

TPUG NEWS

Volume 1, Number 3

President's Report

I'm pleased to report the great success TPUG enjoyed at the World of Commodore Show here in Toronto, December 4, 5, 6, 7. We welcome to the club the more than 100 new members signed up on site, and well over 1,000 individual conversations with members and prospective members. I thank you for your input, and ask your patience in our processing your requests.

For the first time, we were pleased to sell the '86 Show Disk to non-members (as well as to members) for the special price of \$3.00 per disk. We also were able to offer to the members (and non-members) the C64 catalogue on disk, again for \$3.00. For those of you who missed the World of Commodore Show, I will extend the show offer of either disk for \$3.00 (each), or both for \$5.00. In either case, please add \$3.00 postage and handling. Offer good on C64 catalogue disk only, until April 1, 1987. After April 1, the catalogue disk will be \$10.00, p&h included, and the '86 Show Disk will be discontinued. In addition, we'll send you hardcopy of the updated C64 catalogue for an extra \$1.00. Just send in the request with cheque or money order along with your name, membership number, address, etc.

The TPUG Conference, a qualified success, was held this year in conjunction with the World of Commodore Show. Qualified in the fact that we received little co-operation or publicity from the show organizers.

Incidentally, we are told that the paid attendance figure for the show was 35,500.

I must thank the following for their help. First, those in the Show booth for such long stretches: Chris Bennett, Paul Kreppenhof, Henry Cote, Craig Cringan, Donald Dalley, Mike Donegan, Carl Epstein, Keith Falkner, Pat Gardiner, Victor Gough, George Hamin, Frank Hutchings, James Kokkinen, Oleh Krisa, Max Long, Harry O'Dell, Warren Sanderson, and George Skinner.

Many thanks to John Easton, Al Farquharson, Ian McIntosh and Robert Eveleigh for the TPUG Conference.

The TRADER'S CORNER would not have existed without Richard Bradley.

My heartfelt thanks to all, especially non-members (the Galati family) who loaned us the cash register, and came to help in the clean up, when we were all so tired, and to those unsung heroes I may have inadvertently forgotten.

* * *

We have received the following letter from Louis Black regarding the programming class in intermediate Basic that Steve Punter had agreed to teach on Monday nights at the TPUG office:

From the members who showed up for Steve Punter's class:

We are very disappointed in our fellow members. Your lack of interest in learning how to improve your programming skills has caused Steve to cancel his class.

You have denied us and yourselves a great opportunity!!

Louis Black, TPUG member #7486

We share your regrets, Louis, and we will re-schedule the programming class in the Fall of 1987.

* * *

By the way, the last TPUG Magazine was issue #25. After that, the first TPUG News insert appeared in Transactor, Volume 7, Issue 4.

Anne E. Gudz, TPUG President, 1986-1987

Line Noise

Flight simulation: Upon reading two of the articles on flight simulation (TPUG Magazine issue #25), I wish to offer some comments and corrections.

First, in the article "Flight Simulator Mathematics", the loop in which the components of A (i.e. A(n)) are summed does not include the components of L. Thus, the expression for A(n) should read:

$$A(n) = G(n) + T(n) + D(n) + L(n)$$

Also, the expression for position P should read:

$$P = P + Vt + \frac{1}{2}At^2$$

which accounts for acceleration effects over the time t.

The expression for drag shows an additive term, $c_D V^2$ when clearly the sign should be negative (c_D is conventionally taken as positive). Thus, drag is now:

$$D = (-wsin\alpha - c_D V^2)v$$

For those wishing to use the same co-ordinate system as Mr. Tucker, they should note that the X direction (subscript 1) is East; the Y direction (subscript 2) is South and the Z direction (subscript 3) is zenith (up). Thus, we have a "left-handed" co-ordinate system.

Next, in the article "Coming Home on FSII", Mr. Butterfield states that "if the needle drifts to the left of centre... change your course a bit to the right". Since the aircraft was obviously set up for a front-course ILS approach to runway 24 at Martha's Vineyard, such advice would cause the aircraft to stray further away from the localizer. Fortunately, he corrects himself in the next paragraph.

Dr. Thomas Moreau, Rexdale, Ontario

TPUG MEETING SCHEDULE

Feb. 1987 to June 1987

All meetings begin at 7:30 pm sharp, unless otherwise specified. Capitalized dates indicate that the meeting does not fall on its normal day of the month.

VIC 20 Chapter: TPUG Headquarters, 5300 Yonge St. (entrance at rear of building) on the second Tuesday of the month unless otherwise specified.
1987: Feb 10, Mar 10, Apr 14, May 12, June 9

Commodore 128 Chapter: York Public Library, 1745 Eglinton Ave. W. (just east of Dufferin) in the auditorium on the first Tuesday of the month unless otherwise specified.
1987: Feb 3, Mar 3, Apr 7, May 5, June 2

COMAL Chapter: TPUG Headquarters, 5300 Yonge St. (entrance at rear of building) on the fourth Tuesday of the month unless otherwise specified.
1987: Feb 24, Mar 24, Apr 28, May 26, June 23

Amiga Chapter: Clarkson Secondary School, Bromsgrove, just east of Winston Churchill Blvd., Mississauga; at 7 p.m. in the Little Theatre on the third Thursday of the month, unless otherwise specified.
1987: FEB 12, MAR 12, APR 16, MAY 21, JUNE 18

Westside Chapter: Clarkson Secondary School, Bromsgrove, just east of Winston Churchill Blvd., Mississauga; in the Little Theatre on the third Wednesday of the month, unless otherwise specified.
1987: FEB 12, MAR 12, APR 16, MAY 21, JUNE 18

Brampton Chapter: Brampton Public Library, Four Corners Branch, 65 Queen St., on the second Thursday of the month, unless otherwise specified.
1987: Feb 12, Mar 12, Apr 9, May 14, June 11

68000 Chapter (formerly SuperPET): Curtis Lecture Hall C, York University Campus (on the north side of the ROSS Building), on the third Wednesday of the month unless otherwise specified.
1987: FEB 11, Mar 18, APR 8

Commodore 64 Chapter: Auditorium, York Mills Collegiate Institute (on the north side of York Mills Rd. between Bayview and Leslie), on the last Monday of the month unless otherwise specified.
1987: Feb 23, March 30, Apr 27, May 25, June 29

Eastside Chapter: Dunbarton High School (go north on Whites Rd. from the traffic lights at Highway 2 and Whites Rd. to next traffic lights; turn left to parking lots), on the second Monday of the month unless otherwise specified.
1987: Feb 9, Mar 9, Apr 13, May 11, JUNE 1

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FROSTY

Progress that Didn't

by Jim Butterfield

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We've seen plenty of amazing technical progress in the last few years. The home computer itself is a miracle of sorts, but it's almost as amazing to see the numbers change — both fiscal and technical.

