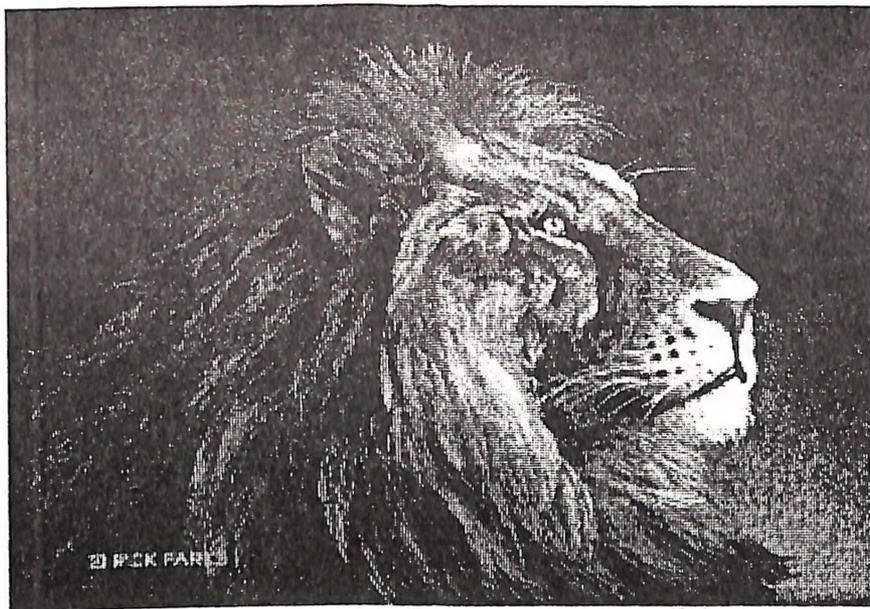


CURSOR

Newsletter of the
COMMODORE
COMPUTER
USERS
GROUP
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VOL.7 No.7 MARCH 1991



"Lion" by Rick Parks (Fish Disk No. 426)

Our Next Main Meeting will take place on Tuesday,
5th March 1991, at 8 pm (Libraries & Sales at 7 pm)
at the Bardon Professional Development Centre

COMMODORE COMPUTER USERS GROUP (QLD) INC

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Our BBS is part of the Fido Network (Node No. 3: 640/304), and can be accessed by our members at 300, 1200/75, 1200, 2400 bps and 9600 bps, using 8 data bits, 1 stop bit and no parity.

Opinions expressed in CURSOR are those of the Author(s), and thus not necessarily those of the C.C.U.G.(QLD) Inc. or the Editor.

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MEETINGS

MAIN MEETING

Our next Main Meeting is held on Tuesday 5th of March at the Bardon Professional Development Centre, 390 Simpsons Road, Bardon, starting at: 8 pm. Library: 7pm - 8pm & 9pm - 9.30pm. Sales: 7pm - 8pm. Entrance through the Centre's Carpark in Carwoola Street. Parking is not allowed in Centre's grounds! Details of this month's topic can be found in the relevant section of this newsletter.

WORKSHOP MEETING

The Amiga Workshop is held on Sunday 10th of March (1pm - 4pm) in the Ithaca RSL Hall, cnr. Nash and Elizabeth St, Rosalie. Bring your current membership card, as this workshop is strictly for members only! (i.e. no friends or relatives.) Disk & Accessory Sales: 1pm - 3pm. Bring your own Amiga equipment. This meeting is our Public Domain Meeting, where members can copy (free of charge) the Group's P.D. disks. We also have a HELP support group for beginners.

For more information ring 300 3477.

REGIONAL MEETINGS

CANNON HILL: Last Saturday of the month (Noon - 10pm) in the Cannon Hill State School.

Ph. Don Friswell - 343 1735 a.h.

KINGSTON: 2nd Saturday of the month (1pm - 12pm) in the Kingston High School.

Ph. Graeme Darroch - 209 1999 a.h.

PINE RIVERS: 1st Sunday of the month (1pm - 5pm) in the Strathpine State High School.

Ph. Barry Bean - 269 7390 a.h.

SHERWOOD: 2nd Friday of the month (7.30pm) in the Graceville State School.

Ph. Leigh Winsor - 379 2405 a.h. or Philip Parkin - 818 1172 a.h.

WINDSOR: 2nd Tuesday of the month (7.30pm) at 70 Swan Tce, Windsor.

Ph. Rod Watson - 857 6131 a.h.

PLUS/4 SUPPORT: - Clarence Stock is support coordinator for Plus/4 owners. Ph. 397 8894 a.h

PLEASE NOTE: Copying of
COMMERCIAL SOFTWARE is an
ILLEGAL activity and is **NOT**
ALLOWED at our Meetings!

GOODS & SERVICES

(At Main Meeting or by Mail)

AMIGA SPECIFIC:

Public Domain Disks 3,5" Mail Order: \$4.00 ea
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Amiga Dos Summary: \$3.00 (+ \$1.00 P & P)

Micro Switch Replacement Kit for Amiga Mouse
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C64/128 SPECIFIC:

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Commercial Library Catalogue Disk 5,25": \$3.00
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5,25" Blank Disks: \$8.00 per 10 (+ \$2.00 P & P)

1541 'Drive & Disks Testing' Disk: \$2.00
(+ \$2.00 P & P)

Public Domain Instruction Book (C64): \$5.00
(+ \$1.00 P & P)

Starting With Disk Drives: \$2.00 (+ \$1.00 P & P)

C-128 Memory Map: \$2.00 (+ \$1.00 P & P)

Macro Assembler Book: \$5.00 (+ \$1.00 P & P)

64 Sound & Graphics (by G.Perry): \$5.00
(+ \$2.00 P & P)

The Write Stuff (64 Word Processor), with Manual:

\$18.00 - BB Speller (for C64 Write Stuff): \$12.00

BB Talker (for C64 Write Stuff): \$12.00

(The above three items each: \$3.00 P. & P.)

The Write Stuff (128 Word Processor), with Manual:

\$30.00 - BB Speller (128 Version): \$12.00

(+ \$3.00 P.&P. for the above 2)

GENERAL:

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Address Labels (23 x 89 mm): \$14.00 per 1000
(+ \$2.00 P & P)

Ribbons for MPS-1000, GX/LX-80 Printers: \$7.00
(+ \$1.00 P & P)

Ribbons for MPS-1200/1250, Citizen 120-D
Printers: \$10.00 (+ \$1 P & P)

Ribbons for Riteman C or F Printers: \$12.00
(+ \$1.00 P & P)

MAILING ADDRESS

Please address all LETTERS which are not related to CURSOR, but including orders to:

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P.O. Box 274
Springwood Qld 4127.

(Make Cheques payable to: C.C.U.G. (Q) Inc.)

Please address PARCELS to:

C.C.U.G.(Q)
32 Bulwara St.
Shailer Park Qld 4128

When you are changing your address, please advise our Secretary of the address change and not the Editor of CURSOR or our SYSOP!

MEMBERSHIP FEES ETC.

JOINING FEE: \$10.00
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(*Within the Brisbane Metropolitan Telephone District)

Library Fee: \$5.00

LENDING LIBRARY

It is a condition of use of our Book, Magazine & Software Lending Library that materials can only be borrowed for a period of 1 Month. If unable to attend the next meeting, members can either mail the borrowed material to:

Phil Guerney
29 Moorfields Street
FIG TREE POCKET QLD 4069

or they may leave this material with their nearest Management Committee member (but please ring first!). By following these simple rules, you assist your fellow members who may want to borrow the books or software which you are returning.

YOUR NEWSLETTER

CURSOR appears 11 times annually and is dependant on members' contributions for its content. Address all Newsletter Mail (this includes advertisements for the Bytes column) to:

The Editor, "CURSOR"
P O Box 384
ASHGROVE QLD 4060

*Deadline for the next (APR) Issue is:
FRIDAY 1st MARCH!*

Short articles (less than a page) and adverts for the BYTES column can be submitted in written or printed form, but we prefer to receive your articles on disk. Please use minimum or no formatting in your articles. Do not indent paragraphs and use a single space after a comma, semicolon or full stop. If a specific page layout is required, include a printout in the desired format. Disks will be returned promptly and we pay return postage.

C64/128 Specific:

Supply your articles on a (1541) 5,25" disk in the following format (in order of preference): SEQ ASCII file, SEQ PET ASCII file, The Write Stuff, SuperScript, EasyScript, PaperClip/PocketWriter files saved with the SEQ save option, SpeedScript files saved with the SS converter program, option 2, (SEQ Standard ASCII file). Sorry, but we are unable to read or convert 1570/1571 formatted disks, nor are we able to convert GeoWrite, FontMaster or Bank Street Writer Files.

AMIGA Specific:

Supply your articles on 3,5" disk in the form of an ASCII file or a WordPerfect file with minimum formatting.

Alternatively, if you own a modem, you can upload your articles, news, gossip, etc. to the Group's BBS (Ph.808 7694, or 808 8823: CURSOR File Area).

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Special Rates on Labour Charges for Users Group Members!

CURSORY NOTES

THE RIGHT CHOICE?

The following is a quote from Andrew Farrell's Editorial in the Jan '91 issue of *ACAR*, in which he takes a look at the current state of the Amiga in Australia:

"The crazy thing about all the hype about multimedia is that it is such a small market. When it comes to the Amiga at home, in the mass market, we're talking entertainment and word processing, a bit of graphics and maybe some other applications in the music, animation or education areas. Wouldn't it be nice to see the marketing people return to the good old days of selling the machine on the basis of what most people will be using it for. Filling ads with animations one could only create on a high powered top end machine has no relevance for the average consumer who wants to write letters on something easy to use, file a few simple lists, play a lot of games, help their children's education, and generally feel good about the whole deal."

My comment is a loud *HEAR, HEAR!* Just think about the above for a few minutes... how do you use your computer?

In my case it goes as follows: Word Processing and Desktop Publishing 80% (mainly this newsletter), Graphics 10% (again mainly this newsletter), Spread Sheet (budget) 5%, and Games 5%.

I am *not* interested in Video or 3 D Graphics, because I have no use for them, nor do I have any artistic abilities in this area (but than, few people have!). Computer generated graphics aren't a patch on good photographs or slides, or a good film or video. Is this heresy? Well, perhaps, but it's true all the same!

Music? I'd rather listen to my CDs than to amateurishly written computer music, with its limited dynamic- and frequency range.

You may well ask where the above is leading to. Well, to produce this newsletter, I use a desktop publishing program to get the best possible performance out of the Group's LaserJet printer. However, this process is extremely slow. Last month's issue took me the best part of a week to set up; it couldn't be done satisfactorily by anybody in his/her spare time after work. To speed things up I'd need a faster processing card with a 68020 or 68030 processor - this would cost somewhere in the vicinity of \$1500 to \$3000! Sorry, but my devotion to the Group doesn't stretch that far.

If, however, I had an MS-DOS computer, I'd be able to run WordPerfect 5.1, which combines all the features of earlier WordPerfect versions, and has sufficient graphics capabilities to do away with a separate desktop publishing program. More importantly, it fully supports all the features of the LaserJet III, whereas the current Amiga version of WordPerfect doesn't even have a printer driver for this printer.

To put it in a nutshell, for my particular applications, I'd be better off with an MS-DOS computer than with an Amiga. I still rate the Amiga no.1 when it comes to desktop video (or multimedia - call it what you like), and perhaps it's no.1 in the games area as well, but virtually in every other field, it's being beaten by other systems. But then you read an article such as the one by Grant Robinson in this issue about his experiences with MS-DOS and that makes you think again about changing over!

Anyway, before you say "*my computer is better than your computer*", stop and think, and ask yourself: "*better for which application?*".

Ralph De Vries

LIBRARY NEWS

by Phil Guerney

AMIGA SOFTWARE

The Art Department must be the most powerful graphics manipulation program to appear for the Amiga. It actually uses 24-bit plane images and can load, alter and save such files. Poor old Amiga's can not display them of course, but a clever colour mapping algorithm comes close. Manipulations include dithering (six ways), colour balance and correct, convert to grey scale and create colour separations. The catch is that you MUST have lots of memory to use this program. A single 640x400 pixel image requires 60K contiguous memory for the 24-bit plane data (to which ALL files are converted on loading) and the Amiga display data. So you REQUIRE MORE THAN 1MB to use it and 4MB is recommended. I managed to try out many features with my 3MB successfully, but please do not borrow this program unless you do have MORE than 1MB.

Advanced Dungeons and Dragons players can try out some fairly new titles thanks to a member who sold his collection to the library. The games are Champions of Krynn (The war of the lance is over but Evil is a BAD loser ...), Dragons of Flame (rescue slaves from the foul fortress of Pax Tharkas) and Hillsfar (fight raging minotaurs, ill-tempered orcs or insulted swordsmen). In the same league, but from a different publisher, is Might and Magic II. This one has over 250 animated monsters, 96 spells and over 250 weapons and items. The "auto-mapping" remembers every square you walk through across all centuries. With all that you get an instruction book of 62 pages and a clue book of 110 pages. I am still not the slightest bit motivated to get into any of these, but obviously plenty of people do spend considerable time with such games.

C64/128 SOFTWARE

I have thrown in a few \$2.95 cheapies from the Computer Spot sale in January. Mostly "educational games" of 1983-5 vintage. Despite being simple in concept and limited in scope, such programs are often requested and still attract kids ... for a while at least. Such programs used to be sold for ridiculously high prices, and I am sure most owner of AMOS on the Amiga could turn out the equivalent in a few hours now.

In the expensive class for C64 programs (\$4.95!) was PAZAZZ, published by Commodore (UK) but one I've never seen before. In the style of what has become known as "construction set" programs, you design a character, costumes, scenery, write music and choreograph the action for a "theatre performance". Quite long shows are possible and there is plenty of scope for imagination.

MAGAZINES

I said last month "subscribing to computer magazines is risky". I also said that we sent money off to Graf/X. Well we now see on the bulletin boards that this magazine has also folded. I hope we get away with cancelling our Mastercard payment. It does look like we should only buy our magazines locally - at least they physically exist when we hand over cash for them. I'm about to see if we can make a deal with a store like BCF that brings them in independently.

-ooOoo-

8 BITS & PIECES

MARCH MEETING

Philip Parkin will demonstrate that mysterious item - the Group's Eprom Burner.

If you don't know what an Eprom Burner is, or does, we expect to see you there!

NEEDED IMMEDIATELY:

C64/128 COORDINATOR

If nobody will come forward to fill this position, there will be no further C64/128 Lectures and Demonstrations!

The Management Committee

HELP! COLUMN

This is the HELP! column for users of C-64, C-128 and other 8-Bit computers. If you would like to share your experience in the fields of programming, software, hardware etc. with your fellow members, submit your name with your area of expertise to the editor. Remember: the more names, the more knowledge can be disseminated amongst our members.

NAME:	HELP OFFERED WITH:	PHONE:
Terry Baade	Contact for M'borough/Hervey Bay Members	(071) 215 059
Eddie Brook	Amateur Radio Fax & Weather Programs	349 4394
Kerry De Baar	Basic, Assembly Language	379 5617
Cor Geels	SuperScript, WriteStuff, PaperClip, GEOS	263 2839
Cor Geels	C-64 Newcomers, Printers & Interfacing	263 2839
Doreen Horne	Programming Problems & Disk Corruption	398 7441
Matthew James	Basic, Logo, GEOS, WriteStuff, Games Tips	300 5443
Ivor Laggan	GEOS	273 4212
Doug MacLurkin	MicroSwift Spreadsheet, Basic	350 4034
Vic Mobbs	Contact for Sunshine Coast Members	(071) 941 330
Vic Mobbs	SuperScript/Base 64/128, 1581 Disk Drives	(071) 941 330
George Nelson	EasyScript, HAM Radio	848 2456
Angus Norrie	Simon's Basic	371 2945
Craig Rawlins	Pascal, C, Machine Language, Modula-2	379 8957
Ron Rich	H'ware Interfacing for Amat. Radio Prgms	355 2623
Fred Turnidge	Family Roots (genealogy), Write Stuff	(063) 371 124
Denis Wright	Easy/SuperScript, CBM & Epson Printers	(067) 751 793
Denis Wright	C64 <-> Non-Commodore File Transfer	(067) 751 793

Please be considerate - these are after hours numbers, so only ring our members between the hours of 6pm and 9pm during week nights. Thank you!

C-64 MACHINE LANGUAGE - PART 12

by Will Erdmann

In this month's article I am going to explain how the last program I wrote in the November issue works. When you run this program a brick house will appear. Below is a copy of the program just in case you may have misplaced your issue. Underneath is an outline of some of its main points.

```
1000 A2 00 LDX # $00
1002 BD 00 0F LDA $0F00,X
1005 9D 08 32 STA $3208,X
1008 E8 INX
1009 E0 30 CPX # $30
100B D0 F5 BNE $1002
100D A9 93 LDA # $93
100F 20 D2 FF JSR $FFD2
1012 A9 1D LDA # $1D
1014 8D 18 D0 STA $D018
1017 A9 46 LDA # $46
1019 8D 89 04 STA $0489
101C 8D 62 04 STA $0462
101F A9 41 LDA # $41
1021 A2 00 LDX # $00
1023 9D B0 04 STA $04B0,X
1026 9D D8 04 STA $04D8,X
1029 9D 00 05 STA $0500,X
102C 9D 28 05 STA $0528,X
102F E8 INX
1030 E0 03 CPX # $03
1032 D0 EF BNE $1023
1034 A9 43 LDA # $43
1036 A2 00 LDX # $00
1038 9D 46 05 STA $0546,X
103B E8 INX
103C E0 16 CPX # $16
103E D0 F8 BNE $1038
1040 A2 00 LDX # $00
1042 9D 20 05 STA $0520,X
1045 E8 INX
1046 E0 08 CPX # $08
1048 D0 F8 BNE $1042
104A A2 00 LDX # $00
104C 9D 2B 05 STA $052B,X
104F E8 INX
1050 E0 07 CPX # $07
1052 D0 F8 BNE $104C
1054 A2 00 LDX # $00
1056 9D 6D 05 STA $056D,X
1059 E8 INX
105A E0 18 CPX # $18
105C D0 F8 BNE $1056
105E A2 00 LDX # $00
1060 9D 94 05 STA $0594,X
1063 E8 INX
```

```
1064 E0 1A CPX # $1A
1066 D0 F8 BNE $1060
1068 A9 41 LDA # $41
106A A2 00 LDX # $00
106C 9D BE 05 STA $05BE,X
106F E8 INX
1070 E0 15 CPX # $15
1072 D0 F8 BNE $106C
1074 A2 00 LDX # $00
1076 9D E6 05 STA $05E6,X
1079 9D EF 05 STA $05EF,X
107C 9D F7 05 STA $05F7,X
107F 9D 0E 06 STA $060E,X
1082 9D 17 06 STA $0617,X
1085 9D 1F 06 STA $061F,X
1088 9D 36 06 STA $0636,X
108B 9D 3F 06 STA $063F,X
108E 9D 47 06 STA $0647,X
1091 9D 6F 06 STA $066F,X
1094 9D 97 06 STA $0697,X
1097 9D BF 06 STA $06BF,X
109A E8 INX
109B E0 04 CPX # $04
109D D0 D7 BNE $1076
109F A2 00 LDX # $00
10A1 9D 5E 06 STA $065E,X
10A4 9D 86 06 STA $0686,X
10A7 9D AE 06 STA $06AE,X
10AA E8 INX
10AB E0 0D CPX # $0D
10AD D0 F2 BNE $10A1
10AF A2 00 LDX # $00
10B1 9D D6 06 STA $06D6,X
10B4 E8 INX
10B5 E0 15 CPX # $15
10B7 D0 F8 BNE $10B1
10B9 4C B9 10 JMP $10B9
10BC 00 BRK
```

1. lines 1000 - 100B transfers the 48 bytes of information stored from 0F00 - 0F2F to 3208 - 3238. Data stored from 3000 - 3800 hex will determine the shape of the 256 characters used by the computer to display information on the screen. If you type M 3000,3800 and press RETURN you will see that the shape of each character is determined by its own uniquely numbered hex dump of eight bytes. If you type M 3100 and press RETURN the following will appear on your screen -:

```
3100 00 00 00 00 00 00 00 00
```

This is because what is held in these locations determines what appears when the space bar is pressed.

