

CURSOR

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

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NOVEMBER / DECEMBER 1986

VOL.3 NO.5

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CLUB ROOMS: Bardon Prof. Devel. Cnt. 390 Simpsons Rd. / Carwoola St. Bardon

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MEETINGS

Next **Main Meeting** on Tuesday, 2nd December 1986, in our Club Rooms in the Bardon Prof. Development Centre, 390 Simpsons Road Bardon. Entrance through Car Park in Carwoola Street. Doors open at 7pm (library). Meeting starts at 8pm sharp.

This will be a Surprise Night!
(Which means we're not sure yet!)

Next **Workshop** Sunday 14th December 1986, from 1pm till 5pm in the Guidance Officers Training Centre, Bayswater Street, Milton. Bring your programming- or hardware problems, as well as your own computer equipment! Opportunity to copy our Public Domain Disks. Ph: Colin Shipley - 38 2511 a.h. PLEASE NOTE: Workshop Meetings are for MEMBERS ONLY!

REGIONAL MEETINGS

Cannon Hill meets on the 4th Saturday of the month (12noon - 12pm) in the Cannon Hill State School. Ph: Ron Jarvis - 399 6981 a.h.

Capalaba meets on the 3rd Saturday of the month (1pm - 5pm) in the Capalaba State High School. Ph: Ray Clark - 245 5710 a.h.

Kenmore meets on the 1st Sunday of the month (1pm - 5pm) in the Kenmore State School Library. NO PARKING in the school grounds! Ph: Peter Reeve - 378 2665 a.h.

Keith Hadland - 378 6698 a.h.

Kingston meets on the 2nd Friday of the month (7pm - 10pm) at the Kingston State School.

Ph: Peter Harker - 800 4929 a.h.

Pine Rivers meets on the 2nd & 4th Sunday of the month (1pm - 5pm) in the Strathpine High School (rear entrance).

Ph: Bruce Wylie - 359 9779 a.h.

Redcliffe Peninsula meets on the 1st and 3rd Friday of the month (7pm) in the Clontarf High School. Ph: Paul Janek - 283 1663 a.h.

Sherwood meets on the 2nd & 4th Friday of the month (7.30pm) in the Graceville State School.

Ph: Leigh Winsor - 379 2405 a.h.

Philip Parkin - 378 5383 a.h.

The Gap meets on the 3rd Wednesday of the month (7.30pm) in The Gap State School.

Ph: Julianne Fallen - 300 2982 a.h.

Wavell Heights meets on the 2nd Tuesday of the month (7.30pm) in the Wavell Heights High School (library), Brae St.

Ph: Robert Adamson - 266 8353 a.h.

Caloundra meets in the Caloundra Library.

For meeting times and dates:

Ph: Vic Mobbs - 071 / 94 1330

Maryborough/Hervey Bay meets on the 4th Monday of the month (7-10pm) in the Sunbury School in Alice St.

Ph: Terry Baade (16 Mouquet Lane, M'borough, 4650) at 21 2271 (work) or 21 5059 a.h.

SPECIAL INTEREST GROUPS

AMIGA Sub-Group meets in the Guidance Officers Training Centre Bayswater Rd. Milton on Sunday 30th November (1pm - 5pm)

DIGI-VIEW DEMO & NEW P.D. Disks

Ph: Steve McNamee - 262 1127 a.h.

Primary Education Sub-Group meets 3rd Tuesday of the month (7.30pm) in the Aspley State School.

Ph: Bill Weeks - 208 8620 (work) or 341 2823 a.h.

Programming Sub-Group meets on the 1st Tuesday of the month, (during main meeting - in our club rooms). Ph: Jim Vick - 345 1878 a.h.

Tom Kelly - 277 9900 a.h.

CP/M Sub-Group meets on the 1st Tuesday of the month, (during main meeting - in our club rooms). Ph: Regan Russell - 848 1353 a.h.

Steinar Johansen 207 3065 a.h.

Contact Terry Steer for details on formation on new Sub-Groups.

COMMENT

Yes members, here it is our very own logo!



Designed by our resident cartoonist Lindsay Whipp, it will be featured in all our Group's publicity as well as a host of other uses. There's already talk of CCUG(Q) T-shirts, which will feature our logo very prominently.

Some members have asked: "Who is this Lindsay Whipp?". Well may you ask, as he is one of those shadowy figures who seldom attends our main meetings, but we believe he has been spotted occasionally at a work shop! He owns a C-64 with 1541 disk drive and earlier this year when he purchased a Riteman C+ printer he did the first review of this unit for us. To describe his profession is not easy. To call him a cartoonist does not do him justice, nor can he be called a graphic design artist; in fact he is a combination of many things. He does produce cartoons, particularly for television. A recently completed cartoon for "Tyrepower" shows his ability in this field - look out for it and you'll see similar characters to those appearing in his "Cursor" cartoons. But apart from cartoons he has designed some very fine logos and intricate graphics which feature in many a TV commercial.

With this sort of background it is understandable that Lindsay is interested in computers, in particular as regards their graphics capabilities, although he has been known to play an occasional game as well! Before long of course he will be an obvious candidate for an Amiga with its more extensive graphics capabilities. When that time comes we can look forward to some really first class work.

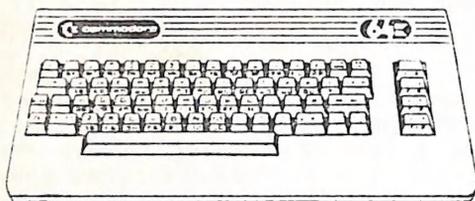
We, as committee members of this Group, count ourselves lucky to be able to draw on the talents of Lindsay Whipp and the like. This of course is one of the major advantages of a large group structure, where one has such a wide spectrum of talent to draw on, compared with smaller user groups. Particularly in the last twelve months a lot of these talented members have started to contribute their knowledge and services to our Group as a whole, with results that have been of immense value and benefit to all our members. We are truly grateful and thank them all.

The Management Committee

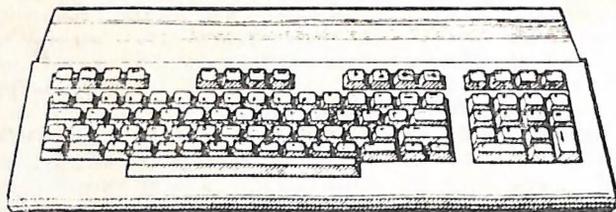
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EDITOR'S NOTES

Herewith your last 'CURSOR' for 1986 - notice the cunning on my part to disguise the fact that your newsletter only appears 11 times annually by calling it the November / December issue! To cause even more confusion your next newsletter which will appear in late January will carry the February 1987 date!

We would like to point out to new members that the last Main Meeting for the year is the Dec. 2 meeting. There is NO January meeting (holidays etc), so the first Main Meeting for 1987 will be on Tuesday 3rd February.

Amiga owners meet for the last time in 1986 on Sunday 30th November and their first meeting for 1987 will take place on Sunday 25th January 1987.

In some cases sub-groups close down over the holiday period, while others keep going. If in doubt check it out with the sub-group coordinator in your area.

As the end of the year is a time to look both backward and forward I shall do exactly that. Four events that took place stand out:

- 1): The changes in the Commodore company structure. Fortunately for us, as Commodore users, the company seems to have weathered the worst of the financial storms and appears to be on the road to recovery.
- 2): The appearance of the AMIGA on the Australian market. A great computer, but its full potential has still got to be realised.
- 3): The release of GEOS for the C-64. Again its potential has as yet not been fully tapped, but given the right type of support this new operating system could be a real winner.
- 4): The increased participation of members in supplying articles for this newsletter.

Earlier this year I was very much down in the dumps because I was not getting sufficient input from our members. Fortunately after the A.G.M. things have taken a turn for the better, and currently I am a very happy editor indeed! I would like to offer my sincere thanks to all those members who have contributed in whatever form to make our newsletter both informative and entertaining.

As for the new year I shall not engage in crystal ball gazing - my predictions haven't always been too accurate! My main aim for the new year is to improve the actual physical appearance of 'CURSOR'. Better word processors are slowly being released as well as graphics programs of greater flexibility. Hopefully I'll be able to incorporate some of their features in future issues of 'CURSOR'.

On behalf of the Management Committee I would like to offer our sincere thanks to John Quinlan and Staff of the Brisbane Education Centre for their untiring efforts in the printing and despatch of this newsletter.

We would also like to thank Dennis Palmer of the Bardon Professional Development Centre who has proved to be extremely helpful beyond the call of duty in some of our rather unusual requirements. Very much appreciated, Dennis.

Last, but not least, our thanks to our advertisers and suppliers of software for evaluation purposes. We hope for your continuing support during 1987.

