

President's Report

TPUG is celebrating its 10th year as the oldest registered Commodore Computer Club. As a 10 yr old, it can look back upon the previous year, and chart its changes.

TPUG has substantially lowered the prices of its disks.

As of July 1987, TPUG released its first summer disks of the month.

To conform with the above, TPUG has altered its disk of the month subscription to include both the lower disk prices, as well as the 12 months of disk releases.

TPUG now has a disk catalogue for the most popular libraries, namely, C64, C128, CP/M, Amiga. The Amiga library, following the lead of the C64, the C128 and the CPM libraries, has grown significantly larger, and now includes original TPUG Amiga disks.

TPUG is pleased to note that turn around time for processing memberships and disk sales is now reduced to four days, thanks to the efficiency of our present office staff. There are now two part time as well as one full time office staff members, Judy Bella, Joy Bennett and Dorothy Hoellwarth, making concerted efforts to respond to your concerns in these two areas has reflected in an increase in profit from \$6,000.00 in 1986 to \$12,000.00 in 1987.

TPUG has been very active since April '87 on Quantum Link, maintaining our own area within the Commodore Information Network. Not only have we uploaded choice programs for the C64 and the 128, but are also answering varied questions on all Commodore machines. Because of our expertise on the PET and VIC 20 machines, we have been invited to expand our sphere of influence in the Network. We will soon have choice PET and VIC 20 programs uploaded to our online library. As of August, we also opened an active conference area online, so that not only TPUG members may join the TPUG conferences, but also non-TPUG users may come and look us over, so to speak, and to get acquainted. TPUG's online association has introduced the world's largest (and oldest) User Group to many of the newer users of this fine machine.

TPUG partook in the three major computer shows in Toronto this year. (World of Commodore, Computer Expo, and Computer Fest) This gave me, and the 'show team' the great opportunity to meet many of our members face to face, renew many old acquaintances, make new friends and welcome many new members. I enjoyed having the opportunity to help raise public awareness of TPUG, and of its many services, and to show the public that Commodore Users are in the forefront of computer happenings.

TPUG is planning on expanding its role at the World of Commodore Show in December '87, to include being Group Host for all the User Groups in North America, if not the world.

For the first time, we are acting hand in hand with Commodore of Canada. In early August, Commodore of Canada came to us to request help in their promotion of the Amiga. In exchange for the names and addresses of the TPUG Users' Group Representatives, Commodore installed a Canadian 800 number (668-0160). This is the number that dealers may use to contact TPUG, in order to issue 'on the spot' memberships to future Amiga owners. This special Amiga deal (which is also available to registered current members) and the 800 number, are to end Oct 31, 1987.

This has been a year for financial recovery for TPUG. Planning, expertise and many long hours of volunteer work have paid off in a stabilization of the membership (approximately 6,000), and a sound bank balance.

I would like to thank the many volunteers who, over the years, have helped make TPUG what it is today. Some of these people include:

Our meeting co-ordinators: William Barrett, Gord Campbell, Donald Dalley, Mike Donegan, John Easton, Keith Falkner, Don Farrow, Allan Farquharson, Gerry Gold, Victor Gough, Jim Hamilton, Ian Mackintosh, Avy Moise, George Skinner.

Our librarians: Paul Atchison, David Bradley, Syd Bolton, Derik Campbell, Ernie Chorny, George Davis, Mike Donnegan, Bill Dutfield, John Easton, Victor Gough, Colin Justason, James Kokkinen, Jane Parris, Adam White, Ray Widden.

Our Board of Directors: Chris Bennett, David Bradley, Richard Bradley, George Davis, John Easton, Carl Epstein, Keith Falkner, Allan Farquharson, Gerry Gold, Mike Donegan, Meyer Toole.

Our BBS Operators: Sylvia Gallus and Steve Punter.

Our Quantum Link SysOps: David Bradley (David Bradley) and Jane Parris (JaneParris).

And all other volunteers, especially George Shirinian and those I have come to affectionately call 'my show team'.

In closing, I thank you all for your support, help, and input throughout the past year. I wish you continued success and may fortune smile upon you in the years to come.

Questions

... Concerning TPUG or the TPUG insert, should be directed to the TPUG office, 5300 Yonge Street, Willowdale, Ont. M5N 5R2, or phone 416-733-2933

Want to earn \$50.00 easily?

Send TPUG a usable one page (1200 word) article (or fraction thereof) on Commodore computing that you have written, and that we may publish in the insert, and TPUG will pay, in return, \$50.00 Canadian per page. Please submit to Transactor, dept TPUG, on disk, and indicate W/P used. Or you may choose instead, to receive a free years' subscription to TPUG instead! Your choice!

Update on the 'Amiga Deal'

After talking to some of the retailers in and around Toronto, it seems that about 50% of the people coming in the their stores to look at the Amiga, do buy it, swayed by the software package deal. In response to this local increase in Amiga owners, TPUG is opening a Central Amiga Chapter. For more information, see meeting schedules, elsewhere.

Correspondence from England

A letter received from A. D. Miller, of Essex, England, leaves me with the distinct impression that Commodore PD software is in great demand over there, selling for £4 -£5 per disc. Like you, I was astounded to find out that the majority of C64 owners there use the datasette as their storage medium! I was aware that the PET, C16 and Plus4 were alive and kicking there, but had no idea of their dearth of PD C64 software!

Anne E. Gudz, President TPUG 1986-1987

World of Commodore

The world's largest best attended Commodore Computer show is taking place Dec 3-6, at the International Center, Airport Road, Toronto.

There will be more than 120 exhibitors, occupying approximately 60,000 sq. ft. of floor space. This is the only show in North America that Commodore itself has a booth (3,000 sq. ft.). Also included in the list of exhibitors (besides TPUG, of course) are: Desk Top Computers, Electronics 2001, Phase 4 Distributors, and Thornhill computers, to name but a few. For a bargain hunter as myself, it was a virtual paradise! Each day of last year's show saw bigger, better and different bargains, and I expect the same of this year's show!

Probably the best bargain, of course, is the TPUG Public Domain disks. Our entire library will be available, at the special show price of \$5.00 each (5 1/2" floppies only)! If you have large orders, I suggest you call the TPUG office NOW and have them prepare your disks for you, then you do not have to wait in line for the show team to duplicate them! (Canadians can use the 800-668-0160 number until October 30!)