I used to work on a multimillion dollar machine that had a memory access speed — blinding at that time — of five microseconds. Wow! It sure put those old fourteen microseconders to shame. When we finally expanded the memory to full capacity, we had a gigantic 128K bytes of. . . well, it wasn't RAM, it was core, but that's another story. It may have been Toronto's only water-cooled computer.

Now, for a few hundred dollars, you can have a machine with 64K, or 128K, or more. It doesn't need air conditioning. Its memory speed is five times faster than the old behemoth that stood six feet high, two feet deep and eighteen feet long (not including the disk unit, which was *big*).

And your machine? Even if you've only been involved in personal computers for a short while, you must have noticed the continuing improvement in price/performance.

Even with all these technological marvels, I hold a fondness for the technical things that didn't quite make it — those good ideas that happened at the wrong time, or couldn't catch the marketplace. Victor Borge tells the story of an uncle who invented a drink called 'One-Up'. It was a failure, and the uncle subsequently invented 'Two-Up', 'Three-Up', 'Four-Up', 'Five-Up' and 'Six-Up'. All were disasters, so he quit. But, as Borge said, "If he'd only known how close he was!". Some of these failures seem like that.

The television set with a thin screen — the one that you would hang on the wall — has been promised since the fifties. I can remember examining diagrams of picture tubes that had the electrons travelling in amazingly convoluted paths. And, darn it, that's exactly what the Sony Watchman does today. But you still can't drive a nail into the wall and hang a TV set from it (unless you have a Watchman and a telescope).

Remember the Picturephone? A telephone with a screen — the telephone company was showing it in various forms as early as 1960.

By the early seventies, they were assuring the business community that everyone would have a Picturephone on their desk within a few years. It's gone now. A communications person put it this way: "In the market survey, they asked, 'Would you like to see the person you're talking to?' and everyone responded 'yes'. But they should have asked, 'Would you like the other person to see *you*?', since it turned out that nobody wanted that."

Bubble memory: it's still around; it still works; but it never fulfilled its promise. Other technology moved faster. It would still be nice to see this kind of memory, since it could become the equivalent of a magnetic disk with no moving parts.

I have a special affection for valid ideas that were a little ahead of their time. For example, the airplane: in the early 1840s, Henson and Stringfellow designed a perfectly viable aircraft, and constructed a working model (yes, it

I hold a fondness for the technical things that didn't quite make it — those good ideas that happened at the wrong time. . .

flew). Unfortunately, the internal combustion engine hadn't been invented yet, and so the 'Aerial' was powered by a steam engine. It never got off the ground.

And there's a microcomputer company that almost made it, too, about five years before the micro revolution got under way: Viatron.

Viatron was founded on the newfangled science of CMOS and LSI. You needn't worry about the letters, but they had mystical and misty significance back then. They refer to techniques that are commonplace or almost old fashioned today.

They started well, with lots of financial backing. Their first product was a communications terminal. You'd recognize it: it had a CRT (Cathode Ray Tube), a keyboard, and cassette tape for data storage. And it was so cheap — by the standards of that time — that nobody believed it. By the way, these termi-

nals were not for sale: they were available for rental only.

Printer technology was in something of a rut at that time, and Viatron couldn't find a printer that would price low enough to belong to their terminal line. They solved this in a curious way. They designed a 'printing robot', a box-like device with small rubberized fingers. The idea was to clip the printing robot over a standard IBM Selectric typewriter: the fingers would type on the keys, and, Presto!, hard copy.

They got a lot of orders. Not much delivered — the production line was just being set up — but a huge number of users standing in line. And Viatron continued to expand their line. They developed a colour terminal. They developed an optical character reader (documents had to be typed in a special 'Viafont'). And they finally developed a line of microcomputers. All worked and were shown at trade fairs.

Viatron were good at promotion. They advertised in *Datamation* and other magazines (not *Byte* — micro magazines didn't exist yet). They didn't just do a full-page or a double-page spread. They had sixteen page full-colour inserts!

But things started to go wrong. The new microchips had very low yields. The machines couldn't be made fast enough; in fact, they were made very slowly indeed. Viatron started to run short of funds: money didn't come in fast enough with rentals. They decided that you could buy their machines instead of renting. Then they decided that they wouldn't rent at all, just sell.

It wasn't enough. Viatron finally folded, just months before the micro market took off. Those who had bought the limited number of machines found they worked well. Other machines were cleared out by discount houses, and were put to good use by early hobbyists.

The idea was good, the products were good. But Viatron was just slightly ahead of its time. If their production lines had worked out, perhaps they would have started the microcomputer revolution a couple of years early. Who knows?

When we look at the amazing things that have been, and continue to be, accomplished, perhaps we should count the non-successes as contributions, too. A good idea that doesn't quite make it may never be completely discarded. It may be reborn again in another form.

SKYFOX
from Electronic Arts
Arcade Game
for the Amiga 1000

Review by Soori Sivakumaran

As you soar above the earth you can see the searing red sun as it settles towards the mountainous horizon. A few small blips on your radar screen are your only indications that you are not alone. Suddenly, the flaming tail of an enemy fighter comes into view. With your heart pounding, you steady your hands on your craft's controls as you close in towards your target.

The above is not a scene from the movie TOP GUN. It's what you experience when you play Electronic Art's SKYFOX, a game which is now available for the AMIGA.

Originally written for eight-bit computers, such as the Commodore 64, SKYFOX is one of Electronic Art's first games for the AMIGA. While the basic game hasn't changed from the earlier versions, the audio/visual effects have been greatly enhanced to take advantage of the AMIGA's features.

The object of the game is to destroy enemy aircraft and tanks while protecting your own base from destruction. It's not as simple as it sounds - your targets are both elusive and deadly. And getting the hang of flying your own aircraft using your controls and radar takes some time as well. There are five skill levels and 15 possible scenarios (from training mission to massive invasion) available to keep you amused for a considerable length of time.

The "3-D" graphics of SKYFOX are colourful and realistic. As you peer out of your cockpit window, scanning the skies for hostile aircraft and scouring the terrain for enemy tanks, you can't help but be impressed with the amount of work that must have gone into making the targets and background look so realistic from all the different angles. Your aircraft, which you can control using a joystick or mouse, reacts quickly to your actions. I personally found the joystick much more comfortable to use than the mouse, though the game is still quite playable with the latter device. The sound is also good - in stereo yet - so you can hear where the shooting is coming from.

One small disappointment I discovered with SKYFOX is that it cannot be run while multitasking. Oh well (sigh).

Overall, I found Skyfox to be an exciting and challenging game. If arcade games have improved since the advent of home computer games, SKYFOX for the AMIGA certainly narrows the gap.

SKYFOX, from Electronic Arts, 1820 Gateway Dr., San Mateo, CA, 94404, approx. \$55 Cdn.

Little Computer People
from Activision
Interactive simulation
for Commodore 64

Review by Marya Miller

I should have been packing all last week, since we are about to move out of our house. Instead, I kept finding myself back at the computer, watching the little man who lives inside it brush his teeth, go to the bathroom, feed his dog. . . And in case you think that rather voyeuristic of me, the little fellow knew I was there. Oh, not at first, but after my initial idle but curiosity-compelled attempts at communication, he soon began to acknowledge my presence - at one point even tapping on the inside of the screen to get my attention. It's surprising how much time can pass while you wait to see what the little computer man is going to do next.

