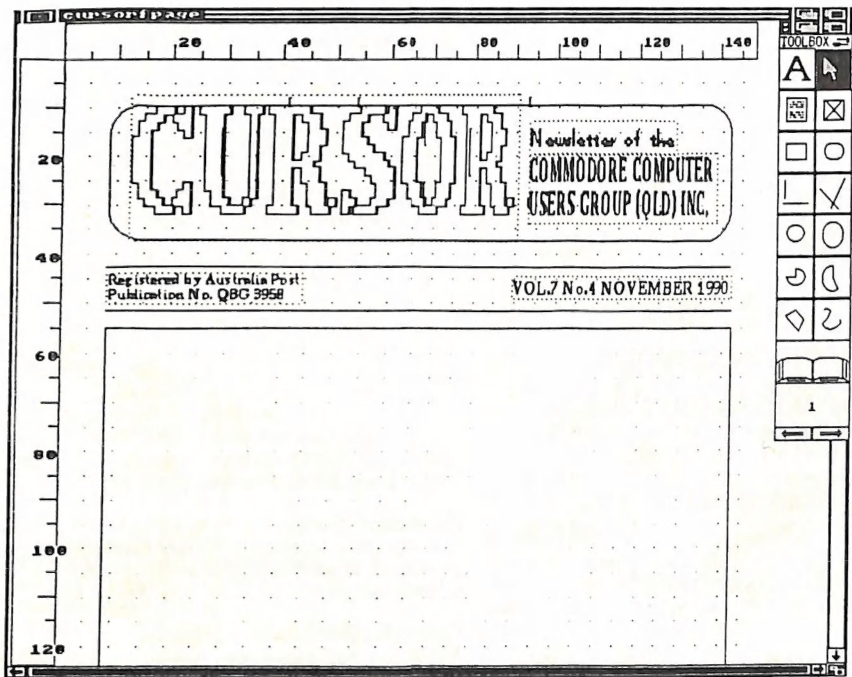


CURSOR

Newsletter of the
COMMODORE COMPUTER
USERS GROUP (QLD) INC.

Registered by Australia Post
Publication No. QBG 3958

VOL.7 No.4 NOVEMBER 1990



FRONTCOVER ON A FRONTCOVER

Our Next Main Meeting will take place on Tuesday,
6th November 1990, at 8 pm (Libraries & Sales at 7 pm)
at the Bardon Professional Development Centre

COMMODORE COMPUTER USERS GROUP (QLD) INC

MANAGEMENT COMMITTEE

PRESIDENT: Greg Perry	Ph. 366 3295
SECRETARY: Mike Williams	Ph. 209 9084
TREASURER: Andrew Hinz	
CHIEF LIBRARIAN: Phil Guerney	Ph. 378 9756
NEWSLETTER EDITOR: Ralph De Vries	Ph. 300 3477
SUBGROUP LIAISON: Steve Hovelroud	Ph. 298 5128

COMMITTEE MEMBERS

C-64/128 COORDINATOR: Leigh Winsor	Ph. 379 2405
AMIGA COORDINATOR: Robert Googe	Ph. 288 8863
AMIGA GURU: Steve McNamee	Ph. 260 6327

SALES

C64/128 DISKS & ACCESSORIES: Greg Jackson	Ph. 285 3894
C64/128 P. D. DISKS AND TAPES: Doug Maclurkin	Ph. 350 4034
AMIGA DISKS & ACCESSORIES: Ken Clem	Ph. 287 3698
AMIGA PUBLIC DOMAIN DISKS: Steve Hovelroud	Ph. 298 5128

B. B. S.: (07) 808 7694

SYSOP: Graeme Darroch	Ph. 209 1999
ASSISTANT SYSOP - AMIGA: Tom Yallowley	Ph. 251 5845
ASSISTANT SYSOP - C64/128: Craig Rawlins	Ph. 379 8957

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.

CONTENTS

INFORMATION	02
Cursory Notes	06
Top This!	07
A New Personal Computer	09
Library News	10
Bytes	11
Important Notice	11
8 BITS & PIECES	12
C64/128 Library Software & Hardware	13
8 Bit Help!	17
Alarm	18
Using a C-64 and C Power	20
C-64 Machine Language - Part 10	21
AMIGA MONITOR	26
Amiga Help!	29
Desktop Publishing - Part 3	30
Vector Interrupts	36
Amiga and Absolute Executables	37
8520 Problems	38
AmigaDOS Version 2.0	39
Review: Macro-68 Assembler	47
Auto Config	48
Memory Management, O.S. and...	50
Amiga 3000 released	51

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.

Permission for reprinting by other Commodore and Amiga Computer Users Groups is granted, provided that both the source and author are acknowledged.

Commercial Advertising Rate:
\$30.00 per full page, per issue.
This rate is for camera-ready A-5 pages.

Published by:
Commodore Computer Users Group (Qld) Inc.,
P O Box 274, Springwood Qld 4127

Printed by:
Townsend Printing,
P O Box 654, Woodridge Qld 4114.

MEETINGS

MAIN MEETING

Our next Main Meeting is held on Tuesday 6th of November 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 11th of November (1pm - 4pm) in the Ithaca RSL Hall, cr. 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 our members have free access to the Group's Public Domain Disk Library (currently well over 500 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 - 12pm) 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.

Phone Alan Hill - 290 0264 a.h.

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

Ph. Barry Bean - 269 7390 a.h.

REDCLIFFE: 3rd Sunday of the month (1pm - 5pm) in the Masonic Hall, Sutton St.

Ph. Dennis Underwood - 266 8991 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: \$5.00 ea

(+\$2.00 Packing & Postage for up to 5 Disks)

Commercial Library Catalogue Disk 3.5": \$4.00 (+ \$2.00 P & P)

5.25" Blank Disks: \$8.00 per 10 (+ \$2.00 P & P)

3.5" Disks: \$15.00 per 10 (+ \$2.00 P & P)

3.5" Disk Boxes (80 disks): \$20.00 (+ \$5.00 P & P)

3.5" Disk Labels (68x68mm) 4 sheets (= 48 labels):

\$1.00 (+ \$2.00 P & P)

Amiga Beginners Guide: \$3.00 (+ \$1.00 P & P)

Amiga Dos Summary: \$3.00 (+ \$1.00 P & P)

Micro Switch Replacement Kit for Amiga Mouse

\$20.00 (+ \$1.00 P & P)

C64/128 SPECIFIC:

Public Domain Disks 5.25": \$3.00 ea (+ \$2.00 P & P up to 5 Disks)

Public Domain Cassette Tapes (C-64): \$2.00 ea (+ \$1.00 P & P Per Order)

Commercial Library Catalogue Disk 5.25": \$3.00 (+ \$2.00 P & P)

5.25" Blank Disks: \$8.00 per 10 (+ \$2.00 P & P)

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

User Port Plug Backshell: \$3.00 (+ \$1.00 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 C64Write 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:

Back Issues of CURSOR: \$1.50 each

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:

C.C.U.G.(Q)
P.O. Box 274
Springwood Qld 4127.

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

Please address all PARCELS to:

C.C.U.G.(Q)
32 Bulwama 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
Annual Membership Fee:
Ordinary Membership*: \$25.00
Country / Associate Membership: \$15.00
Pensioner Membership: \$15.00
Family / Business Membership: \$35.00.

(*Within the B'ne 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 32 Bulwama St, Shailer Park Qld 4128 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 (DEC) Issue is:
FRIDAY 2nd NOVEMBER!*

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 - CURSOR File Area)

PARCOM PTY LTD

Whites Hill Shopping Village
Samuel Street, Camp Hill, 4152, Ph (07) 395 2211

NORTH SIDE: 1 Clifford Street, Stafford, 4053
Ph (07) 857 6311

GOLD COAST: 171 Nerang Street, Southport, 4215
Ph (075) 91 5821

AUTHORISED INDEPENDENT COMMODORE SERVICE CENTRES

- Professional Repairs and Product Support
- All Work carries our 90-day Warranty
- See Us for Efficient and Courteous Service
- Fast Turnaround

WHILE-YOU-WAIT-SERVICES:

C-64 PCB EXCHANGE - \$99.00

A500 PCB EXCHANGE - \$129.00

A500 SWITCHABLE ROM - \$60.00

Special Rates for Users Group Members!

CURSORY NOTES

If last month's issue of Cursor was Lindsay Vardy month, this issue will have to be the David Campbell month. David's articles may be tough going for the majority of our members, but within our group we try to cater for every level of expertise. Both these gents well and truly qualify for membership of my "10% Club" (see last month's Cursor).

In my spare time I have designed a calendar for 1991 - laser printers and desktop publishing packages are great for that sort of thing! For many years now my wife has insisted on having a calendar in the kitchen on which she can write little notes. It all started when she suspected that the local milkman was 'diddling' her when the weekly bill arrived. Her calendar gave her the opportunity to keep a tally of milk purchases, and she found that our milko was quite honest after all!

Last year I purchased a monthly calendar for her in a local chain store for a couple of dollars. This time round I copied the design of this one, but added some extra information, like statutory holidays and (of course) CCUGQ meeting dates for 1991! The best news is that we can sell our 'own' CCUGQ calendar to you for a mere \$1.50 - how is that for value in these inflationary times!

From 'the other side' of our continent I received an interesting letter from Bill Sharpe-Smith, acting President as well as Newsletter Editor of the Amiga Users Group of Western Australia.

Like myself Bill is interested in the topic of desktop publishing, so we may start to exchange a bit of information between our groups.

The Perth based group, with over 200 members, meets monthly at Curtin University but, instead of workshop meetings, they conduct weekly tutorials every Friday evening from 7.30 to 9.30 pm on a wide range of subjects. These tutorial meetings are also held at Curtin University where they use a lecture room equipped with 22 A500s - lucky devils.

Their newsletter is called 'AUGMENT', based on the club's initials AUGWA.

Come to think about it, where do we get those ridiculously long club names from? I've always hated our Group's initials - CCUGQ (and that doesn't even include the 'Inc' part), and I think AUGWA is just as bad; they are far too much of a mouthful. I like names that are short and snappy and that roll off the tongue. However, I'd better not suggest that we change at this late stage in our history, as I'm sure that our poor Secretary would flip with administrative worries if we had a name change.

Hence, CCUGQ (Inc) it be, like it or not!

However, if we did change (which we won't of course), what snappy names can you dream up? Any suggestions?

Ralph De Vries

TOP THIS!

In September's *Cursor*, Dennis Wright gave us his 'Pompon Instructions', and in October we had, on the other end of the scale, Lindsay Vardy's article on 'Words'. In case, dear readers, you are not aware of it, 1991 is Literacy Year, hence the emphasis on the written word.

The following few lines will even top the 'Pompon Instructions' for mangled English. They were submitted by The Mike Williams (The Mike Williams is to distinguish him from the 'other' Mike Williams, who is better known as our Secretary). Anyway here goes...

The following cable was sent to Eric Erickson of Microbase Business Systems in Perth, from Chia Kuo Industries in Taiwan.

"AS YOUR NAME AND ADDRESS WERE LISTED IN THE AUSTRALIA IMPORTERS DIRECTORY, WE ARE REPUTATION US WRITING TO YOU WITH A DESIRE TO DO BUSINESS WITH YOU.

"WE HAVE A 5250 MM FACTORIES OF THE TAIWAN, R.O.C. AND PROFESSIONAL, SOCKET CONNECT, DIP PLUG, TELEPHONE JACK AND POLARISING, SALES AND PROVIDE TO THE WORLD.

"SO, WE WILL ATTENTIVE YOUR PROFITABEL AND OUR'S QUALITY IN OUR'S PRODUCTS. AND WE WISH YOUR WELCOME O.E.M. FOR US WORKLINE WITH YOUR OBJECTIVE.

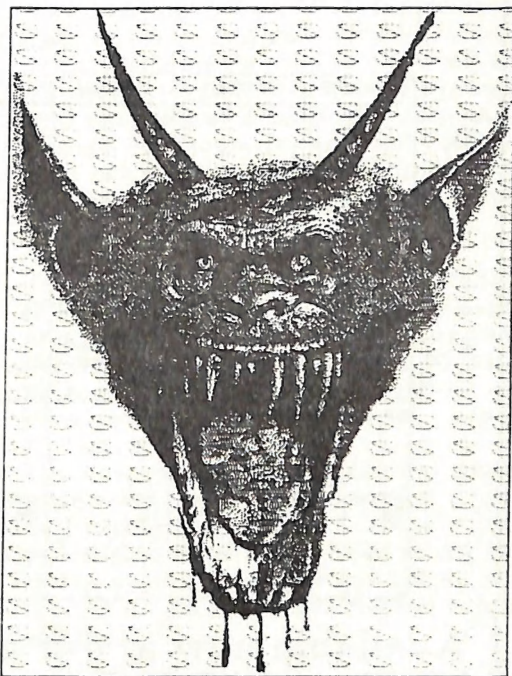
"IF YOU INTERESTING OUR'S PRODUCTS AND WOULD GET SOME INFORMATION, PLEASE,

CONNECTING THE FAX. FOR US, WE RECEIPT YOUR KINDLY INQUIRY WILL BE RIGHT NOW SEND OUR'S DETAIL INSTRUCT MENU FOR YOU.