You may also pick up, at the TPUG show booth, back issues of the TPUG magazine, at bargain rates, as well as information of where the bargains of the day are to be found!

For overnight visitors, TPUG has arranged a special rate of \$65.00 Canadian per night, (single or double), at the official WofC hotel: SKYLINE TORONTO AIRPORT HOTEL, 655 Dixon Road, Toronto, Ontario, Canada, M9W 1J4. We have arranged for a mini-bus shuttle service from the hotel to the show, morning and evening, for your convenience. As well, at the hotel, there will be a TPUG hospitality room, so that members, friends and users may congregate to swap stories, exchange information, find out what to see and do in Toronto. Don't be surprised to see such notable 'drop ins' as Jim Butterfield, Steve Punter, Sylvia Gallus, Karl Hildon, Nick Sullivan, TPUG Board of Directors, other User Group's representatives, and even Commodore representatives! I know that many of the QLINK SysOps, Qguides and up-loaders will be at the show and are invited to the TPUG hospitality room. Here is your chance to meet, in person, so to speak!

Call the Hotel directly when you book your reservation, and inform the desk that you are attending the World of Commodore Show. Otherwise, you will not receive the reduced rate. SKYLINE phones numbers: local 244-4296, Ontario toll free 1-800-268-1444, Canada/US toll free: 1-800 268-1332

Regular Admission rates to the show are

\$6.00 adults, \$4.00 students/seniors. However, if you have the \$1.00 off coupon, that will be honoured, or, if you have forgotten to bring that, do bring your valid TPUG membership card, which will act as the coupon. TPUG is working closely with the promoters of the show, The Hunter Group, to offer a family entrance fee, as well as a multi-day pass. If you are interested, please enquire at the ticket booths.

For those teachers and/or senior citizens out there, busloads of 25 or more attending the show Dec 3 or 4 (only) may obtain special rates of \$3.00 each.

Another important feature of the show, is to be able to attend Free seminars being held at the show. There will be many speakers that Commodore itself will be featuring.

Last year, TPUG featured many speakers, on the Saturday and Sunday, and will do so again. Some of these are: Paul Atchison (CP/M fame), Jim Butterfield (what should I say?), Don Gray (author of "Computing for the Absolute Klutz"), Paul and Peter Hughes (the twins who do so well with computer graphics), John Moore (whose forte is the sprites/sound area on the C64), Brian Niessen, Chris Smeets (Arc Author, file handling expert), Don White (whose interests are for MS/DOS), and Steve Punter (telecommunications).

TPUG is still waiting to hear from Fred Fish, Keith Falkner, and Wayne Schmidt, amongst others.

The TPUG Conference speakers will be in the French Room, down the hall and around the corner from the main show. . . just follow the arrows. Stop by at the booth to pick up the speakers' schedule.

The third area of speakers will occur right on the show floor. Last year, the 20 minute mini-sessions held by software houses (eg Berkeley Softwork's GEOS demonstrations) were extremely informative, and will return, by popular demand. These mini-sessions are presented the entire 4 days of the show, so one can hear in this section alone, at least 75 sessions!

Those who have never been to this show, I heartily recommend you do make plans to attend. Too many times I hear, at the TPUG booth, "We had no idea the show would be so large, and interesting. . . we thought we would go thro' the show in a morning/afternoon, and have plenty of time for seeing Toronto. . . now we have to make a choice. . . Next year, we plan on staying at least one more day." Be forewarned! (and with the American exchange rate. . . the bargains!)

TPUG CONTACTS

TPUG OFFICE
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416-733-2933

Membership Info:

Regular Member (attends meetings)	\$35.00 Cdn.
Student (full-time, attends meetings)	\$25.00 Cdn.
Associate (Canada)	\$25.00 Cdn.
Associate (U.S.)	\$25.00 U.S.
Associate (Overseas - air mail)	\$45.00 U.S.

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Sysops	David Bradley	ID: DavBradley
	Jane Parris	ID: JaneParris
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7 days per week
The password is. . .

WORLD

The 1581 Disk Drive

by George Skinner

The Commodore 1581 Disk Drive is a very interesting drive in that the three and a half inch disk has a storage capacity of 802,960 bytes free when formatted. The 1571 Disk Drive has 349,696 bytes and the 1541 has 174,848 bytes when formatted. I believe most people have seen the three and a half disk, but what are the advantages of this disk besides the physical size? The most noticeable difference is the hard plastic outer case that protects the read/write portion of the disk itself, and the sliding metal dust cover that shields the memory surface from dirt. This metal shield is spring-loaded and opens when the disk is placed in the drive. This advantage makes the disk ideal for children's use because of its durability.

The 1581 Disk Drive physical dimensions are five and a half inches wide, two and a half inches high, and nine inches deep excluding power and serial cables. The drive also has the DIP switches to change the drive numbers. The drive has a separate power supply and consumes 10 watts of power, keeping the drive itself cool, and therefore the drive could be placed in a confined area without the problem of overheating. I am not saying the drive could be placed in a tight location, but the drives could be stacked or placed on top of one of your other drives to conserve desk space without fear of overheating.

Although Commodore has not stated the serial transfer byte speed, it is safe to say that it is a lot faster than the 1571 drive, and nearly as fast as some hard drives. The drive handles all BASIC 2.0 and 7.0 commands and therefore can be used with nearly all Commodore computers.

The formatted disk can handle 296 files per DSDD diskette, and only DSDD diskettes should be used. The disk contains 80 sectors with sectors (0-39) and (41-79). The diskette can be partitioned using a program called 'Partition Aid', which segregates the disk into smaller disks allowing the use of root and sub-directories similar to the Amiga.

In the box with the drive is a '1581 Users Guide' containing 128 pages of information, cables and power supply, and the 1581 Demo/Utilities disk. The book briefly talks about some of the programs and technical aspects of this drive. The book talks about

burst mode, internal operations, commands, and the track cache buffer. All in all, a sturdy book with lots of information regarding this drive. The Demo/Utilities disk contains some new programs written for this drive: such as the Partition Aid program to create root and sub-directories; Uni-copy a copy program that copies programs to partitioned directories (root and sub-directories), and other drives; Show BAM, which is required to show the allocated areas on a disk, with most programs being of excellent quality. One program demonstrates the speed of the 1581. Called 'Pic Demo 128', it is a graphics program with a dissolve feature, similar to a program called 'Cslide Show 128'; however, this program is different in that the graphics are in a sub-directory on the disk called 'Pic.Dir' and is 400 blocks in length. Some of the programs on the Demo/Utilities disk are for the C-64 owner, some for the C-128 owner, and the rest can be used on either computer.