It's hard to review this program without revealing things about the little computer man that I am sure you would rather have the fun of discovering for yourself. He plays a mean *Fur Elise* (among other things) on the piano, and is certainly not lazy. He's still surprising me with new actions. And he's fun to play poker with. I should warn you that he's also addictive, and I now understand those people who waste time watching soap operas, knowing they ought to be doing more productive or elevating things.

I do wish the little guy had friends that would come to visit him occasionally. It must be awfully lonely with just his dog and me (though he does make an awful lot of telephone calls). I also think that if the program goes to the bother of asking the user to input the correct time of day, the little man ought to acknowledge the night time and sleep for longer than thirty seconds.

I wonder if there are little computer ladies? Children? Does anyone else out there have one? Or does the same clone-like little fellow live in everyone's computer?

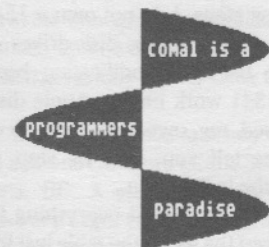
This charming program is especially enjoyable for children. And this review would not be complete if I didn't mention the graphics: in a word, excellent.

Don't expect wild excitement or hot action with **Little Computer People**, but it does make for a very absorbing and frivolous ultimate in computer navel-watching.

Easy Curves

- 1) Insert your COMAL disk in drive*.
- 2) Type LOAD "C64 COMAL*",8
- 3) Type RUN (starts COMAL)
- 4) Type AUTO (turn on auto line#'s)
- 5) Enter the program lines shown below (COMAL indents lines for you)
- 6) Hit RETURN key twice when done
- 7) Type RUN

```
0010 setup
0020 curve
0030 paint'it
0040 add'words
0050 //
0060 proc setup
0070   black:=0; yellow:=7
0080   background black
0090   pencolor yellow
0100   setgraphic 0 //hi res screen
0110   hideturtle
0120 endproc setup
0130 //
0140 proc curve
0150   moveto 110,0
0160   drawto 110,199
0170   for row:=0 to 10 step .03 do
0180     drawto 110+99*sin(row),row*20
0190   endfor row
0200 endproc curve
0210 //
0220 proc paint'it
0230   fill 120,20
0240   fill 100,90
0250   fill 120,180
0260   fill 100,198
0270 endproc paint'it
0280 //
0290 proc add'words
0300   pencolor black
0310   background yellow
0320   plottext 120,155,"comal is a"
0330   plottext 16,90,"programmers"
0340   plottext 120,30,"paradise"
0350 endproc add'words
```



Notice how easy graphics are in COMAL. Lines 70-100 set up the screen colors. Lines 150-190 draw on the screen. Lines 230-260 fill (paint) whole parts. Even putting text on the graphic screen is easy. See lines 320-340. All this is standard and built in as part of COMAL. Plus a full turtle graphics system. Now you know why there are 100,000 users.

* If you don't have COMAL yet, order a **Programmer's Paradise Package**-\$19.95. It includes the complete COMAL system plus over 400 pages of information. Add \$5 more to get our 20 interactive lesson Tutorial Disk. Add \$2 shipping. Visa/MC or US funds check accepted. Send to:

COMAL Users Group USA
6041 Monona Drive, Room 110
Madison, WI 53716
phone 608-222-4432

The Spartan from Mimic Systems Apple II+ emulator for the Commodore 64

Review by Keith Falkner

The Spartan is a device that permits the Commodore 64 to run software written for the Apple II Plus. As the owner of four Commodore computers and two Apple computers, as a director of both TPUG and LOGIC (a group of Apple users), and as a former employee of an Apple dealer, I consider myself particularly qualified to evaluate the Spartan.

To begin with, the Spartan is a computer. The box you may have seen advertised is about three times as big as a C-64. It contains a power supply, a 6502, 64K of memory, thirteen expansion slots, and dozens of integrated circuits on a circuit board considerably bigger than the 64's. But that is only the beginning. You also get a circuit board to install inside your 1541 to make it work like an Apple disk drive (and still be used as a stock 1541), a disk controller card to connect the modified 1541 to the Spartan, a disk containing some Apple DOS utilities, a decent but somewhat outdated manual that tells you how to hook all this stuff up to your 64, a fine book on using and programming the Apple II Plus, and all the cables you need. All this comes packed in a suitcase-sized box with a reasonable quantity of padding. There is a ninety-day warranty on the product.

Would you believe that it is a formidable task to put all this together? It certainly is, and you should set aside a couple of hours to do it carefully and methodically. I must admit that I skipped a few steps. I do not own a 1541, but I do have a couple of Apple disk drives, so I did not need to use the modification board that makes the 1541 work like an Apple disk drive. Instead I used my own drives and controller card. Let me tell you, step by step, what is involved in the installation.

First off, I disconnected everything from the 64, then placed the 64 on the table just in front of the Spartan. I opened the Spartan's lid and found two DIN connectors with short cables attached near the Spartan's front edge; these I plugged into the serial port and the video port of the 64. Then I carefully slid the 64 back against the Spartan's three edge-connectors so that they mated with the user port, the cassette port, and the expansion port of the 64. This results in a total of 85 points of contact, so you can see that the connection between the Spartan and the 64 is very intimate indeed.

Then I attached the 64's power supply and the Spartan's line-cord to the back of the Spartan. That's right, you need two electrical outlets to plug in this dual-personality computer. Since the power supply is not directly attached to the 64, the 64's power switch has no function: the single power switch on the Spartan controls the whole works.

It is interesting that the CPU and all 64K of the Spartan's RAM are on a plug-in card. Perhaps that feature will some day facilitate the development of a Spartan-based computer with an alternate CPU or more memory. Anyway, the Spartan was totally brainless and mindless until I plugged this card into slot A and attached a pair of cables to specified places on the motherboard. Apples do not have such a slot, nor is slot A anything like the auxiliary slot of the Apple IIe.

I plugged my Apple disk controller card into slot 6 and attached the two Apple disk drives to the controller card. This is exactly what owners of Apples do, and it felt good to be on familiar ground for a moment. Finally, I attached the supplied video cable between the back of the Spartan and my monochrome monitor.

To test this setup, I plugged the two power cords into electrical outlets, put a disk of Apple software into the first disk drive, and turned the system on with the Spartan's power switch (located at the back, just as it is on an Apple).

Hurray, it worked! The computer beeped and displayed its name on the screen, the disk drive rattled a bit (that is how Apples normally work), and a program came in from the disk and started running. It felt distinctly odd to be sitting at the keyboard of my good old 64 and running a good old Apple II plus. A few preliminary checks showed me that the Apple emulation was very accurate indeed.