2. lines 100D - 100F clear the screen.

3. In the next two lines 1012 - 1014 the value of 29 or 1D in hex is stored in location D018. When this is done BASIC character RAM is switched off and the customized characters made up in step 1 are used.

4. From line 1017 onwards the customized characters made up in steps 1 and 3 are placed on the screen. You will note that when it is necessary to fill a certain part of the screen with a character, an easy way to do this is to modify the following example to suit your own program.

```
101F LDA #$41
1021 LDX #$00
1023 STA $04B0,X
1026 STA $04D8,X
1029 STA $0500,X
102C STA $0528,X
102F INX
1030 CPX #$03
1032 BNE $1023
```

In the above example a character is repeated in a matrix of 4 rows long and 3 columns wide. I designed the main program to run as 12 separate independent modules. Therefore if you have already saved it you can run these smaller programs by following this simple procedure -:

1. Load the main program.

2. Type M3100 press RETURN and make sure the hex dump is the same as shown above.

3. Change what is written in line 1034 to a BRK or JMP \$1034 then type G 1000 to run the program.

4. Press your RESET button. Type SYS32768 and RETURN. Repeat from step 1. Change the line number referred in step 3 to one of the following:- 1040, 104A, 1054, 105E, 109F,

10AF and make a note of which parts of the main program work.

I would like you to pay particular attention to how I have modified the idea introduced in lines 101F - 1032 to the stage where in lines 1074 - 109D more than one matrix separated by a blank space is formed within the same loop.

Now we have come to the scrolling programs I wrote in December. As these only scroll 28 characters across the screen I have made the necessary adaptations to these so that now the characters scroll up to the border.

So here is the first program that scrolls 39 characters from right to left:-

```
1000 LDA #$93
1002 JSR $FFD2
1005 LDX #$00
1007 LDA $0F50,X
100A STA $05E0,X
100D INX
100E CPX #$27
1010 BNE $1007
1012 JSR $FFE1
1015 BEQ $1006
1017 LDY #$A7
1019 LDX #$00
101B INX
101C BNE $101B
101E DEY
101F BNE $1019
1021 LDX #$00
1023 LDA $05E0,X
1026 PHA
1027 LDA $05E1,X
102A STA $05E0,X
102D INX
102E CPX #$27
1030 BNE $1027
1032 PLA
1033 STA $0607
1036 JMP $1012
1039 BRK
```

Before typing the above load the LEFT-SCROLL program you used in December, then type F 0F69,0F80,2A and press RETURN. Compare the program on your screen to the above and make the necessary changes.

1. lines 1000 - 1002 clear the screen.
2. 39 numbers from 0F50 - 0F77 are stored at 39 locations starting from 05E0 - 0607. Thus each character is given its precise location on the screen in lines 1005 - 1010.

3. The usual RUN/STOP KEY and delay routines are used from line 1012 - 101F.

4. The rest of the program is a modification of step 2. Except in this case the characters are moved from the right to the left of the screen and not as in step 2 moved from one hex dump to another. When you run the program you will see that the same characters are scrolled from right to left continually. Screen memory resides from 0400 - 07F7. The movement is made possible by shifting the characters from a greater to a lesser position along a segment of screen memory 05E0 - 0607 lines 1027 - 1030. In order that this is done continually, all the 39 characters are pushed (PHA) on the Stack. They are then moved across the screen lines 1027 - 1030. As one character is moved off the screen it is placed back on the screen on the other end of the queue. This is done by pulling a character from the stack (PLA) and storing at the beginning of the row which is at 0607. Lines 1032 - 1033. As shown in December this can be changed if needed. The whole process from line 1012 is repeated (JMP \$1012) line 1036.

To save program type: S"LEFT/SCRLB", 08,0F00,1040 and press RETURN.

As the next program will scroll the characters in the opposite direction type F1021,1040,00 press RETURN. Type D 1021 press RETURN and copy the following while the first half of the above program is still in memory.

```
1021 LDX #$27
1023 LDA $05E0,X
1026 PHA
1027 LDA $05DF,X
102A STA $05E0,X
102D DEX
102E BNE $1027
1030 PLA
1031 STA $05E0
1034 JMP $1012
```

As you can see lines 1027 - 102E move the characters from a lesser to a greater position along the segment of the screen. As one character moves off the screen it is placed at the other end of the queue at location 05E0. Lines 1030 - 1031. The whole process is repeated in line 1034.

I will explain how the GONG program works in the May issue.

If you have any problem understanding what a matrix is please let me know. My address is:-

Will Erdmann,
Western Avenue,
MONTVILLE QLD 4560

Phone (074) 429 226, 2pm-6pm Mon-Fri & 11am-8pm Sat-Sun.

PUBLIC DOMAIN LIBRARY - C64 & C128

compiled by Doreen Horne

A large number of disks containing public domain programs and put together by the Independent Commodore Products Users Group (ICPUG), England, has been donated to our collection by Rod Watson, coordinator of our Windsor sub-group. Although some of the programs on these disks are already in our collection, other programs on the particular disks are of interest, thus the reappearance of some familiar names. In addition, several more disks have been ordered from ICPUG and these include a large number for the C128. As usual, all these disks, as they become available, may be purchased as advertised in CURSOR or from Doug Maclurkin at the Bardon main meeting if you contact him in advance or, if you prefer to do your own copying of the ones we have at present, please contact Rod Watson.

FOR THE C128

PUB DOMAIN DISK #54 - ICPUG HAM RADIO H1/128

HAMLOG 128-80 - Saves the HAMLOG 128 program to disk and provides a menu to work from - CARE! The first prompt for data input formats the disk.

KTOH LOG V1.2-80 - Log for keeping transmission data and call signs

DIGICOM 128 V2.10 - Based 100% on V2.03 this program makes 128 users more compatible with the 64 users of DIGICOM. Changes detailed in DC-128 V2.10 seq.file and instructions for the use of DIGICOM V2.10B are in three other long files.

WEATHER FORECAST - 40 col.format. Fill in temperature and wind direction and a few other items and the program provides a forecast

MAIL & PHONE-80 - Database for address and phone numbers

SEQ.LIST N PRINT - For sequential files

ADDRESS BK 40/80 - For names and addresses

XMOTERM.C1 V2. - Modem Terminal prgm. You can

change baud rate 300 or 1200 PUNTER or XMODEM.

XMO.QUANTUM, XT.MLV2.files go with this program

CCBTERM 3.0. - Another terminal program for

CCB.QUANTUM and TERM.C1/128 files

BOOMERANG-128. - Another terminal program for

BOOM.QUANTUM, BOOMERANG128.ML

SG10 SETUP. - Set up the SG10 Printer with menu driven options

COMET HALLEY. - Line 1810 is missing - help anyone?

FOR THE C64:

PUBLIC DOMAIN DISK #55 - ICPUG HAM RADIO H1

CIM PRODUCTS - Useful for finding the third and fifth order products of mixing

J64 MORSE R/T - Morse code transceive program

AIR INDUCTANCE - An inductor design program

HAM FORMULAS - Useful for many various repetitive calculations

DECIBEL CALC - Calculate the GAIN in decibels of a device given the I/O voltages

LOW PASSFILTER - Calculate the value of capacitors & inductors

QUAD ANTENNA - Tell the C64 what frequency you want and this program will give you all the construction sizes.

YAGI - As for the previous program but this is for a YAGI type antenna

DIPOLE ANT - Another antenna calculation made easy

1/4 WAVE ANT - The final one to complete a set

OHMS-WATTS LAW - The easy way to calculate the unknown figures using OHMS/WATTS Law.

FORMULAS - Make easy work of a number of repetitive calculations

VISICODE C64 - Program to assist with learning morse code

NET REPORT - Log keeping program with search/input/read functions

MORSE CODE - Tutorial program

DUPE 64 - Keep log of stations worked.

RTTY-C64 - For transmit/receive of RTTY or ASCII.(No interface details) RTTY-C64 INST - InstructionsPI NET-

WORK DESIGN - Calculates the value of components for an impedance match

REG'D SUPPLY - Help build a regulated power supply

RES. FREQ 64 - Calculates frequency/inductance/capacitance in a resonant circuit

T.V. SATELLITES - Find those geostationary satellites.

PUBLIC DOMAIN DISK #56 - ICPUG HAM RADIO H2

64SPEEDSCRIPT - Word Processor with which we are already familiar - there is an instruction file as well DATASETTE ADJ - A SPEEDSCRIPT file containing instructions for aligning the read, write head of your datasette.

MSO - A communications program. (No modem details)

MSO2 - Part of MSO. Load and list to make any changes to program

TEST-MSO - Part of MSO. Load and list to edit your call and MSO designator

HAMTEXT - A communications program by Kantronics. Many modes available.

LOCATOR - Calculate distance and beam heading. (Enter your own location).

AMTOR - Amateur telex on radio program

ANT. DESIGN - Antenna design program. 3 in 1 - QUAD, DIPOLE and YAGI.

CW KEYBOARD - Morse code tutor

DUPE LOG - Radio log program

DX LOCATOR - American program.(Base station Detroit,Michigan)

64 CW - Morse transceive program

64 RTTY - Radio teletype transceive program

DB CALC. 64 - Decibel calculator

MICHIGAN QSO - Radio log program.
E. BRS 64 - For bearings and distances between two known points of reference on the earth's surface
ELECT. FORMULAS - Similar to those on disk H1
INTERMOD - Distortion calculator
OHMS LAW - Another unknown factor program
QSL CARD PRG - Enter your name/callsign/equipment
PATHFINDER-85 - Satellite tracking program
10# PROGRAM - 10-10 listing program

PUBLIC DOMAIN DISK #57 - ICPUG HAM RADIO H3

OSCAR10 REALTIME - satellite tracking program
EME LINK - Calculates signal to noise ratio of EME signals
CAD/NOISE FIGURE - Calculate system noise figure
AMTOR - AMTOR 2. Another amateur relex on radio program
MBA LOADER - MBA. This is a software program for CW, RTTY and AMTOR. (No modem details).
CONSCOR/MDHD - Contest score card for Maidenhead loc.
TESTCARD - Slow scan TV test card
SSTV CHARGEN - Another slow scan TV program, this time to generate characters
MARTYNS RTTY - Another RTTY program. (NO modem details)
HF PREDICTIONS - EMFU program.
CHECKLOG - Radio log program
QRA/CONTEST SCR - QRA/Contest score card.
MORSE PRACTICE - Another morse tutor
RF DESIGN - Help with designing of recircuits
ACTIVE FILTER DE - Program for active filter designing
GREYLINE PRED - Program to calculate grey line openings on the LF bands
MAIDENHEAD LOC - A conversion program for LO & LA into international grid reference
OSCAR/RUH - Satellite tracking program
BEARING & DIST - Antenna bearing and distance calculator
LOCATOR SCR - New locator score program
VOLTAGE DIV.64 - For determining RES-TOR values in electronic circuits
MINIMUF - MUF program
HAMCAL - Radio ham calendar - goes back 60 yrs.

PUBLIC DOMAIN DISK #58 - ICPUG HAM RADIO H4

DIGICOM - Loader for DIGICOM 4.01C updated Sept 89
DIGICOM V4.01 - Packet radio program. Disk also contains instruction files and utilities for use with DIGICOM. Further instruction files are on ICPUG Disk H8 (Our PD #62). Also see H9 (Our PD #63)

PUBLIC DOMAIN DISK #59 - ICPUG HAM RADIO H5

TRACSAT V3 - Satellite tracking program with extensive options and INFO files
AMSAT - Amateur satellite tracking program

PUBLIC DOMAIN DISK #60 - ICPUG HAM RADIO H6

MORSE(SCARAB) - Morse code tutor
ELECTRONIC C.SET - Construct electronic circuits with the aid of your computer.
14 NETWORKS - Filter designing
5% RESISTR COLOR - Type in colour bands and computer will give you the value
ATTENUATORS - Design program
AMTR ADDRESS BK - Database

FAX FULL SCREEN - FAX communication program
FORMULE RADIO - Circuit formulae program.
B'BAND MATCHERS - Broadband power matching and divider circuits for VHF/UHF.
RD LOG - DATABASE.
VK3 BEAM HEAD - Antenna beam heading calculating program. Connect a printer before loading
MORSE TXRX - CW transceiver program
TELETYPE - Teletype transceiver program
TXLINES - Calculation program
VHF PROP V2.3 - VHF/UHF/L-Band propagation program
LOG - DATABASE.
LISTNER'S GUIDE - DX station finder

PUBLIC DOMAIN DISK #61 - ICPUG HAM RADIO H7

BEAMS - Antenna design prgm.
SHORT DIPOLE DES - Antenna design prgm.
FREQ COUNTER - Use your computer to count
ANT DESIGN - Antenna design program
PATH CALCS - Propagation prediction prgm.
WIRE ANT - Very good design prgm
LOGBOOK - Database
ANTENNA SCALER - Parasitic antenna program
LEDS - Resistor calculator for leds in circuit
GUY WIRES - Wind load tension on antenna guy wires
LOOP ANTENNA - Antenna design
HELICAL WHIPS - Antenna design
CIRCLE BEARINGS - DX calculation
GREAT CIR CAL - DX bearings calculation
CONTEST LOGGER - Database
IARU LOCATOR - Locating prgm
HAM ANTENNAS - Very good antenna design program
LAT/LONG CONV. - Conversion program for LAT/LONG to Maidenhead
A LOCATOR - Data location program - good.
C64 WORLD CLOCK - Location needs to be modified.
Instr. in program
SUN - Sun locator
MODEMTUNE & MODEMTUNE.INST - Packet radio frequency alignment program

PUBLIC DOMAIN DISK #62 - ICPUG HAM RADIO H8

EASY.SEQ.READ - provided for reading the instruction files on this disk for DIGICOM 64 which is on ICPUG DISK H4

PUBLIC DOMAIN DISK #63 - ICPUG HAM RADIO H9

DUMMY - This disk contains interesting programs and seq. files which make good reading for DIGICOM users. (a good intro to DIGICOM)
EASY.SEQ.READ - provided
FAX-SSTV & INFO FAX-SSTV
COMSAT & COMSAT INFO
RADIO BUG - transmitter circuit diagram
PRINTER PROBLEMS - Printout bug (DIGICOM)

PUBLIC DOMAIN DISK #64 - ICPUG SPECIALIST S2

WORLD CUP 90 - Originally programmed for World Cup Italy 1990 (Football) but can be used by any table soccer enthusiasts to create their own World Cup Tournament' - so it says. There is so much information provided about the construction of the program that it can probably be adapted to keep a record of any other spring tournament. Provision for teams, scores, save, load, amend and print data.

PUBLIC DOMAIN DISK #65 - ICPUg MUSIC M1

Collection of various musical pieces for the computer - the 'Rhapsody in Blue' is very good indeed.

PUBLIC DOMAIN DISK #66 - ICPUg MUSIC M2

GIGUE & GIGUE 1 from suites by G.F. Handel.
SID'S JUKEBOX - A music editor with many options and 17 tunes - interesting to watch!
SUPERMAN 11 & SUPERMAN 111 - music
SWINTH SAMPLE - a graphics program with continually changing patterns accompanied by a variety of tunes. One of the best of its kind.

PUBLIC DOMAIN DISK #67 - ICPUg MUSIC M3

24 different tunes of all sorts and SIDPIC V2.5 to provide pictures or words for a sing-along of some of the files

PUBLIC DOMAIN DISK #68 - ICPUg GRAPHICS R1

AMERICAN FLAG - Prints flag, plays anthem
AMIGA DEMO - Amiga bouncing ball demo on the C64
AUTO-GRAPH - Prints bar charts or graphs
DEMO HIRES - Draws a pattern on the screen.
HIRES DISK - Displays 5 different pictures - patience, it does happen.
HIRES TAPE - The same for datasette users.
PLOT HIRES BG - Routines for plotting points and circles (use info. in REM statements in conjunction with SYS numbers given)
SLIDESHOW - 6 different pictures (Ronnie, Slady, Glockenflute, etc.)

PUBLIC DOMAIN DISK #69 - ICPUg GRAPHICS R3

CHAR-EDITOR - Change the 64's character set
OPTICAL ILLUSION - straight forward graphics.
HH GRAPHICS & HH GRAPHICS - a repetitious display but clever, none-the-less.
WORLD FLAGS - from an old TPUG disk. A picture of many flags.
CONTORTION CUBE - watch it a while to see why!
WINTER WONDERLAND - picture and music
HYREZ LDR - loads a high resolution graphics display.
MT.RUSHMORE - A very impressive bit of art.
MEAT LOAF - SYS 24320. Pictures and music for hard rock fans.

PUBLIC DOMAIN DISK #70 - ICPUg GRAPHICS R4

ART GALLERY - a disk full of pictures produced via a digitiser plus enhancer.

PUBLIC DOMAIN DISK #71 - ICPUg GRAPHICS R5

3-D 1520 V1.1 - Graphics routine for the 1520 printer/plotter. Loads 3-D BAR PLOT AND 3-D GRAPH=1
AMIGA DEMO.C - Bouncing ball demo with a difference
COVER 1.5 - Picture with scrolling message
FISHNET.LOAD - Loads Hi-Res wire graphic picture
G-TOOLKIT 2.0 - Graphics Toolkit program - it does work but an instruction file would be a help.
GRAPHIC ENHANCER - A Basic Extension for scrolling, windows, etc.
ENHANCER DEMO - Demo and instructions for the GRAPHIC ENHANCER
HISTOGRAMS - Create bar charts.