The sub-directories of a disk are easily visible when listing or printing a directory of a diskette. Where the type of file is shown on the listing instead of 'SEQ', 'REL', 'PRG', or 'USR' file designation you will see 'CBM': for example:

```
400 'PIC.DIR'  CBM
```

The only problems I have seen so far is a lack of documentation for 'Partition Aid' and Uni-copy, although Uni-copy is fairly intuitive there should have been a couple of sentences about the program. Partition Aid does need some documentation as what is mentioned in the book is generalized and would be very confusing for the new owner. Show BAM is very straightforward but there should have been a short sentence stating that to display the BAM of the 1581 you have to step through the other disk drives. To accomplish this a disk has to be placed in the other drives and the program stepped through the drives until the BAM of the 1581 is shown. A short help screen can be displayed by pressing <RETURN> and the simple letter command appears on the screen.

The 1581 drive is an excellent piece of hardware, although there are a couple of minor problems. When an error condition on the drive occurs the drive light does not always flash but the power light blinks slightly and I have to use the Initialize com-

mand to clear the error. The disk drive is not for the person who purchases his first drive, as there are no commercial programs available yet! It is perfect for a second or third drive. If unprotected software is purchased the program could be easily copied onto a disk using a copy program and in this way used as the first drive. It would be very handy for the person who must load or save large programs to a disk, or needs to reduce the size of their computer setup.

Altogether an excellent product from Commodore, and at the price of \$400.00 Canadian approximately, will be handy for most computer owners.

The large storage capacity of this diskette of slightly over 3100 blocks, will be of interest to those who may be thinking about a small hard disk drive for their personal use.

MEETING SCHEDULE

C128: 1st Tuesday of the month:

1987: Nov3 Dec1

1988: Jan5 Feb2 Mar1 Apr5 May3 Jun7

Amiga Central: 2nd Tuesday of the month:

1987: Nov10 Dec8

1988: Jan 12 Feb9 Mar8 Apr12 May10 Jun14

C64: 4th Tuesday of the month, except Dec.:

1987: Oct27 Nov 24 DEC15

1988: Jan26 Feb23 Mar22 Apr26 May24 Jun26

All the above meetings commence 7:30 pm in the York Public Library, 1745 Eglinton Ave W (just east of Dufferin), in the Auditorium or Story Hour Room

Westside: **2nd*** Thursday of the month

1987: Nov12 Dec10

1988: Jan14 Feb11 Mar10 Apr14 May12 Jun9

Amiga West: **2nd*** Thursday of the month

1987: Nov12 Dec10

1988: Jan14 Feb11 Mar10 Apr14 May12 Jun9

* Formerly 3rd Thurs. The above two meetings take place at Clarkson Secondary School, Bromsgrove Rd. just east of Winston Churchill Blvd, Mississauga, in the Little Theater.

Eastside: 2nd Monday of the month

1987: Nov9 Dec14

1988: Jan11 Feb8 Mar7 Apr11 May 9 Jun13 at Dunbarton High School, in the computer room (north on White's Road from the traffic lights at Highway 2 and White's Road to next traffic lights; turn left to parking lot.

For further details

please phone the TPUG office at 733-2933

Yes, There IS a Difference Between Micros and 'Big' Computers

by **Geoffrey Welsh**

For a long time I've been announcing proudly that the distinction between microcomputers and their bigger brothers was slowly disappearing. The 68000 family, the 32000 family, and now the 80386 processor are catching up on the speed and power found in minicomputers like the System/34, the VAX series, and even mainframes. But I didn't consider a few things that put the dividing line there to begin with.

Stewart Martin, president of ProLine Software, once said to me that the 4K PETs weren't good for a whole lot, except that they taught us that any program we wanted to run on a micro would have to be written – and written well – in machine language for size and speed reasons. Without realizing it, he stumbled across the dividing line between micros and 'big' computers.

Nearly all of the programming being done on mainframe-type computers was done in a high level language like COBOL or FORTRAN and compiled to machine code. Even the compilers were written in a high level language on a development system. And they weren't very efficient; a compiler must second guess what the user meant to do with a certain instruction and, if a single precise intention isn't obvious, the compiler must write code to do everything that the high level command might mean. If you wanted the program to run faster, you simply added more processors or more RAM to your computer, or you went to a larger computer. Of course, that all cost lots of money, but the owners of these computers were mostly governments, universities, or large companies so, while budgets were limited, they were far larger than individuals or small businesses could afford.

On micros, we were limited to one processor and only so much memory. And compilers generally weren't available, and none could accomplish in the limited memory what could be done with machine code. So, any applications programs had to be written in assembler, and one needed to know the machine inside out to write an application program for it. But the PET wasn't hard to learn; with a little help from a tattered photocopy of Jim Butterfield's 'memory map', I soon discovered all the PEEKs, POKEs, and SYSes one might use from BASIC. I knew all the I/O chips and what every bit in them meant. And I knew most of the ROM routines one could JSR to. 6502 was challenging to someone who

had taught himself BASIC, but it took very little time to get to know the machine's innards so that I could write programs in assembler.

The 64 was a bit more complicated; the rules of the I/O chips changed, and the serial bus was the Rosetta Stone beside the IEEE-488's Dr. Seuss. And I learned quickly that many things can go wrong while you have the ROMs 'banked out'. But I learned how to sidestep all of this, mostly with the help of the C64 Programmer's Reference Guide and *The Anatomy of the Commodore 64*.

When I prepared to settle down and do some serious applications programming on the 128, I found things were another degree more complicated. Memory management units, bank configurations, DMA RAM cards, indirect access to 80 column video RAM, 44K (count it all!) of ROM – so much that I couldn't hope to memorize all the calls – and a serial bus that throws a curve or two at people who didn't quite understand the logic (or lack of it) of the VIC/64 version. The point is, even if I was a very proficient 6502 programmer, it would take so much longer to know the 128 as well as I knew the PET. There was just so much more machine involved.