Before putting the Spartan's lid on, I paused to take a look inside. Here are some of the interesting things I saw. From left to right across the back of the Spartan's motherboard there are slots A, 0, 1, 2, 3, 4, 5, 6, and 7, with the CPU/memory board inserted into slot A and the disk controller in slot 6. All of these slots, with the exception of slot A, are to be found in an Apple II plus (some Apple-compatible computers lack a few expansion slots). Near the front right are three expansion slots for the 64, and a fourth slot sticks out of the right side of the Spartan. There are places to plug in an Apple II joystick and a 64 joystick. The back edge of the Spartan provides a Commodore user port, a Commodore cassette port, and ports for the monitor and serial cables. There the familiar territory ends.

The Spartan also contains an empty socket for a ROM chip, eight variable resistors (which I prudently left alone), five Molex connectors having two to seven pins, and an amazing thirteen jumper blocks, some of them equipped with little jumpers connecting some of the pins in pairs. Two of the Molex connectors are places to plug in a radio frequency modulator, in case you wish to use a standard television set as a video output device. The functions of these mysterious things was nowhere documented. Finally, three little red buttons stick out of the right side of the Spartan, but they do not stick out far enough to be activated accidentally. These are the reset buttons, which are explained later.

Okay, I was impressed. The instructions for the complicated setup are precise, orderly, accurate and thorough, and as I followed the instructions I felt sure that I was doing the job right. That is no small tribute: until you have tried to

write the instructions for a complex task, you have no idea how difficult it is.

I carefully put the lid back on the Spartan, rested my monitor on it, and settled down to see what I was driving. The system looked attractive, since the Spartan is exactly the same colour as my 64. Also, it raised the monitor to a convenient height and displaced the maze of cables and plugs to the back of my desk.

The Spartan simulates an Apple II plus with Applesoft BASIC in ROM, 48K of main memory, and 16K more of RAM in slot 0. In fact, slot 0 is physically empty but it cannot be used for anything without conflicting with the existing memory chips (maybe changing some of the jumpers would affect this). This possible conflict is a subtle point and would likely not occur to even an experienced Apple user, so it should be mentioned in the documentation. It isn't.

The keyboard deserves some mention here, because the Apple's keyboard differs from the 64's in a number of important respects. The Apple has an esc key but lacks the character that shows as a left-pointing arrow on the 64's screen. Coincidentally, these two keys are placed at the upper left corner of the keyboard by both makers, so the Spartan interprets the left-pointing arrow character as esc. The del key is translated into a backspace and that's good. So is the ctrl-t key, and that can be a nuisance in case you want to type ctrl-t (you can verify that ctrl-t works exactly the same as the del key on your 64). The ctrl-q key is translated into a line-feed or ctrl-j, and I can think of no justification for that. You can prevent these translations, if you wish, by pressing the f1 key before the key you don't want translated (a well-planned feature). There are a few inoperative keys -- inst and restore, for example. It probably comes as no surprise that an Apple doesn't have a Commodore key. The Spartan makes clever use of the 64's Commodore key: when you hold it down and press a letter, a keyword of BASIC or Apple DOS is typed for you -- Commodore-r gives run and Commodore-n produces new. Some of these shorthand items appear to be mistakes, however: for no apparent reason, Commodore-w produces the digit 3.

Next I tried running a few Apple programs. The DOS 3.3 programs all ran perfectly, even arcade games controlled by means of a joystick. The Pascal 1.2 Operating System runs too, and that opens the way to Apple FORTRAN and COBOL. I never tried any software that was protected against copying, because I will never permit slime like that in any of my computers.

In 1983, Apple released a new and greatly improved operating system, called ProDOS. This is the current operating system of choice for all computers in the Apple II family. Most new Apple II software uses ProDOS, so I sincerely hoped the Spartan would run ProDOS. Apple has put some code into ProDOS to prevent it from running on clones and, sure enough, ProDOS would not run on the Spartan: it just displayed its credits and froze. I tried various patches but I never got ProDOS to run. I believe that thorough research by Mimic Systems could

result in some new ROMs for the Spartan that would allow ProDOS to work. This is a necessity!

All things considered, the Spartan is a robust and accurate Apple clone. It has a few bonus features and some subtle shortcomings, but the machine fulfils the claims in the advertisements.

"But can I use my 64 as a 64?" you may be asking. The answer is yes. When Spartan starts up, it functions as an Apple. If you want to use the 64, simply press function key f2. The Apple is instantly submerged, and the display switches to the familiar startup screen of the 64, but with only 30719 bytes free, instead of the usual 38911. Why only 30719? The reason for this is that the Spartan adds a ROM chip to the 64's expansion port that looks like a cartridge to the 64. This ROM chip displaces and disables 8K of the 64's RAM. . . but only if you let it. This will not matter if you are running little BASIC programs or programs clever enough to detect the cartridge and stay out of its way.

The Spartan's additional ROM watches for three shifted function keys. If you press f4, the Spartan resumes displaying the Apple screen and routes keypresses to the Apple clone. If in 64 mode you press f6, the 64 is reset and any BASIC program in memory is lost. The f8 key is even more powerful: press f8 and the 64 is reset with the Spartan ROM disabled. This way you have the usual 38911 bytes free and the 64 operates just as it did before the Spartan was installed. From then on however, the Apple mode is unavailable until the machine is reset.

Here's the story on the four expansion slots that the Spartan provides for the 64. You can plug cartridges in anywhere (as always make sure that the power is off when plugging in or removing anything). The three slots inside the Spartan are called 0, 1 and 2, while the external expansion slot is called 3. To start a cartridge in any of the slots, power on to get to the Apple mode, press f2 to get to the 64 mode, then type &start0, &start1, &start2 or &start3 respectively. Once you have executed any of these statements there is no way to access the Apple mode except by pressing a reset switch or by powering off and on. For example, I plug my C-Link cartridge into slot 3 and start it with &start3 so that I can use my 4040 disk drive. The ROM in the cartridge is now activated instead of the ROM in the Spartan. The Spartan's ROM is of course the only program that knows how to enter Apple mode, so it makes sense that the Apple mode is unavailable.

If you leave the Spartan's ROM enabled, you can travel freely between 64 mode and Apple mode and even use the two computers simultaneously! Of course the keyboard and video are available to only one computer at a time, but that might be unimportant. For example, you could use 64 mode to write a BASIC program while waiting for an Apple program to print a lengthy report. When you are travelling from one mode to the other, there are some interesting side-effects. For instance, in 64-mode you can poke 650,128 to make all keys repeat when held down. When you switch to Apple mode, the keys are still auto-repeating.

Oh yes, those three reset switches on the

Spartan's right side. The back one resets the Apple without affecting a program running in the 64; the front one resets the 64 without affecting a program running in the Apple; and the middle one resets the whole Spartan-64 system, although it may need to be pressed twice to take effect.

Summing it up so far. . . the Spartan is good, solid, neat, and it works extremely well. The workmanship is first class throughout, and everything fits together nicely. If you buy a Spartan and attach it to your 64, you will have a versatile computer system, albeit somewhat schizophrenic.