To all our members and friends: **A VERY MERRY X-MAS AND HAPPY NEW YEAR!**

Ralph De Vries

RANDOM BITS

NOVEMBER MEETING

Another well attended meeting. This was the night of the "Bring & Buy" sale. Although not as much software was brought along as in previous years some brisk trading took place. Maurie Hawkyard bought a small quantity for the Group's library, but as our software library is now reasonably well stocked, he could afford to be choosy! Because of family commitments our smiling secretary was unable to attend, but for the first time in many months we welcomed back our faithful treasurer Lester Bennett. He usually attends college on Tuesday nights and consequently has not been seen for quite some time at our main meetings, although he faithfully attends the Amiga meetings. Steinar Johansen explained the contents of four new public domain disks of CP/M software, which he has gathered together from various sources. These disks (1541 format) are now to be added to our library. After some last minute arrangements were made for the forthcoming Computer Expo, Greg Perry gave a well attended talk on modems and his new communications software package which he is currently writing, and which promises to be one of the best communication programs ever written in Australia. The meeting closed at 10pm.

AMIGA SUB-GROUP

Attendance was down a bit for the October meeting, but this was probably due to the Grand Prix telecast. Nevertheless seven Amigas were busy copying P.D. Software and several new owners joined the ranks of our Amiga sub-group; welcome to all of you. Due to the steady growth of our Amiga sub-group Steve McNamee felt that the time was ripe to appoint a librarian for this sub-group. **Geoff Black** has offered his services and we wish him well. It is anticipated that at the next meeting (30th Nov. 1986) there will be a demonstration of **DIGI-VIEW** and we hope to have another **12 or so new disks of P.D. software** for the Amiga. As this will be the last Amiga meeting for 1986, this is an ideal opportunity for Amiga owners to stock up on software for the holiday period. The first meeting for 1987 will take place on Sunday 25th January 1987. Its theme will be: **Show me Yours and I'll show you Mine**, a forum for programmers to show off the programs which they are going to write during the holiday break.

KENMORE SUB-GROUP

The inaugural and following two meetings of the Kenmore Sub-Group proved to be very successful, with all who came along having an extremely interesting time. The meeting is conducted on the **FIRST SUNDAY OF THE MONTH FROM 1-5pm** in the very roomy and comfortable **KENMORE STATE SCHOOL LIBRARY**. There is enough spare space to lose several Vic-20s in (for those of you looking for the opportunity to do so), as well as plenty of desks and chairs on which to place equipment. For all you 1541 owners who are close to having a nervous breakdown because your beloved disk drive has thrown itself off the desk with head-banging, scorched your wallpaper from 3 metres and smashed itself completely out of alignment all in five minutes, the relaxed atmosphere and non-claustrophobic venue of the Kenmore Sub-Group may just serve to calm your nerves sufficiently so that you can face up to another session of wild head-obliterating and obscure error messages. Then, (if you have enough courage and patience), you might even

try loading something! Jokes apart though, everyone is welcome to attend this meeting at the above venue and time. The Kenmore S.S. is situated on Moggill Road at Kenmore, near the roundabout. Please do not park inside the school grounds and I hope to see you there.

[Keith Hadland]

MAGAZINES - AGAIN

There are now only three English Commodore computer magazines left. They are **Your Commodore** (\$3.20), **Commodore User** (\$3.35) and **Commodore Computing International** (\$3.70). The price in brackets is the Australian price; however the UK price is £1.00 each - work that one out! All three are frightfully similar, and we can only recommend them if you are interested in games or if you have a C-16 or Plus/4. Program listings are still as bad as ever. None of these magazines employ a check-sum program as is used by most American magazines to type in program listings, so if your program doesn't work that's bad luck. All this is very sad, considering that there is some real computing talent out there in the UK. Regrettably this talent is not being utilized in the production of Commodore computer magazines.

We have just heard that the Canadian TPUG magazine is no more. Although only available to TPUG members it was without a doubt one of the best Commodore magazines available. TPUG members will now receive the **Transactor** magazine with a TPUG insert. A sad loss.

The Group has just received their first copy of **The Guide to Computer Living**, a most irreverent American publication for Commodore owners, printed on the equivalent of toilet paper with very few advertisements. Photographic reproductions are pretty bad, but content is first rate. Look out for it in the library.

FOR CHESS AFFICIONADOS ONLY

Look out for Chessmaster 2000, a new chess program distributed in the USA by Electronic Arts. According to a review in Compute! (Nov.86) this one has beaten all the opposition cold. E.L.O. rating is 2000+ (about equivalent to International Master rating). The Amiga version has been released, and is graphically a stunner! Apparently the C-64 version had to be graphically simplified somewhat because of memory limitations, but all other play features have been retained intact. At the time of writing there's no word on the Australian C-64 release.

DELUXE PAINT II FOR THE AMIGA

Amiga owners who attended the September workshop have seen what a powerful program Deluxe Paint can be in the hands of an experienced user (in this case Peter Wharton). According to John Jewell of United Computers who attended a demonstration in Sydney by one of the senior staff of Electronic Arts, the designers of Deluxe Paint, they are about to release Deluxe Paint II, which has quite a few exciting new features, and should be one of their top sellers in 1987. Also expected soon is Electronic Art's "Music Construction Set" for the Amiga. This program could do for music what Deluxe Paint has done for graphics.

By the way, the PAL version of the Amiga is now available. It has been released without any fanfare. Didn't Commodore want to upset the NTSC Amiga owners?

FOR C-128 USERS

Look out for forthcoming reviews on the "Pocket" series of programs. These include a word processor, spread sheet and data base. Priced at a

R.R.P. of \$90.00 each they would have to be amongst the top rating values for programs of their kind.

NEW SUB-GROUP

Another new sub-group has to be added to the list. We welcome the **Caloundra** sub-group to cover the near North Coast. Vic Mobbs is the coordinator and they meet at the Caloundra Library when it is available; usually on a monthly basis. **Kingston** Sub-Group is now up and running as well! Further details can be found on page 2 of this newsletter.



"...BUT YOUR AD SAYS 'TRADE-IN YOUR OLD MODEL PRINTER'..."

CAN ANYONE HELP?

We had an unusual request from one of our Rockhampton members, Rod Collins. Rod is the owner of an 8096 computer. (Yes members, it is a Commodore computer!) He has just been given a copy of "SuperOffice" but the original owner has lost the documentation. Is there anybody out there who could possibly lend Rod this documentation? Without the book of words he is unable to use this program. You can contact Rod on (079) 28 1413 (a.h.) or write to him at P.O. Box 5733, Mail Centre, Rockhampton, 4702.

RIBBONS FOR SALE

Members who own MPS-1000, Epson GX-80, LX-80 or LX-86 printers can now obtain NEW ribbons for these computers for \$8.00 from the Group (+ \$1.00 P. & P. where applicable). This is a considerable saving on shop prices, which vary from \$12.00 - \$14.00.

GOODS & SERVICES

PUBLIC DOMAIN DISKS - \$ 6.00 ea (Postage Paid)
PUBLIC DOMAIN TAPES - \$ 2.00 ea (+ \$1.00 Postage Per Order)
BLANK DISKS (ss/dd) - \$18.00 per box of 10 (+ \$2.00 Postage)
MULTI-COLOURED DISKS (ss/dd) - \$20.00 per box of 10 (+ \$2.00 Postage)
COLOURED DISKS (ds/dd) - \$22.00 per box of 10 (+ \$2.00 Postage)
DISK BOXES (hold 90 disks) - \$20.00 ea (+ \$5.00 Postage)
DISK NOTCHER - \$8.00 (+ \$1.00 Postage)
PUBLIC DOMAIN DISKS FOR AMIGA [3½" DISK] - \$10.00 (Postage Paid)
3½" DISKS FOR AMIGA - \$50.00 per box of 10 (+ \$2.00 Postage)
DISK BOXES (hold 50 3½" disks) - \$10.00 ea (+ \$5.00 Postage)
"PUBLIC DOMAIN BOOK" - \$5.00 ea (+\$1.00 Postage)
"STARTING WITH DISK DRIVES" - \$2.00 (+\$1.00 Postage)
"C-128 MEMORY MAP" - \$2.00 (+\$1.00 Postage)
TURBO-ROM for C-64 or C-128: Members price - \$40.00
Customised version (your choice of screen start-up colours + your name on the start-up screen): \$45.00
USER PORT PLUG (with Key Way) - \$8.00 (+\$1.00 postage)
USER PORT PLUG BACK SHELL - \$3.00 (+\$1.00 postage)
USER PORT TO CENTRONICS CABLE - \$35.00 (+\$1.00 postage)
RIBBONS for MPS-1000, GX80, LX80 PRINTERS - \$8.00 ea (+ \$1.00 Postage)

Address all orders to P.O. Box 274 - Springwood - QLD - 4127
Cheques to be made out to: C.C.U.G. (Q) Inc.