Let's take a look at the Amiga. A distributor once asked me when we were going to see really good word processors for it. Much of what's out there for it (and this isn't limited to word processors) is slow because it was written in a high level language and compiled. Eventually there will be those who know the machine well enough to write software for the Amiga in assembler, but it can't help but take longer than it did for the PET, Apple, or 64, simply because the machine is so much more complex.

How long is it going to be before we build micros so complex that no one will make the effort to write in assembler? Certainly the C language will help in that it allows programmers to get at the bits, bytes and memory of a machine and that helps them code more efficiently. But it's not assembler and it, too, will lose its efficiency as programmers lose the specific hardware familiarity with the machines they write for. The programmers will be forced to rely increasingly on operating systems and compilers to take care of the machine-specific things they don't have time to learn. They will lose not only efficiency, but also reliability; if someone uses a compiler to write a word processor and the compiler makes a mistake, it is the WP author and not the compiler author who gets

blamed for the resultant bug. It doesn't really matter, though, as the result is that the users don't have the reliable program they paid for.

So, while my friends in the mini business brag that all they have to do to use their System/34 COBOL programs on a System/36 is change a '4' in the source code to a '6' and recompile it, I am sad to see micros demand that programmers use high level languages. Let's face it, programs like PaperClip and VisiCalc would have been far too slow to be worth buying (not to mention too large to exist in the limited memory) if they'd been done in any language other than assembler.

If we move to a more powerful computer and its complexity prevents us from writing our applications in assembler, we can say that the machine is no longer a true micro, but a 'big' computer. That's where I draw the line, and the Amiga may be only just this side of that line. Perhaps the -386 machines are already on the far side of it.

A microprocessor-based machine that matches the power of a mainframe will probably not be a 'true' microcomputer in the spirit of the Apple, PET, or 64. It will be just be a smaller, cheaper mainframe and it will never provide the performance/price ratio that the 'true' micros do. And the 'true' micro may be a dying breed.

But, performance/price ratios aside, the main reason I like the micro over the 'big computer' is, quite frankly, polish. I'm no expert on minicomputers or mainframes, but I have used them just enough to know what I don't like about them. And, as anyone who has moved from PaperClip on a 64 to XEDIT on a mainframe will attest, the extra power of the machine does not, in any way, contribute to the overall polish of the software it runs. Big computers run on the theory of brute force over ignorance; if the problem is too complex, build a bigger and faster computer and ignore the cost. With the microcomputer, programmers must accept constraints of cost (and therefore of speed and memory) when approaching the same task. Any fool can write a text editor for a mainframe; if you need another feature, just add it because there's plenty of room.

On the other hand, it takes a Real Programmer to come up with a full-featured word processor on a micro. And the result of Real Programmers taking a real interest in their work is, I'm glad to say, a product of superior polish and value.

Jim Butterfield

A-1 in past, present and future incarnations

by Bill Cumberland

In the late 1950's, when transistors were beginning to replace vacuum tubes in electronic circuits, waves of panic swept through the ranks of technicians and engineers who didn't understand these new devices. As training officer at CN Telecommunications, I frantically searched for a transistor specialist to join my group. There was no shortage of engineers and physicists who were prepared to preach the new gospel according to the "theories of drifting holes", but what was needed was someone who could transmit a truly practical understanding of transistor applications.

I heard a rumour that a technical supervisor out in the Yukon was writing articles on transistor theory and applications for US electronics magazines. A bit of digging produced the articles. Good grief, even I could understand them! This was the man we needed to bring solid-state enlightenment to CNT.

Within days the elusive JFB had been tracked to Whitehorse where he was confronted and propositioned to come to Toronto. Naturally reluctant to leave the True North Strong and Free to sink into the Toronto swamp he balked but, driven by pure desperation, my eloquence prevailed and Jim joined our training team with the label System Instructor - programmed learning.

Jim soon headed the team of instructors who trained the technicians for the massive Montreal-Vancouver microwave system. From the very first day on the job, Jim's new microwave technicians set a performance standard of 99.99% reliability.

In the midst of the scramble to train microwave technicians, the first of a series of great multi-million dollar computer systems appeared on the scene. There were fresh waves of corporate panic as this latest technological monster appeared. Jim was thrust into his next incarnation to play a major role in programming the new monsters.

Later, Jim moved into the marketing area where there was a need to exploit the potential of our facilities to meet increasingly sophisticated business communication needs. Regrettably for CN/CP Telecom but fortunately for thousands of people around the world, at this point, Jim's talents were grossly unappreciated and he rocketed off into yet another incarnation - the international GURU of Commodore.

Unlike other intellectual giants that I've encountered over the years, Jim never displays a trace of arrogance when dealing with those less well endowed with gray matter. He will quickly shift down to that person's intellectual level without a trace of condescension. This rare quality endears him to his friends around the world.

Post script: I've forgiven Jim for stealing and marrying the best secretary-den mother that ever existed!

TPUG DISK ORDER FORM

5300 Yonge Street, Dept O1, Willowdale, Ontario, M2N 5R2
(416) 733-2933

Welcome to **TPUG**, the world's largest Commodore Users Group. One of the reasons for belonging to a club is to gain access to some of the thousands of **public domain** programs that it has in its library.

As a small thank you for sending in your order, we have reduced the price of the **FIRST** disk you purchase to **\$5.00**. The **balance** is at the regular price of \$10.00 by mail. **Every 4th disk is FREE!**

Disk Number	Disk Name	Price
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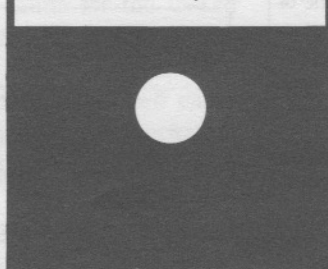
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I understand that TPUG is not liable for any damages that may result either directly, or indirectly, from the use of the software available in its catalog. I also understand that some of the products in this catalog are available on a Shareware basis. I agree that I cannot assume ownership of these products. TPUG is a Commodore user's group. TPUG provides a means by which Commodore users around the world can obtain public domain and Shareware programs.

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TPUG Disk of the Month . . . Library Disk



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TPUG is the World's Largest Commodore Users Group. It was founded in Toronto in 1978 and has been serving its members since that time.

