using the *Programmer's Aid Cartridge*. This programmer's aid is much like the original *BASIC Aid* for the older PET computers, with a few more commands to greatly ease debugging new programs written in BASIC.

Programmer's Aid Cartridge includes a KEY command, for the user to define the function keys. It is further refined by the commands EDIT and PROG, that allow two sets of defined keys. It takes a while to get used to the key functions, but once you get past that, *Programmer's Aid Cartridge's* features are really great.

Control codes allow you to scroll up and down, escape quote mode, automatically assign line numbers to the program, or erase to the beginning or the end of the current line. You can even merge another program from any device (cassette, disk drive, printer, modem, etc.).

The *Programmer's Aid Cartridge* is a welcome addition to the VIC 20's skills.

PROGRAMMING AIDS SCREEN GRAPHICS 64

Description: graphic aid

Sold by: Abacus Software
Box 7211
Grand Rapids, MI 49510
616/241-5510

For: Commodore 64

Requirements: Datasette or disk drive

Price and format: approx.
\$25 cassette, \$28 disk

Protection: yes; backup copies available for small fee

Warranty: yes

User group rating: 8.4

Performance: 7

Ease of use: 2

Reliability: 7

Documentation: 3

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

In this excellent graphics language extension, you can draw fancy graphics with only a few lines of BASIC-like commands, such as DRAW, CIRCLE, etc. *Screen Graphics 64* is like its VIC counterpart, *GraphVICs* (see separate review), except that support for single-color and multicolor sprites has been added, along with some new commands like CIRCLE, BLOCK, and FILL. It also works reasonably quickly.

With its higher resolution (319×199 dots) and eight additional colors, the demo program is much more impressive on the 64 than on the VIC. It also includes a helpful tutorial program. Another improvement is in the commands, which are actual English words and are easier to understand than the cryptic letters of the VIC version.

If you like using commands instead of a joystick to form graphics, *Screen Graphics 64* should be a permanent part of your library. If you like music as well as graphics, you should buy *ULTRABASIC* (see separate review). It includes all of *Screen Graphics 64's* commands, as well as the excellent sound-generating program *Synthy 64* (also reviewed separately).

PROGRAMMING AIDS SIMONS'S BASIC★

Description: expanded BASIC

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: Commodore 64

Requirements: none

Price and format: approx.
\$25 cartridge

Protection: cartridge

Warranty: none

User group rating: 8.3

Performance: 8

Ease of use: 9

Reliability: 5

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Simons's BASIC is an excellent programmer's aid, written by a 16-year-old, that shows signs of both brilliance and inexperience.

Simons's BASIC provides dozens of innovative features, including (1) commands to turn BASIC into a structured language, the kind recommended by most professional programmers; (2) commands to aid user input into running programs, thus avoiding

many problems resulting from pressing the wrong keys in response to questions; and (3) commands to hide programs from prying eyes, as when you don't want your children to be able to get the answers to the questions in a quiz you've made for them. No other programmer's aid tested includes these features.

The program has commands for almost everything of interest, but several of them are not as powerful as the same commands on competing products. For example, the MERGE command in *Simons's BASIC* appends one program to the end of another. The MERGE command in several other programmer's aids is a true merge, inserting lines from a second program anywhere within a program already in memory. Similarly, the renumbering command does not properly adjust GOTO and GOSUB statements in BASIC, let alone allow you to renumber only a portion of a program. Even so, there is an amazing amount of power in this program, at an astoundingly low price, and all with the convenience of a cartridge.

Apart from the special commands, *Simons's BASIC* includes a large set of aid, disk, graphic, sound, and game functions. With all this inside, and the price so low, no one interested in BASIC programming should be without it. If you could plug only one cartridge into your 64, *Simons's BASIC* should be the one.