UPGRADE CHARACTER EPROM for 801/1525 Printers.
(Gives Descenders on p,q,g,y, and j. Also requires exchange of a ROM chip)
Price (supplied & fitted) \$30.00
UPGRADE EPROM to convert 1526 Printer to 802 Printer - \$20.00
For further information on the above contact Lester Bennett on 800 1243 before 8 pm on week days.

AVAILABLE FOR HIRE TO MEMBERS ONLY: 1526 COMMODORE PRINTER
For details contact Roger Haigh on 399 8037 (after hours).

EQUIPMENT MODIFICATIONS performed by Anthony Thyssen during main (Milton) workshop- and Graceville Sub-Group meetings.
For further details contact Anthony Thyssen on 371 1233 (a.h.).

SERVICES OFFERED:

RESET SWITCHES: Plug in	\$6.00	RESET RESTORER: Plug In	\$4.00
Built in	\$6.00	Built In	\$6.00

[On some 64's the plug in reset switch does not work. In this case you may return switch for a full refund or swap it for a built in switch.]

[Tap reset switch while pushing this button. This will reset any protected memory program.]

DEVICE NUMBER CHANGE: Printer/Plotter 4-6	\$6.00	Disk Drive 8-9	\$6.00
TURBO ROM INSTALLED: Computer with Socket	\$5.00	Socket required	\$7.00

WRITE PROTECT SWITCHES (Price to be finalised)

64/128 SELECT BUTTON	\$6.00 (Plug-in or Installed)
SERIAL SWITCHING BOX (Order Only)	\$14.00
SERIAL PORT DOUBLER (Order Only)	\$14.00

INSIDE YOUR SERVICE CENTRE

by Don Goergen [DON'S COMPUTER REPAIR CENTRE]

The time has come for everyone to have a peek into Queensland's Commodore Service Centre. You may well be surprised by the lack of magic around the place. Gremlins there are plenty, but no exorcisms are performed.

So how does your precious hardware get fixed? It is a fairly complicated process which starts with establishing the actual complaint. Easy enough - you may be thinking to yourself. Not so!

The computer that simply refuses to run one specific piece of wonderful software will probably pass all diagnostic tests available. The technician will definitely need to have that program supplied to him along with the computer. A drive that does not load files will very often work like a charm in the workshop. Maybe it's the company of all those other machines? It makes a great deal of difference whether the error message indicates a "file not found" or a "device not present" condition. Gremlins are at work!

It cannot be over-emphasised that correct fault descriptions are essential to the repair process. Help us to help you! As members of the user group you are in a rather more fortunate position than other Commodore users. Most of you will have access to another member's equipment. In case of problems arising do make use of this facility to establish the faulty unit within your system. It will save time, money and frustrations.

Having established the user's complaint the unit will next be exercised in order to reproduce the fault. After all, it is rather difficult to remedy an unobserved fault condition. Unfortunately, quite often the equipment will perform perfectly. Those gremlins again? Or just maybe it is unsound practises by the owner that caused the problem in the first place. Common problem areas here are misclamping of disks, the infamous "initialize" command, and incompatibilities.

We strongly recommend to all 1541 drive users never to lock the disk in until the desired command has been entered and terminated with a return. This activates the drive motor thus centralising the disk. On new model 1541 and 1571 drives an auto-initialize is built into the circuitry for that very purpose. Believe me, this practise will reduce your read errors by about 75%. A drive initialize procedure is necessary when the read/write head has been left on a high track at system shutdown. This is due to an omission in the DOS and it has been with us since the first day of Commodore drives. The condition is not transparent to the user. It simply manifests itself in "file not found" errors. Page 17 of your user manual contains the solution to this particular problem. There is not a lot we can possibly do about incompatibilities among various drive models. Probably the best we could hope for here is increased awareness of the problem. Some programs simply will not load on new model 1541's, others do not like the 1570, and so on. Commodore being the gold mine of information they are, to the best of our knowledge there just is no way to overcome that particular problem.

The actual repair involves a process of elimination based on the technician's accumulated previous experience and the symptoms of the malfunction. With computer-related problems chips are replaced one at a time until the apparent fault condition has been remedied. With peripherals one might first substitute a known good mechanism to narrow down the cause of the problem to either the mechanical assembly or the control electronics.

Regretfully we cannot usually answer the perennial question of "why did this IC fail?". Unless the top has been blown off it the cause of failure is not apparent. When one realises that there might be 20000 actual transistors built into one chip it really is amazing that there aren't more failures. Please use common sense in setting up and using your computers. Avoid having it on one circuit with the air conditioner, washing machine or similar. Do not plug in or remove anything with your system powered on. Above all, be very careful with extras you connect to your computer. 240V AC entering via the user port can blow every chip and quite a few tracks inside the computer as well as your drive, printer, etc.

Quite often mechanical assemblies pose problems for the technician. More often than not this is due to previous attempts at home repair. We are not knocking the DIY brigade - just do not damage your own equipment. It is not sound practice to super-glue your drive stepper motor or the bump-stop for that matter. When the technician requires half an hour with a hammer to undo two mangled screws someone has definitely exceeded normal standards. Replacement of components may well be called for, thus incurring unnecessary costs.

The next stage in the repair process is testing of the repaired unit. This takes many forms and largely depends on the nature of the original problem. A monitor that originally had no screen display will not undergo the same degree of testing after repair as say a drive with intermittent saving problems. There are several reasons for this, and it is important for all to appreciate these.

No-one likes to be without his or her computer equipment. It never breaks down until you really want to use it. Hence there is pressure on service personnel to achieve fast turn-around time. Even with six test stations at our disposal there is an obvious limit to the number of units that can be tested simultaneously. Further, some pieces of hardware simply do not need the same test effort as others. A computer restored from a "no display" condition to it's normal power-up screen will be run through a diagnostic test routine for a couple of cycles only. It is then deemed a working unit and returned to it's happy owner.

However, a drive with say intermittent saving problems will undergo much more rigorous testing altogether. In those instances the full array of little helpers will be called upon to flush out those gremlins. There are menacing heat-guns, a freezer that has proved deadly to bugs of many varieties, endurance soak-testing and worst, pattern diagnostic tests, and many more. The unit will not leave the workshop until the originally observed fault has been rectified. In cases of rather obscure complaints drives will undergo a 30hr. test sequence before being declared fit for a working life.

Unfortunately, there may be further hidden flaws in your equipment. You may well be unaware of these at the time, discovering them only after a newly purchased piece of software refuses to do all the great things the cover promised you. Those gremlins again! Hence the provision of a 90 day warranty period! We encourage all of you to draw our attention to such situations so that these may be rectified. It is in everyone's interest that Commodore products should enjoy an excellent reputation.

Finally, a service report detailing the work performed is written up, and the customer contacted wherever possible to advise him/her accordingly. Isn't it time for Commodore to revise their spare parts pricing? For example, a C64 logic array stands at \$ 57.30 rrp! We go through lots of those, and the development costs must have been recouped many times over. Fortunately the picture looks much rosier in regards to the C128 range of products, with the most expensive component priced at a little above forty dollars.

Recently we have taken on the PC range, and AMIGA product support will

follow early in the new year. You probably won't appreciate local service facilities until you attempt communicating with far away Sydney. It can be frustrating to say the least. By the way, if anyone catches one of those little gremlins we would certainly like to hear about it. No-one seems to know what they actually look like!

REVIEWS

The Siel Sound Buggy

Sample by courtesy of Brash's, Turbot St. Brisbane

by Rod Iffinger

As personal computers become more powerful and sophisticated with respect to their musical applications, the C-64 with its three-voice SID chip has been seen as increasingly limited in this regard. To redress this situation Commodore, as well as other software developers have been hard at it, with the result that a number of musical hardware "add-ons" with accompanying software packages are being released onto the market. Australia, being what it is in the world computer market place, is only just starting to see these packages arrive now.

The subject of this review is one of these packages. The **Sound Buggy** is manufactured in Italy by SIEL, one of Europe's leading manufacturers of electronic organs and synthesisers. Physically it is a small dark grey box about 20 cm long, 12 wide, and 5 deep with an LED to indicate that it is receiving power, and three volume adjustments (one each for rhythm, accompaniment and overall volume). It connects to the C-64's User Port from which it receives power and data from the keyboard. It has no internal speaker and connections are supplied for headphones or to a stereo amplifier.

The software needed to operate the package is supplied on both disk and tape, surprisingly, so any 64 user is catered for. On powering up the system the user is asked to select which language he/she would prefer the menus to be in. Following next the choice is whether or not the auto demonstration is required; if the answer is no you must then select which keyboard you are using. A sturdy plastic overlay, similar to the one Commodore include in their package, is included, and makes use of the computer's QWERTY keyboard. Optionally a 49 note keyboard is available from Siel, which plugs into the cartridge port. Having selected a keyboard the main program loads in appr. 140 seconds.