PAINT PROGRAM - Simple drawing program for disk or tape users

SADDLE.LOAD - Loads a Hi-Res wire graphic picture
SPRITE EDITOR - with many options
WIZARD OF ID.#1, EMPIRE, FLY, IRIDIS ALPHA, MARILYN, MASK, MAX, PORSCHE, THE HIT - all pictures
NEWTON'S CRADLE - Moving picture

PUBLIC DOMAIN DISK #72 - ICPUg GAMES G1

AIRCRAFT LANDER - Can you land without overshooting the runway
ASTRO PANIC - 'shoot 'em up' with joystick
CLIFFY - Questions answered correctly make man jump a cliff
CONNECT 4 - 4 in a row, you against the computer
DIAMOND DROP - Catch the diamonds before they touch the ground
FRUIT MACHINE - Complete with hold facility
JET SET JELLY - Help the jelly find the ice cream
LIFE - The game
MASTERMIND - Guess the digit the computer has in mind??
MINOTON - Maze game
MONOPOLE 64 - Monopoly with good graphics - American localities
OTHELLO - Classic counter game
OTHELLO FOR 2 - 2 player version
POKER - As usual
PONTOON - A card game
SUPERTREK - Guess who?
3D TANK - Do battle with the tanks
THREEDOX - Noughts and crosses in 3D

PUBLIC DOMAIN DISK #73 - ICPUg GAMES G2

ALLEYOOP - Pinball game
BR - Play bridge with your computer - instructions available
COMMODORE 3D MAZE - Escape from the maze
CRAZY CAVE MAN - Jump the boulders
GULPER - Pacman type game
PENGO - Move the ice blocks to kill the meanies
QIX - Draw line to capture 'live wire'
SMURF 2 REVENGE - Jump over obstacles to gain points
SWOOP - Space invaders game
THE A-TEAM - Shoot 'em up with good graphics

PUBLIC DOMAIN DISK #74 - ICPUg GAMES G3

ATOMIC HANDBALL - Breakout type game
BACKGAMMON - Board game
BRITISH MONOPOLE - Monopoly with rather unusual streets and roads
CUPID'S REVENGE - Shoot 'em up
DODGE CITY POKER - Play poker against the best from the west with help from the barmaid
DOMINOES - Play against the C64
FLIPS - Flip the sides, corners, edges to try and match the computer's selection
LOCKSMITH - Get the combination and open the lock
PAC-MAN! - As usual
QUIX - Be quick on the stir
SNOOPY RUN.2 - A large Snoopy takes a walk
SQUARE 15 - Arrange 15 squares in numerical order - additive
WET PAINT - Don't paint over the wet paint
WORLD.POWR.SIM - Try to take over the world

PUBLIC DOMAIN DISK #75 - ICPUG GAMES G4

ASTROPANIC - Shoot 'em up
BREAKOUT - This version from Germany
PRIVATE EYE - Find a murderer with map and function keys. Interesting game of deduction
SLINKY - good graphics
SEQ.FILE LISTER - prints files with word wrap and pagination
HELPFUL HINTS - for the INFOCOM games
ZORK1,2,3, PLANETFALL, HITCHHIKER'S GUIDE TO THE GALAXY, also BARD'S TALE, LITTLE COMPUTER PEOPLE, ULTIMA 3 and TO KILL A THIEF.

PUBLIC DOMAIN DISK #76 - ICPUG GAMES G5

This disk contains a collection of intelligent, and addictive, games with comprehensive instructions.
WORDSEARCH - Find them
ACQUIRE - Property acquisition
BLACK BOX - Plot position of atoms
CANT STOP - Use dice roll to win a race
CRUDE - Computer version of oil speculation board game
L-GAME - Place squares to block your computer opponent
PROPERTY - Acquire squares on a grid
SEVENS - Play cards with the computer

PUBLIC DOMAIN DISK #77 - ICPUG GAMES G6

ATTACK FORCE - Shoot 'em up
BIONIC GRANNY - Beat up Granny before she beats you
BURNIN RUBBER - Car race and smash game
DOGFIGHT - Shoot down enemy planes
HACKER - Find the codes
ROCK CRASH - Difficult Boulderdash type game
STUNT RIDER - Motorbike
TWONKY - Digitised sound game. No graphics, find monster by sound.
Loads CA1 and CA2
VOYAGER - Don't hit anything

PUBLIC DOMAIN DISK #78 - ICPUG DEMO D1

DIGITAL SOUNDS 2 - mod.music with vocalists
ELECTRIC CAFE - mod.music, vocalist and graphics
FIRE EAGLE - mod.music and scrolling messages
IN FULL GEAR - mod.music and scrolling messages
WRESTLING/JUNIC - scrolling messages
IT'S OUR SHOW! - collection of scrolling messages

PUBLIC DOMAIN DISK #79 - ICPUG DEMO D2

01.IKARI SHOW - mod.music and scrolling messages
SHAKE'N'VAC!! - picture,scroll,music
SNOW'EM DOWN/I&M - scroll,music,build a snowman game
COKE IS HIT! - picture
DRILLER PIC.
WIZBALL PIC.
MEGAMIX '88/20CC - 1988 Top 40 Megamix Music - 8 mod.tunes according to the screen
WITNEY-DEMO/AD - pattern graphics, mod.music, scrolling messages
SLIDE - Loader program for a slide show using the files that follow it. These contain some EXCEPTIONAL pictures. The file GGCHOOCHOO appears to be incomplete

PUBLIC DOMAIN DISK #80 - ICPUG EDUCATION E1

EASY.SEQ.READ - Simple seq.reader with output to printer
802SCREENDUMP - MPS 802 screendump
STOCK MARKET - Stockmarket game
SCHOOL MARM - Fill in the missing words - program designed for teacher modification
QUIZ FRAMEWORK - Make your own quiz
BIG OHM'S LAW.C2 - Resistance exam
CIRCUIT 1.C2 - Electro physics test
CIRCUIT 3.C2 - Electro physics test
CIRCUIT 4.C2 - Capacitor understanding
CIRCUITS.C2 - Circuits for lamp-switch-batteries test
DFW RESIST.C2 - Calculate serial - parallel resistor network
ELECTRICAL PR.C2 - Electrical problems
FUSE.C2 - Fuse value test
MORSE CODE.C2 - Gives morse equivalent of letter input
READABILITY.40 - Reading statistics

PUBLIC DOMAIN DISK #81 - ICPUG EDUCATION E2

BOTTLECAPS.40 - Logic game of counting
BUTCH & SLIM.40 - Logic game of find the criminal
CUBE.40 - Rubics cube type of problem
FUR TRADE.40 - Trading game
IN-ORDER.40 - Figure out a 3 digit number with clues
KNIGHT'S TOUR.40 - Move knight to all points of the chessboard
LOGIBLOCK.40 - Figure out the attributes of a block
MAGIC SQUARE.40 - Light up the numbers on a square
MASTER MIND - Another version of the MASTERMIND game
MATCHES.40 - Much the same as BOTTLECAPS
OBJECT.40 - Sort out sizes, shapes, colors
PARASCAN - Values of the resistors from the E24 range
GB QUIZ - Very good map program

PUBLIC DOMAIN DISK #82 - ICPUG BUSINESS B1

AMORT TABLE - works out loan repayments
BAR GRAPH 2C - data input displayed in form of a bar graph
CALENDAR - Calculates the correct day, week, etc. according to details specified by the user. In addition prints complete calendars for any year since the Gregorian calendar was introduced on 1st Jan.1752. Prints tax year calendars - they print from the 1st April but should be adjustable - otherwise use option 6/3. Also writes diary files to disk for any year and these can then be filled in with the usual diary data using a word processor and then printed with the PRINT DIARY program on this disk.
PRINT DIARY - Use with CALENDAR program
CHECKBOOK - Creates monetary database
CHECKBOOK REPORT - Prints reports from files created by CHECKBOOK
CONT INDEXER 64 - List occurrences of a word in a text file
INVESTMENT2C - Make wiser decisions on how to invest your money
MAIL LIST/LABELS - Names and address database,etc.
INFO GEMAIL - Loads MAIL LABELS.DOC - information for MAIL LIST/LABELS
MAIL64 - Create name and address database and print labels
MEMO - Write memoranda

MORTGAGES - Calculate years of repayment
 SPEEDSCRIPT 3.2 - A Word Processor already well known to us and still used by many of our members
 SPEEDSCRIPT.DOC - Info file for SPEEDSCRIPT
 SPEEDSCRIPT CONV - Converts SEQ.files to SPEEDSCRIPT files and vice versa
 SPEEDS.TO BASIC - Converts SPEEDSCRIPT files to BASIC programs
 SPEEDS.TO BA.DOC - information file
 WP - A simple word processor by an ICPUG member
 4.INSTRUCTIONS - Instructions file for 'WP'
 WP.15DEC.MC - Binary code for 'WP' loaded by the file 'WP!'

PUBLIC DOMAIN DISK #83 - ICPUG BUSINESS B2

PENPAL - Mailing list database. Read PENPAL DOCS before trying to use it or PENPAL INDEXER
 BANNER 84 - A program for printing banners
 CALC 84 - A fully fledged calculator on screen
 CHEQUEBOOK - For your cheque book details
 CHEQUEBOOKREPORT - Use with CHEQUEBOOK
 LABLR(SAMPLE) - Label printing made easy
 MAILING LIST - as stated
 PAGE LAYOUT - Educational program to help you understand how to lay out a page with words and pictures
 QUICKSCRIPT - Word Processor
 BHP-VIRUS-KILLER - 8 bit disks don't acquire viruses. Use old disk if you want to experiment with this program.

PUBLIC DOMAIN DISK #84 - ICPUG BUSINESS B3

SCL - SCHOOL COMPUTERWARE LABELS. A high quality label - database program. It caters for up to 1200 records of 85 characters per record. Make a copy of this disk if you wish to experiment as it appears that the rel. file required is already prepared for writing to.

PLEASE NOTE - DISK UTILITY PROGRAMS - many of these programs write information to the disk when they are run. To avoid corrupting your original disk it is suggested that you experiment with the programs on a backup copy.

PUBLIC DOMAIN DISK #85 - ICPUG UTILITIES U1

4MIN COPY & INSTR - Fast disk copier for one 1541
 ADDRESSES DIR - Start and end addresses of any program on disk
 AUTOMON - Loader for MON.8
 MON-4 - AUTOMON loaded at \$4000
 MON-8 - AUTOMON loaded at \$8000
 MON-C - AUTOMON loaded at \$C000
 INSTRUCTIONS - AUTOMON: also read the file called INTRO
 MON.SRC - Source code for AUTOMONCHANGE
 DEV.NO - Software change of drive device number
 CHANGE DISK - Software change of drive device no.
 COPY ALL.84 - Copy files
 DA V3.4.WOW - Disk directory assistance program, Sorts directory, etc.
 INSTRUCT - Instructions for above
 DISK COPY 84 - Copy disks
 DISK FILE 4.9 - Disk filing system.
 L-SORT - File used by above when loading
 DIR - 828 - File used by above when loading
 RTL-84 - File used by above when loading
 DOCS 4.9 - Instructions for above
 DISK FORMAT - detect type of drive used to format disk - read REM statements

DISK MANAGER - General disk housekeeping program
 DISK MONITOR 4.0 - loads 4.0 ASM/MONITOR which is a disk editor with machine code monitor as an option.
 4.0 ASM/MONITOR - Machine code for DISK MONITOR
 DISK RENAME - New header
 DISK TIDY - Sort directory into order
 DISK-LOG.84 - Details type, size, start & end addresses of disk files
 DOS LOADER - Loads DOS 5.1
 DOS 5.1 - 'WEDGE' which adds several disk related commands to BASIC
 DISK CMDS TUT - Tutorial for DOS 2.0 used with BASIC 4. Whilst the syntax is not applicable to the C64, the explanations regarding disk commands are informative
 FALIGN CHECK - Checks alignment of 1541 disk drive
 LOAD ADDRESS - Finds start and end addresses of programs on disk.
 QUICK DISK - Fast program loader
 READ ANY SEQ.FILE - Prints file on screen
 REL FILE PRG - read, write relative files
 SORT DIRECTORY - sorts directory in alphab. order
 UNICOPY INST - instructions for UNICOPY
 UNICOPY64 - copy program for single drive (and tape)
 UNSCRATCH - rescues a scratched file if used immediately
 SCRATCH - remove a disk file

PUBLIC DOMAIN DISK #86 - ICPUG UTILITIES U2

! - boot for turbo disk system VDOS which is used for most of the ICPUG C64 library disks (see !.INSTRUCTIONS below)
 !(SYS350) - alternative form of VDOS
 !.INSTRUCTIONS - for VDOS
 MENU MAKER - creates disk menus for VDOS
 JACKET MAKER - create labels, envelopes for disks
 MICROMON LOADER - for MICROMON
 MICROMON - machine code monitor
 REDIRECT - redirects output from screen to printer, disk
 REDIRECT DOC - information file
 RENUMBER - completely renumbers BASIC programs including all GOTO'S, GOSUB'S
 RENUMBER DOC - information file
 RESTORECLEAN - allows you to stop the execution of a program without affecting screen colors or resident wedge
 RESTORECLEAN.DOC - information file
 SHIFTHOLD - temporarily stop the output to screen to enable it to be read. Similar to NO SCROLL on C128
 SHIFTHOLD.DOC - information file
 SUPERKEY 84 - assign BASIC keywords to your keys
 SUPERKEY DOC - information file
 SUPERMON 84 - Jim Butterfield's mach. code monitor
 SUPERMON INS - instructions
 SUPERMON+ INST - instructions
 SUPERMON+84 - improved SUPERMON for C64 with C128 style commands and less stringent syntax for input
 SUPER84E3.RUN - loader for SUPERMON E3 (Liz Deal)
 SUPER84EX.INS - instructions for SUPERMON E3
 TAPE DIRECTORY - creates directories of programs stored on tape
 TAPE DIREC.DOC - information file
 TLOAD - create BASIC programs from sequential files
 TLOAD DOC - information file
 TOOLKIT+S-MON - BASIC toolkit system, includes WEDGE-84 and SUPERMON
 TURBO TOOLKIT - version in which TURBO DOS replaces SUPERMON - also see U9 (our PD #92)
 BASIC TOOLKIT.1 & BASIC TOOLS/2 - SUPERScript

instructions for the toolkit which can be read by a sequential file reader.
BASIC TOOLS QRS - SUPERSCRIP Quick Reference Sheet
VE2 - video editor to create docs to view on screen
VE2.DOC - information file
WEDGE 5.6 - updated version of DOS wedge
ZAP-LOADER - fast file loader

PUBLIC DOMAIN DISK #87 - ICPUG UTILITIES U3

80 COLUMN - produces 80 column screen using hires
AS 2 - ASSEMBLER for the C64
AS 2.DOC - information file
AUTOLINE - automatic line numbering for use when writing BASIC programs
AUTOLINE.DOC - information file
BASIC XREF PROG - creates a cross reference table for line numbers used in GOTO and GOSUB statements
BASIC XREF.DOC - information file
COLOR COEXIST - compare color readability & adjust TV/monitor
COP-TO-CPM - copy files from CBM to CPM disk with single drive
COP-TO-CPM.DOC - information file
CROSS-REF64 - create cross reference of variables in program
DISASSEMBLER - disassemble program in memory or in a program file and output to screen, printer or disk file
DISASSEMBLER.DOC - information file
DISK BACK-UP - single drive copy program
DISK PATCH - examine and modify bytes on a disk
DISK PATCH.DOC - information file
DISKDOC REVISED - disk utility/editor
DISKDOC.DOC - information file
DISKVIEW+ - read BAM or track and sector number for file on disk
DISKVIEW+.DOC - information file
FILESORT64 - sort multiple field files
LIST ALL.WOW - list any CBM BASIC program
LISTER.64 - earlier version of LIST ALL
LIST ALL - list any CBM BASIC program
LISTER.WOW - earlier version of LIST ALL
MERGER - merge program files on disk
READ DIRECTORY - read directory from within program
RETRIEVER 64 - recover scratched disk files
SAVE FROM PRG - subroutine to save memory to disk or tape
SEQ.FILE RDR - read seq.files
SMOOTH BOOT - boot for SOFT SCROLL EDITOR
SMOOTH.DOCS - information file
SMOOTH.EDIT - used by SMOOTH BOOT when loading
SMOOTH.TIME - used by SMOOTH BOOT when loading
ULTRALOAD - fast tape system

PUBLIC DOMAIN DISK #88 - ICPUG UTILITIES U4

10 SEC FORMAT - formats a disk in under 10 seconds
6502 DISASSEMBLE - translate the contents of memory into standard 6510 mnemonics
BACKUP-64 - for disks using a single drive
BASE - will convert a number from one base into another
BOOTMAKER - creates 'BOOTER' program on disk which when loaded will boot and run another
DEBUMP TEXT - information for ICPUG DEBUMP
ICPUG DEBUMP - run this routine before loading bump protected software

C-64 CALCULATOR - turns your C64 into a calculator
COMMA 8.DOC - information file
COMMA 8 - adds ".8." to name of file on disk
CUSTOM MENU - create your own customized menu
DIR ASST - will furnish hard copy of dir. information
DISK CHECK - reports disk errors and bad spots
DISK DOCTOR.C - disk editor
DISK WIZARD 3.0 - DOS housekeeping
EPSON SETUP - set up an Epson/Epson clone printer for use with your C64 and most Commodore software
ERROR DETECTOR - detects disk errors
ERROR TO 42 - tests tracks and sectors for errors
FILE PROTECT TXT - information file
FILE PROTECT - protect/unprotect programs on disk from being erased. Also erase unwanted programs.
HEX-DEC-BIN.C - converts numbers to and from hex
HOUSEKEEPER - general disk housekeeping program
KERMIT TEXT - information file
KERMIT RS232 - file transfer program for use on devices connected to the user port (V1.7)
LIST SCAN - produces a horizontal bar on the current cursor line which highlights text
LOCK/UNLOCK. - lock/unlock files
MENUMAKER - create directories with ',8,1' where applicable or comments
MPS801 FONT TEXT - information file
MPS801 FONT - creates customized characters for your MPS801 printer
PTYPE - print sequential files to screen or printer
RELFILE COPY.C - enables the copying of relative files
REM HIGHLIGHTER - highlights all REM'S in a BASIC program
STEVE DISKEDIT - disk utility editor with good help screen
SUPER COPY - copy disks with one or two drives
SUPER DUMP TEXT - information file
SUPER DUMP PRG - print hires picture in 4 sections, each section being just over 2 pages long.
YELLOW PAGES - directory organiser

PUBLIC DOMAIN DISK #89 - ICPUG UTILITIES U5

SUPER.AIDE - Programmer's utility package with DOS wedge commands, m.l. monitor, low res. screen editor. Totally compatible with PAL assembler.

PUBLIC DOMAIN DISK #90 - ICPUG UTILITIES U6

SUPER AIDE - This disk contains source code for U5

PUBLIC DOMAIN DISK #91 - ICPUG UTILITIES U8

EDTERM DEMO - TERMINAL demonstration program
EDTERM DEMO INFO - information file MANUALS for EDTERM 3.0
FAST RS232.PAL - Terminal emulation routine
FILE VIEWER - a file viewing routine
TIMEMASTER - electronic timer - will produce a clock and small elapsed time clock on screen or vice versa
WIDEPRINT - output disk files to printer, formatted in 1 - 3 columns

PUBLIC DOMAIN DISK #92 - ICPUG UTILITIES U9

BOOT ASS V.1.13 - for ICPUG ASSEMBLER
ICASS USER GUIDE - Assembler users guide, well written for easy use
COMMAND CHANGE - program to change commands within THE TURBO TOOLKIT. Not a stand alone program - see U2 (our PD #86)

DIRECTORY.C - disk directory sort and printout program, loads PRINTDIR.C file
DISK ENDLESS DIR - Endless directory, instructions in prgm.listing - it loops forever
DISK MARKER - disk marker, instructions in prgm.listing - changes byte #188 in BAM
DISK NEW FILE - adds to file name so that it will not load or scratch, instructions in the prgm.listing
DISK REMOVE DIR - appears to remove directory, instructions in prgm.listing
DISK ZERO BLOCKS - change the BAM so that there are no blocks free
FIX - allows Freeze Frame files to load on 1570 d. drive
LIBRARIAN.BOOT - disk catalogue system. On screen instructions. Will load other files as required
SORT-DIRECTORY - disk directory sorting program - good. On screen instructions.