Should you rush out and buy one? Well, you'll have to decide for yourself. Mimic's advertisements claim that the Spartan is an economical alternative to buying a second complete computer system, and that is true. The Spartan's second undeniable advantage is its compactness -- the two computers you wind up with take up hardly more space than a 64 alone.

The Spartan does have some significant drawbacks. Its most important problem is that it is a copy of the wrong machine. The computer Spartan provides is a clone of the 1978 Apple II Plus, which is greatly inferior to the 1983 Apple IIe and its cousin the 1984 Apple IIc. TPUG Magazine is hardly the place to discuss the differences between two generations of Apple computers, so let me just say that the newer Apples support twice as much memory, twice the screen display and, most importantly, twice as much software as the obsolete Apple II Plus.

There are a few other limitations or errors that Mimic Systems could repair more easily. The Spartan cannot run an unpatched version of Apple's ProDOS operating system, but perhaps it could if a few bytes in its Apple-mode ROM were changed. I think the next one is just an oversight -- the Spartan can get lower case input from the 64's keyboard and it can display lower case text on the screen, but its ROM contains an and instruction at \$FD82 that has the effect of converting all lower case keyboard input to upper case as it is typed. A similar oversight, which may be tougher to fix, comes to light when you are running an Apple program but looking at the 64's screen: if you press the stop key, both the programs stop, not just the one running in the 64. If that behaviour is intended, I think it's wrong.

Another apparent drawback bothered me for a while. I mentioned that the Spartan comes with a disk controller card to connect to the modified 1541. At first I was using this card with my genuine Apple disk drives. This proved to be a serious error, because three times the computer overwrote my disk, effectively destroying all the information on it. Since I have six years' experience in the proper use of Apple disks and drives, I did not blame myself for these disasters. Instead I concluded that the supplied controller card is for the exclusive use of the modified 1541. I used my genuine Apple disk controller card from then on, and the problem never recurred.

The documentation omits vital information that would matter to some users. For instance,

there is no mention of the programming necessary to go from 64 mode to Apple mode or back. Many internal jumpers and connectors are not explained. A note packed with the current manual corrects an error in the existing documentation and makes promises about an updated manual, but far too much has been left out. I found no offer of more thorough documentation such as ROM listings, procedures for adjusting the variable resistors or a summary of differences between the simulated Apple and a real one. Manufacturers will have to learn that customers deserve more than a Users' Manual that leaves out so much more than it includes.

There are a few more issues to consider before putting out the bucks to buy such an unusual contraption as the Spartan. Just where are you going to get it serviced in case it breaks down? I doubt that you really want to send it to Lynnwood, Washington for repairs. Your friendly local Commodore dealer will not have Apple diagnostic tools and your Apple dealer would need to borrow your 64 to test the Spartan. Then there is the issue of copyright infringement. Apple Computer Incorporated does not take kindly to companies they suspect of copying their original efforts, either in ROM or in hardware. Mimic Systems may find itself in big trouble if Apple seeks legal redress or an injunction, regardless of a court's final decision. This could make the question of service or repair insoluble.

I discussed the Spartan with Jim Butterfield and he wondered if the Spartan makes it possible to move BASIC programs or data files between the two computers. Apparently not. . . or maybe I should say not yet. Clearly the hardware is there, and it may be capable of transferring a byte of data from one environment to the other. A clever programmer could then write appropriate conversion programs if only Mimic Systems would provide enough documentation. Perhaps the promised update of the manual will explain how to do the various conversions that come to mind.

When this review was already complete, I received a phone call from Mimic Systems' office in Victoria, BC. A pleasant gentleman named Peter was very eager to tell me of the latest price cut, and to let me know that a technical manual would be available for about 20 dollars during the summer of 1986. He also told me that Mimic had fixed a problem in the disk controller card that caused the disk drive to destroy disks. Peter pointed out that the Spartan can be connected to the C-128 if the Spartan's cassette connector is removed (an experienced technician could do that job in ten minutes). News like this is encouraging because it suggests that the Spartan is actively being developed and improved.

The Spartan is the first product I have encountered from Mimic Systems. It is admirable in many ways and, for some users, the Spartan may be the best way to achieve Apple compatibility. I hope Mimic Systems has other products in the works, because they too will probably be sturdy, well constructed and of high quality. I offer thanks to Mimic Systems for the opportunity to play with and review the Spartan.

Library Notes

Now that the backlog of disk listings is getting smaller, I will ask the librarians to include short notes about their libraries to help keep the members up to date.

Catalog Disks - Because of the cost and need to keep the library catalog current, the Catalog Disk is available. This disk is specific to each library, it contains list-mes from all the disks and will be updated as new disks are added. The disk number is (x)000 where the 'x' is the letter for the library.

C Commodore 64	V VIC 20
K COMAL	P PET/CBM
E Educational Software	S SuperPET
O Old TPUG prior to March/83	B B-128

Each catalog disk is \$10.00, except in 8050 format which are \$12.00, p&h included.

Amiga Notes - The Amiga library is now at (A)ABT (46 disks). A PROMO series (A)P-- disks is being added. These disks are demos (NOT FULLY OPERATIONAL) of some commercial programs. This will give you the chance to try out the programs before you buy.

Most of the Amiga library disks do not run from the Workbench, only from CLI. So go into CLI and type TYPE TPUG-TYPE-ME.

The Amiga Catalog Disk is (A)000. It has the TPUG-TYPE-ME and README lists for the Amiga. There is also a catalog program (freeware - author would like a donation) that produces alphabetic lists of programs (note: use the stack command of STACK 20000). The file on the disk is an alphabetic list of the library including disks from (A)AAZ to (A)ABT.

No price was mentioned last issue for Amiga disks. They're \$10.00 Cdn. each, no quantity discounts. And the listing for Amiga Disk (A)ABD incorrectly states there is no charge for the disk. It is also \$10.00.

Mike Donegan, Chairman, Librarians' Committee

All disks copyright (C) by TPUG Inc. OK to copy but not to sell. To the best of our knowledge all programs on these disks are in the public domain. Information to the contrary will be acted on promptly.