PROGRAMMING AIDS '64 PANORAMA

Description: drawing aid

Sold by: Midwest Micro
Associates
311 W. 72nd St.
Kansas City, MO 64114
816/333-7200

For: Commodore 64

Requirements: Datasette,
joystick; printer optional, disk
drive optional

Price and format: approx.
\$30 cassette

Protection: yes

Warranty: yes

User group rating: 6.6

Performance: 7

Ease of use: 5

Reliability: 7

Documentation: 4

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

'64 *Panorama* is a drawing program combined with a series of excellent digitized photographs. It uses a joystick to draw lines in either high or medium resolution. Colors can be set, but all lines are the same color. You can fill the screen with a single character before drawing begins. You can also save your pictures on cassette, disk, or printer.

The program works well enough, but does far less than some other drawing programs. It would also be better on disk because it takes so long for an image to load. The uniqueness in '64 *Panorama* is its 19 digitized pictures. These are TV photographs that have been converted into highly detailed computer images.

PROGRAMMING AIDS SPRITEMASTER 64

Description: sprite aid
Sold by: Access Software, Inc.
925 E. 900 South
Salt Lake City, UT 84105
801/532-1134
For: Commodore 64
Requirements: Datasette or
disk drive; joystick optional
Price and format: approx.
\$35 cassette or disk

Protection: none
Warranty: not written

User group rating: 8
Performance: 7
Ease of use: 8
Reliability: 8
Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
User Group Rating: Average of
User Group ratings
Performance: Rating of program's
capabilities
Ease of Use: How quickly the user
can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed
instructions

Spritemaster 64 lets you design animated sprite characters and move them around with cursor controls, either one at a time or in groups of three. The program includes sample sprites as a guide, and allows you to set all parameters of a group of sprites with single keystrokes.

There is also an animation mode to test moves. Using a two-line program, you can save and load sprites for use in other programs. The manual is fairly complete, with full instructions on use and technical details on sprite building.

Spritemaster 64 is a good tool for using the powerful raw material Commodore offers by making the 64 with sprite capability.

PROGRAMMING AIDS ★SPRYTEBYTER

Description: sprite aid
Sold by: Foxfire Systems
P.O. Box 507
Deer Park, TX 77536
For: Commodore 64
Requirements: Datasette or
disk drive; joystick optional
Price and format: approx.
\$30 cassette, \$35 disk

Protection: none
Warranty: 30 days

Overall rating: 8
Performance: 9
Ease of use: 7
Reliability: 8
Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:
Overall Rating: Summation of all
rating factors
Performance: Rating of program's
capabilities
Ease of Use: How quickly the user
can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed
instructions

Foxfire calls *Sprytebyter* "perhaps the most powerful and versatile sprite development package available." We're inclined to agree. The program includes almost every practical function that may be applied to sprite development. With it, you can make and modify up to 127 different sprites in one or more colors, and save them for use in your own programs. An included subroutine eases the task of linking the sprites into programs.

Almost everything in the program can be controlled either by the joystick or by selections from one of 12 option menus. Although the program is quite complex, its use is relatively simple, even without referring to the manual. This is good, since the manual, though complete, is hard to use. *Sprytebyter's* impressive feature is the TURN command, which causes the computer to automatically generate a series of new sprites from an original, each rotated a specified number of degrees from the one before. A companion "movie" option is almost as impressive: it displays all the sprites in order at a set speed, so that you can visualize animated effects as you create them.

Compared to other programs of its type, the only thing noticeably missing from *Sprytebyter* is the ability to see several sprites simultaneously. If you are in the market for a sprite-aid program, this one deserves consideration. It is a top-quality program from a very reputable company. Highly recommended.

Description: sound and graphic aid

Sold by: Commodore
1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20 or Commodore 64

Requirements: none

Price and format: approx.
\$15-20 cartridge (Commodore 64), \$60 cartridge (VIC 20)

Protection: cartridge

Warranty: none

User group rating: 6.9

Performance: 9

Ease of use: 6

Reliability: 9

Documentation: 3

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

If you want to program graphics and sound on your VIC and are limited by the VIC's memory, *Superexpander* is a good program to buy. Besides adding 3K of memory, it uses the sound and graphics capabilities in a much easier way. Nonprogrammers will probably find little use for it, but even children who are learning to program will enjoy it greatly.