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Pocket Modem 1200 From BOT Engineering For Commodore 64 and 128

Review by Geoffrey Welsh

Remember when BOT Engineering released the Pocket Modem 300? It was a good 1650 clone in that it worked exactly the way the 1650 did and provided at least the same level of product and data quality that the 1650 did. And BOT claimed that it would later be upgradable to 1200 baud. Some hoped, others laughed.

BOT's first 1200 modem was the PM-212. Not an upgrade to the Pocket Modem, but a fine Hayes clone unto itself. It had only five LEDs to Hayes' eight and came in a much smaller case, but it obeyed the full set of Hayes commands and S registers and provided data quality comparable to the other clones out there. I even put it on my BBS for a day and it worked flawlessly with software that normally works with only good Hayes clone modems - but only after I changed a default switch setting. BOT Engineering had put the switches inside the case, so one must open the modem to change them.

However, the PM-212 appeared to be one of the best values in Hayes clone 1200 baud external modems.

Just recently I have had a chance to play with the Pocket Modem 1200, BOT's "plug it straight into the computer" 1200 baud device. While clearly a new modem and not just an upgrade to the Pocket Modem 300, this device packs a lot of wallop into a small box. Only 3 1/2" by 2 1/2" and about an inch high, this may prove to be the smallest 1200 baud modem on the market. It sports two toggle switches (one to control originate/answer mode, one to set 300/1200/software selectable baud rates) and a carrier detect LED.

Data quality proved good and as long as I set the baud rate with the toggle switch, the Pocket Modem 1200 worked superbly with my terminal program in 1650 mode - even at 1200 baud. Although most software on the market will require you to set the switches in this way, the software selectable baud rate setting allows for new or modified software to do the setting for you. BOT even includes a BBS program in its package (which I did not test, mostly for reasons of time) to show that this setting allows one to run a 300/1200 baud BBS with this modem.

BOT also includes a copy of ThirdTerm. That's nice, because I'm really sick of people telling me that they just got a new modem and that they don't know how to download with their terminal. First of all, very few modems come with terminals CAPABLE of downloading, and every one operates differently. It seems that every time a new modem came on the market, a new terminal would accompany it and we'd all have to stop and take a look at it to find out how it worked so we could answer all the questions.

Although I don't use ThirdTerm, several people I know do, and it's nice to see a modem manufacturer including a terminal that is actually used by people who have a choice.

Now I will get to the only major drawback of these otherwise fine devices. With both the PM-212 and Pocket Modem 1200, BOT has tried to provide inexpensive modems for various markets. It seems that, to cut costs, BOT has also cut corners. At a store I occasionally visit, PM-212s are being returned with developed defects. A look inside them suggests that they were 'zapped' by high voltage spikes on the phone line, probably caused by electrical storms. The Pocket Modem 1200 probably faces the same fate. I don't know how much BOT saved by omitting 'zap protection' from their modems, but BOT's prices are simply not low enough to justify such a major omission. I suppose those with phone line surge protectors have nothing to worry about, and anyone willing to build or buy one need not avoid the BOT products. But the bottom line is, with this kind of damage possible, I would rather pay the few dollars that the BOT modem would have saved me, and stick to a more robust unit.

For information, contact BOT Engineering in Milton, Ontario at (416) 875-0525.

The Sentry From Firebird Graphic Strategy Game For Commodore 64

Review by Ben Vecchio

Imagine pitting yourself, via your robot emissary, against an energy-absorbing Sentry who's guardian of an alien landscape. Your mission is to move your robot to a point higher than the Sentry, absorb him, become ruler of the landscape, and thus be able to hyperwarp to the next higher landscape in this universe.

The Sentry is a challenging graphic strategy game much akin to chess but with the added excitement of timed movements. You've got to either hide or move quick enough to elude the gaze of the Sentry or one of his agents like meanies and Landgazers, who force you to move from your current location, making you expend energy and sometimes causing your robot to get destroyed, or more likely absorbed, by the sinister Sentry. And that's what the Sentry strategy game is all about: absorbing and expending energy.

You are in a world where the only constant is energy and time is measured by the inevitable scanning of the Sentry and his agents. In your quest to absorb and replace the Sentry you must accumulate energy by absorbing any of the various trees that dot the landscape. However, to absorb anything you must be able to see the square that it is on.

The entire landscape is made up of various

levels of coloured squares that you, in your robot, traverse. You do this by creating a new robot shell on a square in an area you want to be, transfer yourself into the new robot, then look over to the square that your old robot is occupying and absorb it.

Along the way to absorbing the sentry you must also build boulders and trees to aid you in your quest. Boulders are used for climbing up on and to see if the Sentry is scanning a certain area. If he is, the boulder you created gets absorbed and turned into a tree.

The trees are of a sufficiently low energy level that they aren't absorbed by the Sentry. This being the case, they make for excellent scrimmaging when the Sentry's scanner eye comes around, and that will only work if you can directly block the Sentry's view.

In the beginning levels, the strategy is to move and climb in the same direction the Sentry is rotating and to get enough energy to absorb the Sentry and hyperwarp to another landscape, preferably one much further along in the list of 10,000 landscapes.

I had to absorb the Sentry in the first landscape three times in order to get to another level. The first and second times, I absorbed him but did not have enough energy to hyperwarp, and was killed. The third time, I went a little slower and absorbed a lot more trees and was able to get from level 0 to 7 in one jump. When you go to a new landscape, you are given a secret code number to access it; better write down the code number so that it's easily retrievable, because if you forget it and can't find it, it's back to level zero again. You can use a blank white page in the back of the manual to write your secret pass numbers in.

The thrill of the Sentry is eluding its energy-draining gaze, getting to the top and absorbing it. You have to be fast and sure, realizing it may take many attempts to make any progress. But stick with it and you'll be greatly rewarded with chills and thrills.

As you turn and survey the landscape, inevitably your sensors will tell you that you are being scanned by the Sentry or a Landgazer - you'll have to think and react fast! You'll line up your sights to jump... but it may be too late. Your energy reserves are low and as the sentry absorbs the rest of it you don't even have enough of it to jump, and then it's all over; your worldview disintegrates and you are cast into darkness... only to start over again.

The Sentry features demanding strategies I have never before encountered. Each landscape is represented in really stunning solid-modelled three dimensional graphics. You will probably never complete all the landscapes offered in Thr Sentry, but with the challenge it presents, you'll get hooked trying.

The Sentry is disk-based, has a suggested retail price of \$39.95 and comes with an illustrated booklet, quick key guide and a free pin-on sentry button. Right now the Sentry is only available for the C64/128.

