ANNUAL READER SURVEY

March 1994
Vol. 3 No. 2 Issue 18

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dieHard

the Flyer for commodore dHters

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Hands On With CP/M



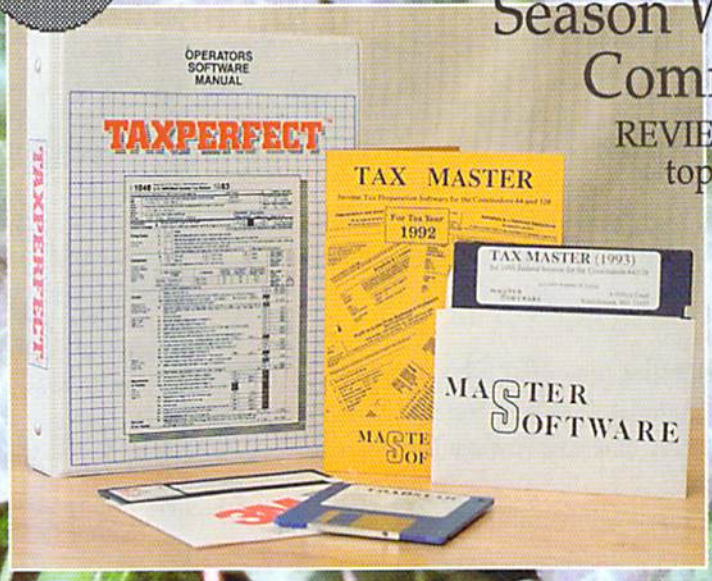
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dieHard

the Flyer for commodore 8bitters

The perfect way to stay connected to the ***commodore*** *world!!!!*

Each issue of *dieHard* comes packed with information to make your **commodore** work better for you and help keep you connected to other **commodore** dieHards. Here's what you'll get with your subscription to *dieHard*:

* Tips on all major **commodore** software and hardware like **GEOS**, Super Snapshot, Laser Printers, **Fleet System**, RAMLink and more!!!
* Programming tutorials. Our **Basic BASIC** column is introducing many readers for the first time to BASIC programming.
* Type-in programs and more type-in programs!!!
* Our annual public domain issue reviews the available software in the public domain and passes the best on to you.
* Our annual **Rarities** issue lists all sources of **commodore** equipment so you can find that program or piece of hardware that you've been looking for.
* And information on telecommunicating, music on your **commodore**, printing, memory management, AND MORE!!!

Each month there's a little known secret sent to many a dieHard
-- it's the companion disk to the magazine --

dieHard, the Spinner for commodore 8bitters!

Each month's *Spinner* brings you all the programs in the magazine. **PRG**'s type-in programs, **Basic BASIC**'s examples and **PAPSAW**'s demonstrations come to you already entered. No typing hassles, no mistakes, just programs ready to run. Then there are the *Extras*. The *Extras* are **PRG**s too large to appear in the magazine! See page 33 for current *Spinner*'s listing.

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September/October Nov/Dec

- 1988 -
January/February March/April
May/June July/August
September/October Nov/Dec

- 1989 -
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May/June July/August
September/October Nov/Dec

- 1990 -
January/February March/April
May/June/July Aug/Sept/Oct
Summer Spcl. Nov/Dec

- 1991 -
January/February March/April
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September/October Nov/Dec

- 1992 -
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- 1990 -
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- 1991 -
Jan/Feb, June/July, Sept/Oct

- 1992 -
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SCSI Hard Drive for the C64 & C128

HD Series Hard Drives are available in capacities up to 200 MB, are fully partitionable, and can emulate 1541, 1571, & 1581 disks while Native partitions utilize MSDOS-style subdirectories. HD's connect easily to the serial bus or parallel via RAMLink. Includes built-in JiffyDOS, SWAP feature and Real-Time-Clock. HD Series Drives offer superior compatibility with most commercial software including BBS, Productivity and GEOS. And with new pricing, HD Series drives offer the lowest cost/MB of any C64/128 storage device.



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- ROM upgrade installs easily into most computers and disk drives. Supports C-64, 64C, SX-64, C-128, 128-D, 1541, 1541C, 1541-II,1571, 1581 and more. 128 system supports both 64 and 128 modes and upgraded Kernal routines.

U.S. Shipping Information

Books & Software: First Item $5.00, plus $1.00 for each add'l item. **Hardware:** $5.50 per item, 2nd Day Air $10.00. **Power Supplies:** $7.50 ea, 2nd Day Air $14.00. **Hard Drive:** $15.00, 2nd Day Air $25. **RAMLink, FD Drive:** $9.00, 2nd Day Air $16.00. **RUN Issues:** $5.50 (3), $6.50 (6), $7.50 (12). **Note:** Prices subject to change without notice. Call for current price and availability. ALL Foreign Orders Call or Write for shipping details. **Payment:** MC, Visa, Money Order or Bank Check. COD shipments add $5.00. COD's over $200.00 require advanced deposit. Personal checks are held for 3 wks. No refunds on opened software. 30 day return policy. 10% restocking fee is required on all returns.

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View From The Underground
by
Brian L Crosthwaite

First of all, let me introduce you to the lady who cleans the offices here at *dieHard*, Ms. Knombers. You'll hear what she has to say about editorial accuracy. She's actually a fictitious character, like that voice inside my head that still can't believe what the **commodore** is capable of doing.

Some birthdays this year -- the PET 2001 is 17 years old, born: 1977; the VIC20 is 13 years old, born: 1981; the C64 is 12 years old, born: 1982; the Educator 64 is 12 years old, born: 1982; the SX64 is 11 years old, born: 1983; the plus/4 is 10 years old, born: 1984; the C16 is 10 years old, born: 1984; the C128 is 9 years old, born: 1985; the 64C is 8 years old, born: 1986; and the C128D is 7 years old, born: 1987. Happy Birthday!!!

While it still appears that I'm in rambling mode, let me tell you about the inner circle. It seems that in the course of just doing normal business, and probably because we all feel support is the name of the game, the people at CMD, *LOADSTAR*, and *dieHard* have kinda gotten to know each other somewhat. Now we don't go and shoot hoops on the weekend -- there is quite a distance between our locations -- big distances!

It is this kind of comradery that reflects the true nature of the **commodore** community. One of the first things I noticed when I joined the Treasure Valley/Boise User Group was that people were (and still are) eager to help. Any tidbit of news that is heard, no matter how large or how small is brought up at the meetings. I was asked about the DOS Wedge, so I brought it up at the meeting. The next thing I know, we're talking about KeyDOS, JiffyDOS, and other aspects of power usage. It is amazing how it all ties together.

On my new HD40 are partitions set up from the factory that have *LOADSTAR*, *LOADSTAR128* and Q-Link software (by the way getting my E-Mail has never been faster!) -- all on a single hard drive -- that spells comradery! We'll have to get a *Spinner* partition going...

This month we run our annual Reader Survey. Tell us about your systems! This survey not only puts us in touch with our readers' needs, they are a lot of fun. Don't hesitate to fill this out and send it in even if you have written lately with system info, the survey also lets us know what your interests are, how we are doing, and a chance to share formalized statistics with our readers and advertisers.

Speaking of interests, we are now breaking the CP/M barrier. I have been an avid user of CP/M for sometime now, but not on the **commodore**. I use a laptop with **Portable Wordstar** a lot and I have a Kaypro 4. Both are a lot of fun, but I have yet to dabble with the C128 and CP/M. This month Mike Gordillo gives us a quick overview of what, to some, will be a whole new world.

More in the realm of what's new. *dieHard* is currently looking for an Associate Editor. R. Scot Derrer has moved into the realm of the government. He joined the Secret Service and is currently working on safe guarding Bill against anti-antis who are against being against things. Actually, he decided that two jobs are not necessarily better than one. He'll still be within the pages of *dieHard* as our man in the underground and will continue to keep us dieHards informed on what's what and where's where. So if you're tired of that no-where-job and looking for something a little different check out page 6 for more details. Kinda reminds me of a beer commercial, you know the one where they have bathtub water taste in a can. "Wouldn't it be great to get a job where you could play with your **commodore** computer all day -- and get paid?!?!?" 2 cool.

Well, my baby, who is at the teenage stage of being a baby (almost 3), loves to play **Big Bird's Special Delivery**. He also likes **Make A Face**. The first is a cartridge from CBS Software that came out in 1984 as part of the Childrens Computer Workshop. The second is a public domain program, and a prime candidate for the up coming PD issue! Antony, as you know, is the CEO (Concentrated Energy Oscillator) here at *dieHard*. Do I miss the days when we worked together? Yes and no. I started getting up early so I could work for several hours before he woke up. I'd then work as he took his morning and afternoon naps. The rest of the day we'd spend together! Now it would be impossible for me to do this (and take care of a house) since he is more awake now than he was back then. But I really like having a son I can play with, who can get around by himself. We can go for walks, and read stories together. Now I get to see those programs I wrote in action! **Baby TV** and **Alpha Type** are among his favorites. He is learning to type his name on the computer. He actually has spent very little time at the keyboard. By the time we both get home, we don't have the time -- there are stories to read and cuddles to share!

READY.

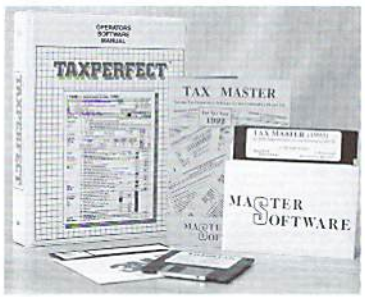
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dieHard

the flyer for commodore 8bitters

March 1994

CP/M 17
This month we start off our new CP/M column written by Mike Gordillo.



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Fonts used in this issue:

GEOS:

LW_Roma

LW_Barrows

Cory

Commodore

Q-Link:

LW_Galey

LW_Cowell

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Springtime brings stories! Stories of the velvet green and the wee people! This month's graphics come from deep within the underground. The Public Domain is a great place to find some awesome talent. This month's theme is FANTASY! -- enjoy!!!

Editor-in-Chief
Brian L Crosthwaite

Managing Editor
Mia C. Crosthwaite

Associate Editor
R. Scot Derrer

dieHard, the Flyer for commodore 8bitters is published 10 times per year, on a monthly basis except for bi-monthly issues in January/February and July/August by LynnCarthy Industries, Inc., P.O.Box 392, Boise, Idaho, 83701-0392. (208) 383-0300. Printed in U.S.A. by Northwest Printing, Inc. in Boise, Idaho.

Subscription Rates: $2.95 for single copy and $16.97 for one year subscription for U.S. and possessions; $3.95 and $20.97 for Canada (in U.S. Funds); $3.95 and $24.97 all other countries (in U.S. Funds). The *Spinner* single copy price is $5.00 and $45.00 for one year subscription for U.S. and possessions; $6.00 and $55.00 for Canada (in U.S. Funds); and $6.50 and $65.00 all other countries (in U.S. Funds). Joint *Flyer/Spinner* one year subscriptions are $49.97 for U.S. and possessions; $59.97 for Canada (in U.S. Funds); $69.97 all other countries (in U.S. Funds).

Submissions: Please send submissions to *dieHard*, Submissions, P.O.Box 2780, Boise, Idaho, 83701-2780. Sorry, we cannot return items sent to us unless you provide adequate first class postage and containers. LynnCarthy Industries, Inc. is not responsible for any lost materials.

Correspondence: Please address correspondence to *dieHard*, Editors, P.O.Box 392, Boise, Idaho, 83701-0392. Letters or questions may be published unless specifically requested not to. Sorry, we cannot personally respond to questions or comments due to the large volume of mail received, although the questions or comments may be published in *dieHard*. However, we do read every single letter that we receive.

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Position Opening

Associate Editor of *dieHard*

dieHard is currently recruiting for the position of Associate Editor. The Associate Editor will be intimately involved in production of *dieHard* including writing regular columns, doing in-depth reviews, reviewing submissions, doing narrative and copy editing, writing programs, converting programs, typesetting certain pages and testing programs, and other *dieHard*-related tasks. This position will also be responsible for ensuring that *dieHard* stays connected to the **commodore** community through user groups, retail outlets, manufactures, and software developers.

Minimum Qualifications

Must have extensive **commodore** knowledge consisting of at least three years personal or professional experience with **commodore** computers. Must love **commodore** computers. Must have good working knowledge of programming in BASIC. Must have good working knowledge of **GEOS**.

Must have good writing skills.

Must have an upbeat and optimistic attitude. Must be a self-motivator and enjoy working with people. Must be able to work under pressure and under strict deadlines.

Compensation

Starting salary is $12 - $14 per hour plus benefits including health, life, retirement, sick, vacation, and family leave.

Other

You must be willing to relocate to Boise, Idaho (moving expenses are negotiable). Regular hours are 40 hours per week with negotiable flex time schedule (other than 8a.m. to 5p.m. is acceptable).

How to apply

Send resume and writing sample to:

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INPUT;READER$

INPUT;READER$, P.O.Box 392, Boise, Idaho, 83701-0392.

I am pleased with your publication but there is one program that I use that has not been featured. It's **TOPDESK** for **GEOS** and for those of us out there without hard drives it's a life saver.

I use **GEOS** for all of my correspondence. I also have used **Perfect Print LQ** with a GeoCable for a long time.

TOPDESK allows any drive to have partition-like folders. This is the best way that I have found to move many files, as well as hide all of the junk system files. The other advantage is that all of the files appear to be in easily created partition files. **GEOS** applications do not see this distinction and will pull needed files from any folder on the disk.

TOPDESK will also allow you to open as many windows as you possibly can, all at the same time! This makes file copying inside **GEOS** a breeze. I have found no compatibility problems either. As a matter of fact I haven't used **DESKTOP** since I installed **TOPDESK**.

It works in 64/128 40 or 80 column, allows the user to put up to 256 folders into 256 other folders, and yes they are stackable. It also allows additional drives to be added, and has some file move and sort utilities included.

Although this package is one of the most economical, in my opinion for stock **commodore** equipment owners, this package can't be beat. For more info contact: Quincy Softworks, 9479 E. Whitmore Ave., Hughson, CA, 95326-9745. Thomas J. Staights of Yoder, Indiana.

I was reading a plug for **Pocket Writer II** in the November 1993 issue and really had to say something about my favorite. Not to start a word processing war in your column, everyone has reasons for using the one they use even if only for its familiarity, but after hopping around several word processors, I found **The Write Stuff**, sometimes called **BB Writer**, by Busy Bee Software to be simply unparalleled. In all fairness I have never used **PW-II** but can it compare to 10 documents at once, split screen for two document editing, compatible with more than a dozen word processing formats, full printer support, fully configurable, C128 40 and 80 column screen output and C64 with speech, RAM expansion support, scrolling bit mapped document previews, one pass two column printer output, user definable font, macros, 250 character wide page, calculator, spell checker, etc., etc., etc. and prices 30 to 50% less than the others. Even with its hundred-plus features it conforms to your user level from novice (menus) to expert (command line) and, written entirely in machine language, it is fast to respond. For those with programming ability, addressing information is included so they can incorporate their own features. Supports **Superbase 128**. It is truly a *must see to appreciate* program. Available from Busy Bee Software, R. Eric Lee, P.O. Box 2959, Lompoc, California, 93438. I encourage discussion. G. M. Walter, Jr. of Richmond, Virginia.

READY.
■

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(605) 335-3004

with R. Scot Derrer & Brian L Crosthwaite

Rarities

Here are some additions to our ever-expanding list of active Commodore User Groups.