"WE LOOK FORWARD TO HEARING FROM YOU AS SOON.

The fax was signed, Paul Stone, Project Manager.

-ooOoo-



*Portrait of an Australian
Software Distributor*

A Cheap and Practical Christmas Gift!

Everybody needs a calendar, so why not give your relatives or yourself this Christmas a C.C.U.G.Q. Calendar?

For a mere \$1.50 (plus \$1.50 postage) you get a useful kitchen- or office type calendar in A4 size, which not only lists all the normal holidays, but also gives you details of our Group's meetings during the coming year.

MAY 1991

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3 DEADLINE CURSOR - JUNE ISSUE	4
5	6 LABOUR DAY	7	8	9	10	11
12 C.C.U.G.Q. Resale Workshop (1 - 4pm)	13	14 C.C.U.G.Q. MAIN MEETING (Sundays 4pm)	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31 DEADLINE CURSOR - JULY ISSUE	

Available now at our Main Meeting, Workshop Meeting and Sub-Group Meetings, or order by mail by writing to: P.O. Box 274, Springwood, Qld, 4127, and enclose your cheque for \$3.00 per calendar.

A NEW PERSONAL COMPUTER

(From the Sep. '90 Cariboo Commodore 64 Club Newsletter)

The personal computer industry was shocked recently when Penthouse merged with Commodore and entered the PC market. The venture will introduce the *PENTHOUSE PET*, a VERY personal computer, designed to satisfy a variety of Users' needs.

Planning a new line of velvet and satin software, the company's Times Square R & D facility is working on applications packages for the home entertainment market.

One of the niftier applications is a great word processing package called *SLEAZY WRITER*, which can generate an almost infinite number of Penthouse Forum letters, using a vocabulary of only fifty words.

Other software packages include Accounts Painable, Visi-Crotch, a Eunuch Operating System, Electronic Male, and a graphics package featuring 200 different shades of pink. A user-friendly language called VIRGIN will guide first timers every step of the way.

One of the main research thrusts is to develop a warm man-machine interface. According to reliable Penthouse sources, "erotica is simply an extension of ergonomics". The Pet terminal has been designed with a ribbed exterior and comes in a variety of tropical colours. California publisher's Blue Boy is offering an AC/DC power supply.

A company spokesman also lauded the Pet's portability. "With moisture-resistant packaging you can take your Pet anywhere - you can go swimming with it, take it into your jacuzzi, or even go to bed with it!"

In addition the Penthouse Pet will be able to interface with the next generation of interactive video disks. Users will be able to pick from a wide variety of fantasies with the aid of a groan-activated selector. Of course the system comes with a joystick.

For the party market, Penthouse has developed a Local Area Network called ORGYNET, which the company claims is a breakthrough in compatibility. With the ORGYNET input-output port, you can stick your plug right in. A cluster controller has also been designed to satisfy the interactive needs of up to four users at a time. Unlike others, ORGYNET features a tangle of coax and uses TSMA (Tactile Sense Multiple Access) to allow up to 69 users to interact with the system and each other simultaneously. Although Penthouse reports that ORGYNET can sustain prolonged interactive sessions, insiders report that the throughput peaks after about 30 secs.

The Pet will be distributed by Frederick's of Hollywood, local newsstands and Sears. Penthouse is also strong in Service and Maintenance. S & M will be handled by a nationwide fleet of vans equipped with a variety of whips, chains and other tools.

The new generation of personal computers was anticipated from a limp beginning; the erotic information processing market has been rising in recent years and is now quite firm, although the recession has created some soft spots.

Penthouse's strategy is to use its solid orders to enter the soft markets, jack up the production when things get going, then pull out just before competitors come rushing to the market.

LIBRARY NEWS

by Phil Guerney

This is being written rather earlier in the month than normal so that it is with the editor before I leave for a couple of weeks holiday. To fill in the space, I have provided a list of the most recent 100 items that have been added to the C64/128 commercial software library. The total list of C64/128 software (and some hardware) is now nearly 300 items long and would take several Cursor issues to publish so "8-bit" members should obtain a copy of the Catalogue Disk to get a full listing. At the time of writing, you would not yet have received my plea in last months Cursor for an assistant to help prepare the C64 format Catalogue Disk, but I hope it spurs some member with both an Amiga and an 8-bit machine to spend a few hours once every three months to get out a much needed updated disk.

AMIGA SOFTWARE

Two new items in the Amiga library this month are both from the Electronic Arts "Deluxe" series. Both are quite well known so require little explanation from me, but I will offer some personal comments.

Deluxe Print II is very much like the old favourite Print Shop on the C64, except it has colour (if your printer has it) and a bit more flexibility. I particularly like the border pattern editing system. Fonts seem limited to those in your Fonts: directory so, if you are like me and have stripped your workbench disk down to just Topaz, you will have to use the CLI to assign fonts: to another disk and directory containing other fonts before starting Deluxe Print

II (or re-boot from the Deluxe Paint disk). This is not explained in the manual and it is typical of the assumptions made by programmers that make life difficult for beginners or users who are not interested in understanding the operating system to such an extent just to be able to use an application package. The number and variety of supplied "clip art" pictures is quite small.

Deluxe Video III is a very much more impressive package. The user interface is excellent and it all works quite quickly on a floppy drive system (like mine unfortunately still is). A lot of its power could not be tried out at my place, such as MIDI sound output, live video overlay through a genlock and external VCR control, but it all should mean potentially high quality products from a relatively cheap set-up. As with all such packages, the result really depends on the standard of the art going in and the creativity of the user. Anything I try will always look sadly amateurish. You will need 1MB and 2 floppy drives or a hard drive to run it.

The last new Amiga item is Where in the World is Carmen Sandiego? to go with last months Europe version. I can't wait until they bring out the Where in Time version for the Amiga, a clever extension of this format to history as well as geography.

C64/128 SOFTWARE

Continuing second-hand purchases for the C64/128 collection include:

Designasaurus - a fancifully packaged production that allows a mixed-up (or correct) dinosaur skeleton to be put together from choices for head, neck,

body and tail. This can then be printed out. Combined with a so-called educational game about dinosaurs, simple in concept but impossible to play, you have an overhyped program for which the most attractive part is the box. But my seven-year old son enjoyed printing out Tyranosaurus Tom and other creations.

Star Fleet I: The War Begins - a complex science fiction war game with nearly 100 pages in the manual. This version was published in 1985 but I strongly suspect that this game had its origins in an older mainframe or mini program with interaction through a teletype terminal. At least it now has

music, sounds and colour animation of battles.

The Fourth Protocol: The Game - an adventure game based on the Frederick Forsyth novel. Hint sheets included.

We now have the latest version of Maverick (V5) which the programmers say will be the last for ever more. Parameter modules now go up to eight. This program has paid for itself many times over in restoring damaged originals of several irreplaceable library programs. 1581 support has been increased for those with that drive.

BYTES

FOR SALE

A2052 Memory Expansion Board for Amiga 2000, c/w 2 Meg of RAM. -
What Offers?

1084 Colour Monitor, c/w all cables (incl C64/128 cables). - Make an Offer.

Contact David Johnson on (07) 2776796

NetComm Pocket Modem 123 for Amiga 500/2000, c/w GPTerm V.4.0 software - \$160.

Contact Mark Eckert on (07) 8915268

C64 Programmer's Reference Guide, in perfect condition - \$30

C64: Bard's Tale I, II, III, disks. - \$25 ea or \$70 for all three programs.

C64 version of GPTerm + RS232C Interface. - \$30.

Phone Kingston Arthur on (07) 200 5613, (7pm-9pm).

Epson LQ850 Printer, fitted with upgrade ROM. In Perfect Condition - \$500

Contact Ralph De Vries on (07) 300 3477

IMPORTANT!!

MEMBERS,

Please address **ALL PARCELS** for the Group (library material, etc.) to:

C. C. U. G. (Q)
32 Bulwarna Street
SHAILER PARK QLD 4128

as our Secretary is unable to collect parcels during normal Post Office business hours.

Your cooperation is appreciated!

Note, this only applies to parcels. Letters, of course, should be addressed to the Group's P O Box.

The Management Committee

8 BITS & PUECES

SEPTEMBER MEETING

Angus Norrie demonstrated some of his high-res graphics routines written in C-Power, and ran timed comparisons of C with interpreted and compiled BASIC. There was then an opportunity for discussion, and members of the group expresses a wish for more and varied input into the Demos, a wish for a revival of a regular workshop, and for classes or a teaching group on BASIC, or DOS etc. (The diagnosis may be correct, but we lack volunteers or perhaps a charismatic leader to implement a solution.)

"TWS - IT'S A WONDERFUL PROGRAM BUT IT DOESN'T WORK WITH MY PRINTER."

That chance remark from one of 64 users at the demo underlines the importance of users actually talking to each other. If there is one thing we can learn from Cursor and our User Group, it is to take a critical attitude to machines and software -if a program is not working for you, then either get help or get rid of it. Our Group provides a means of drawing on shared experience, and we ought to be able to manage this with the Write Stuff.

But printers are sometimes difficult-people who share the same type of computer may have quite different types of printer. If you ask for help, then unless your helper has a similar printer, the chances are that he has to proceed by guesswork and generalisation to any solution, with his only ad-

vantage being greater persistence and a higher frustration threshold. Cor Geels has been of great assistance to our members in sometimes volunteering to take on open ended problems with printers, which may be solved in minutes or resist solution after countless hours.

So,if you are having printer problems with TWS, don't apologise, or keep it under your hat. Chances are that another user has already solved your problem. If not, and if there is enough interest, we could organise a special TWS workshop to sort out such problems.

NOVEMBER MEETING

C64/128 AND PERIPHERALS - REPAIR AND MAINTENANCE by TONY MAY

Tony May of South East Queensland Computer Repairs has agreed to give a talk for the 64/128 group. Those who recall his previous lucid and masterly lecture for the Group will regard this talk as an important event.

Tony asked for some feedback from our users to help focus his talk. I have left the topic open, but suggested that its general focus might be on what one needs to know as an Informed User of Commodore hardware. Those who are committed to surviving as long term Users of the 64, know that they will increasingly left to their own devices, and need to plan accordingly. (Will there even be spare parts in the long term?).

In particular, how can an Informed User draw a demarcation line between what he can sensibly choose to do for himself and what is best left to an expert.

No doubt different people will draw the line in different places, but they should be able to do so in an informed way. This is a question which our country members have always had to live with (sometimes rather painfully). For example, should they try to live with a drive drifting out of alignment, or send it off to the city, knowing it may be ages before they see it again. What if it comes back again and it still has the same problem and they are told (so I was assured recently by a member from Mackay) that it's really a problem of a fungus that grows on disks in the tropics!

I have no doubt that his talk will offer guidance on the common patterns of symptoms and possible faults that are helpful with drive alignment, prognosis for aging 1571s, how to distinguish ROM versions, (note the problems caused with 64 Turbo ROMS), and no doubt lots of things one should know if one knew what to ask. All users with a continuing interest in the 8 bit Commodore hardware should look forward to Tony's talk. With his permission, I hope it is possible to obtain a permanent record of his talk for publication in Cursor.

Leigh Winsor

-ooOoo-

C64/128 Software and Hardware - LATEST 100

Each entry in the list consists of two lines. The first line contains the title and disk number. The first item on the second line is the model of 8-bit computer for which the software was written. Note that C128 is given ONLY for programs which are for C128 native mode or CP/M. The rest of the second line is a comment on the program.