PUBLIC DOMAIN DISK #93 - ICPUG UTILITIES U10

BARChart - print barcharts to printer
DAY OF WEEK - input date/month/year and program will produce what day of the week it is
ERRORLINE LISTER - will show you the error lines in BASIC programs
FUNCTION KEYS - preprogrammed function keys
KEYBD.OVLY.C-64 - will print out blank keyboard overlays for the C64
KEYBD.OVLY.C-128 - will print out blank keyboard overlays for the C128.
MINI MENU & MENU.DOC - ideal menu maker for disks with very little space. Uses only 2 blocks
PS CONV 1.9 - conversion program Print shop to Doodle or vice versa
PRINT.64.UTIL - screen printing utility
PETSCII-ASCII - conversion program
SM/DOODLE - SCREEN MAGIC to DOODLE converter or vice versa
UWEDGE 5.6T - utility wedge with extensive menu. It appears to be an update of DISK UTILITY.C on our PD #47, which has an extensive information file
CAVENTERM - TERMINAL program from TPUG
BOOTMAKER - will make autobooting programs
BLOCK MODIFIER.C - track and sector editor
COPY SOME.C - select files from directory to copy
COPY FILE.C - copy prgm.
COPY FILES.C - select files from directory to copy
COPY-ALL V2.C - copy prgm for two drives
DISK CHANGE DOS - DOS changer
DISK DIR UTILITY - add .8 or .8,1 to file names
DISK EDITOR - oveltype hex to change bytes
DISK EXAMINE - display ID's or look for errors on all tracks
FAST BACKUP.C - disk copier
FILE COPY.C
MULTICOPY.C - many copies from one pass
SIN DISK COPY.C - select files to copy
SD COPY/ALL - select files to copy
70SEC.BCKUP - disk copier

PUBLIC DOMAIN DISK #94 - ICPUG UTILITIES U11

BASEPRINT V1 - database to store/save/replace & print files - see U12 (our PD #95)
PHONE-FILE - keep your telephone numbers in order - printer option - see U12 (our PD #95)
BIOPRINTER 6.0 - output biorhythm information to screen or printer
C64 AUTOSTART - autostart program
COUPON ORGANIZER - for your credit cards

COUPON DOC - headprint file
DISK DOCTOR V4.0 - disk editor, later version
DISK DOCTOR DOC - information file
FILE PROTECT - lock/unlock a file or an entire disk of files
LABEL MAKER - label printing program with print codes and type variations
LIBRARY RENAMER - rename/renumber/lock and unlock disks sequentially
NAMECHANGER & NAME.DOCS - same as LIBRARY RENAMER but for single disks
PEEK UTILITY - DOS housekeeping
RESURRECTION - correct hard or soft disk errors
TINY LABEL - label printing utility
TRACKER.BOOT - loads TRACKER MAIN - catalogue/inventory for disks. Notes in program
ZIP - disk packer - scrambles a disk to copy it
UNZIP - disk unpacker - then unscrambles it for use
FUNCTION TEMP.8 - template printer for 8 function keys. F key labeller
FUNCTION TEMP16 - template printer for 16 function keys

PUBLIC DOMAIN DISK #95 - ICPUG UTILITIES U12

BASEPRINT V2 - update of the program on U11 (our PD #94) with a few minor bugs removed and extras added
PHONE-FILE V2 - updated and extras added - see U11 (our PD #94)
RUN FIRST - and other files within the dividers. Read and follow instructions in INFO file - it works!
64 AID - many useful peeks for examining memory
64 FUNCTION KEYS - program F keys to print particular words when used
64 SCREEN DUMP for 1525 printer
ALGEBRA INPUT - subroutine
ALPHABETIZE - sorts into alpha order
AUTO DATA DELETE - converts memory to data statements with line numbers
AUTOPROOF - proofreader
BIG PRINT - big headline printer
C64 4040 COMMANDS - DOS housekeeping
CHECK DISK (TOM) - checks T&S for bad blocks and then reformats the disk
CHECK DISK BAM - checks T&S then validates the disk
CHECK DISK DOC - information file
DIR PRINT - change line 6 to OPEN128,3,0,etc. and this program will serve some purpose
DIRECTORY LABELS - reads directory, prints hardcopy
DISCPRINT - for hardcopy of sequential file
DISK NAMER - header change
DISK PILOT - read REM'S line 2000+
DISK VIEW - disk editor which also has options to store blocks in RAM, write blocks of RAM to disk and trace blocks
DISKMANAGER - DOS housekeeping
DISPLAY T&S
DOS DISASSEM - disassemble memory of 1541
ESC/FUNCTION - programmed F keys
FILE CASE - simple database
FIND SUBROUTINE - read REM'S 9008+
FLASHING GET - instructions in subroutine
FOLLOW T&S - utility for recovering corrupted directory or single scratched file
GAME PORT RU - values printed for paddles
GONG PAUSE SUBRU - instructions in program
LINE DELETE - subroutine for editing BASIC programs
LINE PRINTING ?
MESSAGE LINE - routine for scrolling message

PRINTER LISTER - to experiment change line 10
OPEN128,3,0,etc
PROG.TO SEQ - convert file
RAMTEST - write bytes to RAM
RENUMBER LINES - with increments as required
SEQ.TO PROG ?
SLOW LIST/SHIFT - s/s 828 and use SHIFT key
SUPER LINE - provides line numbers for typing a
BASIC programTAPE/DISC FILES - save seq.files from
tape to disk
ULTRASORT & ULTRASORT DEMO - sort strings into
alpha order

PUBLIC DOMAIN DISK #96 - ICPUG UTILITIES U13

This disk contains:
1581 UTILITY PROGRAMS. These programs are from
the U.S.A. SCOPE disks
1700 RAM - programs for use with the 1700 RAM PAC
EXPANSION UNIT
ARC and LYNX programs

PUBLIC DOMAIN DISK #97 - ICPUG UTILITIES U14

DIRECTORY ASSIST - prog.to assist in your disk library
DISK CNTRLR V3.0 - disk housekeeping
FUTURE WRITER - musical word processor with a
selection of tunes and screen characters
MENU CREATOR 3.0
READ ALL V8.7G - will read SEQ-USR-REL files and
will write SEQ and USR files
SEQUENZER V2.0 - message maker for 1670 TER-
MINALS
SFD1001 COPIER - will do copies for SFD 1001 and
most IEEE 488 files

STATIONARY STORE - will output all sorts of forms/let-
ters/calendars to printer
SS-1 - loaded by STATIONARY STORE
SS-2 - loaded by STATIONARY STORE
SS-3 - loaded by STATIONARY STORE
SS-4 - loaded by STATIONARY STORE

PUBLIC DOMAIN DISK #98 - ICPUG UTILITIES U15

This disk contains a variety of utility programs for use
with PRINTSHOP - Commodore printer side--
PRINT SHOP DUMPS - one for 1525 compatible prin-
ters which dumps a collection of different graphics from
a PS graphics disk in rows of five and the other for non-
Commodore graphics (3 blocks) and GEMINI 10X/SG-
10 or EPSON compatible printers
LABELS - an information file is included
PRINT SHOP/PRINT MASTER/NEWSROOM - graphics
converter between PS side A, PM ART GALLERY &
DATA DISKS and NR PHOTO DISKS
PRINT SHOP to GEOS converter
PRINT SHOP to DOODLE converter
PRINT SHOP SIDE B to PRINT SHOP SIDE A graphics
and vice versa
PS.A2B2A.128C80 - a converter for use on the C128
IMAGE VIEWER - displays images of PS graphics (2
block graphics only)
MANY GRAPHICS FILES for Commodore printers

PUBLIC DOMAIN DISK #99 - ICPUG UTILITIES U16

This disk contains the same files as U15 (with the ex-
ception of the IMAGE VIEWER) but the graphics files
are for non-Commodore printers.

To All Cursor Contributors

If you have submitted material for this issue of Cursor (i.e. before 1st February), and it does not appear in this issue, then don't dismay - it will appear in next month's issue.

I have processed all articles in the sequence in which they were received. However, the sheer volume of articles, coupled with a lack of time (and that b....y slow desk top publishing program!), has forced me to put the latest arrivals on hold.

Editor

A 1570 DRIVE WITH YOUR C-64? by Denis Wright

There were a couple of comments on the 1570 disk drive in the last issue of *Cursor*. One was pointing out what a lemon it was as far as the 128 was concerned, and the other wondering why anyone with a C-64 would have one.

I can understand why it's not much use to the C-128, but C-64 owners might be interested in the following. In fact, I *do* have a 1570 - it came to me in perfect condition, second hand, at a fair price. (Probably from a disgruntled 128 owner!) It is quite a good drive for the C-64, for a number of reasons.

1. It is a better made and more robust drive than the 1541.

2. You know that famous characteristic of the 1541 - the ghastly head knock that comes when you format a disk - that crazy attribute of the 1541 where it tries to self-destruct by banging its head every time it encounters a problem? The 1570 almost never indulges in this suicidal practice. For that reason....

3.it retains its alignment far better than the 1541. Fewer read-write errors.

So what I'm saying is that if you C-64 owners come across a 1570 drive at the right price, it's well worth having. (Them's my sentiments, anyway.)

A SUGGESTION by Dennis Wright

A couple of issues back, our editor was complaining that C.C.U.G.(Q) was a bit of a cumbersome name (Ed: Hey, Denis... you forgot the "Inc" bit!), and called for some suggestions as to alternatives. Here's what I came up with:

Queensland
Users of
Amiga and
Commodore
Knowhow and
Systems

{Ed: Is this *QUACKS* meant as a reference to the noise that ducks make, or does it have some bearing on the medical profession? I suspect it's the former - if you've ever heard a bunch of computer buffs arguing, the noise tends to remind you of our feathered friends!

QUACKS is a decided improvement on *CCUGQ INC*, but somehow I fear that the Management Committee will reject it - after all, you'd need two lines on our letter head to print the full title of the group!}

-ooOoo-

Whadyarekon??

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AMIGA MONITOR

TWO MILLION AMIGAS

Every Amiga magazine tells us that CBM has now sold more than 2000000 Amiga computers. The fastest growing Amiga market appears to be the U.K.; their claim is one quarter (500 000) out of the total sales. By all accounts the Australian percentage has dropped slightly on a world wide basis. The Oz company's claim to fame is that they have sold a large quantity of C64s to China.

Despite the fact that there are that many Amigas around, we still see the computer press (and the big software manufacturers) at large ignore the Amiga - in their humble opinion it's only a glorified games machine.

It's not difficult to understand this attitude. Walk into any newsagent and look at some Amiga magazines (particularly the English ones), and what do you see? Games reviews and more games reviews. Now pick up an MS-DOS or Mac magazine, and you will notice that very few pages are devoted to games.

The Amiga might be a great platform for Graphics and Video, but this aspect requires lots of memory, faster processors, hard drives, genlocks, etc. Within our own group I've seen some nice work done in this field, but *only by professionals*. Commodore seem to have pinned their hopes for the success of the Amiga on this aspect of the machine, and they may well be right. But how many home computer owners are interested in this aspect of the Amiga? My guess is very few.

The average home computer owners want their computers primarily for word processing, some spreadsheet usage, perhaps some educational stuff, and for the rest it's games and more games.

Compared with the IBM and Mac world, our word processors and spread sheets are non-standard. If you think that I'm exaggerating, talk to any tertiary student who is involved in written assignments; MS-DOS compatibility is usually a requirement (I speak here as a father who has two sons involved in tertiary studies, so I can back this up with proof if required).

Once more, it seems to me, Commodore has missed the boat. Perhaps one day there will be as many Amigas around as there are now 64s. But somehow, I don't think it will be taken any more seriously as its smaller brother. I hope that I'm wrong, but I fear the worst...

REPAIRS - A WARNING

I was recently approached by a young man who wanted to advertise an Amiga Upgrade and Repair Service at cut prices. This person is not a Commodore Authorised Service Centre, so there's a decided risk that, if anything goes wrong with the upgrade or repair, it may well end up costing you a lot more than you bargained for.

RON CHERNICH

This issue should have been called the *Ron Chernich Special*, as we have 6 (yes, six) contributions from Ron in this issue. As they cover reviews, computer history and hardware projects, I've decided to publish them all in this issue, because they are such a nice varied lot.

Many thanks, Ron.

Editor

MARCH MEETING

At this meeting we hope to demonstrate *ATONCE*, the hardware based MS-DOS AT Emulator for the Amiga 500.

Only recently released and as yet not reviewed in the Amiga magazines (at least not in the magazines which we have received), this means that we have a bit of a scoop on our hands.

See you there!

MARCH WORKSHOP

This workshop is devoted to Public Domain copying. In this issue you will find a listing for another 20 Fish Disks, taking us up to no. 430, so it's quite possible that by 10th March we will have 450 Fishies.

REMEMBER: Workshops are for Members only!

NO GAMES OR COMMERCIAL SOFTWARE COPYING AT OUR MEETINGS!

OFFENDERS WILL BE ASKED TO LEAVE.

HELP! COLUMN

This is the HELP! column for users of Amiga computers. If you would like to share your experience in the fields of programming, software, hardware etc. with your fellow members, submit your name with your area of expertise to the editor. Remember: the more names, the more knowledge can be disseminated amongst our members.

NAME:	HELP OFFERED WITH:	PHONE NO:
Dave Apelt	Vector Graphics	366 4761
Ellen Appleby	Using Amigas in Education	369 4629
Tim Brattberg	Assembly - AmigaBasic - Solid Vector Graphics	399 1973
Bob Devries	OS9 Operating System	372 7816
Ralph De Vries	Printers - WordPerfect - PageStream	300 3477
Robert Googe	Video & Audio Digitising	288 8863
Steve Hovelroud	Audio Digitising, Amos	298 5128
Gary Lloyd	C Programming (Beginners)	269 7818
Paul O'Brien	Amateur Radio Communication	397 4102
Brendan Pratt	Modems, Telecommunications, Sidecar	(075) 463 317
Grant Robinson	AmigaBasic	359 4315
John Van Staveren	Easy Ledgers Accounting Program	372 3651
David Walton	Bridgeboard (IBM)	(071) 834 742
Mike Williams	AmigaBasic (Beginners), Sound	209 9084
Rod Williams	Monitors & Video Interfacing	260 6237

Please be considerate - these are after hours numbers, so only ring our members between the hours of 6pm and 9pm during week nights.

AMIGA PUBLIC DOMAIN LIBRARY

Fish Disk #411

BPDI - Demo version of a new strategy game written in GFA-BASIC. German ver only. Author: Dirk Hasse

DiskPrint - Prints labels for 3.5" disks, primarily for PD library disks. Version 2.3e, shareware, binary only. Author: Jan Geissler

Mind - A design for artificial intelligence (AI) based upon linguistics. The included animation shows how one node on a syntax tree flushes out the currently active concept in a mind contemplating a scene of the external world through the eye. Author: Arthur Murray

PCStatus - Bridgeboard user's program that displays the status of the CAPS, NUM, INS, and SCROLL key in a separate window on every PC screen. Author: Alexander Hagen

Tron - Lightcycle race sequence Game. Ver. 1.23, update to v. 1.1 on disk 355. Incl. source in GFA-BASIC. Author: Dirk Hasse

Fish Disk #412

AutoAddRAM - Allows you to add several non-auto-config memory boards at once, optionally specifying priority and memory chunk name. Version 2.03, binary only. Author: Jonathan Potter

Check4Mem - Allows you to check from a batch file for a specified amount of memory with certain attributes. Version 3, update to disk 242. Author: Jonathan Potter

CopperBars - A simple but pretty demo of some rolling copper bars. Author: Jonathan Potter

CopperMaster - This program allows you to easily create your own custom copper lists for the Workbench screen. Author: Jonathan Potter

CustReq - A glorified ASK command for your startup-sequence. Version 4, update to disk 242, binary only. Author: Jonathan Potter

DirectoryOpus - A disabled demoversion of a powerful commercial directory utility. Binary only. Author: Jonathan Potter

FAClock - Front Analog Clock. This clock program always stays at the very front of the display. Binary only. Author: Jonathan Potter

FullView - A text viewer that uses gadgets at the bottom of the screen (thus can display text 80 columns wide),

opens up to the full height of the Workbench screen.. Version 2.02, update to v. 1.1 on disk 287, binary only. Author: Jonathan Potter

Image-Ed - An icon editor that allows you to draw and edit images up to 150 by 90, in up to 16 colors. Version 2.4, update to v. 2.2 on disk 242. Shareware, binary only. Author: Jonathan Potter

JoyMouse - A simple program that allows you to use a joystick as a mouse. Author: Jonathan Potter

JPDirUtil - A directory-utilities type program with many built-in commands, and 16 customizable gadgets. V.1.12, update to v. 1.11 on disk 287. Binary only. Author: Jonathan Potter

NoReq - A very short program that alternately turns on and off the DOS requesters. Author: Jonathan Potter

OSK - A software keyboard, which allows you to type using the mouse. Version 1.2, update to version on disk 287. Binary only. Author: Jonathan Potter

PopInfo - Version 4.0, update to v. 3.0 on disk 242. Binary only. Author: Jonathan Potter

SuperPlay - A versatile sound playing utility, that will play any file, with user definable volume and speed. Binary only. Author: Jonathan Potter

SwapName - A variant on the "rename" command that instead swaps the names of two files. Binary only. Author: Jonathan Potter

TicTacToe - A simple TicTacToe game. Binary only. Author: Jonathan Potter

ZeroVirus - A fully integrated virus checker and killer, with bootblock save and restore features. V. III 1.15, update to v. 2.01 on disk 287. Author: Jonathan Potter

Fish Disk #413

Aerotoons - Animations with anthropomorphed aircraft as the center of their humor. Author: Eric Schwartz

Juggette - Some cute "juggler" animations from Eric Schwartz.

Fish Disk #414

Anims - Some more cute animations from Eric Schwartz. Includes "Batman", "LateNight", and "Terminal". Author: Eric Schwartz

Din - A library that allows you to share image and text objects between programs. Requires AmigaDOS 2.0. Version 1.0, Author: Jorrit Tyberghein

Lila - A shareware utility that allows you to print listings or other text files on Postscript printers. Version 9004b, update to v. 8912a on disk 368, Author: Bertrand Gros

PPAnim - An anim player for normal IFF ANIM opt 5 (DPaint III,...) files or ANIM files crunched with PowerPacker. Compatible with AmigaOS 2.0. Some new 2.0 features (ASL requester) supported. Version 1.0, binary only, Author: Nico Francois

PPLib - Version 34.2, update to v. 34.1 on disk 371, and fixes a relatively serious bug. Library binary only, source examples included. Author: Nico Francois

Wrap - A program to wrap a Sculpt-Animate 4D image around a sphere or cylinder. Author: Martin Koistinen

Fish Disk #415

CBBS - A WORLI-like BBS system for use in amateur radio. Version 6.71a, update to V. 6.1c on disk 241. Binary only, source available from Pete Hardie.