Brentwood Commodore
Computer Club
c/o Brentwood Public Library
2nd Avenue & 4th Street
Brentwood, NY 11717

Capital Region Commodore
Computer Club/LOAD
CRCCC
P.O. Box 2372
Vernon, CT 06066

Cheyenne Association of
Computer Enthusiasts
P.O. Box 1733
Cheyenne, WY 82003

FUNHUG -- this is their new address!
814 Valley Run
Hercules, CA 94547-1440
BBS#: (510) 713-7944

Prescott Area Commodore
Club/PACC
c/o Al M. Hauser
648 Robinson Dr.
Prescott, AZ 86303

A member of the LUCKY User Group and contributor to *dieHard*, Dale Sidebottom, also publishes a newsletter of his own. I've seen three issues and am very impressed. For more information contact:

LUCKY LINE magazine
c/o Dale Sidebottom
P.O.Box 972
New Albany, IN 47151-0972

We are reprinting the LUCKY address with an added BBS phone number. Plus, note that there is a GEOCORP SIG within the LUCKY user group and they have **GEOS** PD disks available. Write them for more information.

Louisville Users of Commodore
of Kentucky/
The LUCKY Report
P.O. Box 19032
Louisville, KY 40219-0032
BBS#: (502) 933-5397

There is **commodore** support in San Diego. For software, hardware, and repairs, contact Michael Hendren at *COMMODORE CONNECTION, 127 N. Santa Fe Ave. #C, Vista, CA, 92804-5401. (619) 945-8777.*

Doing **commodore** and Amiga (a-hem) repairs in Titusville is Phillip Capestany of *Capestany Computer Repair, P.O.Box 2802, Titusville, FL, 32781-2802.*

Long time contributor to *dieHard*, John Green brings the **commodore** world a new mideval Roll Playing Game. **The Castle of Kraizar** features 8 skill, weapon, armor and spell levels, with more than 25 different monsters. **The Castle of Kraizar** sells for $19.95. Write to *John Green, 365 Smith Street, Freeport, NY, 11520.*

64 Disk Connection features a huge collection of Public Domain and Shareware programs for the C64 and C128. For more information, write to: *64 Disk Connection, 4291 Holland Road, Suite 562, Virginia Beach, VA, 23452.*

Softside Supply brings the capabilities of **Print Shop** to the power of **GEOS**. **Color GeoPrint** aids in the design and printing of greeting cards and banners. **GeoPrint** (non-color version), **GeoLabel**, and **SuperBox** (breaks the fifteen filename barrier) are also available. More info? -- write: *Softside Supply, Dale Sidebottom, 1001 Estate Circle, Georgetown, IN, 47122.*

Sodak Electronics specializes in Nintendo and Sega repair *and* parts. They also happen to be an authorized Commodore service center! They also do monitors and printers of all types. Most repairs can be done for a flat rate. For information write to: *Sodak Electronics, 603 S. Mable, Siox Falls, SD, 57103* or *Sodak Electronics, RR2 Box 52, Hartford, SD, 57033.*

READY.
■



Reader Survey 94

Each year we ask our readers about their systems and interests to get a better understanding of where to offer support. Tell us about your system(s)!

Thank you. In appreciation for your participation, we'll be drawing for a one-year subscription with accompaying *Spinner* disks from all Reader Surveys postmarked before April 15, 1994!

1. What computer(s) do you own/use?
   - ( ) **commodore** 64
   - ( ) Educator 64
   - ( ) Executive 64 (SX-64)
   - ( ) **commodore** 16
   - ( ) plus/4
   - ( ) **commodore** 128
     video ram ( ) 16k ( ) 64k
   - ( ) **commodore** 128D
   - ( ) PET_____
   - ( ) CBM_____
   - ( ) SuperPET
   - ( ) VIC20
   - ( ) B128_____ ( ) B256_____
   - ( ) P128_____ ( ) C128_____
   - ( ) Other(s)_____
2. Drive.
   - ( ) 4040 ( ) 154___
   - ( ) 1541 ( ) c ( ) II
   - ( ) FSD-1 ( ) FSD-2
   - ( ) Indus
   - ( ) MSD 100I
   - ( ) 1571
   - ( ) 1581
   - ( ) CMD Hard Drive_____Meg
   - ( ) CMD FD ( ) 2000 ( ) 4000
   - ( ) Datassette
   - ( ) other_____
3. Monitor
   - ( ) TV ( ) color ( ) b&w
   - ( ) monitor ( ) color ( ) mono
     ( ) RGBI ( ) comp.
     ( ) 40col ( ) 80col
4. Printer
   - ( ) _____
   - ( ) Laser_____
   - ( ) Plotter_____
5. Memory expansion size (K or Meg)
   - ( ) 17xx _____
   - ( ) GEORAM _____
   - ( ) RAMLink _____
   - ( ) RAMDrive _____
   - ( ) BBG ( ) BBU _____
   - ( ) other _____
   - ( ) VIC Super Expander 3k
   - ( ) other VIC expander(s)_____
6. Expansion board(s)
   - ( )_____
7. Modem
   - ( )_____baud_
8. BBS name(s)
   - ( ) Q-Link_____
   - ( ) GEnie_____
   - ( ) CompuServe_____
   - ( ) Delphi_____
   - ( ) other_____
9. Input device(s)
   - ( ) paddles ( ) joystick
   - ( ) mouse ( ) track ball
   - ( ) Koala pad/Animation Station
   - ( ) light pen
   - ( ) other_____
10. MIDI
    - ( )_____
11. Euphony ver__ ( ) + ( ) Jr
    - ( ) MIDI _____
12. Stereo setup
    - ( ) SID Symphony
    - ( ) Internal second SID chip address_____
13. Favorite brand of disks
    - ( ) 8"_____
    - ( ) 5.25"_____
    - ( ) 3.5"_____
14. Magazines/Disks subscribed to
    - ( ) *Compute's Gazette Disk*
    - ( ) *LOADSTAR*
    - ( ) *LOADSTAR128*
    - ( ) *TC128/64* ( ) disk
    - ( ) *RANDOM* ( ) disk
    - ( ) other_____
15. What you use your computer for (rate usage 0 to 5, where 5 is a lot and 0 is never).
    - ____word processing
    - ____spread sheets
    - ____data bases
    - ____general productivity_____
    - ____music composition
    - ____music playing
    - ____telecommunications
    - ____adventure games
    - ____ arcade games
    - ____programming in _____
    - ____architectural drawing
    - ____viewing computer art
    - ____creating computer art
    - ____other_____
16. What is your all time favorite...
    - ( ) game_____
    - ( ) utility_____
    - ( ) productivity_____
17. Computer related interests?

    _____

    _____

    _____

    _____
18. What would you like to see more of in *dieHard*? In the *Spinner*?

    _____

    _____

    _____

    _____
19. What don't you like about dieHard?

    _____

    _____

    _____

    _____
20. What's your favorite part of *dieHard*?
    - ( ) **PRG**
    - ( ) **Q&A**
    - ( ) **REVIEW!**
    - ( ) **Archaic Computer**
    - ( ) **Rarities**
    - ( ) Editorials
    - ( ) Feature Articles
    - ( ) **Cyberspace Cowboy**
    - ( ) **Basic BASIC**
    - ( ) other_____
    - ( ) no preference
21. Who's your favorite *local* **commodore** shop?
    - Name_____
    - Address_____
    - City/ST/Zip_____
    - Phone_____
22. What's your *local* **commodore** User Group?
    - Name_____
    - Address_____
    - City/ST/Zip_____
    - Phone_____
23. Gender
    - ( ) Male
    - ( ) Female
24. Age
    - ( ) 1-10
    - ( ) 11-14
    - ( ) 15-24
    - ( ) 25-39
    - ( ) 40-54
    - ( ) 55-64
    - ( ) 65 and up



25. Annual family income
    - ( ) $0-$9,999
    - ( ) $10,000-$19,999
    - ( ) $20,000-$29,999
    - ( ) $30,000-$39,999
    - ( ) $40,000-$49,999
    - ( ) $50,000-up



Please send to:

dieHard
Reader Survey
P.O.Box 392
Boise ID 83701

We'll publish the results in the July/August '94 issue!

READY.

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Star 15X Printer	**$ 119.00**	**Star SG10**	**$ 89.00**
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REVIEW!

by Mia C. Crosthwaite

Not only is the Christmas gift-giving-and-brotherly-love season over, but we've been smacked in the face by the tax pay-up-or-else season! I can't stand doing my taxes, not because I mind paying the money (actually, I usually get a refund), but because I hate filling out the forms. Taxes are confusing, time consuming, and stressful. One little oversight or misunderstanding could cost hundreds or thousands of dollars in penalties. What a relaxing way to get away from life's little hassles!

At least if we have to suffer through this, let's get the computer involved to make it fun. Just eliminating the chore of looking up your tax on those dreadful tax tables -- only to discover a month later that your finger didn't follow over straight -- is excuse enough. *dieHard* has searched the world over to find **commodore** tax programs and has come up with quite a few: **Tax Survival Kit** available from Harv Harris, **Tax Master** available from Master Software, **Tax Accountant** available from LOADSTAR, and **Tax Perfect** available from Creative Micro Designs (CMD) and TENEX.

None of these programs really jumped out as an all-time-best, but each had its own strengths and weaknesses. Your personal favorite is going to depend on your specific tax needs, preferences, and how much money you want to spend.

Because this review is getting to you so late in the season, we asked each supplier to give us a delivery guarantee so that you will know how long it will be after you order that your copy will be shipped.

Tax Survival Kit.

Available from: Harv Harris
981 Brownthrush
Wichita, KS 67212
(316) 722-7073



Price: $30.00 individual or $60.00 user group

Upgrade: No upgrade package

Delivery Guarantee: Shipped within 48 hours of receiving payment.

Tax Survival Kit is a tax preparation program that supports the 1040, Schedules A-F and SE, and Forms 2106, 2441, and 3903. Both C64 and C128 versions are available (the 128 version autoloads -- a real plus) with support for one drive only. If you're a Kansas resident you have the added feature of the Kansas returns.



The documentation for this program is on disk and has to be printed either to the screen or printer. I personally prefer programs that you can jump right into without reading one bit of paper and can work your way through them intuitively. You need to read the documentation on this one to understand how everything works, but it's not long.

You will want to have the tax forms and instructions right next to you when you run this program. The program refers to line numbers, like 6e, so you have to have a form to look up 6e. It also doesn't compute the standard deduction for you, you have to look it up on the IRS form. However, if you use Schedule A for your deductions it will automatically transfer that information to the 1040.

At any point in the tax preparation you can hit <U> and your total tax is computed at the bottom of the screen. This was helpful for instantly comparing various scenarios and determining how to better organize my finances for next year.

Calculated fields are automatically updated whenever you enter information and the calculation is fast.

This program has the unique feature of adding up W-2s. There is a separate screen to enter all of your W-2 information for yourself and your spouse. The program then automatically adds the income up for your total wages, computes any social security

Forms	Tax Survival Kit	Tax Master	Tax Accountant	Tax Perfect**
1040	X	X	X	X
1040A			X	X
1040 EZ			X	
Schedule A	X	X	X	X
Schedule B	X	X		X
Schedule C	X	X	X	X
Schedule D	X	X		X
Schedule E	X	X		X
Schedule F	X	X		X*
Schedule SE	X		X	X
Schedule EIC				X*
Schedule EIC-A				X
Schedules 1 - 3				X
Form 2106	X			X*
Form 2441	X			X
Form 3903	X			X
Form 4562		X		X
Form 6251				X
Form 8615				X
Form 8815				X

* C128 version only ** C128 version also supports Schedule R and Forms 2119, 2210, 3800, 4136, 4255, 4562, and 4684.

overpayment, and adds up total taxes paid.

Tax Survival Kit prints directly onto the IRS forms (it will also print a "file copy" to paper). There is an easy to use alignment routine for form printing but I suggest that you first print the form out on paper and hold the paper and form up to the light to make sure you know where to line it up correctly. However, some items must be filled in my hand so make sure to thoroughly review the printed form prior to signing it.

I've been told that **Tax Survival Kit** is a favorite with user groups and I can see why. It's quick to learn, easy to use, and prints directly to the form. The downside is that you really have to have a copy of the tax form right next to you as you work your way through it. I was hoping I could just sit down in front of the computer and forget for a moment that those nasty forms existed.

Features	Tax Survival Kit	Tax Master	Tax Accountant	Tax Perfect
Price (w/o ship)	$30.00	$32.00	$9.95	$79.95*
C64 Version	X	X	X	X
C128 Version	X			X
Documentation	P/O	HC	P/O	HC
Prints to IRS form	X			X
Auto Calculation	X	X		
Calculator Feature		X	X	X
Supports Two Drives		X		X
Support Dual Drive		X		X
Calculates Standard Ded.		X	X	X

*$79.95 for C64 version; $89.95 for C128 version
P/O=Print Out from printer HC=Hard Copy manual

Tax Master

Available from: Master Software
6 Hillery Court
Randallstown, MD
21133
(410) 922-2962



Price: $32.00 plus $2.00 shipping

Upgrade: Includes $10 coupon towards next year's version

Delivery Guarantee: Shipped first class within 48 hours of receiving payment or taking credit card order. Overnight delivery is available for additional charge.

Tax Master is a C64 tax preparation program that supports the 1040, Schedules A-F and Form 4562. It can support one drive, two drives, or a dual drive (this is great for 4040 and MSD drive owners). A calculator feature is included. This is **Tax Master**'s 11th edition.

A nice little 14 page booklet is included with the disk with program instructions. The documentation is thorough and you really need to look it over prior to running the program. Well, we all know how I feel about reading instructions, but after I drug myself through the

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documentation, running the program went pretty quick. Luckily for me the documentation is clear and concise.

Tax Master is fairly complicated. Each line of information is entered one screen at a time. The programmer, Steve Leven, reorganized the lines to put them in a more logical order than they appear on the IRS forms -- someone trying to apply logic to the IRS, I'm a little worried. But he did a good job. If your taxes are pretty complicated I think **Tax Master** is a good bet. Its one-line-per-screen allows you to tackle only one line at a time and keep focused on that line. My taxes are pretty cut and dried (I use the 1040A) so I spent a lot of time hitting returns through screens because they didn't apply to me. Since the lines aren't in the same order as I'm accustomed to, I had to pay very close attention.

Schedules A and B are included in the same routine as the 1040 and information is automatically transferred to the correct line on the 1040. After you've entered all your Schedule A information **Tax Master** compares your itemized deductions to your standard deduction and automatically uses the higher.

When you're done entering all of your information, you can go back and correct information or have the whole thing displayed to your screen. When I displayed all of the information, I thought I had forgotten to enter taxable interest at line 8a. My taxable interest was less than $400 so I didn't need Schedule B but **Tax Master** wouldn't allow me to enter a number here because it was a computed field. I had to go into Schedule B and enter the information. This was an irritation, mostly because I had to look up the correct line on Schedule B to modify, but soon I was under way again.

Tax Master won't print onto your IRS forms but it does print a very clear and easy to follow printout that even lists IRS line numbers so you hardly even have to think to transfer the information onto your IRS form.

I know this sounds silly, but **Tax Master** is a very polite program. Many programs are very cut and dried; they do what they're supposed to and that's all. **Tax Master** politely asks questions about overwriting data and drive accessibility. The print screen is fun to look at. And when I exited to BASIC it said "Have a nice day" -- I needed that after working on those taxes!!

If my taxes were more complicated, I'd probably pick **Tax Master** as my personal favorite. I just love programs with character. I think it reflects the programmer's style and interest.

My taxes are pretty simple and I didn't like having to hit returns through so many fields. Because they were out of order, I had to pay close attention to what each field was.

Tax Accountant

Available from: Softdisk Publishing
LOADSTAR #117
P.O.Box 30008
Shreveport, LA
71130-0008
(800) 831-2694



Price: $9.95 plus $4.50 shipping (includes entire *LOADSTAR* issue #117)

Upgrade: none.

Delivery Guarantee: Shipped 2nd day air within 24 hours of receiving payment or credit card order. Overnight delivery is available for additional charge.

Tax Accountant, written by Barbara Schulak, is a regular program run by *LOADSTAR*. It is a C64 tax preparation program that supports the 1040, 1040A, 1040EZ, and Schedules A, C and SE. Calculator and line instruction help features are available.