Chess and Computer Chess Boards

by Vincent J. Mooney

The Greater London Council Chess Challenge, held from March 11 to March 27, 1986, in London, England, introduced a new computer technology to keep track of the moves. The moves were "watched" by a computerized chess board unit. The chess boards and pieces looked normal, but they contained hidden electronic devices to monitor moves. These pieces were later used at the 1986 Kasparov versus Karpov World Championship match. The first 12 games were held in London, England.

The pieces and the board were developed by a London-based company, Intelligent Chess Software, Ltd. Each of the pieces contains a coil of wire, and there are electronics under the board that can detect how many turns of wire are in the piece above each particular square. In this way, the computer recognizes whether or not a square is occupied, and if a square is occupied the computer knows which piece type and colour is on that square.

Every few seconds the board transmits the current position to an IBM personal computer. This also happens whenever a piece is moved. The transmission of data to the computer from the board uses a single cable. The IBM computer converts the position into a coloured graphic display that can be seen on television and large screen monitors. For the Karpov vs. Kasparov match, a direct link from the computer to the BBC's computer at the BBC Television Centre was made and, from there, the display was sent directly to television sets in Britain, Belgium and the Netherlands.

This game monitoring system solved a traditional problem of chess tournaments - how to keep the audience informed of the state of the game. The old solution was to have a person watching each game and, in the case of a tournament such as the GLC Chess challenge, watching two, three or more games. The person then moved pieces on a wall board after each move in the game. The wall board staff often had troubles near the time control limit, because moves occurred rapidly and because their physical presence, needed to view the board, was annoying to some players.

The new system removes the need for a human recorder on each game, and keeps up with the play no matter how fast the moves are made. It also permits game displays to be transmitted over very long distances. The chairman of ICL Ltd. is British International Chess Master David Levy. The ICL system may well become the standard system for many tournaments.

TPUG LIBRARY ADDITIONS

TPUG (C)AAN Aug'87
Disk of the Month
Presented by Ken Poulton
76 blocks free

The first program (**Ultra Seq-Print V5.5**) on this disk is courtesy of R.W. Kober. It is an extremely well documented program that allows one to view on screen or print sequential files. It sends to the printer in either 40 or 80 character mode. One has the option, as well, of printing the 40 character output in one column or two! Also included are disk housekeeping routines (scratch, rename, format, view), behind a well thought out and well planned menu screen. This program is a must for anyone who has any reason to read sequential files.

Robbers is a fast action, colourful, cops and robbers multiscreen rescue arcade game by Mike Davis, involving diamonds, ghosts, safes and mines.

The **Script Analysis** program by Bob Spirko does an excellent job of analysing a person's handwriting. Results may be saved onto disk, tape or sent to printer.

Electronic Diary by zenyatta lets one enter and read items that one has saved to disk. There are some disk housekeeping features as well, such as file deletion and cataloguing.

EZDISK by Jim Branberg is an utility program that allows a number of functions, such as view, scratch, rename, initialize, validate, format and most importantly, to unscratch a splat (+) file!

CROSS-REF 64 comes to us from Jim Butterfield. It is a tiny powerful program, for those who like to write Basic Programs, or read other peoples' BASIC code.

The last item on the disk is a Spanish I Dictionary Program, that translates English to Spanish or vice versa. More is available from the author, K.E. Clayton Jr., upon nominal charge.

disk: TPUG.MUS MUSIC1 (C)SK
1 block free
presented by David Bradley

This disk contains the 'MAGIC SID MACHINE', a modification of the 'Magic Music Machine V2.0' adapted to run SidPlayer files. All music files on this disk are .mus files. Selections include: Amadeus, Aquarius, California Girls, Chopsticks, Disco Duck, and many many more. Enjoy!

The next two disks are TPUG's first digitized music disks. Each contains but 3 short (less than 10 seconds each playing time) selections. I am sure you will marvel at how so many blocks were used for the sound reproduction as you listen again and again!

disk: TPUG DIGI MUSIC1 (C)SL
presented by David Bradley

-Free Yourself
-Die Aertzle
-Woody Woodpecker
70 blocks free

disk: TPUG DIGI MUSIC2 (C)SM
presented by David Bradley

-Kung Fu Master
-Flash 4 Fantasy
-Foghat
113 blocks free

Disk name: tpug(c)ao sep87
presented by Ken Poulton

bin-hex-dec This program will convert binary values to hexadecimal to decimal. Also has a test or quiz to test your grasp of the program. Good for conversions.

compatibility See if you and your mate are compatible. See compat.doc for more details.

sprint Sequential file reader for 64. See sprint.doc.

eye of the inca Text adventure game for the 64. See if you can get the 'EYE of the Inca' and other assorted booty.

killer 1541 Don't abuse your 1541 and this will happen to your disks. Run this graphic program. Simple but to the point.

flips Simple little game for those who remember the game. See .doc for more info.

form maker Data form maker with rows and columns just like a spreadsheet. Will print out the empty spaces. You fill them in. See .doc for more info.

sidpic v2.5 Program for playing the .mus, .pic and .wds program on this disk. See Sidpic.doc v2 for more info.

label maker For printing out shipping or mailing labels. From L. Sanders.

journal Jim Butterfield's journal for expenses and receipts. See journal.doc for more detail.

report generator Again, another of Jim Butterfield's creations for seeing the data file of the journal. For printing or viewing.

swinth Sound and graphic demo from CompuServe. Good sounds, some are familiar.

64 power plant weatherman

Keep the Nuclear Power Plant from a MELTDOWN! Weather calculator for winter wind-chill factors.