FileTypes - This program can recognize different kinds of files in a directory. Version 2.1, includes assembly source. Author: Sebastian Leske

Uedit - Shareware editor with learn mode. V.2.6c, update to v. 2.5d on disk 287. Bin. only. Author: Rick Stiles

Fish Disk #416

Budget - A program to help with managing personal finances. Author: Le Lay Serge Camille

Clock - Two programs to put clocks on the WB screen. Both programs require ARP. Author: Stuart Mitchell

Intoxicated - Screen hack which affects the mouse. Author: Thomas Albers

Quantizer - FLCLQ color quantizer which converts 24 bit true color images into 256, or less, color images. Author: Christophe Labouisse and Frederic Louguet

SoundEditor - An 8SVX stereo sound file editor written in assembly language for speed and minimum size. V.98, update to V.80 on disk 355. Authors: Howard Dortch, Mike Coriell, Matt Gerald

Utils - A group of small utility programs requiring ARP. Author: Stuart Mitchell

WTF - WTF (Window To Front) is a little hack which brings a window to the front when double-clicked. Includes source. Author: Thomas Albers

Fish Disk #417

Alert - Program to create custom alert boxes and standalone programs to display them. Version 3.6, shareware, binary only. Author: Thomas Jansen

Coyote - Another cute animation from Eric Schwartz.
DataEasy - Database program which includes a phone dialer, speech output, a simple screen editor for making and modifying the database definitions, a screen print function, form letter printing, sorting, searching, and two small sample databases. Version 1.1, binary only, source available from author. Author: J. Dale Holt

MemLook - Gives a graphical view of your machine's entire memory area. Version 2.0, update to v. 1.1B on disk 364. Author: Thomas Jansen

MostCurrent - Two programs that are to be used with B. Lennart Olsson's Aquarium program. The first program creates a new button called "Most Current". The second program updates the index file so that the "Most Current" button is set for all entries that are the most current versions of their set. Author: Peter A. Phelps

Quiz - A simple Quiz game. Current quiz subjects include "Bible", "Indians", "New England", "Physics", and "States". Binary only. Author: J. Dale Holt

WBGauge - A utility to patch AmigaOS 2.0 to bring back the little gauge in the left border of disk windows, showing the ratio of available space on the disk. Version 1.0, binary only. Author: Jean-Michel Forgeas

Whats - Version 2.0, update to v. 1.2a on disk 334, and is for AmigaDOS 2.0 only. Author: Jorrit Tyberghein

Fish Disk #418

AtMovies - Animation. Author: Eric Schwartz

BootCACHE - Utility to turn off the 68020/68030 instruction and data caches upon rebooting. Version 1.0, includes source in assembly. Author: Nico Francois

LJP - A program to print text files on an HP LaserJet printer. V. 1.01, binary only. Author: Khalid Aldoseri

ModulaDefs - Implementation and Definition modules for the Amiga's Graphics, Intuition, and Math libraries, to be used with the Modula 2 compiler from disk 24.. Author: Jonas Green

PSX - A public screen manager for AmigaDOS 2.0. Includes source. Author: Steve Tibbett

PubScreens - Two utilities to manipulate public screens. You can open and close them, or ask for information. PublicS is the workbench version of PubScreen. AmigaDOS 2.0 only. Author: Jorrit Tyberghein
Running - A classical maze and puzzle game. You run

around in a maze and try to catch the ghosts or spiders. It is completely multitasking friendly and compatible with AmigaDOS 1.2/1.3 and 2.0. Author: Jorrit Tyberghein

ScreenX - A program designed to make getting at screens easier, particularly screens that are lost behind other screens that don't give you depth gadgets. V.3.0, update to v. 2.1 on disk 158. Author: Steve Tibbett

Fish Disk #419

ParM - Parameterable Menu. ParM allows you to build menus to run whatever program you have on a disk. Version 2.5r, update to v. 1.1 on disk 375. Includes source. Author: Sylvain Rougier and Pierre Carrette

ReqAztec - An enhanced version of the interface to req.library for Aztec C 5.0. Author: Pierre Carrette.

ReqLib - A runtime, reentrant library designed to make it easier for programmers to use powerful, easy to use requesters, for communicating with users. V. 2.5, update to V. 1.2 on #400. Author: Colin Fox and Bruce Dawson

SetColors - A Palette replacement program that does a lot more in only 3K. Can save and load color files, and update preferences. Author: Pierre Carrette.

Yacc - This is a port of Berkeley Yacc for the Amiga. Update to the version on disk 299. Includes source. Author: Bob Corbett et. al.

Fish Disk #420

BootX - Yet another virus killer. Version 3.40, binary only. Author: Peter Stuer

Iff2Src - A utility to convert IFF pictures or brushes to source (C or assembly). Supports new 2.0 Applcon windows (like IconEd). AmigaDOS 2.0 only. Version 1.0, binary only. Author: Jorrit Tyberghein

MenuWriter - Allows you to write a menu to the bootblock to a disk. Version 3.1.

QuickHelp - With the QuickHelp utilities you can make your own help files AmigaDOS 2.0 only. Version 2.0, binary only. Author: Jorrit Tyberghein

ShowGadgets - A simple utility to view all gadgets in a window. Includes source. Author: Jorrit Tyberghein

SpaceWar - A two player game with each player controlling a spaceship. Author: Jeff Petkau

SysInfo - A program which reports interesting information about the configuration of your machine, including some speed comparisons with other configurations, versions of the OS software, etc. Version 1.94, update to v. 1.4 on disk 368. Binary only. Author: Nic Wilson
TTDDD - Textual TDDD is an ASCII version of Turbo

Silver's TDDD object and cell description files. Version 1.0, shareware, binary only. Author: Glenn M. Lewis

WinMan - A very simple utility to manipulate windows. It adds some menus to the workbench, which you can use to shrink, maximize, tile or cascade your windows. AmigaDOS 2.0 only. Author: Jorrit Tyberghein

Fish Disk #421

DMouse - Version 1.25, an update to version 1.24 on disk 407. Includes source. Author: Matt Dillon

EZAsm - Combines parts of the "C" language with 68000 assembly, giving it the "feel" of a higher level language. Supports all 1.3 functions. Version 1.3, binary only. Author: Joe Siebenmann

NoVirus - Anti-Virus utility. Tnd is a limited demo of the commercial version. Binary only. Author: Nic Wilson

Zon - An arcade/adventure game that mixes a unique blend of puzzle solving and arcade adventure. Volume 1, shareware, binary only. Author: George Broussard

Fish Disk #422

Gravity - A program which simulates the movements of astronomical objects under the influence of gravity. Version 1.0, binary only. Author: Guido Burkard

Imploder - Allows you to reduce the size of executable files while letting them retain full functionality. Version 3.1, binary only. Author: Peter Struijk and Albert J. Brouwer

PopUpMenu - A small program that makes it possible for you to use pop-up-menus with any program that uses standard intuition menus. Version 3.5, includes source. Author: Martin Adrian

SystemTracer - A tool to view and manipulate various AmigaDOS 1.2 and 1.3 system structures. Version 1.0, includes source. Author: Guido Burkard

TrackDOS - A program that allows easy transfer of data between DOS, memory and trackdisk.device. V 1.04, an update to disk 365. Binary only. Author: Nic Wilson

TrekTrivia - Very nice mouse-driven trivia type program for Star Trek fans. V. 3.0, an update to version 2.0 on disk 252. Binary only. Author: George Broussard

Fish Disk #423

Hollywood - An easy to play trivia game with such subjects as M*A*S*H, Star Trek (old and TNG), Indiana Jones, general television trivia, and more.

LCDCalc - Probably the prettiest looking four function (with memory) calculator ever written for the Amiga. Written in J-Forth. Version 1.023. Author: Mike Haas

Pogo - Animation. Author: Eric Schwartz

SetRamsey - A program that allows you to test the current settings of the RAMSEY ram controller chip on an Amiga 3000 under Kickstart 1.3 or 2.0, and change them if you wish. Binary only. Author: Nic Wilson

Fish Disk #424

AutoCLI - A 'PopCLI' type replacement that works with WorkBench 2.0. Version 1.88, update to v. 1.6 on disk 399, with more enhancements. Author: Nic Wilson

MED - A music editor much like SoundTracker. V. 2.13, update to v.2.00 on #349. Author: Teijo Kinnunen

TurboTitle - A program created for the purpose of subtitled Japanese Animation films and to create a standard Amiga subtitle format. Author: Robert Jenks

Fish Disk #425

A-Genes - Demo version of a shareware genealogy database program. Version 3.10, binary only. Author: Mike Simpson.

CheckBook - Checkbook accountant is a checkbook recording program intended to be used as a companion to a checkbook register, not a replacement. Version 0.9, binary only. Author: Jeffrey Almasol

Downhill - A skiing arcade game. Joyetick required, works only under AmigaDOS 1.3. Author: David Alves

HeadGames - A "Shoot-Em-Up" game done with SEUCK game constructor, featuring digitized heads as enemies. Binary only. Author: Neil Sorenson

Fish Disk #426

Conman - Extremely useful replacement for the standard console handler. version 1.3e, update to v. 1.3 on disk 165. Changes include updates for WorkBench 2.0 console refresh and cut/paste, and improvements to window resizing. Binary only. Author: William Hawes

Metro - In METRO, you play the role of a city planner. Author: Mark A. Thomas and David P. Townsend

RickParksArt - A collection of artwork from one of the leading Amiga artists. Author: Rick Parks

Fish Disk #427

BlackJack - A blackjack simulation program. Allows from 1 to 7 players, including the computer. Has online help, a demo mode, and a special practice mode. Version 1.01, shareware, binary only. Author: Dan Cogliano

Chemesthetics - Chemesthetics is a program that draws

molecules using the calotte model. Version 2.00. Author: Joerg Ferin / Metalworx

Cyrillic - Cyrillic (Russian) 12-point font. Author: Elaine and Timm Martin

STV - Simple text viewer with mouse and keyboard scrolling, text search, and hooks to be launched onto custom screens. Version 1.00a, Author: Timm Martin.

Fish Disk #428

BCBMusic - A set of three original songs written and composed using the freely distributable MED v2.10 music editor. Author: Brian C. Berg

CyroUtils - Four handy animation utilities from Cryogenic Software. Binary only. Author: Cryogenic Software

ShadowMaker - Demo version of an Intuition based Font shadow generator. Author: Stephen Lebans

Train - An electric train construction set game simulation. Shareware, Author: Dennis Saunders

WonderSound - Additive harmonic instrument design tool with a separate envelope design window and 16 relative harmonic strength and phase angle controls. V.1.6, update to v.1.4 on #407. Author: J. Harrington

Fish Disk #429

ATCopy - A program to copy files from the Amiga side of a system equipped with a PC/AT bridgeboard, to the PC side, using wildcards. V. 2.1, an update to version 2.0 on disk 406. Shareware, binary only. Author: Peter Vorwerk

CLImax - A command like NewCLI or NewShell except that it creates a borderless CLI or Shell window on a custom screen. Author: Paul Kienitz.

Dr - Another alternative CLI directory lister command. This one features extreme optimization for speed. Includes the additional utilities ForEvery and Whichever. Release 1.2. Author: Paul Kienitz.

FixCLI - A tiny pure command which fixes problems with CLI's not created by other CLI processes. Put it in your S:Shell-Startup script. Author: Paul Kienitz.

MoveSYS - Reassigns SYS:, C:, S:, L:, LIBS:, DEVS:, and FONTS: to a new disk or directory in one step. Can be used from CLI or Workbench; just click it and shift-double-click a disk or drawer icon. Second release (the one on disk 224 worked from CLI only). Includes source. Author: Paul Kienitz.

RunBack - A very compact version of the popular utility for starting a CLI process in the background, without preventing the CLI window from closing. This version is pure and only 468 bytes long. Requires the NULL:

device, which is included. Using NULL: makes it more flexible and robust than older RunBacks. Includes source in assembly. Author: Paul Kienitz.

Scrub - A floppy drive cleaning program which automatically detects which drive has a cleaner diskette in it. Spins it for thirty seconds while moving the heads around. Pure. Includes source. Author: Paul Kienitz.

Timer - The timer device made easy! Example of how to create both synchronous and asynchronous waits. Author: Timm Martin

Trippin - A Workbench game based on an out-of-print board game. Includes source. Author: Paul Kienitz.

Uedit-Stuff - A variety of configuration material for Uedit. Author: Paul Kienitz.

V - A front-end for Commodore's More or some other text viewer that can be made resident. Author: Paul Kienitz.

Fish Disk #430

Lotto - Small lotto number selector with C source. Author: Timm Martin

Pointer - Use the SID sleepy pointer in your programs. Author: Timm Martin

SculptTools - Programs to create objects for use in Sculpt 4D. Includes Brush_4D to convert IFF brushes to objects in full color with HAM and EHB support and wrap to various shapes (update to version on disk 361), Fractal_4d to create fractal mountains with various coloring from brush, checkers or based on altitude, and Spiral_4d to create a variety of objects based around tubes and helixes. Binary only. Author: Bruce Thomson

SmartFields - SmartFields is a replacement for Intuition string gadgets. It allows you to incorporate into your Amiga C programs the powerful editing capabilities often found in mini-computers. Includes full C source and documentation. Author: Timm Martin.

-ooOoo-

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AMIGA GAMES

reviewed by
Steve Hovelroud

Around Christmas time I always shout myself a new game, as does a friend of mine. Well, this year I received a game for Christmas as well, so that makes three games that I have played over the past few weeks. They are all of a similar variety and I thought it would be worth while to mention the differences between them in case you, out there, are thinking of buying one of these. Before I go any further I should tell you that if you are a shoot-em-up freak then these games are not for you. If you are a role-playing fanatic then one of these may be for you.

CADAVER (RRP \$69.95)

The first thing that hits you about this game is the quality of the graphics; very impressive. It seems this Necromancer has killed everyone around and it's up to you to track him down; get the picture?

Game play consists of wandering through various rooms, collecting this and that, to solve various puzzles, and meet certain requirements and needs. The rooms are beautifully drawn in isometric perspective and your little man is a dwarf in armour. You have a certain amount of health and this depletes if you are hit by arrows, fire, monsters, stand in water, fall too far, and the myriad of other ways to die. Your health can be replenished by spells which you find, or by drinking out of certain kegs. (Beware the kegs of alcohol potion, they make the controls reverse for a while!)

What I like about this game, compared to others, are the puzzles. Everyone has a completely logical (even if my brain hasn't) solution.

As an example, say you fell down a hole in the ground; how do you get out?

1) Find some sort of rope to climb.

2) Find a switch or button that transports you out.

3) Drink a super jump potion.

4) Stack objects on top of each other until you can jump out.

A switch may be a panel in the wall, button on the wall, a lever on the wall, a statue on the wall, a tile on the floor..... endless variety here folks. Not once did it seem that I was hopelessly stuck, as looking through my pack revealed something of use that I had picked up on the way.

People have left messages around for you giving clues as to what to do next. Most monsters require that you throw something at them, be it a rock or a massacre spell.

There are five levels and each one is loaded from a second disk labelled LEVELS DISK. Each level has different room graphics and only the spells/objects that are useful are carried from one level to the next. A novel way to save the game is to charge you for the privilege. If you haven't got the gold you can't save the game! A separate disk for saved games is required on which you can store 10 saved positions. The game has various humorous touches such as when you enter a room which has ten green bottles on a ledge, the game says "you hear a song about green bottles on a wall". Taking the hint you push all the bottles of the edge and are rewarded by one broken one, revealing a key.

My one gripe about this game is that getting stuff in and out of the pack is a bit awkward sometimes. Level one took about a full days play to get through and was fairly straight forward, level two is where I am now, harder going, more rooms and tougher monsters.

Great game, I thoroughly recommend it!

IMMORTAL

(RRP \$49.95 + Free T-Shirt and Sunnies)

Big rave on the box about this one, made by the guys who did Zany golf and it shows. Role playing fanatics supposedly love this game? Well the truth is it could have been! My main gripe is the lack of freedom allowed to you during the game. Things must be done in strict order (which you don't know until too late), so that the level may be completed. If you do something wrong on that level it may only show up on later levels in which case you must start again. Now some people may like this way of doing things but I think it detracts from the game play.

Gripes aside the game itself promises much entertainment and the character animation is a marvel to behold. Background graphics are nice but the animation of your character and the monsters is nothing short of incredible. Detail, such as when your character goes down a ladder, he places the staff he is carrying on the ground, bends over and puts his foot on the top rung, climbs down a few rungs, leans over and picks up the staff then places it behind him. Every little detail has been drawn in.

It seems your old wizard mentor Mordamir has vanished and you are about to find him and discover the secret of the Immortal? Basically you have to find this old dude hidden somewhere in this city.

Graphics are of the isometric representation that scroll around from one room to another. As I have said most of the graphic work has been put into the characters themselves. Moody music plays in the background which may be turned on or off. Apart from the usual puzzles there is a combat element in this game which makes it all too easy to die. This is the first combat control that actually mimics the real thing. Because of the detail of the characters you can see when he draws back to strike you; if you then lean in the direction the swing will travel your man parries his swing,

else he gets struck. If you swing to slowly at him he will also parry your swing. This system works well and seems to be quite realistic.

Along the way you meet certain other people which you may help or may help you. Given the chance, help everyone as it pays off on later levels. Clues are given by dream sequences when you man lies down to sleep.

There are eight levels to complete and I am currently on level five, although I think I have to go back because I need something from an earlier level. With this amount of levels and because there aren't many rooms in each level game play has been made difficult and it seems to me that too much emphases has been placed on the combat side rather than the discovery side.

The manual contains a diary which gives hints to levels one to seven.

Check out his game before you buy it!

CAPTIVE (RRP \$69.95)

Diary: 18-09-2542 - The trail didn't go well.... guilty on all counts... NO WAY!.. Wonder what my sentence will be.... hope it's community service.

19-09-2542 - I can hardly write... just got sentenced to 250 years suspended animation... this may be the last entry for a while!

??-??-???? - I think I've been awake for two days, spent about three hours pulling tubes out of my body. Might try and get up..... That was a mistake....

2 days later - Something has gone wrong, through the window I can see the place is a wreck. Think the computer shutting down woke me up to save me from dying? Looks like they used this room as a store room while I was asleep..... found this interesting brief case computer thing...some kind of remote control.

Next Day - Wonder what the time and date is?
Looks like one of the tubes will feed me..

Next Day - Found the Manual for the
ABCCSI 500/520XL Mk VIII brief case computer.... I might be able to escape with this.

So starts your life as CAPTIVE, stuck in a locked room and your only means of escape is the brief case computer. Apart from the above excerpt from the diary, there is the manual for the ABCCSI 500XL/GT. Reading through it describes the computer as a Holographic portable control and communication system that will cater for your needs right through till the next decade (Bit like a A3000 with GP-TERM?). Requires 12 9v Nuclear Batteries (not included). Using this computer, it is possible to control 5 devices, 4 of which are usually connected to droids. Visual links can be established between your remote sources and the holographic screen on your computer. Various status controls and displays give you all the information that you could possibly need. One tester commented that because of the power of this system a jailed man could release himself with a computer and four droids in no time.

As the game starts you are looking into the screen of your brief case computer and you have 4 droids doing zilch! Plug the old Rom Constructs into their brains and ROGER!, active droids. Some sort of Holographic map showing planets and a spacecraft circling a planet. What's this? One of the planets is flashing; set the flight path, orbit the planet and send the droids down to the surface. Landing on the planet reveals inhabitants of dinosaurs and trees; a quick search locates a door with four buttons. Pressing these buttons in a certain order opens the door and then the game really starts.

Basically this game is a Dungeon Master clone with droids instead of people. Droids can have their parts swapped, repaired, sold and upgraded. Puzzles abound in the game as there are secret walls, panels, buttons. Varieties of

robots, monsters and such are everywhere and killing these usually yields gold in varying amounts. This gold can then be used to buy repairs or new equipment, ammo and stuff from the local Chinese trader (When you can find him).

Graphics are good, each planet has different graphics for each underground base, sound is spatial stereo giving indication as to where something is. People who have played Dungeon Master will have no troubles with the controls which are the standard Rotate Left - Forward - Rotate Right - Go Left - Go Right - Backward Icons; also, when applicable, Climb Up/Climb Down icons are displayed.

This game appears to be HUGE with heaps of planets and moons. As you explore each base you gain experience points which can be used to buy a higher skill levels in various activities: brawling, shooting, swordplay, intelligence. Gadgets abound and range from anti-grav units (these let you walk on the ceiling), to mappers, vision correctors, power gloves...

I like this game, it's fun to play and I can usually complete a planet in a couple of days. Games can be saved anywhere but can only be loaded when you are in space. I assume the goal is to release yourself from your prison but I imagine that it will be a long road before I get there.

If you are a Dungeon Master fan, then try this game - if not, try it anyway.