The documentation is on disk and must be printed out. There is only one page of explanation and I almost got away with not reading it. At the bottom of the screen it instructs you to hit <f7> for menu. It was on that menu that I found the answers to most of my questions.

The user interface of **Tax Accountant** uses highlighter bars and is easy to follow. I didn't like that I had to hit <RETURN> prior to entering information on any given line. I also didn't like that calculation isn't automatic on the 1040 and 1040A -- and is slow (you have to select "Calculate Sheet" from the menu for the program to perform the calculations). I'd be cursoring down through the lines and see that a line wasn't filled in, like exemptions, only to realize that I had to calculate the form for that line to be filled in.

I preferred the highlighter bar interface to the other programs. I also enjoyed how automatic all the entries were. When I hit <RETURN> at the deduction line a menu with all the possible standard deductions popped up for me to choose from.

Tax Accountant doesn't print directly onto the IRS forms but does print a nice file copy to paper that includes line numbers so it's easy to transfer information.

Tax Accountant was the easiest of them all for me to learn. I enjoyed the highlighter bars to other formats and it was colorful. **Tax Accountant** is also the least expensive -- only $14.45 total, plus you get the entire issue of *LOADSTAR* #117. Because the price is so low, it was a little easier for me to get past the negative aspects, like the manual calculation and not printing directly to the IRS forms. Because my taxes are simple and the overall price value is good, I have to choose **Tax Accountant** as my personal favorite.

Tax Perfect

Available from:
Creative Micro Designs
P.O. Box 646
E. Longmeadow, MA
01028
(800) 638-3263



Price: C64 $79.95;
C128 $89.95
plus shipping

Upgrade: no upgrade package

Delivery Guarantee: Most items from CMD are shipped within 24 hours of receiving payment or credit card order. Call for availability.

Available from: TENEX Computer Express

FastLoads!

	Tax Survival Kit	Tax Master	Tax Accountant	Tax Perfect
MACH 5/128	X/X	X/NA	X/NA	X/no
Partner's SwiftLoad	X	X	X	X
Hearsay 1000's SwiftLoad	X	X	X	
Turbo Load & Save	X			X
Final Cart III	X	X		X
Super Snapshot V5	X	X	X	X
Jiffy DOS	X	X	X	X

NA=Not Applicable. Results may vary on different machines.



56800 Magnetic Dr.
Mishawaka, IN 46545
(800) 776-6781

Price: C64 $69.99 + 7.50 shipping
C128 $79.99 + 8.50 shipping

Upgrade Price: no upgrade package

Delivery Guarantee: 5-7 days, call for availability.

Tax Perfect supports the 1040, Schedules A-E, F*, R*, SE, and EIC*, 1040A, Schedules 1-3, EIC-A, and Forms 2106*, 2119*, 2210*, 2441, 3800*, 3903, 4136*, 4255*, 4562*, 4684* 6251, 8615, and 8815 (* these are available only on the C128 version). It can support one drive, two drives, or a dual drive (bonus!). A calculator feature is included. This is **Tax Perfect**'s 12th edition.

Tax Perfect comes with a good sized Owner's Manual in a professionally designed binder. The instructions are very clear and concise, but long. However, I was able to look up the few things I couldn't figure out for myself without much problem.

I purposefully reviewed this program last. I figured that because the price was so much higher that this program would be a lot better and I didn't want to look at the other programs in a negative light. **Tax Perfect**'s most impressive feature over the other three programs is that it is very complete. I can't think of a form not included in this package (except the 1040EZ). Unlike the other packages, anyone could do their entire tax computation within the program without having to do some work on the side with a paper and pencil like the dependent care tax credit. This was the only program that I could figure the credit within the program since it was the only one that included Schedule 2.

Tax Perfect included many of my favorite features found in the other three programs. It uses a highlighter bar-type interface like **Tax Accountant** except that you don't have to hit <RETURN> to enter data. It has a datacheck feature like the <U> on **Tax Survival Kit**, and it shares information between forms as they all do.

Tax Perfect has calculated fields like Tax Master and when I tried to enter information it wouldn't let me. I couldn't believe that a program that cost this much was so inflexible -- I was right to doubt. After doing a little research (I looked it up) I realized that by hitting <f2> you can override the calculation and enter your own data.

Now to the downside. Every single time I hit a key the computer beeped at me, whether the data was accepted or not. When I exited to BASIC the silence was wonderful.

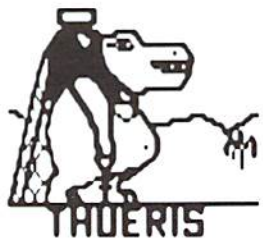
The help feature was sketchy at best. I really had to have the manual next to me to figure how to use the function keys.

The most surprising feature on this very complete program was that the calculation was manual. There was no automatic calculation. Luckily it was only one key stroke but it was still a bother.

Tax Perfect prints directly onto the IRS forms. There is an easy little routine to get the forms lined up. However, there is a suggestion in the manual for using overlays. You print onto the overlay and then photocopy the overlay and blank form together. This sounds like the way to go because even with a line-up routine, it takes some practice to make it all fit -- plus, the printer must cooperate. I don't know about you, but my printer sometimes get an attitude problem and feels the need to remind me who's boss.

On one side, I think this program is the best -- it meets all the varied tax needs that people have and it is fairly easy to use. But on the other side, I'm not sure if it's worth the $40 to $50 more.

```
READY.
■
```



Everything In Its Place

by Ms. Knombers

Well it's time to clean up the past now that it's gone. I've emptied all the trash here in this basement they try to pass off as an office -- I hate knowing that the morgue is three stories above this place. I don't do windows, however I like to set things in their proper spot.

For instance, in the March 1993 issue, one of the tech staff wrote that the Super Snapshot V5 had BASIC commands, you know, things like RENUMBER, AUTO, etc. Well, that's just not true!

In August of that same year a tip was changed to read "REL files" instead of "random files." REL files *do* appear in the directory and *are* kept track of by the BAM! Oh, sure a long time ago there was a bug in the early 1540 drives and it may well have ported over to the early 1541s, but that has long been fixed -- nothing to worry about.

Did I ever tell you about the time that -- it was November or December back in 1993, the **Commodore Trivia** column mentioned the 6509 (found in the 16 bit side of the SuperPET) as being the micro processor for the C128? We all know it's the 8502!

Well, there's nothin' I hate more than a blunder or a dusty monitor -- look at this thing , it's covered with filth! It's no wonder they printed in PAPSAW a reference to the VIC II chip in the *C65* & C128 -- twice! Of course, the actual C65 probably has the same register, but they weren't talkin' about no C65!

Well, We'll be seein' ya -- I just hope it's in the hallway and not here in the magazine. I wish people would clean up their own messes...

...relative files indeed!

```
READY.
```

Basic BASIC

A. Scott Deese

This is a series of columns on the rules and techniques of BASIC programming on ***commodore*** *computers. So far we have looked at the four BASIC food groups, PRINT, GOTO, FOR-NEXT, INPUT and some data storage fundamentals, variables and arrays. There are so many fun things you can do with BASIC. This month we'll look at POKE, GET, and GOSUB.*

POKEing Around RAM

POKE is a BASIC keyword used to store data into a RAM (random access memory) address. The earlier issues of *dieHard* contain a wealth of information about POKE addresses. Future columns will explain the concepts of memory and system configuration. For now, you need to know that there are areas of memory within the **commodore** called RAM and ROM (read only memory). These areas of memory contain addresses, like in cities. Information lives at these addresses. The RAM information (BASIC programs) is transient and can freely come and go. The ROM information (Operating System) is permanent and cannot change.

REMark: The color schemes differ between the various **commodore** computers. Here are the color values for the **commodore** color computers (VIC20 {VIC}, C64; C128 {VIC II}, and plus/4 & C16 {TED}):

VIC/VIC II	TED	VIC/VIC II	TED
0 Black	0 Black	8 Orange	8 Red
1 White	1 Dark Grey	9 Brown	9 Red
2 Red	2 Dark Red	10 Light Red	10 Green
3 Cyan	3 Dark Blue	11 Gray 1	11 Red
4 Purple	4 Red	12 Gray 2	12 Blue Grey
5 Green	5 Dark Green	13 Light Green	13 Blue
6 Blue	6 Blue	14 Light blue	14 Purple
7 Yellow	7 Golden Brown	15 Gray 3	15 Green

Only the first eight are available for *character* color on the VIC20. The TED chip, found in the plus/4 and C16 has a luminosity factor that comes into play with numbers above 15, so the first colors seen will be slightly different than what might expected: (e.g. 1 is seen as Dark Grey, but it is actually white with a luminosity of 0: 1+(16*0).) For a screen luminosity of 2 you would POKE 65301,1+(16*2). This would give you a lighter grey yet. Characters on TED can be flashers by adding 128.

The most common use of POKE is to control the screen, border, and cursor colors in a BASIC program. The syntax for POKE is "POKE *address,value*." The address being POKEd usually has a function. This function may be controlled by changing the value and storing it at that address. Just for fun, type the following line in Direct Mode and press <RETURN>. Note: use only the line designated for your particular machine. Also if you are doing this on a C128, be sure you are in 40 column mode.

REMark: Here's a chart of screen color POKEs for the color **commodore** machines:

C64	C128*	plus/4 & C16	VIC20	
53280	53280	65305	36879	border
53281	53281	65301	36879	screen
646	241	1339	646	text

* 40 column mode only.

```
POKE 53280,0:POKE 53281,0:POKE 646,0  (C64)
POKE 53280,0:POKE 53281,0:POKE 241,0  (C128)
POKE 65305,0:POKE 65301,0:POKE1339,0  (plus/4 and C16)
POKE 36879,8:POKE 646,0               (VIC20)
```

You just changed the border (address 53280 on C64&C128, 65305 on plus/4&C16, or 36879 on VIC20), screen (address 53281 on C64/C128, 65301 on plus/4&C16, or 36879 on VIC20), and cursor (address 646 on C64/VIC20, 241 on C128, or 1339 on plus/4&C16) colors to black (value 0). Just a little joke. Programming humor. Press/hold RUN/STOP and press RESTORE or reset to return to the familiar default boot-up colors.

Note the VIC20 has one address that controls the screen and boarder colors. This address also controls the color and color modes of the VIC20's characters. We'll explore these modes later on in the series. Also note that some of the addresses are the same on some machines and not always the same machines.

These POKEs do not have to be used together or be on the same line. We just did that for convenience.

Type in the following one line BASIC program, use the one appropriate for your machine. Change the values that are 0 or 8 now to be different and RUN the program several times to play around with changing the screen's color combinations. The VIC20 will yield some strange results with some combinations. For C64:

```
10 POKE 53280,0:POKE
53281,0:POKE 646,0
```

for C128:

```
10 POKE 53280,0:POKE 53281,0
   :POKE 241,0
```

for plus/4 and C16:

```
10 POKE 65305,0:POKE 65301,0
    :POKE1339,0
```



for VIC:

```
10 POKE 36879,8:POKE 646,0
```

Come and GET It!

GET allows you to read a single character from the keyboard. GETK$ reads the first character in the keyboard buffer. The program will not wait like INPUT does.

Perhaps you have used a program that prompts you with PRESS ANY KEY TO CONTINUE. This is accomplished by using the GET statement. Let's use this technique in the following program.

```
10 PRINT"[CLR]":POKE 65305,0:POKE 65301
     ,0:POKE1339,1:REM PLUS/4 AND C16
10 PRINT"[CLR]":POKE 53280,0:POKE 53281
     ,0:POKE 646,1  :REM C64
10 PRINT"[CLR]":POKE 53280,0:POKE 53281,0
     :POKE 241,1  :REM C128
     IN 40 COlUMN MODE
10 PRINT"[CLR]":POKE
     36879,8:POKE 646,1
      :REM VIC20
20 PRINT"[CRSR DOWN]
     PLEASE TYPE YOUR NAME
     AND PRESS RETURN"
30 INPUT NA$
40 PRINT"PRESS ANY KEY TO
     CONTINUE"
50 GET K$:IF K$ ="" THEN 50
60 PRINT"HAVE A NICE DAY, "
     NA$
70 END
```

Line 40 displays a message prompting the user to press any key on the keyboard. In line 50 the GET reads the keyboard buffer to see if any key has been pressed and stores that information in K$. As long as no key is pressed and the K$ value stays null, the IF K$ ="" THEN 50 keeps this BASIC line in a loop until a key is pressed. Once any one key is pressed, the program continues to line 60 where another message is printed with your name and the program ends.

GOSUB lineno

Like GOTO, GOSUB sends execution to another line, except it goes to a subroutine in another area of the BASIC program. Subroutines are a block or several lines of code and must end with a RETURN statement. When execution comes to the RETURN, it goes back to the GOSUB and continues with the next command or line. Because GOSUB keeps track of where it comes from you may have subroutines within subroutines. You can also fill the computers memory with these (it takes a lot), or confuse yourself with where the program should be and where the program really goes, so care needs to be taken to follow through logically.

If you need to do a certain task more than once in a BASIC program, using GOSUB makes it easy. Every time the task needs to be carried out you simply go to the subroutine. It saves typing and takes up less memory thus making your programs more efficient. The following program uses GOSUB to go to an error subroutine.

REMark: There are a few variations to the GET statement. If you are in 128 mode, or are on a C16 or plus/4, you can use: GETKEYK$. IF K$="" THEN... can be replaced GETKEYK$ will hold the program until a key is pressed. As soon as a key is pressed the character of that key will be placed into K$.

You may also use the GET#n statement to receive input from tape, disk, screen, or the RS232 port. It works the same as GET, but it expects to receive data from the channel n. The following statement opens the screen (3) as logical file 1 and looks to receive data from the screen.

```
10 OPEN 1,3
20 GET# 1,SC$:IF SC$<>""THEN 20
30 PRINT#1:CLOSE1
```

Each use of the GET# in this example will move the cursor one position to the right. If no data is received from the screen, the variable (SC$) will be set to null, "", or 0 for numeric variables.

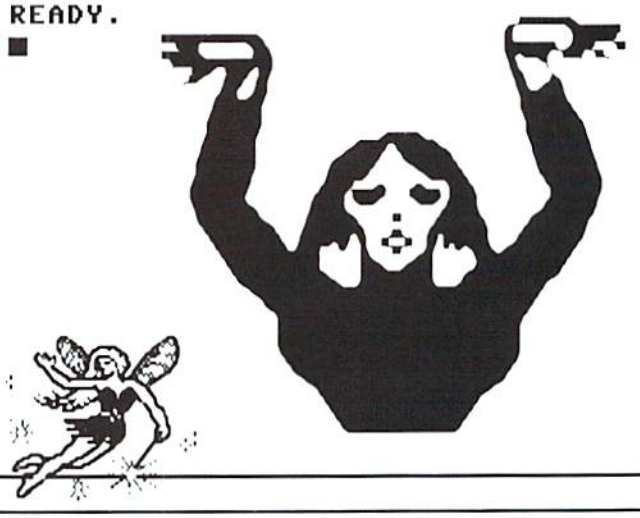
```
10 REM USE LINE 10 FROM PREVIOUS PROGRAM
20 INPUT"PLEASE ENTER YOUR PASSWORD AND PRESS
     RETURN";PW$
30 IF PW$ <> "ABC" THEN GOSUB 80:GOTO 10
40 PRINT"PASSWORD OK. PRESS ANY KEY TO CONTINUE."
50 GET K$:IF K$ ="" THEN 50
60 END
70 REM *** ERROR SUBROUTINE ***
80 PRINT"[2 space][CTRL 9][CTRL 3][1 space]***
     PASSWORD ERROR. TRY
     AGAIN *** [C= 7]"
90 FOR T=1 TO 500:NEXT
100 RETURN
```

Remember that when you RUN this program, the password is "ABC." To test the error logic, be sure to enter something other than ABC. Part of the responsibility of computer programmers is to thoroughly test their programs, making sure everything works correctly. Line 10 clears the screen and sets the border, screen, and cursor colors. Line 20 displays a message and requests user input. Line 30 validates this input. If the password entered is ABC the program continues to line 40. If the password is not ABC, a subroutine is called after which the program restarts at line 10.