Archon (249)
C64 - chess like strategy, classic game
Archon (249.2)
C64 - this has better packaging than 249A (USA version)
B/Graph - (248)
C64 - good business, science and statistics graphs
Banana Republic (194)
C64 - game
Basic 8 - How to Get the Most Out Of Basic 8 (280)
C128 - Book with two disks, tutorial on the

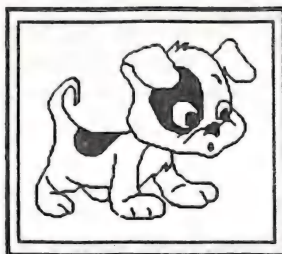
BASIC 8 system
Basic 8 Toolkit (279)
C128 - Utilities for Basic 8
Basic 8 with Basic PAINT, WRITE, PRINT, CALC (197)
C128 - graphical operating system enhancement for C128
Basic 8 with Basic PAINT, WRITE, PRINT, CALC (278)
C128 - slightly revised version of D197
BASIC-128 Compiler and Development System (235)
C128 - compiles Basic 7
Battle Cruiser (210)
C64 - game
Big Blue Reader (225)
both - File transfer 1541/ MS-DOS/ CP/M, Requires 1571 drive
Bridge 5.0 (229)
C64 - plays the card game
Buggy Boy (290)
C64 - racing car game

- Certificate Maker + Certificate Library Vol I (239)
 C64 - Creates certificates on a printer
 Chartpak 64 (220)
 C64 - graphing and data simulation, not as good as B/Graph
 Clowns (202)
 C64 - game, Cartridge, REQUIRES PADDLES
 Colorez 128 (281)
 C128 - Convert 40-column to 80-column hi-res graphics
 Digitalker 128 (256)
 C128 - Use digitized sounds in C128 programs
 Electronic Card File (243)
 C64 - database, old and limited
 Electronic Cash Book (244)
 C64 - "business" program, old and limited
 Elementary Science, Physics, Chemistry (204)
 C64 - educational
 F-15 Strike Eagle (198)
 C64 - game
 Fahrenheit 451 (216)
 C64 - adventure game
 FasTrac 128 (274)
 C128 - Disk utilities for C128's; DOES NOT break protection
 Film Maker (284)
 C64 - animation creator
 Flexidraw 5.5 (270)
 C64 - some parts of package requires a light pen
 GEOPUBLISH (227)
 C64 - desktop publisher for GEOS
 GEOS 128 V2.0 (228) C128 - windows, icons, menus and (optional) mice for C128
 GEOS V2.0 (226)
 C64 - windows, icons, menus and (optional) mice for C64
 Golf Construction Set (250)
 C64 - golf game including course building (German manual)
 Graph Now/Paint Now (251)
 C64 - Graphing etc, not the best package - see B/Graph
 Graphics Pirate (201)
 C64 - Cartridge and Disk, captures screens & sprites
 Home Designer (224)
 C128 - CAD (Computer Aided Drafting), good 8-bit attempt
 Instant Music (253)
 C64 - music composition and playing
 Jet V2.0 (219)
 C64 - flight simulator
 Keys to Typing (292)
 C64 - typing tutor
 Knight Rider (212)
 C64 - game
 Kracker Jax Revealed Vol 1 (240)
 C64 - tutor on copy protection methods
 Kracker Jax Revealed Vol 2 (241)
 C64 - tutor on copy protection methods
 Kracker Jax Revealed Vol 3 (242)
 C64 - tutor on copy protection methods
 Kracker Jax Volumes 1-7 (273)
 C64 - Parameters to remove copy protection
 Label Wizard (234)
 C64 - Printer Utility
 Laser Genius (276)
 C64 - Machine Code Development System ed/asm/mon/debug
 Lightwaves (217)
 C64 - educational strategy game
 M. U. L. E. (246)
 C64 - classic and my kids favourite!
 M128 Cash Book (275)
 C128 - Uses CP/M Mode so 1571 drive REQUIRED. Written for Aust/NZ.
 M64 General Ledger (260)
 C64 - by Meridian (NZ firm) for Aust/NZ accounting
 Mail-Master (213)
 C64 - from Loadstar
 Maverick V 3.0232
 C64disk utilities; backs-up copy-protected software
 Maverick V4 and Parameter Mods 2-7 (disk utilities) 258
 both - Disk utilities; backs-up copy-protected software
 Merlin 64218
 C64macro assembler
 Mouse (Winner M3 proportional) (254)
 both - 1351 compatible
 Mouse (Winner M3 proportional) (255)
 both - 1351 compatible
 Muppet Learning Keys (287)
 C64 - HARDWARE (Large Keypad) and program
 Music Construction Set (252)
 C64 - music composition and playing
 Music Maker Playalong Album - Beatles (286)
 C64 - for music maker program (not in library)
 Ogre (209)
 C64 - game
 Patton vs Rommel (269)
 C64 - game
 Pinball Construction Set (247)
 C64 - classic game

Pre-Schooler 3-8 years, Learning Letters and Numbers (206) C64 - educational
 Project Stealth Fighter (294)
 C64 - combination game and flight simulator
 Rendezvous with Rama (293)
 C64 - adventure game, story by Arthur C Clarke
 Return of the Jedi (263)
 C64 - game
 Run Works (230)
 both - Collection of 7 of RUN's best programs
 Run's GEOS Power Pak (231)
 both - Collection of GEOS programs
 Russia - The Great War in the East 1941-1945 (245)
 C64 - War simulation game
 Screen F/X and Grafix-Link (257)
 C64 - Titles and Video effects
 Shanghai (237)
 C64 - strategy game based on Mah Jongg
 Sim City (277)
 C64 - City Simulation Game with Terrain Editor
 Sketchpad 128 (C128 Graphics) (272)
 C128 - REQUIRES a 1351 (or compatible)
 MOUSE
 Sky Travel (221)
 C64 - Astronomy; BEST of its type!
 Social Studies, Geography, Ancient History (205)
 C64 - educational
 Sound Expander FM Sound Module (285)
 C64 - hardware 8 voice synthesiser + keyboard overlay
 Split Personalities (265)
 C64 - game
 Star Wars (264)
 C64 - game
 Stealth Fighter (208)
 C64 - game
 SYSRES (282)
 C64 - Programmers BASIC extension - Extensive
 The Advanced OCP Art Studio (195)
 C64 - the best drawing program for C64 (mini DPaint!)
 The Armageddon Man (261)
 C64 - game
 The Bard's Tale II and Clue Book (214)
 C64 - adventure game
 The Bard's Tale III and Clue Book (215)
 C64 - adventure game
 The Dam Busters (199)
 C64 - game
 The Designer's Pencil (cartridge) (283)
 C64 - graphics programming through menu interface

The Empire Strikes Back (262)
 C64 - game
 The Graphics Galleria (271)
 C64 - Clip art in Flexidraw and Doodle formats
 The Image System (288)
 C64 - paint tools include distort, grab, colour filters
 The OCP Art Studio (196)
 C64 - see D195 for later version; this one still good
 The Seven Cities of Gold (200)
 C64 - game
 The Write Stuff & BB Talker (222)
 C64 - Word processor, includes talking version
 Tooth Invaders (203)
 C64 - game, Cartridge
 Trivial Pursuit - Baby Boomers Edition (259)
 C64 - quiz game, best if born 1945-1960!
 Trivial Pursuit - A New Beginning (268) C64 - quiz game
 Video Title Shop + Graphics Companion I (238)
 C64 - for VCR Titles
 War Games Pack (291)
 C64 - 10 games, 3 disks (incl Sky Fox, Arctic Fox)
 War in the South Pacific (211)
 C64 - war simulation game
 Where in the World is Carmen Sandiego? (223)
 C64 - very popular in schools, teaches geography & more
 Worms (289)
 C64 - strategy game
 Xybots (266)
 C64 - game
 Yes Prime Minister - The Computer Game (267)
 C64 - graphical adventure
 Zak McCracken and the Alien Mindbenders (233)
 C64 - graphical adventure, witty American humour; BIG

-ooOoo-



AMIGANET

Ethernet network for Amigas.

- * Industry standard Ethernet architecture.
- * Networking software included.
- * True peer-peer Amiga Networking - access any screen, hard or floppy drive, serial or parallel printer attached to any Amiga in the network.
- * A500 version - ABS injection moulded case attaches to expansion port of computer.
- * A2000 version enhanced with 64Kbytes data buffer with 16bit data path assisted by a DMA sequencer . (For high traffic centralised facility or a file server.)

AmigaNet A500 \$700.00 (ex tax)

AmigaNet A2000 \$900.00 (ex tax)

GPTerm-Amiga V4

Australia's most popular Amiga telecommunications software.

- * Mouse or keyboard driven, fully multitasking from CLI or workbench, User defined 'configurations' for different services, 110 page manual and more.
- * Full terminal emulations for videotex and ANSI/Amiga, IBM, VT100 ANSI terminal emulations for Viatel & Discovery 40/80, Pegasus and other text based services as well as BBSs
- * File transfer with XModem, YModem, full ZModem, SEAlink, KERMIT, Punter and ASCII protocols. Batch transfers supported.

Packaged with an extensive manual, not copy protected.

GPTerm-Amiga V4 \$99.00

Also available: Amiga and C64 Modem packages, GPterm-64 (videotex and ascii communications for C64/128, rrp \$59.00). Full range of NetComm and AVTEK Modems.

Available from your local dealer or direct from

GP Software

Specialists in Amiga Communications

21 Alooomba Rd. ASHGROVE QLD 4060

Ph (07) 3661402

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 NO:
Terry Baade	Contact for M'borough/Hervey Bay Members	(071) 215 059
Kerry De Baar	Basic, Assembly Language	379 5617
Eddie Brook	Amateur Radio Fax & Weather Programs	349 4394
Cor Geels	SuperScript, WriteStuff, PaperClip, GEOS	263 2839
Cor Geels	C-64 Newcomers, Printers & Interfacing	263 2839
Ross Horn	CP/M Family Tree Program (P.A.T.)	395 0618
Doreen Horne	Programming Problems & Disk Corruption	398 7441
Matthew James	Basic, Logo, GEOS, WriteStuff, Games Tips	300 5443
Ron Long	SuperScript, Label Maker, Mailing Lists	(075) 357 139
Ivor Laggan	GEOS	273 4212
Doug MacLurkin	MicroSwift Spreadsheet, Basic	358 4442
Peter Meharg	Basic, Machine Language	376 1621
Angus Norrie	Simon's Basic	371 2945
Vic Mobbs	Contact for Sunshine Coast Members	(071) 941 330
Vic Mobbs	Superscript/Superbase 128	(071) 941 330
George Nelson	EasyScript, HAM Radio	848 2456
Craig Rawlins	Pascal, C, Machine Language, Modula-2	379 8957
Ron Rich	H'ware Interfacing for Amat. Radio Prgms	355 2623
Greg Shea	C-64 Hardware Modifications etc., Basic	345 2799
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!

ALARM

by Lindsay Vardy

There are 17,000 homes robbed in Australia every year, one every 3 minutes, most committed by young people, unemployed persons or drug users. 15% are committed by professional house-breakers. Of these, 79% are committed during daylight hours, 54% entered by forcing windows, 32% by jemmying doors. 70% of these had inadequate security at point of entry. (Figures from Insurance Council of Australia.)

Simple precautions should be taken to protect your computer equipment. Even if covered by insurance your programs and files may be irreplaceable. Deadlocks on all entry doors and locks on all windows are needed, blocks may be screwed into window channels to restrict the size of the window opening. However it has often been said that locks are only to keep honest persons out.

A simple and economical burglar alarm may be built using a DPDT relay (6 or 12 volt), a 2N2222 transistor, four silicon diodes (100-600 volts), a 560 ohm resistor, a green LED, and 5.6K resistor for 6V, or 12K resistor for 12V. An architrave type switch with 2 toggles. Because a smart intruder will turn off your power it is not wise to have a mains powered alarm, so a choice has to be made on 6VDC or 12VDC system.

A 6V dry battery will last as long as it's shelf life because of the low standby current drain (1.25 milliamps. Smoke alarms and movement detectors are usually 12VDC. Your alarm bell or siren will have limited output.

12V supply from a rechargeable alarm or motorcycle battery will power a heavy duty bell or siren; it needs to be topped up with a charge every month, or fitted with a trickle charger.

The connections for Tandy 2N2222 transistor: Looking at bottom of transistor with flat side to the left. Top leg C or Collector, middle leg B or Base, bottom leg E or Emitter. Use a relay socket. Draw a diagram from the following:

1. Connect leg C to one relay coil pin.
2. Connect leg E to GND (common earth).
3. Connect leg B to two silicon diodes in series, with band end (Cathode) towards leg B.
4. Connect 5.6 resistor to top terminal of one switch toggle.
5. Connect spare relay coil pin to same terminal.
6. Connect other end of resistor to free end of diodes.
7. Connect another silicon diode to same free end of diodes with band on diode facing away from connection.
8. From other end of this diode connect 560 ohm resistor in series with green LED and connect to top terminal of other switch toggle. From same diode end connect a temporary wire to GND.
9. Connect middle terminal of both toggles together and to battery PLUS.

10. Connect a silicon diode between relay coil pins with band towards switch (B+).

11. Connect battery Negative to GND.

The temporary wire connection you made simulates the security line running around your property. Turn on toggle for green LED. It should light; if not, reverse its connection. This shows your security line is complete. Turn off. Turn on power to your alarm unit. Disconnect one end of your temporary security line and the relay should switch over. If not check all connections. Remaking the security line connection should switch the relay off. This is bad because an intruder could rejoin the line and the alarm would stop.

To prevent this, connect one of the moving contacts on the relay to the C connection on the transistor. Connect the terminal it goes to when energised to GND. This will lock the relay on once it is energised. The other relay moving contact goes to Battery PLUS; the terminal that it is switched to goes to the bell or siren. Your alarm should be operating.

Reed switch and magnet units are available from Dick Smith and other suppliers. They consist of a reed switch and magnet enclosed in two separate ivory plastic units measuring 60 mm x 11mm x 11mm, and are supplied with two fixing screws (drill a pilot hole for hardwood), and two screw terminals for connecting wires. The magnet unit is fixed to the door or window; use screws for wood or silicon sealer for glass or aluminium. Don't use the self adhesive pads supplied. Steel door or louvre frames rob the magnets. Solder plated brass solderlugs to wires BEFORE attaching to terminal screws.