As a memory card, the *Superexpander* raises the VIC's total RAM to match the 8K capacity of the first Commodore PETs. When in place, it also rearranges the VIC's memory map to approximate that of the PET, making it easier to convert PET programs to the VIC.

As a language card, the *Superexpander* adds 17 English word commands to BASIC. Most are assigned to the function keys and do exactly what they say they do: select a GRAPHIC level, choose a COLOR, DRAW a line, set a POINT, draw a CIRCLE, or PAINT an enclosed area. KEY can change a function key to any desired string of up to 128 characters, CHAR puts text on a graphics screen, and SOUND fully controls up to four tones.

Another group of commands looks at various settings, including the graphic mode in use, the color in a register, the color at a spot on the screen, the sound in a register, and the positions of game paddles, joystick, and light pen.

Because *Superexpander* costs nearly as much as the VIC itself, few VIC owners have it and almost no commercial programs use it. In fact, because it rearranges memory, many commercial programs will not work while it is connected. Even so, *Superexpander* is an excellent product for VIC owners who want graphic and sound capabilities.

Description: machine language monitor

Sold by: Toronto PET Users Group
1912 A Avenue Road
Toronto, ONT M5M 4A1
CANADA
416/782-9252

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive; printer optional

Price and format: approx. \$6 cassette, \$10 disk

Protection: public domain

Warranty: unwritten

User group rating: 7.8

Performance: 7

Ease of use: 6

Reliability: 9

Documentation: 2

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Supermon is an extended monitor program intended for use by beginners in machine language programming. It is only available to members of the Toronto PET Users group.

Unlike the more powerful extended monitors, *Supermon* relocates itself to a safe spot in memory where it will not be in the way of whatever else you're running at the time. It also uses color well to show what is going on and is able to recall the last five commands given. If you end up in an unexpected place, those last five commands may help you determine how you got there.

Many machine language programmers find *Supermon* adequate for their needs, and some even prefer it to *Micromon* (see separate review). Every programmer should arrange to have a copy of *Supermon* before beginning to learn machine language. After you become proficient at machine language programming, you'll appreciate many of *Supermon's* features.

PROGRAMMING AIDS SYNTHY 64

Description: music aid
Sold by: Abacus Software
Box 7211
Grand Rapids, MI 49510
616/241-5510

For: Commodore 64

Requirements: Datasette or
disk drive

Price and format: approx.
\$30 cassette, \$33 disk

Protection: yes; backup copy
available for small fee

Warranty: yes

User group rating: 7.1

Performance: 8

Ease of use: 7

Reliability: 8

Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

Synthy 64 adds instructions to BASIC for making music programming easier. It is surprisingly simple, yet very complete, and fun to use.

Although it uses only one time signature (4/4 time) and lacks measure for composing music, it adds a tempo command, ties notes together for different note values, and allows stanza repeats. You can print to the screen, input information, set waveforms (but only the high pulse for the variable pulse waveform), and set ADSR (attack/decay/sustain/release). It even has features not mentioned in its otherwise fine user's manual, such as a ring modulator and resonance registers.

Its most exciting feature is a way to play three different voices with a simple keystroke for each voice. You can even view all music registers as music is being played. *Synthy 64* is also included as part of the vendor's package called *ULTRABASIC 64* (see separate review). This one is definitely recommended for music programmers.

Description: BASIC
programming aid
Sold by: Solidus International
Corporation
215 West Holly #241
Bellingham, WA 98225
206/734-3744

For: Commodore 64

Requirements: disk drive;
printer optional

Price and format: approx.
\$95 disk

Protection: yes; backup copy
available for small fee

Warranty: 90 days

User group rating: 8.6

Performance: 9

Ease of use: 7

Reliability: 8

Documentation: 7

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of
User Group ratings

Performance: Rating of program's
capabilities

Ease of Use: How quickly the user
can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed
instructions

SYSRES is an excellent program to make programming in BASIC easier. Though it lacks internal documentation and must be loaded from disk for each use, it doesn't destroy a BASIC program already in memory. On the 64, *SYSRES* hides itself in a location that doesn't interfere with the regular BASIC language storage

PROGRAMMING AIDS SYSRES

locations, leaving all RAM free, except one page of memory at address \$C000. It includes a utility to relocate any competitor for that space.