Lines 40 and 50 demonstrate the GET statement and line 60 ends the program. Line 70 is a REMarked line to identify the subroutine. Line 80 displays an error message in reverse red. Line 90 is a FOR-NEXT loop to allow the user to see the error message. Notice what happens when you put a REM between the line number and the FOR then RUN the program. Line 100 ends the subroutine.

Until next month, happy computing!

```
READY.
■
```



CP/M A Quick Overview

by Mike Gordillo

What is CP/M?

CP/M is an operating system available for microcomputers using the Zilog Z80 Microprocessor. As an operating system, CP/M is responsible for directing your computer's resources to fit your needs. It executes software or programs in response to commands you enter through the keyboard or console, and once executed, your programs can use CP/M to perform many tasks. For example, CP/M software can manage databases, copy files, process spreadsheets, analyze your income tax, print your forms, or play your favorite video games.

CP/M 3.0+ on the **commodore 128** is simply a version of CP/M 3.0 that has been altered to better fit the particular needs of the C128 and its users. Aside from a few cosmetic differences and the ability to use the peripherals (drives, modems, etc.) of the C128 System, there is not much to distinguish general CP/M from the C128 version. Your C128 can execute virtually all the software widely available for CP/M machines.

How do I start CP/M?

Unlike the C64 and C128 native modes, CP/M must be started from the CP/M 3.0+ System Disk. The standard start-up procedure requires you to have one drive set to device #8. All you do is insert the System Disk into the drive and type BOOT from within the C128's Basic 7.0 mode. CP/M should now "boot up" from the disk. If this does not happen, clear memory by turning off the C128 and the drive. Put the CP/M System Disk in the drive and turn the drive and the C128 back on. You should now see CP/M assume its normal diagnostic "boot up" procedure. Once that is complete, CP/M will announce itself proudly as "CP/M 3.0 on the Commodore 128" and provide you with its version date. The 28 May 87 CP/M 3.0+ version, for example, is the last and most popular official version for the C128.

CP/M is a command-line interface!

CP/M is a command-line interface. This means that your instructions to CP/M must be entered as commands to the system from the keyboard (as opposed to mouse control or point and click found in popular windowing environments like **GEOS**). You enter commands via the A>, B>, C>, D>, E>, or M> prompts. These prompts tell you which disk drive (device) you are currently using as well as letting you know that CP/M is ready to receive your orders. For example, if you see the A> prompt, you are using device 8, but if you see the B> prompt, you are using device 9, and so on. You can change between devices by simply entering the appropriate letter and a colon, as follows:

`A> B:`	(Changes from Drive A to Drive B)
`B> C:`	(Changes from Drive B to Drive C)
`C> A:`	(Changes from Drive C to Drive A)

The E> and M> prompts are special cases. Drive E is not a real drive/device, rather, it is a Virtual Drive used for copying purposes when only a single real drive is available. Drive M is not a physical drive at all. It usually is assigned to the Ram Expansion Unit which, as Drive M, acts like a real drive.

How is the CP/M Command Structure organized?

CP/M has six built-in commands: DIR, DIRSYS, ERASE, RENAME, TYPE, USER. These commands are part of your CCP.COM file (Command Console Processor) and they make it easy for you to perform basic level housekeeping. DIR allows you to call up a disk's directory of files. DIRSYS does the same thing except it shows you only files tagged with a system-flag (e.g. hidden files). ERASE and RENAME allow you to erase and rename files while TYPE is used to display text files on the screen. USER lets you switch between different user sections on a disk. A CP/M disk can have 16 user sections (0 to 15) in which files placed in one section are logically separated from files in different sections. User sections are CP/M's way of allowing for better organization of files through partitioning.

Any other "commands" you might run into are known as transient-utility commands. Transient-utility commands are simply executable programs that reside on a disk instead of being built into CP/M itself. They are usually identifiable on the disk by virtue of their ".COM" extensions. For example, you

can call up a disk directory using the DIR command to display file names and their extensions:

```
A> DIR
   BASIC.COM      DIEHARD.C64
ISAGREAT.MAG        SORT.COM
    TERM.COM
```

This tells you that on Drive A (device 8), the files BASIC.COM, SORT.COM, and TERM.COM are transient-utility command files. Notice that there is no DIR.COM available to call up a directory because the DIR command is a built-in command.



Does my System Disk have Transient-Utility (T-U) Commands?

Yes, Commodore put several useful T-U commands into the CP/M 3.0+ System Disk. You should have the following commands:

```
 C1571.COM       CONF.COM
FORMAT.COM     KEYFIG.COM
  HELP.COM        PIP.COM
```

C1571.COM is a neat T-U that will double your 1571's SAVE speed by disabling the automatic verification involving the saving of a file to the disk, as follows:

```
A> C1571 [a    (Disables auto-verify
               on Drive A - Device 8)
```

CONF.COM is a *great* T-U that permits you to change many system-default parameters like baud rate, screen colors, printer assignments, etc. When I first started, I was very very frustrated at what appeared to be immutable artifacts in the operation of the C128's CP/M. In other words, I could not CONFigure the system as I wanted. This utility changed all of that. For example, I used to have a 4040 dual drive which I hooked up to the system intent on using it under CP/M. I found to my dismay that I could only access one out of the two drives huddled in the 4040 bay. CP/M had no way of knowing that the single device it saw (the 4040) had more than one drive! Along came CONF.COM to the rescue! I simply typed up "CONF DRVB = 8-1" and voila, the second drive in the 4040 became Drive B (which would normally be device 9). CONF is also great at modifying CP/M itself when needed. I recall one time when I was using another T-U that had problems with the Ram Expansion Unit under its normal device assignment. In other words, the utility I was using could not handle a drive M. I used CONF's POKE ability to change the drive M assignment of the REU into a drive B assignment, as follows:

```
CONF POKE fbd3 = 96fb
```
(Reassigns the REU from drive M to B)

FORMAT.COM allows you to format your disks in a variety of CP/M formats.

KEYFIG.COM is a T-U which allows you to redefine ALL keys on the C128 except the <SHIFT> and <SHIFT-LOCK> keys, the <40/80 DISPLAY> key, the <CTRL> key, and the <C=> key. You can assign keys to have up to four different values/functions to suit your needs.

HELP.COM is a good manual of CP/M commands and command syntax. It serves as an index of commands and tells you how to properly use them.

PIP.COM is the standard file-copy T-U. I use it routinely to create backups of my files as well as creating new system disks in cooperation with the FORMAT.COM utility, as follows:

```
A> FORMAT      (FORMAT utility, via
               menu selection, formats
               drive A)
A> B:          (Changes from Drive A
               to B where PIP.COM is
               located)
B> PIP B:=A:CPM+.SYS (Copies the
               CP/M system file from
               Drive A to B)
B> PIP B:=A:CCP.COM (Copies the
               CCP.COM file from
               Drive A to B)
```

Is that all I can do with CP/M?

No, Commodore packaged CP/M for the C128 with just the basic entry level material necessary to begin to use CP/M effectively. CP/M can do much more but like all things concerning computers, you need a good measure of software to make the best use of what you've got. There is nothing tougher for the novice than to accumulate enough software to increase their system's proficiency. I recall many times thinking how useless CP/M was to me. After all, I could do so much more in C64 and C128 modes! I soon realized that my judgment was clouded by the fact that I had no software aside from that on the System Disk to base my analysis upon!

In other words, CP/M productivity is in software?

CP/M's strength lies in the large software base available for it. CP/M is the first operating system to showcase the functionality of microcomputer database and spreadsheet applications on a large scale. I regularly keep large databases and spreadsheets on the C128's CP/M and then use other CP/M

productivity programs to transfer them to and from other types of systems. Furthermore, some of the best software compression programs and computer languages are only available for the C128 whilst in CP/M mode. With over ten thousand software titles to choose from, there is nothing you can't do!

Where can I get CP/M software?

You can get good CP/M public domain software from CP/M User's Groups throughout the United States and Canada. There is also substantial CP/M support in Japan and Europe. Commercial software is readily available from vendors (usually listed in user group publications). The most substantial concentrated source of CP/M software is undeniably the Internet. The Internet is a collection of various computer networks linked together throughout the world. There are thousands of megabytes of CP/M programs (from 1976-1993) available there.

And pray tell, how do I transfer CP/M software into the C128?

Well, there are a number of ways. The most efficient way is to copy files from one CP/M disk onto another. The C128's CP/M can read the CP/M disks from Epson, IBM, Kaypro, and Osborne CP/M machines. You can also use terminal programs if your CP/M's version-date is later than 4 DEC 85 (i.e., earlier versions lacked access to the modem port) in order to transfer material via the phone lines. The most inconvenient way, however, is to use transfer programs from either CP/M or other modes to read material onto your CP/M disks.

Final thoughts...

CP/M complements the C64 and C128 modes very well. I feel that in the productivity area, the C128 would be deficient without it. I have yet to see productivity packages in the native modes that are as efficient as the ones I use under CP/M. The structure of the CP/M operating system is also more amenable to file transfer and file management. My Ram Expansion Unit has never been as easy to work with in the C64 and C128 native modes as it has been under CP/M. CP/M may seem complicated at first but it is actually quite easy to understand. Once you've mastered it, you may never go back.

```
READY.
```