The main menu is then displayed, allowing the user to peruse the files of songs already in memory, play/edit songs, load/save files or format disks, access the MIDI module (more on this later), or reset the computer back to Basic.

The songs included on the disk are excellent and really show what the Sound Buggy is capable of in the hands of someone who really knows the program inside out. Unfortunately the manual is written in four languages and the English version is not very user-friendly. The program is quite sophisticated, yet the manual does not give straight forward step-by-step directions as to how to create your own pieces from start to finish - you keep on flicking through the manual to cross-reference many small details. In a nutshell, to create your own songs you must choose a pre-recorded song with a similar tempo to your idea, go through all the individual menus for melody, chords etc and turn them off; then edit the existing rhythm to suit you. This is quite easy and uses a graphic display of instruments similar

to the most expensive percussion computers or drum machines in use today. Having done that you then enter your chord progression by playing along with the rhythm section; the bass and chords being worked out by the computer in a manner similar to most popular electronic organs. This sounds fairly inflexible although in fact you do have several options as to how they will be played. The final step is to play your melody, or SOLO as the menu calls it. It isn't all that hard to do, but, because you are jumping around from one sub-menu to another to start and stop recording etc, I found it quite confusing, especially due to the lack of adequate documentation. The small keyboard overlay is also quite inadequate for any serious application.

I mentioned earlier that a MIDI function was included, but I cannot really report on this as the gremlins struck again. Even though MIDI is supposedly an industry standard there are inconsistencies in its implementation between manufacturers, and certain software packages will only operate with MIDI interfaces from the same manufacturer. I believe this to be the case here, as my interface is from Passport Designs, not Siel, and consequently every time I tried to load the program with the interface in place it reset the computer back to Basic. The moral here is to choose your MIDI software first and then purchase the recommended interface.

There seems to be some confusion too, as to whether music software is the province of computer shops or music shops. Music shops don't carry software but will order it in for you if required. Computer dealers would like to handle it, but music wholesalers will only sell to music shops - a typical Catch 22 situation.

Well, how do I sum up the Sound Buggy? Basically a good idea that has been let down by poor documentation. If you have both the time and the inclination to work it all out for yourself then it will provide you with a lot of enjoyment, and allow people with basic music skills to develop some really professional compositions. I would suggest that any intending purchaser consider buying the optional 49-note keyboard as it will add greatly to the flexibility of your system. The big redeeming feature is the price; originally retailing for \$189.00 it is on special at Brash's for \$99.00 - little more than the cost of most decent software packages and definitely more fun than most games. Our thanks to Steve Bourke of Brash's for making the test unit available.

OXFORD PASCAL vs SUPER PASCAL.

by David Gillies.

In the July edition of Cursor, I did a review of Super Pascal for the Commodore 64.

I have recently tried Oxford Pascal for the C-64 and these now represent the main "true Pascals" for the C-64. (This ignores Turbo Pascal which requires a CP/M cartridge to operate on the C-64).

Both Pascals are supposed to be complete implementations of Standard Pascal based on the "Pascal Bible" written by Kathleen Jensen and Niklaus Wirth.

Since both Pascals are similarly priced, let's see what you get for your money.

The main difference between the Pascals is how they operate --

Super Pascal uses a reorganized diskette format with sectors read in cluster of 8 blocks or 4k. Super Pascal disk I/O is about 3 times the speed of normal disk I/O which becomes very noticeable when loading and saving programs.

However, this different disk format has some drawbacks. A utility is included for converting normal C-64 files to Super Pascal format but no utility exists to do the reverse process. This I find exceptionally annoying.

Oxford Pascal uses normal C-64 diskette files and format. Disk I/O is much slower than Super Pascal.

Super Pascal has its own program editor which is quite good and efficient. The editor could be improved with a "COPY" command and an improved "RENUMBER" command.

Oxford Pascal uses similar editor commands as used with Basic programs with a couple of good enhancements.

General Comments on both Pascals.

Super Pascal has a 220 page manual. Oxford Pascal has a 50 page manual. Both Manuals need to be supplemented by a good Pascal textbook.

The Oxford Pascal manual though small does provide a comprehensive overview of Pascal. However, the manual does not have an index and this means much searching to find a specific reference. The manual also lacks a complete list of compile errors and their meanings.

Both Pascals have extensions to utilize the features of the C-64 such as sound and graphics. Both allow the use of Assembly Language commands. Oxford Pascal allows the use of some basic commands such as PEEK/POKE. Super Pascal has a more complex way of duplicating these commands.

Both Pascals allow the joining of multiple source programs into one large program which can be compiled and overlaid. This means that your Pascal program is not restricted by memory size.

I have put several standard programs through both Pascals and can say that both Pascals live up to expectations. The only thing that I noticed was that Oxford Pascal is touchy about where comment lines appear in the program. (This can be quite annoying).

So, which Pascal is best? Personally, I think either of them is quite suitable however I believe that Super Pascal is slightly in front. I found Super Pascal easier to use and the faster disk I/O to be of great benefit.

Top Down Assembly Language Programming for your Vic-20 and Commodore 64

written by Ken Skier, published by Mc Graw-Hill. ISBN 0-07-057864-8.

by Ray King

This is not a book for the person taking their first tentative steps into Machine Language level programming. It is more aimed at the person who understands what each machine-code command does and is now trying to combine those commands into a program. The book describes a method of programming commonly know as "top down" programming. When a programmer first sets out to write a program to perform a particular task, it is often difficult for the programmer to see exactly how the program should be written. In other words where does he start? In "top down" programming the programmer starts at the "top" of course! The type of tasks usually performed by programs can be broken down into many smaller tasks, and this is how the program is written. Before he starts writing, the programmer will have an idea of what the finished program will do, but he may not know exactly how each smaller task will be performed. For instance many programs could be broken into 3 separate tasks - 1: Input data, 2: Calculation, & 3: Output results. As well, all programs must have a beginning, called the initialisation, and many also have an end. A simple outline of our program can now be constructed:-

```
Start do initialisation
      do input of data
```

do calculations
do output of results
End.

From this outline we can see how the program will do it's job and in what order the tasks will be performed. This makes it extremely easy to alter the program or to detect any errors, or bugs. All we need to do now is to fill in the detail of the program, however if we put the detail into the program immediately after each task the different amounts of code required to perform each task tends to break-up the neat layout of the program. To get around this the detail of the tasks is written as subroutines, and each subroutine is called in order by the main part of the program as it is required. The subroutines can be put into a different area of the program so that they don't overwhelm the simple structure of the program. The process of breaking down large tasks into smaller tasks often carries through into several levels of the program. This can often save space and programming time as the lowest level tasks are often shared by many of the higher level tasks and so the same subroutine can be used by several higher level routines.

This method of programming can be applied to any programming language and most languages have commands which encourage the use of this technique. Ken Skier's book outlines how this technique can be applied to 6502 Assembly language.

The only language that microprocessors can actually execute is binary machine code. It is very difficult for humans to program in binary so programs called Assemblers are used so that the binary codes can be represented by mnemonics. For 65XX series microprocessors the mnemonics are groups of three letters which give a bit of a clue as to what function the command performs.

eg: LDA - Load Accumulator ; STA - Store Accumulator. Assemblers use many other features to make programming in machine language easier for the programmer. When reading the documentation on Assemblers it is often difficult for the beginner to understand how a particular function of an assembler could be applied. This book has many Assembler listings of the subroutines used in the example programs and so gives examples of how an assembler can be used to write machine language programs. A word of warning however, the Assembler used in the book is not exactly the same as the standard Commodore Assembler and so some of the conventions are slightly different. To make full use of the listings the user must have a working knowledge of the Assembler they are using so that they can convert the necessary sections of the listing into a form suitable for the Assembler they are using, and understand the reason for any error messages that may be generated during assembly. The Author of the book wrote the listings on an Ohio Scientific Computer and I found several fundamental errors which have arisen from the Authors incomplete knowledge of the Commodore machines. This does not reflect on the Authors programming skill but rather on the abysmal lack of good Commodore reference material. It does however mean that the programs may not behave exactly as described, and the user who has no sound grounding in machine-code will find it well nigh impossible to de-bug the programs so they will run.

Apart from these minor difficulties the book is well set out and easy to read. Examples of how the many usually invisible functions of the computer are implemented are given, and explained in a straight-forward way. The book is not intended to teach how to program in Assembly language but rather how to structure machine language programs. The book would be most useful for the programmer who knows the machine code commands, but can't see how to combine such simple commands into a program.