C128 Disks

TPUG Disk (y)aa

invention 13.mus bach's 13th invention, nice tune
 simple key.mus very simple musical keyboard plays a to g
 music board another musical keyboard
 soundmaker noisemaker for the c128
 smalterm.128 xmodem terminal programme
 cp/m term.128 xmodem downloads to cp/m format disk
 cp/mterm.doc documentation for cp/m term
 tacolerm.128 xmodem terminal for the 1660
 cp/m term2 not a true term, will transfer a cp/m file from 128 format disk to cp/m format disk
 jhf miniterm xmodem in machine language not ready to run
 jhf miniterm.doc documentation for jhf miniterm
 litter patrol a silly game
 deepsix.128 another silly game
 sprites on 128 paperclip file outlining the sprite demo given at the feb c128 meeting
 sprsav demo graphics prog. used by sean rooney for his demo
 bent space more graphics by sean, i could watch this one for a long time
 black hole just like it says
 wavy spokes use your imagination
 car race sprite demo
 uni-copy jim butterfield's two drive copier works on the c128
 dir print multi directories side by side
 dir squeeze clean up a disk or alphabetize your directory
 disk-dump dump a file or block (by track & sector) to screen or printer
 display bam check out the block availability map of your disk
 change unit change the device number of your disk drive
 unscratch revive a file scratched in error
 load address change the load address of your file (be careful!)
 seq lister list your sequential files to screen or printer
 header change change your disk title without losing files
 printer test check out your 1525, mps801, mps803 or your compatible setting on your non-commodore printer
 format disk easy disk formatter
 autoboot maker create an autoboot for your favourite programmes
 keypad 64.c128 possibly the only programme written for c64 mode that will appear on the c128 disks. this one will allow operation of all c128 keys in 64 mode.
 2 1571 keys reconfigure your function keys for quick dos commands using two 1571's

TPUG Disk (y)ab

number invaders educational math game with rewards for achievement - great for kids (40 col)
 scores-num.1 seq.file keeps track of who plays and how well
 racecar4.spr binary sprite file for number invaders
 factor race.y competitive game for mathematical minds (40 or 80 col)
 geography.y fun if you know your way around (40 or 80 col)
 definition.y like the game on television (40 col)

proverbial.y clever quotes and sayings (best in 40 col)
 • Documentation is included for all the following utilities use your favourite sequential file reader to read them
 filecon.y a utility file for cp/m users - convert basic to cp/m & vice versa
 autobootmaker2.y as the title implies
 hi-res text.y use this to create bit-mapped text in your programs (40 col)
 mergekey setup.y use this to append program files
 key2.ed.y set up your own single key commands
 mfmformat2.y format cp/m disks with this
 cpm block.y read the block allocation of cp/m disks

TPUG Disk (y)aaa

grungy towers adventure game (80 col)
 adventure c7.y ditto
 c-128 tutorial.y adapted from the user manual (40 col)
 trivia c-128.y much sought after information
 isoplot 128.y draws isometric designs
 calculator 128.y do math problems
 128 incl'dir.y learn more about your directories
 disk tidier.c7 scratch selected files
 dd128.img.y disk doctor for c-128
 tri-directory print 3-col directories
 disk guard c128 protect your disks
 superdisk 128.y 80 col. utility programs
 seq read(128/80 80 col. sequential file reader
 1571 dd.bin.y copy using 2 1571 drives
 terminal.c1/128 this & next 2 for modem users

TPUG Disk (y)aab

checking express bankbook program
 checkexpress.doc how-to for above
 6/49 & west 2nd lottery # checker
 discat 1.0 cataloguing system
 d & d alcohol/blood calculator
 arena 2 player game
 arena.spr sprites for above
 brain quiz trivia stuff
 list-all utility to read files
 clarinet duet.40 musical amusement
 + clarinet.spr sprites for above
 draw n paint.40 doodle type fun
 forecaster predict the weather
 library128 v1.2 data management
 pergeo.40 perspective drawing tool
 note jotter.80 simple word processor
 chart/graph 40 see statistics
 c128 memory map as it says
 seq reader 128 list seq files
 jack-o-lantern.40 hallowe'en fun

TPUG Disk (y)aac

xmas card c128 sound & sprite demo (seasonal)
 .xmas binary sprite file for above
 patterns.y for stargazers (40 col)
 comma sense.y punctuation tutor (40 col)
 sound designer create & save sounds (40 col)
 catalog where your sounds are saved
 music maker more for sound buffs
 farm game understand 'farm-aid'
 disassembler v1 disassemble object code to screen or printer
 xlink2.1 transfer files to different formats
 xl.ml3 machine language routine for above
 xlink.doc documentation for above
 basic cross ref see how your programs bounce around
 purge128 scratch files & validate disks
 fast/copy 128 single file copier

TPUG Disk (y)aad

Autoboot This will allow you to initialize or cancel the boot track on a disk
 Banner Prints posters on Commodore printers.
 Compactor Compacts a BASIC program so that it occupies less memory and runs faster.
 P-compactor Compiled version of above.
 Uncompactor Reverses the above process, breaking up multiple statement lines.
 P-uncompactor Compiled version of above.
 Convert BASICS Analyzes a program and reports possible conflicts when porting the code to a different machine.
 Cross-ref Cross references a program listing occurrences of variables, gotos and gosubs.
 Day of the week Gives the day for a given date
 Delete all Lets you do a mass deletion of files from a disk.
 Function keys Sets the function keys to have the ASCII value that they have on the C-64.
 Merge A disk based merge routine.
 Xlink2.1 Lets you transfer files to/from MS-DOS, CP/M and CBM disk formats using at least one 1571 disk drive
 Xl.ml3 Used by above.
 Xlink.doc Documentation for Xlink2.1.
 Library 1.3a Creates one library file out of a number of smaller files for easier telecommunications.
 Single-copier A 1571, single drive, selective file copier.

Cross-ref.128 A cross reference program that reports variables, gotos and gosubs.
 Calc-40 A simple calculator for the 40 column screen.
 Calc-80 80 column version of above.
 Escape codes A tutorial on the use of the C-128 escape codes.
 File reader (wp) A program to read sequential files and some word processor program files. 80 columns.
 P-file reader Compiled version of above for some needed speed.
 Disk doc.c-128 A disk modification utility.
 Scopy.c-128 A single drive copier.

TPUG Disk (y)aae

Envoyterm 80 columns only, Hayes/1670 compatible, 300/1200 baud, Punter/Xmodem transfers.
 Envoy2.ml Loaded by above.
 Phx.boot Loads and runs Phoenix Term.
 Phx-term v8.0 80 columns only, 1670 modem, 300/600/1200 baud, Xmodem/New Punter.
 Phx.loader Used by above.
 Phx.ml Used by above.
 Phx.ml2 Used by above.
 MicroVT 128/1.4 A full featured, freeware, VT52 terminal emulator.
 Send \$ for docs
 Help.s80-a Used by above.
 Help.s80-b Used by above.
 Help.s80-c Used by above.
 Help.s80-d Used by above.
 Gold.keys Used by above.
 Ascii.mts Used by above.
 Tetsel.mts Used by above.
 Nezterm 4.0 80 column only. Has a 55k buffer, and allows multiple file transfer. Works at 300/1200, new Punter protocol.
 Term 4.0 Loaded by above.
 Superterm128.c1 40 columns only, 300/1200, new Punter protocol.
 Term128.c1 80 columns only, 300/1200, new Punter protocol.
 Term.c1/128 Loaded by both Superterm128.c1 and Term129.c1.
 Cpmterm 80 columns only. Uses xmodem and lets you download to C-128 SS CP/M disks.