(P.S. My brief case computer just GURUed, little alert on the screen and all!)



DESKTOP PUBLISHING - PART 6

by Ralph De Vries

Recently I purchased a National WV 1410 Video Camera and DigiView software. The idea was to digitise pictures to produce black and white clipart, for use in our newsletter.

After several months of experimentation I've come to the conclusion that this combination is able to produce some good results for screen display, but is extremely limited when it comes to producing black and white clip art; hence I've offered this outfit for sale (and lost quite a bit of money in the process).

Now, perhaps, a scanner might give me the results that I'm looking for, but does this mean that I go out now and buy a scanner, and, if it doesn't work, go and sell it again?

This of course is one of the real dilemmas of a computer owner, regardless of brand or type of computer; we should be able to try out both software and hardware before buying it.

-o-

Those of you who have followed with bated breath this series of articles on DTP, will have noticed that I've made several changes to the appearance of our newsletter. As an example, in the last issue I reduced the point size of the body text from 10 point to 9 point size, but *increased* the leading (space between lines) by 1 point. This was done to improve readability. If you look back to our December '90 issue, you will notice that certain letters with descenders (like j and p) actually touched letters with ascenders (like l and k) on the following line. This makes it harder to read, and thus I decided to reduce the point size by one point unit and increase the space between the lines by one point unit, resulting in total separation of the lines.

(Only recently I was reading a pocket book - it was quite a good detective yarn - but I had to put the book down after reading a few pages, because the eye strain was too great. It was supposedly, set up in a 10 point font, but the line spacing was very tight, hence the eye fatigue. Even the professionals stuff it up sometimes!)

Back to PageStream 2.0. With extended use more and more bugs are becoming apparent. Although I seldom use fonts in point sizes larger than 30 points, I was recently advised by a PageStream user that they were unable to print a Compugraphic Font which was larger than 144 point. I then did a test and found that this was indeed so. The font appears on the screen, but does not print. Rotating these font is another problem - they appear on the screen, but often don't print. I have since been in touch with SoftLogik and they confirmed that this is so and they claim that it's a bug in the Compugraphic fonts - they are working on it. Other bugs, such as garbage on the screen when altering or inserting text, are apparently being fixed in Version 2.1 which will be sent out in the near future.

In the previous issue of Cursor I used a lot of graphics. This is all very well, but they dramatically increase the file size. The last 10 odd pages of the February issue produced a file which was over 400000 bytes in length! When I removed the pictures from the file, it was reduced to some 40000 bytes - quite a difference. The 'opposition' products, Professional Page and PageSetter, don't actually add the graphics to the file, but load them in from the original source disk when required. This has the advantage that the actual file remains relatively small, but the disadvantage of having to have the original source disks handy when you need them. If you don't have a hard disk this can be a very slow procedure.

When reviewers in Amiga magazines look at DTP packages, they make, at most, a comparison with other Amiga DTP packages. But how do they stack up against the heavy weight packages in the MS-Dos and Mac area? I refer here to packages like *Ventura Publisher*, *Aldus Pagemaker* and *Quark XPress*.

In the Oct '90 issue of *Byte* there's an overview of some half dozen high end DTP packages, including the ones mentioned in the previous paragraph.

The first thing to notice is that these top end DTP packages are expensive; expect to pay anywhere between \$1000 to \$1500 per program, or roughly three to four times as much as the top end Amiga DTP programs.

The second thing to notice is that they are also large programs and require heaps of memory and (surprise) faster processors! The tests in *Byte* magazine were done on a Mac II with 5 Mb of RAM, a Mac IIfx with 4 Mb of RAM. The PCs used were a Compaq 386/20 with 6 Mb and a Compaq 486/25 with 4 Mb of RAM. These are hardly your average XT with 640K of memory!

As far as features is concerned, these heavy-weights certainly scored over the Amiga packages, but not by all that much. By and large the Amiga DTP packages have somewhere between 75% - 90% of the features of the above packages, but at a fraction of the price.

So what conclusions can we draw from the above? If you want to do professional desktop publishing, you go the whole hog with a high speed computer, lots of RAM, hard disk drives, Postscript laser printers, top software etc. It will probably set you back about \$20000 or so, but remember, you are running a business. If you want to publish a newsletter or some advertising flyers and still get good results, you invest in an Amiga with 3 Meg of memory, a hard drive, an HP compatible laser printer, and PageStream or Professional Page. This lot will cost you between \$8000 to

\$10000, but will give you perfectly acceptable results, albeit you have to be a lot more patient! For those of you who just want to 'play around' with DTP, using a standard 1 Meg Amiga and a dot matrix printer, my suggestion is to try out PageSetter II, and use the Compugraphic fonts. You will get very respectable results, in fact far better than anything you may have tried before.

The real secret of success in DTP is not so much the tools (although the right ones do make life a lot easier), but your creative ability, and, in the case of newsletters and other publications, the quality of the contents.

STOP PRESS

SoftLogik have started sending out PageStream Version 2.1 to registered users. Although I have not received my own copy yet, one of our members showed me the new arrival. It comes complete on 4 disks with a totally new manual, plus a 'quick-start booklet'. The new manual is now spiral bound and makes the old one totally obsolete, as it is completely rewritten. There are also new tutorials.

At first glance the new version seems to be identical with the earlier one, but a closer study reveals quite a few subtle changes:

When inserting text the screen redraws cleanly now and the redraw also appears to be marginally faster.

A lot more non-standard symbols are now supported, as an example, pressing 'Alt 8' results in ●.

A new import module allows for the importation of files from *Professional Draw*; great!

A further review has to wait till I've had a closer look at the newcomer.

-ooOoo-

3D GRAPHICS FOR \$2

by Dave Apelt

Some of us may have been fortunate enough to see a demonstration of the three dimensional game Space Spuds that used special liquid crystal display glasses that gave the impression that mutant potatoes were coming out of the screen (literally!) The glasses were impressive but the package cost about \$150 (??).

They used the principle that one eye would see one image while the other eye would see the other. This was done by flashing up a picture that the left eye would normally see. While this happened the right lens on the glasses would go dark allowing only sight out of the left eye. Then an image for the right eye would be displayed and the left eye would go dark allowing only sight out of the right eye, etc. This happened about 50 times a second with the result that the two dimensional screen now gave the impression of depth!

Despite this small miracle I couldn't justify spending \$150. Recently I was watching "Quantum" which featured a segment on Molecular Architecture. It showed three scientists gathered around a computer wearing those glasses that are given to the audience at 3D movies. They were studying what looked like a number of random colored lines on a yellow screen. Unfortunately the people watching TV couldn't appreciate what the scientists were looking at but whatever it was it must have been good as they were making rather enthusiast "ummmms" and "arrrs"!

I had recently obtained Deluxe Paint III and realised that if these guys could get excited over one frame on an IBM, imagine what could be done with an animation on DP3! I was soon raiding the gift wrapping draw looking for coloured cellophane paper. At first all I

knew was that what I eventually wanted to do was to draw a picture on the screen using only two colours and then use exactly the same two colours in a pair of glasses. I also knew that the right colours would be those that when one looked through cellophane coloured paper A one could see screen colour A but not screen colour B and vice-versa.

I found scraps of red, yellow and green cellophane. What I then did was to go to DP3 and fill half the screen with one colour and the other half with the second colour. I then tried the procedure explained above about seeing colour A but not B. I thought red and green would have worked well (they are both primary colours). The results were surprising. The red cellophane could see red on the screen colour and not the green screen colour and the green cellophane could see the green screen colour but it could ALSO see the red screen colour. The other colour combinations had similar results.

So it was up to the news agency the next day to buy the other primary colour; blue. It only cost \$1 for a 1.5m x 1.5m sheet. The money was worth it as it worked! I found that if you draw a pure blue square box next to a pure red square box and then take a copy of both boxes, halve their size and place the resized boxes somewhere else on the screen and then take your red and blue cellophane, double it over a couple of times and place it over your eyes, a scene is viewed in which the bigger boxes are much closer than the smaller boxes. Amazing! It took a little while to get the right intensity of cellophane paper. One colour would need to be doubled over more times than the other. I soon made a pair of glasses out of a shoe box and held the cellophane on with blue tack just in case I needed to change the intensity later on. The end product wasn't as technically sophisticated as a pair of liquid crystal glasses or as pretty, but it worked.

It was then I did some animations. I found I could have over 600 frames with only one meg of memory and 4 colours! Six hundred frames gives about 30 seconds of animation at the highest speed. Some of the things I drew were scores of asteroids (red square next to blue square) coming out of the screen. This can be easily done by going to say frame twenty and recording backwards for twenty frames. I also had words coming out of screen. This was done by typing in a word in one colour, say red, enlarging it, placing it on the screen, changing the colour of the brush to blue, then placing the blue word over the red word so that it looks as if the blue word has a red shadow.

The only limit in something like this is your own imagination. I'm not an "arty" person, but when I showed some people at the December Rosalie Workshop I got some "umms"

and "arrrs" that rivalled the scientists' efforts. However, some people said it sort of worked and one person even said it is just as good without the glasses on! (Is he colour blind??) I find the best results can be obtained by turning off all the lights in the room, turn the monitor to the greatest colour intensity, and while your mother isn't watching get up close to the screen and try not to dodged the asteroids.

If you have a couple of spare hours one day I thoroughly recommend that you give this a go as the results are rather amazing. I'm making my animations available if any one wants a copy. But if you get really keen one could write a demo or a game using these principles and make the asteroids interactive. For \$2 it might be the cheapest thing you'll ever buy for your Amiga!

YET ANOTHER NEAT THING TO DO WITH YOUR AMIGA

by Ron Chernich

Video recorders have been with us for a long time now. Long enough in fact that lots of people have a second (or even third) machine lying around that is surplus to requirement and un-saleable. Well here's a simple way to put it to good use if you have a 1084S monitor sitting atop your AMIGA.

Connect the VCR VIDEO OUT socket (the actual Video, not the modulated RF) to the CVBS/L input on the back of the 1084S and make sure the push button labelled "VCR" is selected (IN). The front panel push button labelled "CVBS/RGB" will now toggle your monitor between the AMIGA video and the VCR video, so even if the VCR portion is "dead", the tuner circuitry will turn your monitor into a TV set!

Now, if you're handy with a soldering iron, make up a little box to switch over the audio inputs to the 1084S between the AMIGA and the VCR direct Audio Out (the box can even be wired to connect the single VCR audio lead to both left and right monitor audio input connectors when used for TV, or as stereo for AMIGA audio) and you have a fully functional TV. Another advantage of this is that the audio and video switching are independent .. I'm sitting her now, pounding out this little article on the AMIGA while my monitor is playing some cool Jazz from the SBS test pattern! Just think, you can be typing out an assignment and listening to "Neighbours" at the same time! Guaranteed instant brain-death.

-ooOoo-

THE OTHER SIDE OF LIFE

by Grant Robinson

Having read reviews in the main computing press of the various Amiga models when they were released, it was with great interest that I got a new PC compatible computer on my desk at work recently. Here I had a good opportunity to see how well my Amiga at home would compare with what most consider a real computer, a 20 MHz 80286 machine with 1 megabyte of RAM, VGA colour, 2 serial and one parallel ports, a mouse, and an external modem (so it can be borrowed for home use). I have also read of the trials and tribulations of fellow members trying to set up their Amigas, but I can assure you that setting up an Amiga is far easier. Where should I begin? The beginning I suppose!

I am not new to using PC compatibles but having mainly worked with an accounting package that runs under a "non-standard" operating system for the last few years, I tended to only use such things as Lotus 1-2-3. Now that requirement dictated that I have a computer on my desk, so the above machine was acquired. When it arrived I decided to try out the DOS 4.01 Shell; this is (from what I gather reading the computing press) supposed to breath extra life into DOS by giving a mouse-based user interface. But what a disappointment! It merely throws lists of directories, programs and files at the user. Click on the directory you want and the list of files in the directory appears, and then click on the program you want to run. I now use it *only* to view files in hexadecimal only because you can't do that with a DOS command (as far as I'm aware). Other than that I find it useless.

The computer is also used as a terminal from another machine that runs our accounting package and has a printer connected. I could

have connected the printer to the parallel port but as I was looking to position it a fair distance from the computer, I decided to connect it serially. The terminal software can only utilise COM1 or COM2 (serial ports 1 and 2), one for the terminal connection and one for the printer. And software supplied for reporting via modem to our head office will only work with a modem connected in COM1 or COM2. And the mouse supplied with the computer is a serial mouse! Four things to go into two serial ports. Solution buy another serial card (from the people who sold me the computer) which has two serial ports, then set up as follows -

COM1 Terminal connection
COM2 Modem
COM3 Mouse
COM4 Printer

I was going to set the printer up in all the software as a parallel printer and use the DOS redirection command `MODE LPT1:-COM4:` to redirect it to where I wanted it COM4. (Tricky hey!) The only problem was that COM3 and COM4 weren't working.

Telephoning the computer shop shed some light. The card with COM1 and COM2 on it didn't like having to share with COM3 and COM4, but if I'd take it back they'd replace it free with a card which would work. I don't know why they didn't think in the first place instead of selling me something which wasn't going to work with the computer they'd supplied. The fact that the manual which came with the card was written in Chinglish (a dialect derived from Taiwanese and English used by most of the hardware manuals) didn't help matters either.

Anyway with the new card I now have four working serial ports! But most software seems

to ignore the DOS printer redirection so I've now had to set up the printer as a parallel printer anyway. Also, having got tired of the DOS user interface, today I loaded up Windows 3.0 and after loading seven disks and running through the setup routine, I find in a little Readme.Txt file which comes with the software, that for a serial mouse to work with Windows 3.0 it must be connected to COM1 or COM2! I am now getting a new mouse (a Microsoft Bus Mouse) which is connected to an internal card. Anyone want to buy a spare serial card configured for COM3 and COM4?

Using a mouse on a PC is a real experience after having become used to the Amiga. Nothing is consistent! Different mice come with their own mouse drivers so even when running the same program on the same type of computer if the mice are different brands you get different user interfaces. And in some programs you use the right mouse button to select an option and in others it's the left. Or the right button can bring up the menu from which you can then select an item using the left button or the right button, it depends on which program you're running! In one program I have the right button takes you straight to the Exit menu where, if you click the right button again, you exit deadly. It seems that you have to memorise which is which for each application.

And speaking of memorising, don't forget that when it comes to memory on a PC that expanded memory is different to extended memory which is different again from conventional memory. But some extended memory boards can be configured to provide expanded memory instead of extended memory because expanded memory preceded extended memory and most applications are designed to use expanded memory even though extended memory provides faster access - got it? Even the regular IBM users at my work don't know the difference! I've got a machine which has 1 megabyte of memory only 640k can be used by DOS and 384k is extended memory which (and I quote) "can be used for a RAM disk

(and very little else)". The quote is from a little utility which lets you use a ramdisk in extended memory to be used as expanded memory. What all this means is that if you want to "shell" from an application to a DOS prompt (which is a bit like starting a CLI from within an application), there must be some DOS (conventional) memory available to do this, otherwise, even though megabytes of extended memory may be available, you can't do this due to insufficient memory!

To my mind, the difficulties that I have faced in trying to get this computer running in a user-friendly fashion (like my Amiga, for example) highlight some very real shortcomings with DOS and PC compatibles.

1. The lack of a standard Graphical User Interface (GUI) inhibits user productivity. I have read of a survey which showed that on average DOS users only use two to three software applications on their machines. With such an unfriendly operating system I can understand why. The current marketing by Apple that their machines are the ones that people like to use illustrates this. A GUI also increases productivity through a consistent user interface. The user doesn't have to remember the commands to perform basic tasks such as saving and retrieving files for each application. Therefore more applications can be learned and new ones learned faster.

2. A single tasking operating system also restricts user productivity. While the ability to "shell" out of programs is useful, the 640k DOS barrier can often negate this. The ability to have applications running simultaneously means the user can leave an application to perform a time-consuming task but still continue to work on other applications. Motorola advertise their MultiPersonal Computer which runs Unix by stressing its multi-tasking and multi-user capabilities saying "It looks like a PC. It feels like a PC. Thank goodness it's not!". I whole-heartedly agree. Windows 3.0 may to some extent

redress these problems. When I get my new mouse I'll let you know.

3. The lack of standard hardware architectures causes many difficulties in getting applications running due to the lengthy and complicated setup procedures necessary. Different memory configurations, communication port configurations (serial and parallel), and mouse configurations seem to be the major bug-bears to be overcome. At least the VGA display seems to have standardised things in one area (or did I hear you say "Super-VGA"). From what I have seen so far a user cannot be certain that any software they have will work with anything other than two serial ports, one parallel port, and a Microsoft Bus Mouse. Whether to blame programmers for not supporting certain configurations (like Windows 3.0 not allowing a serial mouse to use COM3 or COM4) I don't know. It simply shouldn't have to be the user's problem.

Having evolved over a number of years, I find that people seem to forgive the DOS world its sins as each new problem arises. Most people are aware of the shortcomings and happily accept them. Maybe as an Amiga user I have been spoiled by having the option of the Command Line Interface or Workbench's GUI and the added advantages of a multitasking operating system. In knowing that other (and bet-

ter) options exist, perhaps I am too unforgiving or too inflexible when repeatedly faced with the problems of the new computer. But I am very surprised at the apparent apathy of DOS users in not demanding of IBM and/or Microsoft a much better environment for the user. Perhaps they simply don't miss what they've never had. DOS is now in its fourth major release and looks little different to me than when I first encountered it about six years ago. For me, I find that it is at best poor and at worst bloody awful. Maybe Windows 3.0 will make me a happier DOS user. From what I have seen of it thus far, I believe it will become a de facto standard as it is sorely needed for DOS to keep pace with current technology.

In comparison, the Amiga is a very powerful, low cost computer which is capable of more in its basic form than my PC compatible, even though it ticks over at a leisurely 7 MHz as opposed to the PC's 20 MHz. The power comes not solely from the hardware (impressive though it is for the price) but mostly from the operating system. This power at such a basic level then becomes an integral part of any software for the Amiga to unleash the full capabilities of the computer. PC compatibles are definitely powerful computers too, but their potential is largely locked away from the average user in an unfriendly environment.

A COLOUR BAR AND DOT GENERATOR FROM SOFTWARE or - TRY THIS WITH YOUR IBM! - by Ron Chernich

My venerable old Sony Profeel 27" monitor has had a purity problem. It stood next to a 15" Tannoy for a couple of years and developed a bad case of the purple top right corners. A friend of mine who lives in Canberra and (unlike me) is still in the industry had tried on previous occasions to correct it, but without a lot of success. He telephoned just before Christmas saying he knew how to fix it

at last and I should borrow a colour bar and dot generator as he would be up in the New Year.

A "Colour Bar and Dot Generator" is an essential bit of test equipment for correct monitor (or TV) alignment. Apart from doing just what its name suggests, it also generates a "Red Field" which is used to correct any

purity problems in the tube/yoke assembly resulting in colour blemishes like mine. This step must be carried out before a meaningful convergence adjustment can be done. Well, to cut a long story short, my Canberra buddy turned up and I hadn't borrowed the required bit of gear. Worse still, my friend with the ancient Colour Bar and Dot generator had gone away on holidays! (Two friends? Sheer luxury).

With PC (the Canberra-ite) standing around, tapping his foot and looking disgusted, I was forced into a burst of desperate lateral thinking
AMIGAs output a standardised PAL signal, right? And the A520 modulator also has a composite video output, right? And that copy of AMOS that I bought and never did anything with is around here some place, right? So, after half an hour of head scratching, we produced ALL the features of an expensive box of electronics from a few lines of AMOS BASIC and my good old Profeel is nicely pure and converged again.