Mike Gordillo is an expert in CP/M and Z80 programming as well as a devout ***commodore*** *fanatic. He may be reached on the Internet as:* gq23v55dumiami.ir.miami.edu *for general comments or questions.*

```
C-64 * C-128 * C-16 * Commodore +/4  Computer Software
PSG/ Prn Shp Grph--Sd/sidea-C/games-M/math-S/sci-E/Eng
ED/educ.-GE/geog.-UT/util-PR/prod-TE/telecom--MU/music
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C-SMario3,Krkout,Pkr,+  5+2  P-GPakC C128-40/80 60G 13+2
D-128 Potpourri UPEGT   5+2  Q-ClassMU  Bach-Haydn+   7+2
E-PLUS/4  Combo UPEGT   5+2  R-PETS 347 PSG dom.      10+2
F-Bks-Inst. Activities  1+2  S-SPORTS 419 PSG Mix     10+2
G-ED Pak-A MSEGE etc.  13+2  T-CARTOON Char 202 PSG   5+2
H-ED Pak-B MSEGE etc.  70+7  U-COMPTR PARADE 255PSG  5+2
I-Bks Amazing C64or128  3+2  V-FASTCAD V1--Enhanced   ---
J-GPak-A SMario,II,III  ---    CAD 3.0+SupportFiles 10+2
  Brewery+Tetris Clones ---  W-FunGraphicsMachDemos+
  C64/64C/C128-40/80col  9+1   50fnt+ HiRes ScrnDmp  6+2
K-GPak-B Trashmn-Outpst ---  X-1541/71/81 UTL Combo  12+3
  Starraider-Air Demon  9+1  Y-GEOS Programmer Man.   ---
L-People-554PSG  MFCh.  8+2    and GEOS V.1.0  Doc.  8+2
M-Disk Notcher-Now use  ---  Z-KJV BIBLE for  C-128  ---
  back of DD/DS disks   3+1    40/80col rder/prnter 35+4
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JH00-BibleTime+4/64 25G 6+1  JH08-Spell Chkrs +4/64  5+1
JH01-+4 GPak Over 200G 30+5  JH09-PROJECTS +4/64     5+1
JH02-+4/64 TerminalPak  9+1  JH10-HAM RADIO PRGS+4   4+1
JH03-C16 Combo 70 prgs+ 4+1  JH11-G& Prgs C16/+4/64  4+1
JH04-Superbase+4 & Docs 4+1  JH12-ACE+4/64FISim JYS  7+1
JH05-H.A.L.(updt)w/docs ---  JH13-Saboteur+4/64 Spr  7+1
  Speedscrpt/Assemblr+4 9+1  JH14-RugRider+4/64 JYS  7+1
JH06-UT+4.,Prntr,Cprs+ 12+3  JH15-Graphics+Progs +4  7+1
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R. J. Smulkowski is Cyberspace Cowboy

Last month I mentioned that deciding on the focus of your new BBS might just be the hardest part of the whole experience of setting up a board. I hope those couple of lines didn't have a discouraging tone to them because that certainly wasn't my intent.

Let's expand just a bit on this focus concept, and discuss the attitudes and tones that help any BBS to have its own personality. While I can't presume to tell you how to make your BBS an overnight sensation, I will go into a few things that through the years have worked for me.

Treat every visitor to your BBS with respect, and the visitors will in turn treat you and your board with respect. Try to ensure that every call the visitor makes -- even the first -- will have something of value to offer the visitor, and you will get those all-important repeat calls.

Show an active interest in your BBS. Most of your visitors need to know that their system operator is a living, breathing, human being just like themselves. Share some personal tidbits with them from time to time and watch them open up to the rest of the online community. Telecommunications is just that -- it's not tele-free-software, or tele-play-some-games -- it's people communicating with other people. Sometimes you might have to post a message here and there to get the ball rolling. Never stoop to playing the role of cheerleader, posting something like "Come on people, let's post something!" no matter how tempting it may be to do so. Cheerleading really has a pathetic ring to it.

Offer something different on your BBS. Just about every board you might visit has areas devoted to political debate, discussing new technologies, and general chit-chat. Offer your visitors something different, something like a forum dealing with organic gardening, or a place where aspiring authors can try ideas out on each other. Different themes will or won't work in different parts of the country. Identify a need in your locale and fill it. It is important that whatever you decide on for the theme of your BBS, that the topic is something you have a personal interest in and are knowledgeable about.

Pay attention to details. Do little things on a regular basis to keep your BBS looking fresh and updated, but be careful about changing things around too radically. Major changes can frustrate those visitors who use log-on scripts, and confuse most of the rest of your visitors.

Answer all your mail. Make an honest effort to answer any questions your visitors might ask of you. If you don't know an answer, don't try to bluff your way through it. Research it or direct your visitor to someone in the community who might know the answer.

Advertise your BBS, but don't plaster scores of nuisance messages all over any existing boards that you visit. This has a way of looking (did I say something like this just a short time back?) pathetic. Most boards maintain a list of other systems in the local dialing area. The system operators of these boards will be more than happy to add your name and number to their list. System operators tend to take pride in keeping complete lists.

You may have noticed that throughout this article I have referred to system operators and visitors rather than SysOps and users. Trust the Ol' Cowboy, this was deliberate and intentional. If you think of the boards in your area as an electronic community, and the callers as visitors, it will be that much easier to see each visitor as an individual human being and not just a statistic on the board's activity log. With this personal aspect added to your online relationships it will be just that much easier to make your online community a warmer and friendlier place for all who are there.

READY.

Telecommunications, Your Commodore and You

by Mike Eglestone

This month's topic will be Emulation Mode. (See, I told you we'd get there!)

In the **commodore** to **commodore** world, two types of emulation are in popular use. ASCII and Color Graphics (which is PETASCII).

ASCII is the universal binary standard representation of a key stroke (character) for each 8 bit combination available on the MS-DOS keyboard. CP/M uses the same standard system. PETASCII is the **commodore** version of that code. It includes all the Graphics Keys that **commodore** added and a number of other symbols which are not considered standard ASCII code. They do not directly translate.

Emulation is nothing more than an agreed upon method of handling and interpreting incoming and out going data, plus the control codes. In contrast, our setup for duplex, stop bits and parity was modem matching, while Emulation is program matching.

A quick example, everyone, at some time or another has played a computer game. The first thing you look for is the method of game control. Be it joystick, f-key, direct key stroke or a combination of all, you need to know how to interact with the program to play the game properly. If you understand that, you understand emulation. You learned to emulate the game controls so that you and the computer would agree on what should happen in the game when you pressed <f1> or punched the fire button on the joystick. Emulation mis-match would be like using the input commands for the **Racing Construction Set** to play **F-16 Fighter Simulation**. You might get one right now and then, but your aircraft is going to crash a lot.

Now, I see that someone in the back of the room is jumping up and down and shouting, "Setup and emulation are both parts of the program!" To he/she, I say, "shut up and sit down." I am fully aware of that. I am trying to keep this as simple as possible. Some systems that the folks might call offer a number of emulation selections under the same basic setup. It is for that reason we need to deal with them as two completely different items. Settle down and we shall try to continue! Sheese, critics abound!

Let's keep this talk centered around your **commodore**, and just touch on the three emulation modes you will frequently encounter.

1. CG Mode -- **commodore** Color Graphics. In this mode, used by **commodore** BBS programs, nearly every color and graphic character can be used and displayed. Since the C64/C128 uses a non-standard ASCII, called PETASCII, you will almost never find CG mode available on non-**commodore** systems. For another computer type to offer CG Mode, they must use Translation Tables, which change the PETASCII to standard ASCII. They don't like to do that.

2. ASCII Mode. In this mode *we* compromise with *them* and send all our output and input through a program based translation table. Our Pet-ASCII becomes standard ASCII. You will not get any color or graphic displays, simply text.

3. ANSI Mode. Another compromise. It's the MS-DOS' world version of Color Graphics. Many colors can be used, and some limited graphic displays are possible from our end of the connection, depending on how well the programmer wrote the translation tables in the term program. Most terms that support ANSI are just borderline acceptable. It's a bit like ASCII with color added.

Ok, let's talk about control codes. The codes are built into the emulation program. Each of the mentioned emulation modes has it's own control protocol. You don't need to know them. All you need to know is the command system of your particular term program. Let the Emulation mode you select take care of the rest. It is an absolute *must* to match your Emulation Selection with the system you're calling. If not, it's garbage time again!

Well, that about wraps it up for this issue. The next time we talk I shall discuss a few features offered in term programs. Phone books, auto re-dial and menu style help systems. It's possible that we can open up the area of file transfers and transfer protocols. This, of course, will lead to up-loading and down-loading files and some related topics like file compression and archives... I hope I'm here, cuz it sounds interesting!

READY.
■

Michael W. Eglestone is a retired Senior Master Sergeant (USAF). His BBS Diamond Back is open 24 hours: (305) 258-5039.

Last month we made a mega-blunder. Somehow we got the wrong address for contacting Mike. The correct address is:

Michael W. Eglestone, 26123 SW 133 Place, Princeton, FL, 33032.

Archaic Computer

The Computer Store Of The Past

introduced by Brian L Crosthwaite

The parking brake ripped up into full stop as the Bug came to a complete halt. The driver's side door popped open -- a skateboard hit the asphalt. He jumped on it, pushing himself off as he swung the door closed.

The board raced across the parking lot and onto the smooth cement of the sidewalk. Along with the quieter rolling that hit his ear, he could feel the tingling in his ankles left over from the tremendous opposition of the parking lot. Two wide sweeping turns and three tight, quick ones and he was passed the crowd and on the long straight away to the Math Building.

Topping off the ramp, he stepped back onto the tail of his earth ski, reached down, grabbed the nose of the board and walked into the building. A quick left, a dart to the right, he sat down in M112.

The math department taught BASIC programming. The machine was the HP 3000. A huge beheamuth of a main frame with the speed and agility of a giant. This was the birth place of the computer revolution.

This was the beginning for me as well as countless others, it was a time of innocence and wonder. The TIMEX Sinclair 1000 and the PET were among the hobbiest's computers. The VIC20, an industry first, had just arrived on the scene with low cost, color graphics, and great sound.

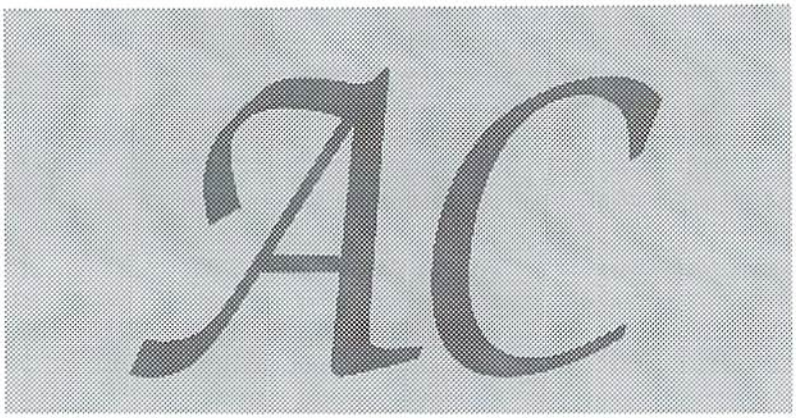
Soon after the C64 was born. Machines came and went. The plus/4 and C16 became the new marvels

Well, the C64 was always a popular computer, even when it looked like no one was going to support it. Commodore got some balls rolling with Bally/Midway and others and released a whole slew of softs for it. The C128 had the boast of the **Jane** series and CP/M.

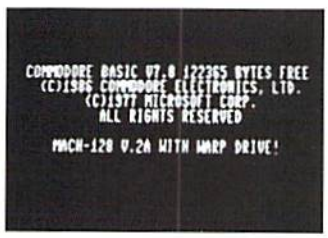
Soon, the realized slowness of the 1541 disk drive drove companies who finally did support the C64 to make fast loads. The disk based ones were not too practical, since the time it took to load the fastload plus the program was even greater than simply loading the program.

But cartridges! That was a different story! (After all, there were fastload carts for the VIC20 with datassette!) You can pop a cart into the cartridge port in a second. Fast loading became practical. But the C64 was not the only one! The C128 with a 1571 or 1581 had a fastload routine accessible from a program -- if only you could have it work all the time with all programs!

Join us this month, as we go back to a time when MACH5 was a well known C64 fastloader. The world was just being introduced to the MACH128 -- a new C128 fastload. Here, in The Computer Store Of The Past.







MACH128

commodore 128 & 1541/1571 Disk Drive Enhancement System

ACCESS Software Incorporated

reviewed by: Noel Plank

MACH128 is a multi-featured enhancement cartridge that allows the C128 to switch directly into a "burst" C128 speed or a fast loading C64 mode when first powered-up. The MACH128 inserts into the cartridge expansion port and includes a slide switch to select either operation mode. The cartridge also provides a built-in reset button for warm starts.

After the computer is turned on with the MACH128 cartridge installed, the words "Mach128 V-XX with warp-drive!" or "Mach-5 V-XX with warp drive!" will appear on the screen, depending on the mode switch position. The MACH128 speeds program loading up to 500% on either a 1541 or a 1571 disk drive in C64 mode (also known as 1541 mode) while preventing drive rattle on most copy protected software. The special "warp drive" in the C128 mode may be engaged for program loads at speeds up to 700% faster than a standard 1571 disk drive. In reality however, the load times vary, usually with longer programs being faster in the overall.

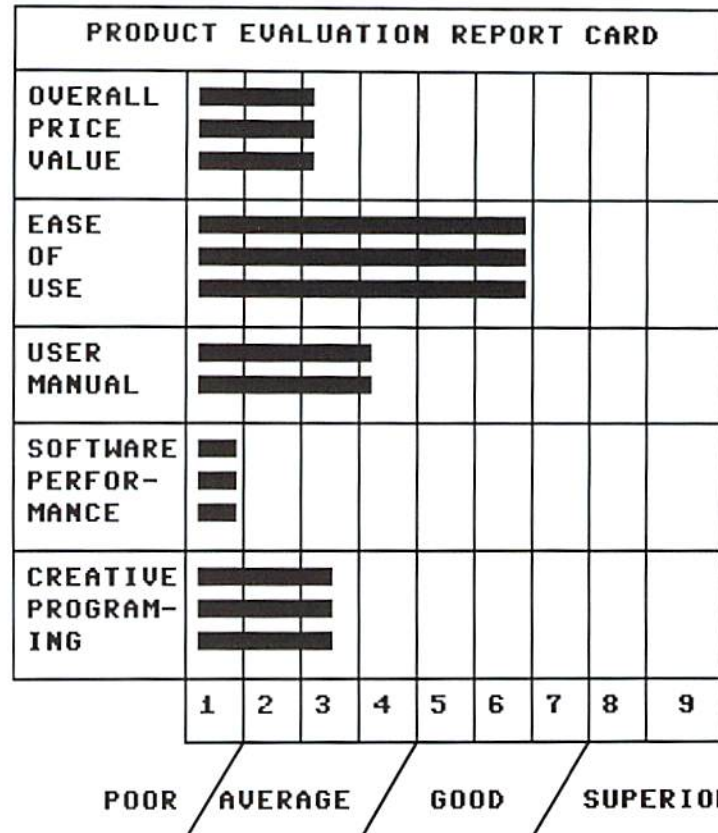
The MACH128 can provide a hard

copy print-out of your screen in either 40 or 80 columns in the C128 mode, or 40 in C64 mode by simply pressing <arrow left><H>. By pressing <arrow left><O>, you can restore or "un-new" a BASIC program after a warm start reset. If you are into programming you can also convert between hexadecimal, decimal and binary inputs using a few simple commands. Other features of the MACH128 cartridge include a built-in DOS Wedge and the ability to call up a help menu by entering <arrow left><H>.

Also included in the MACH128 package is a disk containing a Disk Organizer program for use on one or two drives. The Disk Organizer will automatically extract directory information from your library of disks and catalog the files for print-out and future reference.

If you think your 1571 disk drive is fast compared to the 1541 drive, wait until you try loading up a program with the MACH128 warp-drive engaged. You instruct the computer to go into this advanced mode by entering <arrow left><+> after power-up. If a program will not load you may disable the warp-drive while still allowing for burst speeds up to 500% faster by entering <arrow left><-> or simply press the reset button with an autoboot C128 disk in the drive. In a similar fashion the first program will auto-load and run on a C64 disk in the MACH 5 operation mode if <CTRL> is held down when powering up the computer. This normally works only with the 1571 or similar fast-resetting drive.

The MACH128 cartridge package with its numerous advanced and easy-to-use features makes a nice disk operation utility for 1541 or 1571 disk drives. It doesn't enhance the operation of the 1581 except for the DOS Wedge commands and since it plugs into the cartridge port, the 1750 RAM expander becomes inaccessible. Other problems include too much incompatibility in fast loading of most commercial programs and cartridge swapping each time you use Mach 128 if you have other cartridges installed.



Available for $24.97 Plus postage. From: Software Support International, 2700 N.E. Andresen Rd. #A-10, Vancouver, WA, 98661. Phone orders: (800) 356-1179.











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Last December things got a little out of hand. We are running these first three questions again. The text got scrapped between what was thought to be two like questions. In the processes this first question's answer was swept away along with the next question, placing the wrong answer at the right question. (What?) The second question was one that I feel needs more explanation. The third, I don't know what I was thinking!

Q: With your dedication to **commodore** 8 bits I figured you'd have a source for 1525-VIC Graphic Printer Cartridges. I've tried all the regular sources. Les Luusan of Howell, Michigan.

A: Radio Shack carries these, they are the equivalent of the TRS-80 LP7. If they don't have them in stock, they can be ordered. If the sales people there are like the ones in Boise you may have to insist that they can be ordered before they will listen to you, and remember, never say "**commodore**" in a Radio Shack!

V-Tech also carries them and you *can* say **commodore** to them and you don't have to ask for an equivalent. When we called and asked if they had a "ribbon for a 1525 VIC," the person on the other end said, "let's see **commodore**..." Need I say more? *V-Tech, 2223 Rebecca, Hatfield, PA, 19440. Phone: (215) 822-2989.*

Q: We have two **commodores**, one 128 and one 128D. I have tried unsuccessfully to access a second disk drive FIRST, with the use of software instead of the dip switches in back of the disk drives. Do you know if this is possible and how it is done? Arthur Miller of Westminster, California.

A: While renumbering drives is not as easy as falling off a log, it is a lot less painful! One line of code will do the job when you want to renumber one drive. For the 1541:

```
OPEN1,DV,15,"M-W:"CHR$(119)CHR$(0)
    CHR$(2)CHR$(ND+32)CHR$(ND+64)
    :CLOSE1
```

For the 1571 or 1581:

```
OPEN1,DV,15,""U0>"+CHR(ND):CLOSE1
```

Where DV is the original device number and ND is the new device number. A simple program to run to set up your dives might look like this:

```
10 PRINT"[CLR]IF DRIVES HAVE LIKE
        NUMBERS,TURN"
20 PRINT"OUTER MOST DRIVE(S) OFF."
30 PRINT"RENUMBER THE FIRST DRIVE,
        THEN"
40 PRINT"POWER UP THE NEXT DRIVE
        AND RENUMBER."
50 PRINT"PRESS ANY KEY TO BEGIN."
60 GETD$:IFD$=""THEN60
70 D$=""
80 PRINT"[CLR]DEVICE TO BE
        RENUMBERED:"
90 PRINT"1571/81.......<A>"
100 PRINT"1541.........<B>"
110 GETD$:IFD$<>"A"AND
        D$<>"B"THEN110
120 INPUT"[CLR]ENTER OLD
        DRIVE #";DV
130 INPUT"ENTER NEW DRIVE #";ND
140 IFD$="A"THENGOSUB230
150 IFD$="B"THENGOSUB200
160 OPEN15,ND,15,"I0:":CLOSE15
170 INPUT"[CLR]MORE? (Y/N)";D$
180 IFD$="Y"THEN70
190 END
200 OPEN1,DV,15
210 PRINT#1,"M-W"CHR$(119)
        CHR$(0)CHR$(2)
        CHR$((ND+32))CHR$((ND+64)
220 CLOSE1:RETURN
230 OPEN1,DV,15,"U0>"+CHR$(ND)
        :CLOSE1:RETURN
```

Be sure to check out the drive renumbering utility found on this month's *Spinner*! (See page 33.)

Q: I just packed my C128 away out of frustration. I was unable to track down a VT100 emulation program. Could you please tell me where I might find this? Sol Demuth of Cary, Illinois.

A: **Bob's Term Pro** is available commercially. **Desterm** supports the command set of VT100, 101 and 102. **Desterm** is Shareware and is available from user groups and networks (I know -- how are you going to get it if you can't log on?!?). **Nova Term** is yet another, also Shareware available from our telecommunications person in Florida: *Michael W. Eglestone, 26123 SW 133 Place, Princeton, FL, 33032.* Or from the source: *Nick Rossi, 427 Ave. J, Snohomish, WA, 98290.*

Q: In reference to **dH Lotto** by James T. Jones (September 1993 issue of *dieHard*). Many do not own printers. How about changes to print to screen? Make people 8 bit happy. Alfred Chesky of Wethersfield, Connecticut.

A: Remove lines 10, 20, and 60. This will allow the print out to go to the screen. Change the following lines to:

```
30 PRINT"[CLR]PRESS <RETURN>."
160 IF Y<6 THEN Y=Y+1:GOTO80
170 PRINT "PRESS <RETURN>."
172 GETA$:IFA$<>CHR$(13)THEN172
```

This will generate fewer numbers, but you have the option to do more within the program.

Q: Is there a source for keyboards for the SX64? I don't use the portable feature of the SX64, therefore, I wouldn't mind using a C64 keyboard if it could be made to work. Charles M. Cook of El Paso, Texas.

A: If your local **commodore** shop does not have one you might check with Tech Star (see ad page 10) or *Commodore Country, Rt.1 Box 333, Burleson, TX, 76028.* You might also check with The Grapevine Group (see ad page 31). They recently bought a large amount of Commodore's warehouse stock, but nothing is labeled or inventoried -- they may not even know if they have them.

Your best bet is to keep your eyes and ears open and frequently check local shops that carry used or refurbished stuff. We checked the above sources and none of them had any at the time. In the mean time, we'll run your request in **Trader's Corner**.

Q: I have a SID Symphony Stereo Cartridge. The cartridge came with a disk that had some music on it but I'm tired of hearing the same tunes. Is there any place I can get more music for this system without going onto the Q-net? I can't justify the cost of the net just to get the music. Is there a nation-wide listing of **commodore** users clubs where I could buy more music? Charles M. Cook of El Paso, Texas.

A: I have not heard of any such listing, but that, of course, doesn't mean someone hasn't started a database like that. You might look in the Dec '93 issue's **Rarities** that featured our latest total listing on user groups and drop some of them a line. There is also a monthly SID

??Q?!A!!

disk that you might be interested in. Write to:*SID Music Disk, Jim Brock, 4356 Old Hickory Hammoock Rd, Milton,FL, 32583* for more information.

Q: Not long ago I purchased, sight unseen, what was described to me as an SX-64. A great price, cheap, but when I got the machine it turned out to be a **commodore 8032** and 8050 disk drive. No cables, no software, no documentation. Is there anything I can use off this machine? Is the disk drive the same as the 1541? Could the monitor be used with a C128? Charles M. Cook of El Paso, Texas.

A: It may be possible to use the monitor with other computers. I don't recommend that you hook your 128 up to a CBM's monitor unless you have a schematic detailing its wiring. There are three wires that join in a plug that is located in the center of the mother board. These three wires go up into the board under the monitor's picture tube.

As I said in the June/July '93 issue, I am intrigued by the idea of using an old CBM or PET monochrome monitor on a newer **commodore**. I have not looked into this yet, since at this point in time I have no documentation on the CBM as far as schematics go.

In the mean time, I can tell you what wires out of the C128 video cables you want to connect. On a three plug RCA out (40 column) you will want the center wire on the yellow plug. On a standard composite, just run the center wire off of the video. I recommend that you also connect the outer wire also to get a definite ground for the best picture.

On the RGBI-out you will want to run the monochrome off of the PIN 7 on the RGBI connector. The ground can be run to PIN 1.



RGBI out on back of C128.

Test to see if any of these three wires on the CBM are hot with a Volt meter. If so you will need to wrap it in electrical tape. Do NOT connect either of the video outs or any grounds off the computer to any hot wires in the CBM!!!!

Be sure you DO NOT have *both* composite *and* RGBI outs hooked up at the same time!!

BEFORE YOU MAKE ANY CONNECTIONS BE SURE YOU HAVE THE POWER OFF ON BOTH UNITS AND THEY ARE UNPLUGGED!

When you find out what wires you need to connect up to, be sure they are not connected to the mother board on the PET. Chances are pretty good that there is less impedance going through the board rather than the monitor.

You could *use* this machine, the BASIC 4.0 is just like the BASIC 2.0 found in the C64 except for the extended disk commands. Ronald Snyder specializes in these old machines and has many software titles that you may find of interest (word processors, databases, etc.). He may also have those ever important cables needed to hook up the drive. *Ronald Snyder, 1192 S. Nome St. Suite B, Aurora, CO, 80012.*

The 1541 drive uses the DOS 2.1 format (signified by the 2A at the end of the directory header. The 8050 uses the DOS 2.5 format (2c -- the machine powers up in lowercase mode). Rather than the BAM and directory starting at track 18 sector 0 as the 1541 does, it has two blocks for BAM track 38 sector 0 (block one) and track 39 sector 0 (block two) with its directory starting at track 39 sector 0. This is because the disks are double sided!

To use the drive you will need an IEEE-488 cable. Check with your local **commodore** shop. I also saw them listed in CMD's ad. You might also check with Sodak, Tech Star, or The Grapevine Group (see ads in this issue). Ronald Snyder may also have them. Make sure they know what machine you are planning to hook the drive to.

Q: I own a **commodore** 128D, the disk drive is a 1571, with a Magnavox RGB Display 80 monitor. My computer will not work in 128 or CP/M mode. When I turn the computer on the 128 title screen comes on and everything looks fine. When I type "Print 5" then <RETURN>, it prints nothing then says "Ready." I cannot load a program in 128 mode either. 128 DOS Shell will boot up but will not do anything. Where it lists file names it has a lot of @ signs. It boots the CP/M disk, but it locks up also. When in 128 mode I can go to 64 mode by typing "GO 64." 64 mode seems to work fine. On a related note, when I load **GEOS** it loads and then it says "Operations Cancelled Due to Disk Error 1:23 Drive A Track 05 Sector 08 (hex)." It has just started doing this the last couple of times I've used it. I take the System Disk out and put in an Application Disk. It then says to put the System Disk in, and I cancel that and so far have had no more problems. Does this problem tie in with the 128 problem? Or is my **GEOS** disk worn out? If I need to send it off to be fixed, where can I send it and what kind of charges can I expect? Ernestine Camp of Munford, Alabama.

A: Your **GEOS** boot disk may be bad and having 128 mode problems is coincidental. Try booting with the system backup disk that came with your **GEOS** package. I recommend backing this disk up and using the backup. CMD has a boot disk maker called **geoMakeBoot** (see ad page 3). Before you check **GEOS**, I recommend finding out what is wrong with your system.

With the power off, unplug everything from your computer except the power, keyboard, and monitor. Power up the computer. Play around with the computer especially in 128 and CP/M modes. If the computer still functions improperly then it's time to seek repairs.

If the computer works, then the problem may be something that plugs into the computer, like a mouse, joystick, printer, etc. Power down and add one peripheral, making sure that you only add one at a time. Power back up and see if everything works. If that's ok, add another peripheral, repeating the diagnostic process until your computer fails to pass. If a given peripheral causes a problem, then that may be the cause of your woes. If you have a parallel printer interface hooked up, make sure its power cable is intact. Some of the older interfaces have a solid wire that goes to the cassette port, and they sometimes break off or touch things they shouldn't.

There are several places that advertise repair work listed in *dieHard* or check with your local **commodore** shop. Many have flat rates for labor running around $55 to $75 plus parts.

READY.
■

PAPSAW

More On Garbage Collection

by
Brian L Crosthwaite

Last December Larry Pankey asked me about the SYS call in the C64 to do garbage collection. I think there is a better way to do it.

First, find the area where your program is going to create the garbage. This is where INPUTs and GETs are executed, especially GET, and/or any juggling of strings involving any concatenation where things get redefined. The memory just starts to fill sequentially and BASIC moves right along with it.

At a point right before garbage is about to be made, such as an input routine, read the highest address used by BASIC (at 55 & 56) and place the bottom of string storage (51 & 52) into this highest address:

```
P1=PEEK(55)
P2=PEEK(56)
POKE55,PEEK(51)
POKE56,PEEK(52)
```



After the program has reached a point where garbage collection is necessary, do the collection with FRE(0) then move the highest address back, this will cover up stuff that is no longer being used but FRE leaves behind:

```
ZX=FRE(0):POKE55,P1
:POKE56,P2
```

You can use any variable other than ZX, as long as you don't need it to be a specific value.

You can put this into a neat little subroutine such as:

```
10 GOSUB 1000:REM PREPARE FOR
    GARBAGE
20 POKE 198,0:FOR I=0TO10
30 WAIT 198,1:GETA$(I)
40 NEXT I
50 GOSUB 1010:REM COLLECT
    GARBAGE
60 END
1000 P1=PEEK(55):P2=PEEK(56)
    :POKE55,PEEK(51)
    :POKE56,PEEK(52):RETURN
1010ZX=FRE(0):POKE55,P1
    :POKE56,P2:RETURN
```

Both the input routine and the garbage collection routine presented here will work on the C64 and VIC20.

Happy Garbage Collecting!

```
READY.
```

DOS & Don'ts

by Jimmy Weiler

DOS & Don'ts is reprinted with permission from *LOADSTAR. The Complete DOS and Don'ts* is available on 1541 disk for the C64/C128 from Softdisk, P.O.Box 30008, Shreveport, LA, 71130 for $9.95, plus $4.50 shipping for 2nd day delivery.

Reading REL Files

Now let's get into some READing. Reading from a RELative file is almost the same as writing to it. The most significant difference is that you use INPUT# or GET# in place of PRINT#. The technique you use is:

1. Send a position command to access a particular record and character.
2. Input from the file.

Let's read the name and number out of record 2.

```
10 OPEN 15,8,15
20 OPEN 3,8,4,"PHONEFILE,L,"+CHR$(89)
30 RN=2:rem record number
40 HB=INT (RN/256):rem high & low
    byte
50 LB=RN-(HB*256) :rem of
    record #'s
60 PRINT#15,"P"CHR$(4)CHR$(LB)
    CHR$(HB)CHR$(1):rem position
    to rec RN
70 INPUT#3,NAME$:rem input name and
80 INPUT#3,NUMBER$ :rem address
90 CLOSE3
100 PRINT NAME$"'s phone
    number is ";NUMBER$;"."
110 CLOSE15
```

This technique works fine for reading a record that has no commas, quotes, or colons in its text. If you had to be able to read past those separators, you would use GET# instead of INPUT#.

```
70 NAME$=""
71 GET#3,T$:IF T$<>CHR$(13)THEN
NAME$=NAME$+T$:GOTO 71
80 NUMBER$=""
81 GET#3,T$:IF T$<>CHR$(13)THEN
    NUMBER$=NUMBER$+T$:GOTO 81
```

You may have noticed that we only used one POSITION command to do an INPUT# from our PHONEFILE. Unlike PRINT#, INPUT# keeps track of where it is in a record. Every INPUT# begins where the previous one left off and reads data from the file until it comes to the next carriage return.

INPUT# also accepts multiple variable arguments -- you can use

```
INPUT#3,A$:INPUT#3,B$ or INPUT#3,A$,B$
```

and achieve the same effect.

REL File Techniques

=== ==== ==========

Now we'll discuss some special techniques. Up to now in our discussion of RELative files we have assumed that you would want to read an entire record, start to finish, whenever you accessed the file. It is possible that you would only want to read one of many fields inside any particular record.

This wouldn't gain you much in a file with only two fields per record, but if you stored first name, last name, phone number, street address, city, state, zip code, social security number, weight, hair color, driver's license number, and shoe size in each record, it could mean a 95% time savings every time you checked somebody's shoe size.

Here's how: decide in advance how big each field is allowed to be -- remember to allow space for the carriage returns. Then add up the fields' lengths to find out where in each record to write that information. A RELative file accessed normally, with one INPUT# after another is like a bunch of little SEQ files. A RELative file accessed this way is like a bunch of little REL files.

Field name		Length	Position
First name	=	12	1
Last name	=	12	13
Phone number	=	17	25
Street address	=	28	44
City	=	18	72
State	=	3	90
Zip code	=	6	93
S/S/N	=	10	99
weight	=	4	109
Hair color	=	8	114
Driver's lic.	=	12	122
Shoe size	=	7	134
		TOTAL	141

A single record would look like this:

```
-------------------------------------
<first name><last name ><-phone number
--><----street address--------><city-
---------->st.<zip ><ssn----->wgt.<--
hair><-driver's-><shoe->
-------------------------------------
```

And typical data might be:

```
-------------------------------------
Jimmy/      Weiler/      (318)868-7247/
   4025 Greenway Rd./           Shreve
port/       LA/71130/123500292/180/bla
ck/  6069023/    10 1/2/
-------------------------------------
```

Every time you wanted to read from or write to the file, you would precede your INPUT# or PRINT# with a POSITION command to the appropriate character in the record.

Here's the code that you would need to write an entire record:

```
10 OPEN 15,8,15
20 OPEN 3,8,4,"INFOFILE,L,"
    +CHR$(141)
30 INPUT"Write what record?";R
40 HB=INT(R/256):LB=R-(HB*256)
50 P$="P"+CHR$(4)+CHR$(LB)+CHR$(HB)
60 PRINT#15,P$CHR$(1)
70 PRINT#3,FIRST$
80 PRINT#15,P$CHR$(13)
90 PRINT#3,LAST$
100 PRINT#15,P$CHR$(25)
110 PRINT#3,PHNE$
120 PRINT#15,P$CHR$(44)
130 PRINT#3,ADDRESS$
140 PRINT#15,P$CHR$(72)
150 PRINT#3,CITY$
160 PRINT#15,P$CHR$(90)
170 PRINT#3,S$
180 PRINT#15,P$CHR$(93)
190 PRINT#3,ZIP$
200 PRINT#15,P$CHR$(99)
210 PRINT#3,SSN$
220 PRINT#15,P$CHR$(109)
230 PRINT#3,WT$
240 PRINT#15,P$CHR$(114)
250 PRINT#3,HAIR$
260 PRINT#15,P$CHR$(122)
270 PRINT#3,DL$
280 PRINT#15,P$CHR$(134)
290 PRINT#3,SHOE$
```

That's quite a bit of work for your **commodore** to have to do, but it's worth it. Now, if you want someone's shoe size you don't need:

```
295PRINT#15,"P"CHR$(3)CHR$(LB)
      CHR$(HB)CHR$(1)
300 INPUT#3,X$,X$,X$,X$,X$,X$,X$,X$,
    X$,X$,X$,SHOE$
```

(All those X$s are throw-away strings. They are just there to accept INPUT from all the fields that don't interest us.) All you need to do is position to the byte of the Shoe Size field and do a single INPUT#.