As an editor, *SYSRES* edits sequential files from BASIC, scrolls listings both up and down, copies the screen to a printer, and gets out of the way when a program runs to keep the program from running too slowly. It also adds more commands to control the disk drive, as well as new BASIC commands to control the computer.

SYSRES created quite a furor when first released, because in spite of being the best of programmer's aids, it is a protected utility program that erases memory away if it detects tampering. This is inherently dangerous, and inferior to a cartridge-protected program.

The *SYSRES* disk copies itself onto another disk when you first load the program; it gives you three chances to make a spare disk. Be sure to create a different version when using RTC's C-Link interface and 4040 disk drive than when using a 1541 disk drive alone.

As a final nicety, *SYSRES* sets the screen colors to a pleasant green-on-black with a grey border. If this program were on a cartridge, it would be even more useful, but it is still recommended.

PROGRAMMING AIDS THE TOOL-C64

Description: forms editor

Sold by: Canadian Micro

Distributors

500 Steeles Ave.

Milton, ONT L9T 3P7

CANADA

416/876-4741

For: Commodore 64

Requirements: disk drive

Price and format: approx.

\$65 disk

Protection: yes

Warranty: 90 days

Overall rating: 7

Performance: 8

Ease of use: 7

Reliability: 6

Documentation: 7

This is a new adaptation of one of the most useful graphic aids on the larger Commodore computers. *The Tool* adds 35 new instructions to BASIC that help you create the way you want your computer screen to display the data you will be storing in another program. The most important commands set up a business form of up to 128 fields on the screen and then actually fill them in.

This forms editor is very useful when writing programs for unskilled users. You can even leave part of the screen stationary while scrolling other parts up and down. For instance, you could use *The Tool* to enter an order from a catalog in a home

business. Then, if you forgot a price, the catalog itself could scroll to another part of the screen. There are also commands to load and save copies of the screen to disk and to plot in high resolution and color.

VIC owners can do most *Tool* functions with a similar program, *Screen Master*; the latter, however, lacks high-resolution plotting and most of the programmer's aid commands of *The Tool*. Naturally, there is also less room for separate display areas on a 22-column screen than on one with 40 columns.

A good example of *The Tool's* power is shown by a flowchart demo, which uses a very small *Tool* program. With the joystick and a few keys, it draws excellent programming flowcharts on the screen, including text descriptions—a great idea. The other demos are equally impressive.

The Tool's main weakness is that it must be in memory along with programs that use it, and it cannot be given to others along with your programs. If you are writing serious programs for your Commodore 64, *The Tool* can help you a great deal.

PROGRAMMING AIDS TURTLE GRAPHICS II

Description: drawing language

Sold by: HesWare

150 North Hill Drive

Brisbane, CA 94005

800/227-6703

(in California 800/632-7979)

For: Commodore 64

Requirements: Datasette or disk drive optional, printer optional

Price and format: approx.

\$50 cartridge

Protection: cartridge

Warranty: media only

User group rating: 7.2

Performance: 5

Ease of use: 7

Reliability: 7

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Turtle Graphics II is a drawing language similar to the one included in Commodore's *Logo* and *Vanilla PILOT* (see separate reviews). Older children and adults can use it as a way to design pictures on the computer screen and also learn something about programming.

It is convenient to use, since it simply plugs in. On the other hand, it is painfully slow for a cartridge and far less capable in other ways than those programs that include turtle graphics as only *one* of many abilities.

The manual, though comprehensive, is not up to the vendor's former high standards. Its best feature is a set of demo program listings in the back.

Turtle Graphics II will primarily be of interest to those who want a drawing language and need it in a cartridge.