PET LIBRARY ADDITIONS

tpug apr 85 (p)ti

tapelabler.p misc print cassette tape content lists

guitar frets.p music calculate fret positions for those setting up their own guitar

graph sprint80.8 buss draw and edit graphs on your mt sprint 80

groan.p game roll dice against the pet, highest score wins

geo-weather.z educ science - geographic weather quiz

marine erosion.p educ science - graphics showing shoreline erosion

open pit mine.z educ game - try to open pit mine the athabasca oil sands, includes cave-ins floods and other problems such as pollution costs

printer char.8 util a program for printers with programmable character and image buffers, define your own printer characters

apl data data file for printer char.8

payload v2.p flying calculate the fuel consumption and flying time with reserve of your plane

instr payload.w data wordpro file - instructions for payload v2.p

fx-80 fonts.8 util set up the print control codes for the epson fx-80 printer and select print fonts

loan pmts v2.8 bus calc interest paid and current balance especially for non-uniform payments

receipts.8 bus print and record customer deposits

instr receipts.w data wordpro file - instructions for receipts.8

- freeware -

archimedes - a set of programs for junior high school teachers dealing with archimedes principle on liquids including buoyancy and volumes

archimedes 1.p pet/cbm lesson 1

archimedes 2.p pet/cbm lesson 2

archimedes 1.c c64 lesson 1

archimedes 2.c c64 lesson 2

archimedes 3.z pet/cbm and c64 lesson 3

archimedes 4.z pet/cbm and c64 lesson 4

notice.z a message from the author

word pro printer util a program to list wordpro files for those that haven't a copy of the wordpro word processor; note: this file lister program is quite slow!

archimedesins.w data wordpro file - instructions and teachers' guide for the archimedes freeware programs

tpug may 85 (p)ti

crossword.p educational game - generate crossword puzzles on your computer, given a set of words multiple formats can be tried, then print the results

x-word file.d data file sample data for crossword.p

coefficient.p educational mathematics - find the correlation coefficient of two variables, instructions included in the program

gradebook inst.8 educational instructions for the gradebook program

gradebook.8 educational keep track of a student's grades this program is an upgrade of the program gradebk-grades.z on tpug disk (p)ts march 83

add file.8 educational a sub program from gradebook.8 used to add or concatenate files

copy file.8 educational a sub program from gradebook.8 used to copy files

names.8 educational a sub program from gradebook.8 enter and modify names in gradebook.8

marquee.8 misc a horizontal moving sign or marquee instructions are included in the program

the following games are from the commodore educational group or the ontario educational software project
note - the stop key is disabled, and needs 16k to run

castle quest.z game adventure - try to find the treasure in the castle, and avoid the perils while you explore!

chase.z game 2 player - chase your opponent around the screen, avoid obstacles, and score points

dragon island.z game a variation of the game hunt the wumpus, hunt the dragon in the island's cave with your trusty spear, but beware of the dragon

maze.z game generate mazes of varying sizes, then try to find your way through the maze running against the clock

nuc pow plant.z game simulation - try your hand at running a nuclear power plant without the nasty side effects if you fail. Balance the high temperatures needed for power generation against the temperature limits of the power plant equipment.

road hazards.z game mille bornes - play against the computer try to get to 1000 miles before your opponent.

cbm 4032 v2 util convert your 8032 to a 40 column machine this program for the commodore games programs

tpug june 85 (p)tk

ontario driver.p education try to pass the written exam for your driver's licence; non-ontario regulations may differ slightly!

diskview 3.z utility look at your disk - byte by byte look at any block, in hex or decimal, change a block, unscratch or trace blocks of a program

pres gizmo.p hardware keith faulkner presents the user port; this is part of his presentation at the tpug conference. This program can be used to present other info by using multiple screens

pres rs232.p hardware k faulkner presents the rs232 interface; this is part of his presentation at the tpug conference. This program can be used to present other info by using multiple screens

marathon race programs

this program will sort runners in up to 26 groups by class and time

doc. marathon data file for the marathon inst.z program

sorted sub program for marathon track.8

unsorted sub program for marathon track.8

marathon track.8 sports keep track of runners in a marathon race

marathon inst.z sports instructions for marathon track; output on screen or printer

mouse maze.z game guide the mouse through the maze

planet landing.z game land the canadian jupiter lander

pet man.z game pac man in basic on your pet

tpug sept 85 (p)tl

diskutil.8 utility a disk utility similiar to disk doctor look at (in hex or ascii) disk files and blocks; read, modify, and change any block on your disk. note: be vary careful about using the change id command

help diskutil.8 instructions for diskutil.8 load and run it

help use help.8 utility a program to generate the help instruction file used above uses the help empty.p file

help (empty).p data a dummy data file for help use help.8

crossword puzzle generator also on sept 85 c64 disk

crossword 7/ml.p educational generate your own crossword puzzles; pspetspeed version

crossword 7.z basic version of crossword 7/ml.p

crossword 7 in.z instructions for crossword 7 in basic

crossword ins1.w data file wordpro instructions for crossword 7

crossword ins2.w data file wordpro instructions for crossword 7

cross.pf.maker.z utility make up your own printer file. Note - the disk also contains some 14 printer files for various printers

cross.pf.ins 1.w data file wordpro - for cross.pf.maker.z

cross.pf.ins 2.w data file wordpro

cross.pf.ins 3.w data file wordpro

cross.pf.ins 4.w data file wordpro

cross.pf.ins 5.w data file wordpro

-- freeware --

divest.8 business calculates taxes on at&t share-holders divestiture (us tax calculations!)

divest inst.8 instructions program to document program divest.8

tpug oct 85 (p)tm

freeware program - there is also a c64 version further information can be obtained from the author for a fee - see documentation included below

editor4032 ldr.f util a program to examine and edit the tracks and sectors on a disk

editor 4032 data (usr) file for editor4032 ldr.f

editor 00/wp word pro documentation files

editor 01/wp editor 01/wp thru to 19/wp are also. . .

editor 19/wp word pro documentation files

shears scoring.z misc sheep shearing scoring

open heats.d data (seq) file - for rally system program

open finals.d data (seq) file - for rally system program

rally system.z sports car rally driving - keep track of contestants and their points

old shears.z misc another sheep shearing program

lottozahlen 2.z misc lotto 6/49 in german

pentominos.z game basic version of the game

pentominos inst.z game instructions for the game pentominos from j butterfield

pentominos.p game machine language version of the game

mag index.8 prg util a table of the control characters used on various commodore machines

control chr\$.z util print 8050 directories, in 2 columns, alphabetically with block count and addresses

print dir 8050.z util a program to list word-pro files for editor xx/wp see above

lister.z util

(p)tn - nov 85

hotcan - a computer program for estimating the space heating requirements of residences. by r.s. dumont, m.e. lux and h.w.orr, national research council canada - saskatoon. dbr computer program no 48, and no 49, issn 077-5479. price of manuals about \$25.00-prepaid. From publications section of buildings research, national research council canada, ottawa, ontario, canada, k1a-0r6.