```
310PRINT#15,"P"CHR$(3)CHR$(LB)CHR$(
HB)
     CHR$(134)
320INPUT#3,SHOE$
```

That's a savings of 11 INPUT#'s. Remember, INPUT from and OUTPUT to the 1541 drive is slow, compared to how fast your **commodore** can handle data. Any technique that can get pertinent data from the disk drive with fewer INPUT#'s will make your program appear to run faster, and ultimately, frustrate the user less.











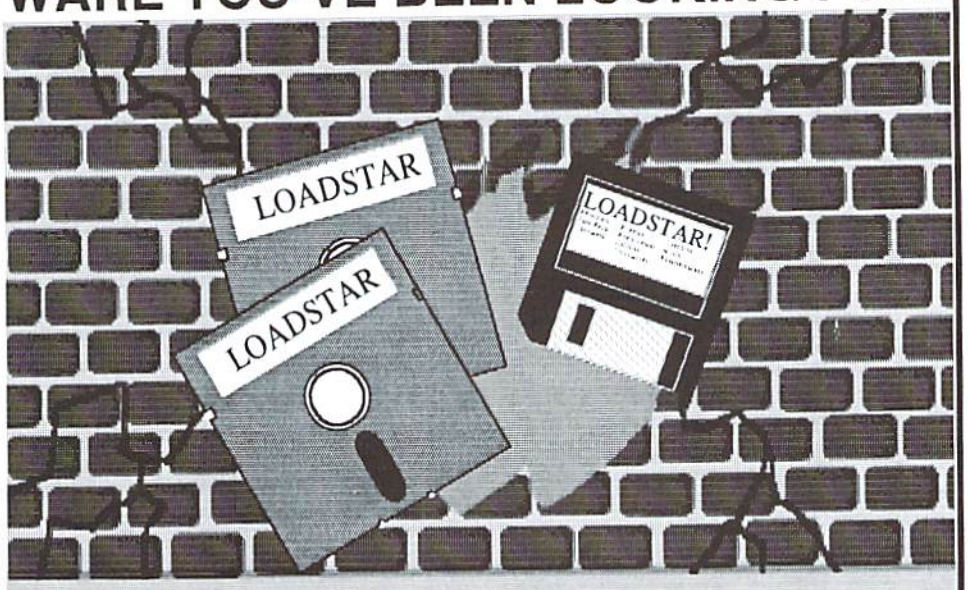
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DHLS34

TipeRite V1.0 (C64)

by John P. Green

The first time we ran this listing it had a bug in it and unfortunately so does its *Spinner* counter part. If you tryed to tackle it, don't despair, you only need to retype lines 63770 & 63820. Sorry about that folks!

TipeRite is a checksum utility for the C64 designed to assist users in finding errors when typing in listings from the pages of *dieHard*.

Type in the listing TipeRite V1.0 carefully and exactly as it is printed. When finished, save a copy or two of it. Before running the program, you will want to make sure that you do not have any other programs or cartridges in use that utilize the function keys, as TipeRite uses them as well.

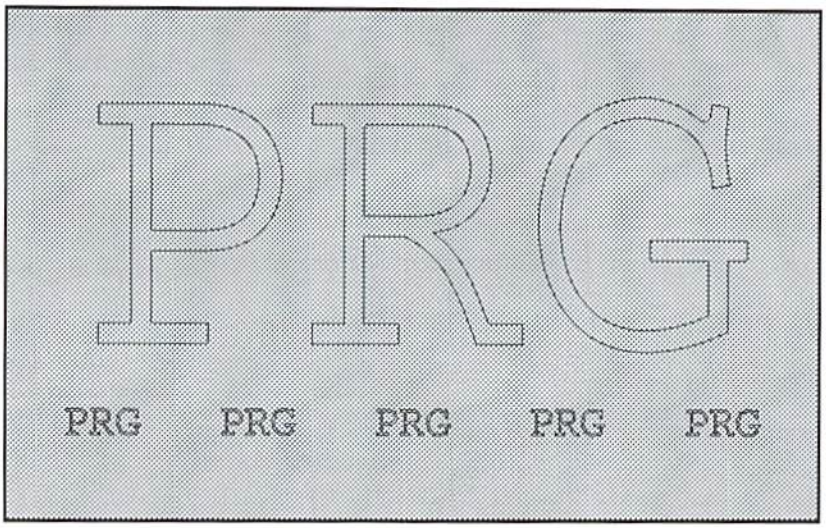
When you RUN TipeRite you will be greeted with a FILENAME? prompt. If you are starting a new listing, type the appropriate filename (up to 13 characters.) If you are continuing or checking a previously typed listing include the extension .CK at the end of the filename. This will tell the program that you want to load a listing into memory. It will then ask you for the last line entered, so remember where you left off. Make sure you have the disk in the drive that contains the file with the extension.

The prompt ENTER LINE n: will then appear, where n is the next available line in the listing or 10 for new listings. Type in the line, including the line number, and press return. Shortly, a four-digit code will appear at the top of the screen. Check this code with the code printed in the magazine. If it matches, then the line is typed in correctly. If there are any mistypes, then the codes will not match. Take into account that TipeRite counts spaces in AND out of quotes, therefore 10 PRINT and 10PRINT will get different codes. Substituting keywords with abbreviations, such as ? for PRINT, will also result in a different code. It does, however, notice when characters aren't in the right order, so PRINT and PRINT will have different codes.

When you see the code, you will now be in Command mode (when you see a cursor you're in Edit mode). When in Command mode there are a number of different keys with different functions, as listed:

<f1> - Saves current listing as a sequential file. Saving can be used so that you can continue a listing later and must be used before compiling. If there is a file on the disk with the same filename and has the extension .CK, it will be overwritten.

<f2> - Compiles current listing. To compile a listing you must first save it, unless you already have a copy saved with the .CK extension. Compiling will list the program into memory and then erase the TipeRite program from memory. It is recommended that you save a copy of the compiled program before running it. After compiling, you cannot return to TipeRite unless you reload it. Also do not compile TipeRite if you are checking your typing-in of TipeRite itself, since it will remove itself from memory! Make note of any changes you need to make and make them in the program in memory.



<f3> - Lists the current listing in memory to screen. <CTRL> slows it down. When it is done, press any key to return to the line you were last at.

<f4> - Prints the current listing to a printer. If you have the coder enabled (default) it will print out the codes next to each line, provided you first put the codes into memory by checking each line. To print without codes, disable the coder.

<f5> - Goes to the line number you enter. You can not go to any line higher than the highest line in the listing.

<f6> - Asks you to re-enter the line you are currently on. Use this if you mistyped a line or you want to edit a line.

<f7> - Toggle coder. When enabled (default) the code for each line will be displayed after you enter the line and the codes will also be printed (if you try printing a listing with codes and you haven't viewed each line, the codes printed will be 0). When the coder is disabled, the codes will not be displayed or printed.

<f8> - Asks if you want to quit TipeRite.

<+> (plus) - View next line.

<-> (minus) - View previous line.

<SPACE> - Enter next available line.

If you don't want to type in a listing using TipeRite, you can still check your listing with it. You may even find it easier. First save a version of your file as a program. Then save it as a seqential file by typing:

```
OPEN8,8,8,"0:filename,S,W":CMD8:LIST
```

and press <RETURN>. Remember to include .CK at the end of your filename. When the cursor returns, type PRINT#8:CLOSE8 and press <RETURN>. The load and run TipeRite and type in the filename you save your listing as (with .CK) and the last line number. When it's done loading, go to the beginning of the listing and check each line's code. You can make any corrections just like you would if you had originally typed it in with TipeRite. Just remember to resave it and compile it when you are done.

There are certain aspects of TipeRite that you'll need to take into consideration. Entering a blank line counts. This will not matter when saving or compiling, however when you print a list you will see empty screen lines. Also, it increments the line counter, so the next available line is higher. To remedy this, go to the blank line and re-enter it. Another aspect is that all listings begin with line 10 and increment by 10's. In actuality, these lines are only a reference for the checksum. You can type programs starting with any line number (under 63000) and increment however you want, just so long as you can keep track of what line you are on, what line number to type if you want to goto a line, and what the last line number is if you save and want to continue later. Another solution is to type in a program by 10's and then renumber it later. Another aspect of TipeRite is that it has a maximum of 7500 lines (actually 750, but it counts by 10.) This shouldn't be a problem, as 7500 lines is about 75 blocks (that's BIG!). Last is that if you are loading a listing that's last line number is higher than 2000, it will take quite a long time to load. Don't worry, though, it eventually will. Oh, and one more. You can't RUN programs while using TipeRite. You would have to first save and compile the listing to see if it works.

Well, that's about all you need to know. Of course, if anyone has ideas for improvements or upgrades, send them in, and you might just get credit in the next version of TipeRite.

```
3009 63000 REM TIPERITE V1.0 - BY JOHN
     GREEN
2939 63010 REM COPYRIGHT 1994
     LYNNCARTHY INDUSTRIES
     INCORPORATED ALL RIGHTS RESERVED
2236 63020 DIM CH$(500):DIM GQ%(500)
     :INPUT"[CLR][2 down]FILENAME"
     ;F$:IFF$=""THENEND
3060 63030 IF RIGHT$(F$,3)=".CK"THEN
     INPUT"[1 down]LAST LINE #";LL
     :LG=((LL+10)/10):J=1
2277 63040 IF LL=0THENF$=F$+".CK"
     :GOTO63130
1627 63050 OPEN15,8,15:OPEN8,8,8
```

```
      ,"0:"+F$+",S,R":INPUT#15,EN
      ,EM$:GET#8,A$:GET#8,A$
3018 63060 IF EN<>0 THENCLOSE8
      :CLOSE15:PRINT"[1 down]
      ERROR: ";EM$:END
1760 63070 IFJ=LGTHEN63120
2976 63080 A$="":GET#8,A$:CH$(J)=
      CH$(J)+A$:IFLEN(CH$(J))>82
      THEN LG=J:GOTO63120
2354 63090 IFA$=CHR$(13)THENJ=J+1
      :GOTO63070
2454 63100 IFA$=CHR$(10)THEN
      LG=J:GOTO63120
1375 63110 GOTO63070
2210 63120 CLOSE8:CLOSE15:LN=LG-1
      :LK=(LG*10):GOTO63420
2079 63130 POKE204,0:LN=LN+1:LK=LN
      :IFLN>500THENLN=500:GOTO63420
1972 63140 PRINT"[CLR][2 down]ENTER
      LINE";LN*10;"[left]:":PRINT
2361 63150 A$="":GETA$
      :IFA$=""THEN63150
2384 63160 CH$(LN)=CH$(LN)+A$
      :PRINTA$;
2537 63170 IFA$=CHR$(13)THEN
      POKE204,255:GOTO63420
2690 63180 IFLEN(CH$(LN))>254THEN
      CH$(LN)="":LN=LN-1:GOTO63130
1373 63190 GOTO63150
1668 63200 IF WG<>0THEN63240
1950 63210 MD=6:GQ%(LK)=0:FORI=1184
      TO1223:CG=PEEK(I):IFCG=160
      THENCG=32
2733 63220 GOSUB63570:CK=CK+INT
      (I/(CG+MD)):NEXT:IFCK<1000
      THENCK=CK+1000
2598 63230 GQ%(LK)=CK
      :PRINT"[HOME]CODE:[CYN]"
      CK"[LBLU]":QP=0:CK=0:CG=0
2210 63240 B$="":GET B$
      :IFB$=""THEN63240
2629 63250 IFB$=CHR$(133)ORB$=
      CHR$(137)THEN63650
2056 63260 IFB$=CHR$(139)THEN63500
1711 63270 IFB$=" "THEN63130
2259 63280 IFB$=CHR$(134)THEN J=0
      :GOTO63380
2058 63290 IFB$=CHR$(140)THEN63450
2511 63300 IFB$=CHR$(135)THEN
      INPUT"[CLR][2 down]
      GOTO WHAT LINE #";LG
      :LK=LG/10:GOTO63420
2099 63310 IFB$="+"THENLK=LK+1
      :GOTO63420
2096 63320 IFB$="-"THENLK=LK-1
      :GOTO63420
2057 63330 IFB$=CHR$(138)THEN63610
2055 63340 IFB$=CHR$(136)THEN63360
1372 63350 GOTO63240
2004 63360 WG=WG+1:IFWG<>1THENWG=0
1372 63370 GOTO63420
1752 63380 PRINT"[CLR][25 down]"
      :FORJ=1TOLN
1813 63390 PRINTCH$(J);"[1 up]"
2688 63400 NEXT:PRINT"[2 down]PRESS
      ANY KEY TO CONTINIUE"
2001 63410 K$="":GETK$
      :IFK$=""THEN63410
1757 63420 IFLK<1THENLK=1
1976 63430 IFLK>LNTHENLK=LN
2149 63440 PRINT"[CLR][2 down]LINE"
      LK*10"[1 left]:":PRINT
      "[1 down]"CH$(LK):GOTO63200
1498 63450 PRINT"[CLR][1 down]QUIT?"
2275 63460 B$="":GETB$
      :IFB$=""THEN63460
2111 63470 IFB$="Y"THENEND
1787 63480 IFB$="N"THEN63420
1370 63490 GOTO63460
1677 63500 LR=LK*10:CH$(LK)=""
2114 63510 PRINT"[CLR][2 down]RE-ENTER
      LINE";LR;"[1 left]"
      :PRINT:POKE204,0
2361 63520 A$="":GETA$
      :IFA$=""THEN63520
2941 63530 PRINTA$;:CH$(LK)=CH$(LK)+A$
2537 63540 IFA$=CHR$(13)THEN
      POKE204,255:GOTO63420
2789 63550 IFLEN(CH$(LK))>254THEN
      CH$(LK)="":GOTO63510
1372 63560 GOTO63520
1882 63570 IFCG=34THENQP=QP+1
3399 63580 IFQP=1ANDCG=32THENCG=160
2332 63590 MD=MD-1:IFMD<0THENMD=6
1504 63600 RETURN
1448 63610 OPEN4,4
2361 63620 FORJ=1TOLN:IF WG=0
      THEN PRINT#4,GQ%(J);"   ";
2142 63630 PRINT#4,CH$(J);:NEXT
      :PRINT#4,CHR$(10)
2049 63640 PRINT#4,CHR$(10)
      :CLOSE4:GOTO63420
2161 63650 IF B$=CHR$(137)THEN63700
1984 63660 PRINT"[CLR][2 down]
      SAVING...":OPEN15,8,15
      :OPEN8,8,8,"@0:"+F$+",S,W"
2086 63670 PRINT#8,CHR$(32):FORJ=1TOLN
      :PRINT#8,CH$(J);:NEXT
      :PRINT#8,CHR$(10)
2439 63680 INPUT#15,EN,EM$:IFEN<>0
      THENPRINT"[1 down]ERROR: ";
      EM$:FORT=1TO2500:NEXTT
1966 63690 CLOSE8:CLOSE15:GOTO63420
1467 63700 OPEN8,8,8,"0:"+F$+",S,R"
1622 63710 POKE152,1:FL=0:L$=""
      :PRINT"[2 down]"
2540 63720 GET#8,CR$:IFCR$=""THEN63720
2863 63730 IF ST AND 64 THEN63800
2827 63740 IFCR$=CHR$(13) AND FL=0
      THEN63720
2137 63750 PRINT CR$;:FL=1:L$=L$+CR$
1897 63760 IFCR$<>CHR$(13) THEN63720
xxxx 63770 PRINTCHR$(31);"GOTO63710";
      CHR$(154);"[2 down]":POKE198,0
2838 63780 IF NOT(ASC(L$)>47 AND
      ASC(L$)<58)THEN63710
1368 63790 GOTO63840
1561 63800 CLOSE8:LX=63000
1904 63810 PRINT"[CLR][2 down]"
      :FORN=LXTOLX+60 STEP10:IF
N<64000
      THEN PRINTN:NEXTN
xxxx 63820 PRINT"LX=";N;:IFN<63950
      THENPRINT":GOTO63810":GOTO63840
1467 63830 PRINT"[4 down]":GOTO63840
2159 63840 FORI=631TO640:POKEI,13:NEXTI
      :POKE198,10:PRINT"[HOME]";:END
```

...end of line.

1571CP/MAT128 (C128)

by John Ross Cherednik

1571CP/MAT128 is a little sweetie that allows you to specify you own personally chosen disk name for your CP/M disks. It allows you to format CP/M disks from outside CP/M and can only be run from BASIC 7.0 (regular C128 mode). For the C128 with 1571 disk drive only.