--oo0oo--

THE 64 000 BYTE QUESTION

by Phil Guerny

October 64,000 Byte Quiz Answers

Note that the references to RCW are to the book **Programming the Commodore 64** by R. C. West.

1. The line `10 rem ABCD` lists as `10 rem atnpeeklenstr$`. This is a bug in C64 BASIC. Keywords in BASIC are not stored spelled out like 'PEEK' but rather as a one byte number (called a token) which saves a lot of space. The same numbers are also used for letters and graphic characters but this shouldn't cause a problem because the C64 can tell when you mean a letter or character because you are inside quotes - or in a REM statement. But they forgot about the REM statement and the C64 lists the numbers 193,194,195,196 representing ABCD (upper/lower case mode) in the above line in memory as the BASIC keywords with those tokens. `10 rem "ABCD"` lists properly.

2. DEEK and DOKE are like PEEK and POKE except they refer to two consecutive memory locations. PEEK and POKE are restricted to storing or retrieving numbers from 0 to 255 while DEEK and DOKE can handle 0 to 65535. They also assume the 6502 microprocessor convention of putting the most significant byte after the least significant byte (as if we wrote twenty-three as 32). So DOKE 828,513 puts 1 into location 828 and 2 into location 829. DEEK(828) retrieves the number by calculating $256 * \text{PEEK}(828+1) + \text{PEEK}(828) = 256 * 2 + 1 = 513$. (See RCW p174)

3. The array `A(3,3)` consumes the following memory. Name: 2 bytes. Offset to the end of the array: 2 bytes. Number of dimensions: 1 byte. Last dimension+1: 2 bytes. First dimension+1: 2 bytes. Then comes $3 * 3 = 9$ numbers at 5 bytes each. Total: 54 bytes. (See RCW p.147)

4. POKE 56325,10 gives a very fast cursor blink. POKE 56325,200 gives a very slow blink rate. You are changing a number stored in one of the two '6526 Complex Interface Adapter' chips in the C64. Location 56325 is a timer on the chip and changing it alters the IRQ (interrupt request) rate, or how often the chip goes through its 'blink cursor and check keyboard' routine. (See RCW p.127)

5. When a tape user enters OPEN 1, the message PRESS PLAY ON TAPE appears. When the tape stops, the only thing that has happened is that the 'header' of the first tape file it reads is loaded into memory starting at location 828. Into location 828 itself goes the first byte in the header which is a number from 1-5 saying what type of program or data file this is. Number 4 means this was a sequential file. (See RCW p.476)

6. Probably to make the design of the C64 simpler, Commodore wired-up the sound chip so that it appeared to the microprocessor to be at 32 different locations! The 29 sound registers are supposed to start at 54272. But they also have 'images' starting at 54304, 54336 and every 32 bytes up to 55264. That is why the SID chip takes up 1K of memory (32*32 bytes) for just 29 usable registers.

7. This question arose out of some experimenting of my own. I don't know the full explanation myself and I'm hoping one of the answers I'm yet to see will reveal more. In brief, after the line:

```
10 OPEN 2,8,2,"SEQFILE,S,W":PRINT#2,"A"  
to the line  
CLOSE2:OPEN3,8,3,"SEQFILE,S,A":PRINT#3,"Z":CLOSE3
```

is a simple APPEND function that changes the sequential file from "A" to "AZ". This function is not mentioned in the 1541 instructions and is much easier than reading the whole file then adding one letter and printing it to disk again. The alternative line

```
OPEN3,8,2,"SEQFILE,S,W":PRINT#3,"Z":CLOSE2:CLOSE3
```

is a basically silly thing to do. You are opening a second file with the same name as an existing file and using the same channel number all while the first file is still open. The result seems to be that SEQFILE contains just "Z" and the disk contains one "lost" block i.e. the blocks in the directory total 663 rather than 664 (a VALIDATE fixes this). The other alternative line

```
OPEN3,8,3,"SEQFILE,S,W":PRINT#3,"Z":CLOSE2:CLOSE3
```

uses a different channel number to open the second sequential file with the same name as the already open one. The strange result is the creation of two files on the disk, both called SEQFILE, one of type SEQ but the other of type DEL. The SEQ file contains just "Z" while the DEL file contains just "A". The best source of 1541 information is the book **Inside Commodore DOS** by R. Immers and G. G. Neufeld and they say on page 69 that a DEL file is undocumented, extremely rare and cannot be created by an OPEN statement. Well I just have (but I suppose not in the sense they meant). I'm looking forward to seeing if there are any replies with explanations of all this.

NOVEMBER / DECEMBER QUESTIONS

In another close tussle, the September quiz was won by **Andrew Roach**. Interestingly, all four entries correctly answered the "esoteric" (sorry G.McM but I didn't ask you to say what it meant!) last question - but they all made at least one mistake on the "easy" ones. Perhaps the hard questions will attract more replies. I will find out if the replies flood in from last month's tough quiz. For now here are another set of questions and my attempts at answers to those October questions.

1. What does pressing the CTRL-H key combination do?
2. In which alternative computer languages (all in the CCUG software library) would you find the following lines?
 - a)

```
TYPE goodcomputer = (PET, VIC, C64, C128, AMIGA);  
   commodores = SET of goodcomputer;  
   VAR mycomputer, mynextcomputer : goodcomputer;
```
 - b)

```
6 3 5 DUP + ROT * SWAP / .
```

(The response by the way is 20 OK)
 - c)

```
FUNC round(number, decplaces)  
   magnitude := 10 ^ decplaces  
   RETURN INT(number*magnitude+0.5)/magnitude  
ENDFUNC round
```
 - d)

```
TO VOWEL? :LETTER  
OP MEMBER? :LETTER "AEIOU  
END
```

```

e) A:
   T(3=%B):Right
   JC:NEXT
   TH(3>%B):Too low;

```

4. We are all too familiar with error messages from BASIC - there are 28 of them and they are listed in Appendix K of the C64 Programmer's Reference Guide. But haven't you sometimes seen other error messages that are not listed here, like DEVICE NOT PRESENT?. Where are these errors coming from?
5. Many computers have a key labelled ESCAPE (or just ESC). What does it do and how can you do the same thing on the C64 with just two key presses?
6. How many bytes are stored on track 1 of a disk in a 1541?
7. The 1541 contains an FDC. What is it and how many things can it do?
8. One of the most difficult parts of learning machine language is coming to grips with the many different ways of referring to a particular memory location. How many of these addressing modes are there for the 6502 or 6510 CPU?

--oo0oo--

C-64 & C-128 TRIVIA

by David Lee

For C-64: The following POKES can be used as a routine to generate a ding to get your attention after the computer has performed a certain task:
 POKE 54273,70:POKE 54278,249:POKE 54296,15:POKE 54276,17:POKE 54276,16
 Changing the value 70 in the first POKE alters the frequency of the ring.

For C-128: ORIGINAL LISTING FROM COMPUTE GAZETTE MARCH 1986:

FUNCTION	DISABLE	ENABLE
LIST	POKE 775,139	POKE 775,81
SAVE	POKE 818,180	POKE 818,78
LOAD	POKE 816,0	POKE 816,108
RUN/STOP	POKE 808,100	POKE 808,110
RESTORE	POKE 792,125	POKE 792,64
KEYBOARD	POKE 2592,0	POKE 2592,10
NO KEYS REPEAT	POKE 2594,64	POKE 2594,0
ALL KEYS REPEAT	POKE 2594,255	POKE 2594,0
REMOVE LINE NUMBERS		
FROM LIST	POKE 24,37	POKE 24,27
CLEAR KEYBOARD BUFFER (BEFORE INPUT)		POKE 208,0
CHARACTER COLOUR, RANGE OF X IS 0 to 15		POKE 646,x

Note that if the keyboard is disabled in direct mode, you won't be able to enter the POKE to get it back because of course, the keyboard is disabled. RUN/STOP-RESTORE still works unless you have disabled it as well, and will make the keyboard work again.

by Steve McNamee

Many people who have used AmigaBasic have probably realised that they cannot control their printer as they are used to, i.e. by sending escape sequences. This seems to have annoyed some of them, so I thought that I would sit down and try to clarify the matter.

The Amiga doesn't treat a printer like any other computer. Most computers (and operating systems) simply squirt what comes to them (from programs) out of the printer port unchanged. The Amiga however expects to be told exactly what a given printer can or can't do by means of a printer driver file. Once this is done any program can send device independent commands to the printer driver without having to worry what type of printer is hooked up. This is great for programmers who now only have to write one set of printer routines to be handled by any printer supported by the Amiga.

This explains the problem with AmigaBasic. For some reason only known to themselves, the designers of AmigaBasic have decided, in their wisdom, to implement this revolutionary concept in their application by swallowing all printer Escape sequences into the software equivalent of a mini-black hole. All is not lost however, as one may open a file to the PRT: device and send info the printer via the PRINT # statement. This method passes all information to the Printer Driver routine unchanged.