PROGRAMMING AIDS ULTRABASIC 64

Description: graphic and sound aid

Sold by: Abacus Software
Box 7211
Grand Rapids, MI 49510
616/241-5510

For: Commodore 64

Requirements: Datasette or disk drive; printer optional

Price and format: approx. \$40 cassette, \$43 disk

Protection: yes

Warranty: 90 days

User group rating: 7.8

Performance: 9

Ease of use: 6

Reliability: 9

Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

Programmers who want their graphic and sound aids in one unified package should take a look at this one. Abacus Software has put *Screen Graphics 64* and *Synthy 64* together in one package and added some general-purpose BASIC commands to form *ULTRABASIC 64*.

As mentioned in its separate review, *Screen Graphics 64* allows the user to create fancy graphics images with only a few lines of BASIC-like commands. Single-color and multicolor sprites can be built in 16 different colors on the high-resolution screen, and a helpful tutorial program is included.

The sound portion, *Synthy 64* (see separate review), is surprisingly simple, yet very complete, and fun to use. Although it uses only one time signature (4/4) and doesn't work with individual measures, it has a tempo command, ties notes together for different note values, and can repeat stanzas. You can print to the screen, input information, and design custom instruments. *Synthy's* most exciting feature is a way to play three different voices with a simple keystroke for each voice. You can even view all music registers while the music is being played.

If you like using commands instead of a joystick to form graphics images and sound scores, *ULTRABASIC 64* should be a permanent part of your library. Highly recommended.

PROGRAMMING AIDS ★ VANILLA PILOT

Description: authoring language

Sold by: Tamarack Software
P.O. Box 247
Darby, MT 59829
406/821-4596

For: VIC 20 or Commodore 64

Requirements: Datasette or disk drive, 16K added memory for VIC 20

Price and format: approx. \$30 cassette or disk

Protection: none

Warranty: 60 days

User group rating: 7.3

Performance: 9

Ease of use: 8

Reliability: 8

Documentation: 8

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

PILOT (for Programmed Inquiry Learning Or Teaching) is a very simple computer language, developed especially for the needs of teachers. Its commands are few, limited to single letters, and quickly learned. Its primary use is in giving lessons and quizzes, and one of its great strengths is its ability to correctly interpret a wide variety of answers to a question.

Compared with other versions of PILOT, *Vanilla PILOT* is very easy to use. It is the only one that includes a full set of programmer's aid commands. Such helps are very important in PILOT, because it is designed for untrained users, who need all the help they can get. Another important extra in *Vanilla PILOT* is a full set of medium-resolution turtle graphics commands. Even children can quickly learn to use these to draw detailed colorful pictures on the computer's screen, accompanied by simple music. Still another important convenience is its use of the standard Commodore screen editing keys.

The most significant weakness of PILOT is its limited math: calculations are limited to whole numbers between plus and minus 999. Another weakness is that *Vanilla PILOT's* otherwise excellent manual lacks a quick reference list of PILOT commands. Apart from that, it is a model of clarity, and even includes chapter quizzes. If you are a novice programmer, you may prefer *Vanilla PILOT* to BASIC.

PROGRAMMING AIDS VIC FORTH AND 64 FORTH

Description: threaded language

Sold by: HesWare

150 North Hill Drive
Brisbane, CA 94005
800/227-6703

(in California 800/632-7979)

For: VIC 20 or Commodore 64

Requirements: printer optional

Price and format: approx.
\$50 cartridge (VIC FORTH),
\$60 cartridge (64 FORTH)

Protection: cartridge

Warranty: none

User group rating: 6.6

Performance: 5

Ease of use: 6

Reliability: 8

Documentation: 5

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

FORTH, with its compact size and high speed, is a good programming language for the bare bones VIC. Although the VIC itself lacks some desirable development tools, FORTH on the VIC can be used effectively as a second computer language to run serious FORTH applications developed on larger machines.

Both VIC FORTH and 64 FORTH are almost complete minimum standard versions of the language. To the VIC version, the vendor has added 3K of extra memory. Both versions include many nonstandard FORTH words or commands to handle the screen, color, and sound features, and the cassette drive and printer. This FORTH also includes an assembler, which can be used to mingle FORTH and assembly language.