Beware of s/steel lugs. Units will operate at distance up to 11 mm apart. Check for continuity with meter or lamp and battery.

The security line may be figure 8 twin lead or smaller split down the middle and may be extended to outside buildings. Runs of 200 metres or more can be made. Plan where the runs should go in the home, in older homes the picture rail will hide the wire.

A keyswitch should be installed at the main point of entry to bypass the reed switch on the door. On timber framed homes the architrave may be removed to fit the switch, a larger hole drilled behind it to take the body of the switch. If a bypass switch is fitted to other doors in use the alarm will protect all windows or screens at night while allowing use of the doors. An extra bypass reed unit may be fitted so a window can be partly open, still leaving the security line complete. The on/off switch may be placed anywhere convenient, drill a hole in the escutcheon plate for the green LED. Don't forget this does not check the locks. If extra motion detectors are fitted inside have the switch out of their range.

Smoke alarms are usually self-battery powered, and should be fitted to rooms of smokers in bed. Terminals are provided for 12VDC external power, and an output to a relay, may be 6VDC, for a louder siren or bell. Advisable if the person is hard of hearing.

If noise pollution is a problem, get a friendly neighbour to turn off the alarm after investigation, or fit a timer delay, see Tandy's "555 Timer IC Circuits". Price \$1.99.

-ooOoo-

EXPLORING THE C LANGUAGE

USING A C-64 AND C POWER

by Angus Norrie

1) C is much faster to run than Basic

2) It is nearly as fast as machine language. In one test (1987 Truenfels et al), relative speeds were:

Assembler	1
C Power	1.5
Kyan Pascal	1.9
A compiled Basic	6
Super C	6
Simons Basic	13
Basic 2.0	16
Commodore Logo	141.

3) It is much slower than Basic to write and test programs. One must Edit, Compile, Link and Run.

4) A C program is made up of a main section, followed by functions (like subroutines) that can be called from the main section. E.g. hires graphics: main(); hires(); clearh(); colorh(fcl,bcl); plot(x,y,p); line(x1,y1,x2,y2,p); lissajou(); shell(); lores0.

5) To use C, load and run Shell (4K), the master program. To write a program, then load the Editor (ced, 18K) and write, check, and save the program (as name.c). Next load the Compiler (cc, 25K), which replaces the Editor and converts the program to machine language and then saves it to disk as name.o. Finally, load Link (4K), which replaces the Compiler and links name.o with any other needed .o programs, including those from the Library disk, and saves the final program as name.sh to run from the Shell (or name.b to run from Basic).

6) It is easy to link in .o programs from a library disk, so building a big program from small tested programs.

7) Shell can use memory behind the Basic and Kernal ROMs, so loading and running programs up to 50K (200 blocks, 64K-4K-working space).

8) Memory can be reserved for hires screens, sprites, etc.

9) Debugging is nearly as tedious as with machine language.

10) C is claimed to be one of the most used languages in the world.

11) Converting a C program to run on another computer can be simple. Most large and small computers can run C.

12) C was designed to use in writing the Unix operating system. It's considered to be the 'standard language' of both the Amiga and Macintosh.

13) It has been used to write compilers, operating systems, text editors, database and telephone switching systems, for numerical analysis, modelling, engineering programs, and text-processing software.

14) If you want to know more about the C language and its use on the C64, then you will find more information in the following issues of Transactor magazine (all in our book library): 1987 03, 1988 03, 1988 07, 1988 12 and 1989 04. In the book library there's also a copy of Kernighan and Ritchie's book "The C programming Language". In our software library you will find a copy of the "Super C Language compiler".

C-64 MACHINE LANGUAGE - Part 10

by Will Erdmann

In this article I am going to show you three more ways of placing characters on the screen. After typing in the first program you will find an outline of its main features listed below.

```
1000 A9 41 LDA #$41
1002 A2 00 LDX #$00
1004 9D 00 04 STA $0400,X
1007 E8 INX
1008 D0 FA BNE $1004
100A A2 00 LDX #$00
100C 9D 00 05 STA $0500,X
100F E8 INX
1010 D0 FA BNE $100C
1012 A2 00 LDX #$00
1014 A9 42 LDA #$42
1016 9D 00 06 STA $0600,X
1019 E8 INX
101A D0 FA BNE $1016
101C A9 43 LDA #$43
101E A2 00 LDX #$00
1020 9D 00 07 STA $0700,X
1023 E8 INX
1024 D0 FA BNE $1020
1026 A9 01 LDA #$01
1028 A2 00 LDX #$00
102A 9D 00 D8 STA $D800,X
102D E8 INX
102E D0 FA BNE $102A
1030 A9 07 LDA #$07
1032 A2 00 LDX #$00
1034 9D 00 D9 STA $D8FE,X
1037 E8 INX
1038 D0 FA BNE $1034
103A A9 05 LDA #$05
103C A2 00 LDX #$00
103E 9D 00 DA STA $DA00,X
1041 E8 INX
1042 D0 FA BNE $103E
1044 A9 04 LDA #$04
1046 A2 00 LDX #$00
1048 9D 00 DB STA $DB00,X
104B E8 INX
104C D0 FA BNE $1048
104E 4C 4E 10 JMP $104E
1051 00 BRK
```

1. Lines 1000 - 1008 fill the first 256 positions on the screen with hearts.
2. Lines 100A - 1010 fill the next 256 positions with hearts.

3. Because x can only be incremented by a maximum of 256 times during each BNE instruction it is necessary to use four BNE instructions to fill the screen. Therefore except for changing the characters and screen positions lines 1012 - 1024 are a repeat of steps 1 and 2.

4. The rest of the program colours the appropriate sections of screen memory. Lines 1026 - 102E place a value of 1 in the first 256 position of screen character colour memory. You will remember that the number D800 is calculated by adding 54272 to 1024. Thus the number 55296 is arrived at which is D800 in hex. When the number is used in the following way :-

```
LDA #$01
LDX #$00
STA $D800,X
INX
BNE $102A
```

the value of 01 is stored from locations D800 to D8FF. Hence the first 256 characters on the screen are coloured white. The numbers D900, DA00 and DB00 have been calculated by adding 54272 to 1280 (0500 hex), 1536 (0600 hex) and 1792 (0700 hex). At the beginning of each BNE instruction (lines 1030 - 104C) different numbers are stored in the appropriate areas of character colour RAM therefore when the program is run different areas of the screen are given different colours. After each character has been given its unique position and colour on the screen line 104E loops to itself so when the program is run it will never stop unless the reset button is pressed.

Below is a table of some character values in hex and the letters they represent.

CHARACTER VALUE

ALPHABET

01	A
02	B
03	C
04	D
05	E
06	F
07	G
08	H
09	I
0A	J
0B	K
0C	L
0D	M
0E	N
0F	O
10	P
11	Q
12	R
13	S
14	T
15	U
16	V
17	X
18	Y
19	Z
20	SPACE

Now some features of this program you should be aware of:-

1. lines 1000 - 1002 clear screen.
2. lines 1005 - 100E tranfer 16 characters from locations 0FE0 - 0FE8 to 05E7 - 05F7 because x is compared to 16 (10 hex) in line 100E. 05E7 is about the center of the screen.
3. lines 1012 - 1017 is the RUN/STOP KEY program.
4. The ' compare x to ' instruction in line 1000E can be altered depending how many characters in the hex dump you want to display. If you wanted to use 26 characters you would change line 100E to read:-

CPX #\$1A

In my second program I am going to show you an easy way of displaying your name or a message on the screen. This sort of a program is sometimes used in arcade games to display the various options available to the user.

for example. However make sure the number you put there is no greater than 255. Place your characters in any convenient RAM address you prefer and refer to that hex dump accordingly.

```

1000 A9 93 LDA #$93
1002 20 D2 FF JSR $FFD2
1005 A2 00 LDX #$00
1007 BD E0 0F LDA $0FE0,X
100A 9D E7 05 STA $05E7,X
100D E8 INX
100E E0 10 CPX #$10
1010 D0 F5 BNE $1007
1012 20 E1 FF JSR FFE1
1015 F0 EF BEQ $1006
1017 4C 12 10 JMP $1012
101A 00 BRK
    
```

To take advantage of my third and last program for this month you will have to type M 0F00,0F28 press RETURN and change the numbers in the hex dump to read the following:-

```

0F00 BF BF BF BF 00 FD FD 00
0F08 BF 00 F7 F7 F7 F7 00 BF
0F10 00 7C DE EE DE E4 78 00
0F18 00 00 1E 27 7B 77 7B 3E
0F20 01 81 E0 69 7F 7F 13 02
0F28 4E 3E 38 70 38 30 F0 7C
    
```

Now type M 0FE0,0FE8 press RETURN and change what is held there to read the following or work what message or name that you may want to put there by using the table above.

Then copy the following program.

```

0FE0 17 09 0C 0C 20 05 12 04
0FE8 0D 01 0E 0E 20 20 20 20
    
```

```

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

```

Before running the program type M3100 press RETURN and make sure the hex dump reads as follows:-

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

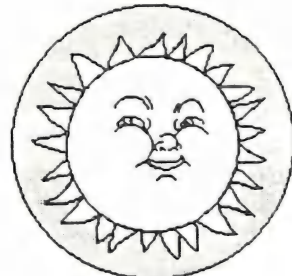
When you type G 1000 a brick house with a door and a window will appear. I will refer to these programs in later articles.

If you have any graphics you would like me to use in this type of a program please let me know. My adress is:-

Will Erdmann,
Western Avenue,
MONTVILLE QLD 4560

Phone (074) 429226, 2pm - 6pm Mon -
Fri and 11am - 8pm Sat - Sun.

-ooOoo-



Amiga 500 Turbo XT

KCS Power PC Board Available Now

\$699 c.o.d.

Look at these features:

- includes 1 Meg Amiga Ram + clock (value \$300)
 - supports all Amiga in/outputs
 - 3.3 times *faster* than XT Bridgeboard
 - includes MS DOS 4.01 + shell and GW Basic
 - free software updates
 - 704K memory in MS DOS mode
 - installs in 30 *seconds!*
 - C.C.U.G. members 5% discount
-

Phone now for a detailed specification sheet.

DEMONSTRATIONS AVAILABLE
DEALERS REQUIRED

Fonhof Computer Supplies

64 Cross Street, Baulkham Hills NSW 2153
Phone (02) 639 7718 Fax (02) 639 5995



Phoenix

Microtechnologies Pty Ltd

A500

512K internal memory, with clock \$145.00
512K internal memory, without clock \$125.00
(both come with switch)

8Meg expansion board 0K \$398.00
8Meg expansion board 512K \$478.00
8Meg expansion board 1Meg \$558.00
8Meg expansion board 2Meg \$718.00
8Meg expansion board 4Meg \$1038.00
8Meg expansion board 8Meg \$1678.00

Subsystem - fits under the A500 and passes the bus. Can house an 8Meg board plus the H/Drive.

Case only \$70.00
Case and power supply \$170.00
Case, power supply, H/Drive interface and controller \$395.00
Complete with 40Meg H/Drive \$1040.00

* Power supply must be used with H/Drive

Kickstart swap switch \$30.00

Software

MegaDisc - Australian disk magazine \$19.00
JumpDisk - American disk magazine \$12.95

Visa / Mastercard / Bankcard accepted

For orders or inquiries
Phone or Fax

Mon - Fri 9.00 am - 6.00 pm
Sat 10.00 am - 1.00 pm

Phoenix Microtechnologies Pty Ltd

18 Hampton Road
Keswick
South Australia 5035

Phone (08) 293 8752

Fax (08) 293 8814

A1000

8Meg expansion board 0K \$398.00
8Meg expansion board 512K \$478.00
8Meg expansion board 1Meg \$558.00
8Meg expansion board 2Meg \$718.00
8Meg expansion board 4Meg \$1038.00
8Meg expansion board 8Meg \$1678.00

Hard Drives

Case, H/Drive interface and cont. \$350.00
Complete with 40Meg H/Drive \$950.00
Power supply \$50.00

Phoenix Board - replacement motherboard for the A1000. Complete with Obese Agnus and 1Meg chip RAM. \$695.00

A500 & A1000

5.25" Disk drives \$278.00
Drive swap switch (boot from DF1:) \$30.00
Paralell port adaptors (gender changer) \$30.00
Directory Opus - (file manager) \$50.00

Disks

3.5" DSDD Floppy disks \$1.20
3.5" Disk Box holds 80 \$12.95

C.O.D. can be arranged

AMIGA MONITOR

SHORT SIGHTED

Recently I read with great interest in the ICPUG newsletter of the UK, that their editor had similar problems to mine, namely accessing the scalable fonts, with which the HP Laserjet III is equipped.

My regular word processor, WordPerfect does not support them (yet), so I use desktop publishing programs to get the best out of our printer, which is fine, but these programs are too slow for just dashing off a letter.

Anyhow, our English friends got hold of a beta test version of a locally made word processor which did support these scalable fonts of the Laserjet, so I quickly wrote a letter to the editor of ICPUG magazine, asking for more information.