NOTE WELL: The information is sent to the Printer Driver, NOT to the printer itself. This means that if you access the printer this way you don't send the Escape codes recognised by your printer, but the standard Escape codes recognised by every Amiga Printer Driver. Most of these are ISO standard codes. The printer driver will then translate these standard codes into the specific codes needed by your printer.

This means that if your program works on your printer it will also work on any printer supported by the Amiga, having equivalent capabilities. If a printer does not have some of the capabilities recognised by the standard Escape sequences then the driver for that printer will simply ignore those particular codes.

The general syntax is as follows:

Somewhere in your initialisation routine:

```
OPEN "PRT:" FOR OUTPUT AS # 1
```

then whenever you would use LPRINT ----- etc you use instead:

```
PRINT # 1, ----- etc
```

finally when you have finished printing:

```
CLOSE # 1
```

Simple HUH!

A word of caution. If you wish to mix LPRINT and PRINT # statements in the same program you must first close the PRT: file before using LPRINT, or AmigaBasic will clobber you with "File PRT: already open".

E.g.:

```
ESC$=CHR$(27)
```

```
OPEN "PRT:" FOR OUTPUT AS #1
```

```

PRINT #1,ESC#;"[3m"; REM turn on italics
PRINT #1,"This is in Italics.";
PRINT #1,ESC$;"[23m" REM turn off italics

PRINT #1,ESC#;"[4m"; REM turn on underline
PRINT #1,"This is Underlined.";
PRINT #1,ESC$;"[24m" REM turn off underline

PRINT #1,ESC#;"[4w"; REM turn on condensed
PRINT #1,"This is Condensed.";
PRINT #1,ESC$;"[3w" REM turn off condensed

PRINT #1,ESC#;"[6w"; REM turn on enlarged
PRINT #1,"This is Enlarged.";
PRINT #1,ESC$;"[5w" REM turn off enlarged

PRINT #1,"Now back to normal."

CLOSE #1
END

```

A complete list of the standard Escape codes recognised by every Amiga printer Driver follows this article.

Final word concerns those unfortunate people whose printer is not supported as yet by the Amiga. You have three options:

- 1) Write your own Printer Driver (verry messy).
- 2) Wait for the Printer Driver to appear on future releases of Workbench or on the Public Domain network (it probably will - one day).
- 3) Trade your printer in on a supported one (my preferred option).

If you don't like any of these forget about slashing your wrists. You can apply the programming technique explained before, but instead of using OPEN "PRT:" etc you use OPEN "PAR:" etc. This has the effect of bypassing the Printer Driver (and the black hole) and sending exactly what you specify to the printer. Be warned however that any programs using this technique will most likely only work for the one particular printer.

So you see, the secret is that if you want your program to work with any supported printer use the standard Escape sequences and the PRT: device. If you don't, be prepared to be ostracised by your computer using friends (burning at the stake is usually considered suitable on these occasions).

Printer Device Command Functions

Name	Cmd No.	Escape Sequence	Function	Defined by:
aRIS	0	ESCc	Reset	ISO
aRIN	1	ESC#1	Initialize	+++
aIND	2	ESCD	Lf	ISO
aNEL	3	ESCE	Return,lf	ISO
aRI	4	ESCM	Reverse lf	ISO
aSGR0	5	ESC 0m	Normal char set	ISO
aSGR3	6	ESC 3m	Italics on	ISO
aSGR23	7	ESC 23m	Italics off	ISO
aSGR4	8	ESC 4m	Underline on	ISO
aSGR24	9	ESC 24m	Underline off	ISO
aSGR1	10	ESC 1m	Boldface on	ISO
aSGR22	11	ESC 22m	Boldface off	ISO

aSFC	12	ESC nm	Set foreground color where n stands for a pair of ASCII digits, 3 followed by any number 0-9	ISO
aSBC	13	ESC nm	Set background color Where n stands for a pair of ASCII digits, 4 followed by any number 0-9	ISO
aSHORP0	14	ESC 0w	Normal pitch	DEC
aSHORP2	15	ESC 2w	Elite on	DEC
aSHORP1	16	ESC 1w	Elite off	DEC
aSHORP4	17	ESC 4w	Condensed fine on	DEC
aSHORP3	18	ESC 3w	Condensed off	DEC
aSHORP6	19	ESC 6w	Enlarged on	DEC
aSHORP5	20	ESC 5w	Enlarged off	DEC
aDEN6	21	ESC 6"z	Shadow print on	DEC (sort of)
aDEN5	22	ESC 5"z	Shadow print off	DEC
aDEN4	23	ESC 4"z	Doublestrike on	DEC
aDEN3	24	ESC 3"z	Doublestrike off	DEC
aDEN2	25	ESC 2"z	NLQ on	DEC
aDEN1	26	ESC 1"z	NLQ off	DEC
aSUS2	27	ESC 2v	Superscript on	+++
aSUS1	28	ESC 1v	Superscript off	+++
aSUS4	29	ESC 4v	Subscript on	+++
aSUS3	30	ESC 3v	Subscript off	+++
aSUS0	31	ESC 0v	Normalize the line	+++
aPLU	32	ESCL	Partial line up	ISO
aPLD	33	ESCK	Partial line down	ISO
aFNT0	34	ESC B	US char set	DEC
aFNT1	35	ESC R	French char set	DEC
aFNT2	36	ESC K	German char set	DEC
aFNT3	37	ESC A	UK char set	DEC
aFNT4	38	ESC E	Danish I char set	DEC
aFNT5	39	ESC H	Swedish char set	DEC
aFNT6	40	ESC Y	Italian char set	DEC
aFNT7	41	ESC Z	Spanish char set	DEC
aFNT8	42	ESC J	Japanese char set	+++
aFNT9	43	ESC 6	Norwegian char set	DEC
aFNT10	44	ESC C	Danish II char set	+++
aPROP2	45	ESC 2p	Proportional on	+++
aPROP1	46	ESC 1p	Proportional off	+++
aPROP0	47	ESC 0p	Proportional clear	+++
aTSS	48	ESC n E	Set proportional offset	ISO
aJFY5	49	ESC 5 F	Auto left justify	ISO
aJFY7	50	ESC 7 F	Auto right justify	ISO
aJFY6	51	ESC 6 F	Auto full justify	ISO
aJFY0	52	ESC 0 F	Auto justify off	ISO
aJFY3	53	ESC 3 F	Letter space (justify)	ISO (special)
aJFY1	54	ESC 1 F	Word fill(auto center)	ISO (special)
aVERP0	55	ESC 0z	1/8" line spacing	+++
aVERP1	56	ESC 1z	1/6" line spacing	+++
aSLPP	57	ESC nt	Set form length n	DEC
aPERF	58	ESC nq	Perf skip n (n>0)	+++
aPERF0	59	ESC 0q	Perf skip off	+++

aLMS	60	ESC#0	Left margin set	+++
aRMS	61	ESC#0	Right margin set	+++
aTMS	62	ESC#8	Top margin set	+++
aBMS	63	ESC#2	Bottom margin set	+++
aSTBM	64	ESC n;nr	T&B margins	DEC
aSLRM	65	ESC n;ns	L&R margin	DEC
aCAM	66	ESC#3	Clear margins	+++
aHTS	67	ESCH	Set horiz tab	ISO
aVTS	68	ESCJ	Set vertical tabs	ISO
aTBC0	69	ESC 0g	Clr horiz tab	ISO
aTBC3	70	ESC 3g	Clear all h tab	ISO
aTBC1	71	ESC 1g	Clr vertical tabs	ISO
aTBC4	72	ESC 4g	Clr all v tabs	ISO
aTBCALL	73	ESC#4	Clr all h & v tabs	+++
aTBSALL	74	ESC#5	Set default tabs	+++
aEXTEND	75	ESC n"x	Extended commands	+++

Legend:

- ISO indicates that the sequence has been defined by the International Standards Organization. This is also very similar to ANSI x3.64.
- DEC indicates a control sequence defined by Digital Equipment Corporation.
- +++ indicates a sequence unique to Amiga.
- n stands for a decimal number expressed as a set of ASCII digits, for example 12.

AMIGA - ODDS AND ENDS

by Ralph De Vries

In the latest issue of the Canadian "Transactor" magazine Tim Grantham looks at the Amiga scene in the USA and Canada and came up with the following facts and conclusions:

"New Amiga owners include a relatively small percentage who have moved from 8-bit machines, but a considerably larger percentage who come from a UNIX environment. Former 8-bit owners are having difficulty in climbing the steep learning curve, but UNIX users find many functional and design similarities between the Amiga OS and UNIX. A large percentage of new Amiga owners include engineers, artists and musicians. CBM is now starting to direct its advertising to vertical markets in engineering, advertising and media production houses. Another potential Amiga market is the US Department of Defence."