```
10 REM: COPYRIGHT 1994 LYNNCARTHY
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     RESERVED
20 REM: 1571CP/MAT128 BY JOHN ROSS
     CHEREDNIK
30 FORA=0TO6:COLORA,1:NEXT:DIMA%(255)
     :PRINT"[CLR][2 down][CYN]"TAB(12)
     "1571 CP/M FORMAT"
40 INPUT"[down]DISK NAME";A$:IFA$=""
     ORLEN(A$)>16THENEND
50 INPUT"& DISK ID";B$
     :IFLEN(B$)<>2THENEND
60 PRINT"[down]PLACE DISK IN DRIVE
     AND TAP A KEY TO PROCEED"
     :GETKEYC$:OPEN1,8,15,"I0":
     PRINT#1,"U0>M1":PRINT"[down]
     FORMATTING":PRINT#1,"N0:"
     +A$+","+B$
70 OPEN2,8,2,"#":PRINT#1,"B-P";2;0
     :FORA=0TO255:PRINT#2,CHR$(0);:NEXT
     :PRINT#1,"U2";2;0;18;1:
     PRINT#1,"U2";2;0;53;1:CLOSE2
80 OPEN2,8,2,"#":PRINT#1,"U1"
     ;2;0;18;0:PRINT#1,"B-P";2;0
     :FORA=0TO255:GET#2,C$:A%(A)
     =ASC(C$):NEXT:A%(0)=1:A%(1)=5
     :FORA=4TO71:A%(A)=0:NEXT
90 A%(72)=17:A%(73)=252:A%(74)=255
     :A%(75)=7::FORA=76TO143:A%(A)=0
     :NEXT:FORA=171TO255:A%(A)=0:NEXT:
   PRINT#1,"B-P";2;0:FORA=0TO255
     :PRINT#2,CHR$(A%(A));:NEXT
100 PRINT#1,"U2";2;0;18;0
     :PRINT#1,"U2";2;0;53;0:CLOSE2
110 OPEN2,8,2,"#":A%(0)=67:A%(1)=66
     :A%(2)=77:FORA=3TO8:A%(A)=0:NEXT
     :FORA=9TO35:READB:A%(A)=B:NEXT
     :FORA=36TO254:A%(A)=0:NEXT
     :A%(255)=255:PRINT#1,"B-P";2;0
120 FORA=0TO255:PRINT#2,CHR$(A%(A));
     :NEXT:PRINT#1,"U2"2;0;1;0:CLOSE2
130 OPEN2,8,2,"#":PRINT#1,"B-P";2;0
     :FORA=0TO255:PRINT#2,CHR$(229);
```

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```
    :NEXT:FORA=1TO16:READB:
    PRINT#1,"U2";2;0;1;B:NEXT
    :CLOSE2:PRINT#1,"I0":CLOSE1
140 PRINT"[down]ANOTHER - [WHT]Y
    [GRY3]/[WHT]N":GETKEYC$:
    IFC$="Y"THENRUN:ELSE
    :PRINT"[CLR][CYN]":END
150 DATA120,32,132,255,169,62
    ,141,0,255,169,195,141,238,255
    ,169,8,141,239,255,169,0,141
    ,240,255,76,208,255,1,2,3,4
    ,7,8,9,10,12,13,14,15
    ,17,18,19,20
                    ...end of line
```

Sprite Catcher (C64)

by Tate Scharf

Sprite Catcher for the C64 helps programmers transfer sprites from other programs to their own programs. Sprite Catcher displays sprites residing in the first 16K of memory, a common location for sprite data when programming in BASIC. Once a sprite is found, the sprite data can be printed to the screen or printer, or saved on disk.

To use Sprite Catcher first LOAD and RUN a program which uses sprites. Stop the program after the sprites are created, which should be shortly after the program is started. Next, LOAD and RUN Sprite Catcher.

Display options are printed on top of the screen and eight sprites are located at the bottom. The address and pointer refer to the left-most sprite on the screen, which is called the 'active sprite.' The other seven sprites correspond to the next seven sprites in memory. If no sprite data is present, the sprites displayed at the bottom of the screen will probably have a jumbled appearance.

The <+> and <-> keys are used to move up and down through memory one sprite at a time. Pressing <SHIFT> and the <+> or <-> keys jumps through memory eight sprites at a time. A new sprite address can be entered by pressing the space bar and typing in a new address. Possible locations range from 0 to 16320, and should be multiples of 64. If a multiple of 64 is not entered, Sprite Catcher will round down to the next lowest multiple of 64.

To change the sprite pointer press the <P> key and enter a new number ranging from 0 to 255. Scan the entire range of addresses to find sprite data. Some popular addresses for sprite data are 704, 832, 896, and 12288.

Sprites can be displayed in HIRES or multicolor mode. The sprite color, the two multi-color mode colors, text, and background colors can also be changed by selecting the appropriate menu options. Pressing the <O> key allows sprite data to be output to the screen, printer, or disk. The data is stored on disk as a sequential file. The following lines read and print data back from disk:

```
5000 INPUT"FILENAME";F$
     :OPEN2,8,2,"0:"+F$+",S,R"
5010 FORL=0TO62:INPUT#2,A:PRINTL,A
     :NEXT:CLOSE2:END
```

The data printed or saved will be that of the active sprite only.

```
3884   10 REM  SPRITE CATCHER BY TATE
          SCHARF
3042   20 REM COPYRIGHT 1994
          LYNNCARTHY INDUSTRIES
          INCORPORATED ALL RIGHTS
          RESERVED
1614   30 GOSUB410
1452   40 POKE781,1:SYS59903
3496   50 PRINT"[HOME][2 down]
          ADDRESS:";AD;"[left]
          [4 spaces]";TAB(20)
          ;"POINTER:";AD/64;""
2234   60 L=0:P=AD/64:IFP<249THEN
          POKE53269,255
3317   70 IFP+L>255THENPOKEDR,PEEK
          (DR)AND(255-2^L):GOTO90
2970   80 POKE2040+L,P+L:IFP>248
          THENPOKEDR,PEEK(DR)OR(2^L)
1815   90 L=L+1:IFL<8THEN70
2194  100 GETQ$:IFQ$=""THEN100
1553  110 C1=1
2209  120 IFQ$=I$(C1)THEN150
2023  130 C1=C1+1:IFC1<15THEN120
1489  140 GOTO100
1361  150 ONC1GOTO160,180,200,210,230
          ,240,250,270,290,310,330
          ,350,370,390
3028  160 IFAD<16257THENAD=AD+64
1498  170 GOTO50
3129  180 IFAD>63THENAD=AD-64
1497  190 GOTO50
1487  200 GOTO610
5821  210 OA=AD:INPUT"[HOME][down]
          ADDRESS";AD:IFAD<0ORAD
          >16320THENAD=OA:GOTO40
3087  220 AD=INT(AD/64)*64:GOTO40
2144  230 MU=(NOT(MU))+2:POKEV+28
          ,MU*255:GOSUB480:GOTO50
1974  240 POKE650,0:POKE53269,0
          :PRINT"[CLR]":END
3149  250 OA=P:INPUT"[HOME][down]
          POINTER";P:IFP<0ORP>255
          THENP=OA:GOTO40
2284  260 AD=P*64:GOTO40
2548  270 BO=BO+1:IFBO=16THENBO=0
2238  280 POKE53280,BO:POKE53281,BO
          :GOSUB480:GOTO50
1676  290 M1=M1+1:IFM1=16THENM1=0
1730  300 GOSUB480:GOTO50
1678  310 M2=M2+1:IFM2=16THENM2=0
1729  320 GOSUB480:GOTO50
1680  330 M0=M0+1:IFM0=16THENM0=0
1729  340 GOSUB480:GOTO50
3408  350 AD=AD+512:IFAD>16320
          THENAD=16320
1498  360 GOTO50
3648  370 AD=AD-512:IFAD<0THENAD=0
1497  380 GOTO50
1675  390 TX=TX+1:IFTX=16THENTX=0
2325  400 POKE646,TX:GOSUB470:GOTO50
1938  410 M1=11:M2=12:V=53248:
          AD=PEEK(2040)*64:MU$(0)
          ="OFF":MU$(1)="ON "
          :BO=6:TX=14
1939  420 DR=53269:POKE650,255
          :POKE53280,BO:POKE53281,BO
          :POKE646,TX:POKEV+16,192
2024  430 DIMI$(14):FORL=0TO14STEP2
          :T=36+L*20
          :IFT>255THENT=T-256
1740  440 POKEV+L,T:NEXT
2212  450 FORL=1TO15STEP2
          :POKEV+L,186:NEXT
2637  460 FORL=1TO14:READI$(L):NEXT
3075  470 PRINT"[CLR][13 spaces]
          [RVS ON]SPRITE CATCHER
          [RVS OFF]"
3741  480 PRINT"[HOME][4 down]
          [1 space][RVS ON]SPACE
          [RVS OFF][1 space]ENTER
          SPRITE ADDRESS"
2186  490 PRINT"[5 space]P[2 space]
          ENTER SPRITE POINTER"
2078  500 PRINT"+ OR -[2 space]MOVE UP
          OR DOWN THROUGH MEMORY"
2110  510 PRINT"[5 space]M[2 space]
          TOGGLE MULTI-COLOR = "
          ;MU$(MU)
2032  520 PRINT"[5 space]C[2 space]
          SPRITE COLOR ="M0"[left]
          [1 space]"
1706  530 PRINT"[5 space]1[2 space]
MULTI-COLOR #1 ="M1
          "[left][1 space]"
1705  540 PRINT"[5 space]2[2 space]
          MULTI-COLOR #2 ="M2"[left]
          [1 space]"
4310  550 PRINT"[5 space]B[2 space]
          BACKGROUND/BORDER COLOR =
          "BO"[left](1 space)"
1809  560 PRINT"[5 space]T[2 space]
          TEXT COLOR ="TX"[left]
          [1 space]"
2984  570 PRINT"[5 space]O[2 space]
          OUTPUT DATA"
1537  580 PRINT"[5 space]X[2 space]
          EXIT"
2358  590 PRINT"[5 down]ACTIVE"
          :PRINT"SPRITE"
2287  600 FORL=39TO46:POKE V+L,M0:NEXT
          :POKEV+37,M1:POKEV+38,M2
          :RETURN
2497  610 INPUT"[HOME][down]SCREEN,
          PRINTER OR DISK (S/P/D)";Q$
2292  620 DV=4:FO=17
          :IFQ$="S"THENDV=3:FO=8
1888  630 IFQ$="D"THEN690
3059  640 PRINT"[CLR]":OPEN4,DV
          :FORL=ADTOAD+62:CN=CN+1
          :IFCN=FOTHENCN=1:PRINT#4
```

```
2138    650 PRINT#4,PEEK(L);
            :NEXT:PRINT#4:PRINT#4
2359    660 PRINT"HIT ANY KEY FOR
            MENU."
2146    670 GETZ$:IFZ$=""THEN670
2444    680 CLOSE4:CN=0:GOSUB470
            :GOTO50
2052    690 POKE781,1:SYS59903
            :INPUT"[HOME][down]
            ENTER FILENAME";F$:OPEN
            2,8,2,"0:"+F$+",S,W"
2804    700 FORL=ADTOAD+62:PRINT#2
            ,PEEK(L):NEXT:CLOSE2
            :GOSUB470:GOTO50
3326    710 DATA +,-,O," ",M,X,P,B,1
            ,2,C,"[shift +]"
            ,"[shift -]",T
```



...end of line.

Oops!

There are a couple of bugs in the December listing of **TipeRite**. The *Spinner* version also has the bugs. If you had problems with it, don't go finding A tall building or burning your December issue! Lines 63770 and 63820 should be:

```
63770 PRINTCHR$(31);"GOTO63710"
;CHR$(154);"[2 down]":POKE198,0
63820 PRINT"LX=";N;:IFN<63950
THENPRINT":GOTO63810":GOTO63840
```

The address listed at the end of Mike Eglestone's **Telecommunications, Your Commodore And You** in the Jan/Feb issue is incorrect and it should be: *Mike Eglestone, 26123 SW 133 Place, Princeton, FL, 33032.*

READY.
■









Text Shooter 64 (C64)

by Tate Scharf

Text Shooter 64 "shoots" characters from one location on the screen to another location. The characters, starting screen location, and final screen location are all adjustable. The variables for each are found in line 10 of the program. The variables SX and SY specify the starting location for each character. The values of EX and EY specify the ending location. The range of values for SX and EX is 0 to 39, and the range of values for SY and EY is 0 to 24. The characters printed on the screen are found in A$. Feel free to experiment with any of these values. The starting or final position of the characters can also be changed while the program is running. Line 100 affects the final character location. Here are some simple alternatives to try out:

```
100 EY=EY+1
100 EX=EX+2
100 EX=EX+1:EY=EY-1
```

Have fun with your own combinations! A word of caution: make sure no text is printed off of the screen. This can cause the computer to crash or scramble the program in memory.

```
3781    10 REM   TEXT SHOOTER - TATE
           SCHARF
3042    20 REM COPYRIGHT 1994
           LYNNCARTHY INDUSTRIES
           INCORPORATED ALL RIGHTS
           RESERVED
3240    30 A$="DIEHARD RULES!"
           :SX=1:SY=1:EX=1:EY=8
3063    40 PRINT"[CLR]":FORL1=1TO
           LEN(A$):C$=MID$(A$,L1,1)
           :DX=EX-SX:DY=EY-SY
2726    50 X=SX:Y=SY:GOSUB140
           :OH=PEEK(SC):GOSUB150
           :CH=PEEK(SC)
4571    60 C=DX:IFABS(DX)<ABS(DY)
           THENC=DY
3735    70 IFDX=0ANDDY=0THENSO=SC
           :HC=CH:C=1
2993    80 FORL2=0TOCSTEPSGN(C)
           :X=INT(DX/C*L2+.5)+SX
           :Y=INT(DY/C*L2+.5)+SY
4047    90 OC=SC:H=OH:GOSUB140
           :IFABS(L2)>0THENOH=PEEK(SC)
3505   100 POKESC,CH:POKEOC,H
           :IFSO>0THENPOKESO,HC
1595   110 NEXT
1563   120 EX=EX+1
1937   130 NEXT:END
1807   140 SC=1024+40*Y+X:RETURN
2107   150 POKE 211,X:POKE214,Y
           :SYS58640:PRINTC$:RETURN
```



...end of line.

Found Only On The Spinner!

Oh, sure. They are right here within the pages of *dieHard*. But what about the *Extras*? The PRG too long to be placed with the pages of *dieHard*? These are the *Spinner* only programs.

On this month's *Spinner* you will find all the programs within the pages of *dieHard* and more! Found only on the *Spinner* are:

dH ID Changer

by James T. Jones

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Wanted: Commodore 64/128 compatible hard drive, RAM drive, RAMlink, Quick Brown Box, etc. Mark VanderVoord, #C001490.

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Wanted: C or Pascal compiles for the C64/128 that wasn't made by Abacus. Job Cacka #C000278.

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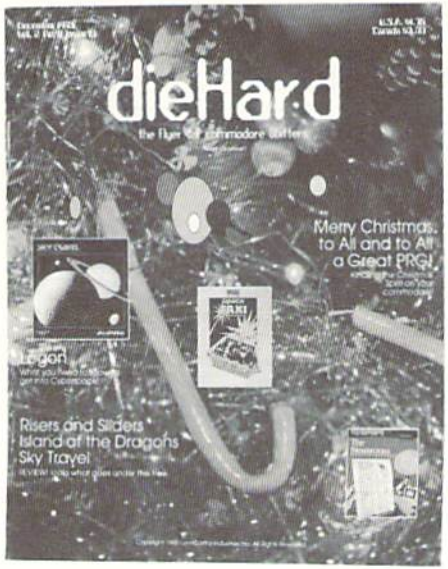
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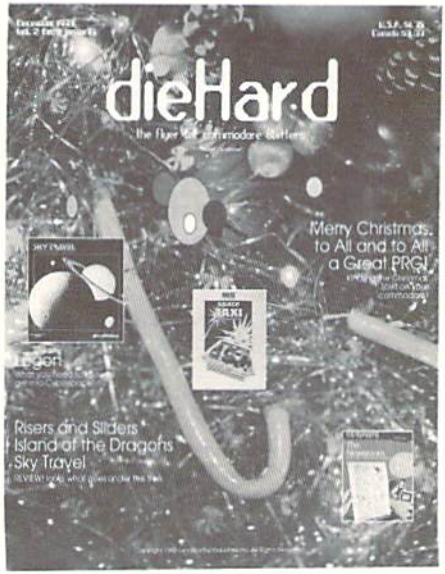
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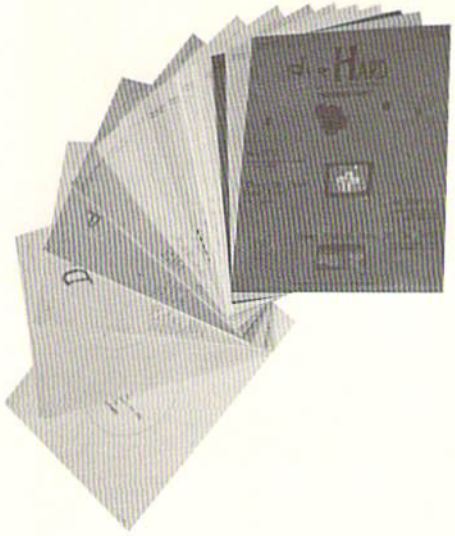
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