A few weeks later I received a reply from the English software manufacturer, advising me that, a) yes, the new version of their word processor did support the HP's scalable fonts, b) yes, they were very much aware that their word processor was not terribly popular in Australia, and c) yes, I could order a copy from them at the introductory price of £125 (about \$300)!

Considering that their product is virtually unknown here, and that I am far from certain if their word processor will do the job for me, I found it rather short sighted that this company did not supply me with an evaluation copy, free of charge.

If the program does all that it promises in their publicity blurb, I'd be only too happy to purchase a copy; in fact, in that case I could give them some badly needed publicity in both our newsletter and commercial publications like Megadisk, but to expect me to fork out \$300 sight unseen (you can buy WordPerfect discounted for \$299), is really a bit over the top.

Editor

SEPTEMBER MEETING

After the normal preliminaries, our Amiga coordinator, Robert Googe, went back to basics with the Amiga.

He demonstrated to our new members what to do when you come home with your new Amiga and how to make sense out of all those new and strange computer terms. By using only a standard A500 with its inbuilt drive, Robert was able to show newcomers how to perform some of the standard functions such as disk copying etc. with the computer. His demonstration was well received by our new Amiga members.

SEPTEMBER WORKSHOP

Despite the fact that this was our P. D. Disk Copying workshop, we had several other interesting activities on the go. Steve McNamee and Greg Perry showed off the capabilities of Version 2.0 (beta test version) of the Amiga Operating System. Elsewhere Lindsay Whipp showed us how far he has progressed with Amos, the recently released new language for the Amiga.

WHAT'S ON IN NOVEMBER

This month we will have our demo of AMOS by Lindsay Whipp and Steve Hovelroud as our guides.

The Rosalie Workshop meeting will be devoted to Public Domain Software.

DISK PRICE REDUCTION

It is now official - the price for our 3,5" disks is now down to \$15.00 per box!

MORE PRICE REDUCTIONS

We've seen the A590 hard drive advertised for \$699 and an A2000 with a 40 Meg hard drive for \$2495. Also advertised by Computer Spot was DPaint III for \$99.95!

NEW GOLD DISK DISTRIBUTOR

Dataflow Computer Services P/L are the new Australian Distributors for Gold Disk products (Professional Page, PageSetter, Transcript etc.). They do offer an upgrade service for ProPage, ProDraw and PageSetter. Contact them for price details on (02) 3316153, or write to them at 134 Barcom Avenue, Rushcutters Bay, NSW 2011.

24 PIN PRINTERS

In the market for a 24 pin printer? Suggest that you try to have a look at the Fujitsu DL-1100. This printer, of a rather unusual design, recently got a rave review in the German Amiga Magazine.

Fully Epson-Q compatible, it comes with 4 inbuilt fonts, has a 32K buffer,

has paper parking, runs at 150 c.p.s. (draft) and 50 c.p.s. in LQ mode, and will take paper up to A3 size; yet it's smaller than most 24 pin printers!

Extra font cards are available, as well as an optional colour printing module.

In tests it was found to be one of the quietest printers in its class. In Germany it's now considered 'the' printer in its price range. We don't know its Australian price, but it's worth checking out.

MOUSE SWITCHES

Mouse playing up? If the mouse buttons don't respond anymore, it's time to install some new micro switches.

The group now sells a kit of 2 switches for \$20. If you need advice with the installation, talk to Steve McNamee, Steve Hovelroud or Robert Googe.

VIRUSES AND BEGINNERS

Did you know that unwittingly you might have picked up a disk virus when you copied those disks from your friend? Do you know what a virus can do to all your precious disks? Yes, there's a good possibility that a virus infected disk can destroy your total software collection, and in turn you may well pass it on to other users!

At a recent workshop, a new member had about 10 disks infected with the BSG9 virus. Fortunately one of our committee members spotted it and prevented further damage.

If you don't know what a virus is or what it does, you are the most likely person to catch one or more of them, and you need help!

All you have to do, is to come to one of our Sunday workshops, see one of the committee members and ask them to check your disks for virus infection and have a virus checker installed.

Once you have a virus checker installed, there's far less likelihood of getting infected, and you will save yourself a lot of frustration in the future.

LATTICE C COMPILER

In our issue of August we wondered if Lattice was going to bite the dust. Well, we can advise Lattice users that they can stop worrying. The SAS Institute, Inc. has taken over the full range of Lattice products, and from now on the Lattice C Compiler system will be known as the *SAS C Compiler*.

In fact they have now released a major upgrade, version 5.10, which features improved workbench support, better AREXX support, an improved user interface, new UNIX compatible library functions, improved error messages and significant overall performance improvements. AmigaDOS 2.0 include files and libraries are supplied for AmigaDOS 2.0 development.

Suggested US retail price is \$300, but registered owners of the Lattice Version 5 C compiler can upgrade to version 5.10 for US \$40.

For further information, contact:

SAS Institute, Inc.
Book Sales: C Compiler
SAS Campus Drive
Cary, NC 27513-2414
U.S.A.

CD-ROM

Xetec is the first independant company to advertise a CD-ROM unit for the Amiga, and which is supposed to be compatible with Commodore's own CDTV standard (see Sep. Cursor). Recommended US prices are \$599 for an internal unit and \$699 for an external unit. Apparently they've made a CD available with the whole Fred Fish Public Domain Library!

PKAZIP

This comes from the ShareWare HQ BBS in Michigan (1-313-473-2020):

Msg: #5386 Sec: 1 - Utilities
23-Mar-90 03:43 PM
Subj: PKAZIP
From: Dennis Hoffman
To: ALL

I am no longer associated with PKAZIP. The wrath of PKWare has struck! Since the majority of PKAZIP users have not contributed for it, PKWare has cancelled my contract with them and I will no longer receive royalties. Since I will not get any further payment for the program, I will not preach about paying for it.

I guess it is time I got out my copy of LHARC and learn to use it. The timing of PKWare's decision is unfortunate. I

was about to compile my first CLI version this week.

David Campbell

AMIGAS AND EDUCATION

Phil Mellifont, a new member from Dalby, sent us an interesting video of animations produced by his pupils in grades 5 and 6 of the Dalby South State School. Nice work, Phil. Perhaps, one day, we may be able to get a full length video together of graphics and animations (Amiga of course), totally produced in Primary and Secondary

schools. Or how about an Amiga Educational Sub-Group? Phil also wrote to me that he intends to form an Amiga Users Group in Dalby. Keep us informed, Phil!

STOP PRESS

Thanks to Chris Dunbar of Commodore User Group Support, we have in this issue a pretty complete coverage of the main features of AmigaDOS Version 2.0 - sorry no news about its release yet, but we believe it's getting close now!

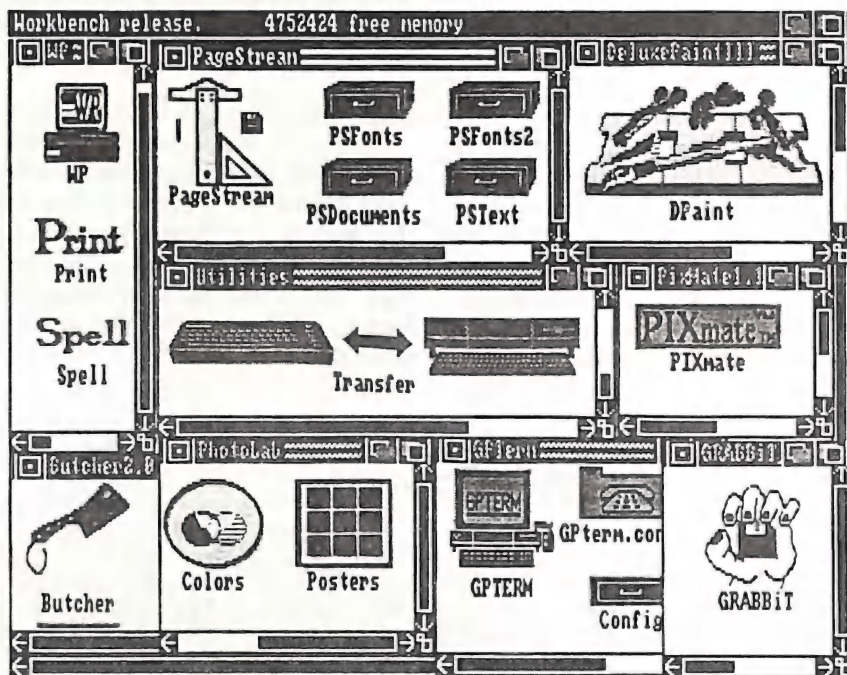
HELP! COLUMN

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	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
Michael Thomas	Forth, Prolog, C, and Modula-2 Programming	800 4511
John Van Staveren	Easy Ledgers Accounting Program	372 3651
David Walton	Bridgeboard (IBM)	(071) 834 742
Mike Williams	AmigaBasic (Beginners), Sound	209 9084

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

DESKTOP PUBLISHING - PART 3



SOFTWARE TOOLS

by Ralph De Vries

I've been positively underwhelmed by the response to my suggestion for the formation of a DTP Special Interest Group. I've had a grand total of two phone calls - one from Toowoomba and one from Brisbane. In addition two of our committee members have shown some interest. Because of this lack of response I've decided not to go ahead with this project. However, if any of our members do need advice in this area, I'm always available.

Richard Wetton (see 'Mail Box' in our last issue), suggested that I write a bit about the production of CURSOR.

Well, that's a suggestion I cannot resist, so here goes...

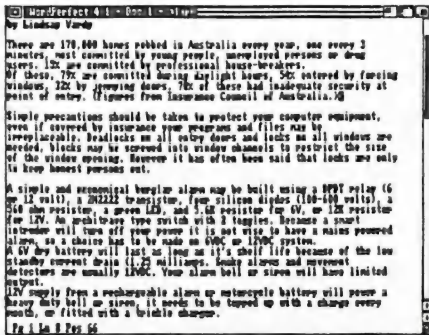
The software tools which I currently use are shown in our first illustration.

Hardware consists of an A2000 with a total of 5 Meg of memory and the new Super Agnus fitted to give me 1 Meg of chip memory - very useful that. The 2000 is outfitted with a 40 Meg auto-booting Quantum hard drive. I use a Sun Multi Scanning monitor, which will come into its own when Version 2.0 of AmigaDOS and the Super Denise are installed, as I will then be able to use the new hi-res non-flicker Production Mode. Printing is done on the

Group's HP Laserjet III, which has a total of 3 Meg of memory.

As expected, most articles come to me on disk. Amiga articles come on 3,5" disks, either as straight ASCII files or as WordPerfect files. Occasionally I also get articles set up with Transcript or Scribble. C64/128 articles come on 5,25" disks in 1541 format (I'm unable to read the double sided 1571 format disks). To read the 1541 disks, I use the Transfer program supplied with the 64 Emulator program - this is the only useful part of the 64 Emulator. I connect the 1541 drive with a special cable to the parallel port of the Amiga. The Transfer program is used to convert SEQ Pet ASCII files to 'straight' ASCII files which I save out to an Amiga drive. Troubles occur when I get the occasional C64 text file in PRG format. I end up with a file of garbage characters, but Greg Perry wrote a nice little Basic conversion routine for me to convert these files to a more 'conventional' format.

An increasing number of members upload articles to the CURSOR section of our Bulletin Board. These, generally, don't present any problems.



WORDPERFECT

After I receive the articles I load them into WordPerfect. The Search and Replace function of this program is great to strip unwanted carriage returns from ASCII files. The worst offenders are the contents files of Fish disks; they are full of carriage returns and multiple TAB settings, but Wordperfect gets rid of all the 'rubbish'. I also use WordPerfect's spelling checker, because it is a lot faster than the spelling checker of PageStream, and it has an Australian dictionary.

It is now time to import these text files into PageStream. I set up three files each month - the first one is the 'general file' which holds all the information which you find in the front section of our newsletter. File two is for 8-bit material and file three for Amiga material. I've created two sets of two master pages, one starting with an even page number and the other one with an odd page number, which are set up with two columns and the footers which include the page number information.

Initially a file may only consist of a few pages. If I import a new article I *append* one or more of my sets of master pages. PageStream automatically rennumbers the appended pages. I now import my WordPerfect text files and this is where it gets interesting! I have set the program up to *auto justify* the imported text (that is spread the text out over the full width of the column), but after importation I get PageStream to *Batch Hyphenate* the text. This, generally works well, but occasionally the hyphenation routines break a word in 'unusual' places, to say the least!

I now go over the article with a fine toothcomb to find the wrong hyphenations and also manually hyphenate some words which the program

doesn't recognise - a time consuming process. At this stage you usually find that the first line of a new paragraph is the last line of a column, or the last line of a paragraph appears on the top of a column (the so called 'widows' and 'orphans'). This now requires some more juggling with the text to get rid of those.

At this stage I would like to devote a few paragraphs to fonts. Fonts basically consist of three types. They are the:

Sans-Serif Type, such as the Helvetia font used in this line.

The **Serif style**, as typified by the Palatino font which I use mainly for this newsletter.

The display style fonts, such as the Chancery font used here.