The full listing for the code appears below. This is a mega-simple piece of work with no great effort taken to include any outstanding features except for the "Mouse Cycle" option. Convergences are normally done from behind the set, with a mirror in front of it so you can see what you are doing. With the back off, seating a Colour Bar generator (or an AMY) on top of the set where its controls are accessible is not always easy or possible. The "Mouse Cycle" option changes the display, Red Field to Cross-Hatch to Dots to Colour Bars and back to Red Field .. stepping on to the next for each left mouse button press. The right button exits back to the main menu. This lets you use the mouse like a remote push button. Wish I'd had one years ago.

It's always nice to find useful and practical uses for something you've bought. AMOS had sat in its box since I bought it in a fit of extravagance. For me, at least, it has now justified its existence. Only AMIGA makes it possible.

A software Color Bar and Dot Generator

Red field for purity set-up PC and RC 5/1/91
Full Noddy pattern generator 10/1/91

Screen Open 0,366,280,8,Lowres

Global MICKEY

LMAX=6

Dim AS(LMAX)

AS(0)=Red Field

AS(1)=Cross Hatch

AS(2)=Dots

AS(3)=Color Bars

AS(4)=Cycle on mouse click

AS(5)=Exit

Hide

Flash Off

Palette setup to be just off fully saturated (except RED)

Palette \$0,\$EEE,\$EE0,\$EE,\$E0,\$E0,\$F00,\$E,\$0

Do

Paper 7

Pen 1

Cls 7

Locate 0,1 : Centre Color Bar and Dot Generator v1.0

```

For I=0 To LMAX-1
  Locate 8,I+6
  Print I+1; .. :AS(I)
Next I
Locate 8,I+8
Input Your choice: ;N
If N>0 and N<=LMAX
  On N Proc RED_FIELD,X_HATCH,DTS,C_BAR,MOUSE_CYCLE,FINIS
  If N<>LMAX-1
    Wait Key
  End If
End If
Loop
'
' Subroutines ...
'
Procedure RED_FIELD
  Cls 6
End Proc
Procedure X_HATCH
  Ink 1
  Cls 0
  For I=0 To 260 Step 20
    Draw 8,I To 338,I
  Next I
  For I=8 To 340 Step 22
    Draw I,0 To I,260
  Next I
End Proc
Procedure DTS
  Cls 0
  For I=8 To 360 Step 22
    For J=2 To 280 Step 20
      Plot I,J,I
    Next J
  Next I End Proc
Procedure C_BAR
  Cls 6
  For I=0 To 7
    Ink I+1
    Bar(I*43),0 To(I*43)+43,150
  Next I
End Proc
Procedure MOUSE_CYCLE
  N=0
  Do
    N=N+1
    If N>4 Then N=1
    On N Proc RED_FIELD,X_HATCH,DTS,C_BAR
  Repeat
    MICKEY=Mouse Click
  Until MICKEY>0
  If MICKEY=2 Then Exit
Loop
End Proc
Procedure FINIS
  Show
  Edit
End Proc
End

```

TOWARDS THE ULTIMATE JOY STICK

by Ron Chernich

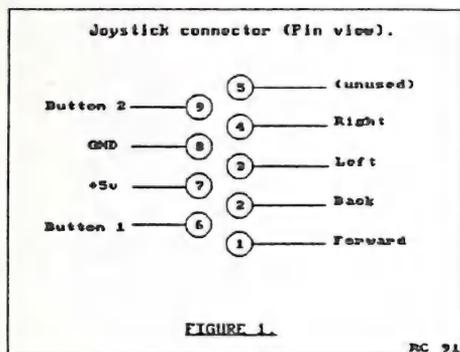
I confess. I enjoy shoot 'em ups. The totally mindless "blast everything that moves" type. Unfortunately, I can't quite pass as a kid anymore, meaning my reactions are not what you'd call lightning fast. So, needing all the help I can get, I've been progressively modifying my joy stick to give me an edge. I hadn't considered my mods as anything special until my Canberra buddy visited with his son. Young Danny is your typical eight year old. I'm sure he could defeat any shoot-em-up (which I'll call SEUs from now on) with a broken joy stick, while watching Mutant Teen-age Ninja Turtles and eating pizza at the same time. So when he pronounced my modified stick as "totally awesome" and demanded that his dad get him one, I decided it might be worth while sharing my mods with the rest of the world.

Joy sticks are like political parties, there is not really a lot of difference between them, but adherents of the available choices can become extremely

vocal regarding the "obvious" supremacy of their favorite. Having no great wish to enter this debate right now, I'm not going to discuss the physical design of the stick itself, only the fire buttons, since my modified stick has three of them.

One of the latest buzz-words in the military aircraft world is HOTAS, an acronym for "Hands On Throttle And Stick". The idea is that a pilot should be able to fly and fight without moving her hands from the primary flight controls. Moving your hands is normally accompanied by an eye movement to co-

ordinate the action. If you don't have to move your hands, your eyes can remain focused on the task. A lot of the new (and even some of the older) shoot-em-ups use one or more keyboard keys to activate ancillary weapons. The space bar is a favorite choice here. My interest was spiked when I saw a note in the TURRICAN and X-OUT instructions saying that AMIGA owners could use the second fire button, if they had one, in place of the space bar. So I consulted the AMIGA Hardware Manual and sure enough, there it is, pin 9 is the second fire button. By providing this button on the joy stick, eye movement (and potential space bar damage) is eliminated.



In a most SEUs, a rapid-fire feature can really blast holes in the opposition. In others it may be necessary to hold the fire button down to activate some special weapon. Some SEUs with this kind of feature also benefit from the rapid fire option. Locating and throwing a slide switch to swap between normal and rapid-fire takes

me more time than I have to spare, so I decided that two primary fire buttons, one normal and one rapid-fire would be just the ticket. Couple this with the space bar button and I figured I'd be able to get through TURRICAN without using the cheat!

So, the first step in modifying your existing stick (or selecting a suitable stick for modification) is providing three fire buttons. Ideally, they should be positioned close together so that you can reach any with your normal shooting appendage without having to look. Joy sticks with two buttons close together are

common enough. One with three is unusual, so you will probably have to add it yourself. Fortunately this is not difficult. Visit your local Dick Smith or Tandy store and select a suitable button. It should be a "momentary" type, meaning that the contacts are made (closed) for only as long as the button is depressed. Some people like buttons that have a definite click, others don't. The choice is up to you. The other feature your stick will need is a rapid-fire option. More about this later.

Another essential feature for the modification is the presence of an actual pin in hole number nine of the DB9 connector. A lot of manufacturers save cost by not molding in pins and wires they don't need. You can check this out by squinting into the connector.

Orient it so that the row of five pins is on the top with the row of four below. Pin nine is the bottom left pin. If there's nothing in there, trundle back to Dicky/Tandy for a female DB9 plug, shell and some eight core cable.

The AMIGA senses joy stick switch closures as a logic zero. The easy and cheap way of doing this is connecting the appropriate pin to ground through a switch. Figure 1 shows which pin connects to which switch in case you need to completely replace the cable and plug assembly.

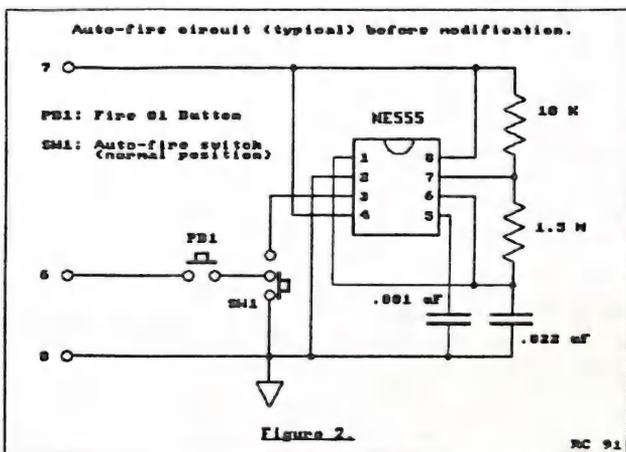
Now we come to the tricky part. In nearly every commercial stick that I've examined, all fire buttons are paralled together, meaning

they all do the same thing. A slide switch is used to select "normal" or "rapid-fire" modes. The rapid-fire itself usually consists of an NE555 timer configured as a free running multi-vibrator. Remember we said that switch closures were sensed as logic zeroes? That is exactly what the 555 circuit does, very fast. One side of the primary fire button is connected to pin 6 of the joy stick connector. The other goes to the centre pole of the slide switch which then selects between ground

(normal fire) and the 555 pulsing ground for rapid-fire operation. This layout is shown in figure 2. I can't guarantee that all joy sticks will look like this, but this is the simplest layout and I'm assuming that anyone attempting this modification has had some electronics ex-

perience and can do some rudimentary circuit tracing.

To implement the "normal" and rapid fire buttons, we simply discard the slide switch, separate the fire buttons and connect them so that one provides the hard ground and the other the pulsing ground to the fire button #1 on pin 6 of the DB9 connector. Now this would work just fine, providing that you never press both at the same time as this would have the effect of shorting the output of the 555 timer! If you can live with this, fine, but an old army proverb says that no battle plan ever survives on first contact with the enemy, so it is a good idea to provide some protection against this situation. We can do this with a pair of silicon diodes (back to the



SOL was eventually updated to eight inch floppy disks (BP .. before PETs). Without trying to sound like one of the "Three Yorkshire-men", young 'uns don't know how easy things are today, we had to write our own BIOS for CP/M 1.3 to match the hardware!

I've often wondered what the date should be used as marking the beginning of the "micro" revolution. Many will place it as the release of the Apple II, counting it as the first "appliance" micro computer. The SOL pre-dated even the Apple I, with most of the features of the II, but did not have BASIC in ROM which made the APPLE practical in a school environment. I'm going to set the date as January 1975. This is the cover date on the POPULAR ELECTRONICS magazine containing part one of the construction article for the Altair 8800. That kit not only pioneered microcomputer technology, it also set precedents for future marketing strategies: it wasn't ready to ship when it was advertised and the initial published price of US\$397.00 more than doubled by the time it was. The article introduction states: "The basic computer has 256 words of memory, but can be expanded for 65,000 words (sic). Thus, with full expansion, up to 65,000 subroutines can all be going at the same time." meaning that they didn't understand the thing either. The article concludes with a side bar giving an example of the intended uses for such a device. Again, I quote:

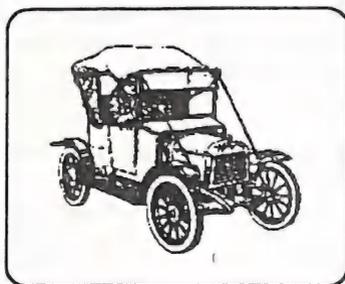
SOME APPLICATIONS FOR THE ALTAIR 8800 COMPUTER

Listed below is only a small sampling of the thousands of possible applications for the computer. The Altair 8800 is so powerful, in fact, that many of these applications can be performed simultaneously. It can be used as a:

- Programmable scientific calculator
- Multichannel data acquisition system
- Automatic control for ham stations
- Sophisticated intrusion alarm system with multiple combination locks

- Automatic IC tester
- Machine controller
- Digital clock with time-zone conversion
- High-speed I/O device for large computer
- Digital signal generator
- Automated automobile test analyzer
- On-board mobile controller
- Autopilot for planes, boats, etc
- Navigation computer
- Time-share computer system
- "Smart" computer terminal
- Brain for robot
- Pattern-recognition device
- Printed matter-to-Braille converter for the blind
- Automated drafting machine
- Automatic controller for heat, air conditioning, de-humidifying
- Controller for sound systems
- Digital filter
- Signal analyzer

End of Quote. Some of these suggested applications were, shall we say, ambitious? Others could be called prophetic. Well at least they didn't suggest keeping recipes on the thing.



OLD TIMER

THE MANX AZTEC C COMPILER SYSTEM VERSION 5.0

reviewed by Ron Chernich

Back in '88 I decided to investigate the practicality of using an AMIGA as a substitute for the IBM hardware I was using for Laser Disk, Touch Screen systems. Since my applications had been written in Microsoft C under DOS, the first thing needed was a good (dare I say, "professional") C development system. Things bogged down then as I found that neither Commodore, the dealers, nor software suppliers were knowledgeable nor overly enthusiastic in supplying the information and assistance needed to make a choice. This is understandable, given the nature of the AMIGA market. I have no difficulty parting with dollars for tools associated with the way I pay my bills, so I eventually parted with \$800 for the Manx Aztec C Development System, release 3.43C, to the only dealer who took any kind of interest in my questions. I was had, in a big way, whether by the dealership, or their supplier, or both, I don't know.

The compiler system was passable, although not a patch on systems available under DOS .. a reflection again on the practicalities of software development costs verses market size. The development kit was complete in an un-integrated sort of way; every bit as good as most UNIX compiler environments, but far short of the Microsoft and Borland systems for the IBM PC world. In fact, the compiler shows a decided UNIX heritage. The editor is a clone of "VI" (the standard UNIX editor) and the supplied utilities include a "MAKE", a "GREP" and a "DIFF" which drive exactly the same as their UNIX counterparts. Release 3.4C did not support the ANSI standard. The compiler produced assembly source as an intermediate output which is assembled by a good, fast, macro assembler (which Glen McDiarmid can soup up even more). The linker does its job and is supported by an acceptable library manager. My package provided two debuggers: "DB", a symbolic assembly language debugger and "SDB", an in-

teractive source-level debugger. Both are adequate, neither could be called outstanding. All development is done from the CLI with some added assists from the multi-tasking ability of the AMIGA operating system.

I registered my package with Manx and in due course was notified of the availability of the 5.0 release. Now, Manx had provided several systems ranging from a base compiler with the DB debugger, up to the system I had bought which included the source level debugger and source code for the library functions. Apparently they used a suffix system on their serial number to denote the package type. Here was my first problem. I guess that the West Australian master distributor was producing product from master disks. A common way in those days of avoiding customs duty on imported software. I'll further guess that they didn't get a lot of orders for the high-end systems, so they cobbled mine together from god knows what source. The net result was that my astoundingly over-priced package had inconsistent serial numbers which bore little relation to what they should have been. My upgrade should have cost US\$75. After receiving letters, phone calls and faxes of my original disks, Manx finally agreed to upgrade me to the top-end package for US\$125.00 plus postage. They seemed to think I was trying a swiftie for a cheap update. I know where the responsibility lies and my view of West Australian software distributors has crossed the zero line.

The package contains the manual and a variable number of disks, depending on the version. The disks are not copy protected - the manual quoting Walt Disney saying "We don't make movies to make more money. We make money to make more movies." Hmmm. Minimum requirements are an A500 with 512K and a single floppy drive, preferably two, although for serious development more memory and a

hard disk should be considered mandatory. Currently, two packages are available. These are:

* **Aztec C - Professional System:** Includes the Aztec Shell, Compiler, 68000 Macro Assembler and Symbolic Debugger, Overlay Linker, Librarian, Run Time Libraries, Profiler, Full Amiga Workbench Interface, Z editor and a portable C library interface. Four IEEE floating point formats are supported: Motorola IEEE, Manx IEEE double precision emulation, 68881 co-processor and AMIGA Fast FP.

* **Aztec C - Developer System:** In addition to the elements of the Professional system, the Developer edition includes the Source Level Debugger plus MAKE, DIFF and GREP utilities.

The documentation is common for both packages. It comprises the Aztec C User Guide, Reference Manual, Library Manual, "Uni-Tools" and Source Level Debugger documentation. All are perfect bound into a single volume with thumb tabs and comprehensive indexes. Since the docs are common, owners of the Professional System can read all about the parts they don't have and upgrade later (for a fee). Since they already have the docs, all Manx has to ship is a disk. The source for the Aztec Library of all routines found in the Run Time Library is also available as an add-on. These are written in Aztec C and assembler (naturally) along with the MAKEFILE scripts to rebuild the libraries. They are supplied on a single disk in compacted form. A suitable unpacker forms part of the general system utilities.

So, all the preceding aside, how does 5.0 stack up and whatever happened to release four? First, it is a full draft-standard ANSI implementation. An intelligent programmer will use the compiler to trap as many potential problem areas as possible. ANSI prototypes are an invaluable assistance here since they provide a check on the number and types of

function arguments. The documentation seems to have been completely rewritten although I prefer the old three-ring binder format which lies flat easier.

The other major improvement is termed "QuickFix" which provides an interactive interface between the compiler and editor, or any editor that supports AREXX. To invoke QuickFix, simply add the -qf switch to the compile options in conjunction with an environment variable nominating the editor name. This causes the compiler to generate a specially formatted error message file. If errors are encountered during the compile run, the specified editor is invoked which uses the error file to position at lines causing the errors. This is an improvement on the previous version but would have been better termed QuickNdirtyFix. The compiler-generated file contains a list of source file names and line numbers which the "Z" editor (or any AREXX) editor can use to dance around from error to error, PROVIDED THAT NO LINE INSERTIONS OR DELETIONS ARE MADE. Do that and correspondence between line numbers and errors fly out the window. Better, but still underwhelming compared to the latest (or even to earlier) Microsoft offerings under DOS, although the comparison is probably unjust.

The compiler/linker is faster than 3.4C and previous paragraph notwithstanding, the QuickFix facility does simplify the development cycle. As with the earlier release, Manx supports "Pre-compiled Headers" which also reduces compile time. During the first pass of any C compiler, a symbol table is built from all the #define statements. When you are working with an AMIGA, there can be a lot of these, not only your own definitions, but also the myriad of #include headers needed for meaningful AMIGA work. A compiler switch enables the table contents generated from the #include statements to be output to a disk file. Having done this once for the current project, another switch tells the compiler to initialise the compiler symbol table from the saved file.

This reduces the time taken locating and opening multiple header files and tokenizing the contents. If the compiled header file is assigned to a RAM: disk, you can really start to fly. Be careful though when conditionals appear in a header file that the pre-compiled headers match the current conditions. As well as the standard ANSI C headers, Manx provides both C and assembly headers for all the AMIGA functions and libraries.

The compiler is controlled by command line options, or "switches". There are only 63 of these, all painstakingly documented. Four memory models are supported for all combinations of small and large code and data. The manual is surprisingly lucid in its description of the relative merits of memory model usage. Several optimisations are available for code size and execution speed. A string optimizer will find duplicate strings and replace them with a pointer to the first occurrence. This also works for common tail substrings. For example, if two strings "highway" and "way" are used, the code generated will use a pointer to the fifth character of the first string for the second. Since strings must be zero terminated, another string "high" would be stored separately. Although the documentation does not mention it, you should use the ANSI "const" qualifier on all strings which may be affected by this form of optimisation. This will generate a compile time warning when an alteration is made to a string which would be reflected in another through the pointer reference.

As I mentioned earlier, the compiler generates an assembly source file as an intermediate step. As a side benefit, this scheme permits you to write in-line assembly code within your C source using all symbolic references. Normally, you will never see the assembly source code as the compiler calls the assembler which produces a linkable object file and the deletes the assembly source, although yet another compiler switch (YACS?) allows the intermediate file to be retained. Due to this design, the assembler can be used as a stand alone tool.

As well as the MC68000, it also supports the 68010, 68020, 68030, 68881 and MC68851 instruction sets and addressing modes and has switches to control the degree of optimisation performed.