A similar pattern will probably develop here. On the one hand there'll be those users who will be quite content to use the "Workbench", and have no desire to go beyond this level of operation. If the software is well written they'll be perfectly happy with their machines; the Macintosh is a good example of this philosophy. Our 8-bit converts will certainly have difficulties coming to grips with the Amiga's operating system. Even Basic programming is substantially 'different' from Basic on 8-bit machines. The former MS-DOS users and those who come from a UNIX environment will probably have fewer problems getting 'inside' the Amiga.

It will be very interesting to see how all these different 'strands' will develop in 1987.

HOW TO DEVELOP A "RUN" KEY

by Jon Kalkman

The designers of the Commodore 64 obviously thought that the majority of users would stay with the datasette recorder as the device for storing programs and data. For this reason the computer defaults to device 1 (tape) and allows the keys strokes SHIFT-RUN/STOP to load and activate the first program it finds on tape. For disk users the process of typing LOAD "Filename",8 using the exact spelling of the filename as it was saved is so tedious that it means that many of us list the directory and then overtype with the required syntax at the appropriate directory entry. Furthermore, we all know how painful it is to get the directory to list to the screen.

The arrival of the TURBO-ROM has meant a tremendous advance in convenience for disk users by making directory listings and program loading much easier and faster. Pressing SHIFT-RUN/STOP and RETURN will load a desired program very quickly. Because there is no RUN key it means that the cursor then has to be brought down to some clear space and the word RUN has to be typed with RETURN to activate the program. Not too difficult to do, I grant you, but in my family I have a four year old and a disabled person with only limited use of one hand. Both are keen computer users and find that little exercise difficult. Other computers do supply a RUN key so why not develop a RUN key for the C64, I thought. With the help of Raeto Colin West "Programming the Commodore 64" I attempted the task.

One of the best things about the C64 is that the many routines in ROM are directed through VECTORS in RAM. These vectors are two locations in low memory which together hold the forwarding address of the routine and thus act like sign posts for the routine to go to next. Normally the vectors in memory point straight back to the ROM routines. Because they are in RAM vectors can be changed to point to a piece of code to alter or even totally replace a routine that exists in ROM. Changing the vector is like setting a detour that the computer has to execute before it returns to where it was going normally. Provided the last instruction of a modification program returns things to normal the modification then becomes part of the normal sequence of events. In this way a lot of modifications can be made to the way the computer operates. In computer jargon this process is called a patching.

The keyboard is scanned 60 times each second to read the keys being pressed. This routine is vectored through location 655 and 656 (\$028F,\$0290). By changing this vector to point to a new routine we can get the computer to check for a certain combination of keys. When the specified combination of keys is found the computer should clear a line on the screen and print the word RUN with the cursor flashing waiting for the user to press RETURN. Because the keyboard scan routine is accessed so often it has to be a key combination not used for anything else. I thought that the combination SHIFT-CTRL is seldom used and would therefore make an ideal RUN key because SHIFT can be mechanically locked down.

The only problem with this set up is that RUN/STOP-RESTORE will restore the old values into the vector and thus bypass the modification. By contrast the LOAD vector is unaffected by RESTORE and it seems likely that a RUN key would be needed most after a LOAD had taken place. In the short program below the load vector (816 and 817) has been altered to change the keyboard scan vector to point to my modification. It may not be beautiful but it works. It loads at \$CCAD (52384)

```

200FORJ=52384T052466:READX:POKEJ,X:NEXT
300 SYS52384:SYS52409
1000 DATA 169,171,160,204,141,8,3,140
1010 DATA 9,3,96,32,115,0,201,147,240
1020 DATA 6,32,121,0,76,231,167,120,169
1030 DATA 202,160,204,141,143,2,140,144
1040 DATA 2,88,32,121,0,76,231,167
1050 DATA 173,141,2,205,142,2,208,3,76
1060 DATA 72,235,141,142,2,201,5,208
1070 DATA 246,166,214,32,255,233,169,82
1080 DATA 32,210,255,169,85,32,210,255
1090 DATA 169,78,32,210,255,76,66,235

```

It would be far more elegant if this modification were a permanent change to the operating system as the TURBO-ROM is. Then we would not have to worry about vectors nor would we need be concerned about other programs overwriting this piece of code at \$CCAO.

The other nice feature of the C64 is that the operating system (KERNAL ROM) can be switched out in favour of RAM. If we have an operating system in RAM of course it can be modified at will. To make the RUN key a semi-permanent feature of the operating system we need to first copy the KERNAL ROM (and the BASIC ROM) into RAM. This could be done very slowly in BASIC by:-

```

2 FOR J=40960 TO 49151:POKE J,PEEK(J): NEXT
3 FOR J=57344 TO 65535:POKE J,PEEK(J): NEXT

```

Page 257 of West's book gives a machine language routine which significantly speeds up the process of copying ROM into RAM.

```

2 DATA 120,165,1,72,169,55,133,1,169,160
3 DATA 133,3,160,0,132,2,177,2,145,2,136
4 DATA 208,249,230,3,165,3,240,8,201,192,208
5 DATA 239,169,224,208,229,104,133,1,88,96
10 FORJ=49152T049193:READX:POKEJ,X:NEXT
20 SYS49152

```

If we are prepared to forego the RS-232 capability of the KERNAL as has already happened in the TURBO-ROM we could find a little space for this code within the KERNAL.

```

110 DATA 173,141,2,205,142,2,208,3,76,72
120 DATA 235,141,142,2,201,5,208,246,166,214
130 DATA 32,255,233,169,82,32,210,255,169,85
140 DATA 32,210,255,169,78,32,210,255,108,143,2
150 FORJ=65138 TO 65178:READ X:POKE J,X: NEXT

```

And now to make the detour internally

```
160 POKE60125,76:POKE60126,114:POKE60127,254
```

With the KERNAL in RAM it difficult to resist the temptation to make some other changes.

```

240 POKE58677,11:REM cursor color
250 POKE60634,15:REM background color
260 POKE64982,229:REM make changes unaffected by cold reset
270 POKE64904,162:REM force the top of

```

280 POKE64905,0:REM BASIC memory to
290 POKE64906,160:REM \$A000
300 POKE64907,160
1210 POKE1,53:REM switch in new ROM
1220 SYS64738:REM RESET

Once activated this program will place the KERNAL in RAM and modify it so that a reset (SYS64738) will not change the modification. A hardware RESET (ie. RESET switch) will, however, place the KERNAL back into ROM. All is not lost because the following in direct mode will set matters to rights.

POKE 40960, PEEK(40960): POKE1,53: SYS64738

A word of advice: don't try to modify the KERNAL in RAM while it is the operating system. Doing that is a bit like changing the compression ratio of your car engine while you are driving along. It leads to unpredictable results. For the same reason great care should be exercised to type the data statements above exactly as given.

GAMES CORNER

by Jamie Ogden

MINI REVIEWS

LEADER BOARD (US GOLD/ACCESS)

Thumbs up for this excellent golf simulation. It offers 4 courses, each 18 holes, and varying difficulty levels. There is no music but the rating reflects the accuracy of the sound effects. Very average backdrops but the realistic animation and perspective make up for it. It has very comprehensive instructions including a map of each hole, showing its par and distance to the hole.

Overall this game is a superb buy at a realistic price. It will even keep the non-golfers amused.

IDEA	GRAPHICS	SOUND	VALUE	OVERALL
------	----------	-------	-------	---------

97	92	87	93	96
----	----	----	----	----

GHOSTS'N GOBLINS (ELITE)

You, the knight in shining armour, have to rescue the princess from her dungeon where she is imprisoned. Neat stuff eh! This game is a unique mixture of platform - shoot'em'up. Highly detailed backdrops and well animated sprites highlights the game, along with the fine scrolling routine. You have a choice of weapons, but very few other options. The music is reasonable, but it gets to you after a while. If you liked the arcade version then this game is simply a must.

IDEA	GRAPHICS	SOUND	VALUE	OVERALL
------	----------	-------	-------	---------

85	98	89	92	94
----	----	----	----	----

POKES AND CHEATS

Hi Readers. My new section should stop all that hair pulling and keyboard bashing while trying to conquer the latest games releases. It provides pokes and cheat modes to stop you from the joystick-breaking frustration that comes with most games. Anyway to start off this month here's some tips on 'Z', 'URIDIUM' (tape ver.) and 'RAMBO', so let's get started.