the data files with krause in the file name are actual measurements and data from a.e. krause's house in saskatoon, sask. canada

data files for other cities can be generated - see manuals; data files for your own house can also be generated to use this program properly. Buying the manuals is recommended. This program is available for other brands of computers from national research council canada

hello menu program for hotcan - load 'hello' and run, calls following modules

change costs module

add data module

list data module

instructions module

hotcan module

exec sub module

output sub module

citys data file

string save data file

energy costs data file

vancouver data file temperature and info for cities

edmonton data file temperature and info for cities

suffield data file temperature and info for cities

swift current data file temperature and info for cities

saskatoon data file temperature and info for cities

winnipeg data file temperature and info for cities

toronto data file temperature and info for cities

ottawa data file temperature and info for cities

montreal data file temperature and info for cities

fredericton data file temperature and info for cities

halifax data file temperature and info for cities

st. john's data file temperature and info for cities

city data file 1 - you can set up - see manual

city data file 2

city data file 3

city data file 4

inp.dat data file from manual - no comments included

note - default data file if non is specified

krause.fi.dat data krause for full insulation attic basement etc

manual.dat data file from manual - comments included

krause.sf.dat data krause using space factors calc. - see manual

krause.dat data krause his house as it exists currently

krause.ni.dat data krause house before adding extra insulation before he added extra insulation

32k-editor4.p utility 32k editor for cbm/pet (sys 7+4096)

editor64.c utility editor for c64 (load editor64,8,1) sys 12+4096 to start editor

the hotcan program has been modified for file input on cbm equipment. educational freeware for the teachers

mark master 2.3c educational utility - student marks recording

read-me reader.z utility a sequential file reader program

sample marks data sample data for mark master 2.3

read-me data data file(sequential) for read-me reader.z

calculator.z utility add this subroutine to your programs for a calculator function

resistors.z educational a science tutorial on resistors

motion.z educational a science tutorial on motion

electricity.z educational a science tutorial on electricity

tpug dec 85 (p)tp

logicsim adv.c educational logic simulation advanced version. note: this is a c64 program use petload 64.p to load

jk flip-flop data file for logic simulation

and data file for logic simulation

or data file for logic simulation

full adder data file for logic simulation

logicsim.c educational logic simulation. note: this is a c64 program use petload 64.p to load

these programs are part of a set started in nov 85 (p)tn

resonance.p educational study resonance and standing waves in strings and air

meter reading.p educational practise reading electrical meters

forces.p educational study force, motion and velocity

chemistry prob.p educational mole, molar solutions and pv = nrt

equivalents.p educational chemistry study - normal solutions and equivalents

equations 2.p educational math - practise solving math equations

canadian geog.p educational identify canadian geographic locations

key signatures.p educational music - read the music staff

periodic prop.p educational periodic properties of the elements

ascii/petscii.c utility convert ascii format files to petscii format or viceversa, set tape or disk, device number, drive number for input. output to screen, printer, tape or disk, set device number, and drive number. note: this is a c64 program use petload 64.p to load

petload 64.p utility convert c64 programs to run on the pet note: will not fix peeks, pokes, sound, or graphics stuff

supermon + .p utility supermon for the pet from j butterfield; his name was 'supermon+pet', there is a documentation file on c64 disk (c)tl

disk check.p utility look at and check your disk

AMIGA LIBRARY ADDITIONS

Presented by Syd Bolton and Adam White

Notes: Our Fred Fish library has expanded up to Fred Fish #74. Our TPUG original disks go from (AJTAA)-(AJTAE). The Catalog disk is being updated as the library grows. However, submissions have been low, and it becomes difficult to prepare original TPUG material without submissions, so PLEASE send in anything you think we don't have. Thank you!

(AJTAD)

ProWrite DEMO. A DEMO version of ProWrite, the word processing program from New Horizons software. Looks pretty good. . . the sample files are included in the drawer "Sample Documents". SAVE option is disabled.

SpriteMaker. Author says send him \$10 if it's worth it. This is an excellent SpriteEditor. . . have a look. Documentation is included. Author: Scott Lamb

Transformer Patch. A patch that allows you to use Transformer with 1.2 KickStart. Source included, must be executed from the CLI - docs on how to do this included. Author unknown.

DiskTool. An easy fast and useful utility run from the CLI that makes doing directories and renaming files a snap.

Easy! Pictures. 7 pictures drawn with the Easy!, from Anakin Research. Some very impressive stuff.

FileTransfers. A text file explaining some etiquette, etc. about using telecommunications. . . makes interesting reading for both the old and the new telecommunicators. Author: Thad Floryan.

(AJTAE)

Star-Frontiers. This awesome demo utilizes a lot of Amiga power, incorporating the blitter and copper, with digitized sound. Of course, I "TPUG" modified it! Looks great!

ShowANIM. Aegis' VideoScope 3D is one of the hottest new video products, and this demo by Allen Hastings demonstrates some of its power, showing a 3-dimensional "Amiga" ball bouncing on some 3-dimensional (of course) text saying "VideoScope 3D". Nice. (CLI)

Aux2. This nifty little handler allows someone on the serial port an external CLI. Therefore, a buddy could be calling you on the modem and play while you play, or two Amy's could be directly linked together. Author: Steve Drew. (CLI)

Quick.COM. This is actually a BLUE program (ouch!) but works just great with Transformer, and speeds text up to 3 times!!! Very nice to show people the Amiga isn't all THAT slow emulating an IBM. . . **THIS IS AN IBM PROGRAM, THEREFORE YOU MUST PUT IT IN MS-DOS FORMAT WITH THE PC-UTILITIES THAT COME WITH EXTRAS 1.2!!!** Author: Charles Dayton.

LPem. This is a MADE IN CANADA (yeah!) cute demo that emulates a long-persistence monitor (sort-of). Kinda neat. I ran it while creating this disk. . . Author: Steve Tibbett.

RockSlide. This is a compiled TrueBASIC program that is similar to BoulderDash. Nice title screen, too. Author: Jimbo Barber. For the title screen to appear, it must be run with special instructions included in that directory! The game WILL run from the WorkBench ICON, with no title screen (shame!)

CLE. Short for "Command Line Editor", this substitute for the CLI allows history of commands and text editing (left and right cursor, up and down scroll through previous commands). Good. Author: S.D. Haley (CLI)