The linker provides full control of program construction including Chip and Fast RAM usage, four different scatter load models and symbol table generation. You can generate symbol tables for the Source Level Debuggers (SDB and SDBF for 68881 usage), or a standard symbols (Wack-compatible) for use with the symbolic debugger, "DB". A simple segmentation (overlay) scheme allows you to place code in segments which will not be loaded until they are referenced. Loaded segments remain in memory until explicitly removed by the program by a call to `freeseg()` specifying the address of a function in the segment no longer required. Although this requires some planning on the programmer's part, it has the advantage of permitting considerable flexibility in regard to segments referencing code in other segments and prevents potential "deadly-embrace" situations which plague single overlay schemes.

The simple debugger "DB" is an assembly language based debugger, although it can use full symbolic references for variables and code provided that the WACK option was specified to the linker. More useful is "SDB" which divides the screen into three windows, one for the source code, one for entering commands and another to show results of the commands. All may be resized. SDB features include:

- * display all active function names
- * display values of passed function parameters
- * examine global and local variables
- * use function or line-by-line execution tracing
- * set breakpoints by line, function, or variable reference
- * create and use macro debugger commands

A command history feature allows you to edit and re-use previously issued commands. Redirection permits saving of a sequence of

commands for re-execution in future debug sessions. But the debugger interface still relies on one and two character cryptic commands with optional arguments. No pull-downs, no mouse support, not even any function key support. All in all, an adequate debugger but still not a patch on Microsoft CodeView, especially CodeView for Windows. (Ron, make me eternally grateful; cease to wish for the unattainable!)

The manual makes no attempt to teach C. Neither should it, but Manx does provide a generous number of application source examples with the appropriate MAKEFILE scripts, plus the complete ARP 1.3 package, including documentation, in ZOO format. As to the leap from 3.36A straight to 5.00, I suspect that the "missing" release four was an attempt to keep up with Lattice, or SAS Institute as the new owners are called (SAS/C .. pronounced Sassie?) who are on a 5.10 release. As a development tool Aztec 5.0 is certainly adequate. It does what it's designed to do swiftly and

reliably. While the QuickFix facility can be used to automate the edit/compile cycle within an automated MAKE session, this is not exactly an fully integrated environment and from what I've seen of the latest SAS version, it's definitely behind the power-curve in terms of a mouse driven programmer's workbench interface. However, having now spent as much on the compiler as I did on the computer, I'm not about to change camps. At least while I'm using Aztec C I'm not losing hard won expertise in VII

(Ed: I am pleased to see Ron making a comparison between Manx and the C development environment of MS-DOS. In the context of both programming and applications software, we should should not only make comparisons with other Amiga software, but also see how the Amiga efforts stack up against the 'Big Boys' of the MS-DOS, Mac and Unix world, and, if they don't come up to expectations, say so good and loud.)

(A Little Bit More) ON VIDEO FORMATS AND LINES by Ron Chernich

In the February 1990 issue of "CURSOR", Alex Borodin took us through the ins and outs of PAL, NTSC and SECAM. Having long ago forgotten all my engineering mathematics, I for one was pleased that Alex constrained his explanation to words of one syllable, like "Zeta-plane" - some new kind of Boeing, I think. However, there are times when a few numbers are not all together out of line and explaining video formats is one of them. So let's look at a few figures regarding resolution that we can all understand and relate to.

Because they have one, every PAL AMIGA owner knows that PAL is an interlaced display of 625 horizontal lines, displayed at 50 fields per second. "Interlaced" means that the 625 line display, or "frame", is comprised of two

consecutive fields of 312-1/2 lines, intermeshed to give 624 full lines with two "half-lines" at the very top and bottom of the display. In practice, we never actually see these lines (and a few others besides). Since two fields are combined to produce each frame, the actual picture updates 25 times per second. Commercial TV transmissions comprise an amplitude modulated composite video signal: combined horizontal and vertical sync, plus picture information, two phase modulated colour sub-carriers (this is the tricky bit, see Alex's explanation) and another sub-carrier, frequency modulated this time, for sound. Review Lester Bennett's piece on the MAGNI 4005 genlock in the December 1989 issue of CURSOR for a good explanation of interlace.

Every PAL AMIGA owner also knows that NTSC has a lower number of scan lines (they know because a PAL AMIGA will boot in NTSC mode about one in ten, due to a well documented ROM bug, resulting in the loss of the bottom of the display!) The NTSC format is an interlaced display of 525 lines, transmitted at 60 fields per second. The wave-form is quite similar to PAL. In fact, a monochrome horizontal line of NTSC is close enough to identical to a PAL line. NTSC signals are transmitted with AM picture, FM sound and phase modulated chromance, like ours, except that the colour encoding and sound sub-carrier are different. Historically, there are two NTSC standards, known as NTSC 3.58 and NTSC 4.43 for a very good reason that we'll keep quiet about for now to promote a sense of mystery.

Now for the thing that not every AMIGA owner knows, the numbers for SECAM (Système Couleur Avec Memoire). Well, you read it here: SECAM is (mostly) Interlaced, 625 lines, 50 Fields per second, except where it's 819 lines! The major difference is in the colour encoding. They don't use QAM (again, see Alex's article) but have a single frequency modulated colour sub-carrier with the R-Y and B-Y signals transmitted on alternate lines. As far as the video display circuitry is concerned, SECAM is SECAM. Unfortunately, there are several flavours of SECAM television transmission. Finding out just which one is used where is not easy. There are three standards, informatively named "SECAM B/G", "SECAM L" and "SECAM E". The "B/G" transmission uses negative polarity Amplitude Modulated vision with a 5.5 MHz Frequency Modulated sound sub-carrier. This is the CCIR Western European standard. The nominal channel bandwidth is 7 MHz. "SECAM L" has positive, Amplitude Modulated vision and a 6.5 MHz, Amplitude Modulated sound sub-carrier. The nominal channel bandwidth allocation is 8 MHz. The 819 line standard has AM vision with positive modulation, an 11.5 MHz AM sound sub-carrier, and takes up a nominal bandwidth of 14 MHz. It is used only

in French VHF transmissions. French is a beautiful spoken language. Pity 'bout the rest. Both PAL and NTSC use negative polarity, amplitude modulated vision, with frequency modulated sound. NTSC restricts the FM deviation to one half that allowed by PAL, meaning our MTV sounds better. (How could you ever tell?)

As for just who uses what, NTSC is the standard in the United States and Canada, South America (except Brazil - PAL), Japan, Taiwan, Jamaica, the Philippines, South Korea (North Korea uses PAL!) and just about every island America has ever fought on, or over. PAL, as we know, is used here and the UK, in Singapore, Hong Kong, West Germany, India, New Zealand, Switzerland, Sweden, Swaziland, Holland, Yugoslavia, Thailand, Tasmania, China, Israel, most African Nations and a truckload of islands and European countries that the British have fought over, or in. SECAM goes to the rest: "SECAM L" is used in France, its colonies and protectorates, Monaco and OIRT member countries. East Germany, the USSR, Iraq, Iran, Egypt, Greece, Mongolia, Laos and Vietnam (the French fought in, on and over them, remember?) and virtually every Warsaw Pact or communist dominated country use "SECAM B/G". Mostly where a country has a UHF service as well as VHF, the system is the same, but there are two exceptions: Luxembourg and Monaco. Luxembourg has a PAL VHF system and both NTSC and SECAM on UHF. Monaco has a SECAM VHF, with PAL and SECAM on UHF. Don't ask me why. Incidentally, South Africa and Hong Kong use "PAL I" (the rest use "PAL B/G"). This transmission has a sound sub-carrier of 6 MHz as opposed to ours, which is 5.5 MHz. Think on this if you're ever tempted to buy a set in Honkers - it will need to support PAL B/G.

In all three systems, the colour demodulators are locked in frequency and phase by a so-called "reference burst" signal which lives on the back porch of the horizontal sync pulse. This signal is about eight cycles of a very

specific frequency. The original NTSC burst was 3.579545 MHz, chosen so that the side-band components of the colour information would fit "between" the side-band components of the basic black and white transmission. In 1950, the FCC in the USA had adopted a colour TV system designed by CBS (Columbia Broadcasting System) which was not compatible with existing monochrome transmissions. This meant that viewers needed two TV sets. Not so bad when compared to the days when the BBC was broadcasting both 405 and 625 line transmissions. During the Korean War, a ban was placed on the manufacture of colour sets in the USA, for "strategic" reasons. When the ban was lifted, CBS gave in saying that they'd go along with whatever everybody else wanted. This turned out to be the fully compatible system being promoted by the National Television System Committee, so in December 1953, the NTSC system officially superseded CBS, with not even CBS shedding a tear. To complicate matters, there is another NTSC standard known as "NTSC 4.43" (referring to the frequency of the burst) used in Japan. The PAL and SECAM burst frequency is 4.43361875 MHz.

The mains frequency in the North America and Japan is 60 Hz while that in the UK, Australia and France is 50 Hz. The field frequency is the same as the mains frequency, so a new field must be transmitted each 16.67 mS (milli-seconds, thousandths of a second) for NTSC while PAL and SECAM have 20 mS to do the job. Interesting. We said earlier that the line format was similar for each system. The line width (in micro seconds) is determined by the period of the horizontal, or line frequency oscillator. For PAL, the line frequency is 15.625 KHz giving a line width of exactly 64 uS, which allows time for 312.5 lines every field. The NTSC line frequency is 15.750 KHz giving a line width of 63.5 uS, so each 60 Hz field will contain 262.5 lines. In both cases though, some of these lines contain no picture information and are gobbled up by vertical sync blanking. NTSC sets drive dogs just a little crazier than PAL and at 20.475 KHz, the

819 line SECAM sets obviously drove the citizens mad, as well.

The reason for choosing these frequencies for the Mains supply is historical and would probably make a very good piece of trivia. The reason for matching the field rate to the mains frequency is practical. No, it was never intended to use the mains as a time base for the field oscillator, it's nowhere near stable enough. Some early UK sets did actually do this, but they also rectified the mains direct and were part of the now (thankfully) defunct 405 line monochrome system. The true reason relates to capacitor technology of the time. A power supply consists of a rectifier and a filter. The filter is intended to remove the mains frequency component from the rectified DC. To do this, designers used a capacitor/inductor design commonly called a low-pass filter. The idea is to provide a low reactance path to ground for the AC component of the rectified DC, effectively "shorting" it to ground. This requires good, big capacitors with a high working voltage (vacuum tubes, remember?) and they simply weren't commercially viable in the '40 and '50s. The result is that designers knew that some proportion of the AC was going to be present on the DC which would power the receiver. This is called "ripple".

When two frequencies combine, they produce sum and difference components (I've forgotten the domain maths of that, too). Say that the UK had decided to go with 60 frames per second, they would be guaranteed a difference beat of 10 Hz which would show up as a picture "swim" effect and be impossible to get rid of while still manufacturing an affordable product. Designers therefore had no choice but to go with their countries mains frequency as the TV field rate. With to-day's switching power supplies, the problem becomes non-significant. Too bad.

Seems like if you blink these days, you can miss some new aspect of technology, like "Super VHS" for instance. I mention this because of an amusing comment that I got from

a sales-kiddy at a certain well known electrical retailer who used to sell Commodore. Think about this: the number of scan LINES is actually the VERTICAL resolution. To confuse the everyone, HORIZONTAL resolution can also be expressed in lines. The simple old fashioned way of doing this was with a "Fan" of lines printed on a card. As these lines converge, they get closer together, so aim a camera at this and view the result on your TV. The horizontal line resolution is the point at which you can just discern individual lines, expressed as full picture width, divided by the aspect ratio of the display. That's not as incomprehensible as it sounds at first. TV screens have an aspect ratio of 4:3 (horizontal to vertical), so to arrive at the "square" or "per picture height" resolution, just multiply total horizontal line resolution by 0.75. The viewable result is limited by the bandwidth of the transmitted signal (about 300 lines, after correction to "square"), further reduced by the bandwidth and tuning of the receiver itself.

Now to tidy up a few loose ends. Picture definition is related to bandwidth: the lower the bandwidth, the poorer the resolution. Have a look at the Test Pattern that SBS generates when they're not transmitting programming. There is a sequence of five blocks containing vertical lines. The spacing of these lines is set to allow a quick and dirty check to be made of the receiver and video bandwidth. Starting from the left, each block represents an increase of 1 MHz of bandwidth, so if you can clearly see the lines in block number three, but number four appears as a gray blur, your set has a bandwidth of about 3 MHz. Obviously therefore, it is possible to re-

late the "Square" horizontal resolution back to bandwidth. The fiddle factor is 80. One MHz of bandwidth for each 80 lines of horizontal resolution per picture height. An AMIGA in Medium or Hires mode nominally displays 640 pixels horizontally. Adjusting this to "Square" and converting for bandwidth we get 6MHz. Very respectable. In North America, the FCC has placed a limit on the bandwidth for an NTSC transmission. Currently it is 4.2 MHz for vision and 2 MHz for sound, which means that no matter how good the receiver may be, the station is only about providing 330 lines. Unfortunately, video resolutions add like resistors in parallel: the reciprocal of the sum of the reciprocals. Quality can degrade real quick this way and the only cure is shovel dollars at it. Broadcast quality gear costs like crazy. I don't know if you get what you pay for, but you certainly pay for what you get.

Well, back to my story. I was asking about S-VHS recorders which the print and TV advertising for the company had been pushing lately. Now I already knew that Super VHS has a horizontal resolution of about 400 lines - 533 without A/R correction, about double that of standard consumer grade VCR's. I wanted to see how this stacked up on a S-VHS equipped monitor and a domestic receiver, through the tuner. So I made a trip in and asked, only to be informed that "S-VHS had more lines than normal TV's" and I would need a special new set to view it and that none of the stations or video libraries were using it. Partially true, for the wrong reasons. I smiled politely and thanked the guy... a little knowledge can be a dangerous thing.

MAGAZINES WITH FREE DISKS

by Tom McRae

A couple of months ago I found a British magazine in my local newsagent called *Amiga Format* which had a 3.5" disk full of goodies attached to the front cover. Prices of this magazine ranged from \$5.50 to \$8.50 but the latest issues are around the \$10.00 mark. Even with the added disk bonus this price increase strikes me as a rip off in view of the U.K. price of £2.95.

I now have several issues of this magazine each of which contains a demo of a forthcoming game as well as several Public Domain programs. The September issue allows you to take a well endowed young lady called 'Yolanda' through near impossible tasks in a preview of a forthcoming game. Other games on disk are *Sys*, based on *Pacman* but even more addictive, and a draughts type thing I have yet to try. Among the utilities included is *Zoom*, one of the most useful I've come across in a long time. This automatically blanks the screen after a period of inactivity and blanks the cursor after 10 seconds if the mouse is not being used. Touch the mouse and back it comes. As if this was not enough it also acts as a mouse accelerator and calls up a CLI window whenever required. This alone is worth the price of the magazine.

The October issue also has a good range of software on disk. With two programs, *Canary* and *Turkey*, specialised virus checking disks are created to check for any viruses within your machine. Also included is *Vectacheck*, a program which can inform you whether or not your AMIGA 500 has the Fatter Agnus chip. (I was pleased to find that mine did.)

Another magazine *Amiga Computing* has been around for some time but early this year it began including a free disk with each issue.

This magazine seems to be more concerned with real applications than the other although games are also well covered. The September disk has a gruesome full length arcade adventure called *Greyslayer* which repeatedly kills me off. I've never seen so much gore on screen before! Sound effects are excellent.

Documentation for utilities on disk can be printed direct from screen in NLQ with a single key press. In this issue they include a graphics conversion programme and a sounds generator with which I've so far only been able to produce hideous creaks. Luckily they've also included a tune with a catchy beat to help my ears recover. I was so impressed by *Amiga Computing* that I took out a subscription. The current issue is now delivered by air mail at a lower cost than buying 3 month old issues at local prices.

The November issue includes a preview of *Swiv* an addictive shoot-em-up plus several good real applications programmes including *Virusx 4.01* the latest upgrade of this utility. Each month some good music is also included. *Marilyn* on the November disk is a very sensual little ballad.

Both magazines are worth looking out for but be warned, even though grossly overpriced, they disappear from the newsagent's shelves very quickly!



PROFONTS

reviewed by Tom McRae

Even the most ardent fans of the Amiga system must agree most of the fonts supplied on the Workbench are awful. Those included on the Extras disk while much better are nigh on impossible to instal unless you're a CLI expert. (I did everything I was told again and again but never did get them going.) Fortunately NEW HORIZONS, who created *Prowrite*, have solved the problem with their *Profonts* disks I and II. This system appears to be compatible with word processors other than *Prowrite*, in fact the accompanying blurb states they can be used with any program that can take advantage of Amiga fonts. Disk I has a wide range of good standard fonts, disk II has more, as well as lots of 'fun fonts' ranging from the artistic to the totally bizarre. Even naval signal flags are included.

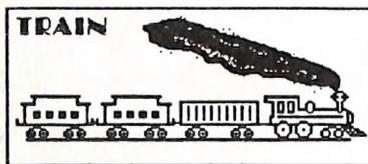
On inserting one of those disks and clicking on its icon all that appears is a picture of a truck labelled 'System Mover'. This wonderful utility alone is worth the cost of the software, with it you can not only remove and add fonts from your Workbench but can also handle tools, libraries etc. on the disks. With its valued assistance Times and Helvetica fonts

were at long last installed on my system along with a wide range of good quality fonts from the *Profonts* disks to replace the nasty originals I'd hitherto been forced to use. I was also able to use the system mover to access material on public domain disks and now have a superb library of fonts on call for all applications. The System Mover is also included with *Prowrite* 3.0.

Profonts are also compatible with *Deluxe Paint III* and *Digipaint*. As well as letters, two sets of picture fonts *Architect* and *Hieroglyph* have proved most useful. These not only add interest to a document but may also be used as clip art with a paint program. [The train illustrated here was constructed from *Hieroglyph* in fonts

mode of *Deluxe Paint III*. It was then created as a brush, doubled in size, and touched up a little before saving, the lettering is from the *Profont* 'Hollywood'. Such pictures can be filled in with colour and have proved most popular with many of my young friends.]

Several software dealers advertise *Profonts* and I strongly recommend them to anyone who has had enough of standard Workbench fonts.



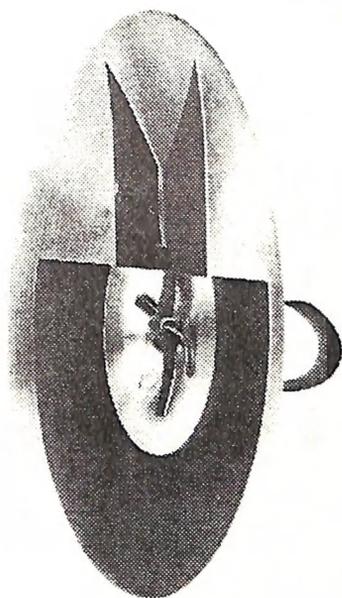
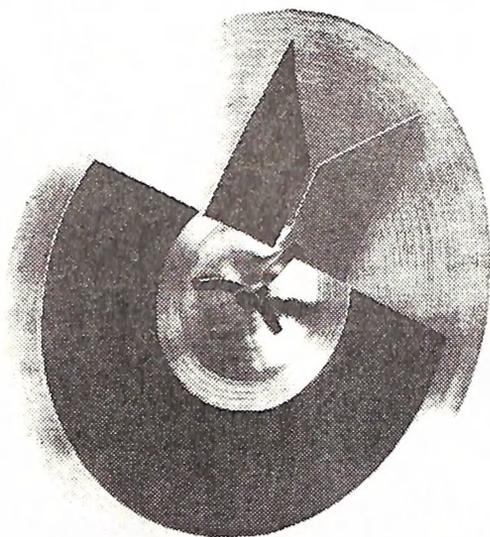
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