URIDIUM

Have you dreamed of conquering this game, yeah!, well here's your chance. O.K. rewind the tape then type this...

```
10 print chr$(147)
20 forA=49152to49202:readB:pokeA,B:next
30 sys49166
40 data 162,20,189,33,192,157,198,224
50 data 202,16,247,76,0,224,32,44,247
60 data 169,0,141,32,208,32,108,245
70 data 169,192,141,239,3,76,167,2,169
80 data 76,141,65,13,169,249,141,66,13
90 data 169,12,141,67,13,108,0,128
```

Now type 'RUN' and when prompted press play on tape. Now you should be invincible!

RAMBO

Sick of being turned into scraps of sheet metal by the gunship? Yeah! well here's a neat trick. Plug another joystick in the spare port. Now push one stick forward and pull the other one back. Now you can outrun that menacing gunship!

"Z"

Finally some pokes. Just load the game and then hit the reset button.
POKE 2391,(0-255) number of level - Now SYS 2304 to restart.

Also, if you are having trouble destroying the control ship on level four, then just wait for it to appear then drop five bombs on it and BANG! Everyone's happy.

ATTENTION!

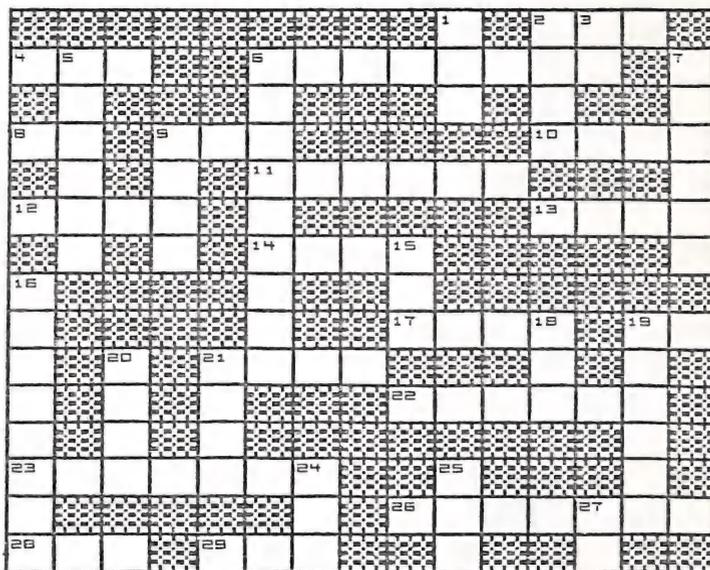
If you've discovered a cheat mode or hacked 'round to get a few pokes then let me know. Also, if you're the author of a game, then be a sport and give us a few tips. Pretty please!! If your one of these fellows then how about sending them to me at this address:

HINTS & TIPS SECTION,
JAMIE OGDEN,
493 ALICE STREET,
MARYBOROUGH,Q.4650.

I will of course acknowledge all contributions by members.
Don't forget to support my column and until the next issue, HAPPY HACKIN'!

COMPUTER CROSS WORD

by David Lee



ACROSS CLUES

2. AND / OR /
4. 64738
6. COMMODORE
8. MACHINE LANGUAGE
9. DIMENSION
10. IF
11. COLOUR
12. CONTINUE
13. FROM START
14. READ THIS
17. FOR / NEXT
19. STATUS
21. VIEW MEMORY
22. NEWSLETTER
23. AND/OR/NOT OPERATION
26. GOSUB
28. TERMINATE
29. NOT COLUMN

DOWN CLUES

1. MAGAZINE
2. FOR
3. AND / NOT
5. CONTROL 8
6. COMPUTER
7. RND
9. READ
15. ABSOLUTE
16. A\$ IS A?
18. POSITION
19. MEMORY
20. LINE JUMP
21. JAB
24. KILL
25. PIXEL
27. THEN

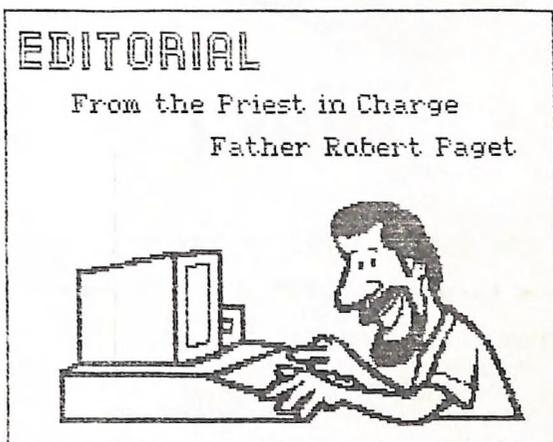
The solution will appear in the following issue of "CURSOR".

MAIL BOX

HELP!

Some time ago I called for help and help was sent. Thank you. Then it was getting a full sized product with the CPA-80 printer from PRINT SHOP, now it is a case of getting a full sized product from NEWSROOM. Yes I know this program has been slated in reviews in our magazine, but I already had it and find it quite useful in producing my own newsletter. Those who use it know that there are quite a lot more printer and interface options that the PRINT SHOP offers. If anyone has discovered the options that will produce full sized print-out with CPA-80 and PPI interface I would be ever so glad to hear from them.

Robert Paget

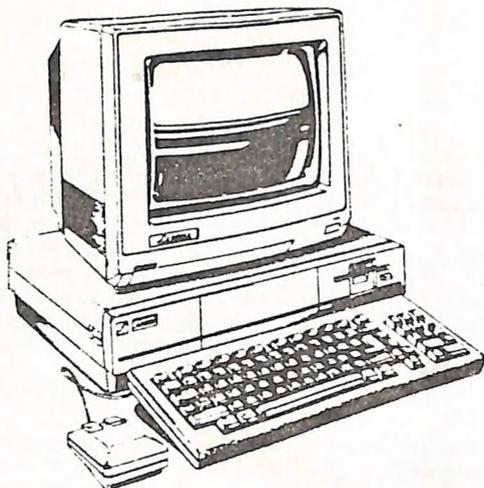


Dear Robert,

I have reproduced your picture herewith in the hope that somebody may be able to offer a solution. Even my fellow printer expert, Rob Adamson, is stumped by this one as he gets similar size print-outs with his combination of printer and interface, and as yet he has not found a solution either. Note that it only affects the width of the picture, not the height - as you can see in last July's issue of Cursor, where I modified and used the same Newsroom picture.

If you must have a wider print-out you may in the meantime have to resort to some degree of ENLARGED photo copying as a stop gap measure.

AFTERTHOUGHT: Looking again at the original picture of the man at the computer in the Newsroom Users Guide, it shows that the dimensions of the picture are roughly in a ratio of 2:1 (29mm x 14,5mm). Your printout is in similar dimensions (59mm x 29mm), but a printout produced on a Riteman C+ or MPS 1000 (=MPS 801) is 79mm x 29mm, gives an aspect ratio of roughly 3:1! I find that your reduced picture actually looks better than the so-called full size picture. My supposition is that when Springboard converted the Newsroom from IBM to Commodore format not enough attention was paid to aspect ratios and printer drivers.



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Greg Perry can be reached only between 10 am and 4 pm, and Maurice Hawkyard can be contacted between 9 am and 5 pm.

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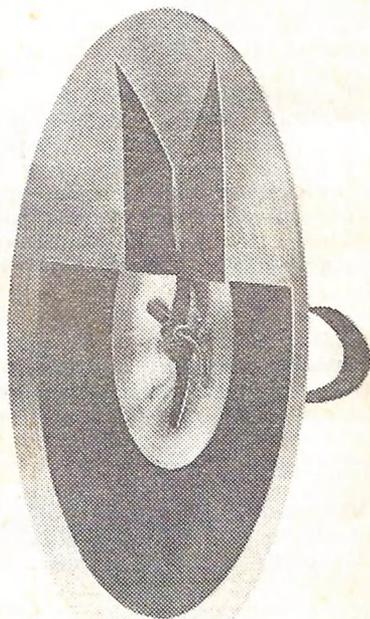
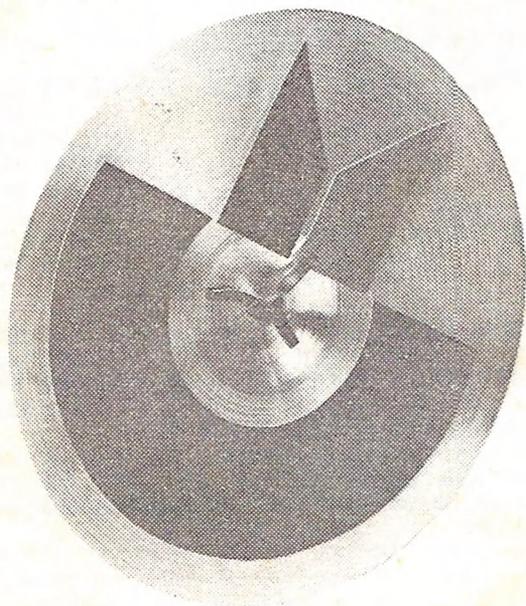
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