CP/M Disks

Many of the programs on these disks are contained in .LBR (library) files. To remove them from the library use LU.COM (library utility) or LSWEEP.COM contained on TPUG's CP/M starter disk ((Z)AAD) and other disks. To use LU.COM, type LU to start. -o opens a file. Then type the library file name. -l will give you a listing of the files contained in the library. Type -e followed by the filename to extract a particular file from the library. Wildcards (? and *) can be used to extract multiple files. See the accompanying documentation for more information.

Some of the extracted files will be in a squeezed format. This is indicated by a filetype of .xQx where the Q indicates a squeezed file. Use USQ.COM or NSWP.COM on the TPUG CP/M starter disk ((Z)AAD) and other disks to unsqueeze these files.

TPUG March 1986 ** Disk Code: (Z)AA
 Title: Systems Upgrade Disk**

NEWSYS.COM This is the file that will upgrade your CPM + SYS file so that it will support the RS-232 port among other things.
 C-128.DOC This is the instructions for creating an upgraded CPM+ SYS file.
 CONF.COM This file allows you to configure various aspects of the 128 system while in CP/M mode. This includes shutting off the 40 column screen to increase system speed, changing output to printer to ASCII plus much more.
 CONF.HLP This is the documentation file for CONF.COM
 C1571.COM This utility doubles the write speed of the 1571 in CP/M mode. This is accomplished by disabling the verify. Use at your own risk.
 SWP.COM This is not an upgrade file but it is a very useful, very popular file copy utility. It is menu driven and fairly intuitive. Copy all or part of a disk in one sweep.

TPUG March 1986 ** Disk Code: (Z)AB
 Title: Telecommunication Utility Disk**

IMP-C128 This is a very good telecommunications program that supports XMODEM communications protocols, batch file transfer, 1200 baud plus more.
 IMP.DOC This is the very complete documentation file for the above. READ IT BEFORE USING IMP-C128!
 LU310.COM Many of the files available on bulletin boards are crunched together in a .LBRary file. This utility lets you extract and restore files from a library file.
 LU310.UPD This file contains update information about the Library Utility file. It is not a documentation file but will do till one comes along.
 LDIR22.COM This utility lets you look into a .LBRary file so that you can see which files to extract.
 LDIR22.MSG Again, not a documentation file but it will do for now.
 TYPL35.COM This utility lets you type out to screen or printer the contents of a .LBRary file.
 TYPL35.DOC Finally a documentation file. It is always a good idea to read these things!
 USQ20.COM Unsqueeze files that have been squeezed to save space. This will usually have a filetype of .xQx .

SQ17.COM This utility will squeeze files.
SQUEEZ.DOC Documentation for the squeeze/unsqueeze utilities.

TPUG April 1986 ** Disk Code: (Z)AC**
Title: Ora Flaningam Utility Disk

This disk was made possible by the generous donations of Ora Flaningam. The TYP.ME file was written by Ora subject to editing by myself.

To: all users. From: Ora Flaningam

This disk contains utilities programs which I have collected from Kaypro public domain sources. I have tried all of them and they all seem to work fine on the C-128. Some of them, you will find, are of exceptional value. Below I will give an abbreviated description of them. There are either separated document files for them, or they work simply by typing the filename.

D.COM, SD.COM, and ZX.COM are all directory list programs. They are all shorter and faster than DIR.COM which Digital Research provides with the CP/M operating system. They all alphabetize the list. Some in horizontal format, and some in vertical. Don't expect the note on k bytes free to be correct. The C-128 double sided disk holds 336 K. The total k bytes used is usually correct so you can mentally see about what the extent of disk usage is. There utility is in their small size and speed.

DU.COM is a disk edit utility. Extensive documentation is given in **DU-V83.DOC**. In this and other utilities which access disk sectors you may run into problems with the utility trying to 'talk' to sectors which aren't there since the Kaypro has more disk capacity than the C-128. I haven't used it extensively, so use care.

LDIR, LRUN, LU, LUX, LUXDIR, LUXTYP are all parts of the Library Utility system. Documentation is given in **LU300.DOC**. Since CP/M never saves less than 2 k blocks even for a two line comment, a lot of disk space can be wasted. Putting similar files in libraries can save a lot of space and also be convenient for copying and sending files by modem.

MFT.COM is a Multi-File Transfer utility. It uses one disk and a machine buffer to hold as many programs as possible so a complete disk copy can be made in three or four passes with a single disk drive rather than one pass for EACH FILE using PIP. See **MFT.DOC**.

NSWP.COM is a major utility for multi-disk (two or More) file transfer. It also has many other uses. The documentation in **NSWP142.DOC** is extensive. It also has a help menu. Type ? after it stops.

SQ and **USQ** are 'squeeze' and 'unsqueeze' utilities used to make smaller files for phone transmission or to crowd more files on a library disk. NSWP also contains similar utilities. See SQ/USQ.DOC for documentation. A 'squeezed' file can be recognized by 'Q' in the middle of the file type for example: '.DQC' for a squeezed '.DOC' file.

SZP.COM is Super-zap. It will let you look at and change any byte or sector on a disk. Use it with care. It has a help menu, so it fairly easy to use. See **SZP.DOC** for documentation.

VDO is a little word processor. It uses commands similar to Wordstar. It has a help menu. Type control k to see it. I have not yet gotten all of its features to work. See **VDO.DOC**.

ZX.LBR is the original way that **ZX** came to me. It contains **ZX.OBJ** and **ZX.DOC**. If you use LU to extract ZX.OBJ and rename it to ZX.COM you have a working copy of ZX.

LIBRARY.LBR is an empty library you can use to store other programs.

TPUG May 1986 ** Disk Code: (Z)AE**
Title: BASIC-E

E-BASIC LBR This library contains a number of versions of Gordon Eubanks public domain EBASIC, a BASIC interpreter. See EBASIC.DOC for elementary instructions.

EBGAMES LBR This library contains a number of games that will run under EBASIC as supplied on this disk. Only the .INT files are included, no source code. Follow the directions in EBASIC.DOC to run them. As you may expect they are text based games.

OTHELLO LBR This is the game of othello designed to run under EBASIC as supplied on this disk. Source code (.BAS), .INT and .DOC files are included. See EBASIC.DOC for instructions on how to run.

TPUG May 1986 ** Disk Code: (Z)AF**
Title: Telecommunications

MEX LBR This contains the MEX.COM, MEX.HLP files (a full featured, professional style, telecommunications package) as well as a number of documentation files.

MEX110.WS is a WordStar-style manual. It can be printed using VDO.COM on TPUG disk (Z)AC.

KERMIT LBR This terminal has fewer features than MEX.COM but it does support the KERMIT protocol for file transfers, widely used for micro to mainframe communications. Documentation is included.

TPUG June 1986 ** Disk Code: (Z)AAA**
Title: Languages

SMALC1 LBR This is a version of the Small-C compiler. This is a large library of many small and a few not so small files. Most of the files have accompanying documentation files. Only .COM files are included. While the source files are available, no one has made them available to me. The documentation files that are included detail the specifics of this compiler, they are not a tutorial in C.