The manual uses very large, cramped type and omits descriptions of several permitted commands. It also totally ignores disk files, the medium usually used by FORTH for all its permanent storage of information.

A real advantage of most versions of FORTH is its speed compared to BASIC, but this version of FORTH was only slightly faster than BASIC in our tests.

As this is the only tested FORTH available for the VIC 20, VIC owners interested in investigating this unusual and potentially powerful language will need to buy this version. Owners of the 64 will do much better with Lou Cargile's FORTH (see separate review).

Description: machine language monitor

Sold by: Commodore

1200 Wilson Dr.
West Chester, PA 19380
215/431-9100

For: VIC 20

Requirements: none

Price and format: approx.
\$30-35 cartridge

Protection: cartridge

Warranty: none

User group rating: 6.9

Performance: 7

Ease of use: 7

Reliability: 6

Documentation: 3

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

PROGRAMMING AIDS VICMON

VICmon is very similar to Micromon (see separate review). If you know how to use Micromon, you only need the VICmon instruction manual for initial access. The only additional commands beyond Micromon are zero page flip (E) and remove breakpoint (RB).

Unlike other extended monitors, VICmon destroys essential BASIC pointers as it works. If you neglect to make a spare copy of those pointers when you first use VICmon, you won't be able to go back into BASIC and use it later unless you turn off the machine first.

If you need an extended monitor in cartridge, this is a fairly good alternative to HESMON (see separate review).

PROGRAMMING AIDS VICTREE

Description: BASIC programming aid

Sold by: Skyles Electric Works
231 S. Whisman Rd., Suite E
Mountain View, CA 94041
415/965-1735

For: VIC 20 or Commodore 64

Requirements: Datasette optional, disk drive optional, printer optional

Price and format: approx. \$90 cartridge

Protection: cartridge

Warranty: none

User group rating: 7.5

Performance: 8

Ease of use: 8

Reliability: 8

Documentation: 6

Excellent: 8-10; Good: 5-7; Poor: under 5

Key:

User Group Rating: Average of User Group ratings

Performance: Rating of program's capabilities

Ease of Use: How quickly the user can learn to use the program

Reliability: Consistency of results

Documentation: Quality of printed instructions

For anyone who does BASIC programming on their VIC or 64, *VICTREE* is a must. Plug it into your cartridge slot, type a SYS command, and you're off. *VICTREE* takes 8K of RAM from the 64. Since it only starts after you type a SYS command, it doesn't slow down the speed of a running program in BASIC when *VICTREE* isn't needed.

VICTREE does everything it claims to do. It adds 42 commands to BASIC, including all the more advanced Commodore BASIC 4.0 commands except the faster ways to handle strings. Other commands ease your work with disk drives, function keys, and printers. With the parallel printer interface connected, you can do dot-addressable graphics, back-spacing, underlining, and much more. *VICTREE* gives you a link to Skyles's computer networking interface. It also provides typical programmer's aid commands, from AUTO to TRACE.

Of the new commands, a favorite is *LMOVE*, which moves a range of lines within a program. How often have you wanted to reorganize a group of sub-routines from the end to the beginning of a program to speed it up? This is the only aid we've seen do that chore on the 64.

It has one glitch so far: it is supposed to be transparent to the *Superexpander* (see separate review), but after performing a *DSAVE* (save to disk), the function keys no longer generate the *Superexpander* keywords, and the computer may crash if you then press one of the function keys.

The large manual is well done, with complete descriptions and examples. Though a little higher priced than most utility ROMs, *VICTREE* is an excellent product for the 64 or the VIC.

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```
011  ENDOE          18015  MURDO
                                January 1884
TO: Mike MacDonald
Precision Software
Dear Mike,
Just had to write and tell you how much we like this new letter-writing program. It is much easier to use than our typewriter, and makes it ever so easy to fix typing errors.
Yours truly,
PaK
```