We also have some special fonts which produce symbols, like some of the Dingbat symbols which follow here:



Generally speaking, the bulk of commercial publications seem to use the Serif fonts, but there are also quite a few publications out there which use sans-serif fonts. As an exercise, look through some printed matter and check for font styles used; it's quite interesting. Display fonts are mainly used in advertising and brochures; they are 'headline grabbers'.

Why use one type of font and not the other? Recently I had the opportunity to read a book called "Design and Layout in Computer Publishing : for Users of Xerox Ventura Publisher Version 2", written by Colin Wheildon. Although written for a specific DTP program, 90% of the contents are

equally applicable to programs such as PageStream or Professional Page. The book goes into a great deal of detail about the use of fonts and readability. I won't go into the finer points, but the author came to the conclusion that Serif fonts are the preferred option. As well, a large section of the book is devoted to layout and production of newsletters. Well worth a read if you can get hold of it.

When I set up the September issue of Cursor I printed out one page in 16 different font styles, both serif and sans-serif. The sans-serif styles, without any exception, were all 'uneven', that is some letters or parts of letters were thicker or thinner than the bulk of the characters. Quite a few of the serif fonts weren't all that much better. In the end I came up with only two fonts which were of a sufficient uniform quality to use in Cursor (and even they aren't perfect); they are the Palatino and Koala fonts. I settled for the Palatino font in 10 point size for the body text. The 'repeat stuff' (club information pages) are set up in 8 point size. Real problems show up in the use of italics and underlining. To get acceptable spacing between italicised letters one has to do a lot of manual or batch *kerning*, the technique of altering the spacing between letters; a real finicky and time consuming process. In my previous article I mentioned the problems with underlining letters like p and q. The descenders of these letters should never go through the line. It looks extremely ugly and is a sign of bad font design.

Problems also occur with columns of figures and program listings. Most of the fonts supplied are proportional fonts, which means that a letter such as 'I' takes up less space than a 'W'.

Proportional fonts don't line up, although reasonable results can be obtained using the TAB function. However I prefer to use the Courier font (the 'standard' typewriter font) which is non-proportional and hence a lot easier to use when you are trying to line up columns of text or figures. This is normally used in 8 point size for program listings.

Enough about fonts for now. I was asked the other day about the indenting of paragraphs. Generally, if you work in columns, you can decide on two courses of action. You can either leave a blank line between paragraphs and not do an indent, or just do an indent without leaving a blank line; this is what you usually find in newspapers. I prefer the former option as it makes the page less cluttered looking. Occasionally one sees pages made up which do both, namely leave a blank line as well as indent the new paragraph. This seems rather excessive, as in fact you tell your readers twice that you are starting a fresh paragraph!

Importations of graphics and pictures are another interesting aspect of DTP programs. The preferred option is to use vectored or structured graphics, as produced by CAD programs such as Aegis Draw 2000 or Gold Disk's Professional Draw program. These require two skills; patience and an ability to draw - I've got neither. There is some commercial clip art available which is vector based, but as yet I have not seen any.

The next best option is to use a high resolution (640 x 400 or 640 x 512) picture or drawing. Last August and September's front cover were assembled from some sample hi-res clip art supplied with PageStream 1.8. However the picture of the Cottage (Aug) was

1104 x 908 pixels and September's dog was 768 x 1138 pixels; rather larger than a normal hi-res picture! These massive pictures, when imported into PageStream, give us a very acceptable result. A 'standard' size (640 x 512) hi-res picture also reproduces reasonably well, but pictures or clip art which are set up in low or medium resolution suffer from the dreaded jaggies.

Easiest to reproduce are straight black and white pictures, but I've sneaked a few half tone pictures into the Sep. issue (page 33), mainly as a test to see how they reproduce.

Half tone reproduction is very much dependant on how these pictures are 'processed' by the printer. If he/she has highly sophisticated plate making and screening facilities, then the final result will inevitably be superior, but one pays for this in increased cost of the final product.

Although PageStream has facilities to import graphics, I still resort in some cases to printing them out with a program such as DPaint III, because I've got more control over the final appearance. In West Germany one can buy a program called 'Turbo Print Professional', which offers a great many facilities to influence the final appearance of the finished product; wish it were available here. Also in Germany one can buy a program to convert bit-mapped graphic pics into vector graphics - let's hope that it will soon make an appearance on the Australian scene.

It would be nice if I could get a regular supply of original art work from our own members, but up till the present I've only been supplied with material by the two "L.W.'s", Leigh Winsor and

Lindsay Whipp. Lately though, those very talented guys have gone very quiet (more likely they are very busy).

Clip Art, I find, never gives you that elusive picture that you are looking for. The alternative, if you cannot produce your own, is to 'steal' other peoples work. The two most popular methods are *digitising* with DigiView and a black & white video camera, or *scanning* an image with a scanner. The first method (digitising) will set you back about \$1200 for camera, software and reproduction stand. The second method is dependant on the type of scanner you buy. Reviews of hand held scanners have not been very encouraging; however flat bed scanners like the Sharp range are very nice, but you won't get too much change out of \$3000. Sorry, but my budget won't stretch to these items at present!

Well, you've got your text and graphics in place. The deadline has expired, so it's now time to print the master piece. The three main files are usually between 16 to 20 pages. Each file takes about an hour to print on the Laserjet (about 3 minutes per page). The front cover and the adverts are set up as separate files and these are also printed. A lot more time is required to reprint pages which are 'buggy' - it can take up to 7 minutes to reprint a single page. Now paste up the graphics which were printed separately, collate the lot and get the epic to Terry Steer, our printer. He usually presents us with a copy of the new issue within a week, but it might be another 10 days before you get your copy, because he has to do all the hard work of collating, bagging, labelling and sorting - quite a major operation.

It's been a long haul since 1983 and my 1526 printer and Easy Script. With the

right tools one can obviously produce better work. The most gratifying aspect is that these tools have come down dramatically in price since 1983, and are likely to come down further during the next couple of years, thus offering more and more computer users the opportunity to produce printed output of an acceptable standard.

Most comments on the appearance of our newsletter have been favourable, which pleases me no end, of course. However, at this point in time, I am far from satisfied with the end product, because I know that it's possible to get better results. Our Laserjet has two beautiful built in scalable fonts, which I have great difficulty in accessing. However I think that help is on the way, but I cannot divulge any more at this stage. I'll keep you posted on new developments.

-ooOoo-

POSTSCRIPT

Thanks to our President, Greg Perry, I've had an opportunity to experiment with the Compugraphic Fonts as used in Professional Page V. 1.31. The results (see next page) are absolutely first rate, but it took three times as long to print this page - far too slow for use on a 'standard' Amiga.

Anyway, I've just received my order form for the PageStream V. 2.0 upgrade, which I've returned posthaste to Soft-Logik. As I mentioned in an earlier article, this version also supports the Compugraphic Fonts now, so I am anxiously awaiting the arrival of this newcomer.

Stay tuned for the next chapter in this exciting series...

COMPUGRAPHIC FONTS

Following are some samples of the Compugraphic Fonts, as used by Professional Page V1.31. They are all in 10 Point size - this is the same size which we use in the body of the text articles of this newsletter. The name of this font is CENTURYSCHLBK.

This is the 'standard' typewriter font, known as COURIER

This is one of two Sans Serif Font in this collection, the ITC Avant Garde font. aAbBcCdDeEfFgGhHijJkKlLmMnNoOpPqQrRsSfTuUvVwWxXyYzZ.

ITC BOOKMAN is another popular Serif-type Font. Most of these fonts can also be **BOLDED**, *ITALICISED*, and **OUTLINED**.

The ITC ZAPF CHANCERY Font is a display type font. for advertising Flyers etc.

PALACIO is another Serif type font. ABCDEFGHIJKLMNOPQRSTUVWXYZ.

Probably *the most popular* Serif Font is TIMES. Although not previously mentioned we can underline all these fonts.

The last one in the 'standard' font types is another sans serif font. This one is known as TRIUMVIRATE. Compare with the Avant Garde font above. aAbBcCdDeEfFgGhHijJkKlLmMnNoOpPqQrRsStTuUvVwWxXyYzZ.

Finally here are some samples from the ITCZapfDingbats Font and the Symbol Font in 15 Point size.



ζ Z ψ Ψ ξ Ξ ω Ω ω̄ ς υ Y τ T σ Σ ρ P θ Θ π Π ο O v N μ M

Close examination by PageStream users will convince them that these Compugraphic Fonts are indeed an improvement on PageStream's current fonts. Hurry up, PageStream V.2.0!

VECTOR INTERRUPTS

by David Campbell

Did you know that the seven words from \$ffff2 to \$fffff in Amigas hold the interrupt vector numbers for the device interrupts? Normally these are set to use the autovectors (numbers \$19-\$1f). On 500/2000 these are in ROM, but on a 1000 it is in RAM so it is possible to change any of the interrupts to use a different vector. Useless under AmigaDos, but interesting to know. Why are the locations there?

The 68000 handles vectored and auto-vector interrupts. If a device sends an interrupt to the 68000 via the IPL lines, it responds by generating an interrupt acknowledge cycle. The cycle is a regular memory cycle and can be finished by asserting the DTACK line. The word on the data bus is taken as the index into the interrupt vector table. If the cycle is terminated via VPA then the 68000 takes instead one of seven autovector interrupts according to the state of the IPL lines.

Now, the Amiga software uses auto-vector interrupts, so therefore the hardware should generate a VPA signal. Unfortunately, the Amiga hardware does not allow the use of the VPA signal except for true synchronous bus cycles to the CIAs (they didn't qualify the VPA signal for CIA access thus anytime the VPA signal goes low, the CIA would respond). Why does it work though?

The Amiga generates a DTACK for an interrupt acknowledgement cycle

and places the table indices on the bus that are used for the seven autovector interrupts. This is done by addressing the kickstart memory at addresses \$ffff0.. \$fffff. You could write any table indices there but the system software needs the numbers of the autovector interrupts.

Thanks to Michael van Elst for this bit of info. It really helped me because the debugger I am planning to put in my boot rom uses vertical blank interrupts to reset the bitmap pointers on its video display. I am currently booting my debugger as a kickstart - but it would only run if the top sector of my kickstart image on the disk was left the same as on the normal kickstart. Now I know why. My debugger will have to set those vectors for it to properly function. The reason why I want the debugger is because I am really interested in the design of operating systems and MINIX, and want to write my own.



AMIGAS AND ABSOLUTE EXECUTABLES

by David Campbell

I have quite a bunch of programs written by people from all over the world. Many are written by conscientious people who write useful programs for themselves and for the benefit of their fellow man, human race, etc. etc.

Out from the realm of demo and games programmers has stepped a new breed of programs and utilities. These programs are often quite clever, and seem to run fine BUT... underneath a dark figure is lurking; the infamous GURU.

Why do I say this? Well, many of these utilities are written in a programming style which should only be used when a program completely takes over the Amiga and never returns back to AmigaDos until reset by C-A-A (games, demos etc). This programming style is called "absolute code".

Absolute code is code which cannot be relocated. The Amiga can load an executable at any address (basically), and for the executable to run at that location, certain parts of the program must be adapted. Inside each executable is information describing the changes which need to be made by the system for the program to properly run. The process of making these changes is called relocation.

Using absolute code doesn't let AmigaDos know how to properly relocate the executable. Instead, the executable loads in anywhere and setup code inside the executable copies the actual binary down to some fixed address in memory, say \$30000. The problem is that anything could be at \$30000.

The setup code could even be copying the executable onto the top of itself most likely causing an instant crash. Another task could be running at \$30000, or your screen could be there. With the new chipset, it is likely that system information will be there, screwing up everything or guring. Using this sort of action could even result in corrupted disks.

Obviously programming this way is totally idiotic and goes against every principle of the Amiga's operating system.

If you program like this, please mend your ways, because with the new chipset and 1 Meg of chip memory, there will most likely be a rearrangement of system structures causing your programs to overwrite these structures leading to a definite guru and/or making your program unusable and then people will know that the author had definite brain damage.

With ReSource and a bit of hacking, it is possible to fix up a program that uses absolute code, but it sometimes takes quite a bit of work.

How can a non-programmer determine if a program misbehaves in this way? They can't, unless the system completely screws up. To find out if a program is misbehaving it would have to be disassembled and examined.

I hear the DEFJAM cruncher creates executables that use this style of coding. Avoid it; refuse to pervert your executables.

Actually the Macintosh operating system does not use relocation. All code

must be completely position independent. This means that a programmer must avoid a whole bunch of instructions, and therefore introduce inefficiencies into their code. (When you allocate memory you get a pointer to a handle to that block of memory instead of a pointer to memory YUK). The result of all this is that a Macintosh running a CPU at a certain clock speed will ALWAYS be slower than an

Amiga running the same CPU at the same clock speed. Why did they do this? Well the original Mac was designed around a wimpy 128k of RAM. The Mac's operating system can shift your program around while it is in the middle of execution to achieve memory defragmentation. The Mac will even deallocate the memory used for the pull down menus if it needs to, which are later loaded from disk.