LLLBASIC LBR This library contains all of the relevant files for this BASIC interpreter, source code, run-time interpreter and documentation file.

FORTH123 COM Unlike the previous file, this implementation of the FORTH language comes with nothing but the .COM file. If you can figure it out and put together a documentation file, please send it in.

TPUG June 1986 ** Disk Code: (Z)AAB**
Title: Utilities

CPM3LIB LBR This library contains a number of CP/M Plus ML subroutines. Documentation included.

DIR+ COM This is a file handling program. Enter a ? for the command menu.

Z80ASM LBR As the name suggests - a Z80 assembler package.

FIND COM This program searches disk/files for a specified string. Enter FIND with no arguments for usage instructions.

XREF LBR This is an ML cross-reference utility program. Documentation is included.

LISTT COM Produces formatted output to the screen or printer. Enter LISTT with no arguments for instructions

UNERASE.COM Searches and recovers 'lost' files.

VDE COM This is a very good text editor. Enter ESC ? for instruction menu.

XDIR COM Produces an extended directory listing.

CALC LBR Simulates an HP calculator while exhibiting internal logic on the screen. Documentation is included. The TERM files let you customize installation.

NEAT LBR These programs tidy up assembly language program listings. Documentation is included.

BACKGA COM This is a version of the popular board game.

SARGON COM This is a version of chess.

TPUG Sept 1986 ** Disk Code: (Z)AAD**
Title: Starter Disk

C1571/2 COM Speeds up 1571 write times for MFM as well as GCR formats.

CONF COM For configuration of C128 CP/M system attributes.

CONF HLP

FORMAT2 COM Allows 1571 to format MFM disk formats.

LSWEEP13 COM A sweep like utility to extract files from libraries.

LSWEEP10 DOC

LU310 COM Utility to create and dissolve libraries.

LU300 DQC

LU310 UPD

NEWSYS COM A program to upgrade the C-128 CP/M system. Type newsys for instructions.

NSWP207 COM A very versatile file manipulation utility.

NSWEEP DOC

VDE COM A WordStar like wordprocessor.

VDE DOC

UNERASE COM Recovers scratched files from a disk.

UNERASE DOC

TPUG Sept 1986 ** Disk Code: (Z)AAE**
Title: Yale Pascal

This is disk one of three ((Z)AAE, (Z)AAF, (Z)AAG) which contain this public domain PASCAL compiler. It has been tested on the C-128. This disk contains the documentation files:

MANUALWS LBR

PASDOC1 LBR

PASDOC2 LBR

TPUG Sept 1986 ** Disk Code: (Z)AAF**
Title: Yale Pascal

This is disk two of three ((Z)AAE, (Z)AAF, (Z)AAG) which contain this public domain PASCAL compiler. It has been tested on the C-128.

PCDS LBR

PCDS1 LBR

TPUG Sept 1986 ** Disk Code: (Z)AAG**
Title: Yale Pascal

This is disk three of three ((Z)AAE, (Z)AAF, (Z)AAG) which contain this public domain PASCAL compiler. It has been tested on the C-128.

COMMAND LBR

README NOW

REZ7/31 LBR

RMAC MOD

TPUG Dec 1986 ** Disk Code: (Z)AAI**
Title: Eliza & Snoopy

ELIZA.COM a basic version of the famous "Doctor Is In" program originally written in Lisp.

SNOOPY87.CAL The famous calendar, updated for 1987. Read README.CAL to get printing instructions. TYPE SNOOPY86.CAL for screen display.

@.LBR An expression evaluator to give you BASIC2.0/7.0 direct mode capability under CP/M. Extract both files, rename @.OBJ to @.COM. Enter @<Return> and follow the instructions.

CPM-BEST.1Q6 A list of the most popular CP/M programs compiled by one of RCPM BBS. Included comments could point you to some gems you haven't seen before.

TPUG November 1986 ** Disk Code: (Z)AAH
Title: Utilities

BANNER COM Prints a horizontal banner on your printer

BANNER DOC

BISHOW COM Displays regular, library and squeezed files backwards and forwards.

BISHOW DOC

CATCHUM COM A Pacman like game.

CATCHUM DAT Data file for above.

CATCHUM DOC

LSWEEP10 COM A 'sweep' like utility to extract library files.

LSWEEP13 COM

MORTGAGE COM Amortizes a Canadian mortgage.

MORTGAGE DOC

NULU-1/1 COM An enhanced, full featured library utility.

NULU DOC

RACQUEL Text file picture of this well known women.

RACQUEL DOC

ROMAN COM Converts decimal numbers to roman numerals.

ROMAN DOC

SQ-1/5A COM A squeeze utility with size reduction analysis.

SQ-1/5A DOC

VFILE COM Disk file utility. Requires patching for the C-128.

VFILE DOC

VFPATCH ASM

VLIST COM Lists a file to screen with speed control.

VLIST DOC

TPUG Sept 1986 ** Disk Code: (Z)AAC**
Title: Utilities

COMPARE COM Compares two textfiles and reports differences.

COMPARE DOC

WCOUNT COM Counts the number of words in a file.

WCOUNT DOC

DISPLAY COM Displays files; allows forward/backward movement.

DISPLAY DOC

SORTV COM Sorts fields in a file in ascending order.

SORTV DOC

DU-V87 COM A full-featured disk utility.

DU-V87 DQC

FBAD58X COM CP/M Plus version; finds bad disk sectors.

FBAD58X DOC

FORMAT2 COM Program to let the 1571 format MFM formats.

EDFILE COM Allows editing of hex or ASCII files.

EDFILE DOC

NSWP207 COM Very versatile file manipulation utility. A must.

NSWEEP DOC

SPELLING LBR A library of programs comprising a spelling checker. Documentation is included.

TPUG January 1987 ** Disk Code: (Z)AAJ 1/2
Title: Micro Tools

TPUG January 1987 ** Disk Code: (Z)AAK 2/2
Title: Micro Tools

Micro Tools are a unique way of approaching computing - a package of general-purpose programs with a great deal of flexibility designed to be linked together to perform a multitude of computer tasks. Be sure to look through the documentation in the MTLSDOC.LBR. Then try the program PR.COM to get some interesting options for your printouts. Note that the command permits chained options, ie -xyz rather than -x -y -z as you may be used to with NULU. Pipes, tees & input/output redirection are available, a la UNIX, so you can try some of the features you've only heard about, so far. For example, to print using PR.COM, enter:

```
pr [options] [file(s)] >lst:
to print on the printer or :
pr [options] [file(s)] >lstfile
to 'print' to a disk file named lstfile.
```

NOTE: > is the shift/period key combination

Also included on (Z)AAK are a couple of other goodies:

Sideways to print on an Epson printer - not tested, so performance reports would be appreciated. Source is included so if it needs fixing and you can, submit the revised version so we can update our library.

Cookies is a file of 'proverbs', some specifically for computerists, to ponder while you print that long report or sort that file.