8520 PROBLEMS

by David Campbell

I picked up the following network posting by david@starsoft.UUCP:

I recently had a "sick" amiga on my hands. All of it's troubles were caused by faulty 8520 CIA chips.

I thought that it might be of help to others if I posted the symptoms. That way, if you had these symptoms, all you need to do is replace the 8520(s) (at \$20.00 a piece) instead of paying \$50.00 an hour to get it repaired....

SYMPTOMS OF A BAD 8520 (Not all of them, of course):

TOD CLOCK FREEZES - I could set the clock with the 'setclock' command, but once set, the time never changed. Other symptoms of this are that Dmouse won't blank the screen. 'double clicks' can occur, even if you wait two hours between clicks! Programs that depend on the timestamp of a file will act strangely.

SYSTEM WON'T BOOT & CAPS LOCK LIGHT FLASHES CONSTANTLY - Self explanatory

CROSS-DOS HANGS - It must use one of the timers on a CIA. The "normal" access to AmigaDos formatted disks worked fine.

DRAKKHEN (the game) WON'T PLAY MUSIX OR SOUND F/X - This happened the same time I had the above mentioned CrossDos problem.

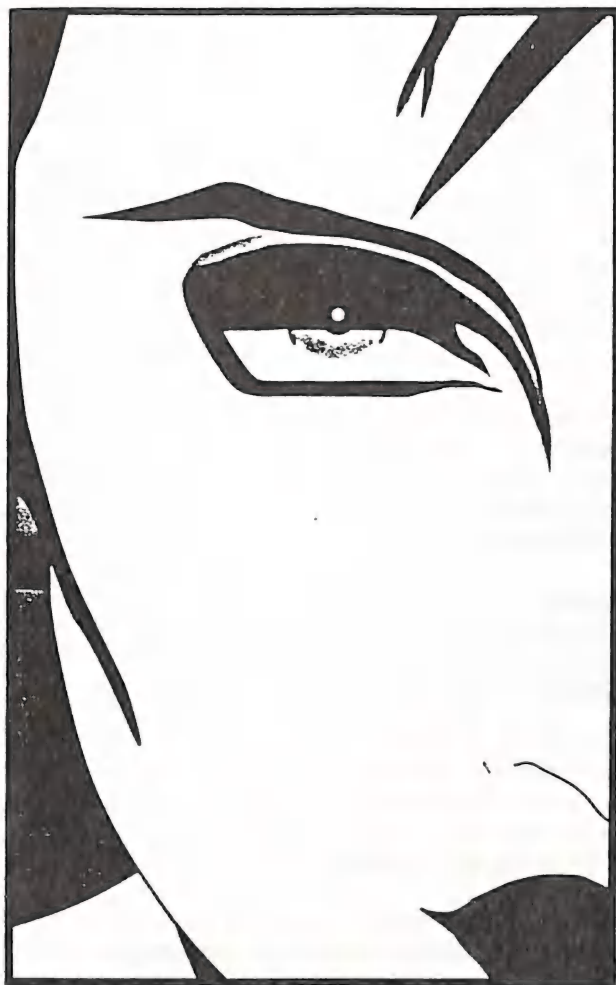
ACCESS TO FLOPPY DRIVES WON'T WORK CORRECTLY - Different symptoms.

The above problems were re-created by swapping around 3 different bad 8520 chip to the different sockets.

There are, I am sure, many more problems that could be caused by a bad 8520.

Never ever connect/disconnect floppy drives while the Amiga is turned on. Your Amiga can continue to function properly but damage has been done which can show up in programs which drive the disk control hardware directly in particular.

AMIGADOS 2.0



2.0

2.0

2.0

2.0

2.0

*Close Up View
of
Features and Benefits*

AmigaDOS 2.0: The New Look

A number of factors make AmigaDOS 2.0 a significant advance over previous versions of AmigaDOS. This overview should give you a good feel for the enhancements that are unique to AmigaDOS 2.0.

More Professional Look and Feel - The Workbench, pull down menus, windows, and almost all aspects of the graphic user interface of AmigaDOS have been improved significantly. Icons have a new, embossed appearance. Workbench default colours are now a combination of cool greys rather than stark blue. The key differences become quite obvious after only a few brief moments of using AmigaDOS 2.0.

Customization - Selecting different fonts for use with icons, Workbench text and pull down menus is just one of the ways that a new, higher level of customization has been added to AmigaDOS 2.0. The ability to choose a background pattern for the Workbench or any window has also been added.

Ease of Use - Many operations have been made easier under AmigaDOS 2.0. Building startup-sequences, for example, has been simplified with an easy 'startup drawer' that allows you to build your starting routine by dragging and dropping programs into that drawer. Making a new drawer has been made easier, with a menu option from the Workbench to do just that. Multiple select of icons with a simple 'lasso' drag select, and many other features, make AmigaDOS 2.0 significantly easier to use than ever before.

Faster, Smarter - AmigaDOS 2.0 has been re-written in the 'C' programming language. This has introduced a new element of speed and faster execution times on most operations. Many of the AmigaDOS Workbench commands have been written not only for greater speed, but for more efficient, intuitive use.

Icon Interface Improvements - Dependence on CLI has been nearly eliminated. With AmigaDOS 2.0, the user can view ALL files on a disk by simply selecting an option to do this. Default icons are provided for files that do not have them. This makes file manipulation for files which were currently only visible through CLI easy and quick through the use of the Workbench.

Power for the Power User - In addition to the AmigaDOS 2.0 interface, more powerful programming tools and language support have also been added. AREXX, the powerful macro style programming language, now comes with AmigaDOS 2.0. A host of powerful support utilities, like Backup and Restore Utility (BRU), Commodities Exchange, and Workbench accessed command execution from a pull down menu, have increase the flexibility of AmigaDOS to even the most experienced professional Amiga users.

The Workbench

The most radically changed aspect of AmigaDOS is the Workbench. The most obvious difference evident to someone using AmigaDOS 2.0 for the first time, is the change of system default colours. The new set of default Workbench colours reflects a more professional look. Secondly, after some investigation, the user will find that a number of new commands have been added to the Workbench menus. Here is a summary of some of the key new Workbench commands (available from the standard Workbench pull down menus).

- Backdrop* When you choose Backdrop, the Workbench window disappears and the disk icons appear on the Workbench screen. To make the Workbench into a window once more, select the Backdrop menu option again.
- Execute Command* This option allows you to execute a CLI style AmigaDOS command from the Workbench level. This saves the user from having to open a SHELL to execute a quick and simple command. For example, you could get a listing of the system directory by executing the DIR command.
- Redraw all* Redraws all currently opened Workbench windows to correct any disturbances to the Workbench display, that may have occurred.
- Update all* Updates the current status of a window, should it have changed since it was last opened (e.g. new file icons, etc).
- New Drawer* This option allows the user to create a new drawer or directory for which to store files. This eliminates the old method of duplicating empty drawers when new drawers are required to store new files or programs. A window must be selected in order for you to create a new drawer within that window.
- Open Parent* Allows you to open the original 'parent' window from which an application drawer was originally stored.
- Update* Same as Update All, but works only on the currently selected window.
- Select Contents* Causes all of the icons in the currently selected window to be selected.
- Show (only icons)* Displays all of the programs or files within a selected window that have an icon file attached to them. Workbench files or a file that has an icon attached to it will be visible when this is used.
- Show (all files)* Displays all of the programs or files within a selected window, whether or not they have an icon file attached to them. In cases

where an icon is NOT attached, a default system icon is provided. This enables files which were not previously visible from the Workbench level to be visible to the user.

*View by
(icon)*

Selects the icon viewing mode for the currently selected window (represents all files with icons).

*View by
(name)*

Selects the text viewing mode for the currently selected window (represents all files with text, and sorts files by file name, alphabetically).

*View by
(date)*

Same as View by name, but sorts files in order of creation date, or the date the file was last modified.

*View by
(size)*

Text display, sorts files by file size, smallest to largest.

Unsnapshot

Frees an icon from its previous snapshotted position. Causes icons to be placed where the Workbench chooses the next time that window is opened containing that icon.

Leave Out

Allows a constantly used drawer, application or file to be stored on the Workbench screen, giving you instant access to it without having to open several drawers first.

Put Away

Restores a drawer, or file to its original location after it has been stored on the Workbench screen with the 'leave out' command.

ResetWB

Redraws all windows and icons on the Workbench screen to correct any disruptions caused by other applications.

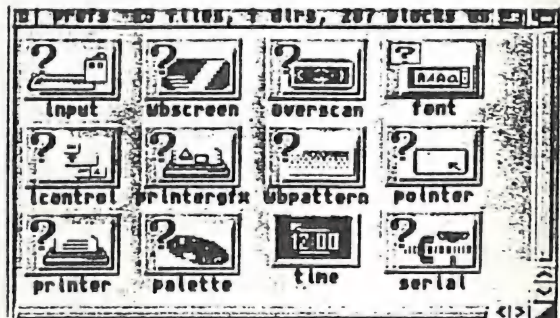
Tools

Special commands for switching the language that AmigaDOS uses for its requestors and menus. English, French and German are currently supported through this function.

Preferences

Preferences for AmigaDOS 2.0 use several stand-alone programs to address the issue of customizing the Amiga environment.

AmigaDos 2.0 Prefs window showing the various preference control programs. Note that several new preferences functions have been added, as well as font customization.





The input program allows you to control various aspects of mouse and keyboard speed and sensitivity. A more friendly, intuitive system is used to actually allow you to test your new preference choices before you invoke them.



The wbscreen program allows you to change the current resolution of your Workbench screen. You may choose from a variety of screen resolutions, depending on which resolutions are supported by the monitor which you are currently using. Several new resolution modes have been added to AmigaDOS 2.0, when used with the new Enhanced Chip Set (ECS).



Overscan allows you to set the amount of overscan (inter border display area) that the user wishes to have available. This is used primarily for multiscanning monitors in order to utilize previously unused screen space in the border areas.



This program, as in AmigaDOS 1.3, allows you to change the shape and colour of your mouse pointer on the Workbench screen. This be useful for applications where a crosshair style pointer may be more suitable than an arrow, or for visually impaired people who may need a larger, more visible Workbench pointer.



Icontrol is a program that allows you to customize some of the keystroke combination keys that are pre-defined by the operating system. For example, the AmigaDOS key to cancel a requester is left Amiga-B. Icontrol will allow you to change this.



This program allows for the fine tuning of quality of graphics output to printers. RGB colour correction, dithering, sizing and density are controlled through this program as well as picture centering and smoothing of graphic dump output.



This program allows you to design a custom backdrop pattern which may be used on the Workbench, or within windows, or both simultaneously. You may also use any one or two of the eight pre-defined patterns that come with AmigaDOS 2.0 if you wish.



This program allows the user to set the various communications parameters associated with the serial port built into the Amiga. The serial port is the connector that allows you to connect a serial printer (usually laser printers) or a modem.



This program allows the user to select the appropriate printer driver for the printer that is connected to the Amiga, as well as selecting output page size, the output port for printed material (serial or parallel) print pitch and quality of output text.



This program will permit the user to modify the colour values for the current Workbench colours. This will also affect the colours of programs that run using the Amiga's Workbench colours. The palette program can control a palette from 2 to 16 colours.



The font program introduces a unique feature of AmigaDOS. This feature allows the user to select what typestyles they wish to use for Workbench icon text, screen text, and system default text. For users who do not like the current system font, or merely want to introduce a larger font of their choosing, they may introduce a new level of customization using the font program.



The Time program allows you to set the Amiga's system time. This program will also allow you to change the system date. This new preference based time setting program eliminates the need to program the Amiga's system clock using CLI, and is friendlier than the previous method.

New Workbench Utilities

A number of new utility programs have been incorporated into AmigaDOS 2.0. These programs are a culmination of features which are highly popular on many Amiga public domain programs, and increase productivity and ease of use. For this outline, we will examine only the new or significantly changed programs.



Exchange (or 'Commodities Exchange') is the program which enables the user to control a variety of new programs that come supplied with AmigaDOS 2.0. Its main purpose is to allow you to turn on or off various programs in such a way that they work in harmony with other software running on the Amiga concurrently.



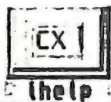
This program allows windows to be selected by merely moving the mouse pointer over the current window. This is a feature found in the operating systems of many high-end graphics workstations.



The blanker program will 'blank' your system monitor if the Amiga does not receive any input for the user (mouse movements, keyboard input) within a specified period of time.



Fkey allows you to program the functions keys located at the top of the keyboard. For commonly or frequently used keystrokes the user can assign command strings or text strings to these keys, to be called upon whenever needed. This is one of the most obvious programs where commodities exchange support can be valuable.



Ihelp will allow you to perform window sizing and cycling operations on programs which are launched from tools or projects. You can assign a keystroke combination set to enact window size changes and locations of these programs using Ihelp.



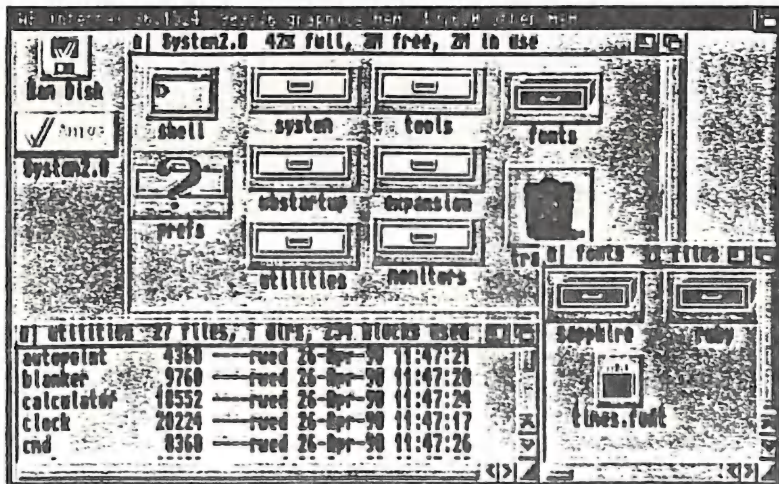
The Nocapslock program will render the Caps Lock key inactive while the program is running. This is for people who find they hit the Caps Lock key accidentally.

New Printer Drivers

At the time of this writing, AmigaDOS 2.0 printer drivers are:

Alphacom_Alphapro_101	CBM MPS_1250	Okidata_92
Brother_HR-15XL	Howtek_Pixelmaster	Okimate_20
Calcomp_Colormaster 1&2	HP_Deskjet	Quadram_Quadjet
Canon_PJ-1080A	HP_Laserjet	Qume_LetterPro_20
CBM_MPS1000	HP_Paintjet	Seiko_5300
Diablo_C-150	HP_Thinkjet	Sharp_JX-730
Diablo_Advantage_D25	Imagewriter_II	Tektronix_469x series
EpsonQ (24 pin)	NEC_Pinwriter	Toshiba_P351
EpsonX (9 pin)	Okidate_2931	Xerox_4020

The New Look - *Workbench 2.0* screen shown with several windows open. This example shows the flexibility of AmigaDOS 2.0 to satisfy those who like to work with icons, and those who prefer a text based interface. The colours, gadgets, menus, and icons all have a more professional look and feel. Note the cleaner, crisper look of the workbench overall. Menu bars contain valuable, friendly information about the window which they have open. Information pertaining to number of files and how much disk space they occupy. The main workbench menu bar also contains information telling the user how much available system memory is available to them at all



times. This is useful when a user is running several applications at one time. This is a real plus for users who take advantage of multitasking.

AmigaDOS 2.0: Features at a Glance

- *professional look and feel*
- *faster than previous versions of AmigaDOS*
- *fully customizable preferences*
- *AREXX included*
- *new user selectable fonts for all screens and windows*
- *additional high resolution displays (ECS required)*
- *more printer drivers*
- *boot menu allows device priority assignment*
- *backup and restore utility (BRU) for file backups to floppy disk drives and streaming tape drives*
- *default icons allows access to all files from the workbench*
- *character mapped text console windows*
- *Commodities Exchange*
- *record locking*
- *overscan support*

MACRO-68 ASSEMBLER

reviewed by David Campbell

I recently purchased an assembler from DigiSoft, a small Brisbane firm. It is different from the older style assemblers in that it uses the new syntax specified by Motorola, and will assemble code for processors from the 68000 to the 68030. A utility is provided to painlessly convert from the old syntax to the new syntax.

This syntax will eventually become the standard as the 3000 and '030 boards becomes more popular and programs using '030 native code start to appear. Programs utilizing '030 native code can run several times faster than those using backward compatible 68000 code.

Some simple examples of changes to the format (using plain 68000 code, the changes are fairly minor):

```
Old syntax: movea.l, a6
New syntax: movea.l(4).w, a6
```

Macro68 lets the programmer be more specific with code, as above. Most assemblers automatically use the word representation of the number 4 (above). Macro68 will too if you don't specify it, but it also allows the user to be specific. Macro68 also provides a strict mode which ensures that each instruction must be fully specified (not left to the assembler to decide), permitting exact control over the assembly, and the avoidance of hard to detect bugs.

```
Old syntax: jsr_LV0OpenLibrary(a6)
New syntax: jsr(_LV0OpenLibrary, a6)
```

Full support is given for the 68881 and 68882 floating point coprocessors and 68851 memory management unit.

It also will assemble the Amiga Copper instructions with commands like:

```
CMOVE-> copper move
LCMOVE-> long copper move (two cop-
per instructions)
CWAIT-> copper wait
CEND -> copper wait for the impos-
sible
CSKIP-> copper skip
```

It's multi-pass but very fast, in fact it's the fastest of all Amiga multi-pass assemblers, and it is faster than the reputedly fastest single-pass assembler in many instances.

Macro68 was designed to not limit the user in any way; most features are limited only by available memory. It boasts many new and innovative directives giving unparalleled macro power.

Full listing control including cross reference capabilities is included. A user-accessible file provides the ability to customize directives and run-time messages from the assembler.

Macro68 is fully reentrant. An AREXX interface provides "real-time" communication with an AREXX compatible editor. A number of directives enable Macro68 to communicate with AmigaDos. External programs may be invoked on either pass, and the results interpreted.

Possibly the most unique feature of Macro68 is the use of a shared-library. The library is always resident, and allows the use of preassembled, resident include files for incredibly fast assemblies. These may be the standard Amiga files, or any header files may be used. A special command is given to

expunge the library to reclaim the memory if required.

Macro68 can output executables, linkable objects, binary images, pre-assembled symbol tables, and Motorola S records.

Some timings on some REAL programs I have (Not the files full of NOP instructions like most assemblers are timed on. These programs have include files (especially the first program) they have to load from the disk):

Assembly time = 25.53 sec
Line count = 11157
Lines/min = 26160

Assembly time = 2.03 sec
Line count = 1665
Lines/min = 48480

1.5 Mb Source File:

Assembly Time: 1 min 4sec
Line Count = 45300
Lines/min = 41880

Same Source File on 68030 processor:

Assembly Time: 10.8 sec
Lines/min = 251640

Macro68 is suitable for all Amigas with at least 1 meg of memory and is available from DigiSoft (07) 277-3255. The ReSource disassembler is already available in a four times faster '030 native code version which supports the new assembler syntax. A new version of ReSource using 68000 code is coming out using the new syntax, so Macro-68 and ReSource will go hand in hand, together forming a powerful toolkit.

AUTOCONFIG

by David Campbell

If you have expansion devices, you may not be aware of the auto-configuration process which happens every time you power up or press C-A-A.

What happens is that the expansion devices take turns at displaying their device characteristics at a page of memory at \$e80000. When a program (normally the expansion library) examines the device characteristics (see p26-28 of A2000/A500 technical reference manual), it decides where it wants that board to go and writes a byte representation of that to \$e80048, then the next board takes its turn at displaying its characteristics, and the cycle repeats until there are no more

boards.

All this is done before you get to see anything from the Amiga operating system, and once done, it cannot be undone except by executing the privileged RESET instruction.

I have a 512k autoconfig expansion board. If I write \$20 to \$e80048, the board is then located at \$200000. Next in line is my SCSI board. If next I write \$e9 to \$e80048 then it is visible at \$e90000. Of course it must be done before kickstart gets to say boo.

I haven't seen another computer with such a good expansion system as AutoConfig, but it does involve extra hardware on expansion devices.

For All Your Commodore Warranty & Non Warranty Repairs

- Professional Staff (Senior Technicians)
- Fast Turnaround
- Flat Rate Charges
- All Work Guaranteed
- Special Rates for C.C.U.G.Q. Members
(on production of membership card)

SOUTH EAST QUEENSLAND COMPUTER REPAIRS
(Tony May - Manager)

Shop 4, 32 Brisbane Road, Bundamba
Phone (07) 816 1588

MEMORY MANAGEMENT, OPERATING SYSTEMS AND COMMODORE'S FUTURE

by David Campbell

Do you like visits from the GURU? On an operating system like AmigaDos where multiple programs can be running, a bug in any one of those programs can cause the termination of all the others. Sure, programs like GOMF help, but you never feel completely safe. The main problem is that a program can freely walk over any part of another program.

The 68000 CPU has two modes of operation: user mode and supervisor mode. The supervisor mode permits the execution of some extra (privileged) instructions which are not executable in user mode. If the CPU in user mode tries to execute one of these privileged instructions, the CPU immediately initiates an exception and starts executing code at the memory location pointed to by the pointer (vector) at location \$000020 which is the privilege violation exception vector. Under AmigaDos, this points to a routine which initiates guru number \$00000008. GOMF would redirect this vector to its own code thereby avoiding that guru.

All exception handling code is executed in supervisor mode; therefore if your program running in user mode redirects an exception vector to your own subroutine, and then you initiate that exception, that subroutine will be executed in supervisor mode.

If the Amiga had a Memory Management Unit (MMU a 68851), or a 68030 CPU it is possible to have an operating system where GURUs cannot occur.

The 68030 has a subset of the MMU built into the CPU.

A program running in supervisor mode can tell the MMU to make an area of memory inaccessible. Therefore an operating system could make it impossible for a user program to change the exception vector table. It also means that a user program could be forced to use ONLY its own memory, and if it violated the rule, then that program could be killed.

An operating system could also protect all the custom chip and I/O locations making them only accessible by system calls. Under IBM's new operating system, OS/2 (Joke: What is OS/2? Half an operating system!!), a user program can put in a request to the operating system for it to grant access to I/O space to enable really high speed I/O.

The Intel 80386 can do all this as well (although Intel takes backward compatibility to the point of being backward). There are quite powerful 386 machines around, even available in laptop versions.

When UNIX comes out for Amigas it will probably be very expensive, but it will provide an excellent environment. The Amiga has the advantage of its graphics hardware. Windows running on PCs are S..L..O..W because it does not have the blitter hardware that the Amiga has to shift graphic images around the screen. UNIX has its X-Windows window system which can take full advantage of the graphics hardware. It will be very interesting to see what results.

There is a very lucrative workstation market that Commodore hasn't even touched. Sun microsystems have recently released their SPARC workstations with Unix for around \$8000; they have over 2000 software packages available now (mind you, you'll pay heaps for them). I hear Amiga 3000s without Unix come for

\$7000. Commodore better get its act together to succeed, otherwise it will be biting the dust. I hear that Commodore's profit for this quarter wasn't a profit; it was a loss, and that even Atari made a tiny tiny profit. I suppose Commodore is spending a lot of money on V2.0 development.

AMIGA 3000

STOP PRESS:

The Amiga 3000 was officially released here during the last week of September.

Unlike in the USA, Commodore has decided to release only the 25 Mhz version in Australia, with either the 40 Meg or the 100 Meg Hard drive - a sensible decision in our view.

The initial shipments are only limited, but the computer should be freely available in early 1991.

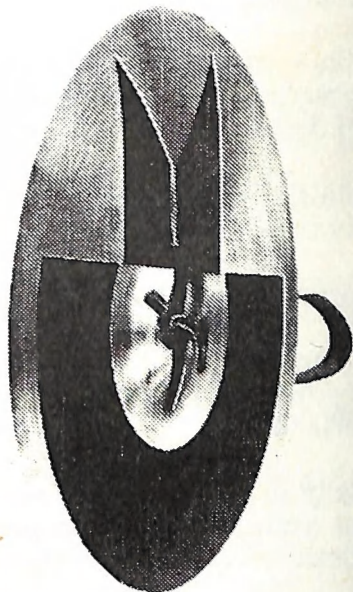
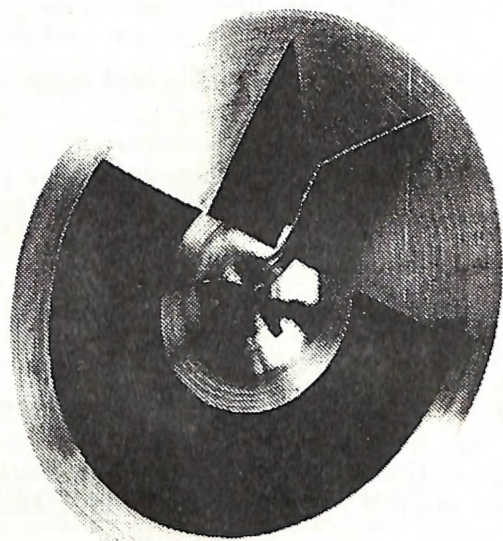
A complete package, consisting of an A-3000 with 40 Meg hard drive, the new 1950 multiscanning monitor and the A10 external speakers with built in amplifier, plus the AmigaVision package will cost you \$7000. The same package with a 100 Meg hard drive sells for \$8000.

Initially the A3000 will load Kickstart Version 2.0 from disk (version 1.3 of AmigaDOS is also supplied), but in the near future Version 2.0 of Kickstart will be installed in chip form (at long last!).

(Information supplied by Royce Jones of United Computers, Bundamba.)

-ooOoo-

The Number One Symbol in Computers. Commodore.



C= commodore
COMPUTER
Keeping up with you.
